PACIFIC SALMON COMMISSION
JOINT CHINOOK
TECHNICAL COMMITTEE REPORT

2007 ANNUAL REPORT OF CATCHES AND ESCAPEMENTS, EXPLOITATION RATE ANALYSIS AND MODEL CALIBRATION

REPORT TCCHINOOK (08)-1

February 14, 2008

## TABLE OF CONTENTS

Page
Table of Contents ..... ii
Membership of the Chinook Technical Committee ..... iv
List of Acronyms with Definitions ..... v
List of Tables ..... vi
List of Figures ..... viii
List of Appendices ..... ix
Executive Summary .....
1 Chinook Catch ..... 7
1.1 Review of AABM Fisheries ..... 7
1.1.1 Southeast Alaska Fisheries ..... 8
1.1.2 British Columbia Fisheries ..... 9
1.1.2.1 NBC Troll Fishery Harvest ..... 10
1.1.2.2 NBC and CBC Sport Fishery Harvest ..... 11
1.1.2.3 West Coast Vancouver Island AABM ..... 11
1.2 Estimates of Incidental Mortalities in AABM Fisheries ..... 13
1.2.1 SEAK Fisheries ..... 13
1.2.2 British Columbia Fisheries ..... 14
1.2.2.1 NBC Fisheries ..... 14
1.2.2.2 WCVI Fishery ..... 15
1.3 Review of ISBM Fisheries ..... 16
1.3.1 Canadian ISBM Fisheries ..... 16
1.3.2 Southern U.S. Fisheries Harvest ..... 18
1.3.2.1 Strait of Juan de Fuca and the San Juan Islands ..... 18
1.3.2.2 Puget Sound ..... 18
1.3.2.3 Washington Coast ..... 18
1.3.2.4 Columbia River ..... 19
1.3.2.5 Ocean Fisheries, Cape Falcon to Humbug Mountain ..... 19
1.4 Estimates of incidental mortality for Southern U.S. Fisheries ..... 19
2 Escapements through 2006 ..... 22
2.1 Introduction ..... 22
2.1.1 MSY or Biologically-Based Escapement Goals ..... 22
2.1.1.1 Origin of Goals ..... 22
2.2 Escapement Assessment ..... 24
2.3 Stock Specific Graphs and Commentaries ..... 26
2.3.1 SEAK/TBR Stocks ..... 26
2.3.2 Canadian Stocks ..... 32
2.3.3 Fraser River Stocks ..... 40
2.3.4 Washington, Oregon and Columbia River Stocks ..... 44
3 Exploitation Rate Analysis and model calibration ..... 61
3.1 Introduction ..... 61
3.2 Methods ..... 61
3.3 Exploitation Rate Assessment (Through Calendar Year 2004) ..... 62
3.4 Model Output ..... 65
3.4.1 AABM Abundance Indices and Associated Catches ..... 65
3.4.1.1 Model estimate of stock composition of AABM fisheries, 1979-2007 ..... 70
3.4.2 Overages and Underages ..... 72
3.4.2.1 AABM Fisheries ..... 72
3.4.2.2 ISBM Indices by Stock ..... 74
3.5 Model Calibration Evaluation ..... 79
3.6 agency stock forecasts used in the model ..... 83
3.7 Evaluation of mark-selective fisheries ..... 93
References Cited ..... 94
Appendices ..... 97

## MEMBERSHIP OF THE CHINOOK TECHNICAL COMMITTEE

Canadian Members
Dr. Rick McNicol, Co-Chair, CDFO
Mr. Richard Bailey, CDFO
Dr. Gayle Brown, CDFO
Mr. Roger Dunlop, FNC
Mr. Wilf Luedke, CDFO
Mr. Chuck Parken, CDFO
Ms. Teresa Ryan, FNC
Mr. Julian Sturhahn, CDFO
Dr. Arlene Tompkins, CDFO
Mr. Ivan Winther, CDFO
Mr. Howie Wright, FNC

United States Members
Mr. C. Dell Simmons, Co-Chair, NMFS
Mr. John Carlile, Co-Chair, ADF\&G
Dr. Dave Bernard, ADF\&G
Mr. Ryan Briscoe, ADF\&G
Mr. Ethan Clemons, ODFW
Dr. John H. Clark, ADF\&G
Mr. Gary Freitag, SSRAA
Mr. Ed Jones, ADF\&G
Dr. Robert Kope, NMFS
Mr. Brian Lynch, ADF\&G
Ms. Marianne McClure, CRITFC
Mr. Scott McPherson, ADF\&G
Dr. Gary Morishima, QIN
Mr. James Packer, WDFW
Mr. Rishi Sharma, CRITFC
Dr. Brad Thompson, WDFW
Mr. Alex Wertheimer, NMFS
Mr. Henry Yuen, USFWS

# LIST OF ACRONYMS WITH DEFINITIONS 

| AABM | Aggregate Abundance Based Management |
| :---: | :---: |
| AC | Allowable Catch |
| AI | Abundance Index |
| ADF\&G | Alaska Department of Fish \& Game |
| AEQ | Adult Equivalent |
| Agreement | June 30, 1999 PST Annex and the related Agreement |
| AUC | Area Under the Curve |
| AWG | Analytical Working Group of the CTC |
| BCAFC | British Columbia Aboriginal Fisheries Commission |
| BTR | Base Terminal Run |
| C\&S | Ceremonial \& Subsistence |
| CBC | Central British Columbia Fishing area - <br> Kitimat to Cape Caution |
| CCMP | Comprehensive Chinook Management Plan |
| CDFO | Canadian Department of Fisheries \& Oceans |
| CI | Confidence Interval |
| CNR | Chinook Non-retention |
| CR | Columbia River |
| CRITFC | Columbia River Intertribal Fish Commission |
| CRFMP | Columbia River Fishery Management Plan |
| CTC | Chinook Technical Committee |
| CUS | Columbia Upriver Spring Chinook stock |
| CWT | Coded Wire Tag |
| DIT | Double Index Tag |
| ESA | U.S. Endangered Species Act |
| Est+fw | Estuary Plus Fresh Water Area |
| FL | Fork Length |
| FMP | PFMC Framework Management Plan |
| FNC | First Nations Caucus |
| FOG | Fisheries Operational Guidelines |
| FR | Fraser River |
| GCG | Gene Conservation Group |
| GW | Gitwinksihlkw |
| GS | Strait of Georgia |
| HOR | Hatchery Origin Returns |
| IDFG | Idaho Department of Fish \& Game |
| IDL | InterDam Loss |
| IM | Incidental Mortality |
| ISBM | Individual stock based management |
| ITQ | Individual Transferable Quota |
| LFR | Lower Fraser River |
| LGS | Lower Strait of Georgia |
| mar | Marine Area |
| mar+fw | Marine Plus Fresh Water Area |
| MOC | Mid Oregon Coast |
| MRP | Mark-Recovery Program |


| MSF | Mark-Selective Fishery |
| :---: | :---: |
| MSH | Maximum sustainable harvest |
| MSY | Maximum Sustainable Yield for a stock, in adult equivalents |
| MSY ER | Exploitation Rate sustainable at the escapement goal for a stock, in AEQs |
| NBC | Northern British Columbia Dixon Entrance to Kitimat including Queen Charlotte Islands |
| NA | Not Available |
| NBC | Northern British Columbia Dixon Entrance to Kitimat including Queen Charlotte Islands |
| NM | Nautical Mile |
| NMFS | National Marine Fisheries Service |
| NOC | Oregon Coastal North Migrating Stocks |
| NPS | North Puget Sound |
| NPS-S/F | North Puget Sound Summer/Fall Chinook stock |
| NR | Not Representative |
| NWIFC | Northwest Indian Fisheries Commission |
| ODFW | Oregon Department of Fish \& Wildlife |
| PFMC | Pacific Fisheries Management Council |
| PS | Puget Sound |
| PSC | Pacific Salmon Commission |
| PSARC | Pacific Scientific Advice Review Committee |
| PSMFC | Pacific States Marine Fisheries Commission |
| PST | Pacific Salmon Treaty |
| QDNR | Quinault Department of Natural Resources, Division of fisheries |
| QIN | Quinault Nation |
| QCI | Queen Charlotte Islands |
| RER | Recovery Exploitation Rate |
| $\mathrm{S}_{\text {MSY }}$ | Escapement producing MSY |
| SEAK | Southeast Alaska Cape Suckling to Dixon Entrance |
| SG | Strait of Georgia |
| SPS | South Puget Sound |
| SSRAA | Southern Southeast Regional Aquaculture Association |
| SWVI | Southwest Vancouver Island |
| TAC | Technical Advisory Committee |
| TBR | Transboundary Rivers |
| TTC | Transboundary Technical Committee |
| UFR | Upper Fraser River |
| UGS | Upper Strait of Georgia |
| USCTC | U.S. members of the CTC |
| USFWS | U.S. Fish \& Wildlife Service |
| UW | University of Washington |
| WA/OR | Ocean areas off Washington and Oregon North of Cape Falcon |
| WAC | Washington Coast (Grays Harbor northward) |
| WACO | Washington, Oregon, Columbia River Chinook stock group |
| WCVI | West Coast Vancouver Island excluding Area 20 |
| WDFW | Washington Department of Fisheries and Wildlife |

## LIST OF TABLES

Table 1. Abundance Indices for 1999 to 2007 for the SEAK, NBC, and WCVI AABM fisheries ..... 1
Table 2. Observed catches and postseason allowable catches for 1999 to 2006, and preseason allowable catches for 1999 to 2007, for AABM fisheries. ..... 2
Table 3. Deviations in numbers of Chinook salmon and percentages from catch targets derived from the first postseason AI (Table 3.2) for Pacific Salmon Treaty AABM fisheries in 1999 to 2006. ..... 3
Table 4. Canadian 2005 ISBM indices based on CWT and the 2007 indices predicted from the PSC Chinook Model. ..... 4
Table 5. U.S. 2005 ISBM indices based on CWT and the 2007 indices predicted from the PSC Chinook Model. ..... 5
Table 1.1. Annual catches and hatchery add-ons for the AABM fisheries, in thousands of Chinook salmon. The Treaty catches do not include the add-on or exclusions (see Section 1.1.1 and Appendix A.1). Notation is T for Troll, N for Net and S for sport. .....  .7
Table 1.2. Harvest of Chinook salmon in SEAK by gear type in 2006. ..... 9
Table 1.3. Summary of landed catch by gear for Canadian AABM fisheries in 2006 ..... 11
Table 1.4. Fishing periods and Chinook harvested and released during the 2006 accounting year in the WCVI commercial troll fishery ..... 12
Table 1.5. Outer WCVI AABM sport fishery catches of Chinook by statistical area in 2006 representing catch during the creel survey periods only. ..... 13
Table 1.6. Estimated encounters and incidental mortality in SEAK troll, net and sport fisheries for 2003-2006. Mortality estimates of fish released in troll and sport fisheries include drop-off mortality. In the net fishery, 21 "-28" fish from both retention and non-retention periods are included in the CNR numbers. ..... 14
Table 1.7. Estimated encounters and incidental mortalities (nominal fish) in NBC AABM troll and sport fisheries for 2002-2006. Mortality estimates of fish released in troll and sport fisheries include drop-off mortality ..... 15
Table 1.8. Estimated encounters and incidental mortalities (nominal fish) in WCVI troll and sport AABM fisheries for 2004-2006. Mortality estimates of fish released in troll and sport fisheries include drop-off mortality. ..... 15
Table 1.9. Landed catch and incidental mortalities in Canadian ISBM fisheries for 2006 ..... 17
Table 1.10. Estimated incidental mortality in Southern US troll, net, and sport fisheries for 2006. ..... 20
Table 2.1. PSC Chinook escapement indicator stocks, where shading indicates that there is not a ..... 23
Table 2.2. Escapement goals and 2006 escapements for PSC Chinook escapement indicator stocks with biologically-based goals accepted by the CTC ..... 25
Table 3.1. The 39 exploitation rate indicator stocks monitored by the CTC, their location, run type, and smolt age. Stocks in bold, italic text were not used in the exploitation rate analysis ..... 63
Table 3.2. The 36 CWT exploitation rate indicator stocks used in the exploitation rate analysis and the data derived from them: fishery, ISBM and survival indices, brood exploitation rates (Brood Exp), and stock catch distribution (Dist) with quantitative escapement estimates (Esc) and tagging during the base period years 1979-198264

Table 3.3. Abundance indices for 1999 to 2007 for the SEAK, NBC, and WCVI troll
fisheries. ..... 65
Table 3.4. Observed catches and postseason allowable catches for 1999 to 2006, and preseason allowable catches for 1999 to 2007, for AABM fisheries. ..... 66
Table 3.5. Deviations in numbers of Chinook salmon and percentages from catch targets derived from the first postseason AI (Table 3.2) for Pacific Salmon Treaty AABM fisheries in 1999 to 2006. ..... 73
Table 3.6. Canadian 2004 ISBM indices based on CWT and the 2006 indices predicted from the PSC Chinook Model ..... 77
Table 3.7. U.S. 2004 ISBM indices based on CWT and the 2006 indices predicted from the PSC Chinook Model. Order of the stock groups correspond to Annex 4, Chapter 3, Attachment V of the PST 1999 Revised Annexes. ..... 78
Table 3.8. Preseason forecasts and postseason estimates for PSC model stocks, 1999- 2007 ..... 84

## LIST OF FIGURES

Figure 1.1. British Columbia fishery management areas ..... 10
Figure 2.1. Number and status of stocks with CTC-accepted escapement goals for years 1999-2006 ..... 26
Figure 3.1. Postseason catches (open circles) versus postseason allowable catches (line) in the SEAK AABM fishery, 1999-2006. ..... 66
Figure 3.2. Postseason catches (open circles) versus preseason allowable catches (line) in the SEAK AABM fishery, 1999-2006 ..... 67
Figure 3.3. Postseason catches (open circles) versus postseason allowable catches (line) in Northern British Columbia troll and Queen Charlotte Islands recreational AABM fisheries, 1999-2005 ..... 67
Figure 3.4. Postseason catches (open circles) versus preseason allowable catches (line) in Northern British Columbia troll and Queen Charlotte Islands recreational AABM fisheries, 1999-2005 ..... 68
Figure 3.5. Postseason catches (open circles) versus postseason allowable catches (line) in West Coast Vancouver Island AABM fisheries, 1999-2005 ..... 68
Figure 3.6. Postseason catches (open circles) versus preseason allowable catches (line) in West Coast Vancouver Island AABM fisheries, 1999-2005 ..... 69
Figure 3.7. Total abundance indices for the SEAK troll fishery with annual stock composition indicated by abundance indices for major model stocks from CLB 0705. ..... 70
Figure 3.8. Total abundance indices for the Northern BC troll fishery with annual stock composition indicated by abundance indices for major model stocks from CLB 0705 ..... 71
Figure 3.9. Total abundance indices for the WCVI troll fishery with annual stock composition indicated by abundance indices for major model stocks from CLB 0705. ..... 72
Figure 3.10. ISBM indices for Canadian fisheries for 1999-2005. The solid horizontal line is an index value of 0.635 ..... 75
Figure 3.11. ISBM indices for U.S. fisheries for 1999-2005 ..... 76
Figure 3.12. Estimated CWT (through 2005) and model landed catch fishery indices (through 2006) for the SEAK troll fishery ..... 79
Figure 3.13. Estimated CWT (through 2005) and model total mortality fishery indices (through 2006) for the SEAK troll fishery ..... 80
Figure 3.14. Estimated CWT (through 2005) and model landed catch fishery indices (through 2007) for the NBC troll fishery ..... 81
Figure 3.15. Estimated CWT (through 2005) and model total mortality fishery indices (through 2007) for the NBC troll fishery ..... 81
Figure 3.16. Estimated CWT (through 2005) and model landed catch fishery indices (through 2007) for the WCVI troll fishery. ..... 82
Figure 3.17. Estimated CWT (through 2005) and model total mortality fishery indices (through 2007) for the WCVI troll fishery ..... 82

## LIST OF APPENDICES

Appendix A. Landed Chinook catches by region and gear from 1975-2006. ..... 98
Appendix B. Escapements and terminal runs of PSC Chinook Technical Committee wild Chinook escapement indicator stocks, 1975-2006. ..... 113
Appendix C. Relationship between exploitation rate indicator stocks, escapement indicator stocks, model stocks, and additional management action stocks identified in the PST annex. ..... 123
Appendix D. ISBM indices. ..... 129
Appendix E. Percent distribution of landed catch and total mortality among fisheries and escapement for exploitation rate indicator stocks by calendar year. ..... 133
Appendix F. Total mortality and landed catch exploitation rates ${ }^{1}$ for exploitation rate indicator stocks ${ }^{2}$ for complete broods up to 2001. ..... 192
Appendix G. Model estimates of the stock composition of the AABM, and other troll and sport fisheries for 2006 and the average from 1985 to 2005. ..... 209
Appendix H. Incidental mortality rates applied in the CTC model. Rates in original model were applied to all years. In the current model, rates in some fisheries vary in accordance to changes in management regulations. ..... 216
Appendix I. Time series of abundance indices from 1979 to 2007 for SEAK, NBC, and WCVI AABM fisheries as estimated by CTC Chinook Model calibration CLB0705. ..... 217
Appendix J. Abundance indices in total and by model stock for AABM fisheries, from Calibration \#0705. ..... 218
Appendix K. Fishery exploitation rate indices by stock, age and fishery, based on CWT data, 1975-2005. ..... 225

## EXECUTIVE SUMMARY

The June 30, 1999, Pacific Salmon Treaty (PST) Annexes and Related Agreements (Agreement) substantially changed the objectives and structure of the Pacific Salmon Commission's (PSC) Chinook salmon fisheries and assessment of Chinook salmon stocks. The Agreement replaced the previous ceiling and pass-through fisheries with Aggregate Abundance Based Management (AABM) and Individual Stock Based Management (ISBM) fisheries. It also assigned the Chinook Technical Committee (CTC) with a number of tasks related to implementation of the Agreement (Appendix to Annex IV, Chapter 3).

In this report, we provide a summary of 2006 fishery catches by region, available estimates of incidental mortality by fishery and limited commentary on fishery catches where needed. Landed catch is reported in the appendices for each geographic area covered under the PST. An assessment of escapement for stocks with CTC accepted goals is included, and escapement data thru 2006 are provided for all escapement indicator stocks. This report also contains the principal results of the annual exploitation rate assessment of CWT data through 2005 and the final preseason Chinook model calibration for 2007 (CLB 0705). Results include the Abundance Indices (AIs) for the AABM fisheries and ISBM indices for each party (country).

## AABM ABUNDANCE INDICES AND ASSOCIATED CATCHES

The pre- and postseason AIs for the three AABM fisheries, Southeast Alaska All Gear (SEAK), Northern British Columbia Troll and Queen Charlotte Islands Sport (NBC), and West Coast Vancouver Island Troll and Outside Sport (WCVI) are presented in Table 1. The Agreement specifies that the AABM fisheries are to be managed through the use of the AIs. Each calibration provides the first postseason AIs for the previous year and the preseason AIs for the current year. Preseason AIs are used to set total allowable catch limits in the upcoming fishing season. Subsequently, postseason AIs (from the following year's calibration) are used to track catch overage and underage provisions. The first 2006 postseason AIs and the 2007 preseason AIs have now been finalized.

Table 1. Abundance Indices for 1999 to 2007 for the SEAK, NBC, and WCVI AABM fisheries.

|  | SEAK |  | NBC |  | WCVI |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | Preseason | Postseason | Preseason | Postseason | Preseason | Postseason |
| 1999 | 1.15 | 1.12 | 1.12 | 0.97 | 0.60 | 0.50 |
| 2000 | 1.14 | 1.10 | 1.00 | 0.95 | 0.54 | 0.47 |
| 2001 | 1.14 | 1.29 | 1.02 | 1.22 | 0.66 | 0.68 |
| 2002 | 1.74 | 1.82 | 1.45 | 1.63 | 0.95 | 0.92 |
| 2003 | 1.79 | 2.17 | 1.48 | 1.90 | 0.85 | 1.10 |
| 2004 | 1.88 | 2.06 | 1.67 | 1.83 | 0.90 | 0.98 |
| 2005 | 2.05 | 1.90 | 1.69 | 1.65 | 0.88 | 0.84 |
| 2006 | 1.69 | 1.73 | 1.53 | 1.50 | 0.75 | 0.68 |
| 2007 | 1.60 |  | 1.35 |  | 0.67 |  |

In general, the AIs for 1999 through 2001 are low compared to AIs in the late 1980s and early 1990s but values increased substantially starting in 2002. The 2007 projected AI values have declined when compared to the high values for 2004 through 2006. The Agreement specifies an allowable catch for each AI for each fishery. The maximum allowable Treaty catch (total catch minus any hatchery add-on and exclusion catch) by fishery and year and the actual (observed) catches are shown in Table 2.

Table 2. Observed catches and postseason allowable catches for 1999 to 2006, and preseason allowable catches for 1999 to 2007, for AABM fisheries.

| PST Treaty Allowable and Observed Catches |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | SEAK (T, N, S) ${ }^{1}$ |  |  | NBC (T, S) |  |  | WCVI (T, S) |  |  |
|  | Preseason Allowable Catch | Postseason Allowable Catch | Observed Catch | Preseason Allowable Catch | Postseason Allowable Catch | Observed Catch | Preseason Allowable Catch | Postseason Allowable Catch | Observed Catch |
| 1999 | 192,800 | 184,200 | 198,842 | 145,600 | 126,100 | 86,726 | 128,300 | 107,000 | 36,413 |
| 2000 | 189,900 | 178,500 | 186,493 | 130,000 | 123,500 | 31,900 | 115,500 | 86,200 | 101,438 |
| 2001 | 189,900 | 250,300 | 186,919 | 132,600 | 158,900 | 43,500 | 141,200 | 145,500 | 117,670 |
| 2002 | 356,500 | 371,900 | 357,133 | 192,700 | 237,800 | 150,137 | 203,200 | 196,800 | 165,036 |
| 2003 | 366,100 | 439,600 | 380,152 | 197,100 | 277,200 | 191,657 | 181,800 | 268,900 | 175,821 |
| 2004 | 383,500 | 418,300 | $\begin{gathered} 428,773 \\ 433,446^{2} \end{gathered}$ | 243,600 | 267,000 | 241,508 | 192,500 | 209,600 | 216,624 |
| 2005 | 416,400 | 387,400 | 391,507 | 246,600 | 240,700 | 243,606 | 188,200 | 179,700 | 202,662 |
| 2006 | 346,800 | 354,500 | 359,184 | 223,200 | 200,000 | 247,337 | 160,400 | 145,500 | 146,883 |
| 2007 | 329,400 |  |  | 178,000 |  |  | 143,300 |  |  |

${ }^{1}$ Nomenclature is T for troll, N for net, and S for sport.
${ }^{2}$ The lower value resulted from subtracting a disputed terminal exclusion catch for the Stikine River in 2004. Catch accounting has since been defined in the Transboundary Agreement.

Table 3 shows the differences between the postseason allowable catches and the observed catches in AABM fisheries for 1999-2006, and the cumulative differential for those years. All three AABM fisheries have cumulative underages. In SEAK, observed catches have been below final allowable catches for three of the eight years; the cumulative differential is $-3.7 \%$ or $-3.5 \%$. In NBC, observed catches have been below the final allowable catches in six of the eight years; the cumulative differential is $-24.2 \%$. In WCVI, observed catches have been below allowable catches in four of the eight years; the cumulative differential is $-13.0 \%$.

Table 3. Deviations in numbers of Chinook salmon and percentages from catch targets derived from the first postseason AI (Table 3.2) for Pacific Salmon Treaty AABM fisheries in 1999 to 2006.

| Year | SEAK |  | NBC |  | WCVI |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number of <br> Fish | Percent <br> Difference | Number of <br> Fish | Percent <br> Difference | Number of <br> Fish | Percent <br> Difference |
|  | $+14,642$ | $+7.9 \%$ | $-39,374$ | $-31.2 \%$ | $-70,587$ | $-66.0 \%$ |
| 2000 | $+7,993$ | $+4.5 \%$ | $-91,600$ | $-74.2 \%$ | $+15,238$ | $+17.7 \%$ |
| 2001 | $-63,381$ | $-25.3 \%$ | $-115,400$ | $-72.6 \%$ | $-27,830$ | $-19.1 \%$ |
| 2002 | $-14,767$ | $-4.0 \%$ | $-87,663$ | $-36.9 \%$ | $-31,764$ | $-16.1 \%$ |
| 2003 | $-59,448$ | $-13.5 \%$ | $-85,543$ | $-30.9 \%$ | $-93,079$ | $-34.6 \%$ |
| 2004 | $+10,473$ | $+2.5 \%$ | $-25,492$ | $-9.5 \%$ | $+7,024$ | $+3.35 \%$ |
| 2005 | $+15,146$ | $+3.6 \%$ | -107 | $-0.2 \%$ | $+2,906$ | $+1.2 \%$ |
| $+22,962$ | $+12.8 \%$ |  |  |  |  |  |
| 2006 | $+4,684$ | $-1.1 \%$ | $+47,337$ | $+23.7 \%$ | $+1,383$ | $+0.95 \%$ |
| Cum. | $-95,697$ | $-3.7 \%$ | $-398,848$ | $-24.2 \%$ | $-174,339$ | $-13.0 \%$ |
|  | $-91,024$ | $-3.5 \%$ |  |  |  |  |

${ }^{1}$ The lower value resulted from subtracting a disputed terminal exclusion catch for the Stikine River in 2004. Catch accounting has since been defined in the Transboundary Agreement.

## ISBM INDICES

For ISBM fisheries, the Agreement specified that Canada and the United States would reduce base period exploitation rates on specified stocks by $36.5 \%$ and $40 \%$, equivalent to ISBM indices of $63.5 \%$ and $60 \%$ percent, respectively. This requirement is contained in Chapter 3 section 4(d) of the treaty and is referred to as the 'general obligation' and does not apply to stock groups that achieve their CTC agreed escapement goals. Estimated ISBM fishery indices are shown in Table 4 for Canadian fisheries and Table 5 for United States (U.S.) fisheries. Both tables present CWTbased indices for 2005, and Chinook model-based indices for 2007. The agreement specifies that the ISBM indices be forecasted preseason and evaluated postseason for each escapement indicator stock listed in Attachments I to V of the Chinook Chapter.

## CWT-based Indices in 2005

Five of the six Canadian ISBM indices from the CWT-based estimates for 2005 show that exploitation rates were reduced more than required for all stocks or stock groups for which the indices could be calculated. The exception was the ISBM index for WCVI Falls, which was 0.986 in 2005. Four of the 16 U.S. ISBM indices for the Coded Wire Tag (CWT) based estimates for 2005 were reduced more than required. Of the 12 U.S. CWT-based ISBM indices that exceeded 0.60, ten (Upriver Brights, Quillayute, Queets, Hoh, Lewis, Mid-Columbia Summers, Nehalem, Siletz, Siuslaw and Cowichan) have agreed escapement goals and all but the Cowichan stock exceeded their goals in 2005.

Table 4. Canadian 2005 ISBM indices based on CWT and the 2007 indices predicted from the PSC Chinook Model.

|  |  | Canadian ISBM Indices |  |
| :---: | :---: | :---: | :---: |
| Stock Group | Escapement Indicator Stock | CWT Indices for 2005 | Model Indices for 2007 |
| Lower Strait of Georgia | Cowichan Nanaimo | $\begin{aligned} & 0.132^{4} \\ & \text { NA }^{1,5} \end{aligned}$ | $0.240{ }^{6}$ |
| Fraser Late | Harrison River ${ }^{2}$ | $0.058{ }^{7}$ | 0.211 |
| North Puget Sound Natural Springs | Nooksack Skagit | $\begin{aligned} & \hline \text { NA } \\ & \text { NA } \end{aligned}$ | $\begin{aligned} & \hline 0.563 \\ & 0.563 \\ & \hline \end{aligned}$ |
| Upper Strait of Georgia | Klinaklini, Kakweikan, Wakeman, Kingcome, Nimpkish | 0.028 | 0.146 |
| Fraser Early (spring and summers) | Upper Fraser, Mid Fraser, Thompson | NA | 0.159 |
| West Coast Vancouver Island Falls | WCVI (Artlish, Burman, Kauok, Tahsis, Tashish, Marble) | $0.986{ }^{8}$ | 0.133 |
| Puget Sound Natural Summer / Falls | Skagit <br> Stillaguamish <br> Snohomish <br> Lake Washington Green River | $\begin{gathered} \text { NA } \\ 0.057 \\ \text { NA } \\ \text { NA } \\ 0.085 \\ \hline \end{gathered}$ | $\begin{gathered} 0.718 \\ 0.821 \\ 0.736 \\ 0.735^{9} \\ 0.752^{9} \\ \hline \end{gathered}$ |
| North / Central B. C. | Yakoun, Nass, Skeena, Area 8 | NA | 0.202 |
| Washington Coastal Fall Naturals ${ }^{3}$ | Hoko, Grays Harbor, Queets ${ }^{2}$, Hoh ${ }^{2}$, Quillayute ${ }^{2}$ | NA | 0.194 |
| Columbia River Falls ${ }^{3}$ | Upriver Brights ${ }^{2}$ <br> Deschutes Lewis ${ }^{2}$ | $\begin{aligned} & \hline \text { NA } \\ & \text { NA } \\ & \text { NA } \end{aligned}$ | $\begin{aligned} & \hline 0.129 \\ & 0.129 \\ & 0.030 \\ & \hline \end{aligned}$ |
| Columbia R Summers ${ }^{3}$ | Mid-Columbia Summers ${ }^{2}$ | NA | 0.119 |
| Far North Migrating OR Coastal Falls ${ }^{3}$ | Nehalem ${ }^{2}$, Siletz ${ }^{2}$, Siuslaw ${ }^{2}$ | NA | 0.078 |

${ }^{1}$ Not available (NA) because of insufficient data (lack of stock specific tag codes, base period CWT recoveries, etc).
${ }_{3}^{2}$ Stock or stock group with a CTC agreed escapement goal.
${ }^{3}$ Stock group listed in Annex 4, Chapter 3, Attachment V.
${ }^{4}$ An inconsistency was discovered between the approaches used to calculate the model-based and CWT-based indices. The former included harvest rates for terminal sport while the latter did not. Terminal sport harvest rates are now included in the calculation of both indices. Further review is yet required to determine whether the base period terminal sport harvest rates obtained from analyses of Big Qualicum CWT recoveries adequately represent impacts that would have occurred on Cowichan Chinook.
${ }^{5}$ Several problems have been identified in the approach previously used to calculate the CWT-based indices for Nanaimo Chinook. Until these problems are resolved, indices for this stock will not be reported.
${ }^{6}$ Although model-based indices were previously calculated separately for Cowichan and Nanaimo, these did not adequately represent impacts on either LGS stock because the model-based data represent an aggregate of the two stocks and methods do not currently exist to correctly disaggregate these data for calculation of the ISBM values. Until such methods are developed, a single index value only will be reported representing the aggregate.
${ }^{7}$ The terminal sport harvest rates for Chilliwack Hatchery Chinook, the indicator stock, were removed from the calculation for the Harrison River naturals because sport harvest has been essentially zero on the natural population.
${ }^{8}$ An inconsistency was discovered between the approaches to calculate the model- and CWT-based indices. The former included harvest rates for terminal sport, the latter did not. Terminal sport harvest rates are now included in both indices. A more extended review of the indices for WCVI Chinook will be carried out to determine whether they adequately represent impacts on the WCVI wild aggregate.
${ }^{9}$ For Canadian ISBM fisheries, the same distribution and Index value are used for Lake Washington and Green R.

## Predicted ISBM Indices for 2007

Five of the 19 ISBM indices for Canada, based on outputs from calibration 0705, are predicted to be above the allowable value of 0.635 for Canadian ISBM fisheries in 2007 (Table 4). None of these stocks (Skagit, Stillaguamish, Snohomish, Lake Washington and Green River) have CTC agreed escapement goals. Nine of the 22 U.S. ISBM indices based on calibration 0705 are predicted to be above the allowable limit of 0.60 for U.S. ISBM fisheries in 2007 (Table 5). All nine have CTC agreed escapement goals: Queets, Hoh, Quillayute, Upriver Brights, Lewis, MidColumbia Summers, Nehalem, Siletz, and Siuslaw.

Table 5. U.S. 2005 ISBM indices based on CWT and the 2007 indices predicted from the PSC Chinook Model.

|  |  | U.S. ISBM Indices |  |
| :---: | :---: | :---: | :---: |
| Stock Group | Escapement Indicator Stock | CWT Indices for 2005 | Model Indices for 2007 |
| Washington Coastal Fall Naturals | Hoko | NA ${ }^{1}$ | 0.401 |
|  | Grays Harbor | 0.560 | 0.504 |
|  | Queets ${ }^{2}$ | 2.050 | 1.014 |
|  | Hoh ${ }^{2}$ | 1.030 | 1.111 |
|  | Quillayute ${ }^{2}$ | 1.030 | 0.883 |
| Columbia River Falls | Upriver Brights ${ }^{2}$ | 1.780 | 0.726 |
|  | Deschutes | 0.670 | 0.493 |
|  | Lewis ${ }^{2}$ | 0.980 | 1.466 |
| Puget Sound Natural Summer Falls | Skagit | NA | 0.325 |
|  | Stillaguamish | 0.220 | 0.152 |
|  | Snohomish | NA | 0.138 |
|  | Lake Washington | NA | 0.391 |
|  | Green R | 0.170 | 0.278 |
| Fraser Late | Harrison River ${ }^{2}$ | 0.240 | 0.563 |
| Columbia R Summers | Mid-Columbia Summers ${ }^{2}$ | 6.080 | 0.943 |
| Far North Migrating OR Coastal Falls | Nehalem ${ }^{2}$ | 2.000 | 2.183 |
|  | Siletz ${ }^{2}$ | 1.190 | 1.399 |
|  | Siuslaw ${ }^{2}$ | 1.630 | 1.241 |
| North Puget Sound Natural | Nooksack | NA | NA |
| Springs | Skagit | NA | NA |
| Lower Strait of Georgia ${ }^{3}$ | Cowichan, | 10.230 | 0.288 |
|  | Nanaimo | 10.230 | 0.288 |
| Upper Strait of Georgia ${ }^{3}$ | Klinaklini, Kakweikan, Wakeman, Kingcome, Nimpkish | NA | NC ${ }^{4}$ |
| Fraser Early (spring and summers) | Upper Fraser, Mid Fraser, Thompson | NA | 0.219 |
| West Coast Vancouver Island Falls ${ }^{3}$ | WCVI (Artlish, Burman, Kauok, Tahsis, Tashish, Marble) | NA | 0.311 |
| North / Central B. C. ${ }^{3}$ | Yakoun, Nass, Skeena, Area 8 | NA | NC |

${ }^{1}$ Not available (NA) because of insufficient data (lack of stock specific tag codes, base period CWT recoveries, etc).
${ }^{2}$ Stock with a CTC agreed escapement goal.
${ }^{3}$ Stock group listed in Annex 4, Chapter 3, Attachment IV.
${ }^{4} \mathrm{NC}$ means that the current model assumes the stock is not caught in U.S. ISBM fisheries.

## ESCAPEMENTS THROUGH 2006

The escapements of 50 naturally spawning escapement indicator stocks/stock aggregates are reviewed annually. Biologically-based escapement goals have been accepted by the CTC for 24 of the 50 escapement indicator stocks/stock aggregates. For 12 of these, the agency escapement goal is defined as a range; for the remaining 12, the escapement goal is the point estimate of $\mathrm{S}_{\mathrm{MSY}}$ (escapement producing maximum sustained yield). In 2006, escapements were within the goal range for seven stocks, above the range or $\mathrm{S}_{\text {MSY }}$ point estimate for 11 stocks, and below the goal for six stocks. Data for stocks without accepted goals are presented to illustrate trends in escapement. The CTC will continue to review escapement goals, as they are provided to the committee.

## 1 CHINOOK CATCH

The June 30, 1999, Pacific Salmon Treaty (PST) Annexes and Related Agreements (Agreement) substantially changed the objectives and structure of the Pacific Salmon Commission's (PSC) Chinook salmon fisheries. The Agreement eliminated the previous ceiling and pass-through fisheries and replaced them with Aggregate Abundance Based Management (AABM) and Individual Stock Based Management (ISBM) fisheries. Chinook catches for the AABM fisheries in 2006 are summarized in Tables 1.1-1.4. Historical catches for PSC Chinook fisheries are given in Appendices A.1-A. 14.

Starting with the CTC (2004a) report, the Chinook Technical Committee included estimates of incidental mortalities associated with landed catch for each component of each AABM fishery and most ISBM fisheries (CTC 2004b). Limited commentary on both AABM and ISBM fisheries is also provided.

### 1.1 REVIEW OF AABM FISHERIES

AABM fisheries for Chinook are managed to achieve a target catch corresponding to a target exploitation rate index and each year's abundance index (AI) in Table 1 of the Agreement. AABM fisheries are mixed stock salmon fisheries that intercept and harvest migratory Chinook from many stocks. The AABM fisheries (Annex IV, Chapter 3, paragraph 2) are:

1) Southeast Alaska (SEAK) All Gear,
2) Northern BC (NBC) Troll and Queen Charlotte Islands (QCI) sport, and
3) West Coast Vancouver Island (WCVI) Troll and Outside Sport.

Catches for these three fisheries are reported in Table 1.1.
Table 1.1. Annual catches and hatchery add-ons for the AABM fisheries, in thousands of Chinook salmon. The Treaty catches do not include the add-on or exclusions (see Section 1.1.1 and Appendix A.1). Notation is T for Troll, N for Net and S for sport.

| Year | SEAK (T, N, S) |  |  | NBC (T), QCI (S) |  | WCVI (T, S) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Treaty Catch |  | Hatchery | Treaty Catch |  | Treaty Catch |  |
|  | Limit $^{\mathbf{1}}$ | Observed |  | Limit $^{1}$ | Observed | Limit $^{1}$ | Observed |
| 1999 | 184.2 | 198.8 | 47.7 | 126.1 | 86.7 | 107.0 | 36.4 |
| 2000 | 178.5 | 186.5 | 74.3 | 123.5 | 31.9 | 86.2 | 101.4 |
| 2001 | 250.3 | 186.9 | 77.3 | 158.9 | 43.5 | 145.5 | 117.7 |
| 2002 | 371.9 | 357.1 | 68.2 | 237.8 | 150.1 | 196.8 | 165.0 |
| 2003 | 439.6 | 380.2 | 57.2 | 197.1 | 191.7 | 268.9 | 175.8 |
| 2004 | 418.3 | $428.8 / 433.4^{2}$ | 72.0 | 267.0 | 241.5 | 209.6 | 216.6 |
| 2005 | 387.4 | 386.7 | 64.1 | 240.7 | 243.6 | 179.7 | 202.7 |
| 2006 | 354.5 | 359.2 | 50.1 | 200.0 | 247.3 | 145.5 | 146.9 |
| 2007 | 329.4 |  |  | 178.0 |  | 143.3 |  |

${ }^{1}$ Allowable treaty catches correspond to the postseason AIs for 1999-2006.
${ }^{2}$ The value on the left does not account for a terminal exclusion for the Stikine River, whereas the value on the right includes such terminal exclusion catch.

### 1.1.1 Southeast Alaska Fisheries

The SEAK Chinook fishery has been managed to achieve the annual all gear PSC allowable catch through a plan established by the Alaska Board of Fisheries. Once the all gear allowable catch is determined from the preseason AI each spring, this plan establishes gear quotas for the troll, net, and sport fisheries. The allocation plan reserves $4.3 \%$ of the total PSC catch for purse seine, $2.9 \%$ for drift gillnet and 1,000 fish for combined set gillnet fisheries. After the net quotas are subtracted, $80 \%$ of the remainder is reserved for troll gear and $20 \%$ for the sport fishery. The sport fishery is managed in-season with bag-limits and other constraints. Regulatory history and maps for each SEAK fishery are detailed in CTC (2004b).
In addition, the SEAK fisheries were managed for:

1) An Alaskan hatchery add-on estimated from coded-wire-tag (CWT) sampling, minus 5,000 base-period Alaska hatchery harvest. As a risk adjustment to account for sampling error, the lower bound of the $90 \%$ confidence interval is used as the estimate of Alaska hatchery harvest.
2) An exclusion of Situk stock catch in District 108, and exclusions of wild Chinook originating from the Taku and Stikine Rivers.
3) Compliance with provisions established by the National Marine Fisheries Service in accordance with the United States (U.S.) Endangered Species Act (ESA).
4) Consistency with the provisions of the PST as required by the Salmon Fishery Management Plan of the North Pacific Fishery Management Council that was established by the U.S. Magnuson-Stevens Act.

The total harvest in SEAK in 2006 was lower than harvests from 2002 to 2005. The pre-season AI of 1.69 allowed an initial all-gear catch of 346,800 fish per the Agreement. The all gear harvest was 440,704 , comprised of a treaty catch of 359,184 , an add-on of 50,059 , and excluded catch of 31,462 Chinook salmon. A breakdown by gear for total catch, Alaskan hatchery contributions and terminal exclusions is detailed in Table 1.2. Historical harvests for 1975-2006 for SEAK are in Appendix A.1.

Table 1.2. Harvest of Chinook salmon in SEAK by gear type in 2006.

| Gear | Total Harvest | Alaskan <br> Hatchery <br> Harvest | Alaskan <br> Hatchery <br> Add-on | Catch <br> Exclusion ${ }^{1}$ | Treaty <br> Catch |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Troll |  |  |  |  |  |
| Winter | 48,992 | 3,993 | 3,289 | 0 | 45,633 |
| Spring | 37,936 | 10,487 | 8,803 | 1,270 | 27,864 |
| Summer | 195,457 | 6,204 | 5,110 | 0 | 190,347 |
| Troll subtotal | 282,315 | 20,685 | 17,201 | 1,270 | 263,844 |
| Sport | 85,794 | 17,976 | 15,673 | 221 | 70,121 |
| Net |  |  |  |  |  |
| Set Net | 1,195 | 0 | 0 | 0 | 1,195 |
| Driftnet | 46,431 | 9,030 | 7,623 | 29,971 | 8,837 |
| Seine | 24,969 | 10,017 | 9,782 | 0 | 15,187 |
| Net subtotal | 72,595 | 19,046 | 17,405 | 29,971 | 25,219 |
|  |  |  |  |  |  |
| Total | 440,704 | 57,486 | 50,059 | 31,462 | 359,184 |

${ }^{1}$ Exclusion catch claimed in 2006 is for the harvest sharing arrangement on the Taku and Stikine Rivers. There was no catch exclusion claimed on the Situk in 2006 as the catch did not reach the base level.

### 1.1.2 British Columbia Fisheries

Under the 1999 PST Agreement, the AABM fishery was defined to include NBC troll catch in statistical areas 1-5 and QCI sport catch in statistical areas 1 and 2. The total AABM catch for NBC troll and QCI sport fisheries) in 2006 was 222,863 (Table 1.1). The WCVI AABM fishery includes the WCVI troll and the outside WCVI Chinook sport fishery (defined below). The total AABM landed catch (First Nations, troll, and outside tidal sport) in 2006 was 146,883 Chinook (Table 1.1).


Figure 1.1. British Columbia fishery management areas.

### 1.1.2.1 NBC Troll Fishery Harvest

The NBC troll fishery landed 158,363 Chinook salmon in 2006. The fishery was open from October 1, 2005 to December 31, 2005 and from June 7 to September 30, 2006. Only 1 vessel participated in the October to December 2005 fishery and only 25 Chinook salmon were caught. A demonstration fishery was conducted again in 2006 to examine the application of individual transferable quotas (ITQ) in the troll fishery. The summer fishery accounted for a total of 158,338 Chinook salmon, with 153,214 fish caught under the ITQ system and 3,887 fish caught under the regular style or derby fishery. A test fishery was conducted in areas off the west coast of the Queen Charlotte Islands, accounting for the remaining 1,237 legal-sized Chinook salmon.

Prior to the 2006 season troll vessel operators were permitted to reselect fishing areas coast wide. The NBC troll fishery occurs in Area F and the area received an additional 80 vessels bringing the total number of licences in the area to 246. The influx of vessels was due to reduced fishing
opportunities in southern areas and the introduction of ITQs. There were 159 licensed vessels that participated in the ITQ fishery and 6 vessels that participated in the derby fishery.

The size limit for Chinook salmon caught in the NBC troll fishery was 67 cm . Barbless hooks and revival boxes were mandatory in the troll fishery. A ribbon boundary around Langara Island and from Skonun Point to Cape Knox on Graham Island excluded the commercial troll fishery from areas within one nautical mile of the shore for the full duration of the summer fishery, June 7 to September 30, 2006.

Table 1.3. Summary of landed catch by gear for Canadian AABM fisheries in 2006.

| AABM Fishery | Troll | Sport | Total |
| :--- | :---: | :---: | :---: |
| NBC | 158,363 | 64,500 | 222,863 |
| WCVI | 108,978 | 37,905 | 146,883 |

### 1.1.2.2 NBC and CBC Sport Fishery Harvest

Tidal recreational fisheries in NBC and CBC (marine statistical Areas 1-11; Figure 1.1) are managed under one set of regulations ( 45 cm minimum size limit; two Chinook per day and four in possession; annual bag limit of 30). During the past decade, recreational fisheries in the marine areas of NBC and CBC have expanded substantially. Management of these marine recreational fisheries now recognizes two basic regions: QCI, and the coastal mainland. Only the QCI recreational catch is included in the AABM totals. Since 1995, catch in the QCI recreational fisheries has been estimated by creel surveys (supported by the Haida Nation), lodge logbook programs and independent observations by CDFO staff. Catch for this fishery in 2006 was 64,500 Chinook salmon. Thus, the total NBC AABM catch (troll plus sport) between October 1, 2005 and September 30, 2006 was 222,863 Chinook salmon (Table 1.3).

### 1.1.2.3 West Coast Vancouver Island AABM

Under the 1999 PST Agreement, the WCVI AABM fishery includes the WCVI troll and the outside WCVI Chinook sport fishery (defined below). The total AABM landed catch (First Nations, troll, and outside tidal sport) in 2006 was 146,883 Chinook (Table 1.3).

### 1.1.2.3.1 WCVI Troll Fishery Harvest

The AABM troll catch includes the commercial Area G troll catch and First Nations troll caught Chinook in Statistical Areas 21, 23-27, and 121-127 (Figure 1.1). In the 2006 season (October 1, 2005-September 30, 2006), the WCVI troll fishing opportunities were consistent with a CDFO commitment to evaluate winter fisheries as a means to improve the economic base for the fleet and local communities while increasing flexibility in harvest opportunities and reducing the harvest rates on stocks encountered in summer fisheries (Table 1.4). Troll fishery openings were shaped by conservation concerns for early spring-run upper Fraser River, WCVI and Strait of Georgia (SG) Chinook and upper Fraser River and Thompson River coho.

To protect early spring-run upper Fraser and SG Chinook, SWVI areas 123-124 were closed from mid-March to mid-April. To protect Upper Fraser and Thompson River coho, coho nonretention remained in effect for the spring/summer period, coho encounter rates were monitored, and commercial fisheries were closed from late June until the end of August (with the exception of a limited exploratory plug fishery). To protect WCVI Chinook, summer fisheries were very limited, and September fisheries were conducted 5 nautical miles seaward of the surf line. To
protect SG Chinook, harvest levels were reduced during the spring period when recent impacts have been highest (determined through a review of Cowichan CWT recoveries): the April catch was reduced from 57,063 in 2005 to 20,561 in 2006, and the May catch was reduced from 26,655 in 2005 to 7,078 in 2006. This measure also provides some protection to spring run US Chinook stocks at the same time the mature cohort are abundant on the WCVI. Statistical Area 121 (the southern bank area) remained closed in 2006. Selective fishing practices were mandatory, including single barbless hooks and "revival tanks" for resuscitating coho salmon prior to release. Size limits for commercial troll remained unchanged in all periods for 2005/2006 at 55 cm (fork length). The majority of catch from November through March came from Areas 23, 123, 125 and 126. The majority of the catch in September came from Areas 123 and 125.

Table 1.4. Fishing periods and Chinook harvested and released during the 2006 accounting year in the WCVI commercial troll fishery.

| Fishing Period | Areas Open | Area Predominately Fished | Landed Catch | Sub-legal releases |
| :---: | :---: | :---: | :---: | :---: |
| Oct 3-11/05 | 123-127 | 123 | 12,198 | 1,032 |
| Nov 7-8/05 | 123-127 | 123 | 2,156 | 541 |
| Dec 5-8/05 | 23/123-27/127 | 123 | 1,689 | 172 |
| Jan 9-21/06 | 23/123-27/127 | 126 | 1,468 | 131 |
| Feb 8-11/06 | 23/123-27/127 | 126 | 5,154 | 523 |
| Mar 10-13, 16-31/06 | 23-27, 125-127 | 126 | 7,883 | 294 |
| Apr 1-15/06 | 25-26, 125-127, | 126 | 7,725 | 204 |
| Apr 16-19/06 | 25-26, 124-127 |  | 166 | 3 |
| Apr 20-30/06 | 23/123-27/127 | 123 | 12,670 | 420 |
| May 1-5/06 | 23/123-27/127 | 123 | 7,078 | 343 |
| Jun 9-10/06 | 123-127 | 123 | 411 | 10 |
| Jun 15-18/06 | 123-127 | 123 | 16,955 | 1,146 |
| Jun 19-22/06 | 125-127 | 127 | 3,441 | 110 |
| Aug 25-31/06 | 125-127 | 125 | 886 | 10 |
| Sep 3/06 | 125-127 | 126 | 2,590 | 193 |
| Sep 7-13/06 | 125-127 | 125 | 9,996 | 974 |
| Sep 14-16/06 | 123-127 | 123 | 8,765 | 1,026 |
| Sep 17-30/06 | 125-127 | 126 | 2,747 | 179 |
| TOTAL |  |  | 103,978 | 7,311 |

Note: WCVI troll fisheries were closed late June to early-September to avoid encounters of Upper Fraser and Thompson River coho and WCVI Chinook, with the exception of a limited, experimental plug fishery in late August.

The catch for 2006 Area G troll fisheries between October 1, 2005 and September 30, 2006 was 103,978 Chinook (Table 1.4). An estimated 5,000 Chinook were caught in WCVI First Nations troll fisheries in 2006. Therefore, the total WCVI AABM troll catch for 2006 was 108,978 with 7,311 sublegal Chinook releases (not including releases from the WCVI First Nations troll fisheries, which are currently unknown).

### 1.1.2.3.2 WCVI Recreational Fishery Harvest

The AABM recreational fishery includes all catch in northwest WCVI (Areas 25-27, 125-127; Figure 1) between October 16 through June 30, and the catch outside one NM offshore from July 1 through October 15, plus all the catch in southwest WCVI (Areas 21-24) between October 16 through July 31, and outside one NM offshore from August 1 to October 15. Catch inside the surf line and outside the AABM periods specified above is included in ISBM fishery catch.

The outer WCVI sport fishery occurs primarily in the Barkley Sound, outer Clayoquot Sound, and Nootka Sound areas. The majority of fishing effort occurs from mid-July to September in NWVI and August through mid-September in the SWVI. Creel surveys are generally conducted from late May or early June to September 30. For the outside sport fishery the Chinook daily bag limit was two Chinook greater than 45 cm . Barbless hooks were mandatory.

Recreational effort in the AABM portion of the WCVI fishery was estimated at 36,157 boat trips in 2006. The 2006 WCVI AABM sport catch estimate during the creel period was 37,905
Chinook (Table 1.5). Catch rates were estimated from 15,347 interviews ( $18 \%$ of the estimated number of angling parties) at 19 landing sites from June 1 to September 30. No creel surveys occurred between the months of October and May, as effort is relatively low during this period. Catch for this period is estimated to be 1,300 fish in areas $23 / 123$ and $24 / 124$. This amount was added to the creel estimate to provide a total WCVI AABM sport catch estimate of 37,905 .
Table 1.5. Outer WCVI AABM sport fishery catches of Chinook by statistical area in 2006 representing catch during the creel survey periods only.

| Statistical areas |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{2 1 / 1 2 1}$ | $\mathbf{2 3 / 1 2 3}$ | $\mathbf{2 4 / 1 2 4}$ | $\mathbf{2 5} / \mathbf{1 2 5}$ | $\mathbf{2 6} / \mathbf{1 2 6}$ | $\mathbf{2 7 / 1 2 7}$ | Total |
| 2,449 | 19,530 | 3,713 | 2,089 | 5,272 | 4,852 | 37,905 |

### 1.2 ESTIMATES OF INCIDENTAL MORTALITIES IN AABM FISHERIES

### 1.2.1 SEAK Fisheries

Estimates of incidental mortality (IM) in SEAK fisheries are shown in Table 1.6. Estimates were available for all SEAK fisheries through 2006, except for the sport fishery for which 2006 data have not yet been tabulated. The IM for the troll and sport fisheries were estimated from direct fishery observation programs. Estimates for the net fishery included IM for both seine and gillnet fisheries. For the seine fishery, estimates were based on regressions between landed catch in traditional fisheries and IM, from the 1985-1987 purse seine studies (CTC 2004c). For the gillnet fishery, drop-off mortality was estimated as a percentage of the landed catch using the regionalspecific drop-off rate for SEAK (CTC 2004c).

Table 1.6. Estimated encounters and incidental mortality in SEAK troll, net and sport fisheries for 2003-2006. Mortality estimates of fish released in troll and sport fisheries include drop-off mortality. In the net fishery, $21 "-28 "$ fish from both retention and nonretention periods are included in the CNR numbers.

| Panel A - Troll and Sport Fisheries |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Troll |  |  |  |  |  |  |  |
|  | Year |  | Retention Fishery |  | CNR Fishery | Retention |  | Releases |  |
|  |  |  |  |  |  | Legal |  |  |  |
|  |  | Sublegal | Legal | Sublegal | Drop-off | Legal | Sublegal |  |  |
| 2003 | Encounters | NA $^{1}$ | 39,821 | 34,262 | 19,703 | NA $^{1}$ | 25,518 | 57,006 |  |
| 2003 | IM | 2,646 | 10,473 | 7,503 | 5,182 | 2,497 | 4,057 | 9,064 |  |
| 2004 | Encounters | NA $^{1}$ | 18,161 | 71,834 | 34,980 | NA $^{1}$ | 43,148 | 63,991 |  |
| 2004 | IM | 2,837 | 4,776 | 15,732 | 9,200 | 3,150 | 6,861 | 10,175 |  |
| 2005 | Encounters | NA $^{1}$ | 31,660 | 49,430 | 24,346 | NA $^{1}$ | 28,002 | 77,034 |  |
| 2005 | IM | 2,707 | 8,327 | 10,825 | 6,403 | 3,034 | 4,452 | 12,248 |  |
| 2006 | Encounters | NA $^{1}$ | 24,447 | 36,684 | 29,671 | NA $^{1}$ |  |  |  |
| 2006 | IM | 2,258 | 6,430 | 8,034 | 7,804 | 2,764 |  |  |  |

Panel B - Net Fisheries and Total

|  |  | Net Fisheries |  |  |  | Total <br> Incidental Mortality |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Seine |  |  | Gillnet |  |  |
|  |  | Retention | CNR Fishery |  | Legal |  |  |
| Year |  | <21" | > 28" | 21"-28" | Drop-off | Legal | Sublegal |
| 2003 | Encounters | 1,107 | 16,081 | 53,188 | NA ${ }^{1}$ |  |  |
| 2003 | IM | 1,107 | 8,202 | 39,093 | 305 | 25,210 | 64,919 |
| 2004 | Encounters | 591 | 28,700 | 94,922 | NA ${ }^{1}$ |  |  |
| 2004 | IM | 591 | 14,637 | 69,767 | 488 | 43,705 | 94,509 |
| 2005 | Encounters | 663 | 13,255 | 43,841 | NA ${ }^{1}$ |  |  |
| 2005 | IM | 663 | 6,760 | 32,223 | 1,064 | 28,842 | 59,864 |
| 2006 | Encounters | 512 | 12,525 | 41,427 | NA ${ }^{1}$ |  |  |
| 2006 | IM | 512 | 6,388 | 30,449 | 952 | 20,396 | 45,195 |

${ }^{T}$ Drop-off mortality is computed from landed catch times a percentage that incorporates a gearspecific encounter ratio and release mortality rate.

### 1.2.2 British Columbia Fisheries

### 1.2.2.1 NBC Fisheries

Table 1.7 summarizes encounter and IM estimates for the NBC AABM fisheries from 2002 to 2006 by size class during retention and Chinook Non-retention (CNR) fishing periods.
Encounters for the NBC troll fishery are based on phone-in hails. Encounters for the QCI sport fishery are based on creel survey and logbook programs. The table presents IM estimates using size specific rates from the CTC (1997). The estimated total mortality of Chinook salmon in the NBC AABM fisheries in 2006 was 239,047 nominal fish, including 222,863 fish in the landed catch (Table 1.3) and 16,184 fish from legal and sublegal IM (Table 1.7).

Table 1.7. Estimated encounters and incidental mortalities (nominal fish) in NBC AABM troll and sport fisheries for 2002-2006. Mortality estimates of fish released in troll and sport fisheries include drop-off mortality.

| Year |  | Troll |  |  |  | Sport |  | Total Incidental Mortalities |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Retention Fishery |  | CNR Fishery |  | Retention | Releases ${ }^{2}$ |  |  |
|  |  |  <br> Sublegal <br> Drop-off | Sublegal releases | Legal | Sublegal | Legal \& Sublegal Drop-off | Legal | Legal | Sublegal |
| 2002 | Encounters IM | $\begin{aligned} & \mathrm{NA}^{1} \\ & 1,752 \end{aligned}$ | $\begin{gathered} \hline 2,608 \\ 618 \end{gathered}$ | $\begin{aligned} & 5,109 \\ & 1,032 \end{aligned}$ | $\begin{gathered} 129 \\ 31 \end{gathered}$ | $\begin{aligned} & \mathrm{NA}^{1} \\ & 3,250 \end{aligned}$ | $\begin{array}{r} 42,226 \\ 8,107 \end{array}$ | 14,098 | 692 |
| 2003 | Encounters IM | $\begin{aligned} & \mathrm{NA}^{1} \\ & 2,335 \end{aligned}$ | $\begin{gathered} 1,721 \\ 408 \end{gathered}$ | $\begin{gathered} 11,798 \\ 2,383 \end{gathered}$ | $\begin{gathered} 148 \\ 35 \end{gathered}$ | $\begin{aligned} & \mathrm{NA}^{1} \\ & 3,747 \end{aligned}$ | $\begin{array}{r} 47,549 \\ 9,129 \\ \hline \end{array}$ | 17,566 | 472 |
| 2004 | Encounters IM | $\begin{aligned} & \mathrm{NA}^{1} \\ & 2,848 \end{aligned}$ | $\begin{gathered} \hline 2,605 \\ 617 \end{gathered}$ | $\begin{gathered} 31,460 \\ 6,355 \end{gathered}$ | $\begin{aligned} & \hline 489 \\ & 116 \end{aligned}$ | $\begin{aligned} & \mathrm{NA}^{1} \\ & 5,106 \end{aligned}$ | $\begin{array}{r} \hline 116,741 \\ 22,414 \end{array}$ | 36,511 | 725 |
| 2005 | Encounters IM | $\begin{aligned} & \mathrm{NA}^{1} \\ & 2,972 \end{aligned}$ | $\begin{gathered} 1,009 \\ 239 \end{gathered}$ | $\begin{gathered} \hline 20,414 \\ 4,124 \end{gathered}$ | $\begin{gathered} 118 \\ 28 \end{gathered}$ | $\begin{aligned} & \mathrm{NA}^{1} \\ & 4,747 \end{aligned}$ | $\begin{aligned} & 60,987 \\ & 16,457 \end{aligned}$ | 23,535 | 284 |
| 2006 | Encounters IM | $\begin{aligned} & \mathrm{NA}^{1} \\ & 2,692 \end{aligned}$ | $\begin{gathered} \hline 10,409 \\ 2,467 \end{gathered}$ | $\begin{gathered} 1,556 \\ 314 \end{gathered}$ | $\begin{gathered} 102 \\ 24 \end{gathered}$ | $\begin{aligned} & \hline \mathrm{NA}^{1} \\ & 4,451 \end{aligned}$ | $\begin{array}{r} \hline 32,480 \\ 6,236 \end{array}$ | 13,693 | 2,491 |

${ }^{1}$ Drop-off mortality is computed from landed catch times a percentage that incorporates a gear-specific encounter ratio and release mortality rate.
${ }^{2}$ Releases are reported as 'mixed' sizes. However, since $>90 \%$ of such releases are legal-sized, all reported releases were considered to be legal-sized for the purpose of estimating incidental mortality.

### 1.2.2.2 WCVI Fishery

The estimated total mortality of Chinook salmon in the WCVI AABM fisheries in 2006 was 155,817 nominal fish, including 146,883 fish in the landed catch and 8,934 fish from IM (Table 1.8). The estimated IM included 6,402 legal and 2,532 sublegal fish in nominal numbers of fish. The estimates for the commercial troll fisheries in 2006 are from direct fishery observations programs. Table 1.8 summarizes encounter and IM estimates for these fisheries by size class during retention. In 2006, there were no CNR fishing periods in the AABM fishery.

Table 1.8. Estimated encounters and incidental mortalities (nominal fish) in WCVI troll and sport AABM fisheries for 2004-2006. Mortality estimates of fish released in troll and sport fisheries include drop-off mortality.

| Year |  | Troll |  |  |  | Sport |  |  | Total Incidental Mortalities |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Retention Fishery |  | CNR Fishery |  | $\begin{gathered} \text { Retention } \\ \hline \text { Legal } \\ \hline \end{gathered}$ | Releases |  |  |  |
|  |  | Legal |  | Legal | Sublegal |  |  |  | Legal | Sublegal |
|  |  | Drop-off | Sublegal |  |  | Drop-off | Legal | Sublegal |  |  |
| 2004 | Encounters | NA ${ }^{1}$ | 10,430 | 0 | 0 | NA ${ }^{1}$ | 16,449 | 5,680 |  |  |
|  | IM | 2,786 | 2,461 | 0 | 0 | 2,723 | 2,023 | 1,091 | 7,532 | 3,510 ${ }^{2}$ |
| 2005 | Encounters | NA ${ }^{1}$ | 10,878 | 0 | 0 | NA ${ }^{1}$ | 19,319 | 4,571 |  |  |
|  | IM | 2,300 | 2,567 | 0 | 0 | 3,610 | 2,376 | 878 | 8,286 | 3,445 |
| 2006 | Encounters | NA ${ }^{1}$ | 7,345 | 3,277 | 889 | NA ${ }^{1}$ | 11,882 | 6,048 |  |  |
|  | IM | 1,664 | 1,608 | 662 | 180 | 2,615 | 1,461 | 744 | 6,402 | 2,532 |

Legal drop-off mortality is computed from landed catch, incorporating both an encounter ratio and a mortality rate.
${ }^{2}$ Sublegal dropoffs are included with sublegal incidental release mortalities.

### 1.3 REVIEW OF ISBM FISHERIES

### 1.3.1 Canadian ISBM Fisheries

ISBM fisheries include all fisheries that harvest or release Chinook salmon in British Columbia under PST jurisdiction outside areas governed by AABM fisheries. In 2006, 251,317 Chinook were harvested in Canadian ISBM fisheries in British Columbia and Canadian sections of the Alsek, Taku and Stikine Transboundary rivers. Total estimated IM in the Canadian ISBM fisheries in 2006 was 28,896 legal and 3,133 sublegal sized Chinook. The distribution of the landed catches and estimated incidental mortalities in Canadian ISBM fisheries are presented in Table 1.9. Historical catches in Canadian fisheries may be found in Appendixes A2 through A7.

Table 1.9. Landed catch and incidental mortalities in Canadian ISBM fisheries for 2006.

| Region | Gear Type | Landed Catch | Releases |  | Incidental Mortalities ${ }^{1}$ |  | Total Nominal Mortality |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Legal | Sublegal | Legal ${ }^{2}$ | Sublegal ${ }^{3}$ |  |
| Transboundary Rivers | Gillnet | 23,480 | 0 | 0 | 1,080 | 0 | 24,560 |
| (Taku, Stikine, Alsek) | Recreational | 243 | 0 | 0 | 17 | 0 | 260 |
|  | FN | 960 | 0 | 0 | 44 | 0 | 1,004 |
| Regional Total |  | 24,683 | 0 | 0 | 1,141 | 0 | 25,824 |
| Northern BC ${ }^{4}$ | Gillnet | 11,383 | 1,552 | NA | 1,992 | NA | 13,375 |
|  | Seine | 0 | 8,352 | NA | 6,013 | NA | 6,013 |
|  | Tyee Test Fishery | 1,178 | 0 | 0 | 54 | 0 | 1,232 |
|  | Tidal Sport | NA | NA | NA | NA | NA | NA |
|  | Non-tidal Sport | NA | NA | NA | NA | NA | NA |
|  | FSC(Tidal \& Non-tidal) | 17,262 | NA | NA | NA | NA | 17,262 |
| Regional Total |  | 29,823 | 9,904 | 0 | 8,059 | 0 | 37,882 |
| Central Coast ${ }^{5}$ | Troll | 0 | 738 | 48 | 149 | 11 | 160 |
|  | Gillnet | 5,441 | 21 | NA | 270 | NA | 5,711 |
|  | Seine | 0 | 1,370 | NA | 986 | NA | 986 |
|  | Tidal Sport | 9,382 | 413 | 15 | 727 | 3 | 10,112 |
|  | Non-tidal Sport | 870 | NA | NA | 60 | NA | 930 |
|  | FSC(Tidal \& Non-tidal) | 4,099 | NA | NA | 189 | NA | 4,288 |
| Regional Total |  | 19,792 | 2,542 | 63 | 2,381 | 14 | 22,187 |
| WCVI terminal | Gillnet | 18,177 | 217 | 0 | 1,041 | 0 | 19,218 |
|  | Seine | 2,131 | 11 | 0 | 8 | 0 | 2,139 |
|  | Tidal Sport | 41,380 | 4,269 | 5,014 | 3,675 | 963 | 46,018 |
|  | Non-tidal Sport | NA | NA | NA | NA | NA | NA |
|  | FSC(Tidal \& Non-tidal) | 28,628 | NA | NA | 1,317 | NA | 29,945 |
| Regional Total |  | 90,316 | 4,497 | 5,014 | 5,963 | 963 | 97,242 |
| Johnstone Strait | Troll | 0 | 274 | 338 | 55 | 80 | 135 |
|  | Gillnet ${ }^{1}$ | 197 | 934 | 0 | 0 | 0 | 0 |
|  | Seine | 47 | 4,370 | 0 | 3,146 | NA | 3,193 |
|  | Tidal Sport | 7,238 | 365 | 4,161 | 570 | 799 | 7,807 |
|  | FSC(Tidal \& Non-tidal) | 200 |  |  | 9 |  | 209 |
| Regional Total |  | 7,682 | 5,943 | 4.499 | 4,673 | 879 | 12,435 |
| Strait of Georgia | Troll | 0 | 3 | 0 | 1 | 0 | 0 |
|  | Gillnet | 0 | 3 | 0 | 3 | 0 | 3 |
|  | Seine | 0 | 0 | 0 | 0 | 0 | 0 |
|  | Tidal Sport | 12,181 | 495 | 4,234 | 936 | 813 | 13,929 |
|  | FSC (Tidal \& Non-tidal) | NA | 776 | NA | 147 | NA | NA |
| Regional Total |  | 12,181 | 1,277 | 4,234 | 1,088 | 813 | 14, 081 |
| Juan de Fuca Strait | Gillnet | 155 | 97 | NA | 70 | NA | 225 |
|  | Seine | 0 | 704 | 0 | 507 | 0 | 507 |
|  | Tidal Sport | 26,437 | 2,665 | 2,414 | 2,336 | 463 | 29,237 |
|  | FSC (Tidal \& Non-tidal) | NA | NA | NA | NA | NA | NA |
| Regional Total |  | 26,592 | 3,466 | 2,414 | 2,913 | 463 | 29,968 |
| Fraser River | Gillnet | 3,372 | 61 | NA | 213 | NA | 3,585 |
|  | Sport (mainstem+tribs) | 15,143 | 550 | NA | 1,150 | NA | 16,293 |
|  | FSC (Tidal \& Non-tidal) | 21,733 | 333 | NA | 1,315 | NA | 23,048 |
| Regional Total |  | 40,248 | 944 | NA | 2,678 | NA | 42,926 |
| Grand Total |  | 251, 317 | 28,574 | 16,225 | 28,896 | 3,133 | 282,546 |

${ }^{1}$ Includes drop-off and release mortalities in both retention and Chinook non-retention fisheries.
${ }^{2}$ In Chinook non-retention fisheries, all releases were assumed to be legal size as the sizes were unknown. If no release information is available, IM represents dropoff mortality only.
${ }^{3}$ Minimum size limits for sport catch were 45 cm in Juan de Fuca Strait and 62 cm elsewhere.
${ }^{4}$ Includes areas 1-5.
${ }^{5}$ Includes areas 6-10.

### 1.3.2 Southern U.S. Fisheries Harvest

Southern U.S. fisheries of interest to the PSC, generally those north of Cape Falcon, Oregon, are managed in accordance with legal obligations stemming from treaties between Indian tribes and the United States. In 1974, U.S. v Washington set forth sharing obligations to meet Treaty fishing rights in western Washington. Treaty rights of Columbia River tribes were defined by U.S. v Oregon, and the Columbia River Fisheries Management Plan was implemented in 1977. In reporting these fisheries, fishermen are termed "treaty" if they are fishing under the Native Treaty fishing rights and "non treaty" otherwise. As specified in the 1999 agreement, all southern U.S. fisheries are ISBM fisheries. Historical catches in these fisheries may be found in Appendices A. 8 through A. 14.

### 1.3.2.1 Strait of Juan de Fuca and the San Juan Islands

The preliminary estimate of the 2006 Chinook catch in Strait of Juan de Fuca tribal net fisheries directed at sockeye salmon is 957 . The preliminary estimate of the 2006 Chinook catch in the San Juan Islands tribal net fishery directed at sockeye salmon is 5,133 . Non-treaty landings totaled about 145 Chinook. The preliminary estimate of the 2006 Strait of Juan de Fuca treaty troll fishery is 920 Chinook through December. The catch estimate does not include catches from Area 4B during the May-September PFMC management period. These are included in the North of Cape Falcon troll summary. Historic catch estimates are provided in Appendices A. 8 and A. 9 for the Strait of Juan de Fuca and San Juan areas respectively.

### 1.3.2.2 Puget Sound

The preliminary estimate of the 2006 tribal and non-tribal net fishery harvests in Puget Sound marine areas is 69,546 Chinook, mostly taken in terminal areas where harvestable abundance was identified. Additional tribal net harvest occurred in freshwater fisheries with a preliminary estimate of 35,124 , giving a total preliminary harvest of 104,670 for Puget Sound net harvest in 2006. Estimates of the sport catch in 2006 are not yet available. Historic catch tables for Puget Sound exclusive of the San Juan Islands are provided in Appendix A.10.

### 1.3.2.3 Washington Coast

Tribal commercial and ceremonial and subsistence fisheries harvested a total of 11,380 Chinook in north coastal rivers (Quinault, Queets, Hoh, and Quillayute) in 2006. An additional 2,356 Chinook were harvested by the Makah tribal fisheries in the Waatch and Sooes rivers.
Harvest in Grays Harbor includes catch from both the Humptulips and Chehalis rivers. The 2006 tribal net fisheries harvested an estimated 1,675 Chinook. Approximately 14,359 Chinook were harvested by non-Indian commercial net fisheries in Willapa Bay in 2006.

From Grays Harbor north, recreational fisheries were implemented based upon pre-season tribalstate agreements and were subject to in-season adjustment. Estimates of sport fishery catches for Washington coastal terminal fishing areas in 2006 are not available. Historic catch estimates for Washington Coastal inside fisheries are shown in Appendix A.11.

Ocean fisheries off the coasts of Washington and Oregon are managed under regulations recommended by the Pacific Fishery Management Council. The estimated catch of Chinook
salmon in commercial troll fisheries from Cape Falcon to the U.S.-Canada border in 2006 was 57,288 for both treaty and non-treaty fisheries combined. Estimated catch in the ocean recreational fishery north of Cape Falcon in 2006 was 11,176 Chinook. Historic catch estimates for U.S. ocean fisheries north of Cape Falcon are shown in Appendix A. 12.

### 1.3.2.4 Columbia River

Chinook from the Columbia River are divided into eight stock groups for management purposes. These groups are delineated by run timing and area of origin: (1) spring run originating below Bonneville Dam; (2) spring run originating above Bonneville Dam; (3) summer run originating above Bonneville Dam; (4) fall run returning to Spring Creek Hatchery; (5) fall run originating in hatchery complexes below Bonneville Dam; (6) wild fall run originating below Bonneville Dam; (7) upriver bright fall run; and (8) mid-Columbia bright fall hatchery fish.

In 2006, the total annual harvest for all fisheries (spring, summer and fall) in the Columbia River basin was 201,106 Chinook, which included non-Indian and treaty-Indian commercial net harvest of 157,029 and recreational harvest of 44,077 . Historic catch estimates for Columbia River fisheries are found in Appendix A.13.

### 1.3.2.5 Ocean Fisheries, Cape Falcon to Humbug Mountain

Most harvest in ocean fisheries off Oregon's coast is comprised of a mixture of southern Chinook stocks not included in the PSC agreement. These stocks do not migrate north into the PSC jurisdiction to any great extent. Some stocks originating from Oregon coastal streams do migrate into PSC fisheries, including the North Oregon Coastal (NOC) and Mid-Oregon Coastal (MOC) stock aggregates. The NOC stocks are harvested only incidentally in Oregon ocean fisheries, while the contribution of MOC stocks to Oregon ocean fisheries is believed to be much greater. Catch statistics are readily available only for a terminal area troll fishery on one MOC stock at the mouth of the Elk River. Late season (October-December) troll catch in the Elk River terminal troll fishery in 2006 was 1,884 Chinook.

Recreational catch of these two stock groups occurs primarily in estuary and freshwater areas as mature fish return to spawn and is reported through a "punch card" accounting system. These data are only available more than two years after the current season. Therefore, we can only report the riverine and estuarine sport catch though 2004 for the NOC and MOC groups. The 2004 punch card estimate of estuary and freshwater catch for the NOC and MOC groups is 71,726 Chinook. Historic catch estimates for the Elk River troll fishery and the estuary and freshwater sport fisheries targeting on MOC and NOC stocks are shown in Appendix A.14.

### 1.4 ESTIMATES OF INCIDENTAL MORTALITY FOR SOUTHERN U.S. FISHERIES

Table 1.10 shows estimates of incidental mortalities for Washington Coastal and Puget Sound fisheries. Sources of estimates are shown in the table footnotes. No estimates of incidental mortalities were provided for 2006 for ocean fishery south of Cape Falcon or Columbia River fisheries.

Table 1.10. Estimated incidental mortality in Southern US troll, net, and sport fisheries for 2006.

| Fishery | Troll |  | Net $^{1}$ |
| :--- | :---: | :---: | :---: |
| Strait of Juan de Fuca | $252^{2}$ | 28 | 3,699 |
| San Juan Islands | 0 | 41 | 1,460 |
| Puget Sound | 0 | 487 | 17,642 |
| Washington Coast | 0 | 46 | NA |
| North of Cape Falcon | $15,900^{3}$ | 0 | $1,500^{3}$ |

${ }^{1}$ Assumes a 3\% net dropout rate.
${ }^{2}$ Estimates from FRAM.
${ }^{3}$ Estimates from direct observations.

## 2 ESCAPEMENTS THROUGH 2006

### 2.1 INTRODUCTION

The Agreement (Pacific Salmon Treaty Fishing Annexes \& Related Agreements, June 30, 1999) established a Chinook management program that:
"introduces harvest regimes that are based on estimates of Chinook abundance, that are responsive to changes in Chinook production, that take into account all fishery induced mortalities and that are designed to meet MSY or other agreed biologically-based escapement objectives"
This chapter compares annual escapement estimates with maximum sustained yield (MSY) or other accepted biologically-based escapement goals established for Chinook stocks. The CTC has reviewed and accepted escapement goals for 24 stocks included in this report. For these stocks, the CTC can evaluate stock status in relation to the accepted goals. For stocks without accepted goals, the CTC must rely on the time series of escapement data and the agency commentary for the individual stocks to provide a perspective on stock status and escapement trends.

This year the CTC is presenting this information in an abbreviated format. Annual reports prior to 2006 included a section on the framework used for escapement assessments and for each stock, narratives were included that had a description of escapement methodology, escapement goal basis and agency comments. This report uses the same format as the 2006 report with commentary that replaced the narratives. For a detailed description of the framework used for escapement assessment and stock narratives, please refer to the 2004 Catch and Escapement Report (CTC 2005a).

### 2.1.1 MSY or Biologically-Based Escapement Goals

### 2.1.1.1 Origin of Goals

Escapement goals accepted by the CTC were based on analyses that followed the guidelines developed in the CTC escapement goal report (CTC 1999). In the stock-specific narratives presented with the escapement graphs, the agencies may refer to agency goals, but only CTCaccepted escapement goals and ranges (in gray shading) are shown on the escapement graphs and used for evaluation. Table 2-1 presents the status of escapement goal reviews by the CTC for stocks that have been identified as escapement indicator stocks.

Table 2.1. PSC Chinook escapement indicator stocks, where shading indicates that there is not a CTC accepted escapement goal for PSC assessment of stock status.

| Presence in Treaty Attachments |  |  |  |  | Stock Group <br> In Att. I-V | Escapement Indicator | Region | Run |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SEAK | $\begin{gathered} \hline \mathbf{N B C} / \\ \mathbf{Q C I} \end{gathered}$ | WCVI | $\begin{array}{c\|} \hline \text { BC } \\ \text { ISBM } \end{array}$ | $\begin{gathered} \hline \text { SUS } \\ \text { ISBM } \end{gathered}$ |  |  |  |  |
| $\checkmark$ |  |  |  |  |  | Situk | Yakutat | Spring |
| $\checkmark$ |  |  |  |  |  | Alsek | Yakutat | Spring |
| $\checkmark$ |  |  |  |  |  | Taku | TBR | Spring |
| $\checkmark$ |  |  |  |  |  | Stikine | TBR | Spring |
| $\checkmark$ |  |  |  |  |  | Chilkat | N. Inside | Spring |
| $\checkmark$ |  |  |  |  |  | King Salmon | N. Inside | Spring |
| $\checkmark$ |  |  |  |  |  | Andrew Creek | C. Inside | Spring |
| $\checkmark$ |  |  |  |  |  | Unuk | S. Inside | Spring |
| $\checkmark$ |  |  |  |  |  | Chickamin | S. Inside | Spring |
| $\checkmark$ |  |  |  |  |  | Blossom | S. Inside | Spring |
| $\checkmark$ |  |  |  |  |  | Keta | S. Inside | Spring |
| $\checkmark$ | $\checkmark$ |  | $\checkmark$ |  | Northern/Central B.C. | Yakoun | NBC-Area $1$ | Summer |
| $\checkmark$ | $\checkmark$ |  | $\checkmark$ |  | Northern/Central B.C | Nass | $\begin{gathered} \text { NBC-Area } \\ 3 \end{gathered}$ | Spring/Summer |
| $\checkmark$ | $\checkmark$ |  | $\checkmark$ |  | Northern/Central B.C | Skeena | $\begin{gathered} \text { NBC-Area } \\ 4 \\ \hline \end{gathered}$ | Spring/Summer |
|  |  |  | $\checkmark$ |  | Northern/Central B.C. | Dean | CBC-Area 8 | Spring |
|  |  |  |  |  |  | Rivers Inlet | CBC-Area 9 | Spring/Summer |
| $\checkmark$ | $\checkmark$ |  | $\checkmark$ |  | WCVI Falls | Artlish, Burman, Kaouk, Tahsis, Tashish, Marble | WCVI | Fall |
| $\checkmark$ | $\checkmark$ |  | $\checkmark$ |  | Upper Strait of Georgia | Klinaklini, Kakwiekan, Wakeman, Kingcome, Nimpkish | UGS | Sum/Fall |
|  |  |  | $\checkmark$ |  | Lower Strait of Georgia | Cowichan/Nanaimo ${ }^{2}$ | LGS | Fall |
| $\checkmark$ | $\checkmark$ |  | $\checkmark$ |  | Fraser Early ${ }^{1}$ (Spr/Sum) | Fraser Spring 1.3 | Fraser River | Spring |
| $\checkmark$ | $\checkmark$ |  | $\checkmark$ |  | Fraser Early ${ }^{1}$ (Spr/Sum) | Fraser Spring 1.2 | Fraser River | Spring |
| $\checkmark$ | $\checkmark$ |  | $\checkmark$ |  | Fraser Early ${ }^{1}$ (Spr/Sum) | Fraser Summer 1.3 | Fraser River | Summer |
| $\checkmark$ | $\checkmark$ |  | $\checkmark$ |  | Fraser Early ${ }^{1}$ (Spr/Sum) | Fraser Summer 0.3 | Fraser River | Summer |
|  |  | $\checkmark$ | $\checkmark$ | $\checkmark$ | Fraser Late | Harrison | Fraser River | Fall |
|  |  |  | $\checkmark$ | $\checkmark$ | N. P.S. Natural Springs | Nooksack | NC/PS | Spring |
|  |  |  | $\checkmark$ | $\checkmark$ | N. P.S. Natural Springs | Skagit Spring | NC/PS | Spring |
|  |  | $\checkmark$ | $\checkmark$ | $\checkmark$ | P.S. Natural Summer/Falls | Skagit Summer/Fall | NC/PS | Summer/Fall |
|  |  | $\checkmark$ | $\checkmark$ | $\checkmark$ | P.S. Natural Summer/Falls | Stillaguamish | NC/PS | Summer/Fall |
|  |  | $\checkmark$ | $\checkmark$ | $\checkmark$ | P.S. Natural Summer/Falls | Snohomish | NC/PS | Summer/Fall |
|  |  | $\checkmark$ | $\checkmark$ | $\checkmark$ | P.S. Natural Summer/Falls | Lake Washington | NC/PS | Summer/Fall |
|  |  | $\checkmark$ | $\checkmark$ | $\checkmark$ | P.S. Natural Summer/Falls | Green | NC/PS | Summer/Fall |

-continued-

Table 2.1. Continued.

| Presence in Treaty Attachments |  |  |  |  | Stock Group <br> In Att. I-V | Escapement Indicator | Region | Run |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SEAK | $\begin{gathered} \hline \mathbf{N B C} / \\ \text { QCI } \\ \hline \end{gathered}$ | WCVI | $\begin{array}{\|c\|} \hline \text { BC } \\ \text { ISBM } \end{array}$ | $\begin{array}{\|c} \text { SUS } \\ \text { ISBM } \end{array}$ |  |  |  |  |
| $\checkmark$ | $\checkmark$ |  |  | $\checkmark$ | WA Coastal Fall Natural | Hoko | WAC/JDF | Fall |
|  |  |  |  |  |  | Quillayute Summer | WAC/JDF | Summer |
| $\checkmark$ | $\checkmark$ |  |  | $\checkmark$ | WA Coastal Fall Natural | Quillayute Fall | WAC/JDF | Fall |
|  |  |  |  |  |  | Hoh Spring/Summer | WAC/JDF | Summer |
| $\checkmark$ | $\checkmark$ |  |  | $\checkmark$ | WA Coastal Fall Natural | Hoh Fall | WAC/JDF | Fall |
|  |  |  |  |  |  | Queets Spring/Summer | WAC/JDF | Summer |
| $\checkmark$ | $\checkmark$ |  |  | $\checkmark$ | WA Coastal Fall Natural | Queets Fall | WAC/JDF | Fall |
|  |  |  |  |  |  | Grays Harbor Spring | WAC/JDF | Spring |
| $\checkmark$ | $\checkmark$ |  |  | $\checkmark$ | WA Coastal Fall Natural | Grays Harbor Fall | WAC/JDF | Fall |
|  |  |  |  |  |  | Col. Upriver Spring | CR | Spring |
| $\checkmark$ | $\checkmark$ | $\checkmark$ |  | $\checkmark$ | Col. Upriver Summers | Mid-Columbia Summers | CR | Summer |
| $\checkmark$ | $\checkmark$ | $\checkmark$ |  | $\checkmark$ | Columbia River Falls | Col. Upriver Bright | CR | Fall |
| $\checkmark$ | $\checkmark$ | $\checkmark$ |  | $\checkmark$ | Columbia River Falls | Lewis | CR | Fall |
| $\checkmark$ | $\checkmark$ | $\checkmark$ |  | $\checkmark$ | Columbia River Falls | Deschutes | CR | Fall |
| $\checkmark$ | $\checkmark$ |  |  | $\checkmark$ | Far N. Migrating OR Coast. | Nehalem | NOC | Fall |
| $\checkmark$ | $\checkmark$ |  |  | $\checkmark$ | Far N. Migrating OR Coast. | Siletz | NOC | Fall |
| $\checkmark$ | $\checkmark$ |  |  | $\checkmark$ | Far N. Migrating OR Coast. | Siuslaw | NOC | Fall |
|  |  |  |  |  |  | South Umpqua | MOC | Fall |
|  |  |  |  |  |  | Coquille | MOC | Fall |

1 The escapement indicator stocks listed in the Annex tables for this group are Upper Fraser, Middle Fraser, and Thompson. The Fraser spring/summer group is split into these 4 escapement indicators to represent the stock group by life history type rather than geographically.
2 An escapement goal was established for the Cowichan in 2005; a goal for Nanaimo is still pending.

### 2.2 ESCAPEMENT ASSESSMENT

The Agreement directs the CTC to "report annually on the escapement of naturally spawning Chinook stocks in relation to the agreed escapement objectives referred to below, evaluate trends in the status of stocks, and report on progress in rebuilding of naturally spawning Chinook stocks" (Annex IV, Chapter 3, paragraph 1.b.iii). In this report, escapement assessments include stock specific graphs of escapements and commentary, presented to provide a perspective on stock status and escapement trends through 2006. More detailed commentary for each stock can be found in previous CTC catch and escapement reports, e.g. CTC (2005).

The escapement goals and 2006 escapements for the 24 stocks with CTC accepted escapement goals are listed in Table 2-2. For 12 of these stocks, the agency escapement goal is defined as a range; for the remaining 12 stocks, the escapement goal is defined as a point estimate. In 2006, escapements were within the goal range for seven stocks, above the range or $\mathrm{S}_{\text {MSY }}$ point estimate for 11 stocks, and below the goal for three stocks.

Table 2.2. Escapement goals and 2006 escapements for PSC Chinook escapement indicator stocks with biologically-based goals accepted by the CTC.

| Stock | Region | Stock Group | Escapement <br> Goal | 2006 <br> Escapement |
| :--- | :---: | :---: | ---: | ---: |
| Situk | SEAK | Yakutat | $500-1,000$ | 749 |
| Alsek (Klukshu index) | SEAK/TBR | Yakutat | $1,100-2,300$ | 561 |
| Chilkat | SEAK | Northern Inside | $1,750-3,500$ | 3,027 |
| Taku | SEAK/TBR | TBR | $30,000-55,000$ | 39,632 |
| Stikine | SEAK/TBR | TBR | $14,000-28,000$ | 20,600 |
| King Salmon | SEAK | Northern Inside | $120-240$ | 149 |
| Andrew Creek | SEAK | Central Inside | $650-1,500$ | 2,178 |
| Unuk (survey index) | SEAK | Southern Inside | $650-1,400$ | 679 |
| Chickamin (survey <br> index) | SEAK | Southern Inside | $450-900$ | 1,330 |
| Blossom (survey index) | SEAK | Southern Inside | $250-500$ | 339 |
| Keta (survey index) | SEAK | Southern Inside | $250-500$ | 747 |
| Harrison | BC | Fraser River | $75,100-98,500$ | 50,942 |
| Cowichan | BC | LGS | 6,500 | 1,069 |
| Mid Col. Upr. Summer | CR | Columbia River | 17,857 | 60,266 |
| Col. Upriver Brights | CR | Columbia River | 40,000 | 76,898 |
| Lewis | CR | Columbia River | 5,700 | 11,999 |
| Quillayute Fall | WAC | WA Coast | 3,000 | 5,970 |
| Queets Spring/Summer | WAC | WA Coast | 700 | 330 |
| Queets Fall | WAC | WA Coast | 2,500 | 2,338 |
| Hoh Spring/Summer | WAC | WA Coast | 900 | 904 |
| Hoh Fall | WAC | WA Coast | 1,200 | 1,632 |
| Nehalem | ORC | NOC | 6,989 | 4,711 |
| Siletz | ORC | NOC | 2,944 | 4,108 |
| Siuslaw | ORC | NOC | 12,925 | 28,082 |

The CTC has now assessed the status of stocks with CTC-accepted goals for return years 19992006. Over this time period, the number of stocks with CTC-accepted goals has increased from 16 to 24 (Figure 2.1). The percentage of stocks below escapement goals or goal ranges has varied over these years from $4 \%$ to $25 \%$, and was $25 \%$ for 2006 escapements.


Figure 2.1. Number and status of stocks with CTC-accepted escapement goals for years 19992006.

### 2.3 STOCK SPECIFIC GRAPHS AND COMMENTARIES

Graphs of time series of escapements and terminal runs for Chinook stocks are included in sections for Alaska, Canada, and Washington/Columbia River/Oregon. A limited commentary is also provided for each stock; more detail on historical assessments and escapement goals for individual stocks in available in CTC (2005a). Each graph contains the name of the stock and the type of data depicted (total escapement, index counts, terminal runs, etc.). For the graphs that include estimates of the terminal run size, the harvests in terminal runs include both jacks and adults in some cases, whereas the escapement is usually reported in adults. The $x$-axis represents calendar years. All escapement goals accepted by the CTC are shown except for the LGS stock group because this group includes both the Cowichan and Nanaimo stocks and only the Cowichan has a CTC accepted goal. Historical escapement and terminal run data are provided for SEAK stocks in Appendix B.1, for Canadian stocks in Appendix B.2, for Puget Sound in Appendix B.3, Washington Coastal stocks in Appendix B.4, for Columbia River stocks in Appendix B. 5 and Oregon Coastal stocks in Appendix B.6.

### 2.3.1 SEAK/TBR Stocks

Of the 11 SEAK/TBR stocks included in the escapement assessment, the Situk, Chilkat, Taku, King Salmon, and Stikine rivers and Andrew Creek include estimates of total escapement of large fish, Chinook salmon > 659 mm mid-eye to fork (MEF) length. Escapement estimates for the Alsek, Unuk, Chickamin, Blossom, and Keta rivers are index counts of large fish. These indices are enumerated from a weir on the Alsek River and foot/aerial helicopter surveys on the
other four rivers that represent a fraction of the total escapement. Except for the Chilkat River, survey methods have been standardized for all systems since 1975. The assessment of Chilkat River Chinook salmon was standardized in 1991 as an annual mark-recapture estimate of escapement. Escapement goals have been defined as a range for the SEAK/TBR stocks, shown by the grey shaded area on the graphs.


Commentary The Situk River is a small non-glacial system that supports a moderate run of outside-rearing Chinook salmon. Escapements are based on weir counts minus upstream sport fishery harvests (if any) estimated from an on-site creel survey and a postseason mail-out survey. The weir has been operated annually since 1976, and was also operated from 1928-1955.


Commentary: The Alsek River is large transboundary glacial system that supports a moderate run of outside-rearing Chinook salmon. Since 1976 index escapements (shown above) have been determined using a weir operated at the Klukshu River.


Commentary: The Taku River is a large transboundary glacial system that supports a large run of outside-rearing Chinook salmon. In 1989, 1990, and 1995-2006 escapements were determined using mark-recapture methods. In other years since 1975, aerial counts were expanded by a factor of 5.2, the 5-year average of the ratio of the mark-recapture estimates to aerial survey counts (McPherson et al. 2000).


Commentary: The Stikine River is a large transboundary glacial system that supports a large run of outside-rearing Chinook salmon. From 1975 through 1984 index escapements were made using survey counts and since 1985 counts were made using a weir at the Little Tahltan River. Since 1996 mark-recapture experiments were performed indicating the index escapements represented $17 \%$ to $20 \%$ of the total escapement (Pahlke and Etherton 1999).


Commentary: The Chilkat River is a moderate-sized glacial system moderate run of insiderearing Chinook salmon. Since 1991, escapements have been estimated using mark-recapture methods (Ericksen and McPherson 2003). The current biological escapement goal of 1,750 to 3,500 was formally accepted by the CTC in 2005.


Commentary: The King Salmon River is a small non-glacial system that supports a small run of inside-rearing Chinook salmon. Escapements are based upon weir counts from 1983 to 1992 and expansions of index counts from 1971 to 1982 and 1993 to 2006. The 10 years of weir data showed that on average the escapement was 1.5 times the index count (McPherson and Clark 2001).


Commentary: Andrew Creek, a tributary of the lower Stikine River, is a small non-glacial system that supports a moderate run of inside-rearing Chinook salmon. Escapements are based upon weir counts from 1976 to 1984 and expansions of index counts in 1975 and 1985 to 2006. Four years of concurrent weir and index count data were used to estimate the expansion factor of 2.0.


Commentary: The Unuk River is a moderate-sized glacial system that supports a moderate run of inside-rearing Chinook salmon. Indices of escapement since 1977 are based on the sum of peak index counts from six main tributaries (Pahlke 2003). Mark-recapture studies were implemented in 1994 and annually since 1997 (Weller and McPherson 2003). The current estimated expansion factor is 5.0 for index counts.


Commentary: The Chickamin River is a moderate-sized glacial system that supports a moderate run of inside-rearing Chinook salmon. Indices of escapement since 1975 are based on the sum of peak index counts from eight main tributaries (Pahlke 2003). Mark-recapture studies were performed in 1995, 1996, and 2001-2005. The current estimated expansion factor is 4.6 for index counts.


Commentary: The Blossom River is a small-sized non-glacial system that supports a small run of inside-rearing Chinook salmon. Indices of escapement since 1975 are based on the sum of peak index counts (Pahlke 2003). Mark-recapture studies performed in 1998 and 2004 to 2006 estimated an expansion factor range of 2.0 to 4.0 .


Commentary: The Keta River is a small-sized non-glacial system that supports a small run of inside-rearing Chinook salmon. Indices of escapement since 1975 are based on the sum of peak index counts (Pahlke 2003). Mark-recapture studies were performed 1998 to 2000 (Freeman et al. 2001). The current estimated expansion factor is 3.0 for index counts.

### 2.3.2 Canadian Stocks

Since the beginning of the Chinook rebuilding program of the 1985 PST, escapement goals for Canadian Chinook stocks were generally based on doubling the average escapements recorded between 1979-1982. The doubling was based on the premise that Canadian Chinook stocks were over-fished and that doubling the escapement would still be less than the optimal escapement estimated for the aggregate of all Canadian Chinook populations (see stock-recruitment curve in "Technical Basis of PSC Catch Ceilings," Figure 1, Attachment 4, PSC file 72006; PSC Office, Vancouver, BC). Doubling was also expected to be a large enough change in escapements to allow detection of the change in numbers of spawners and the subsequent production. The escapement goals of the Canadian stocks are currently being reviewed.


Commentary: The Yakoun River is the only significant Chinook-producing stream on the Queen Charlotte Islands. Chinook spawn primarily at the outlet of Yakoun Lake and are a summer-run stock. Visual estimates of escapement are made by foot surveys of the system. These estimates are then expanded into a total estimate of spawning escapement in the system. The effort spent on escapement surveys has declined in recent years and their accuracy (i.e. ability to estimate the actual escapement) is unknown.


Commentary: The Nass River is the largest river in Area 3, representing a group of approximately 25 streams. Prior to 1992, CDFO observations of escapement were based on visual counts. Mark-recapture programs have been conducted since 1992 by the Nisga'a Fisheries to estimate total spawning escapement in the Nass River. The Nass mark-recapture program uses two fish wheels at Gitwinksihlkw (GW) in the lower Nass canyon to apply tags and two wheels at Grease Harbour in the upper canyon for recovery. A modified Petersen model, stratified by size category, was used to estimate the total population of Chinook past the tagging
location. Tags were also recovered in upriver fisheries and on the spawning grounds. Spawning escapements were calculated as the estimated Chinook population past GW from the markrecapture studies, less upriver catches in sport and First Nations fisheries. Three tributaries with Chinook populations enter the Nass River below GW. Visual estimates augmented by fence counts of the Kincolith River in 2001, 2002 and 2005 were used to estimate Nass River Chinook escapements below the fish wheels.


Commentary: The Skeena Chinook escapements above represent 40 streams which are consistently surveyed. The Skeena supports over 75 separate Chinook spawning populations, but three (Kitsumkalum, Morice, and Bear Rivers) account for about 70\% of the total abundance. A second group of populations (Ecstall, Kispiox, and Babine rivers) have annual returns ranging from 1,000 to 5,000 spawners, and comprise about $13 \%$ of Skeena returns. Escapement estimates are generally based on visual observations from helicopter, fixed wing aircraft and/or from stream walking surveys. The Kitsumkalum River is the exploitation rate indicator stock for the Skeena Chinook complex. Spawning escapements in the Kitsumkalum have been estimated using a mark-recapture program since 1984.


Commentary: The Area 8 Chinook stock consists of seven non-enhanced systems, but the Dean River is the main spawning population. Of all Chinook- producing streams in the Central Coast, the Dean is the best indicator in terms of consistent survey coverage and methodology. Chinook returning to the Dean River have an early-summer timing and most spawn in the lower river by July. Up until 2000, counts of spawning Chinook were made during 1-3 surveys and the peak count used as the escapement index. Survey counts were sometimes expanded to account for sections of the river that could not be surveyed in any year, but the counts were not extrapolated to total escapement of Chinook to the river. Since 2001, the annual number of aerial surveys has increased, allowing the calculation of area-under-the-curve (AUC) escapement estimates. In some years viewing conditions were poor and did not result in counts necessary to produce an AUC estimate. In these years maximum likelihood estimates were used to produce estimates as was the case in 2004(3,500). A Chinook mark-recapture program was initiated on the Dean River in 2006 to generate expansion factors for converting the current spawner indices (AUC estimate from helicopter flights) into estimates of total escapement. The preliminary estimate of escapement based on the mark-recapture program was 5,478 in 2006 compared to the AUC estimate of 3,700 . For the purposes of this report however, the index of escapement is reported in the figures.



Commentary: The Wannock, Chuckwalla, and Kilbella Rivers are the primary Chinook streams in Area 9 (Rivers Inlet area). Small tributaries of Owikeno Lake also contain Chinook but these populations are much smaller. The Wannock River contains the largest Chinook population, averaging 5,200 Chinook in the 1990s, while the Chuckwalla and Kilbella together averaged around 300. The Wannock River drains Owikeno Lake, is about six kilometers long, and is wide and turbid. The Chuckwalla and Kilbella rivers are much longer, drain from coastal mountains, and their visibility is much more variable depending on local weather (glacial flour to clear). The timing of these stocks also differs: the Wannock has late summer/fall run timing, while the other two are early summer Chinook stocks. Escapement estimates in the Chuckwalla and Kilbella rivers are derived from aerial surveys, whereas Wannock escapement is derived from expansions of carcass count to estimate total spawning escapement.


Commentary: The WCVI index represents the sum of escapements for six rivers (Marble, Tahsis, Burman, Artlish, Kaouk, and Tahsish), which were chosen to provide an 'index' of escapement for wild WCVI stocks in general. These stocks were chosen based on historical consistency of data quality. CDFO has developed a 14 stream expanded index which includes escapements to the six stream index plus the following WCVI streams: Colonial/Cayegle Creeks (Area 26), Leiner (Area 25), Megin, Bedwell/Ursus, Moyeha (Area 24) and Sarita, Nahmint (Area 23), and San Juan (Area 21). In 2005, the Colonial/Cayegle escapement was not available, and was therefore not included in the 14 stream index. In 2006, a mark-recapture program was conducted on the Burman River, in addition to the regular swim surveys. However, the escapement estimate used for the index in 2006 follows the same methodology as 2005.


Commentary: The Upper Strait of Georgia (UGS) stock index consists of four river systems (Klinaklini, Kakweiken, Wakeman, Kingcome) in Johnstone Strait mainland inlets and the Nimpkish River on northeast Vancouver Island. The accuracy of escapement estimates in the mainland inlet systems is likely poor due to low visibility of glacial systems, remote access, and timing of surveys. Escapement estimates have primarily been based on aerial counts which may not encompass Chinook run-timing. Swim surveys and stream walks have been conducted in the Nimpkish River. A fish wheel program implemented on the Klinaklini in 1997 was discontinued in 2004. Based on the portion of the assessment program that continued in 2005, estimated abundance in 2005 was assumed to be the same as in 2004. In 2006, the accuracy of the escapement estimate for the Klinaklini is considered to be very poor as it was based on one aerial survey. Consequently, escapement for this stock was not included in the 2006 index. No fish were observed in the Kakweiken River in 2006; there were no surveys during the Chinook run timing.


Commentary: Lower Strait of Georgia (LGS) rivers monitored for naturally spawning fall Chinook escapement are the Cowichan and Nanaimo rivers. Total Chinook returns to the Cowichan and Nanaimo rivers have been estimated since 1975. Prior to 1989, escapement estimates from the Cowichan River were derived from swim surveys and over-flights by Fishery Officers and hatchery staff. This approach was also used for the Nanaimo River prior to 1995. Since 1989 a counting fence has been used in the Cowichan, and since 1995 carcass markrecapture surveys have been used in the Nanaimo. Since 2005, AUC estimates have been used in the Nanaimo. In 2006, a tagging study was used to determine survey life specific to the system. An escapement goal of 6,500 for the Cowichan was accepted by the CTC in 2005; a goal for the Nanaimo is still pending.

### 2.3.3 Fraser River Stocks

The Fraser River watershed is the largest Canadian producer of Chinook salmon. Fraser Chinook are comprised of a large number of local populations as described in CTC (2002b).

Much of our understanding of the status of Fraser Chinook is based on spawner escapement data. Most data are from visual surveys, which are generally biased low, although many estimates are considered to be reasonably precise. Visual survey data are generated from aerial over-flight surveys and the escapement estimate is usually obtained by dividing the peak count by 0.65 (Farwell et al. 1999). The CDFO continues to evaluate the appropriateness of this expansion factor and AUC methodology through calibration studies. Counting fences and mark-recapture projects exist for some systems, although most of the time series of escapement data from these projects are relatively short.

For populations other than the Harrison River, habitat-based models are being developed to estimate spawning capacity and spawner abundance producing maximum sustained yield. This habitat-based assessment will initially use predictive models of Chinook stock-recruitment relationships based on watershed area, although other habitat-based approaches will also be considered.


Commentary: This aggregate includes the Upper Pitt River and Birkenhead River stocks in the Lower Fraser, and the spring-run Chinook of the Mid and Upper Fraser, North Thompson, and South Thompson, but excluding those of the Lower Thompson (CTC 2002b). Stocks upstream of Prince George include the McGregor and Torpy River systems. In recent years, fence counts have been employed at the Chilako River in the Upper Fraser and at the Salmon River in Salmon Arm (South Thompson). Fence counts were discontinued at the Salmon River (Prince George) in 1998. Estimates for all other systems were generated from aerial surveys, typically, by dividing the peak count by 0.65 .


Commentary: The Fraser Spring-Run Age 1.2 aggregate includes six smaller body size populations that spawn in the Lower Thompson River tributaries, Louis Creek of the North Thompson and the spring-run fish of Bessette Creek in the South Thompson (CTC 2002b). Escapement estimates for each system are generated from visual surveys, either from aerial overflights, stream walks or by dividing the peak counts by 0.65 . The Nicola watershed is a site for
calibrating peak count expansion, AUC, and mark-recapture methods. Escapement to the Deadman River is estimated using a resistivity counter.


Commentary: The Fraser Summer-Run Age 1.3 stock complex includes 11 populations, spawning in large rivers, mostly below the outlets of large lakes. These include the Stuart and Nechako rivers upstream of Prince George, Chilko and Quesnel rivers in the mid Fraser and the Clearwater and North Thompson rivers in the North Thompson watershed (CTC 2002b). Escapement estimates are generated from aerial surveys by dividing the peak count by 0.65 , except for the Stuart system where a mark-recapture estimate is generated, and for the Nechako River where multiple aerial counts are analyzed with the AUC method.


Commentary: The Fraser Summer-Run Age 0.3 aggregate includes six populations of Chinook spawning in the South Thompson watershed upstream of Kamloops and one in the lower Fraser. These include the Middle Shuswap, Lower Shuswap, Lower Adams, Little River and the South Thompson River mainstem, in the BC interior, and Maria Slough in the lower Fraser (CTC 2002b). Most escapements are estimated by expanding peak visual survey counts (as in previous
three Fraser aggregates). Further, the lower Shuswap River is a site for calibrating peak count expansion, AUC, and mark-recapture methods.


Commentary: The lower Fraser stock is dominated by fall returning Harrison-origin Chinook that includes natural spawners in the Harrison River and Harrison-origin fish that were introduced to the Chilliwack River. Since 1984, mark-recapture studies have been conducted annually to obtain reliable estimates of spawning escapements. Estimates of fall Chinook escapement to the Chilliwack River are based on a procedure long established by the Chilliwack Hatchery staff for expanding the number of carcasses counted in standardized reaches of the river.

### 2.3.4 Washington, Oregon and Columbia River Stocks

The PSC escapement indicator stocks in Washington, Oregon, and Idaho are separated into five groups: Puget Sound, Washington Coastal, Columbia River, North Oregon Coastal, and Mid Oregon Coastal. The indicator stocks include a variety of run timings and ocean distributions.

Biologically based escapement goals have been reviewed and accepted by the CTC for three fall stocks (Queets, Quillayute, Hoh), two Spring/summer stocks (Queets, Hoh), three Columbia River stocks (Lewis, Upriver Brights and Columbia River summer), and three Oregon coastal stocks (Nehalem, Siletz and Siuslaw).


Commentary: In 2006, the escapement estimate was 1,916 for the North Fork and 355 for the South Fork. However, only $10 \%$ of the North Fork escapement is identified as natural-origin spawners, and the bulk of the run is composed of hatchery-origin returns from the supplementation program. The conservation objective for 2006 was for an Adult Equivalent (AEQ) exploitation rate across all southern U.S. fisheries not to exceed 7\% (PFMC 2006). The state-tribal escapement goal established for this stock is 4,000 spawners. There is a small ceremonial and subsistence directed fishery on the spring Chinook and substantial incidental impacts during the terminal fall Chinook fisheries.


Commentary: Due to changes in spawning index areas, beginning in 1992 for the Cascade stock and 1994 for the Sauk and Suiattle stocks, escapements are not directly comparable to previous numbers. The past state-tribal escapement goal of 3,000 adults was the average of the estimated escapements from 1959-1968 (PFMC 1997). In 2006 the Recovery Exploitation Rate (RER) for Skagit springs was $38 \%$, with 576 spawners as the low abundance threshold. While no postseason estimate is available, the preseason expectation for 2006 was for a total rate of $18.4 \%$ (PFMC 2006). Proposed escapement goals, as stated in the draft Shared Strategy Recovery Plan, are 1,200 Chinook for low marine survival years and 2,100 Chinook for high marine survival years. The 2006 escapement estimate was 1,919 natural spawners.


Commentary: Projects to improve escapement estimates of Skagit summer/fall Chinook have recently been funded through the Letter of Agreement (LOA) process. They included: development of variance estimates, determination of age and sex composition of the escapement, and evaluation of the 21-day redd life assumption and 2.5 fish/redd expansion value. The statetribal escapement goal for this stock is 14,850, the average of the 1965-1976 escapements (Ames
and Phinney 1977). Little terminal harvest has occurred since 1997. In 2006, the Federal Management Plan (FMP) conservation objective for this stock was for a RER across all fisheries not to exceed $50 \%$. The 2006 predicted exploitation rate was $30.3 \%$. The 2006 escapement estimate was 20,819 . The terminal run estimate was 21,196 .


Commentary: Natural spawning broodstock are collected annually in the river to maintain a CWT indicator stock program and to augment natural production. From 1989 to 1996, approximately $18 \%$ of the escapement was comprised of returns from this program. (1996 to 2005 average is $38 \%$ hatchery origin returns)The state-tribal escapement goal of 2,000 fish is the average of the 1973-1976 escapements (Ames and Phinney 1977). There have been no terminal harvests since 1996. The 2006 FMP conservation objective for the combined summer/fall stock was for an AEQ exploitation rate not to exceed $15 \%$ in the southern U.S. fisheries. The preseason estimate of this rate was $12.2 \%$. The escapement estimate for 2006 was 1,254 Chinook ( 1,035 for the North Fork and 219 for the South Fork).


Commentary: Some terminal area harvest of Snohomish River Chinook occurs in Area 8 incidental to net and sport fisheries targeting Tulalip Hatchery Chinook salmon. Historic terminal run size and catch estimates derived from run reconstruction are being revised to reflect the results of otolith marking studies. The state-tribal escapement goal for this stock had been 5,250 fish (the average of the 1965-1976 escapements). The FMP conservation objective was for a total AEQ exploitation rate not to exceed $15 \%$ in southern U.S. fisheries. The preseason prediction of that rate was $14.7 \%$. The 2006 escapement was estimated at 8,308 natural spawners.


Commentary: Substantial artificial production occurs in Issaquah Creek and at the University of Washington. In 1994, spawning estimates were reviewed, and an attempt was made to find a consistent method to estimate escapement. A state-tribal escapement goal of 1,200 has been established for the Cedar River spawners. The single targeted goal represents an index count for the Cedar River. This objective reflects the average of observed spawning escapements from 1965-1969. It should be noted that although there are no hatchery fish released from the Cedar River, nearly $40 \%$ of the spawning fish were of hatchery origin. The FMP conservation objective for 2005 for Lake Washington Fall Chinook was for an AEQ exploitation rate not to exceed $15 \%$ in all preterminal southern U.S. fisheries. The preseason expected AEQ exploitation rate was $16.7 \%$. The 2006 escapement was a total of 1,219 spawners ( 1,090 to Cedar and 129 to the north tributaries). There have not been freshwater terminal fisheries on this stock since 1995.


Commentary: There is a large hatchery program in this basin and these fish comprise a large portion of the return. The average is about $52 \%$ for the years 1996-2003. Tagging studies were conducted in 1975 and 1976 to estimate numbers of returning adults; results were in close agreement with estimates made from aerial surveys. No attempt is made to adjust the estimate of natural escapement for the presence of hatchery origin fish. Projects to improve escapement estimates of Green River fall Chinook, were recently funded through the LOA process, including evaluation of the spatial and temporal distribution of escapement, alternative methods of estimating escapement, and the validity of the 21 -day redd life assumption and 2.5 fish/redd expansion value. The state-tribal escapement goal of 5,750 naturally spawning adults is the average of the 1965-1976 escapements (Ames and Phinney 1977). Beginning in 2003, a new method for estimating natural spawning escapement was employed based on a mark/recapture studies conducted 2000-2002. The estimate of mainstem females was compared to the "adjusted" peak count of visible redds for that year, with the assumption that each female dug a single redd. In 2003, the mean ratio of mainstem females to mainstem adjusted peak redds (3.109) from the three study years was applied to the 2006 adjusted peak redd count to estimate mainstem female spawners. A sex ratio of 1.5 males per female was then used to expand the number of female spawners to total mainstem escapement. The 2006 FMP conservation objectives for this stock was for a total AEQ exploitation rate not to exceed $15 \%$ in pre-terminal southern U.S. fisheries, and an escapement of at least 5,800 adults. The 2006 escapement estimate for natural spawning Chinook was 10,247 . The number of hatchery-origin spawners was estimated to be almost $60 \%$.


Commentary: There are no directed fisheries on Chinook returning to rivers entering the Strait of Juan de Fuca. The escapement goal established by state and tribal managers is 850 naturally spawning adults. This single targeted goal was developed as a MSY proxy. The escapement goal was calculated by estimating the amount of available spawning habitat, then expanded utilizing assumed optimal redds per mile and fish per redd values (Ames and Phinney 1977). The 2006 escapement estimate was 880 .


Commentary: A summer Chinook hatchery program using native stock operated from the mid1970s to the mid-1980s. Spring Chinook of non-native origin were introduced in a hatchery program in the early 1970s. CWT analyses since then have demonstrated significant straying of these spring Chinook into the summer Chinook spawning population. Estimates from 1991-1995 averaged $47 \%$ hatchery origin strays in the naturally spawning population. In 1996, fry plants were eliminated and the smolt plants were reduced. Summer Chinook are managed for a fixed escapement goal of 1,200 adults and jacks combined (PFMC 2003). The 2006 escapement estimate for summer Chinook was 553. This continues a trend of stable returns near the management goal for this stock.


Commentary: No hatchery production of fall Chinook currently occurs in the Quillayute River basin; the program was discontinued in the late 1980s. Since 1991, the returning run size has fluctuated within a range comparable to run sizes observed prior to 1984. The 2006 escapement estimate was 5,970 with a total terminal estimate of 8,246 . Terminal fisheries are managed for a harvest rate of $40 \%$, with an escapement floor of 3,000 fish (PFMC 2003). This objective is designed to actively probe at and above estimates of escapements that produce maximum sustained harvest (MSH), while minimizing potential detrimental effects of existing fisheries. Stock production analyses of spawning escapements from 19681982 were used to determine the initial escapement floor.


Commentary: Similar to many of the other Washington coastal stocks, Hoh River spring/summer escapements have been relatively stable except for much larger returns in 1988, 1989, and 1990. The terminal return for this stock declined from 1997 to 2000, but has since rebounded. Terminal fisheries are managed to harvest $31 \%$ of the river run, with an escapement floor of 900 fish (PFMC 2003). This objective is designed to allow a wide range of spawner escapements from which to eventually develop an MSY objective or proxy while protecting the long-term productivity of the stock. Stock production analysis of spawning escapement for brood years 1969-1976 was utilized to determine the initial escapement floor. The 2006 escapement estimate and total run size were 904 and 1,061 respectively.


Commentary: The natural escapement estimates include fish taken for broodstock in the 1980s. This stock is managed to harvest $40 \%$ of the terminal run, with an escapement floor of 1,200 spawners (PFMC 2003). This objective is designed to actively probe at and above estimates of the escapements that produce MSH, while minimizing potential detrimental effects of existing fisheries. Stock production analyses of spawning escapements from 1968-1982 were utilized to determine the initial escapement floor. The 2006 escapement estimate was 1,632. Terminal run size estimate was 2,414 .


Commentary: Terminal fisheries are managed to harvest $30 \%$ of the river run size, with an escapement floor of 700 fish (PFMC 2003). This objective is designed to actively probe at and above the estimates of escapement that produce MSH. Since 1990, terminal fisheries have had minimal impact on this stock as returns to the river have rarely exceeded the escapement floor in this time frame. Since 2000, sport anglers have been required to release all Chinook during the summer, and tribal fisheries have been limited to one tribal netting day for ceremonial and subsistence purposes. Stock production analysis of spawning escapement for brood years 1969-1976 were used to determine the initial escapement floor. The 2006 escapement estimate was 330 , with a terminal run size of 336 .


Commentary: The 2006 escapement and total run size were 2,338 and 3,352, respectively. Terminal fisheries are managed to harvest $40 \%$ of the river return, with an escapement floor of 2,500 spawners (PFMC 2003). This objective is designed to actively probe at and above estimates of the escapements that produce MSH. Stock production analyses of spawning escapements from 1967-1982 were used to determine the initial escapement floor.


Commentary: The Grays Harbor spring Chinook stock is managed for a fixed natural spawning escapement goal of 1,400 fish (PFMC 2003). This single targeted goal was developed as a MSY proxy. This objective was derived from actual spawning data from the mid- to late 1970s, expanded to include additional habitat not covered by spawner surveys. The 2006 escapement was 2,481 Chinook and the 2006 terminal run was 2,870 Chinook.


Commentary: Grays Harbor fall Chinook are managed for a maximum sustained production escapement goal of 14,600 spawners for the Chehalis and Humptulips systems combined (PFMC 2003). This single targeted goal was developed as an MSY proxy. The objective represents assumed optimal spawner density based on estimated available habitat. The 2006 escapement was 16,197 Chinook. The terminal run was 23,987 Chinook salmon.


Commentary: In 1992, Snake River spring/summer naturally spawning Chinook were listed under the ESA. In past escapement assessments, the CTC used the goal of 84,000 natural spawners passing Bonneville Dam (an estimated $70 \%$ wild portion of the 120,000 specified in the original 5 -year plan for U.S. v Oregon). The interim management goal for the Columbia River Fish Management Plan (CRFMP 1988) for Columbia River Springs was 115,000 hatchery and wild adult Chinook counted at Bonneville Dam and 25,000 naturally produced plus 10,000 hatchery produced adults counted at Lower Granite Dam. However, the CRFMP is currently being renegotiated. The 2006 escapement at Lower Granite Dam was 29,588 natural spawners. Terminal harvests were severely constrained from 1977 until 2000, with incidental harvests in lower river fisheries averaging $2 \%$ and total harvest in treaty Indian fisheries averaging $5.5 \%$ (TAC 1999). Since 2001, the terminal harvest rates have been between $13.5 \%$ and $19.0 \%$.


Commentary: Productivity is limited by loss of downstream migrants, habitat degradation, lack of screens on water diversions, high water temperatures, low flows, and sediment-laden irrigation water returns (CBFWA 1990). The 2005 escapement was 39,138 naturally spawning fish. Directed commercial fisheries for upper Columbia River summer Chinook resumed in 2003 above Bonneville Dam and in 2004 below Bonneville Dam when the Columbia Upriver Summers began to exceed the interim management goal of 29,000 hatchery and natural origin adults as measured at the Columbia River mouth. The non-Indian and tribal harvest rates between 2003 and 2006 averaged $5.7 \%$ and $13.0 \%$, respectively.


Commentary: The escapement goal is 40,000 naturally spawning fish. The 2002, 2003, and 2004 escapements past McNary dam of $141,682,179,970$, and 168,679 were the largest since the peak escapement and terminal run in 1987. The 2006 escapement was 90,971 through McNary Dam.


Commentary: The escapement goal for the Lewis River is 5,700 naturally spawning fish. Except in 1999, escapements have been above the goal since 1979. The 2002, 2003, and 2004 returns and escapements of Lewis River fall Chinook were the largest since 1990. The estimated escapement in 2006 was 11,725 Chinook.


Commentary: Local management agencies use a goal of 4,000 adult Chinook, which includes 2,000 fish above Sherars Falls. This goal is based on average spawning escapement. The 2002 and 2003 escapements of Deschutes fall Chinook were at least 3 times the management goal, based on either the expansion of escapements above Sherars Falls, or the total river mark recapture estimate. They were also the largest escapements since the peak in 1997. The estimated escapement in 2006 was 13,374 Chinook.


Commentary: Methods used to generate escapement estimates are derived from calibration studies funded through the USCTC-LOA studies conducted in the Nehalem River basin from 2000-2004. The results of these studies indicate that peak counts from "standard" spawner surveys track the true Chinook escapement into the basin relatively well. Standard surveys are defined as those surveys which have historically been conducted by regional staff for $20+$ years. Peak count is defined as the largest sum of live Chinook and carcasses observed on a particular day, per mile over a defined survey reach. The Chinook Technical Committee requires that a Coefficient of Variation (CV) of $<30 \%$ must be achieved in order for an index be used as an estimator of abundance within the Chinook management scheme.

An index value of .0045 with a CV of $31 \%$ has been computed from calibration of mark \& recaptures estimates to peak counts from 5 standard surveys. Although this index does not meet the precision standard recommended by the Chinook Technical Committee, ODFW believes that this index represents the best available means to estimate spawner escapement in this basin. The North Fork Nehalem sub-basin is not included in this estimate.

Due to inadequate surveys in the Nehalem basin a re-calibration of four standard surveys was conducted to estimated spawner abundance in 2006. The index for this assessment is .001442 with a CV of $20 \%$. The spawner escapement estimate for the Nehalem Basin (excluding the North Fork) based on this index value was 11,938 fall Chinook. Punch card data used to estimate the recreational sport catch are unavailable for 2006; hence terminal run sizes are not available for this year. Methods directly comparable to those used to generate the agreed to escapement goal for the Nehalem indicate 2006 escapement of 4,711 adult spawners. This is $67 \%$ of the current escapement goal.


Commentary: Calibration studies continue through the 2007 spawning year thus traditional methods of escapement estimation remain in place until the Mark-Recapture calibration study is complete. Methods used to generate escapement estimates in this basin have not changed since last report in 2005. The estimate based upon historically produced habitat expansion for 2006 was 4,108 adult fall Chinook salmon. Punch card data used to estimate the recreational sport catch are unavailable for 2006; hence terminal run sizes are not available for this year.


Commentary: The estimated spawner abundance in 2006 was 6,965 adult Chinook. Methods used to generate escapement estimates in this basin are based on five years (2002-2006) of calibrated peak counts on six standard surveys to mark \& recapture estimates in the Siuslaw basin. The index value is .00976 with a CV of $23 \%$. Escapement goal estimate analysis was based upon available habitat expansion estimates used in other basins on the Oregon coast which have been obviated through the improvement of estimation techniques based upon MarkRecapture estimates. Escapement estimates based on these methods indicated escapement below the CTC adopted escapement goal of 12,925 for the past year ( 6,965 in 2006) however these estimates are not comparable to the currently agreed to escapement goal. Escapement estimates based on methods used to generate the agreed to goal result in an estimated 28,082 adult spawners. Spawner-recruit analysis utilizing the updated data set is planned for the near future to compare between newer escapement estimation (backcast through historical data-sets) and an escapement goal based upon the same data. Punch card data used to estimate the recreational sport catch are unavailable for 2006; hence terminal run sizes are not available for this year.


Commentary: Coded-wire tagged fall-run Chinook from the Umpqua River have indicated that they are harvested in PSC fisheries. Four years of USCTC funded research has allowed the calibration of the redd counts to derive a fish per redd expansion factor so that annual escapements estimates can be made. The average expansion factor from these studies is 3.69 fish per redd. The coefficient of variation of the expansion factor was found to be $14 \%$, which shows that the average expansion factor is a reliable statistic to use for annual estimates of escapement. The escapement estimate for 2006 was 2,396 based on redd count expansions.
Indexes of Chinook spawner abundance in the South Umpqua/Cow creek sub-basin were derived from aerial redd count surveys. The aerial surveys are funded by Douglas County and were conducted twice during the spawning season. Aerial redd counts were conducted on the lower 69 miles of the South Umpqua and the lower 60 miles on Cow Creek. These counts cover all mainstem spawning areas for fall Chinook in the South Umpqua Basin. The South Umpqua is broken up into three reaches (Forks to Happy Valley, Happy Valley to Cow Creek, Cow Creek to Milo) and Cow Creek is considered one reach from the confluence with the Umpqua River to Galesville Dam.

The Coastal Chinook Research and Monitoring project was able to provide a calibration of redds to spawner escapement estimate based on the years 1998 through 2003 excluding 2002 when aerial flights were not conducted. The mean number of fish per redd estimated from these five years was 3.4 with a coefficient of variation of $17.8 \%$

Aerial surveys are conducted using a Bell Ranger 3 helicopter and flights are typically scheduled to encompass the peak spawning period. Two biologists simultaneously count redds for each reach using hand tally-counters. At the end of the reach, each biologist records the number of redds identified, and counters are reset for the next reach. The average of the two observers Chinook redd count from reach are determined for each flight, and the index is defined as the sum of the peak counts for each reach between the two flights. Expansions are sometimes made to account for portions of reaches that were not completed due to visibility or mechanical problems.

Terminal run estimation is currently being conducted and will require some measure of data mining in order to reconstruct what the terminal catch has been historically. Preliminary indications are that the terminal catch of South Fork Umpqua Chinook is insubstantial.


Commentary: Analysis funded by the CTC is underway that will provide information to designate Coquille Fall Chinook as an escapement indicator stock for the Mid-Oregon Coast (MOC) Aggregate. Calibrated index of peak counts on standard surveys to a relatively precise mark \& and recapture abundance estimates has been selected as an efficient and cost effective means to measure spawner escapement of Chinook salmon for use in PST fisheries management.

The Chinook Technical Committee requires that a Coefficient of Variation (CV) of $<30 \%$ must be achieved in order for an index be used as an estimator of abundance within the Chinook management scheme. The CV between the qualifying calibration values computed from studies conducted from 2001 through 2004 for the Coquille River basin is $14 \%$, and the average index value of 0.00874 . This analysis include eight standard survey conducted annually on a regular basis. One of the surveys was not conducted in 2003 and a running five year average was used to maintain historic consistency. The calibration value is defined as the average peak count per mile of the eight standard surveys divided by the point value of the Petersen estimate. Peak count is defined as the largest sum of live Chinook and carcasses observed on a particular day, per mile over a defined survey reach.

Due to un-foreseen circumstances, not all of the standard surveys were conducted throughout the season; thus for 2006 only one of the standard surveys were used as an index of abundance. Peak counts from Salmon creek (a tributary of the South Fork Coquille) were calibrated for four years (2001-2004) against mark \& recapture estimates during the same time frame. An index value of 0.01734 with a coefficient variance of $35 \%$ was calculated and assumed to be the best index for estimating Chinook spawner escapement into the Coquille River basin for 2006. Using this calibrated standard survey index; the spawner escapement for 2006 was estimated to be 7,438 adult Chinook.

## 3 EXPLOITATION RATE ANALYSIS AND MODEL CALIBRATION

### 3.1 INTRODUCTION

This chapter describes the methods and results of the cohort analysis, used to estimate exploitation rates from CWT data, and the PSC Chinook model calibration. The results of the 2007 preseason calibration (CLB 0705) are based on the exploitation rate analysis using CWT data through 2005, coast-wide data on catch, spawning escapements and age structure through 2006, and forecasts of Chinook returns expected in 2007. This chapter includes:

1) estimated postseason abundance indices for 1979 through 2006 and the preseason projection for 2007 for the AABM fisheries,
2) estimated non-ceiling indices, referred to as the ISBM indices in this report, for 1999 to 2005 and modeled ISBM projections for the 2007 ISBM fisheries,
3) estimated stock composition for 1979 through 2006 and a projection for 2007 for the AABM and other fisheries, and
4) estimated harvest rates (fishery indices) for the AABM fisheries.

Appendix C shows the relationship between the exploitation rate indicator stocks, model stocks, and PST Annex stocks. Appendices D to K present some additional output from the exploitation rate analysis and model calibration beyond the summaries presented in this Chapter. Appendix D provides the time series of ISBM CWT indices, and ISBM model indices from calibration 0705. Appendix E shows the percent distribution of landed catch and total mortality by catch year for exploitation rate indicator stocks. Appendix F has the time series of brood year exploitation rates for the CWT indicator stocks. Appendix G shows the model estimates of stock composition in AABM and other sport and troll fisheries. Appendix $H$ lists the incidental mortality rates used in the CTC model. Appendix I contains the time series of total AIs for the AABM fisheries from calibration 0705, and Appendix J provides the AIs for each of the 30 model stocks for each AABM fishery. Appendix K presents the time series of CWT-based fishery exploitation rate indices by stock, age, and fishery.

### 3.2 METHODS

A complete description of methods for the exploitation rate analysis and model procedure is reported in TCCHINOOK (05)-2 (CTC 2005b). The exploitation rate assessment is performed through cohort analysis of CWT release and recovery data (CTC 1988). Cohort analysis is the reconstruction of the exploitation history of a given stock and brood year and is used to produce a variety of statistics, including total exploitation rates, age and fishery specific exploitation rates, maturation rates, pre-age 2 recruitment survival indices, and annual distribution of fisheryrelated mortalities.

Estimates of age and fishery-specific exploitation and maturation rates from the cohort analysis are combined with data on catches, escapements, non-retention, and enhancement to complete the annual calibration of the CTC Model. The calibration procedure estimates pre-age 2 survival to recruitment for the stocks included in the model.

Results from the annual preseason calibration of the Chinook model are used to calculate: 1) AIs for the three AABM fisheries; 2) postseason AIs for the previous year; and 3) preseason and postseason ISBM indices. Projected AIs for 2007 are used to determine the allowable 2007 catch of Treaty Chinook for AABM fisheries. Postseason AIs are used to determine postseason allowable catches and to evaluate compliance for AABM fisheries. For the ISBM fisheries, the Agreement specifies that Canada and the United States will reduce the exploitation rate from the 1979-1982 base period by $36.5 \%$ and $40.0 \%$, respectively, on stocks that have not achieved their CTC agreed escapement goals. The ISBM index is used to estimate the annual reduction in exploitation rates relative to the base period. Postseason ISBM indices for 2005 are computed using results of the exploitation rate analysis, based on CWTs. Forecasts of the 2007 ISBM indices are computed using the CTC model. The Agreement specifies that the postseason ISBM indices estimated through exploitation rate analysis of CWT recoveries will be used to assess the ISBM index.

### 3.3 EXPLOITATION RATE ASSESSMENT (THROUGH CALENDAR YEAR 2004)

The CTC currently monitors 39 exploitation rate indicator stocks that are coded-wire tagged, but only 36 were used for analyses in this chapter (Table 3.1). An exploitation rate indicator stock is not used in the exploitation rate analysis if the number of CWT recoveries is very limited (minimum of 35 estimated recoveries for a given stock and age combination) or there is no quantitative estimate of tags in the spawning escapement (see footnotes in Table 3.2). Indicator stocks used for exploitation rate analysis and the type of analysis performed for each are shown in Table 3.2. The relationship between the exploitation rate indicator stocks, model stocks, and PST Annex stocks are shown in Appendix C. Extrapolation of results to similar stocks and/or generalizations about fishery impacts will only be appropriate to the extent that the exploitation rate indicator stocks are representative of the stocks groups they are intended to represent.

Table 3.1. The 39 exploitation rate indicator stocks monitored by the CTC, their location, run type, and smolt age. Stocks in bold, italic text were not used in the exploitation rate analysis.

| Area | Exploitation Rate Indicator Stocks | Location | Run Type | Smolt Age |
| :---: | :---: | :---: | :---: | :---: |
| S.E. Alaska | Alaska Spring | Southeast Alaska | Spring | Age 1 |
| British Columbia | Kitsumkalum | North/Central BC | Summer | Age 1 |
|  | Atnarko ${ }^{1}$ | North/Central BC | Spring/Summer | Age 0 |
|  | Kitimat River ${ }^{1}$ | North/Central BC | Summer | Age 0 |
|  | Robertson Creek | WCVI | Fall | Age 0 |
|  | Quinsam | Strait of Georgia | Fall | Age 0 |
|  | Puntledge | Strait of Georgia | Summer | Age 0 |
|  | Big Qualicum | Strait of Georgia | Fall | Age 0 |
|  | Cowichan | Strait of Georgia | Fall | Age 0 |
|  | Chehalis (Harrison Stock) ${ }^{1}$ | Lower Fraser River | Fall | Age 0 |
|  | Chilliwack (Harrison Stock) | Lower Fraser River | Fall | Age 0 |
| Puget Sound | Nooksack Spring Fingerling | North Puget Sound | Spring | Age 0 |
|  | Nooksack Spring Yearling | North Puget Sound | Spring | Age 1 |
|  | Skagit Spring Fingerling | Central Puget Sound | Spring | Age 0 |
|  | Skagit Spring Yearling | Central Puget Sound | Spring | Age 1 |
|  | Samish Fall Fingerling | North Puget Sound | Summer/Fall | Age 0 |
|  | Skagit Summer Fingerling | Central Puget Sound | Summer | Age 0 |
|  | Stillaguamish Summer Fingerling | Central Puget Sound | Summer/Fall | Age 0 |
|  | Nisqually Fall Fingerling | Central Puget Sound | Summer/Fall | Age 0 |
|  | University of Washington Accelerated | Central Puget Sound | Summer/Fall | Age 0 |
|  | George Adams Fall Fingerling | Hood Canal | Summer/Fall | Age 0 |
|  | South Puget Sound Fall Fingerling | South Puget Sound | Summer/Fall | Age 0 |
|  | South Puget Sound Fall Yearling | South Puget Sound | Summer/Fall | Age 1 |
|  | Squaxin Pens Fall Yearling | South Puget Sound | Summer/Fall | Age 1 |
|  | White River Spring Yearling | South Puget Sound | Spring | Age 1 |
| Washington Coast /Juan de Fuca | Elwha Fall Fingerling | Strait of Juan de Fuca | Summer/Fall | Age 0 |
|  | Hoko Fall Fingerling | Strait of Juan de Fuca | Summer/Fall | Age 0 |
|  | Sooes Fall Fingerling | North Wash. Coast | Fall | Age 0 |
|  | Queets Fall Fingerling | North Wash. Coast | Fall | Age 0 |
| Columbia River | Willamette Spring | Lower Columbia R. | Spring | Age 1 |
|  | Columbia Summers | Columbia R. (WA) | Summer | Age 1 |
|  | Cowlitz Tule | Columbia R. (WA) | Fall Tule | Age 0 |
|  | Spring Creek Tule | Columbia R. (WA) | Fall Tule | Age 0 |
|  | Columbia Lower River Hatchery | Columbia River (OR) | Fall Tule | Age 0 |
|  | Columbia Upriver Bright | Upper Columbia R. | Fall Bright | Age 0 |
|  | Hanford Wild | Upper Columbia R. | Fall Bright | Age 0 |
|  | Lyons Ferry ${ }^{2}$ | Snake River | Fall Bright | Age 0 |
|  | Lewis River Wild | Lower Columbia R. | Fall Bright | Age 0 |
| Oregon Coast | Salmon River | North Oregon Coast | Fall | Age 0 |

[^0]Table 3.2. The 36 CWT exploitation rate indicator stocks used in the exploitation rate analysis and the data derived from them: fishery, ISBM and survival indices, brood exploitation rates (Brood Exp), and stock catch distribution (Dist) with quantitative escapement estimates (Esc) and tagging during the base period years 1979-1982.

| Exploitation Rate Indicator Stocks | Fishery Index | $\begin{aligned} & \text { ISBM } \\ & \text { Index } \end{aligned}$ | $\begin{gathered} \text { Brood }^{1} \\ \text { Exp } \end{gathered}$ | Survival Index | Dist | Esc | Base Tagging |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Alaska Spring | yes | - | Total | yes | yes | yes | yes |
| Kitsumkalum | - | - | Total | yes | yes | yes | - |
| Robertson Creek | yes | yes | Ocean ${ }^{1}$ | yes | yes | yes | yes |
| Quinsam | yes | yes | Total | yes | yes | yes | yes |
| Puntledge | yes | - | Total | yes | yes | yes | yes |
| Big Qualicum | yes | yes | Total | yes | yes | yes | yes |
| Cowichan | yes | yes | Total | yes | yes | yes | - |
| Chilliwack (Harrison Fall Stock) | - | yes | Total | yes | yes | yes | - |
| Nooksack Spring Fingerling | - | - | 4 | - | yes | yes | - |
| Nooksack Spring Yearling | - | yes | 4 | yes | yes | yes ${ }^{3}$ | - |
| Skagit Spring Fingerling | - | - | Ocean | - | yes | yes | - |
| Skagit Spring Yearling | - | - | Ocean | yes | yes | yes ${ }^{3}$ | - |
| Samish Fall Fingerling | yes | - | Ocean | yes | yes | yes ${ }^{3}$ | yes |
| Skagit Summer Fingerling | - | - | Ocean | - | yes | yes | - |
| Stillaguamish Summer Fingerling | - | yes | 4 | - | yes | - | - |
| Nisqually Fall Fingerling | - | - | 4 | - | yes | - | yes |
| University of Washington Accelerated | yes | 2 | 2 | - | yes | yes ${ }^{3}$ | yes |
| George Adams Fall Fingerling | yes | 2 | 2 | yes | yes | yes ${ }^{3}$ | yes |
| South Puget Sound Fall Fingerling | yes | yes | Ocean | yes | yes | yes ${ }^{3}$ | yes |
| South Puget Sound Fall Yearling | yes | 2 | 2 | yes | yes | yes ${ }^{3}$ | yes |
| Squaxin Pens Fall Yearling | - | 2 | 2 | yes | yes | yes ${ }^{3}$ | - |
| White River Spring Yearling | - | - | 4 | yes | yes | yes ${ }^{3}$ | yes |
| Elwha Fall Fingerling | - | - | 4 | yes | yes | - | - |
| Hoko Fall Fingerling | - | - | Ocean | yes | yes | yes | - |
| Sooes Fall Fingerling | - | - | Ocean | yes | yes | yes | - |
| Queets Fall Fingerling | - | yes | 4 | yes | yes | - | yes |
| Willamette Spring | yes | - | Ocean | yes | yes | yes | yes |
| Columbia Summers | yes | yes | Total | yes | yes | yes | - |
| Cowlitz Tule | yes | - | Ocean | yes | yes | yes | yes |
| Spring Creek Tule | yes | - | 2 | yes | yes | yes | - |
| Columbia Lower River Hatchery | yes | - | 2 | yes | yes | yes | yes |
| Upriver Bright | yes | yes | Total | yes | yes | yes | yes |
| Hanford Wild | - | - | Total | yes | yes | yes | - |
| Lyons Ferry | - | - | Total | yes | yes | yes | - |
| Lewis River Wild | yes | yes | Total | yes | yes | yes | yes |
| Salmon River | yes | yes | Ocean | yes | yes | yes | yes |

For stocks of hatchery origin and subject to terminal fisheries directed at harvesting surplus hatchery production, ocean
fisheries do not include terminal net fisheries. Otherwise, total fishery includes terminal net fisheries.
2 Hatchery stock not used to represent naturally spawning stock.
${ }^{3}$ Only hatchery rack recoveries are included in escapement.
4 Insufficient escapement data for exploitation rate analysis

### 3.4 MODEL OUTPUT

### 3.4.1 AABM Abundance Indices and Associated Catches

Beginning with the 1999 fishing season, the Agreement specified that the AABM fisheries are to be managed through the use of the preseason AIs, where specific allowable harvest corresponds to a given AI for each fishery. The preseason AIs that were used to establish harvest management targets are listed in Table 3.3. The 2007 preseason AI for the SEAK troll fishery is 1.60 , for the NBC troll fishery it is 1.35 , and for the WCVI troll fishery is 0.67 . In-season predictors may also be used for in-season adjustments to the preseason AI's for the SEAK troll fishery. However, the in-season AI has not provided a reliable estimate of the postseason AI due to its reliance on the preseason AI in the calculations and has not been used for in-season management action since 2001.

The postseason AI is considered a more accurate estimate of the abundance index for the AABM fisheries, and is used to compute a final allowable catch for each fishery to evaluate overage or underage of the landed catch relative to the harvest objective. Postseason AIs for 1999-2006 are also listed in Table 3.3.

Table 3.3. Abundance indices for 1999 to 2007 for the SEAK, NBC, and WCVI troll fisheries.

|  | Calibration | SEAK |  |  | NBC |  | WCVI |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | Preseason/ <br> Postseason | Preseason | Inseason | Postseason | Preseason | Postseason | Preseason | Postseason |
| 1999 | $9902 / 0107$ | 1.15 | 1.15 | 1.12 | 1.12 | 0.97 | 0.60 | 0.50 |
| 2000 | $0021 / 0107$ | 1.14 | 1.14 | 1.10 | 1.00 | 0.95 | 0.54 | 0.47 |
| 2001 | $0107 / 0206$ | 1.14 | 1.10 | 1.29 | 1.02 | 1.22 | 0.66 | 0.68 |
| 2002 | $0206 / 0308$ | 1.74 | 1.73 | 1.82 | 1.45 | 1.63 | 0.95 | 0.92 |
| 2003 | $0308 / 0404$ | 1.79 | 1.76 | 2.17 | 1.48 | 1.90 | 0.85 | 1.10 |
| 2004 | $0404 / 0506$ | 1.88 | 1.88 | 2.06 | 1.67 | 1.83 | 0.90 | 0.98 |
| 2005 | $0506 / 0604$ | 2.05 | 2.04 | 1.90 | 1.69 | 1.65 | 0.88 | 0.84 |
| 2006 | $0604 / 0705$ | 1.69 | 1.69 | 1.73 | 1.53 | 1.50 | 0.75 | 0.68 |
| 2007 | 0705 | 1.60 |  |  | 1.35 |  | 0.67 |  |

The Agreement specifies the allowable catch for various values of the AI for each fishery. The allowable treaty catch by fishery and year based on pre- and postseason AIs and the actual (observed) catches are given in Table 3.4 and are shown in Figures 3.1 through 3.3; the solid line represents the relationship between AIs and allowable catch under Table 1 of the annex.

Table 3.4. Observed catches and postseason allowable catches for 1999 to 2006, and preseason allowable catches for 1999 to 2007, for AABM fisheries.

|  | PST Treaty Allowable and Observed Catches |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | SEAK (T, N, S) ${ }^{1}$ |  |  | NBC (T, S) |  |  | WCVI (T, S) |  |  |
| Year | Pre- season Allowable Catch | Post- season Allowable Catch | Observed Catch | Pre- season Allowable Catch | Post- season Allowable Catch | Observed Catch | Pre- season Allowable Catch | Post- season Allowable Catch | Observed Catch |
| 1999 | 192,800 | 184,200 | 198,842 | 145,600 | 126,100 | 86,726 | 128,300 | 107,000 | 36,413 |
| 2000 | 189,900 | 178,500 | 186,493 | 130,000 | 123,500 | 31,900 | 115,500 | 86,200 | 101,438 |
| 2001 | 189,900 | 250,300 | 186,919 | 132,600 | 158,900 | 43,500 | 141,200 | 145,500 | 117,670 |
| 2002 | 356,500 | 371,900 | 357,133 | 192,700 | 237,800 | 150,137 | 203,200 | 196,800 | 165,036 |
| 2003 | 366,100 | 439,600 | 380,152 | 197,100 | 277,200 | 191,657 | 181,800 | 268,900 | 175,821 |
| 2004 | 383,500 | 418,300 | $\begin{array}{r} 428,773 \\ 433,446^{2} \\ \hline \end{array}$ | 243,600 | 267,000 | 241,508 | 192,500 | 209,600 | 216,624 |
| 2005 | 416,400 | 387,400 | 391,507 | 246,600 | 240,700 | 243,606 | 188,200 | 179,700 | 202,662 |
| 2006 | 346,800 | 354,500 | 359,184 | 223,200 | 200,000 | 247,337 | 160,400 | 145,500 | 146,883 |
| 2007 | 329,400 |  |  | 178,000 |  |  | 143,300 |  |  |

${ }^{1}$ Nomenclature is T for troll, N for net, and S for sport.
${ }^{2}$ The lower value results from subtracting a terminal exclusion catch for the Stikine River in 2004, which is in dispute.


Figure 3.1. Postseason catches (open circles) versus postseason allowable catches (line) in the SEAK AABM fishery, 1999-2006.


Figure 3.2. Postseason catches (open circles) versus preseason allowable catches (line) in the SEAK AABM fishery, 1999-2006.


Figure 3.3. Postseason catches (open circles) versus postseason allowable catches (line) in Northern British Columbia troll and Queen Charlotte Islands recreational AABM fisheries, 1999-2005.


Figure 3.4. Postseason catches (open circles) versus preseason allowable catches (line) in Northern British Columbia troll and Queen Charlotte Islands recreational AABM fisheries, 1999-2005.


Figure 3.5. Postseason catches (open circles) versus postseason allowable catches (line) in West Coast Vancouver Island AABM fisheries, 1999-2005.


Figure 3.6. Postseason catches (open circles) versus preseason allowable catches (line) in West Coast Vancouver Island AABM fisheries, 1999-2005.

### 3.4.1.1 Model estimate of stock composition of AABM fisheries, 1979-2007

There are 30 model stocks (Appendix C). However, the majority of model catches in AABM fisheries are often composed of a few smaller set of major stocks (Figures 3.7 through 3.9). The relative abundance for each major stock is shown in those graphs from CLB 0705. In general, postseason AIs had a peak during the late 1980s and another in 2003 and 2004. Note that Figures 3.7 through 3.9 have projections of stock composition for 2008.


Figure 3.7. Total abundance indices for the SEAK troll fishery with annual stock composition indicated by abundance indices for major model stocks from CLB 0705.
The major model stocks contributing to the SEAK AIs are: WCVI Natural and Hatchery, Upriver Brights, North/Central BC, and Oregon Coastal (Figure 3.7). The "other" category is primarily driven by Upper Georgia Strait, Columbia River Summers, Mid Columbia River Brights and Fraser Early.


Figure 3.8. Total abundance indices for the Northern BC troll fishery with annual stock composition indicated by abundance indices for major model stocks from CLB 0705.

The major model stock groups contributing to the NBC AABM fishery AIs are: WCVI Natural and Hatchery, Upriver Brights, Oregon Coastal, North/Central BC, and Washington Coastal Wild and Hatchery (Figure 3.8). The "other" category is primarily driven by Columbia River Summers, Mid Columbia River Brights and Willamette Springs.


Figure 3.9. Total abundance indices for the WCVI troll fishery with annual stock composition indicated by abundance indices for major model stocks from CLB 0705.
The major model stock groups in the WCVI fishery are: Fraser Late, Puget Sound, Upriver Brights, and Columbia River Tules (Figure 3.9). The "Other" category is comprised primarily of Columbia River Summers and Oregon Coastal fish.

### 3.4.2 Overages and Underages

Until an approach for full implementation of overage/underage provisions has been developed and accepted by the PSC, the Commissioners have instructed the CTC to track and report overages and underages relative to agreed-upon harvest objectives.

### 3.4.2.1 AABM Fisheries

Table 3.5 shows the differences between the postseason allowable catches and the observed catches in AABM fisheries for 1999-2004, and the cumulative differential for those years. All three AABM fisheries have cumulative underages. In SEAK, observed catches have been below final allowable catches for three of the eight years; the cumulative differential is $-3.7 \%$ or $-3.5 \%$. In NBC, observed catches have been below the final allowable catches in six of the eight years; the cumulative differential is $-24.2 \%$. In WCVI, observed catches have been below allowable catches in four of the seven years; the cumulative differential is $-13.0 \%$.

Table 3.5. Deviations in numbers of Chinook salmon and percentages from catch targets derived from the first postseason AI (Table 3.2) for Pacific Salmon Treaty AABM fisheries in 1999 to 2006.

| Year | SEAK |  | NBC |  | WCVI |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number of | Percent <br> Difference | Number of <br> Fish | Percent <br> Difference | Number of <br> Fish | Percent <br> Difference |
|  | $+14,642$ | $+7.9 \%$ | $-39,374$ | $-31.2 \%$ | $-70,587$ | $-66.0 \%$ |
| 2000 | $+7,993$ | $+4.5 \%$ | $-91,600$ | $-74.2 \%$ | $+15,238$ | $+17.7 \%$ |
| 2001 | $-63,381$ | $-25.3 \%$ | $-115,400$ | $-72.6 \%$ | $-27,830$ | $-19.1 \%$ |
| 2002 | $-14,767$ | $-4.0 \%$ | $-87,663$ | $-36.9 \%$ | $-31,764$ | $-16.1 \%$ |
| 2003 | $-59,448$ | $-13.5 \%$ | $-85,543$ | $-30.9 \%$ | $-93,079$ | $-34.6 \%$ |
| 2004 | $+10,473$ | $+2.5 \%$ | $-25,492$ | $-9.5 \%$ | $+7,024$ | $+3.35 \%$ |
| $+15,146$ | $+3.6 \%$ | $-2 \%$ | $+2,906$ | $+1.2 \%$ | $+22,962$ | $+12.8 \%$ |
| 2005 | $+4,107$ | $-0.2 \%$ | $+23.7 \%$ | $+1,383$ | $+0.95 \%$ |  |
| 2006 | $+4,684$ | $-1.1 \%$ | $+47,337$ | $+24.2 \%$ | $-174,339$ | $-13.0 \%$ |
| Cum. | $-95,697$ | $-3.7 \%$ | $-398,848$ | -24.30 |  |  |
|  | $-91,024^{1}$ | $-3.5 \%$ |  |  |  |  |

${ }^{4}$ The lower value results from subtracting a terminal exclusion catch for the Stikine River in 2004, which is in dispute.

### 3.4.2.2 ISBM Indices by Stock

For ISBM fisheries, the Agreement specifies that Canada and the United States will reduce base period exploitation rates on specified stocks by $36.5 \%$ and $40 \%$, equivalent to ISBM indices of $63.5 \%$ and $60 \%$ percent, respectively. This requirement is referred to as the 'general obligation' and does not apply to stocks that achieve their CTC agreed escapement goal. Estimated ISBM fishery indices are shown in Table 3.6 for Canadian fisheries and Table 3.7 for U.S. fisheries. Both tables present CWT-based indices for 2005, and Chinook model-based predicted indices for 2007. The agreement specifies that the indices for postseason assessment be assessed using the CWT-based estimates, 2005 is the most recent analysis available. CWT-based indices for 20012005 and model-based indices for 2001-2007 are presented in Appendix D.

### 3.4.2.2.1 CWT-based Indices in 2005

Canadian ISBM indices from the CWT-based estimates for 2005 were reduced more than required under the agreement for five of the six CWT indices which could be calculated, the exception being WCVI Falls (Table 3.6). Several inconsistencies were identified in the way these indices had been computed in the past, as noted in the footnotes 4-9 in Table 3.6. Most of them were inconsistencies between the way indices had been calculated by the model versus in the CWT analysis. However, in the case of Lower Georgia Strait, Nanaimo was dropped from the CWT-based index because of concern about the adequacy of base-period data. In addition, Nanaimo and Cowichan stocks are no longer reported separately in the model-based index because there is no way to split the two stocks in the base period.

Four of the 16 U.S. ISBM indices for the Coded Wire Tag (CWT) based estimates for 2005 were reduced more than required. Of the 12 U.S. CWT-based ISBM indices that exceeded 0.60 , ten (Upriver Brights, Quillayute, Queets, Hoh, Lewis, Mid-Columbia Summers, Nehalem, Siletz, Siuslaw and Cowichan) have agreed escapement goals and all but the Cowichan stock exceeded their goals in 2005. Figures 3.10 and 3.11 show the historical ISBM indices based on CWT recoveries for 1999-2004.


Figure 3.10. ISBM indices for Canadian fisheries for 1999-2005. The solid horizontal line is an index value of 0.635 .


Figure 3.11. ISBM indices for U.S. fisheries for 1999-2005.

### 3.4.2.2.2 Predicted ISBM Indices for 2007

Model projected indices (Table 3.6) show that the Canadian ISBM indices are expected to be below 0.635 for all Canadian stocks. Canadian indices are projected to be above 0.635 for Puget Sound stocks and below 0.635 for other U.S. stocks. In the southern U.S. fisheries (Table 3.7) nine stocks are projected to have ISBM index values over 0.60 , all of which have agreed escapement goals and have been meeting these goals.

Table 3.6. Canadian 2004 ISBM indices based on CWT and the 2006 indices predicted from the PSC Chinook Model.

|  |  | Canadian ISBM Indices |  |
| :---: | :---: | :---: | :---: |
| Stock Group | Escapement Indicator Stock | CWT Indices for 2005 | Model Indices for 2007 |
| Lower Strait of Georgia | Cowichan <br> Nanaimo | $\begin{aligned} & 0.132^{4} \\ & \text { NA }^{1,5} \\ & \hline \end{aligned}$ | $0.240{ }^{6}$ |
| Fraser Late | Harrison River ${ }^{2}$ | $0.058{ }^{7}$ | 0.211 |
| North Puget Sound Natural | Nooksack | NA | 0.563 |
| Springs | Skagit | NA | 0.563 |
| Upper Strait of Georgia | Klinaklini, Kakweikan, Wakeman, Kingcome, Nimpkish | 0.028 | 0.146 |
| Fraser Early (spring and summers) | Upper Fraser, Mid Fraser, Thompson | NA | 0.159 |
| West Coast Vancouver Island Falls | WCVI (Artlish, Burman, Kauok, Tahsis, Tashish, Marble) | $0.986^{8}$ | 0.133 |
| Puget Sound Natural Summer <br> Falls | Skagit <br> Stillaguamish <br> Snohomish <br> Lake Washington <br> Green River | $\begin{gathered} \hline \text { NA } \\ 0.057 \\ \text { NA } \\ \text { NA } \\ 0.085 \\ \hline \end{gathered}$ | $\begin{gathered} 0.718 \\ 0.821 \\ 0.736 \\ 0.735^{9} \\ 0.752^{9} \\ \hline \end{gathered}$ |
| North / Central B. C. | Yakoun, Nass, Skeena, Area 8 | NA | 0.202 |
| Washington Coastal Fall Naturals ${ }^{3}$ | Hoko, Grays Harbor, Queets ${ }^{2}$, Hoh ${ }^{2}$, Quillayute ${ }^{2}$ | NA | 0.194 |
| Columbia River Falls ${ }^{3}$ | Upriver Brights ${ }^{2}$ Deschutes Lewis ${ }^{2}$ | $\begin{aligned} & \text { NA } \\ & \text { NA } \\ & \text { NA } \\ & \hline \end{aligned}$ | $\begin{aligned} & 0.129 \\ & 0.129 \\ & 0.030 \\ & \hline \end{aligned}$ |
| Columbia R Summers ${ }^{3}$ | Mid-Columbia Summers ${ }^{2}$ | NA | 0.119 |
| Far North Migrating OR Coastal Falls ${ }^{3}$ | Nehalem ${ }^{2}$, Siletz ${ }^{2}$, Siuslaw ${ }^{2}$ | NA | 0.078 |

${ }^{1}$ Not available (NA) because of insufficient data (lack of stock specific tag codes, base period CWT recoveries, etc).
${ }^{2}$ Stock or stock group with a CTC agreed escapement goal.
${ }^{3}$ Stock group listed in Annex 4, Chapter 3, Attachment V.
${ }^{4}$ An inconsistency was discovered between the approaches used to calculate the model-based and CWT-based indices. The former included harvest rates for terminal sport while the latter did not. Terminal sport harvest rates are now included in the calculation of both indices. Further review is yet required to determine whether the base period terminal sport harvest rates obtained from analyses of Big Qualicum CWT recoveries adequately represent impacts that would have occurred on Cowichan Chinook.
${ }^{5}$ Several problems have been identified in the approach previously used to calculate the CWT-based indices for Nanaimo Chinook. Until these problems are resolved, indices for this stock will not be reported.
${ }^{6}$ Although model-based indices were previously calculated separately for Cowichan and Nanaimo, these did not adequately represent impacts on either LGS stock because the model-based data represent an aggregate of the two
stocks and methods do not currently exist to correctly disaggregate these data for calculation of the ISBM values. Until such methods are developed, a single index value only will be reported representing the aggregate.
${ }^{7}$ The terminal sport harvest rates for Chilliwack Hatchery Chinook, the indicator stock, were removed from the calculation for the Harrison River naturals because sport harvest has been essentially zero on the natural population.
${ }^{8}$ An inconsistency was discovered between the approaches used to calculate the model-based and CWT-based indices. The former included harvest rates for terminal sport while the latter did not. Terminal sport harvest rates are now included in the calculation of both indices. A more extended review of the indices for WCVI Chinook will be carried out to determine whether they adequately represent impacts on the WCVI wild aggregate.
${ }^{9}$ For Canadian ISBM fisheries, Lake Washington and Green the same distribution and Index value are assumed.

Table 3.7. U.S. 2004 ISBM indices based on CWT and the 2006 indices predicted from the PSC Chinook Model. Order of the stock groups correspond to Annex 4, Chapter 3, Attachment V of the PST 1999 Revised Annexes.

|  |  | U.S. ISBM Indices |  |
| :---: | :---: | :---: | :---: |
| Stock Group | Escapement Indicator Stock | CWT Indices for 2005 | Model Indices for 2007 |
| Washington Coastal Fall Naturals | Hoko | NA ${ }^{1}$ | 0.401 |
|  | Grays Harbor | 0.560 | 0.504 |
|  | Queets ${ }^{4}$ | 2.050 | 1.014 |
|  | Hoh ${ }^{4}$ | 1.030 | 1.111 |
|  | Quillayute ${ }^{4}$ | 1.030 | 0.883 |
| Columbia River Falls | Upriver Brights ${ }^{4}$ | 1.780 | 0.726 |
|  | Deschutes | 0.670 | 0.493 |
|  | Lewis ${ }^{4}$ | 0.980 | 1.466 |
| Puget Sound Natural Summer/ <br> Falls | Skagit | NA | 0.325 |
|  | Stillaguamish | 0.220 | 0.152 |
|  | Snohomish | NA | 0.138 |
|  | Lake Washington | NA | 0.391 |
|  | Green R | 0.170 | 0.278 |
| Fraser Late | Harrison River ${ }^{4}$ | 0.240 | 0.563 |
| Columbia R Summers | Mid-Columbia Summers ${ }^{4}$ | 6.080 | 0.943 |
| Far North Migrating OR Coastal Falls | Nehalem ${ }^{4}$ | 2.000 | 2.183 |
|  | Siletz ${ }^{4}$ | 1.190 | 1.399 |
|  | Siuslaw ${ }^{4}$ | 1.630 | 1.241 |
| North Puget Sound Natural Springs | Nooksack | NA | NA |
|  | Skagit | NA | NA |
| Lower Strait of Georgia ${ }^{3}$ | Cowichan, Nanaimo | $\begin{aligned} & 10.230 \\ & 10.230 \end{aligned}$ | $\begin{aligned} & 0.288 \\ & 0.288 \end{aligned}$ |
| Upper Strait of Georgia ${ }^{3}$ | Klinaklini, Kakweikan, Wakeman, Kingcome, Nimpkish | NA | $\mathrm{NC}^{2}$ |
| Fraser Early (spring and summers) ${ }^{3}$ | Upper Fraser, Mid Fraser, Thompson | NA | 0.219 |
| West Coast Vancouver Island Falls ${ }^{3}$ | WCVI (Artlish, Burman, Kauok, Tahsis, Tashish, Marble) | NA | 0.311 |
| North / Central B. C. ${ }^{3}$ | Yakoun, Nass, Skeena, Area 8 | NA | NC |

${ }^{1}$ Not available (NA) because of insufficient data (lack of stock specific tag codes, base period CWT recoveries, etc).
${ }^{2} \mathrm{NC}$ means that the current model assumes the stock is not caught in U.S. ISBM fisheries.
${ }^{3}$ Stock group listed in Annex 4, Chapter 3, Attachment IV.
${ }^{4}$ Stock with a CTC agreed escapement goal.

### 3.5 MODEL CALIBRATION EVALUATION

Previous reports included evaluations of model performance for the most current model year, including comparisons of model estimates of catch and escapement/terminal run sizes to actual estimates of catch and escapement/terminal run size. This year, the model catches and stock escapements or terminal run sizes estimated by CLB 0705 were evaluated as were other aspects of the calibration. The calibration was distributed to the CTC membership for review and subsequently approved. Correlations between model and CWT fishery indices are normally presented. However, while these comparisons were made as part of the normal calibration checking process, the results are not presented in this report.

Fishery mortality indices generated by CLB 0705 can be compared to the CWT-based exploitation rate analysis. Model and CWT-based fishery mortality indices use the same equation, but the former are derived from model estimates of catch for all model stocks instead of CWT recovery data from specific exploitation rate indicator stocks. The CWT fishery mortality indices are considered to be the most accurate. Two types of fishery indices are presented; reported catch and total mortality. In general, the model results are closely associated with the CWT-based indices and changes in fishery exploitation rates as indicated in Figures 3.12 through 3.17. The SEAK fishery mortality index from the model closely follows the trend of the CWT derived estimate from 1979 through 1989 for both landed catch and total mortality (Figures 3.9 and 3.10). Between 1989 and 2000, the model estimate of both landed catch and total mortality indices is less than the CWT-derived estimate for most years but since 2001, the model estimate is noticeably higher. Since 1990, the model estimates also show less variability compared to the CWT-derived indices.


Figure 3.12. Estimated CWT (through 2005) and model landed catch fishery indices (through 2006) for the SEAK troll fishery.


Figure 3.13. Estimated CWT (through 2005) and model total mortality fishery indices (through 2006) for the SEAK troll fishery.

The model-derived fishery mortality indices for NBC generally follow the same trend as CWTderived indices (Figures 3.14 and 3.15). However, since 1991, the model-based estimates have exceeded the CWT-derived estimates in all but three years for both landed catch and total mortality indices. Since 2001, this difference has been noticeably large.


Figure 3.14. Estimated CWT (through 2005) and model landed catch fishery indices (through 2007) for the NBC troll fishery.


Figure 3.15. Estimated CWT (through 2005) and model total mortality fishery indices (through 2007) for the NBC troll fishery.

Since the base period, the model-derived landed catch fishery index estimates and trends for the WCVI troll fishery have been similar to those derived from CWTs. However, from 1987 through 1995, the model estimates are consistently greater than the CWT-based estimates (Figures 3.16 and 3.17). Starting in 2000, model and CWT estimates have diverged significantly for both landed catch and total mortality, with CWT indices being consistently higher than model indices.


Figure 3.16. Estimated CWT (through 2005) and model landed catch fishery indices (through 2007) for the WCVI troll fishery.


Figure 3.17. Estimated CWT (through 2005) and model total mortality fishery indices (through 2007) for the WCVI troll fishery.

### 3.6 AGENCY STOCK FORECASTS USED IN THE MODEL

A summary of model-produced and agency-produced forecasts from 1999-2007 is shown in Table 3.8. The relationship between the model stocks in Table 3.8 and exploitation rate indicator stocks and PST Annex stocks are shown in Appendix C. A major factor influencing how well the model can predict Chinook abundance in AABM fisheries is how well the model can predict the returns of Chinook (in terms of ocean escapement or spawning escapement) in the forecast year. During model calibration, agency forecasts are input to the model for all model stocks for which model forecasts are available. Thus, for model stocks with external forecasts, the variation between model forecasts and actual returns can be broken into two parts: 1) the ability of the model to match the input agency forecasts, and the ability of the agency forecasts to accurately predict the actual return of Chinook in the upcoming year. In Table 3.8, the column labeled 'Model Fcst/Agency Fcst' shows the percentage deviation of the model prediction from the agency forecast. The column labeled 'Agency Fcst/Postseason' shows the percentage deviation of the agency forecast from the actual return. The column labeled 'Model Fcst/Postseason' shows the percentage deviation of the model prediction of the return from the actual return.

The model forecasts tend to be higher than the agency forecasts, and are generally better predictors of actual returns. The mean absolute percent error (MAPE) of 'Model Fcst/Agency Fcst' is $36.3 \%$, and the average percent error is $23.5 \%$. For 'Agency Fcst/Postseason', the MAPE is $29.2 \%$; the average percent error is $-5.2 \%$, indicating a small negative bias for the agency forecasts. For 'Model Fcst/Postseason', the MAPE is $13.8 \%$; the average percent error is $3.9 \%$, indicating a small positive bias for the model forecasts.

The effect of the error in predicting terminal returns or escapement on the AABM abundance indices varies between fisheries and stocks. There is no clear directional bias of this error. For example, a small stock (small in ocean abundance terms) that is over or under predicted will generally not have a large effect on a fishery's abundance index. Errors in predicting a large stock may or not affect a fishery's index, depending on the contribution of that stock to the fishery in question (see Appendix G for the model estimated stock composition of selected ocean fisheries). In addition, since the abundance index is an index, rather than an absolute measure of abundance, over or under prediction of a stock's terminal return or escapement would not affect the abundance index of a fishery if the bias in the prediction is consistent over all years in the index, including the base.

Table 3.8. Preseason forecasts and postseason estimates for PSC model stocks, 1999-2007.

| Stock | Year | Model Forecast Agency Forecast | Postseason Return | Model Fcst/ Agency Fest | Agency Fcst/ <br> Postseason | Model Fcst/ <br> Postseason |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AKS <br> (Alaska SSE) | 1999 | 15,811 n/a | 12,274 | n/a | n/a | 29\% |
|  | 2000 | 18,489 n/a | 16,196 | n/a | $\mathrm{n} / \mathrm{a}$ | 14\% |
|  | 2001 | 19,860 n/a | 21,850 | n/a | n/a | -9\% |
|  | 2002 | 18,613 n/a | 18,790 | n/a | $\mathrm{n} / \mathrm{a}$ | -1\% |
|  | 2003 | 15,018 n/a | 14,676 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | 2\% |
|  | 2004 | 13,484 n/a | 17414 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | -23\% |
|  | 2005 | 18,410 n/a | 16102 | n/a | n/a | 14\% |
|  | 2006 | 19,519 n/a | 20866 | n/a | n/a | -6\% |
|  | 2007 | 25,653 n/a | - | - | - | - |
|  |  |  |  |  |  |  |
| NTH <br> (North/ Central BC) | 1999 | 158,882 n/a | 154,294 | n/a | $\mathrm{n} / \mathrm{a}$ | 3\% |
|  | 2000 | 184,500 n/a | 188,482 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | -2\% |
|  | 2001 | 194,615 n/a | 223,236 | n/a | n/a | -13\% |
|  | 2002 | 175,613 n/a | 147,157 | n/a | n/a | 19\% |
|  | 2003 | 161,995 n/a | 164,579 | n/a | n/a | -2\% |
|  | 2004 | 147,782 n/a | 152,207 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | -3\% |
|  | 2005 | 144,301 n/a | 128,753 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | 12\% |
|  | 2006 | 150,072 $\mathrm{n} / \mathrm{a}$ | 151,812 | n/a | n/a | -1\% |
|  | 2007 | 150,019 n/a | - | - | - | - |
|  |  |  |  |  |  |  |
| RBH+RBT <br> (WCVI <br> Hatchery + Natural) | 1999 | 95,426 68,400 | 101,683 | 40\% | -33\% | -6\% |
|  | 2000 | 38,807 15,040 | 37,047 | 158\% | -59\% | 5\% |
|  | 2001 | 88,532 30,633 | 87,004 | 189\% | -65\% | 2\% |
|  | 2002 | 169,138 109,882 | 167,731 | 54\% | -34\% | 1\% |
|  | 2003 | 168,040 105,801 | 215,346 | 59\% | -51\% | -22\% |
|  | 2004 | 246,334 144,180 | 257,517 | 71\% | -44\% | -4\% |
|  | 2005 | 186,491 218,840 | 156,837 | -15\% | 40\% | 19\% |
|  | 2006 | 183,854 138,878 | 197,097 | 32\% | -30\% | -7\% |
|  | 2007 | 151,925 117,321 | - | 12\% | - | - |

Table 3.8. Continued.

| Stock | Year | Model Forecast Agency Forecast | Postseason Return | Model Fcst/ Agency Fest | Agency Fcst/ <br> Postseason | Model Fcst/ Postseason |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| GSQ <br> (Upper Strait of Georgia) | 1999 | 16,732 n/a | 16,140 | n/a | $\mathrm{n} / \mathrm{a}$ | 4\% |
|  | 2000 | 22,327 $\quad \mathrm{n} / \mathrm{a}$ | 22,603 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | -1\% |
|  | 2001 | 28,625 n/a | 30,219 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | -5\% |
|  | 2002 | 31,154 n/a | 30,675 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | 2\% |
|  | 2003 | 31,560 n/a | 31,059 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | 2\% |
|  | 2004 | 28,061 n/a | 28,473 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | -1\% |
|  | 2005 | 31,255 n/a | 28,675 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | 9\% |
|  | 2006 | 31,587 $\quad \mathrm{n} / \mathrm{a}$ | 33,024 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | -4\% |
|  | 2007 | 41,711 n/a | - | - | - | - |
|  |  |  |  |  |  |  |
| GSH(Lower Straitof GeorgiaHatchery) | 1999 | 27,203 n/a | 25,258 | n/a | n/a | 8\% |
|  | 2000 | 19,752 $\quad \mathrm{n} / \mathrm{a}$ | 23,422 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | -16\% |
|  | 2001 | 36,318 $\quad \mathrm{n} / \mathrm{a}$ | 34,775 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | 4\% |
|  | 2002 | 30,556 n/a | 23,557 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | 30\% |
|  | 2003 | 22,409 n/a | 24,084 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | -7\% |
|  | 2004 | 22,011 n/a | 22,269 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | -1\% |
|  | 2005 | 24,938 n/a | 28,226 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | -12\% |
|  | 2006 | 25,227 $\quad \mathrm{n} / \mathrm{a}$ | 22,756 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | 11\% |
|  | 2007 | 24,378 n/a | , | - | - | - |
|  |  |  |  |  |  |  |
| GST <br> (Lower Strait of Georgia Natural) | 1999 | 8,533 n/a | 8,763 | $\mathrm{n} / \mathrm{a}$ | n/a | -3\% |
|  | 2000 | 9,110 $\mathrm{n} / \mathrm{a}$ | 8,524 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | 7\% |
|  | 2001 | 7,645 n/a | 8,569 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | -11\% |
|  | 2002 | 7,725 $\mathrm{n} / \mathrm{a}$ | 8,072 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | -4\% |
|  | 2003 | 6,630 n/a | 5,360 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | 24\% |
|  | 2004 | 5,380 n/a | 3,700 | n/a | n/a | 45\% |
|  | 2005 | 5,275 n/a | 5,415 | n/a | n/a | -3\% |
|  | 2006 | 7,576 n/a | 7,469 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | 1\% |
|  | 2007 | 7,782 n/a |  | - | - | - |

Table 3.8. Continued.
$\left.\begin{array}{|c|c|ccc|ccc|}\hline \text { Stock } & \text { Year } & \text { Model Forecast Agency Forecast } & \begin{array}{c}\text { Postseason } \\ \text { Return }\end{array} & \begin{array}{c}\text { Model Fcst/ Agency } \\ \text { Fcst }\end{array} & \begin{array}{c}\text { Agency Fcst/ } \\ \text { Postseason }\end{array} \\ \hline \text { FRE } & 1999 & 123,373 & \mathrm{n} / \mathrm{a} & 105,473 & \mathrm{n} / \mathrm{a} & \mathrm{Model} \text { Fcst/ } \\ \text { Postseason }\end{array}\right]$

Table 3.8. Continued.

| Stock | Year | Model Forecast Agency Forecast | Postseason Return | Model Fcst/ Agency Fest | Agency Fcst/ <br> Postseason | Model Fcst/ <br> Postseason |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NKF <br> (Nooksack/ <br> Samish Fall <br> Fingerling) | 1999 | 36,799 27,000 | 41,186 | 36\% | -34\% | -11\% |
|  | 2000 | 40,690 19,000 | 32,646 | 114\% | -42\% | 25\% |
|  | 2001 | 53,980 36,450 | 64,685 | 48\% | -44\% | -17\% |
|  | 2002 | 51,572 54,420 | 54,302 | -5\% | 0\% | -5\% |
|  | 2003 | 34,751 45,750 | 30047 | -24\% | 52\% | 16\% |
|  | 2004 | 21,566 34,200 | 17913 | -37\% | 91\% | 20\% |
|  | 2005 | 19,541 19,523 | 15872 | 0\% | 23\% | 23\% |
|  | 2006 | 25,343 16,899 | 30591 | 50\% | -45\% | -17\% |
|  | 2007 | 22,086 18,834 | - | 17\% | - | - |
|  |  |  |  |  |  |  |
| SNO <br> (Snohomish Wild) | 1999 | 5,513 5,600 | 4,832 | -2\% | 16\% | 14\% |
|  | 2000 | 5,676 6,000 | 6,116 | -5\% | -2\% | -7\% |
|  | 2001 | 5,986 5,760 | 5,414 | 4\% | 6\% | 11\% |
|  | 2002 | 6,523 6,700 | 7,267 | -3\% | -8\% | -10\% |
|  | 2003 | 7,161 5,450 | 5571 | 31\% | -2\% | 29\% |
|  | 2004 | 7,857 15,700 | 10700 | -50\% | 47\% | -27\% |
|  | 2005 | 7,283 n/a | 4611 | n/a | $\mathrm{n} / \mathrm{a}$ | 58\% |
|  | 2006 | 8,693 8,729 | 8438 | 0\% | 3\% | 3\% |
|  | 2007 | 11,153 12,289 | - | - | - | - |
|  |  |  |  |  |  |  |
| SKG <br> (Skagit <br> Summer/ <br> Fall Wild) | 1999 | 8,495 7,600 | 5,139 | 12\% | 48\% | 65\% |
|  | 2000 | 15,725 7,300 | 16,266 | 115\% | -55\% | -3\% |
|  | 2001 | 15,936 9,184 | 14,193 | 74\% | -35\% | 12\% |
|  | 2002 | 14,069 13,455 | 18,114 | 5\% | -26\% | -22\% |
|  | 2003 | 16,391 11,348 | 10,583 | 44\% | 7\% | 55\% |
|  | 2004 | 21,789 20,359 | 22,144 | 7\% | -8\% | -2\% |
|  | 2005 | 20,767 19,493 | 22,784 | 7\% | -14\% | -9\% |
|  | 2006 | 18,049 21,811 | 21,246 | -17\% | 3\% | -15\% |
|  | 2007 | 12,324 14,252 | - | -14\% | - | - |

Table 3.8. Continued.

| Stock | Year | Model Forecast Agency Forecast | Postseason Return | Model Fest/ Agency Fest | Agency Fcst/ <br> Postseason | Model Fest/ Postseason |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PSN <br> (Puget Sound Natural) | 1999 | 28,304 28,400 | 31,014 | 0\% | -8\% | -9\% |
|  | 2000 | 25,780 10,000 | 19,048 | 158\% | -48\% | 35\% |
|  | 2001 | 29,263 18,900 | 35,542 | 55\% | -47\% | -18\% |
|  | 2002 | 27,808 19,801 | 28,000 | 40\% | -29\% | -1\% |
|  | 2003 | 23,217 26,600 | 17,656 | -13\% | 51\% | 31\% |
|  | 2004 | 22,786 23,200 | 29,807 | -2\% | -22\% | -24\% |
|  | 2005 | 17,893 17,715 | 9,812 | 1\% | 81\% | 82\% |
|  | 2006 | 19,789 21,301 | 23,555 | -7\% | -10\% | -16\% |
|  | 2007 | 18,964 17,014 |  | 11\% | - | - |
|  |  |  |  |  |  |  |
| STL <br> (Stillaguamish Summer/Fall Wild) | 1999 | 1,319 n/a | 1,098 | n/a | n/a | 20\% |
|  | 2000 | 1,448 1,500 | 1,645 | -3\% | -9\% | -12\% |
|  | 2001 | 1,474 1,360 | 1,386 | 8\% | -2\% | 6\% |
|  | 2002 | 1,405 1,449 | 1,588 | -3\% | -9\% | -12\% |
|  | 2003 | 1,278 2,050 | 988 | -38\% | 107\% | 29\% |
|  | 2004 | 1,247 n/a | 1506 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | -17\% |
|  | 2005 | 1,192 n/a | 963 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | 24\% |
|  | 2006 | 1,250 1,169 | 1254 | 7\% | -7\% | 0\% |
|  | 2007 | 1,424 1,510 | - | $\mathrm{n} / \mathrm{a}$ | - | - |
|  |  |  |  |  |  |  |
| $\begin{gathered} \text { PSF+PSY } \\ \text { (Puget Sound } \\ \text { Fingerling + } \\ \text { Yearling) } \end{gathered}$ | 1999 | 95,189 69,285 | 116,204 | 37\% | -40\% | -18\% |
|  | 2000 | 90,131 69,800 | 67,540 | 29\% | 3\% | 33\% |
|  | 2001 | 98,500 105,955 | 112,371 | -7\% | -6\% | -12\% |
|  | 2002 | 98,215 124,608 | 103,805 | -21\% | 20\% | -5\% |
|  | 2003 | 86,544 133,850 | 74,335 | -35\% | 80\% | 16\% |
|  | 2004 | 88,891 132,300 | 87548 | -33\% | 51\% | 2\% |
|  | 2005 | 100,403 110,542 | 98348 | -9\% | 12\% | 2\% |
|  | 2006 | 121,482 113,486 | 118036 | 7\% | -4\% | 3\% |
|  | 2007 | 127,115 135,714 | - | -6\% | - | - |

Table 3.8. Continued.
$\left.\begin{array}{|c|c|ccc|ccc|}\hline \text { Stock } & \text { Year } & \text { Model Forecast Agency Forecast } & \begin{array}{c}\text { Postseason } \\ \text { Return }\end{array} & \begin{array}{c}\text { Model Fcst/ Agency } \\ \text { Fcst }\end{array} & \begin{array}{c}\text { Agency Fcst/ } \\ \text { Postseason }\end{array} \\ \hline \text { WCN } & 1999 & 31,231 & 43,780 & 24,951 & -29 \% & 75 \% \\ \text { (Washington } & 2000 & 28,805 & \mathrm{n} / \mathrm{a} & 22,978 & \mathrm{n} / \mathrm{a} & \mathrm{n} / \mathrm{a} \\ \text { Postseason }\end{array}\right]$

Table 3.8. Continued.

| Stock | Year | Model Forecast Agency Forecast | Postseason Return | Model Fcst/ Agency Fest | Agency Fcst/ <br> Postseason | Model Fcst/ Postseason |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| WSH <br> (Willamette Spring) | 1999 | 51,391 49,875 | 55,801 | 3\% | -11\% | -8\% |
|  | 2000 | 52,561 61,211 | 57,592 | -14\% | 6\% | -9\% |
|  | 2001 | 96,472 59,600 | 82,017 | 62\% | -27\% | 18\% |
|  | 2002 | 130,622 77,434 | 127,200 | 69\% | -39\% | 3\% |
|  | 2003 | 113,312 112,521 | 129,700 | 1\% | -13\% | -13\% |
|  | 2004 | 103,887 112,701 | 112,701 | -8\% | 0\% | -8\% |
|  | 2005 | 76,512 122,280 | 59,500 | -37\% | 106\% | 29\% |
|  | 2006 | 63,878 52,388 | 52,388 | 22\% | 0\% | 22\% |
|  | 2007 | $44,542 \quad 61,071$ | - | -27\% | - | - |
|  |  |  |  |  |  |  |
| SUM <br> (Columbia River Summer) | 1999 | 21,199 20,900 | 22,347 | 1\% | -6\% | -5\% |
|  | 2000 | 31,020 28,038 | 23,169 | 11\% | 21\% | 34\% |
|  | 2001 | 54,931 24,500 | 54,935 | 124\% | -55\% | 0\% |
|  | 2002 | 79,068 77,700 | 92,820 | 2\% | -16\% | -15\% |
|  | 2003 | 81,271 87,600 | 83,120 | -7\% | 5\% | -2\% |
|  | 2004 | 69,933 78,589 | 65,446 | -11\% | 20\% | 7\% |
|  | 2005 | 65,834 62,400 | 60,060 | 6\% | 4\% | 10\% |
|  | 2006 | $64,909 \quad 78,512$ | 78,196 | -17\% | 0\% | -17\% |
|  | 2007 | 56,948 45,555 |  | 25\% | - | - |
|  |  |  |  |  |  |  |
| BON+CWF <br> (Bonneville + Cowlitz Hatcheries) | 1999 | 42,889 34,800 | 39,881 | 23\% | -13\% | 8\% |
|  | 2000 | 33,268 23,700 | 26,971 | 40\% | -12\% | 23\% |
|  | 2001 | 114,245 32,200 | 94,240 | 255\% | -66\% | 21\% |
|  | 2002 | 134,349 137,600 | 156,411 | -2\% | -12\% | -14\% |
|  | 2003 | 158,666 115,900 | 154,960 | 37\% | -25\% | 2\% |
|  | 2004 | 102,723 77,100 | 108,308 | 33\% | -29\% | -5\% |
|  | 2005 | 76,856 74,100 | 73,861 | 4\% | 0\% | 4\% |
|  | 2006 | 56,962 55,800 | 58,317 | 2\% | -4\% | -2\% |
|  | 2007 | 49,219 54,900 | - | -10\% | - | - |

Table 3.8. Continued.

| Stock | Year | Model Forecast Agency Forecast | Postseason Return | Model Fest/ Agency Fest | Agency Fcst/ <br> Postseason | Model Fest/ Postseason |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SPR <br> (Spring Creek Hatchery) | 1999 | 46,339 65,800 | 50,189 | -30\% | 31\% | -8\% |
|  | 2000 | 16,957 21,900 | 20,528 | -23\% | 7\% | -17\% |
|  | 2001 | 139,825 56,600 | 124,954 | 147\% | -55\% | 12\% |
|  | 2002 | 145,983 144,400 | 160,836 | 1\% | -10\% | -9\% |
|  | 2003 | 179,222 96,900 | 180,592 | 85\% | -46\% | -1\% |
|  | 2004 | 175,423 138,000 | 175,245 | 27\% | -21\% | 0\% |
|  | 2005 | 86,249 114,100 | 93,145 | -24\% | 22\% | -7\% |
|  | 2006 | 36,800 50,000 | 27,918 | -26\% | 79\% | 32\% |
|  | 2007 | 19,421 21,800 | - | -11\% | - | - |
|  |  |  |  |  |  |  |
| URB (Columbia Upriver Bright) | 1999 | 191,146 147,500 | 165,889 | 30\% | -11\% | 15\% |
|  | 2000 | 148,584 171,100 | 156,553 | -13\% | 9\% | -5\% |
|  | 2001 | 275,024 127,200 | 232,491 | 116\% | -45\% | 18\% |
|  | 2002 | 282,720 281,000 | 276,948 | 1\% | 1\% | 2\% |
|  | 2003 | 321,516 280,400 | 373,191 | 15\% | -25\% | -14\% |
|  | 2004 | 318,313 292,200 | 362,804 | 9\% | -19\% | -12\% |
|  | 2005 | 298,178 352,200 | 268,744 | -15\% | 31\% | 11\% |
|  | 2006 | 228,927 253,900 | 227,535 | -10\% | 12\% | 1\% |
|  | 2007 | 168,594 182,400 | - | -8\% | - | - |
|  |  |  |  |  |  |  |
| LYF (Snake River Wild) | 1999 | 862 n/a | 905 | n/a | n/a | -5\% |
|  | 2000 | 1,887 n/a | 1,148 | n/a | n/a | 64\% |
|  | 2001 | 2473 734 | 5,163 | 237\% | -86\% | -52\% |
|  | 2002 | 3,853 n/a | 2,116 | n/a | n/a | 82\% |
|  | 2003 | 3,838 2,185 | 3,856 | 76\% | -43\% | 0\% |
|  | 2004 | 3,244 3,725 | 4,443 | -13\% | -16\% | -27\% |
|  | 2005 | 3,650 4,000 | 2,602 | -9\% | 54\% | 40\% |
|  | 2006 | 2,633 3,500 | 2,743 | -25\% | 28\% | -4\% |
|  | 2007 | 3,128 2,700 | , | 16\% | - | - |

Table 3.8. Continued.

| Stock | Year | Model Forecast Agency Forecast | Postseason Return | Model Fcst/ Agency Fest | Agency Fcst/ <br> Postseason | Model Fest/ Postseason |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MCB (Mid-Columbia Bright) | 1999 | 44,503 38,300 | 50800 | 16\% | -25\% | -12\% |
|  | 2000 | 43,859 50,600 | 37,200 | -13\% | 36\% | 18\% |
|  | 2001 | 63,522 43,500 | 76,600 | 46\% | -43\% | -17\% |
|  | 2002 | 123,497 96,200 | 108,400 | 28\% | -11\% | 14\% |
|  | 2003 | 156,037 104,800 | 150,300 | 49\% | -30\% | 4\% |
|  | 2004 | 114,704 90,400 | 122,600 | 27\% | -26\% | -6\% |
|  | 2005 | 87,384 89,400 | 97,900 | -2\% | -9\% | -11\% |
|  | 2006 | 81,685 88,300 | 80,471 | -7\% | 10\% | 2\% |
|  | 2007 | $77,470 \quad 68,000$ | - | 14\% | - | - |
|  |  |  |  |  |  |  |
| LRW (Lewis River Wild) | 1999 | 4,456 2,600 | 3,349 | 71\% | -22\% | 33\% |
|  | 2000 | 8,494 3,500 | 10,234 | 143\% | -66\% | -17\% |
|  | 2001 | 13,521 16,700 | 15,721 | -19\% | 6\% | -14\% |
|  | 2002 | 20,219 18,200 | 24,948 | 11\% | -27\% | -19\% |
|  | 2003 | 20,371 24,600 | 26,021 | -17\% | -5\% | -22\% |
|  | 2004 | 35,222 24,100 | 22,327 | 46\% | 8\% | 58\% |
|  | 2005 | 16,587 20,200 | 16,767 | -18\% | 20\% | -1\% |
|  | 2006 | 18,882 16,600 | 17,896 | 14\% | -7\% | 6\% |
|  | 2007 | 10,306 10,100 | - | 2\% | - | - |
|  |  |  |  |  |  |  |
| ORC <br> (Oregon <br> Coastal) | 1999 | 81,048 72,084 | 84,293 | 12\% | -14\% | -4\% |
|  | 2000 | 102,651 63,259 | 69,074 | 62\% | -8\% | 49\% |
|  | 2001 | 128,508 66,412 | 132,732 | 94\% | -50\% | -3\% |
|  | 2002 | 169,708 73,914 | 176,929 | 130\% | -58\% | -4\% |
|  | 2003 | 162,636 85,483 | 174,091 | 90\% | -51\% | -7\% |
|  | 2004 | 148,645 131,904 | 129,579 | 13\% | 2\% | 15\% |
|  | 2005 | 137,902 167,213 | 167,211 | -18\% | 0\% | -18\% |
|  | 2006 | 124,296 136,373 | 112,797 | -9\% | 21\% | 10\% |
|  | 2007 | 108,338 131,195 | - | -17\% | - | - |

### 3.7 EVALUATION OF MARK-SELECTIVE FISHERIES

There have been mark-selective fisheries (MSF) for Chinook salmon in the Strait of Juan de Fuca Washington sport fishery since 2003, in the Columbia River net fisheries since 2002, and in Columbia River spring Chinook sport fisheries since 2000. Double index tag (DIT) groups are comprised of paired releases of marked and unmarked fish with CWTs. Seven Puget Sound fall Chinook stocks and one Columbia River stock have DIT groups. The DIT is used as a monitoring tool to test the hypothesis that there are differences between the marked and unmarked tagged groups due to MSFs and also to estimate mortalities of unmarked fish in MSFs.

A significant change in the ratio of unmarked to marked DIT groups at hatchery escapement can indicate that mark-selective fisheries have differentially impacted DIT pairs. Only small or nonsignificant differences were previously observed in the DIT groups evaluated (CTC 2007), and statistical analysis of 2006 returns also indicated little effect of the MSFs between the unmarked and marked DIT pairs. Based on these results, the estimates of exploitation rate of marked tagged groups were used in CTC analyses this year without adjustment for MSFs.

## REFERENCES CITED

Ames, J. and D. E. Phinney. 1977. 1977 Puget Sound summer-fall chinook methodology: escapement estimates and goals, run size forecasts, and in-season run size updates. Washington Department of Fisheries Technical Report 29. Olympia, Washington.
CBFWA (Columbia Basin Fish and Wildlife Authority). 1990. Integrated system plan for salmon and steelhead production in the Columbia River basin. Portland, Oregon.
CCMP (Comprehensive Chinook Management Plan). 2004. Comprehensive Chinook management plan for Puget Sound Chinook: harvest management component. Northwest Indian Fisheries Commission. Olympia, Washington.
CRFMP. 1988. Columbia River Fisheries Management Plan.
CTC (Chinook Technical Committee).1997. Incidental fishery mortality of Chinook salmon: Mortality rates applicable to Pacific Salmon Commission Fisheries Report TCCHINOOK (97)-1. Vancouver, British Columbia.
CTC (Chinook Technical Committee). 1999. Maximum sustained yield or biologically based escapement goals for selected Chinook salmon stocks used by the Pacific Salmon Commission's Chinook Technical Committee for escapement assessment. Pacific Salmon Commission, Report TCCHINOOK (99)-3. Vancouver, British Columbia.
CTC (Chinook Technical Committee). 2002. Catch and escapement of Chinook salmon under Pacific Salmon Commission jurisdiction 2001. Pacific Salmon Commission, Report TCCHINOOK (02)1. Vancouver, British Columbia.

CTC (Chinook Technical Committee). 2004a. Annual exploitation rate analysis and model calibration. Pacific Salmon Commission, Report TCCHINOOK (04)-4. Vancouver, British Columbia.
CTC (Chinook Technical Committee) 2004b. Standardized fishery regimes for Southeast Alaska Chinook fisheries. Pacific Salmon Commission, Report TCCHINOOK (04)-3. Vancouver, British Columbia.
CTC (Chinook Technical Committee). 2004c. Estimation and application of incidental fishing mortality in Chinook salmon management under the 1999 Agreement of the Pacific Salmon Treaty. Pacific Salmon Commission, Report TTCHINOOK (04)-1. Vancouver, British Columbia.
CTC (Chinook Technical Committee). 2005a. Catch and escapement of Chinook salmon under Pacific Salmon Commission jurisdiction, 2003. Pacific Salmon Commission, Report TCCHINOOK (05)2. Vancouver, British Columbia.

CTC (Chinook Technical Committee). 2005b. Annual exploitation rate analysis and model calibration. Pacific Salmon Commission, Report TCCHINOOK (05)-3. Vancouver, British Columbia.
Ericksen, R. P. and S. A. McPherson. 2003. Biological escapement goal for Chilkat River Chinook salmon. Alaska Department of Fish and Game, Division of Sport Fish, Fishery Manuscript 03-01, Juneau.
Farwell, M. K., R. E. Bailey, and B. Rosenberger. 1999. Enumeration of the 1995 Nicola River Chinook salmon escapement. Canadian Manuscript Report Fisheries and Aquatic Science 2491:44p.
Freeman, G.M., S. A. McPherson and D.L. Magnus. 2001. A mark-recapture experiment to estimate the escapement of Chinook salmon in the Keta River, 2000. Alaska Department of Fish and Game, Division of Sport Fish, Fishery Data Series 01-19, Anchorage, Alaska.
McPherson, S. A., D. R. Bernard, and J. H. Clark. 2000. Optimal production of Chinook salmon from the Taku River. Alaska Department of Fish and Game, Sport Fish Division, Fishery Manuscript 00-2. Anchorage, Alaska.

McPherson, S. A. and J. H. Clark. 2001. Biological escapement goal for King Salmon River Chinook salmon. Alaska Department of Fish and Game, Regional Information Report 1J01-40. Anchorage, Alaska.
Pahlke, K. A. 2003. Escapements of Chinook salmon in Southeast Alaska and transboundary rivers in 2001. Alaska Department of Fish and Game, Division of Sport Fish, Fishery Data Series 03-11, Anchorage, Alaska.
Pahlke, K. A., and P. Etherton. 1999. Chinook salmon research on the Stikine River, 1997. Alaska Department of Fish and Game, Division of Sport Fish, Fishery Data Series No. 99-6, Anchorage, Alaska.
PFMC (Pacific Fishery Management Council). 2003. Review of 2002 Ocean Salmon Fisheries. Pacific Fishery Management Council. Portland, Oregon.
PFMC (Pacific Fishery Management Council). 2005. Preseason Report III: Analyses of Council Adopted Management Measures for 2000 Ocean Fisheries. Pacific Fishery Management Council. Portland, Oregon.
SFEC. 2002. Investigation of methods to estimate mortalities of unmarked salmon in markselective fisheries through the use of double index tag groups. PSC TCSFEC(02)-1
TAC (U.S. v Oregon Technical Advisory Committee). 1999. All Species Review: Columbia River Fish Management Plan.
Weller, Jan L. and Scott A. McPherson. 2003. A mark-recapture experiment to estimate the escapement of Chinook salmon in the Unuk River, 2002. Alaska Department of Fish and Game, Fishery Data

## APPENDICES

## Appendix A. Landed Chinook catches by region and gear from 1975-2006.

Appendix A.1. Southeast Alaska (SEAK) Chinook catches, 1975-2006. ..... 99
Appendix A.2. Northern British Columbia (NBC) Chinook catches, 1975-2006. ..... 100
Appendix A.3. Central British Columbia (CBC) Chinook catches, 1975-2006 ..... 101
Appendix A.4. West Coast Vancouver Island (WCVI) Chinook catches, 1975-2006 ..... 102
Appendix A.5. Johnstone Strait Chinook catches, 1975-2006 ..... 103
Appendix A.6. Strait of Georgia/Fraser Chinook catches, 1975-2006 ..... 104
Appendix A.7. Canada - Strait of Juan de Fuca Chinook catches, 1975-2006 ..... 105
Appendix A.8. Washington - Strait of Juan de Fuca Chinook catches, 1975-2006. ..... 106
Appendix A.9. Washington - San Juan Chinook catches, 1975-2006 ..... 107
Appendix A.10. Washington - Other Puget Sound Chinook catches, 1975-2006 ..... 108
Appendix A.11. Washington - Inside Coastal Chinook catches, 1975-2006 ..... 109
Appendix A.12. Washington/Oregon North of Cape Falcon Chinook catches, 1975-2006 ..... 110
Appendix A.13. Columbia River Chinook catches, 1975-2006. ..... 111
Appendix A.14. Oregon Chinook catches, 1975-2006 ..... 112

Appendix A.1. Southeast Alaska (SEAK) Chinook catches, 1975-2006.

| Year | Southeast Alaska |  |  |  |  |  |  |
| :---: | :---: | ---: | ---: | ---: | ---: | ---: | ---: |
|  | Troll | Net | Sport |  | Total | Add-on | Terminal <br> Exclusion |
| Treaty <br> Catch |  |  |  |  |  |  |  |
| 1975 | 287,342 | 13,365 | 17,000 | 317,707 | - | - | - |
| 1976 | 231,239 | 10,523 | 17,000 | 258,762 | - | - | - |
| 1977 | 271,735 | 13,443 | 17,000 | 302,178 | - | - | - |
| 1978 | 375,919 | 25,492 | 17,000 | 418,411 | - | - | - |
| 1979 | 337,672 | 28,388 | 16,581 | 382,641 | - | - | - |
| 1980 | 303,643 | 20,114 | 20,213 | 343,970 | - | - | - |
| 1981 | 248,782 | 18,952 | 21,300 | 289,034 | - | - | - |
| 1982 | 241,938 | 46,992 | 25,756 | 314,686 | - | - | - |
| 1983 | 269,821 | 19,516 | 22,321 | 311,658 | - | - | - |
| 1984 | 235,622 | 32,405 | 22,050 | 290,077 | - | - | - |
| 1985 | 215,811 | 33,870 | 24,858 | 274,539 | 6,246 | - | 268,293 |
| 1986 | 237,703 | 22,099 | 22,551 | 282,353 | 11,091 | - | 271,262 |
| 1987 | 242,562 | 15,532 | 24,324 | 282,418 | 17,095 | - | 265,323 |
| 1988 | 231,364 | 21,788 | 26,160 | 279,312 | 22,525 | - | 256,787 |
| 1989 | 235,716 | 24,245 | 31,071 | 291,032 | 21,510 | - | 269,522 |
| 1990 | 287,939 | 27,712 | 51,218 | 366,869 | 45,873 | - | 320,996 |
| 1991 | 264,106 | 34,864 | 60,492 | 359,462 | 61,476 | - | 297,986 |
| 1992 | 183,759 | 32,140 | 42,892 | 258,791 | 36,811 | - | 221,980 |
| 1993 | 226,866 | 27,991 | 49,246 | 304,103 | 32,910 | - | 271,193 |
| 1994 | 186,331 | 35,654 | 42,365 | 264,350 | 29,185 | - | 235,165 |
| 1995 | 138,117 | 47,955 | 49,667 | 235,739 | 58,800 | - | 176,939 |
| 1996 | 141,452 | 37,298 | 57,509 | 236,259 | 72,599 | 8,663 | 154,997 |
| 1997 | 246,409 | 25,069 | 71,524 | 343,002 | 46,463 | 9,843 | 286,696 |
| 1998 | 192,066 | 23,514 | 55,013 | 270,593 | 25,021 | 2,420 | 243,152 |
| 1999 | 146,219 | 32,720 | 72,081 | 251,020 | 47,725 | 4,453 | 198,842 |
| 2000 | 158,717 | 41,400 | 63,173 | 263,290 | 74,316 | 2,481 | 186,493 |
| 2001 | 153,280 | 40,163 | 72,291 | 265,734 | 77,287 | 1,528 | 186,919 |
| 2002 | 325,308 | 31,689 | 69,537 | 426,534 | 68,164 | 1,237 | 357,133 |
| 2003 | 330,692 | 39,374 | 69,370 | 439,436 | 57,228 | 2,056 | 380,152 |
| 2004 | 354,664 | 64,038 | $87,505^{2}$ | 506,207 | 72,025 | 5,409 | 428,7731 |
| 2005 | 338,437 | 73,066 | $84,279^{2}$ | 495,782 | 64,102 | 44,973 | 386,707 |
| 2006 | 282,315 | 72,595 | $85,794^{2}$ | 440,704 | 50,059 | 31,462 | 359,184 |

Troll, net, sport and total catches include catch of SEAK hatchery-origin fish; catches that count towards the all-gear ceiling (with hatchery add-on subtracted) are shown in the "treaty catch" column. "-" = not applicable.
${ }^{1}$ The value on top excludes District 108 Stikine catch above base levels. The value below includes it.
${ }^{2}$ These values are preliminary.

Appendix A.2. Northern British Columbia (NBC) Chinook catches, 1975-2006.

| Year | Northern British Columbia |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Tidal Sport |  | Area 1-5 Freshwater Sport | Area 1-5 <br> First <br> Nations | Total |
|  | Area 1-5 Troll ${ }^{1}$ | Area 1-5 Net | $\begin{gathered} \text { Areas 1,2E, } \\ 2 W \end{gathered}$ | Areas 3-5 |  |  |  |
| 1975 | 228,121 | 25,095 | NA | NA | NA | 4,055 | 257,271 |
| 1976 | 190,267 | 16,105 | NA | NA | NA | 2,791 | 209,163 |
| 1977 | 130,899 | 44,196 | 106 | 1,670 | 2,158 | 6,998 | 186,027 |
| 1978 | 146,054 | 27,924 | 125 | 1,668 | 6,610 | 5,363 | 187,744 |
| 1979 | 147,576 | 40,640 | 0 | 2,523 | 1,960 | 5,266 | 197,965 |
| 1980 | 157,198 | 26,895 | 200 | 3,867 | 4,515 | 10,121 | 202,796 |
| 1981 | 153,065 | 41,724 | 184 | 2,760 | 2,613 | 11,115 | 211,461 |
| 1982 | 173,472 | 44,844 | 215 | 3,760 | 2,726 | 13,255 | 238,272 |
| 1983 | 162,837 | 17,134 | 90 | 4,092 | 5,374 | 15,532 | 205,059 |
| 1984 | 185,134 | 31,321 | 171 | 2,300 | 3,426 | 11,408 | 233,760 |
| 1985 | 165,845 | 39,562 | 600 | 3,600 | 3,186 | 15,794 | 228,587 |
| 1986 | 175,715 | 23,902 | 1,153 | 3,950 | 4,410 | 24,448 | 233,578 |
| 1987 | 177,457 | 18,357 | 2,644 | 4,150 | 3,625 | 16,329 | 222,562 |
| 1988 | 152,369 | 31,339 | 7,059 | 4,300 | 3,745 | 21,727 | 220,539 |
| 1989 | 207,679 | 38,623 | 20,652 | 4,150 | 5,247 | 21,023 | 297,374 |
| 1990 | 154,109 | 28,359 | 16,827 | 4,300 | 4,090 | 27,105 | 234,790 |
| 1991 | 194,018 | 40,899 | 15,047 | 4,256 | 4,764 | 23,441 | 282,425 |
| 1992 | 142,340 | 35,716 | 21,358 | 6,250 | 6,182 | 27,012 | 238,858 |
| 1993 | 161,686 | 33,944 | 25,297 | 3,279 | 7,813 | 21,353 | 253,372 |
| 1994 | 164,581 | 22,032 | 28,973 | 3,171 | 3,093 | 15,949 | 237,799 |
| 1995 | 56,857 | 18,076 | 22,531 | 2,475 | 3,503 | 13635 | 117,077 |
| 1996 | 21 | 28,894 | 670 | 3,382 | 1,250 | 13,345 | 47,562 |
| 1997 | 83,488 | 20,415 | 27,738 | 0 | NA | 14,610 | 146,251 |
| 1998 | 107,837 | 7,144 | 34,130 | 4,750 | NA | 20,622 | 174,483 |
| 1999 | 56,499 | 10,094 | 30,227 | 11,700 | NA | 27,399 | 135,919 |
| 2000 | 9,800 | 22,329 | 22,100 | 8,600 | NA | 23,476 | 86,305 |
| 2001 | 13,100 | 25,424 | 30,400 | 11,000 | NA | 23,508 | 103,432 |
| 2002 | 103,038 | 14,902 | 47,100 | 8,000 | NA | 14,125 | 187,165 |
| 2003 | 137,357 | 14,730 | 54,300 | NA | 5,711 ${ }^{2}$ | 20,950 | 233,048 |
| 2004 | 167,508 | 16,187 | 74,000 | NA | NA | 20,548 | 278,243 |
| 2005 | 174,806 | 6,850 | 68,800 | NA | NA | 17,553 | 267,770 |
| 2006 | 158,363 | 12,561 | 64,500 | NA | NA | 17,262 | 252,686 |

[^1]Appendix A.3. Central British Columbia (CBC) Chinook catches, 1975-2006.

| Year | Central British Columbia |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Troll ${ }^{1}$ | Net | Tidal Sport | Freshwater Sport | First Nations | Total |
| 1975 | 135,470 | 40,985 | NA | NA | NA | 176,455 |
| 1976 | 145,204 | 32,669 | NA | NA | NA | 177,873 |
| 1977 | 122,689 | 32,409 | 4,773 | 1,544 | 6,972 | 168,387 |
| 1978 | 91,025 | 35,708 | 5,694 | 1,770 | 7,944 | 142,141 |
| 1979 | 107,884 | 50,445 | 5,225 | 1,940 | 7,585 | 173,079 |
| 1980 | 95,377 | 27,715 | 4,802 | 988 | 6,240 | 135,122 |
| 1981 | 69,247 | 18,912 | 3,490 | 1,261 | 5,701 | 98,611 |
| 1982 | 69,748 | 32,419 | 5,419 | 1,293 | 9,112 | 117,991 |
| 1983 | 97,447 | 12,556 | 4,271 | 821 | 6,442 | 121,537 |
| 1984 | 78,120 | 4,630 | 4,354 | 1,332 | 9,736 | 98,172 |
| 1985 | 27,090 | 12,391 | 3,943 | 823 | 6,019 | 50,266 |
| 1986 | 54,407 | 23,032 | 4,566 | 1,245 | 6,353 | 89,603 |
| 1987 | 65,776 | 10,893 | 3,933 | 1,563 | 6,296 | 88,461 |
| 1988 | 36,125 | 12,886 | 3,596 | 1,496 | 6,000 | 60,103 |
| 1989 | 21,694 | 6,599 | 3,438 | 4,526 | 8,992 | 45,249 |
| 1990 | 29,882 | 18,630 | 4,053 | 5,626 | 9,811 | 68,002 |
| 1991 | 29,843 | 15,926 | 4,409 | 3,335 | 8,801 | 62,314 |
| 1992 | 47,868 | 18,337 | 4,891 | 3,204 | 8,533 | 82,833 |
| 1993 | 23,376 | 10,579 | 6,114 | 2,880 | 9,095 | 52,044 |
| 1994 | 18,976 | 14,424 | 4,303 | 973 | 5,383 | 44,059 |
| 1995 | 5,819 | 11,007 | 2,172 | 1,180 | 3,501 | 23,679 |
| 1996 | 0 | 6,829 | 2,936 | 3,986 | 6,922 | 20,673 |
| 1997 | 12,351 | 3,575 | 8,524 | 1,139 | 9,764 | 35,353 |
| 1998 | 2,198 | 5,355 | 5,514 | 779 | 6,671 | 20,517 |
| 1999 | 2,074 | 4,320 | 10,300 | $\mathrm{NA}^{2}$ | 5,440 | 22,134 |
| 2000 | 0 | 3,210 | 7,400 | $\mathrm{NA}^{2}$ | 4,576 | 15,186 |
| 2001 | 0 | 6,462 | 7,650 | 1,024 | 5,435 | 20,571 |
| 2002 | 481 | 4,676 | 7,330 | 723 | 3,292 | 16,502 |
| 2003 | 20 | 2,806 | 8,385 | 491 | 3,173 | 14,875 |
| 2004 | 0 | 6,324 | 10,677 | 524 | 4,003 | 21,528 |
| 2005 | 0 | 6,323 | 9,017 | 809 | 4,180 | 20,329 |
| 2006 | 0 | 5,231 | 9,400 | NA | 4,013 | 18,644 |

[^2]Appendix A.4. West Coast Vancouver Island (WCVI) Chinook catches, 1975-2006.

| Year | West Coast Vancouver Island |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Troll ${ }^{1}$ | Net | $\begin{array}{\|c} \hline \text { Tidal Sport } \\ \hline \text { Inside }^{2} \end{array}$ | Tidal Sport <br> Outside | Freshwater Sport | $\begin{gathered} \text { First } \\ \text { Nations } \end{gathered}$ | Total |
|  |  |  |  |  |  |  |  |
| 1975 | 546,214 | 19,233 | NA | - | NA | NA | 565,447 |
| 1976 | 665,010 | 17,492 | NA | - | NA | NA | 682,502 |
| 1977 | 545,742 | 13,745 | NA | - | NA | NA | 559,487 |
| 1978 | 568,705 | 25,143 | NA | - | NA | NA | 593,848 |
| 1979 | 477,222 | 35,623 | 7,964 | - | NA | NA | 520,809 |
| 1980 | 486,303 | 34,732 | 8,539 | - | NA | NA | 529,574 |
| 1981 | 423,266 | 36,411 | 11,230 | - | NA | NA | 470,907 |
| 1982 | 538,510 | 41,172 | 17,100 | - | NA | NA | 596,782 |
| 1983 | 395,636 | 37,535 | 28,000 | - | NA | NA | 461,171 |
| 1984 | 471,294 | 43,792 | 44,162 | - | NA | NA | 559,248 |
| 1985 | 345,937 | 11,089 | 21,587 | - | NA | NA | 378,613 |
| 1986 | 350,227 | 3,276 | 13,158 | - | NA | NA | 366,661 |
| 1987 | 378,931 | 478 | 38,283 | - | NA | NA | 417,692 |
| 1988 | 408,668 | 15,438 | 35,820 | - | NA | NA | 459,926 |
| 1989 | 203,751 | 40,321 | 55,239 | - | NA | NA | 299,311 |
| 1990 | 297,858 | 29,578 | 69,723 | - | NA | 1,199 | 398,358 |
| 1991 | 203,035 | 60,797 | 85,983 | - | NA | 41,322 | 391,137 |
| 1992 | 340,146 | 9,486 | 46,968 | 18,518 | NA | 8,315 | 423,433 |
| 1993 | 277,033 | 28,694 | 65,604 | 23,312 | NA | 5,078 | 399,721 |
| 1994 | 150,039 | 2,369 | 52,526 | 10,313 | NA | 1,515 | 216,762 |
| 1995 | 81,454 | 458 | 21,675 | 13,956 | NA | 5,868 | 123,411 |
| 1996 | 4 | 0 | 2,266 | 10,229 | NA | 4,308 | 16,807 |
| 1997 | 52,748 | 486 | 47,355 | 6,400 | NA | 1,199 | 108,188 |
| 1998 | 2,282 | 1,643 | 55,697 | 4,177 | NA | 1,600 | 65,399 |
| 1999 | 5,307 | 970 | 47,163 | 31,106 | NA | 11,458 | 96,004 |
| 2000 | 63,400 | 100 | 4,468 | 38,038 | NA | 2,396 | 108,402 |
| 2001 | 77,491 | 0 | 6,423 | 40,179 | 6,198 | 930 | 131,221 |
| 2002 | 132,921 | 456 | 36,140 | 32,115 | 77 | 10,893 | 212,602 |
| 2003 | 151,826 | 9,057 | 51,622 | 23,995 | NA | 10,082 | 246,582 |
| 2004 | 174,128 | 12,532 | 61,132 | 42,496 | 26 | 20,000 | 310,314 |
| 2005 | 148,734 | 23,599 | 41,710 | 53,928 | 6,225 | 35,000 | 316,756 |
| 2006 | 103,978 | 20,308 | 41,380 | 37,905 | NA | 28,628 | 225,138 |

Troll: Areas 21, 23-27, and 121-127; Net: Areas 21, and 23-27; Sport: Areas 23a, 23b, 24-27
1 Since 1998, the catch accounting year for troll fisheries was set from October 1-September 30. To make comparisons to previous years more meaningful, the same catch accounting period was applied for years prior to 1998.

2 Prior to 1992, catch was not reported as 'inside' or 'outside'. Therefore 'inside' catch for those years represents total tidal sport catch.
3 Including 5,000 First Nations troll catch.
$\mathrm{NA}=$ not available; "-"" = not applicable.

Appendix A.5. Johnstone Strait Chinook catches, 1975-2006.

| Year | Johnstone Strait |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { Troll }^{1} \\ \text { Area } 12 \\ \hline \end{gathered}$ | Net | Tidal Sport | Freshwater Sport | First Nations | Total |
| 1975 | 18,065 | 30,295 | NA | NA | NA | 48,360 |
| 1976 | 30,838 | 31,855 | NA | NA | NA | 62,693 |
| 1977 | 26,868 | 49,511 | NA | NA | NA | 76,379 |
| 1978 | 13,052 | 55,148 | NA | NA | NA | 68,200 |
| 1979 | 13,052 | 31,291 | NA | NA | NA | 44,343 |
| 1980 | 11,743 | 30,325 | NA | NA | NA | 42,068 |
| 1981 | 13,035 | 28,620 | NA | NA | NA | 41,655 |
| 1982 | 11,234 | 29,454 | NA | NA | NA | 40,688 |
| 1983 | 14,653 | 28,364 | NA | NA | NA | 43,017 |
| 1984 | 9,260 | 18,361 | NA | NA | NA | 27,621 |
| 1985 | 3,567 | 38,073 | NA | NA | NA | 41,640 |
| 1986 | 3,951 | 17,866 | NA | NA | NA | 21,817 |
| 1987 | 1,780 | 13,863 | NA | NA | NA | 15,643 |
| 1988 | 1,566 | 6,292 | NA | NA | NA | 7,858 |
| 1989 | 1,825 | 29,486 | NA | NA | NA | 31,311 |
| 1990 | 2,298 | 18,433 | NA | NA | NA | 20,731 |
| 1991 | 1,228 | 15,071 | 10,075 | NA | 1,287 | 27,661 |
| 1992 | 2,721 | 9,571 | 14,715 | NA | 29 | 27,036 |
| 1993 | 4,172 | 15,530 | NA | NA | 20 | 19,722 |
| 1994 | 2,231 | 8,991 | NA | NA | 0 | 11,222 |
| 1995 | 4 | 970 | NA | NA | 71 | 1,045 |
| 1996 | 0 | 447 | NA | NA | 107 | 554 |
| 1997 | 1,380 | 819 | NA | NA | 179 | 2,378 |
| 1998 | 990 | 60 | 2,366 | NA | 138 | 3,554 |
| 1999 | 89 | 156 | 7,813 | NA | 469 | 8,527 |
| 2000 | 197 | 220 | 5,719 | NA | 212 | 6,348 |
| 2001 | $500{ }^{2}$ | 200 | 3,759 | NA | 370 | 4,329 |
| 2002 | 100 | 600 | 2,331 | NA | 400 | 3,431 |
| 2003 | 710 | 299 | 7585 | NA | 130 | 8724 |
| 2004 | 630 | 220 | 12,837 | NA | 28 | 13,715 |
| 2005 | 2 | 291 | 12,009 | NA | NA | 12,302 |
| 2006 | 0 | 244 | 7,238 | NA | 200 | 7,682 |

Troll: Area 12
Net: Areas 11-13
Sport: Based on July - August creel census in Area 12 and northern half of Area 13
${ }^{1}$ Since 1998, the catch accounting year for troll fisheries was set from October 1-September 30.
To make comparisons to previous years more meaningful, the same catch accounting period was applied for years prior to 1998.
${ }^{2}$ Preliminary estimate
$\mathrm{NA}=$ not available

Appendix A.6. Strait of Georgia/Fraser Chinook catches, 1975-2006.

| Year | Strait of Georgia/Fraser |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Troll ${ }^{1}$ | Net | Tidal Sport | Freshwater Sport ${ }^{2}$ | $\begin{gathered} \text { First } \\ \text { Nations }{ }^{3} \\ \hline \end{gathered}$ | Total |
| 1975 | 174,001 | 66,119 | 398,000 | NA | 20,170 | 658,290 |
| 1976 | 200,229 | 73,018 | 490,000 | NA | 19,189 | 782,436 |
| 1977 | 248,082 | 85,222 | 372,000 | NA | 23,310 | 728,614 |
| 1978 | 217,955 | 50,247 | 500,000 | NA | 19,541 | 787,743 |
| 1979 | 255,057 | 49,038 | 350,000 | NA | 14,931 | 669,026 |
| 1980 | 273,077 | 31,161 | 204,100 | NA | 15,252 | 523,590 |
| 1981 | 239,266 | 19,985 | 197,239 | NA | 11,987 | 468,477 |
| 1982 | 179,040 | 22,971 | 124,390 | 96 | 35,687 | 362,184 |
| 1983 | 105,133 | 17,520 | 198,433 | NA | 15,756 | 336,842 |
| 1984 | 90,280 | 19,851 | 369,445 | 7,880 | 22,784 | 510,240 |
| 1985 | 55,888 | 31,006 | 234,838 | 1,874 | 10,895 | 334,501 |
| 1986 | 44,043 | 32,359 | 181,896 | 1,573 | 15,646 | 275,517 |
| 1987 | 38,084 | 13,016 | 121,081 | 4,876 | 14,525 | 191,582 |
| 1988 | 20,224 | 8,373 | 119,117 | 7,546 | 15,589 | 170,849 |
| 1989 | 28,444 | 23,833 | 132,846 | 918 | 5,983 | 192,024 |
| 1990 | 34,304 | 15,298 | 111,914 | 2,341 | 17,948 | 181,805 |
| 1991 | 32,412 | 15,407 | 115,523 | 1,616 | 22,185 | 187,143 |
| 1992 | 37,250 | 9,159 | 116,581 | 1,677 | 20,038 | 184,705 |
| 1993 | 33,293 | 16,153 | 127,576 | 1,930 | 20,597 | 199,549 |
| 1994 | 12,916 | 14,078 | 70,839 | 2,475 | 22,476 | 122,784 |
| 1995 | 138 | 6,263 | 62,173 | 9,158 | 20,790 | 98,522 |
| 1996 | 2 | 9,591 | 89,589 | 6,749 | 17,781 | 123,712 |
| 1997 | 908 | 28,342 | 56,332 | 4,180 | 29,497 | 119,259 |
| 1998 | 105 | 6,779 | 20,923 | 22,709 | 18,926 | 69,442 |
| 1999 | 80 | 3,906 | 43,588 | 10,071 | 28,226 | 85,871 |
| 2000 | 270 | 5,584 | 32,750 | 2,078 | 26,213 | 66,895 |
| 2001 | 0 | 4,301 | 31,259 | 23,729 | 28,460 | 87,749 |
| 2002 | 506 | 8,980 | 52,979 | 21,400 | 27,774 | 111,639 |
| 2003 | 17 | 12,277 | 19,981 | 20,363 | 29,634 | 82,272 |
| 2004 | 17 | 12,318 | 13,475 | 16,885 ${ }^{4}$ | 41,141 | 89,246 |
| 2005 | 0 | 5,296 | 11,972 | 21,831 | 26,919 | 66,018 |
| 2006 | 0 | 3,372 | 12,181 | 15,143 | 21,733 | 52,429 |

Troll: Areas 13-18 and 29; Net: Areas 14-19, 28 and 29; Sport: Areas 13-18, 19a, 28 and 29
${ }^{1}$ Since 1998, the catch accounting year for troll fisheries was set from October 1-September 30. To make comparisons to previous years more meaningful, the same catch accounting period was applied for years prior to 1998.
${ }^{2}$ Prior to 1990, catch includes catch from Fraser systems only; catch records not available those years from non-Fraser systems.
${ }_{4}^{3}$ No catch records are available for non-Fraser catch prior to 1990.
${ }^{4}$ Underestimate. $\mathrm{NA}=$ not available

Appendix A.7. Canada - Strait of Juan de Fuca Chinook catches, 1975-2006.

| Year | Canada - Strait of Juan de Fuca |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Net | Tidal Sport | Freshwater Sport ${ }^{1}$ | First Nations | Total |
| 1975 | 9,799 | NA | NA | NA | 9,799 |
| 1976 | 13,004 | NA | NA | NA | 13,004 |
| 1977 | 25,344 | NA | NA | NA | 25,344 |
| 1978 | 9,725 | NA | NA | NA | 9,725 |
| 1979 | 8,665 | NA | NA | NA | 8,665 |
| 1980 | 3,438 | 37,900 | NA | NA | 41,338 |
| 1981 | 9,982 | 29,832 | NA | NA | 39,814 |
| 1982 | 7,072 | 30,646 | NA | NA | 37,718 |
| 1983 | 328 | 30,228 | NA | NA | 30,556 |
| 1984 | 6,237 | 24,353 | NA | NA | 30,590 |
| 1985 | 17,164 | 27,843 | NA | NA | 45,007 |
| 1986 | 17,727 | 34,387 | NA | NA | 52,114 |
| 1987 | 6,782 | 24,878 | NA | NA | 31,660 |
| 1988 | 4,473 | 31,233 | NA | NA | 35,706 |
| 1989 | 21,238 | 32,539 | NA | NA | 53,777 |
| 1990 | 7,405 | 30,127 | NA | 42 | 37,574 |
| 1991 | 8,893 | 19,017 | NA | 250 | 28,160 |
| 1992 | 10,023 | 21,090 | NA | 302 | 31,415 |
| 1993 | 2,287 | 13,967 | NA | 317 | 16,571 |
| 1994 | 8,931 | 14,372 | NA | 600 | 23,903 |
| 1995 | 631 | 14,405 | NA | 751 | 15,787 |
| 1996 | 362 | 19,012 | NA | 20 | 19,394 |
| 1997 | 307 | 17,080 | NA | 42 | 17,429 |
| 1998 | 115 | 9,709 | NA | 1,500 | 11,324 |
| 1999 | 128 | 14,808 | NA | 52 | 14,988 |
| 2000 | 100 | 10,973 | NA | 272 | 11,345 |
| 2001 | 0 | 23,463 | NA | 135 | 23,598 |
| 2002 | 0 | 24,084 | NA | NA | 24,084 |
| 2003 | 292 | 26,630 | NA | NA | 26,922 |
| 2004 | 0 | 40,877 | NA | NA | 40.877 |
| 2005 | 153 | 30,480 | NA | NA | 30,633 |
| 2006 | 155 | 26,437 | NA | NA | 26,592 |

Net: Area 20
Sport: Areas 19b and 20
${ }^{1}$ While catch records are poor, in-river sport catch is believed to be small $\mathrm{NA}=$ not available

Appendix A.8. Washington - Strait of Juan de Fuca Chinook catches, 1975-2006.

| Year | Washington - Strait of Juan de Fuca |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Troll | Net | Sport | Total |
| 1975 | 5,752 | 8,048 | 81,681 | 95,481 |
| 1976 | 10,488 | 6,072 | 75,308 | 91,868 |
| 1977 | 8,915 | 14,930 | 53,238 | 77,083 |
| 1978 | 10,006 | 11,224 | 62,299 | 83,529 |
| 1979 | 7,804 | 10,939 | 67,094 | 85,837 |
| 1980 | 10,682 | 11,320 | 56,415 | 78,417 |
| 1981 | 15,638 | 18,541 | 51,352 | 85,531 |
| 1982 | 19,024 | 22,547 | 29,842 | 71,413 |
| 1983 | 18,489 | 16,141 | 58,060 | 92,690 |
| 1984 | 15,650 | 12,120 | 48,003 | 75,773 |
| 1985 | 11,808 | 12,784 | 44,267 | 68,859 |
| 1986 | 30,000 | 17,000 | 69,000 | 116,000 |
| 1987 | 45,000 | 11,000 | 53,000 | 109,000 |
| 1988 | 49,000 | 10,000 | 39,000 | 98,000 |
| 1989 | 65,000 | 10,000 | 52,000 | 127,000 |
| 1990 | 47,162 | 5,294 | 50,903 | 103,359 |
| 1991 | 37,127 | 3,390 | 39,667 | 80,184 |
| 1992 | 31,452 | 927 | 38,438 | 70,817 |
| 1993 | 9,794 | 1,482 | 32,434 | 43,710 |
| 1994 | 3,346 | 5,864 | 1,661 | 10,871 |
| 1995 | 6,397 | 4,769 | 6,349 | 17,515 |
| 1996 | 9,757 | 604 | 4,825 | 15,186 |
| 1997 | 829 | 492 | 12,238 | 13,559 |
| 1998 | 338 | 265 | 2,159 | 2,762 |
| 1999 | 544 | 589 | 1,990 | 3,123 |
| 2000 | 332 | 640 | 1,670 | 2,642 |
| 2001 | 1,974 | 931 | 4,819 | 7,724 |
| 2002 | 1,783 | 1,076 | 2,028 | 4,887 |
| 2003 | 436 | 908 | 5,290 | 6,634 |
| 2004 | 20,627 | 592 | 4,519 | 25,738 |
| 2005 | 5,344 | 175 | 2700 | 8,219 |
| 2006 | 920 | 957 | NA | NA |

Troll: Areas 5 and 6C; Area 4B from Jan. 1 - April 30 and Oct. 1 - Dec. 31
Net: Areas 4B, 5, and 6C
Sport: Areas 5 and 6, 4B Neah Bay "add-on" fishery

Appendix A.9. Washington - San Juan Chinook catches, 1975-2006.

| Year | Washington - San Juans |  |  |  |
| :---: | ---: | ---: | ---: | ---: |
|  | Troll | Net | Sport | Total |
| 1975 | 3 | 90,100 | 31,988 | 122,091 |
| 1976 | 0 | 66,832 | 34,505 | 101,337 |
| 1977 | 62 | 84,316 | 14,049 | 98,427 |
| 1978 | 3 | 87,565 | 15,083 | 102,651 |
| 1979 | 5 | 53,750 | 17,367 | 71,122 |
| 1980 | 0 | 64,338 | 12,231 | 76,569 |
| 1981 | 4 | 50,695 | 9,727 | 60,426 |
| 1982 | 0 | 38,763 | 6,953 | 45,716 |
| 1983 | 2 | 28,497 | 15,166 | 43,665 |
| 1984 | 83 | 33,432 | 25,759 | 59,274 |
| 1985 | 872 | 33,579 | 12,610 | 47,061 |
| 1986 | 0 | 21,000 | 15,000 | 36,000 |
| 1987 | 0 | 29,000 | 14,000 | 43,000 |
| 1988 | 0 | 32,000 | 9,000 | 41,000 |
| 1989 | 1,000 | 16,000 | 9,000 | 26,000 |
| 1990 | 666 | 8,608 | 7,370 | 16,644 |
| 1991 | 135 | 11,753 | 5,115 | 17,003 |
| 1992 | 172 | 14,011 | 6,788 | 20,971 |
| 1993 | 243 | 14,002 | 6,916 | 21,161 |
| 1994 | 73 | 13,908 | 5,795 | 19,776 |
| 1995 | 9 | 5,333 | 7,863 | 13,205 |
| 1996 | 153 | 3,934 | 12,674 | 16,761 |
| 1997 | 29 | 29,593 | 9,155 | 38,777 |
| 1998 | 376 | 3,804 | 3,069 | 7,249 |
| 1999 | 114 | 3 | 3,421 | 3,538 |
| 2000 | 22 | 1,091 | 4,447 | 5,560 |
| 2001 | 0 | 9 | 2,231 | 7,522 |

Troll: Areas 6, 6A, 7, and 7A
Net: Areas 6, 6A, 7 and 7A
Sport: Area 7
$\mathrm{NA}=$ not available

Appendix A.10. Washington - Other Puget Sound Chinook catches, 1975-2006.

| Year | Washington - Other Puget Sound |  |  |
| :---: | ---: | ---: | ---: |
|  | Net | Sport | Total |
| 1975 | 131,982 | 173,086 | 305,068 |
| 1976 | 141,281 | 151,246 | 292,527 |
| 1977 | 145,470 | 97,761 | 243,231 |
| 1978 | 150,298 | 116,979 | 267,277 |
| 1979 | 128,073 | 156,402 | 284,475 |
| 1980 | 171,516 | 142,799 | 314,315 |
| 1981 | 145,152 | 106,048 | 251,200 |
| 1982 | 149,274 | 85,703 | 234,977 |
| 1983 | 134,492 | 123,752 | 258,244 |
| 1984 | 180,248 | 102,740 | 282,988 |
| 1985 | 184,907 | 92,603 | 277,510 |
| 1986 | 153,000 | 88,000 | 241,000 |
| 1987 | 127,000 | 59,000 | 186,000 |
| 1988 | 133,000 | 63,000 | 196,000 |
| 1989 | 156,000 | 75,000 | 231,000 |
| 1990 | 179,593 | 71,000 | 250,593 |
| 1991 | 89,495 | 48,859 | 138,354 |
| 1992 | 63,460 | 51,656 | 115,116 |
| 1993 | 54,968 | 41,034 | 96,002 |
| 1994 | 63,577 | 44,181 | 107,758 |
| 1995 | 63,593 | 61,509 | 125,102 |
| 1996 | 61,658 | 58,538 | 120,196 |
| 1997 | 47,522 | 43,961 | 91,483 |
| 1998 | 50,915 | 30,016 | 80,931 |
| 1999 | 91,947 | 34,116 | 126,063 |
| 2000 | 79,494 | 29,328 | 108,822 |
| 2001 | 123,266 | 40,170 | 163,436 |
| 2002 | 108,566 | 35,031 | 143,597 |
| 2003 | 86,206 | 32,210 | 118,416 |
| 2004 | 69,211 | 22,650 | 91,861 |
| 2005 | 77,878 | 30,760 | 108,638 |
| 2006 | 104,670 | NA | NA |
|  | 209 | $-83 F$ |  |

Net: Areas 6B, 6D, 7B, 7C, and 7E; Areas 8-13 (including all sub-areas); Areas 74C - 83F Sport: Areas 8-13 and all Puget Sound Rivers NA=not available

Appendix A.11. Washington - Inside Coastal Chinook catches, 1975-2006.

| Year | Washington - Inside Coastal |  |  |
| :---: | ---: | ---: | ---: |
|  | Net | Sport | Total |
| 1975 | 34,859 | 1,716 | 36,575 |
| 1976 | 51,995 | 2,219 | 54,214 |
| 1977 | 72,467 | 2,043 | 74,510 |
| 1978 | 32,662 | 3,399 | 36,061 |
| 1979 | 36,501 | 2,199 | 38,700 |
| 1980 | 47,681 | 1,476 | 49,157 |
| 1981 | 36,880 | 786 | 37,666 |
| 1982 | 33,271 | 1,114 | 34,385 |
| 1983 | 16,210 | 1,452 | 17,662 |
| 1984 | 16,239 | 1,319 | 17,558 |
| 1985 | 25,162 | 1,955 | 27,117 |
| 1986 | 29,000 | 3,000 | 32,000 |
| 1987 | 51,000 | 3,000 | 54,000 |
| 1988 | 74,000 | 7,000 | 81,000 |
| 1989 | 85,000 | 6,000 | 91,000 |
| 1990 | 57,770 | 5,000 | 62,770 |
| 1991 | 54,397 | 6,070 | 60,467 |
| 1992 | 64,223 | 6,577 | 70,800 |
| 1993 | 59,285 | 9,180 | 68,465 |
| 1994 | 46,059 | 7,454 | 53,513 |
| 1995 | 46,490 | 9,881 | 56,371 |
| 1996 | 55,408 | 12,059 | 67,467 |
| 1997 | 28,269 | 6,619 | 34,888 |
| 1998 | 20,266 | 6,569 | 26,835 |
| 1999 | 11,400 | 3,165 | 13,565 |
| 2000 | 15,660 | 3,179 | 18,839 |
| 2001 | 19,480 | 8,645 | 28,125 |
| 2002 | 23,372 | 6,038 | 29,410 |
| 2003 | 18,443 | 6,075 | 24,518 |
| 2004 | 21,965 | 12,088 | 34,053 |
| 2005 | 20,668 | 7,051 | 27,719 |
| 2006 | 29,770 | NA | NA |
|  |  |  |  |

Net: Areas 2A-2M; Areas 72B-73H
Sport: All coastal rivers, Area 2.1, and Area 2.2 (when Area 2 is open)
NA=not available

Appendix A.12. Washington/Oregon North of Cape Falcon Chinook catches, 1975-2006.

| Year | Washington/Oregon North of Cape Falcon |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Troll | Net | Sport | Total |
| 1975 | 268,971 | 1,212 | 265,785 | 535,968 |
| 1976 | 371,239 | 203 | 215,319 | 586,761 |
| 1977 | 244,491 | 4 | 197,563 | 442,058 |
| 1978 | 150,673 | 4 | 104,306 | 254,983 |
| 1979 | 133,035 | 3 | 84,977 | 218,015 |
| 1980 | 125,709 | 1,215 | 59,099 | 186,023 |
| 1981 | 109,519 | 209 | 96,151 | 205,879 |
| 1982 | 154,720 | 267 | 114,952 | 269,939 |
| 1983 | 63,584 | 62 | 51,789 | 115,435 |
| 1984 | 15,392 | 0 | 6,980 | 22,372 |
| 1985 | 55,408 | 493 | 30,189 | 86,090 |
| 1986 | 52,000 | 0 | 23,000 | 75,000 |
| 1987 | 81,000 | 4,000 | 44,000 | 129,000 |
| 1988 | 108,000 | 3,000 | 19,000 | 130,000 |
| 1989 | 74,600 | 1,000 | 20,900 | 96,500 |
| 1990 | 65,800 | 0 | 32,900 | 98,700 |
| 1991 | 51,600 | 0 | 13,300 | 64,900 |
| 1992 | 69,000 | 0 | 18,900 | 87,900 |
| 1993 | 55,900 | 0 | 13,600 | 69,500 |
| 1994 | 4,500 | 0 | 0 | 4,500 |
| 1995 | 9,500 | 0 | 600 | 10,100 |
| 1996 | 12,300 | 0 | 200 | 12,500 |
| 1997 | 20,500 | 0 | 4,100 | 24,600 |
| 1998 | 20,615 | 0 | 2,292 | 22,907 |
| 1999 | 44,923 | 0 | 10,821 | 55,744 |
| 2000 | 20,152 | 0 | 9,242 | 29,394 |
| 2001 | 54,163 | 0 | 25,592 | 79,755 |
| 2002 | 106,462 | 0 | 60,575 | 167,037 |
| 2003 | 101,758 | 0 | 36,513 | 138,271 |
| 2004 | 88,225 | 0 | 27,090 | 115,315 |
| 2005 | 87,126 | 0 | 40,004 | 127,130 |
| 2006 | 57,288 | 0 | 11,176 | 68,464 |

Troll: OR Area 2; WA Areas 1, 2, 3 and 4: Area 4B from May 1 through Sept. 30 (during PFMC management)
Net: WA Areas 1, 2, 3, 4, 4A
Sport: OR Area 2; WA Areas 1, 1.1, 1.2, 2, 3, 4 and 2.2 (when Area 2 is open)

Appendix A.13. Columbia River Chinook catches, 1975-2006.

| Year | Columbia River ${ }^{1}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Non-treaty net | Treaty Indian | Sport | Total |
| 1975 | 323,000 |  | 34,870 | 357,870 |
| 1976 | 288,400 |  | 42,527 | 330,927 |
| 1977 | 255,600 |  | 58,838 | 314,438 |
| 1978 | 189,100 |  | 56,582 | 245,682 |
| 1979 | 169,691 | 7,865 | 38,700 | 216,256 |
| 1980 | 113,569 | 35,604 | 14,860 | 164,033 |
| 1981 | 35,881 | 54,190 | 20,882 | 110,953 |
| 1982 | 94,289 | 65,447 | 30,984 | 190,720 |
| 1983 | 32,877 | 32,490 | 22,709 | 88,076 |
| 1984 | 73,481 | 61,112 | 43,498 | 178,091 |
| 1985 | 74,982 | 78,959 | 45,204 | 199,145 |
| 1986 | 168,038 | 116,777 | 57,468 | 342,283 |
| 1987 | 340,931 | 152,325 | 105,603 | 598,860 |
| 1988 | 341,114 | 163,295 | 97,922 | 602,331 |
| 1989 | 146,739 | 142,765 | 88,136 | 377,640 |
| 1990 | 63,602 | 91,677 | 78,838 | 234,117 |
| 1991 | 53,935 | 58,855 | 78,953 | 191,743 |
| 1992 | 24,063 | 35,072 | 56,581 | 115,716 |
| 1993 | 19,929 | 40,318 | 62,326 | 122,572 |
| 1994 | 2,773 | 36,141 | 29,568 | 68,482 |
| 1995 | 777 | 42,804 | 36,551 | 80,132 |
| 1996 | 17,774 | 67,040 | 32,092 | 116,906 |
| 1997 | 11,268 | 73,569 | 46,138 | 130,975 |
| 1998 | 6,464 | 47,579 | 34,571 | 88,614 |
| 1999 | 10,115 | 80,368 | 45,499 | 135,982 |
| 2000 | 21,414 | 62,954 | 48,202 | 132,570 |
| 2001 | 42,137 | 167,113 | 137,849 | 347,099 |
| 2002 | 71,969 | 166,175 | 146,937 | 385,081 |
| 2003 | 77,458 | 146,138 | 143,258 | 366,854 |
| 2004 | 79,141 | 152,456 | 146,081 | 377,678 |
| 2005 | 45,281 | 127,688 | 90,605 | 263,574 |
| 2006 | 49,264 | 107,765 | 44,077 | 201,106 |

${ }^{1}$ The historical time series of catches in this year's report has changed from last year's report. Catches after 1980 have been broken out into non-Treaty net and Treaty Indian due to the inability to separate commercial vs. non-commercial. Catches from 1975-1980 are consistent for sport and total with the later times series.

Appendix A.14. Oregon Chinook catches, 1975-2006.

| Year | Oregon |  |  |
| :---: | :---: | :---: | :---: |
|  | Troll | Sport | Total |
| 1975 | 300 | 19,000 | 19,300 |
| 1976 | 1,000 | 21,000 | 22,000 |
| 1977 | 3,000 | 34,000 | 37,000 |
| 1978 | 1,000 | 37,000 | 38,000 |
| 1979 | 800 | 31,000 | 31,800 |
| 1980 | 300 | 22,000 | 22,300 |
| 1981 | 300 | 28,000 | 28,300 |
| 1982 | 500 | 23,000 | 23,500 |
| 1983 | 700 | 19,000 | 19,700 |
| 1984 | 1,088 | 27,000 | 28,088 |
| 1985 | 1,700 | 25,000 | 26,700 |
| 1986 | 1,900 | 33,000 | 34,900 |
| 1987 | 3,600 | 46,000 | 49,600 |
| 1988 | 4,800 | 49,000 | 53,800 |
| 1989 | 4,500 | 45,000 | 49,500 |
| 1990 | 0 | 38,000 | 38,000 |
| 1991 | 0 | 44,500 | 44,500 |
| 1992 | 384 | 39,000 | 39,384 |
| 1993 | 649 | 52,000 | 52,649 |
| 1994 | 371 | 33,590 | 33,961 |
| 1995 | 206 | 48,366 | 48,572 |
| 1996 | 989 | 56,202 | 57,191 |
| 1997 | 513 | 37,659 | 38,172 |
| 1998 | 858 | 37,990 | 38,848 |
| 1999 | 1,233 | 30,735 | 31,968 |
| 2000 | 1,860 | 33,262 | 35,122 |
| 2001 | 1,184 | 54,988 | 56,172 |
| 2002 | 1,633 | 61,085 | 62,718 |
| 2003 | 1,459 | 67,939 | 69,398 |
| 2004 | 2,258 | 71,726 | 73,984 |
| 2005 | 1,956 | NA | NA |
| 2006 | 1,884 | NA | NA |

Troll: Late season off Elk River mouth.
Sport: Estuary and inland.
$\mathrm{NA}=$ not available.

# Appendix B. Escapements and terminal runs of PSC Chinook Technical Committee wild Chinook escapement indicator stocks, 19752006. 

PageAppendix B.1. Southeast Alaska and Transboundary river escapements and terminal runs ofPSC Chinook Technical Committee wild Chinook escapement indicator stocks, 1975-2006.114
Appendix B.2. Canadian escapements and terminal runs of PSC Chinook Technical Committee wild Chinook escapement indicator stocks, 1975-2006. ..... 116
Appendix B.3. Puget Sound escapements and terminal runs of PSC Chinook Technical Committee wild Chinook escapement indicator stocks, 1975-2006. ..... 118
Appendix B.4. Washington Coast escapements and terminal runs of PSC Chinook Technical Committee wild Chinook escapement indicator stocks, 1976-2006. ..... 119
Appendix B.5. Columbia River escapements and terminal runs of PSC CTC wild Chinook escapement indicator stocks, 1975-2006 ..... 120
Appendix B.6. Oregon Coastal escapements as estimated via traditional habitat expansion methods and terminal runs of PSC Chinook Technical Committee wild Chinook salmon escapement indicator stocks, 1975-2006. ..... 121
Appendix B.7. Oregon Coastal escapements and terminal runs as estimated by mark-recapturecalibrated indexes of PSC Chinook Technical Committee wild Chinook salmonescapement indicator stocks, 1975-2006.122

Appendix B.1. Southeast Alaska and Transboundary river escapements and terminal runs of PSC Chinook Technical Committee wild Chinook escapement indicator stocks, 1975-2006.

| Southeast Alaska |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | Situk |  | King Salmon esc. | Andrew esc. | Blossom Index esc. | Keta Index esc. |
| 1975 |  |  | 62 | 520 | 146 | 203 |
| 1976 | 1,421 | 3,184 | 96 | 404 | 68 | 84 |
| 1977 | 1,732 | 2,981 | 199 | 456 | 112 | 230 |
| 1978 | 808 | 1,745 | 84 | 388 | 143 | 392 |
| 1979 | 1,284 | 3,089 | 113 | 327 | 54 | 426 |
| 1980 | 905 | 2,504 | 104 | 282 | 89 | 192 |
| 1981 | 702 | 1,857 | 139 | 536 | 159 | 329 |
| 1982 | 434 | 949 | 354 | 672 | 345 | 754 |
| 1983 | 592 | 1,290 | 245 | 366 | 589 | 822 |
| 1984 | 1,726 | 2,948 | 265 | 389 | 508 | 610 |
| 1985 | 1,521 | 2,916 | 175 | 640 | 709 | 624 |
| 1986 | 2,067 | 2,873 | 255 | 1,416 | 1,278 | 690 |
| 1987 | 1,379 | 2,874 | 196 | 1,576 | 1,349 | 768 |
| 1988 | 868 | 1,596 | 208 | 1,128 | 384 | 575 |
| 1989 | 637 | 1,377 | 240 | 1,060 | 344 | 1,155 |
| 1990 | 628 | 1,643 | 179 | 1,328 | 257 | 606 |
| 1991 | 889 | 2,095 | 134 | 800 | 239 | 272 |
| 1992 | 1,595 | 3,819 | 99 | 1,556 | 150 | 217 |
| 1993 | 952 | 2,558 | 259 | 2,120 | 303 | 362 |
| 1994 | 1,271 | 6,085 | 207 | 1,144 | 161 | 306 |
| 1995 | 4,330 | 14,987 | 144 | 686 | 217 | 175 |
| 1996 | 1,800 | 8,100 | 284 | 670 | 220 | 297 |
| 1997 | 1,878 | 6,601 | 357 | 586 | 132 | 246 |
| 1998 | 924 | 5,420 | 132 | 974 | 91 | 180 |
| 1999 | 1,461 | 7,208 | 300 | 1,210 | 212 | 276 |
| 2000 | 1,785 | 4,941 | 137 | 1,380 | 231 | 300 |
| 2001 | 656 | 2,317 | 147 | 2,108 | 204 | 343 |
| 2002 | 1,000 | 3,017 | 153 | 1,752 | 224 | 411 |
| 2003 | 2,117 | 6,280 | 117 | 1,190 | 203 | 322 |
| 2004 | 748 | 3,275 | 134 | 3,068 | 333 | 376 |
| 2005 | 613 | 1,171 | 141 | 2,030 | 445 | 497 |
| 2006 | 749 |  | 149 | 2178 | 339 | 747 |
| Goal Lower | 500 |  | 120 | 650 | 250 | 250 |
| Goal Upper | 1,000 |  | 240 | 1,500 | 500 | 500 |

(continued)

Appendix B.1. (Page 2 of 2).

| Transboundary Rivers |  |  |  |  |  |  |  |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: | :---: |
| Year | Alsek <br> (Klukshu) <br> Index esc. | Taku <br> esc. | Stikine <br> esc. | Unuk <br> Index <br> esc. | Chickamin <br> Index <br> esc. | Chilkat <br> esc. |  |
| 1975 |  | 12,920 | 7,571 |  | 370 |  |  |
| 1976 | 1,064 | 24,582 | 5,723 |  | 157 |  |  |
| 1977 | 2,698 | 29,496 | 11,445 | 974 | 363 |  |  |
| 1978 | 2,530 | 17,124 | 6,835 | 1,106 | 308 |  |  |
| 1979 | 3,104 | 21,617 | 12,610 | 576 | 239 |  |  |
| 1980 | 2,487 | 39,239 | 30,573 | 1,016 | 445 |  |  |
| 1981 | 1,963 | 49,559 | 36,057 | 731 | 384 |  |  |
| 1982 | 1,969 | 23,847 | 40,488 | 1,351 | 571 |  |  |
| 1983 | 2,237 | 9,795 | 6,424 | 1,125 | 599 |  |  |
| 1984 | 1,572 | 20,778 | 13,995 | 1,837 | 1,102 |  |  |
| 1985 | 1,283 | 35,916 | 16,037 | 1,184 | 956 |  |  |
| 1986 | 2,607 | 38,110 | 14,889 | 2,126 | 1,745 |  |  |
| 1987 | 2,491 | 28,935 | 24,632 | 1,973 | 975 |  |  |
| 1988 | 1,994 | 44,524 | 37,554 | 1,746 | 786 |  |  |
| 1989 | 2,202 | 40,329 | 24,282 | 1,149 | 934 |  |  |
| 1990 | 1,698 | 52,143 | 22,619 | 591 | 564 |  |  |
| 1991 | 2,223 | 51,645 | 23,206 | 655 | 487 | 5,897 |  |
| 1992 | 1,243 | 55,889 | 34,129 | 874 | 346 | 5,284 |  |
| 1993 | 3,221 | 66,125 | 58,962 | 1,068 | 389 | 4,472 |  |
| 1994 | 3,620 | 48,368 | 33,094 | 711 | 388 | 6,795 |  |
| 1995 | 5,397 | 33,805 | 16,784 | 722 | 356 | 3,790 |  |
| 1996 | 3,382 | 79,019 | 28,949 | 1,167 | 422 | 4,920 |  |
| 1997 | 2,829 | 114,938 | 26,996 | 636 | 272 | 8,100 |  |
| 1998 | 1,347 | 31,039 | 25,968 | 840 | 391 | 3,675 |  |
| 1999 | 2,166 | 19,734 | 19,947 | 680 | 492 | 2,271 |  |
| 2000 | 1,321 | 30,529 | 27,531 | 1,341 | 801 | 2,035 |  |
| 2001 | 1,738 | 42,980 | 63,523 | 2,019 | 1,010 | 4,517 |  |
| 2002 | 2,141 | 52,409 | 50,875 | 897 | 1,013 | 4,051 |  |
| 2003 | 1,661 | 36,435 | 46,824 | 1,121 | 964 | 5,657 |  |
| 2004 | 2,455 | 68,199 | 48,900 | 1,008 | 798 | 3,422 |  |
| 2005 | 963 | 39,007 | 44,033 | 929 | 924 | 3,366 |  |
| 2006 | 561 | 39,632 | 20,600 | 679 | 1,330 | 3,027 |  |
| Goal Lower | 1,100 | 30,000 | 14,000 | 650 | 450 | 1,750 |  |
| Goal Upper | 2,300 | 55,000 | 28,000 | 1,400 | 900 | 3,500 |  |
|  |  |  |  |  |  |  |  |

Appendix B.2. Canadian escapements and terminal runs of PSC Chinook Technical Committee wild Chinook escapement indicator stocks, 1975-2006.

| Year | Northern B.C. |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Area 1 <br> Yakoun esc. | Above GW ${ }^{1}$ | Area $3^{1}$ <br> Nass <br> Total esc. | t. run | Area <br> Skee esc. | t. run | Area 8 <br> Dean <br> Index | Area 9 <br> Rivers <br> Inlet | Area 10 <br> Smith Inlet |
| 1975 | 1,500 |  | 14,895 | 17,874 | 20,319 |  |  | 3,280 | 960 |
| 1976 | 700 |  | 13,819 | 16,583 | 13,078 |  |  | 1,640 | 1,000 |
| 1977 | 800 | 13,688 | 14,288 | 18,410 | 29,018 | 39,606 |  | 2,225 | 1,050 |
| 1978 | 600 | 15,485 | 16,885 | 21,807 | 22,661 | 35,055 | 3,500 | 2,800 | 2,100 |
| 1979 | 400 | 11,253 | 12,783 | 16,229 | 18,488 | 28,166 | 4,000 | 2,150 | 500 |
| 1980 | 600 | 13,476 | 14,855 | 18,744 | 23,429 | 38,626 | 2,000 | 2,325 | 1,200 |
| 1981 | 750 | 12,625 | 13,925 | 17,606 | 24,523 | 42,018 | 3,500 | 3,175 | 1,020 |
| 1982 | 1,400 | 7,959 | 10,359 | 13,287 | 17,092 | 35,185 |  | 2,250 | 1,500 |
| 1983 | 600 | 13,252 | 16,301 | 20,516 | 23,562 | 39,510 | 500 | 3,320 | 1,050 |
| 1984 | 300 | 20,967 | 24,967 | 31,408 | 37,598 | 53,516 | 4,500 | 1,400 | 770 |
| 1985 | 1,500 | 17,782 | 19,694 | 24,768 | 53,599 | 76,544 | 4,000 | 3,371 | 230 |
| 1986 | 500 | 36,523 | 38,123 | 47,967 | 59,968 | 87,566 | 3,300 | 7,623 | 532 |
| 1987 | 2,000 | 19,540 | 20,986 | 26,568 | 59,120 | 76,349 | 1,144 | 5,239 | 1,050 |
| 1988 | 2,000 | 15,345 | 16,715 | 21,094 | 68,705 | 102,563 | 1,300 | 4,429 | 1,050 |
| 1989 | 2,800 | 28,133 | 29,175 | 36,594 | 57,202 | 83,439 | 2,300 | 3,265 | 225 |
| 1990 | 2,000 | 24,051 | 26,551 | 33,384 | 55,976 | 89,447 | 2,000 | 4,039 | 510 |
| 1991 | 1,900 | 6,907 | 8,259 | 13,136 | 52,753 | 79,343 | 2,400 | 6,635 | 500 |
| 1992 | 2,000 | 16,808 | 17,408 | 25,405 | 63,392 | 92,184 | 3,000 | 7,500 | 500 |
| 1993 | 1,000 | 24,814 | 26,508 | 36,678 | 66,977 | 96,018 | 700 | 10,000 | 500 |
| 1994 | 2,000 | 21,169 | 25,689 | 32,864 | 48,712 | 68,127 | 1,300 | 3,500 | 700 |
| 1995 | 1,500 | 7,844 | 8,776 | 16,187 | 34,390 | 48,351 | 1,100 | 3,196 | 400 |
| 1996 | 3,000 | 21,842 | 22,712 | 30,889 | 73,684 | 96,453 | 2,000 | 3,000 | 250 |
| 1997 | 2,500 | 18,702 | 20,584 | 27,658 | 42,539 | 65,350 | 1,400 | 4,980 | 100 |
| 1998 | 3,000 | 23,213 | 25,361 | 34,922 | 46,744 | 65,167 | 3,000 | 5,367 | 1,100 |
| 1999 | 3,200 | 11,544 | 13,118 | 22,310 | 43,775 | 70,993 | 1,800 | 2,739 | 500 |
| 2000 | 3,600 | 18,912 | 20,565 | 31,159 | 51,804 | 77,320 | 1,200 | 6,700 | 500 |
| 2001 | 3,500 | 29,687 | 31,915 | 44,595 | 81,504 | 112,346 | 3,795 | 5,062 | 300 |
| 2002 | 3,000 | 13,773 | 15,382 | 21,528 | 44,771 | 63,069 | 3,731 | 5,031 | $-2$ |
| 2003 | 4,000 | 26,940 | 28,330 | 36,503 | 56,758 | 82,410 | 3,700 | 1,900 | -2 |
| 2004 | 4,500 | 15,912 | 18,185 | 25,137 | 44,243 | 61,065 | 3,500 | 3,950 | -2 |
| 2005 | 5,000 | 14,901 | 16,595 | 24,067 | 29,067 | 39,278 | 2,200 | 5,585 | $-{ }^{2}$ |
| 2006 | 5,000 | 24,725 | 27,743 | 37,098 | 33,094 | 43,689 | 3,700 | 3,930 | $\_^{2}$ |

${ }^{1}$ GW refers to Gitwinksihlkw, the location of the lower fish wheels on the Nass River used to capture Chinook for the mark-recapture estimate.
${ }^{2}$ The Docee River was dropped as an escapement indicator due to an inability to obtain reliable escapement estimates.
(

Appendix B.2. (Page 2 of 2 ).

| Year | Southern B.C. |  |  |  | Fraser River |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | W. Coast Vancouver Island | Lower <br> Strait of Georgia |  | Upper <br> Strait <br> of Georgia <br> esc. | Fraser <br> Spring <br> Age 1.2 | Fraser Spring Age 1.3 | Fraser <br> Summer <br> Age 0.3 | Fraser Summer Age 1.3 | Fraser Spr/sum | Ha | on |
|  | esc. | esc. | t. run |  | esc. | esc. | esc. | esc. | t. run | esc. | t. run |
| 1975 | 800 | 5,475 | 6,390 |  | 7,179 | 8,184 | 26,875 | 16,875 | 119,081 |  |  |
| 1976 | 1,075 | 4,340 | 5,390 |  | 4,600 | 10,307 | 4,925 | 13,630 | 98,691 |  |  |
| 1977 | 1,835 | 6,530 | 7,590 | 3,880 | 3,675 | 13,261 | 19,600 | 17,240 | 132,553 |  |  |
| 1978 | 2,750 | 6,495 | 7,035 | 6,150 | 4,305 | 15,725 | 16,700 | 19,200 | 109,119 |  |  |
| 1979 | 2,048 | 10,686 | 11,209 | 4,127 | 2,770 | 14,985 | 18,275 | 10,205 | 101,252 |  |  |
| 1980 | 5,974 | 8,819 | 10,519 | 1,367 | 6,255 | 16,521 | 8,350 | 13,625 | 71,504 |  |  |
| 1981 | 5,050 | 6,007 | 7,607 | 1,945 | 2,975 | 12,274 | 13,120 | 12,202 | 62,668 |  |  |
| 1982 | 6,812 | 6,186 | 6,657 | 3,260 | 5,510 | 15,010 | 6,850 | 15,088 | 85,140 |  |  |
| 1983 | 2,700 | 6,582 | 6,862 | 3,770 | 2,641 | 24,225 | 9,500 | 16,604 | 72,526 |  |  |
| 1984 | 3,862 | 8,456 | 8,861 | 4,600 | 6,380 | 30,370 | 15,522 | 13,595 | 95,681 | 120,837 | 131,740 |
| 1985 | 3,700 | 4,589 | 5,242 | 4,600 | 9,477 | 43,168 | 20,375 | 19,099 | 121,941 | 174,778 | 181,367 |
| 1986 | 2,760 | 3,105 | 3,776 | 1,630 | 10,275 | 48,446 | 22,460 | 32,505 | 144,617 | 162,596 | 177,662 |
| 1987 | 2,570 | 3,276 | 3,781 | 6,450 | 5,049 | 48,271 | 22,404 | 27,646 | 128,699 | 79,038 | 81,799 |
| 1988 | 4,560 | 7,957 | 8,638 | 3,300 | 4,003 | 41,783 | 29,567 | 32,066 | 129,587 | 35,116 | 38,285 |
| 1989 | 6,220 | 7,087 | 8,142 | 5,550 | 6,126 | 31,994 | 24,200 | 16,200 | 106,843 | 74,685 | 76,294 |
| 1990 | 3,660 | 7,023 | 7,627 | 2,320 | 3,225 | 41,560 | 25,425 | 33,747 | 135,124 | 177,375 | 180,837 |
| 1991 | 5,060 | 8,343 | 8,613 | 3,340 | 3,495 | 27,296 | 26,250 | 28,097 | 116,555 | 90,638 | 93,363 |
| 1992 | 4,830 | 11,377 | 11,637 | 5,268 | 5,937 | 33,038 | 32,200 | 38,011 | 130,249 | 130,411 | 132,042 |
| 1993 | 4,530 | 8,435 | 8,730 | 1,574 | 7,870 | 32,796 | 13,300 | 21,385 | 110,237 | 118,998 | 120,600 |
| 1994 | 4,080 | 7,479 | 7,824 | 1,237 | 10,696 | 51,655 | 25,350 | 23,657 | 145,303 | 98,334 | 100,839 |
| 1995 | 3,710 | 18,749 | 19,282 | 4,227 | 9,670 | 45,237 | 20,550 | 26,371 | 134,478 | 28,616 | 29,840 |
| 1996 | 6,026 | 16,465 | 17,275 | 3,600 | 20,726 | 38,398 | 50,900 | 43,142 | 185,559 | 37,394 | 38,568 |
| 1997 | 7,197 | 11,745 | 11,936 | 5,266 | 9,878 | 44,373 | 49,250 | 40,882 | 202,795 | 70,514 | 72,061 |
| 1998 | 11,643 | 7,658 | 8,731 | 10,350 | 3,003 | 37,862 | 68,033 | 36,750 | 169,333 | 188,425 | 189,103 |
| 1999 | 10,186 | 8,481 | 8,714 | 9,500 | 8,751 | 20,740 | 53,204 | 25,138 | 140,939 | 107,016 | 107,884 |
| 2000 | 4,675 | 8,084 | 8,223 | 12,850 | 11,731 | 26,773 | 45,161 | 25,869 | 155,209 | 77,035 | 78,098 |
| 2001 | 2,737 | 7,463 | 8,569 | 9,885 | 10,607 | 31,512 | 74,132 | 33,980 | 177,008 | 73,134 | 74,419 |
| 2002 | 4,036 | 5,862 | 7,812 | 12,865 | 16,423 | 42,408 | 85,132 | 34,886 | 221,020 | 89,968 | 91,122 |
| 2003 | 4,456 | 5,028 | 5,903 | 13,978 | 17,137 | 45,441 | 70,164 | 44,451 | 231,689 | 247,121 | 251,453 |
| 2004 | 8,491 | 3,271 | 3,641 | 13,365 | 12,156 | 31,614 | 53,764 | 30,980 | 194,440 | 135,895 | 138,890 |
| 2005 | 3,969 | 3,503 | 4,870 | 13,365 | 3,898 | 21,458 | 88,329 | 18,586 | 172,281 | 86,730 | 92,993 |
| 2006 | 4,231 | 3,910 | 4,880 | 961 | 6,642 | 21,590 | 149,928 | 20,565 | 242,769 | 50,942 | 57,965 |
| Goal LL Goal UL |  |  |  |  |  |  |  |  |  | $\begin{aligned} & \hline 75,100 \\ & 98,500 \end{aligned}$ |  |

Appendix B.3. Puget Sound escapements and terminal runs of PSC Chinook Technical Committee wild Chinook escapement indicator stocks, 1975-2006.

| Year | Puget Sound |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Skagit Spring |  | Skagit Sum/fall |  | Stillaguamish esc. t. run |  | Snohomish |  | Green |  | Nooksack Spring esc. |  | Lake Washington Fall |  |
|  | esc. | t. run | esc. | t. run |  |  | esc. | t. run | esc. | t. run | N. Fork | S. Fork | esc. | t. run |
| 1975 | 627 | 627 | 11,320 | 24,625 | 1,198 | 1,635 | 4,485 | 6,123 | 3,394 | 6,238 |  |  | 656 | 881 |
| 1976 | 633 | 633 | 14,120 | 23,306 | 2,140 | 4,002 | 5,315 | 9,889 | 3,140 | 7,732 |  |  | 719 | 759 |
| 1977 | 520 | 520 | 9,218 | 17,994 | 1,475 | 2,549 | 5,565 | 9,618 | 3,804 | 5,366 |  |  | 675 | 728 |
| 1978 | 932 | 932 | 13,075 | 20,030 | 1,232 | 1,959 | 7,931 | 12,591 | 3,304 | 4,349 |  |  | 890 | 1,202 |
| 1979 | 818 | 818 | 13,306 | 21,443 | 1,042 | 2,366 | 5,903 | 12,706 | 9,704 | 10,730 |  |  | 1,289 | 1,430 |
| 1980 | 1,408 | 1,408 | 20,058 | 28,938 | 821 | 2,647 | 6460 | 16,688 | 7743 | 10,608 |  |  | 1360 | 1,431 |
| 1981 | 1,045 | 1,045 | 8,283 | 19,675 | 630 | 2,783 | 3368 | 8,968 | 3606 | 4,912 |  |  | 721 | 792 |
| 1982 | 753 | 753 | 9,910 | 20,722 | 773 | 3,058 | 4379 | 8,470 | 1840 | 3,850 |  |  | 885 | 1,148 |
| 1983 | 554 | 554 | 8,723 | 14,671 | 387 | 925 | 4549 | 10,386 | 3679 | 13,290 |  |  | 1332 | 2,124 |
| 1984 | 696 | 696 | 12,628 | 15,005 | 374 | 883 | 3762 | 8,480 | 3353 | 5,381 | 45 | 188 | 1252 | 3,436 |
| 1985 | 2,634 | 2,634 | 16,002 | 25,075 | 1,223 | 2,455 | 4,873 | 9,005 | 2,908 | 7,444 | 258 | 445 | 949 | 2,305 |
| 1986 | 1,922 | 1,922 | 17,908 | 21,585 | 1,277 | 2,416 | 4,534 | 8,267 | 4,792 | 5,784 | 226 | 170 | 1,470 | 2,419 |
| 1987 | 1,745 | 1,745 | 9,409 | 13,037 | 1,321 | 1,906 | 4,689 | 6,670 | 10,338 | 11,724 | 181 | 248 | 2,038 | 4,124 |
| 1988 | 1,743 | 1,743 | 11,468 | 14,647 | 726 | 1,185 | 4,513 | 7,389 | 7,994 | 9,207 | 456 | 233 | 792 | 2,373 |
| 1989 | 1,400 | 1,809 | 6,684 | 12,787 | 811 | 1,642 | 3,138 | 6,142 | 11,512 | 15,000 | 303 | 606 | 1,011 | 1,688 |
| 1990 | 1,511 | 1,546 | 16,792 | 19,172 | 842 | 1,739 | 4,209 | 8,345 | 7,035 | 15,200 | 10 | 142 | 787 | 1,128 |
| 1991 | 1,236 | 1,273 | 5,824 | 8,423 | 1,632 | 2,913 | 2,783 | 4,964 | 10,548 | 14,967 | 108 | 365 | 661 | 1,415 |
| 1992 | 986 | 1,010 | 7,348 | 9,201 | 780 | 1,247 | 2,708 | 4,319 | 5,267 | 9,941 | 498 | 103 | 790 | 1,349 |
| 1993 | 782 | 812 | 5,801 | 6,879 | 928 | 1,299 | 3,866 | 5,602 | 2,476 | 5,202 | 449 | 235 | 245 | 304 |
| 1994 | 470 | 496 | 5,656 | 6,586 | 954 | 1,285 | 3,626 | 4,885 | 4,078 | 7,963 | 45 | 118 | 888 | 891 |
| 1995 | 855 | 887 | 6,985 | 9,209 | 822 | 920 | 3,176 | 5,000 | 7,939 | 9,743 | 230 | 290 | 930 | 944 |
| 1996 | 1,051 | 1,078 | 10,706 | 12,286 | 1,244 | 1,244 | 4,851 | 7,921 | 6,026 | 8,668 | 534 | 203 | 336 | 341 |
| 1997 | 1,041 | 1,064 | 4,951 | 6,134 | 1,156 | 1,167 | 4,292 | 4,334 | 11,800 | 12,097 | 570 | 180 | 294 | 296 |
| 1998 | 1,086 | 1,091 | 14,700 | 14,976 | 1,540 | 1,558 | 6,304 | 6,344 | 9,115 | 10,627 | 368 | 157 | 697 | 697 |
| 1999 | 471 | 476 | 5,002 | 5,249 | 1,098 | 1,101 | 4,799 | 4,817 | 13,173 | 14,595 | 823 | 166 | 778 | 778 |
| 2000 | 1,021 | 1,025 | 17,024 | 17,206 | 1,647 | 1,647 | 6,092 | 8,400 | 10,526 | 16,222 | 1,245 | 284 | 347 | 347 |
| 2001 | 1,856 | 1,866 | 13,868 | 14,081 | 1,312 | 1,351 | 8,164 | 8,395 | 21,402 | 24,594 | 2,209 | 267 | 1,269 | 1,516 |
| 2002 | 1,076 | 1,092 | 19,671 | 19,887 | 1,636 | 1,641 | 7,220 | 7,245 | 14,857 | 16,460 | 3,741 | 289 | 637 | 647 |
| 2003 | 909 | 987 | 9,964 | 10,946 | 1,067 | 1,095 | 6,211 | 6,364 | 10,405 | 12,765 | 2,857 | 204 | 771 | 800 |
| 2004 | 1,622 | 1,622 | 23,750 | 24,241 | 1,506 | 1,531 | 10,606 | 10,780 | 13,991 | 20,631 | 2,064 | 130 | 730 | 773 |
| 2005 | 1,305 | 1,305 | 20,803 | 23,396 | 963 | 991 | 4,484 | 4,611 | 4,089 | 4,708 | 2,047 | 120 | 726 | 786 |
| 2006 | 1,919 | 1,919 | 20,819 | 21,196 | 1,254 | 1,268 | 8,308 | 8,402 | 10,517 | 14,141 | 1,916 | 355 | 1,219 | 1,245 |

Appendix B.4. Washington Coast escapements and terminal runs of PSC Chinook Technical Committee wild Chinook escapement indicator stocks, 1976-2006.

| Year | Washington Coast |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Quillayute <br> Summer <br> esc. $\quad$ t. run <br> 1 百 |  | Quillayute Fall |  | Hoh Spr/Sum |  | $\begin{aligned} & \text { Hoh } \\ & \text { Fall } \end{aligned}$ |  | $\begin{gathered} \hline \text { Hoko } \\ \text { Fall } \end{gathered}$ |  | Queets Spr/Sum |  | $\begin{aligned} & \text { Queets } \\ & \text { Fall } \end{aligned}$ |  | Grays Harbor Spring |  | $\begin{gathered} \text { Grays Harbor } \\ \text { Fall } \end{gathered}$ |  |
|  |  |  | esc. | t. run | esc. | t. run | esc. | t. run |  | t. run | esc. | t. run | esc. | t. run | esc. | t. run | esc. | t. run |
| 1976 | 1,300 | 1,700 |  |  | 600 | 1,300 | 2,500 | 3,100 |  |  | 505 | 737 |  |  | 600 | 1,000 | 1,836 | 10,313 |
| 1977 | 3,800 | 5,300 |  |  | 1,000 | 2,000 | 2,100 | 3,800 |  |  | 732 | 1,155 |  |  | 800 | 1,700 | 5,195 | 14,400 |
| 1978 | 2,300 | 2,700 |  |  | 1,400 | 2,472 | 1,900 | 2,900 |  |  | 1,110 | 1,406 |  |  | 1,000 | 1,600 | 4,555 | 8,372 |
| 1979 | 2,100 | 3,900 |  |  | 1,400 | 2,326 | 1,700 | 2,200 |  |  | 870 | 1,369 |  |  | 400 | 1,100 | 9,381 | 10,101 |
| 1980 | 964 | 1,500 | 6,700 | 7,600 | 800 | 1,079 | 2,200 | 2,800 |  |  | 1,038 | 1,213 | 3,200 | 5,800 | 200 | 600 | 11,656 | 21,639 |
| 1981 | 815 | 1,700 | 5,963 | 7,102 | 1,498 | 2,005 | 3,100 | 4,000 |  |  | 988 | 1,329 | 4,300 | 8,000 | 600 | 900 | 7,577 | 11,915 |
| 1982 | 1,126 | 2,700 | 7,107 | 9,651 | 1,553 | 2,125 | 4,500 | 5,800 |  |  | 781 | 1,244 | 4,100 | 6,200 | 610 | 669 | 5,606 | 13,296 |
| 1983 | 548 | 1,800 | 3,069 | 5,530 | 1,696 | 2,233 | 2,500 | 3,300 |  |  | 1,044 | 1,173 | 2,600 | 3,800 | 800 | 850 | 5,482 | 8,997 |
| 1984 | 618 | 1,000 | 9,128 | 10,447 | 1,430 | 2,005 | 1,900 | 2,600 |  |  | 958 | 1,189 | 3,900 | 5,300 | 1,128 | 1,130 | 21,058 | 22,616 |
| 1985 | 550 | 700 | 6,145 | 8,367 | 978 | 1,353 | 1,725 | 2,720 |  |  | 677 | 886 | 3,702 | 5,153 | 1,157 | 1,159 | 9,537 | 15,153 |
| 1986 | 853 | 1,000 | 10,006 | 13,380 | 1,248 | 1,912 | 4,981 | 6,000 | 801 | 839 | 925 | 1,193 | 7,805 | 8,890 | 1,795 | 1,826 | 13,771 | 21,327 |
| 1987 | 666 | 1,600 | 12,352 | 20,349 | 1,710 | 2,480 | 4,006 | 6,147 | 581 | 606 | 598 | 1,543 | 6,504 | 10,045 | 841 | 1,071 | 11,861 | 30,745 |
| 1988 | 2,599 | 3,943 | 15,168 | 22,115 | 2,605 | 3,708 | 4,128 | 6,873 | 784 | 821 | 1,765 | 2,267 | 8,390 | 11,000 | 3,106 | 3,208 | 28,158 | 37,807 |
| 1989 | 2,407 | 3,472 | 9,951 | 17,260 | 4,697 | 6,820 | 5,148 | 8,682 | 845 | 862 | 2,568 | 3,954 | 8,689 | 11,154 | 2,068 | 2,393 | 25,677 | 57,814 |
| 1990 | 1,483 | 1,840 | 13,711 | 16,914 | 3,886 | 5,294 | 4,236 | 6,327 | 493 | 498 | 1,780 | 2,480 | 10,103 | 12,297 | 1,567 | 1,630 | 16,995 | 37,261 |
| 1991 | 1,188 | 1,500 | 6,292 | 7,631 | 1,078 | 1,693 | 1,420 | 2,628 | 1,008 | 1,024 | 630 | 761 | 4,486 | 5,888 | 1,289 | 1,489 | 14,392 | 30,300 |
| 1992 | 1,009 | 1,271 | 6,342 | 7,750 | 1,018 | 1,443 | 4,003 | 5,139 | 741 | 750 | 375 | 505 | 4,695 | 6,338 | 1,813 | 1,851 | 16,592 | 28,366 |
| 1993 | 1,292 | 1,531 | 5,254 | 5,735 | 1,411 | 2,065 | 2,280 | 3,951 | 894 | 908 | 713 | 788 | 3,383 | 5,107 | 1,254 | 1,399 | 13,349 | 26,474 |
| 1994 | 974 | 1,187 | 4,932 | 5,692 | 1,699 | 2,372 | 3,967 | 4,322 | 429 | 440 | 705 | 727 | 3,805 | 5,866 | 1,403 | 1,479 | 14,320 | 27,098 |
| 1995 | 1,333 | 1,731 | 5,532 | 6,716 | 1,132 | 1,686 | 2,202 | 2,912 | 929 | 949 | 625 | 662 | 2,876 | 4,355 | 2,070 | 2,156 | 12,727 | 27,160 |
| 1996 | 1,170 | 1,388 | 7,316 | 9,293 | 1,371 | 2,083 | 3,022 | 4,061 | 1,256 | 1,258 | 776 | 891 | 3,441 | 4,693 | 4,462 | 4,655 | 20,227 | 30,375 |
| 1997 | 890 | 1,177 | 5,405 | 6,047 | 1,826 | 2,582 | 1,773 | 3,034 | 868 | 888 | 540 | 693 | 2,477 | 4,122 | 4,460 | 4,812 | 18,618 | 28,992 |
| 1998 | 1,599 | 1,829 | 6,752 | 7,940 | 1,287 | 1,880 | 4,257 | 5,388 | 1,702 | 1,702 | 492 | 537 | 3,951 | 5,009 | 955 | 1,257 | 12,529 | 18,555 |
| 1999 | 713 | 818 | 3,334 | 4,758 | 928 | 1,081 | 1,924 | 2,941 | 1,550 | 1,550 | 373 | 426 | 1,933 | 2,885 | 1,285 | 1,577 | 10,363 | 12,037 |
| 2000 | 989 | 1,149 | 3,730 | 4,794 | 492 | 529 | 1,749 | 2,632 | 730 | 730 | 248 | 250 | 3,572 | 3,752 | 3,135 | 3,424 | 8,088 | 13,215 |
| 2001 | 1,225 | 1,399 | 5,136 | 7,545 | 1,159 | 1,231 | 2,560 | 4,116 | 838 | 838 | 548 | 565 | 2,859 | 4,222 | 2,860 | 3,326 | 8,340 | 17,169 |
| 2002 | 1,002 | 1,100 | 6,067 | 9,512 | 2,464 | 3,375 | 4,415 | 5,716 | 680 | 680 | 738 | 755 | 1,938 | 4,250 | 2,598 | 3,217 | 10,126 | 13,541 |
| 2003 | 1,219 | 1,308 | 7,398 | 9,469 | 1,228 | 1,646 | 1,649 | 2,319 | 1,098 | 1,098 | 189 | 195 | 4,993 | 5,978 | 1,904 | 2,111 | 17,808 | 19,010 |
| 2004 | 1,093 | 1,153 | 3,912 | 6,133 | 1,786 | 2,239 | 3,211 | 4,410 | 1,088 | 1,088 | 604 | 619 | 3,523 | 4,324 | 5,034 | 5,335 | 27,853 | 32,830 |
| 2005 | 945 | 1,035 | 6,406 | 8,319 | 1,193 | 1,408 | 4,194 | 5,351 | 955 | 955 | 298 | 306 | 3,076 | 4,332 | 2,130 | 2,683 | 17,040 | 23,078 |
| 2006 | 553 | 604 | 5,970 | 8,246 | 904 | 1,061 | 1,632 | 2,414 | 880 | 880 | 330 | 336 | 2,338 | 3,352 | 2,481 | 2,870 | 16,197 | 23,983 |
| Goal |  |  | 3,000 |  | 900 |  | 1,200 |  |  |  | 700 |  | 2,500 |  |  |  |  |  |

Appendix B.5. Columbia River escapements and terminal runs of PSC CTC wild Chinook escapement indicator stocks, 1975-2006.

| Year | Columbia Upriver <br> Spring |  | Columbia Upriver Summers /1 |  |  |  |  |  | Columbia Upriver Fall Chinook |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Mid-Columbia |  | Snake River |  | Total |  | Lewis River /2 |  | Deschutes River / 3 |  |  | Brights /4 |  |
|  | esc. | t. run | esc. | t. run | esc. | t. run | esc. | t. run | esc. | t. run | esc. | esc. | t. run | esc. | t. run |
| 1975 |  |  |  |  |  |  |  |  | 13,859 | 13,859 | Mark | Above Falls |  | 29,600 | 164,509 |
| 1976 |  |  |  |  |  |  |  |  | 3,371 | 3,371 | Recapture | Expanded |  | 27,700 | 109,726 |
| 1977 |  |  |  |  |  |  |  |  | 6,930 | 6,930 |  | 7,484 | 9,345 | 35,600 | 85,755 |
| 1978 |  |  |  |  |  |  |  |  | 5,363 | 5,363 |  | 5,049 | 7,020 | 25,800 | 78,280 |
| 1979 | 31,314 | 32,566 | 16,355 | 17,238 | 2,714 | 4,116 | 19,069 | 21,353 | 8,023 | 8,023 |  | 4,091 | 5,683 | 28,700 | 83,517 |
| 1980 | 32,775 | 33,876 | 16,583 | 17,494 | 2,688 | 2,919 | 19,271 | 20,413 | 16,394 | 16,856 |  | 3,159 | 5,110 | 27,700 | 71,690 |
| 1981 | 34,235 | 36,091 | 11,826 | 12,741 | 3,306 | 4,474 | 15,132 | 17,215 | 19,297 | 20,298 |  | 4,085 | 5,922 | 18,114 | 60,678 |
| 1982 | 39,598 | 42,589 | 8,271 | 9,151 | 4,210 | 4,745 | 12,481 | 13,896 | 8,370 | 10,126 |  | 7,406 | 9,422 | 27,226 | 69,578 |
| 1983 | 31,559 | 32,962 | 7,705 | 7,932 | 3,895 | 4,576 | 11,600 | 12,508 | 13,540 | 14,489 |  | 4,681 | 6,177 | 42,681 | 79,923 |
| 1984 | 25,171 | 27,039 | 12,369 | 12,689 | 5,429 | 5,079 | 17,798 | 17,768 | 7,132 | 8,128 |  | 4,404 | 5,374 | 45,452 | 126,026 |
| 1985 | 32,292 | 33,480 | 12,276 | 13,257 | 5,062 | 3,885 | 17,338 | 17,142 | 7,491 | 8,241 |  | 3,785 | 4,592 | 72,758 | 191,808 |
| 1986 | 40,550 | 43,113 | 10,640 | 11,361 | 6,154 | 5,824 | 16,794 | 17,185 | 11,983 | 13,504 |  | 5,355 | 6,508 | 90,961 | 275,061 |
| 1987 | 34,980 | 37,286 | 13,769 | 14,931 | 5,891 | 7,519 | 19,660 | 22,450 | 12,935 | 14,173 |  | 6,776 | 8,833 | 121,171 | 411,823 |
| 1988 | 32,405 | 34,885 | 12,527 | 13,442 | 6,145 | 8,304 | 18,672 | 21,747 | 12,059 | 13,636 |  | 5,982 | 8,373 | 97,781 | 331,542 |
| 1989 | 32,346 | 35,045 | 17,071 | 17,179 | 3,169 | 3,397 | 20,240 | 20,577 | 21,199 | 22,813 |  | 4,777 | 6,507 | 83,100 | 254,795 |
| 1990 | 30,189 | 32,439 | 12,883 | 12,976 | 5,093 | 5,123 | 17,976 | 18,099 | 17,506 | 18,784 |  | 2,224 | 3,194 | 48,891 | 150,399 |
| 1991 | 19,969 | 21,308 | 9,383 | 9,504 | 3,809 | 3,510 | 13,192 | 13,015 | 9,066 | 10,354 |  | 3,678 | 3,832 | 39,625 | 99,454 |
| 1992 | 33,478 | 35,670 | 6,133 | 6,200 | 3,014 | 3,125 | 9,147 | 9,325 | 6,307 | 7,129 |  | 2,777 | 2,814 | 38,879 | 78,202 |
| 1993 | 29,349 | 31,280 | 8,962 | 9,235 | 7,889 | 4,520 | 16,851 | 13,755 | 7,025 | 8,106 |  | 8,235 | 8,246 | 41,853 | 94,662 |
| 1994 | 9,047 | 9,530 | 11,768 | 11,967 | 795 | 907 | 12,563 | 12,874 | 9,939 | 10,541 |  | 5,455 | 5,524 | 66,470 | 127,315 |
| 1995 | 4,681 | 4,928 | 9,081 | 9,419 | 692 | 841 | 9,773 | 10,260 | 9,718 | 12,155 |  | 7,581 | 7,617 | 53,470 | 98,842 |
| 1996 | 18,352 | 19,373 | 7,589 | 7,873 | 2,607 | 2,832 | 10,196 | 10,704 | 13,971 | 13,971 |  | 8,759 | 8,837 | 51,973 | 134,356 |
| 1997 | 16,719 | 17,924 | 8,362 | 8,508 | 10,709 | 7,536 | 19,071 | 16,043 | 8,670 | 8,670 |  | 20,678 | 20,811 | 49,074 | 140,916 |
| 1998 | 17,002 | 17,919 | 9,525 | 9,757 | 4,355 | 4,739 | 13,880 | 14,496 | 5,929 | 5,929 |  | 10,923 | 11,428 | 40,012 | 130,874 |
| 1999 | 10,246 | 10,747 | 16,634 | 17,010 | 3,260 | 3,514 | 19,894 | 20,524 | 3,184 | 3,184 |  | 3,997 | 4,370 | 44,867 | 161,436 |
| 2000 | 49,350 | 52,554 | 16,901 | 17,092 | 3,933 | 4,017 | 20,834 | 21,109 | 9,820 | 9,820 |  | 3,230 | 3,637 | 62,675 | 152,107 |
| 2001 | 93,464 | 107,747 | 38,708 | 39,295 | 13,735 | 14,623 | 52,443 | 53,918 | 13,886 | 14,186 | 9,527 | 11,161 | 9,861 | 86,908 | 222,630 |
| 2002 | 74,086 | 83,218 | 67,676 | 71,607 | 22,159 | 20,104 | 89,835 | 91,711 | 16,380 | 18,230 | 11,133 | 12,252 | 12,103 | 116,237 | 265,166 |
| 2003 | 62,954 | 68,408 | 58,613 | 65,367 | 16,422 | 16,672 | 75,035 | 82,039 | 18,505 | 20,505 | 14,265 | 12,590 | 15,343 | 160,677 | 357,848 |
| 2004 | 57,748 | 63,331 | 44,536 | 53,674 | 8,813 | 10,206 | 53,349 | 63,879 | 15,342 | 17,133 | 10,197 | 11,879 | 11,421 | 150,440 | 356,437 |
| 2005 | 30,716 | 32,802 | 39,138 | 50,505 | 6,736 | 7,585 | 45,874 | 58,090 | 11,348 | 13,348 | 9,355 | 13,550 | 10,190 | 112,679 | 258,554 |
| 2006 | 36,302 | 38,911 | 38,056 | 60,266 | 7,058 | 12,173 | 45,114 | 72,440 | 10,522 | 11,999 | 14,196 | 13,374 | 14,196 | 76,898 | 216,192 |
| Goal |  |  | 17,857 |  |  |  |  |  | 5,700 |  |  |  |  | 40,000 |  |

1/ Columbia Upriver Summers are a single escapement indicator stock with an agency management goal of 85,000 . Mid-Columbia summers and Snake River summers exhibit different life history types. Only Mid-Columbia is included in the model stock. Based on a S-R analysis of model data, the interim goal for Mid-Columbia Summers is 17,857 until better data can be compiled.
2 / This is the number of naturally spawning adult fish in the Lewis River. The terminal run given is the escapement plus the Lewis River sport catch of wild adults.
$3 /$ The first column is based on a mark-recapture project for the entire river. The second column is based on using the ratio of redds above and below Sherar's Falls. The agencies' management goal is 4000 . 4/ The CRFMP stated an interim escapement goal of 40,000 natural spawning URBs at McNary Dam, including 38,700 for Hanford Reach and 1,100 Snake River. In 1990, the escapement goal was increased to 45,000 for increased hatchery programs. In 1994, a management goal of 46,000 was established, and in 1995 , the management goal was retained while the escapement goal was reduced to 43,500 . In 2002 , the CRFMP escapement goal of 40,000 was agreed to by the CTC. Escapement numbers given are McNary adult dam count minus adult sport and broodstock above the dam. The terminal run is the Columbia River mouth terminal run of Upriver Brights minus the Deschutes River fall Chinook terminal run.

Appendix B.6. Oregon Coastal escapements as estimated via traditional habitat expansion methods and terminal runs of PSC Chinook Technical Committee wild Chinook salmon escapement indicator stocks, 1975-2006.

| Year | Nehalem |  |  | Oregon |  |  | Coquille |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | esc. | t. run | esc. | t. run | esc. | t. run | esc. | t. run |
| 1975 | 5,197 | 5,303 | 2,062 | 2,689 | 4,427 | 4,548 | 4,927 | NA |
| 1976 | 9,807 | 9,908 | 1,326 | 2,036 | 7,999 | 8,153 | 2,188 | NA |
| 1977 | 11,478 | 12,093 | 3,314 | 3,919 | 9,492 | 10,362 | 4,379 | NA |
| 1978 | 12,059 | 12,244 | 2,062 | 3,700 | 5,872 | 6,879 | 3,951 | 5,290 |
| 1979 | 12,205 | 12,469 | 7,217 | 8,907 | 8,040 | 8,799 | 4,030 | 4,715 |
| 1980 | 5,555 | 5,832 | 3,680 | 4,820 | 10,630 | 11,183 | 4,014 | 4,622 |
| 1981 | 10,752 | 10,939 | 4,435 | 6,751 | 8,724 | 9,342 | 4,313 | 4,996 |
| 1982 | 5,085 | 5,282 | 3,415 | 4,514 | 10,870 | 11,774 | 6,249 | 6,865 |
| 1983 | 4,431 | 4,525 | 2,136 | 3,152 | 4,186 | 4,885 | 3,193 | 3,807 |
| 1984 | 20,341 | 21,623 | 3,461 | 4,552 | 11,168 | 12,437 | 4,502 | 5,164 |
| 1985 | 18,670 | 19,473 | 6,628 | 7,685 | 14,822 | 15,805 | 3,157 | 3,853 |
| 1986 | 10,389 | 11,920 | 6,748 | 7,799 | 14,844 | 15,965 | 4,470 | 5,125 |
| 1987 | 13,560 | 15,725 | 4,577 | 6,023 | 17,603 | 19,411 | 5,640 | 6,997 |
| 1988 | 14,889 | 17,185 | 7,805 | 9,257 | 41,746 | 44,380 | 7,451 | 8,635 |
| 1989 | 10,389 | 12,000 | 4,401 | 5,980 | 28,279 | 31,690 | 6,462 | 7,820 |
| 1990 | 5,104 | 6,789 | 4,313 | 5,373 | 26,799 | 29,593 | 6,064 | 7,567 |
| 1991 | 5,557 | 7,685 | 5,633 | 6,926 | 26,100 | 29,825 | 9,074 | 11,470 |
| 1992 | 9,060 | 11,863 | 6,044 | 7,460 | 26,090 | 28,350 | 13,293 | 15,911 |
| 1993 | 5,345 | 9,317 | 4,342 | 6,506 | 10,446 | 14,012 | 6,993 | 10,419 |
| 1994 | 6,486 | 9,412 | 10,475 | 12,188 | 23,570 | 25,890 | 6,698 | 8,696 |
| 1995 | 5,194 | 8,845 | 5,164 | 8,045 | 26,715 | 31,194 | 7,885 | 10,374 |
| 1996 | 9,211 | 13,285 | 7,394 | 10,274 | 33,051 | 39,705 | 6,346 | 8,790 |
| 1997 | 10,026 | 13,069 | 3,726 | 6,165 | 22,305 | 27,516 | 6,743 | 8,338 |
| 1998 | 8,245 | 10,869 | 5,516 | 7,175 | 24,708 | 28,882 | 9,930 | 12,680 |
| 1999 | 8,063 | 10,632 | 4,166 | 6,232 | 23,963 | 27,271 | 8,513 | 10,950 |
| 2000 | 6,855 | 9,119 | 6,787 | 9,462 | 15,730 | 19,588 | 6,684 | 8,974 |
| 2001 | 11,662 | 15,998 | 10,563 | 14,704 | 38,717 | 43,836 | 8,233 | 12,007 |
| 2002 | 18,089 | 22,657 | 14,054 | 19,019 | 41,058 | 47,905 | 11,848 | 15,578 |
| 2003 | 10,906 | 15,095 | 11,149 | 15,693 | 57,795 | $65,044$ | 16,482 | $21,572$ |
| 2004 | 9,975 | 14,792 | 3,902 | 10,419 | 34,427 | 40,456 | 11,346 | 14,041 |
| 2005 | 7,038 | 8,459 | 6,426 | 8,727 | 16,619 | 18,303 | 5,029 | 5,767 |
| 2006 | 4,711 | NA | 4,108 | NA | 28,082 | NA | 3,009 | NA |
| Goal | 6,989 |  | 2,944 |  | 12,925 |  | pending |  |

Appendix B.7. Oregon Coastal escapements and terminal runs as estimated by mark-recapture calibrated indexes of PSC Chinook Technical Committee wild Chinook salmon escapement indicator stocks, 1975-2006.

|  | OREGON |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | Nehalem |  | Suislaw |  | Umpqua S. Fork | Coquille |  |
|  | esc. | t. run | esc. | t. run | esc. ${ }^{1}$ | Esc. | t. run |
| 1975 | 4,954 | 5,060 | 2,567 | 2,567 | NA | 6,668 | NA |
| 1976 | 9,345 | 9,446 | 4,565 | 4,565 | NA | 2,766 | NA |
| 1977 | 10,937 | 11,552 | 4,531 | 4,531 | NA | 5,676 | NA |
| 1978 | 11,491 | 11,676 | 2,867 | 3,874 | 400 | 5,618 | 6,957 |
| 1979 | 11,794 | 12,058 | 3,554 | 4,313 | NA | 5,203 | 5,888 |
| 1980 | 5,368 | 5,645 | 5,483 | 6,036 | 697 | 5,952 | 6,560 |
| 1981 | 10,390 | 10,577 | 3,767 | 4,385 | 890 | 6,405 | 7,088 |
| 1982 | 4,914 | 5,111 | 5,094 | 5,998 | 1,011 | 8,885 | 9,501 |
| 1983 | 4,282 | 4,376 | 923 | 1,622 | 1,628 | 4,686 | 5,300 |
| 1984 | 19,657 | 20,939 | 3,384 | 4,653 | 2,594 | 6,229 | 6,891 |
| 1985 | 18,042 | 18,845 | 6,845 | 7,828 | 2,246 | 4,498 | 5,194 |
| 1986 | 10,039 | 11,570 | 6,513 | 7,634 | 1,573 | 5,642 | 6,297 |
| 1987 | 13,103 | 15,268 | 5,568 | 7,376 | 2,795 | 6,429 | 7,786 |
| 1988 | 14,388 | 16,684 | 14,935 | 17,569 | 3,778 | 8,389 | 9,573 |
| 1989 | 10,039 | 11,650 | 12,856 | 16,267 | 6,162 | 6,948 | 8,306 |
| 1990 | 4,932 | 6,617 | 13,662 | 16,456 | 3,761 | 7,738 | 9,241 |
| 1991 | 5,370 | 7,498 | 15,709 | 19,434 | 6,717 | 10,508 | 12,904 |
| 1992 | 8,755 | 11,558 | 13,221 | 15,481 | 8,149 | 16,636 | 19,254 |
| 1993 | 5,165 | 9,137 | 2,960 | 6,526 | 3,364 | 7,446 | 10,872 |
| 1994 | 6,268 | 9,194 | 9,477 | 11,797 | 7,128 | 6,866 | 8,864 |
| 1995 | 5,020 | 8,671 | 10,246 | 14,725 | 11,388 | 12,060 | 14,549 |
| 1996 | 8,901 | 12,975 | 15,788 | 22,442 | 10,019 | 7,618 | 10,062 |
| 1997 | 9,689 | 12,732 | 8,313 | 13,524 | 7,286 | 8,580 | 10,175 |
| 1998 | 7,967 | 10,591 | 5,456 | 9,630 | 1,104 | 11,877 | 14,627 |
| 1999 | 7,792 | 10,361 | 11,785 | 15,093 | 1,804 | 10,653 | 13,090 |
| 2000 | 8,553 | 10,817 | 4,648 | 8,506 | 3,140 | 7,880 | 10,170 |
| 2001 | 9,957 | 14,293 | 16,814 | 21,933 | 6,510 | 12,512 | 16,286 |
| 2002 | 15,984 | 20,552 | 19,400 | 26,247 | 3,831 | 13,675 | 17,405 |
| 2003 | 19,380 | 23,569 | 24,596 | 31,845 | 8,918 | 18,876 | 23,966 |
| 2004 | 9,639 | 14,456 | 22,596 | 28,625 | 7,487 | 11,668 | 14,363 |
| 2005 | 6,801 | 8,222 | 12,116 | 13,800 | 3,084 | 5,438 | 6,176 |
| 2006 | 11,938 | NA | 6,965 | NA | 2,396 | 7,438 | NA |
| Goal | pending |  | pending |  | pending | pending |  |

1/Preliminary analysis has shown that terminal catch of S. Fork Umpqua fall Chinook is unsubstantial.

## Appendix C. Relationship between exploitation rate indicator stocks, escapement indicator stocks, model stocks, and additional management action stocks identified in the PST annex.

Page
Appendix C.1. Indicator stocks for Southeast Alaska and Transboundary Rivers. ..... 124
Appendix C.2. Indicator stocks for Canada. ..... 125
Appendix C.3. Indicator stocks for Puget Sound. ..... 126
Appendix C.4. Indicator stocks for the Washington Coast. ..... 127
Appendix C.5. Indicator stocks for Columbia River and Oregon Coast ..... 128

Appendix C.1. Indicator stocks for Southeast Alaska and Transboundary Rivers.

${ }^{1}$ SEAK fisheries will be managed to achieve escapement objectives for Southeast Alaska and Transboundary River Chinook stocks.
$\mathrm{NA}=$ not available

## Appendix C.2. Indicator stocks for Canada.

| Area | Annex Stock Group | Annex Indicator Stocks | Run Type | Escapement Indicator Stock | Escapement Objective | Model Stock | Escapement Goal in Model | Exploitation Rate Indicator Stock | CWT Acronym |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NBC-Area 1 | North / Central British Columbia | Yakoun | Summer | Yakoun | Escapement goal range by stock | North / Central BC | 117,500 | Kitsumkalum | KLM |
| NBC-Area 3 |  | Nass | Spring/Summer | Nass |  |  |  |  |  |
| NBC-Area 4 |  | Skeena |  | Skeena |  |  |  |  |  |
| CBC-Area 8 |  |  | Spring | Dean |  |  |  |  |  |
| CBC-Area 9 |  |  | Spring/Fall | Rivers Inlet |  |  |  |  |  |
| WCVI | West Coast <br> Vancouver Island Falls | Artlish, Burman, Gold, Kauok, Tahsis, Tashish, Marble | Fall | WCVI Aggregate (Artlish, Burman, Kauok, Tahsis, Tashish, Marble) | Escapement goal range for aggregate | WCVI Natural | 42,734 | Robertson Creek | RBT |
|  |  |  |  |  |  | WCVI Hatchery | 6,472 |  |  |
| Upper Strait of Georgia | Upper Strait of Georgia | Klinaklini, Kakweikan, Wakeman, Kingcome, Nimpkish | Summer/ Fall | Upper Strait of Georgia (Klinaklini, Kakweikan, Wakeman, Kingcome, Nimpkish) | Escapement goal range for aggregate | Upper Strait of Georgia | 23,300 | Quinsam | QUI |
| Lower Strait of Georgia | Lower Strait of Georgia |  | Summer/ Fall |  |  | Lower Strait of Georgia Hatchery | 5,318 | Puntledge | PPS |
|  |  |  |  |  |  |  |  | Big Qualicum | BQR |
|  |  | Cowichan, Nanaimo | Fall | Lower Strait of Georgia (Cowichan / Nanaimo) | Escapement goal range for aggregate | Lower Strait of Georgia Natural | 21,935 |  |  |
|  |  |  |  |  |  |  |  | Cowichan | cow |
| Fraser River | Fraser Early | Upper Fraser <br> Mid Fraser <br> Thompson | Spring | Fraser Spring-run Age 1.2 | Escapement goal range by stock | Fraser Early | 93,700 | NA |  |
|  |  |  |  | Fraser Spring-run Age 1.3 |  |  |  |  |  |
|  |  |  | Summer | Fraser Summer-run Age 1.3 |  |  |  |  |  |
|  |  |  |  | Fraser Summer-run Age 0.3 |  |  |  |  |  |
|  | Fraser Late | Harrison River | Fall | Harrison River | 75,100-98,500 | Fraser Late | 75,100 | Chilliwack | CHI |

## Appendix C.3. Indicator stocks for Puget Sound.

| Area | Annex Stock Group | Annex Indicator Stocks | Run <br> Type | Escapement Indicator Stock | Escapement Objective | Model Stock | Escapement Goal in Model | Exploitation Rate Indicator Stock | CWT Acrony m |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| North/ <br> Central <br> Puget <br> Sound | North Puget Sound Natural Springs | Nooksack | Spring | Nooksack | Escapement goal range by stock | Nooksack Spring | 4,000 | Nooksack Spring Fingerling <br> Nooksack Spring Yearling | $\begin{aligned} & \text { NKF } \\ & \text { NKS } \end{aligned}$ |
|  |  | Skagit |  | Skagit spring |  |  |  | Skagit Spring Fingerling <br> Skagit Spring Yearling | $\begin{aligned} & \text { SKF } \\ & \text { SKS } \end{aligned}$ |
|  | North Puget Sound Natural Summer/Falls | Nooksack | Summer/ <br> Fall |  | Escapement goal range by stock | Nooksack Fall | 11,923 | Samish Fall Fingerling | SAM |
|  |  | Snohomish |  | Snohomish |  | Snohomish Wild | 5,250 | NA |  |
|  |  | Skagit group |  | Skagit sum/fall |  | Skagit Wild | 9,778 | Skagit Summer Fingerling | SSF |
|  |  | Lake <br> Washington |  | Lake <br> Washington <br> Falls |  | Puget Sound <br> Natural <br> Fingerling | 16,966 | NA |  |
|  |  | Green River |  | Green River |  |  |  |  |  |
|  |  | Stillaguamish |  | Stillaguamish |  | Stillaguamish Wild | 2,000 | Stillaguamish Fall Fingerling | STL |
|  |  |  |  |  |  |  |  | Nisqually Fall Fingerling | NIS |
|  |  |  |  |  |  |  |  | Univ. of Washington Accelerated Fall | UWA |
| Hood Canal | Not an Annex stock |  | Fall |  |  |  |  | George Adams Fall Fingerling | GAD |
| South Puget Sound | Not an annex stock |  | Fall |  |  | Puget Sound Hatchery Fingerling | 24,769 | South Puget Sound Fall Fingerling | SPS |
|  |  |  |  |  |  | Puget Sound <br> Hatchery <br> Yearling | 9,136 | South Puget Sound Fall Yearling | SPY |
|  |  |  |  |  |  |  |  | Squaxin Pens Fall Yearling | SQP |
|  |  |  | Spring |  |  |  |  | White River Spring Yearling | WRY |

Appendix C.4. Indicator stocks for the Washington Coast.

| Area | Annex Stock Group | Annex <br> Indicator Stocks | Run Type | Escapement Indicator Stock | Escapement Objective | Model Stock | Escapement Goal in Model | Exploitation Rate Indicator Stock | CWT <br> Acronym |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| WA Coast/ Juan de Fuca | Washington Coastal Fall Naturals | Hoko | Fall | Hoko |  |  |  | Elwha Fall Fingerling | ELW |
|  |  |  |  |  |  |  |  | Hoko Fall Fingerling | HOK |
|  |  | Grays Harbor |  | Grays Harbor Fall | Escapement goal range by stock | Washington Coastal Wild | 21,500 | NA |  |
|  |  | Queets |  | Queets Fall |  |  |  | Sooes Fall Fingerling | SOO |
|  |  | Hoh |  | Hoh Fall |  |  |  | NA |  |
|  |  | Quillayute |  | Quillayute Fall |  |  |  | NA |  |
|  |  | Queets |  | Queets Fall |  |  |  | Queets Fall Fingerling | QUE |
|  | Not an annex stock |  | Fall |  |  | Washington Coastal Hatchery | 6,703 | NA |  |
|  | Not an annex stock |  | Spring | Grays Harbor Spring |  |  |  | NA |  |
|  | Not an |  | Spring/ | Queets <br> Spring/Summer |  |  |  | NA |  |
|  | annex stock |  | Summer | Hoh <br> Spring/Summer |  |  |  | NA |  |
|  | Not an annex stock |  | Summer | Quillayute Summer |  |  |  | NA |  |

NA $=$ not available

## Appendix C.5. Indicator stocks for Columbia River and Oregon Coast.

| Area | Annex <br> Stock <br> Group | Annex Indicator Stocks | Run <br> Type | Escapement Indicator Stock | Escapemen t Objective | Model Stock | Escapement Goal in Model | Exploitation Rate Indicator Stock | CWT <br> Acronym |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Columbia River | Not an Annex stock |  | Spring |  |  | Cowlitz Spring Hatchery | 2,500 | NA |  |
|  |  |  |  |  |  | Willamette River Hatchery | 13,500 | Willamette Spring | WSH |
|  | Columbia <br> River <br> Summers | MidColumbia Summers | Summer | Mid Columbia Summer | $17,857^{1}$ | Columbia River Summer | 17,857 | Columbia Summers | SUM |
|  | Columbia River Falls |  | Fall |  |  | Fall Cowlitz Hat. | 8,800 | Cowlitz Tule | CWF |
|  |  |  |  |  |  | Spring Creek Hatchery | 7,000 | Spring Creek Tule | SPR |
|  |  |  |  |  |  | Lower Bonneville Hatchery | 26,200 | Columbia Lower River Hatchery | LRH |
|  |  | Upriver Brights |  | Columbia Upriver Bright |  | Columbia Upriver Brights | 40,000 | Columbia Upriver Bright | URB |
|  |  |  |  |  |  |  |  | Hanford Wild | HAN |
|  |  | Deschutes |  | Deschutes River Fall |  |  |  | NA |  |
|  |  |  |  |  |  | Lyons Ferry | 3,430 | Lyons Ferry | LYF |
|  |  |  |  |  |  | Mid Columbia River Brights | 12,500 | NA |  |
|  |  | Lewis River |  | Lewis | 5,700 | Lewis River Wild | 5,700 | Lewis River Wild | LRW |
| North Oregon Coast | Far North Migrating Oregon Coastal Falls | Nehalem | Fall | Nehalem | 6,989 | Oregon Coast |  |  |  |
|  |  | Siuslaw |  | Siuslaw | 12,925 |  |  | Salmon River |  |
|  |  | Siletz |  | Siletz | 2,944 |  | 62,382 |  |  |
| Mid-Oregon Coast | Not an Annex stock |  | Fall | Umpqua |  |  |  | NA |  |
|  |  |  |  | Mid South Oregon Coastal Falls |  |  |  | NA |  |

${ }^{1}$ Interim goal for modeling based on stock recruitment analysis of model data.
NA - not available

## Appendix D. ISBM indices.

## Page

Appendix D.1. ISBM Indices for Canadian fisheries, from both the CWT-based exploitation rate analysis (2001-2005) and the Chinook model (20012007) used to establish the AI for each year. Order of the stock groups correspond to Annex 4, Chapter 3, Attachment IV and V of the PST 1999 Revised Annexes.30

Appendix D.2. ISBM Indices for U.S. fisheries, from both the CWT-based exploitation rate analysis (2001-2005) and the Chinook model (2001-2007) used to establish the AI for each year. Order of the stock groups correspond to Annex 4, Chapter 3, Attachment IV and V of the PST 1999 Revised Annexes 132

Appendix D.1. ISBM Indices for Canadian fisheries, from both the CWT-based exploitation rate analysis (2001-2005) and the Chinook model (2001-2007) used to establish the AI for each year. Order of the stock groups correspond to Annex 4, Chapter 3, Attachment IV and V of the PST 1999 Revised Annexes.

| Stock Group | Escapement <br> Indicator <br> Stocks | Canadian ISBM Indices |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | CWT Indices ${ }^{1}$ |  |  |  |  | Model Indices |  |  |  |  |  |  |
|  |  | 2001 | 2002 | 2003 | 2004 | 2005 | $\begin{gathered} 2001 \\ \text { CLB0107 } \end{gathered}$ | $\begin{gathered} 2002 \\ \text { CLB0206 } \end{gathered}$ | $\begin{gathered} 2003 \\ \text { CLB0308 } \end{gathered}$ | $\begin{gathered} 2004 \\ \text { CLB0404 } \end{gathered}$ | $\begin{gathered} 2005 \\ \text { CLB0506 } \end{gathered}$ | $\begin{gathered} 2006 \\ \text { CLB0604 } \end{gathered}$ | $\begin{array}{\|c\|} \hline 2007 \\ \text { CLB0705 } \end{array}$ |
| Lower Strait of Georgia | Cowichan Nanaimo ${ }^{5}$ | $\begin{aligned} & 0.260 \\ & 0.260 \end{aligned}$ | $\begin{aligned} & 0.247 \\ & 0.247 \end{aligned}$ | $\begin{array}{\|c\|} \hline 0.363^{6} \\ \mathrm{NA}^{7} \\ \hline \end{array}$ | $\begin{gathered} \hline 0.284 \\ \text { NA } \end{gathered}$ | $\begin{gathered} 0.132 \\ \text { NA } \\ \hline \end{gathered}$ | $\begin{aligned} & 0.325 \\ & 0.246 \end{aligned}$ | $\begin{aligned} & 0.541 \\ & 0.190 \end{aligned}$ | $\begin{aligned} & 0.490 \\ & 0.498 \end{aligned}$ | $\begin{aligned} & 0.593 \\ & 0.695 \end{aligned}$ | $\begin{gathered} 0.381^{8} \\ 0.695 \end{gathered}$ | $0.590{ }^{8}$ | $0.240{ }^{8}$ |
| Fraser Late | Harrison River ${ }^{3}$ | 0.090 | 0.105 | $0.055^{9}$ | 0.032 | 0.058 | 0.336 | 0.302 | 0.352 | 0.719 | 0.332 | 0.294 | 0.211 |
| North Puget Sound Natural Springs | Nooksack Skagit | $\begin{gathered} \hline 0.040 \\ \text { NA } \end{gathered}$ | $\begin{gathered} 0.023 \\ \text { NA } \end{gathered}$ | $\begin{gathered} 0.046 \\ \text { NA } \end{gathered}$ | $\begin{aligned} & \text { NA } \\ & \text { NA } \end{aligned}$ | $\begin{aligned} & \hline \text { NA } \\ & \text { NA } \end{aligned}$ | $\begin{gathered} 0.241 \\ \text { NA } \end{gathered}$ | $\begin{gathered} 0.195 \\ \text { NA } \end{gathered}$ | $\begin{aligned} & 0.251 \\ & 0.251 \end{aligned}$ | $\begin{aligned} & 0.273 \\ & 0.273 \end{aligned}$ | $\begin{aligned} & 0.314 \\ & 0.314 \end{aligned}$ | $\begin{aligned} & 0.993 \\ & 0.993 \end{aligned}$ | $\begin{aligned} & 0.563 \\ & 0.563 \end{aligned}$ |
| Upper Strait of Georgia | Klinaklini, Kakweikan, Wakeman, Kingcome, Nimpkish | 0.040 | 0.063 | 0.006 | 0.018 | 0.028 | 0.314 | 0.272 | 0.649 | 0.971 | 0.649 | 0.584 | 0.146 |
| Fraser Early (spring and summers) | Upper Fraser, Mid Fraser, Thompson | NA | NA | NA | NA | NA | 0.210 | 0.145 | 0.661 | 0.718 | 0.654 | 0.610 | 0.159 |
| West Coast Vancouver Island Falls | WCVI (Artlish, Burman, Kauok, Tahsis, Tashish, Marble) | 0.060 | 0.248 | $0.496^{10}$ | 0.488 | 0.986 | 0.244 | 0.342 | 0.744 | 0.927 | 0.728 | 1.082 | 0.133 |
| Puget Sound Natural Summer / Falls | Skagit <br> Stillaguamish <br> Snohomish <br> Lake Washington <br> Green River | $\begin{gathered} \hline \text { NA } \\ 0.145 \\ \text { NA } \\ \text { NA } \\ 0.350 \\ \hline \end{gathered}$ | NA NA NA NA 0.323 | $\begin{gathered} \hline \text { NA } \\ \text { NA } \\ \text { NA } \\ \text { NA } \\ 0.328 \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { NA } \\ 0.027 \\ \text { NA } \\ \text { NA } \\ 0.162 \end{gathered}$ | NA 0.057 NA NA 0.085 | $\begin{aligned} & \hline 0.217 \\ & 0.469 \\ & 0.222 \\ & 0.355 \\ & 0.356 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 0.172 \\ & 0.375 \\ & 0.176 \\ & 0.275 \\ & 0.275 \\ & \hline \end{aligned}$ | $\begin{gathered} \hline 0.436 \\ 0.513 \\ 0.435 \\ 0.508 \\ 0.508 \\ \hline \end{gathered}$ | $\begin{aligned} & \hline 0.438 \\ & 0.567 \\ & 0.445 \\ & 0.446 \\ & 0.466 \end{aligned}$ | 0.765 <br> 0.587 <br> 0.457 <br> $0.497^{11}$ <br> $0.497^{11}$ <br> 0.680 | $\begin{aligned} & \hline 1.092 \\ & 1.166 \\ & 1.101 \\ & 0.898 \\ & 0.914 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 0.718 \\ & 0.821 \\ & 0.736 \\ & 0.735 \\ & 0.752 \\ & \hline \end{aligned}$ |
| North / Central B. C. | Yakoun, Nass, Skeena, Area 8 | NA | NA | NA | NA | NA | 0.613 | 0.584 | 0.689 | 0.804 | 0.680 | 0.626 | 0.202 |
| Washington Coastal Fall <br> Naturals $^{4}$ | Hoko, Grays Harbor, Queets, Hoh, Quillayute | NA | NA | NA | NA | NA | 0.354 | 0.292 | 0.292 | 0.435 | 0.457 | 0.363 | 0.194 |
| Columbia River Falls ${ }^{4}$ | Upriver Brights <br> Deschutes Lewis ${ }^{3}$ | $\begin{aligned} & \text { NA } \\ & \text { NA } \\ & \text { NA } \end{aligned}$ | NA <br> NA <br> NA | $\begin{aligned} & \text { NA } \\ & \text { NA } \\ & \text { NA } \end{aligned}$ | $\begin{aligned} & \text { NA } \\ & \text { NA } \\ & \text { NA } \end{aligned}$ | NA <br> NA <br> NA | $\begin{aligned} & \hline 0.377 \\ & 0.377 \\ & 0.180 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 0.429 \\ & 0.429 \\ & \hline 0.171 \\ & \hline \end{aligned}$ | $\begin{aligned} & 0.686 \\ & 0.686 \\ & 0.515 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 0.663 \\ & 0.663 \\ & 0.480 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 0.640 \\ & 0.640 \\ & 0.546 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 0.523 \\ & 0.523 \\ & 0.315 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 0.129 \\ & 0.129 \\ & 0.030 \\ & \hline \end{aligned}$ |
| Columbia R Summers ${ }^{4}$ | Mid-Columbia Summers ${ }^{3}$ | NA | NA | NA | NA | NA | 0.144 | 0.198 | 0.352 | 0.333 | 0.406 | 0.335 | 0.119 |
| Far North Migrating OR Coastal Falls ${ }^{4}$ | Nehalem ${ }^{3}$, Siletz ${ }^{3}$, Siuslaw ${ }^{3}$ | NA | NA | NA | NA | NA | 0.505 | 0.514 | 0.689 | 0.672 | 0.674 | 0.515 | 0.078 |

'The CWT-based estimates, not the model estimates, are to be used in postseason assessments.
${ }^{2}$ NA means not available because of insufficient data (lack of stock specific tag codes, base period CWT recoveries, etc).
${ }^{3}$ Stock or stock group with an agreed CTC escapement goal.
${ }^{4}$ Stock group not in Annex Attachment IV.
${ }^{5}$ Indices for this stock are calculated from CWT recoveries for Cowichan; differences between Nanaimo and Cowichan stock indices are due to differences in terminal harvest.
${ }^{6}$ An inconsistency was discovered between the approaches used to calculate the model-based and CWT-based indices. The former included harvest rates for terminal sport while the latter did not. Terminal sport harvest rates are now included in the calculation of both indices. Further review is yet required to determine whether the base period terminal sport harvest rates obtained from analyses of Big Qualicum CWT recoveries adequately represent impacts that would have occurred on Cowichan Chinook.
${ }^{7}$ Several problems have been identified in the approach previously used to calculate the CWT-based indices for Nanaimo Chinook; indices for this stock will not be reported as their utility is questionable.
${ }^{8}$ Although model-based indices were previously calculated separately for Cowichan and Nanaimo Chinook, these did not adequately represent impacts on either LGS stock. This is because the model-based data represent an aggregate of the two stocks and methods do not currently exist to correctly disaggregate these data for calculation of the ISBM values. Until such methods are developed, a single index value only will be reported representing the aggregate.
${ }^{9}$ The terminal sport harvest rates for Chilliwack Hatchery Chinook, the indicator stock, were removed from the calculation for the Harrison River naturals this year because sport harvest has been essentially zero on the natural population.
${ }^{10} \mathrm{An}$ inconsistency was discovered between the calculation of the model-based and CWT-based indices. The former included harvest rates for terminal sport while the latter did not. Terminal sport harvest rates are now included in the calculation of both indices. A further review of the indices for WCVI Chinook will be done to determine whether they represent impacts on the WCVI wild aggregate.
${ }^{11}$ For the Canadian ISBM fisheries, both Lake Washington and Green are assumed to have the same distribution and thus the same index value.

Appendix D.2. ISBM Indices for U.S. fisheries, from both the CWT-based exploitation rate analysis (2001-2005) and the Chinook model (2001-2007) used to establish the AI for each year. Order of the stock groups correspond to Annex 4, Chapter 3, Attachment IV and V of the PST 1999 Revised Annexes.

| Stock Group | Escapement <br> Indicator Stocks | US ISBM Indices |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | CWT Indices ${ }^{1}$ |  |  |  |  | Model Indices |  |  |  |  |  |  |
|  |  | 2001 | 2002 | 2003 | 2004 | 2005 | 2001 CLB0107 | 2002 CLB0206 | 2003 CLB0308 | $\begin{gathered} 2004 \\ \text { CLB0404 } \end{gathered}$ | 2005 CLB0506 | 2006 CLB0604 | $\begin{gathered} 2007 \\ \text { CLB0705 } \\ \hline \end{gathered}$ |
| Washington Coastal Fall Naturals | Hoko Grays Harbor Queets Hoh Quillayute |  <br> NA <br> 0.860 <br> 1.440 <br> 1.660 <br> 1.480 | $\mathrm{NA}^{1}$ 0.540 0.840 0.950 1.420 | $\mathrm{NA}^{1}$ 0.150 0.850 1.340 0.990 | $\mathrm{NA}^{1}$ 0.530 0.840 1.220 1.150 | NA 0.560 2.050 1.030 1.030 | 0.56 0.450 0.440 0.760 0.750 | 0.480 0.840 1.050 1.260 1.310 | 0.682 0.494 1.063 1.208 1.292 | 0.966 0.573 0.932 1.214 1.139 | 0.444 0.222 1.023 1.499 1.133 | 0.442 0.544 1.022 1.493 0.673 | 0.401 0.504 1.014 1.111 0.883 |
| Columbia River Falls | Upriver Brights <br> Deschutes Lewis ${ }^{5}$ | $\begin{aligned} & 1.350 \\ & 0.520 \\ & 0.580 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 1.320 \\ & 0.590 \\ & 0.560 \\ & \hline \end{aligned}$ | $\begin{aligned} & 1.430 \\ & 0.049 \\ & 1.030 \\ & \hline \end{aligned}$ | $\begin{aligned} & 1.740 \\ & 0.510 \\ & 0.170 \\ & \hline \end{aligned}$ | $\begin{array}{r} 1.780 \\ 0.670 \\ 0.980 \\ \hline \end{array}$ | $\begin{aligned} & \hline 0.990 \\ & 0.740 \\ & 1.700 \\ & \hline \end{aligned}$ | $\begin{aligned} & 0.910 \\ & 0.550 \\ & 0.930 \\ & \hline \end{aligned}$ | $\begin{aligned} & 1.022 \\ & 0.561 \\ & 0.851 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 0.906 \\ & 0.475 \\ & 1.008 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 0.734 \\ & 0.483 \\ & 1.058 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 0.814 \\ & 0.437 \\ & 1.861 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 0.726 \\ & 0.493 \\ & 1.466 \\ & \hline \end{aligned}$ |
| Puget Sound Natural Summer / Falls | Skagit <br> Stillaguamish <br> Snohomish <br> Lake Washington <br> Green R | $\begin{gathered} \hline \text { NA } \\ 0.890 \\ \text { NA } \\ \text { NA } \\ 1.180 \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { NA } \\ \text { NA } \\ \text { NA } \\ \text { NA } \\ 1.070 \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { NA } \\ \text { NA } \\ \text { NA } \\ \text { NA } \\ 1.030 \\ \hline \end{gathered}$ | $\begin{gathered} \mathrm{NA} \\ 0.010 \\ \text { NA } \\ \text { NA } \\ 1.010 \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { NA } \\ 0.220 \\ \text { NA } \\ \text { NA } \\ 0.170 \\ \hline \end{gathered}$ | $\begin{aligned} & 0.780 \\ & 0.400 \\ & 0.600 \\ & 0.590 \\ & 0.600 \\ & \hline \end{aligned}$ | $\begin{aligned} & 0.270 \\ & 0.200 \\ & 0.150 \\ & 1.250 \\ & 0.350 \\ & \hline \end{aligned}$ | $\begin{aligned} & 0.406 \\ & 0.184 \\ & 0.072 \\ & 0.768 \\ & 0.263 \\ & \hline \end{aligned}$ | $\begin{aligned} & 0.157 \\ & 0.224 \\ & 0.110 \\ & 0.411 \\ & 0.260 \\ & \hline \end{aligned}$ | $\begin{aligned} & 0.195 \\ & 0.185 \\ & 0.891 \\ & 0.373 \\ & 0.202 \\ & \hline \end{aligned}$ | $\begin{aligned} & 0.258 \\ & 0.493 \\ & 0.199 \\ & 0.613 \\ & 0.361 \\ & \hline \end{aligned}$ | $\begin{aligned} & 0.325 \\ & 0.152 \\ & 0.138 \\ & 0.391 \\ & 0.278 \\ & \hline \end{aligned}$ |
| Fraser Late | Harrison River ${ }^{5}$ | 0.310 | 0.410 | 0.640 | 0.320 | 0.240 | 0.620 | 0.720 | 0.981 | 1.058 | 0.670 | 0.787 | 0.563 |
| Columbia R Summers | Mid-Columbia Summers ${ }^{5}$ | 5.320 | 7.250 | 10.040 | 2.690 | 6.080 | 0.140 | 0.820 | 0.794 | 0.715 | 0.545 | 0.696 | 0.943 |
| Far North Migrating OR Coastal Falls | Nehalem ${ }^{5}$ <br> Siletz ${ }^{5}$ <br> Siuslaw ${ }^{5}$ | 1.940 1.190 2.180 | $\begin{aligned} & \hline 2.170 \\ & 1.310 \\ & 2.560 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 3.110 \\ & 1.590 \\ & 3.820 \\ & \hline \end{aligned}$ | 1.800 2.290 1.030 | $\begin{aligned} & \hline 2.000 \\ & 1.190 \\ & 1.630 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 2.750 \\ & 1.870 \\ & 0.950 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 2.610 \\ & 1.330 \\ & 3.340 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 2.346 \\ & 1.302 \\ & 2.856 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 2.230 \\ & 1.288 \\ & 2.816 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 2.090 \\ & 1.233 \\ & 2.643 \\ & \hline \end{aligned}$ | $\begin{aligned} & 1.912 \\ & 1.237 \\ & 1.095 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 2.183 \\ & 1.399 \\ & 1.241 \\ & \hline \end{aligned}$ |
| North Puget Sound Natural Springs | Nooksack Skagit | $\begin{gathered} 0.040 \\ \text { NA } \\ \hline \end{gathered}$ | $\begin{gathered} \text { NA } \\ 1.120 \\ \hline \end{gathered}$ | $\begin{aligned} & \text { NA } \\ & \text { NA } \end{aligned}$ | $\begin{aligned} & \text { NA } \\ & \text { NA } \end{aligned}$ | $\begin{aligned} & \text { NA } \\ & \text { NA } \end{aligned}$ | $\begin{aligned} & 0.010 \\ & 0.070 \\ & \hline \end{aligned}$ | $\begin{aligned} & 0.000 \\ & 0.060 \\ & \hline \end{aligned}$ | $\begin{aligned} & 0.121 \\ & 0.119 \end{aligned}$ | $\begin{aligned} & 0.974 \\ & 0.663 \end{aligned}$ | $\begin{aligned} & 0.222 \\ & 0.213 \end{aligned}$ | $\begin{aligned} & 0.121 \\ & 0.161 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { NA } \\ & \text { NA } \end{aligned}$ |
| Lower Strait of Georgia ${ }^{4}$ | Cowichan, Nanaimo | $\begin{aligned} & 11.350 \\ & 11.350 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 5.780 \\ & 5.780 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 4.990 \\ & 4.990 \\ & \hline \end{aligned}$ | $\begin{aligned} & 7.250 \\ & 7.250 \\ & \hline \end{aligned}$ | $\begin{aligned} & 10.230 \\ & 10.230 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 0.480 \\ & 0.480 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 0.220 \\ & 0.220 \\ & \hline \end{aligned}$ | $\begin{aligned} & 0.452 \\ & 0.452 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 0.915 \\ & 0.915 \\ & \hline \end{aligned}$ | $\begin{gathered} 0.407^{8} \\ 0.915 \\ \hline \end{gathered}$ | 0.271 | $\begin{aligned} & 0.288 \\ & 0.288 \\ & \hline \end{aligned}$ |
| Upper Strait of Georgia ${ }^{4}$ | Klinaklini, Kakweikan, Wakeman, Kingcome, Nimpkish | NA | NA | NA | NA | NA | NC | NC | NC | NC | NC | NC | NC |
| Fraser Early (spring and summers) ${ }^{4}$ | Upper Fraser, Mid Fraser, Thompson | NA | NA | NA | NA | NA | 0.700 | 0.150 | 0.277 | 0.839 | 0.257 | 0.224 | 0.219 |
| West Coast Vancouver Island Falls ${ }^{4}$ | WCVI (Artlish, Burman, Kauok, Tahsis, Tashish, Marble) | NA | NA | NA | NA | NA | 0.730 | 0.270 | 0.658 | 0.540 | 0.290 | 0.128 | 0.311 |
| North / Central B. C. | Yakoun, Nass, Skeena, Area 8 | NA | NA | NA | NA | NA | NC | NC | NC | NC | NC | NC | NC |

[^3]
## Appendix E. Percent distribution of landed catch and total mortality among fisheries and escapement for exploitation rate indicator stocks by calendar year.

These data result from cohort analysis of CWT recoveries for the indicator stocks; data within a row for each calendar year sum to $100 \%$. Some changes are present in these distribution tables compared to those presented in previous reports. There are various reasons for the changes including updates to escapement time series, in the case of some Columbia River stocks. Also, a computational rule used in producing the stock-specific distribution tables determines whether data are reported for any particular calendar year. The rule is that at least three year classes of CWT recoveries (out of four or five) must be available in any calendar year. Lack of CWT releases in recent years for some of the indicators has resulted in no distribution data for 20002003. Missing broods are noted in the appropriated tables.

## LIST OF APPENDIX E TABLES

Page
Appendix E.1. Percent distribution of Alaska Spring Chinook reported catch among fisheries and escapement ..... 137
Appendix E.2. Percent distribution of Alaska Spring Chinook total fishing mortalities among fisheries and escapement. ..... 138
Appendix E.3. Percent distribution of Kitsumkalum River Summer Chinook reported catch among fisheries and escapement (NA=not available). ..... 139
Appendix E.4. Percent distribution of Kitsumkalum River Summer Chinook total fishing mortalities among fisheries and escapement (NA=not available). ..... 140
Appendix E.5. Percent distribution of Robertson Creek Fall Chinook reported catch among fisheries and escapement ..... 141
Appendix E.6. Percent distribution of Robertson Creek Fall Chinook total fishing mortalities among fisheries and escapement. ..... 142
Appendix E.7. Percent distribution of Quinsam River Fall Chinook reported catch among fisheries and escapement ..... 143
Appendix E.8. Percent distribution of Quinsam River Fall Chinook total fishing mortalities among fisheries and escapement ..... 144
Appendix E.9. Percent distribution of Puntledge River Summer Chinook reported catch among fisheries and escapement. ..... 145
Appendix E.10. Percent distribution of Puntledge River Summer Chinook total fishing mortalities among fisheries and escapement. ..... 146
Appendix E.11. Percent distribution of Big Qualicum River Fall Chinook reported catch among fisheries and escapement. ..... 147
Appendix E.12. Percent distribution of Big Qualicum Fall Chinook total fishing mortalities among fisheries and escapement ..... 148
Appendix E.13. Percent distribution of Cowichan River Fall Chinook reported catch among fisheries and escapement ..... 149
Appendix E.14. Percent distribution of Cowichan River Fall Chinook total fishing mortalities among fisheries and escapement. ..... 149
Appendix E.15. Percent distribution of Chilliwack River Fall Chinook reported catch among fisheries and escapement ..... 150
Appendix E.16. Percent distribution of Chilliwack River Fall Chinook total fishing mortalities among fisheries and escapement. ..... 151
Appendix E.17. Percent distribution of Nooksack Spring Fingerling Chinook reported catch among fisheries and escapement. ..... 152
Appendix E.18. Percent distribution of Nooksack Spring Fingerling Chinook total fishing mortalities among fisheries and escapement. ..... 152
Appendix E.19. Percent distribution of Nooksack Spring Yearling Chinook reported catch among fisheries and escapement. ..... 153
Appendix E.20. Percent distribution of Nooksack Spring Yearling Chinook total fishing mortalities among fisheries and escapement. ..... 153
Appendix E.21. Percent distribution of Skagit Spring Fingerling Chinook reported catch among fisheries and escapement. ..... 154
Appendix E.22. Percent distribution of Skagit Spring Fingerling Chinook total fishing mortalities among fisheries and escapement. ..... 154
Appendix E.23. Percent distribution of Skagit Spring Yearling Chinook reported catch among fisheries and escapement ..... 155
Appendix E.24. Percent distribution of Skagit Spring Yearling Chinook total fishing mortalities among fisheries and escapement. ..... 155
Appendix E.25. Percent distribution of Samish Fall Fingerling Chinook reported catch among fisheries and escapement. ..... 156
Appendix E.26. Percent distribution of Samish Fall Fingerling Chinook total fishing mortalities among fisheries and escapement ..... 156
Appendix E.27. Percent distribution of Skagit Summer Fingerling Chinook reported catch among fisheries and escapement. ..... 157
Appendix E.28. Percent distribution of Skagit Summer Fingerling Chinook total fishing mortalities among fisheries and escapement. ..... 157
Appendix E.29. Percent distribution of Stillaguamish Fall Fingerling Chinook reported catch among fisheries and escapement (NA=not available). ..... 158
Appendix E.30. Percent distribution of Stillaguamish Fall Fingerling Chinook total fishing mortalities among fisheries and escapement. ..... 158
Appendix E.31. Percent distribution of Nisqually Fall Fingerling Chinook reported catch among fisheries and escapement. ..... 159
Appendix E.32. Percent distribution of Nisqually Fall Fingerling Chinook total fishing mortalities among fisheries and escapement. ..... 160
Appendix E.33. Percent distribution of George Adams Fall Fingerling Chinook among fisheries reported catch and escapement ..... 161
Appendix E.34. Percent distribution of George Adams Fall Fingerling Chinook total fishing among fisheries and escapement ..... 162
Appendix E.35. Percent distribution of South Puget Sound Fall Fingerling Chinook reported catch among fisheries and escapement. ..... 163
Appendix E.36. Percent distribution of South Puget Sound Fall Fingerling Chinook total fishing mortalities among fisheries and escapement. ..... 164
Appendix E.37. Percent distribution of South Puget Sound Fall Yearling Chinook reported catch among fisheries and escapement ..... 165
Appendix E.38. Percent distribution of South Puget Sound Fall Yearling Chinook for total fishing mortalities among fisheries and escapement. ..... 166
Appendix E.39. Percent distribution of Squaxin Pens Fall Yearling Chinook reported catch among fisheries and escapement. ..... 167
Appendix E.40. Percent distribution of Squaxin Pens Fall Yearling Chinook total fishing mortalities among fisheries and escapement. ..... 167
Appendix E.41. Percent distribution of White River Spring Yearling Chinook reported catch among fisheries and escapement. ..... 168
Appendix E.42. Percent distribution of White River Spring Yearling Chinook total fishing mortalities among fisheries and escapement. ..... 169
Appendix E.43. Percent distribution of Hoko Fall Fingerling Chinook reported catch among fisheries and escapement. ..... 170
Appendix E.44. Percent distribution of Hoko Fall Fingerling Chinook total fishing mortalities among fisheries and escapement ..... 170
Appendix E.45. Percent distribution of Sooes Fall Fingerling Chinook reported catch among fisheries and escapement. ..... 171
Appendix E.46. Percent distribution of Sooes Fall Fingerling Chinook total fishing mortalities among fisheries and escapement. ..... 171
Appendix E.47. Percent distribution of Queets Fall Fingerling Chinook reported catch among fisheries and escapement. ..... 172
Appendix E.48. Percent distribution of Queets Fall Fingerling Chinook total fishing mortalities among fisheries and escapement. ..... 173
Appendix E.49. Percent distribution of Willamette Spring Chinook reported catch among fisheries and escapement. ..... 174
Appendix E.50. Percent distribution of Willamette Spring Chinook total fishing mortalities among fisheries and escapement. ..... 175
Appendix E.51. Percent distribution of Columbia Summer Chinook reported catch among fisheries and escapement ..... 176
Appendix E.52. Percent distribution of Columbia Summer Chinook total fishing mortalities among fisheries and escapement. ..... 177
Appendix E.53. Percent distribution of Cowlitz Tule Chinook reported catch among fisheries and escapement ..... 178
Appendix E.54. Percent distribution of Cowlitz Tule Chinook total fishing mortalities among fisheries and escapement. ..... 179
Appendix E.55. Percent distribution of Spring Creek Tule Chinook reported catch among fisheries and escapement ..... 180
Appendix E.56. Percent distribution of Spring Creek Tule Chinook total fishing mortalities among fisheries and escapement ..... 181
Appendix E.57. Percent distribution of Columbia Lower River Hatchery Chinook reported catch among fisheries and escapement. ..... 182
Appendix E.58. Percent distribution of Columbia Lower River Hatchery Chinook total fishing mortalities among fisheries and escapement. ..... 183
Appendix E.59. Percent distribution of Upriver Bright Chinook reported catch among fisheries and escapement. ..... 184
Appendix E.60. Percent distribution of Upriver Bright Chinook total fishing mortalities among fisheries and escapement. ..... 185
Appendix E.61. Percent distribution of Hanford Wild Chinook reported catch among fisheries and escapement ..... 186
Appendix E.62. Percent distribution of Hanford Wild Chinook total fishing mortalities among fisheries and escapement. ..... 186
Appendix E.63. Percent distribution of Lyons Ferry Chinook reported catch among fisheries and escapement. ..... 187
Appendix E.64. Percent distribution of Lyons Ferry Chinook total fishing mortalities among fisheries and escapement. ..... 187
Appendix E.65. Percent distribution of Lewis River Wild Chinook reported catch among fisheries and escapement ..... 188
Appendix E.66. Percent distribution of Lewis River Wild Chinook total fishing mortalities among fisheries and escapement. ..... 189
Appendix E.67. Percent distribution of Salmon River Chinook reported catch among fisheries and escapement ..... 190
Appendix E.68. Percent distribution of Salmon River Chinook total fishing mortalities among fisheries and escapement ..... 191

Appendix E.1. Percent distribution of Alaska Spring Chinook reported catch among fisheries and escapement.


Appendix E.2. Percent distribution of Alaska Spring Chinook total fishing mortalities among fisheries and escapement.


Appendix E.3. Percent distribution of Kitsumkalum River Summer Chinook reported catch among fisheries and escapement ( $\mathrm{NA}=$ not available).

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch <br> Year | Alaska Troll | Alaska $\qquad$ Net | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \\ \hline \end{array}$ | $\begin{array}{r} \text { N/CBC } \\ \text { Sport } \\ \hline \end{array}$ | WCVI Troll | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | $\begin{array}{r} \text { Canada } \\ \text { Net } \\ \hline \end{array}$ | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | $\begin{gathered} \hline \text { U.S. } \\ \text { Net } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \\ \hline \end{array}$ |  |
| 1984 | 50.8\% | 0.0\% | 0.0\% | 18.5\% | 0.0\% | 30.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | NA ${ }^{1}$ |
| 1985 | 26.1\% | 0.0\% | 1.6\% | 7.1\% | 0.0\% | 13.6\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 51.6\% |
| 1986 | 8.9\% | 0.0\% | 0.0\% | 14.1\% | 0.0\% | 8.9\% | 2.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 65.7\% |
| 1987 | 7.4\% | 0.0\% | 0.0\% | 9.1\% | 0.0\% | 7.8\% | 4.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 71.4\% |
| 1988 | 17.4\% | 0.6\% | 1.9\% | 3.1\% | 0.0\% | 23.0\% | 7.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 46.6\% |
| 1989 | 10.9\% | 0.3\% | 6.8\% | 5.0\% | 0.0\% | 11.3\% | 6.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 59.1\% |
| 1990 | 10.7\% | 0.0\% | 2.8\% | 6.6\% | 0.3\% | 7.1\% | 7.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 65.0\% |
| 1991 | 14.6\% | 0.0\% | 3.7\% | 8.8\% | 0.7\% | 16.7\% | 13.6\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 41.8\% |
| 1992 | 13.9\% | 0.0\% | 1.9\% | 7.0\% | 0.0\% | 9.4\% | 6.6\% | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 60.7\% |
| 1993 | 10.4\% | 0.9\% | 2.2\% | 10.0\% | 0.0\% | 18.7\% | 4.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 53.5\% |
| 1994 | 11.1\% | 0.0\% | 0.0\% | 5.6\% | 0.0\% | 19.0\% | 6.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 57.9\% |
| 1995 | 11.8\% | 0.0\% | 2.7\% | 7.0\% | 0.0\% | 28.5\% | 8.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 41.9\% |
| 1996 | 8.3\% | 0.2\% | 6.0\% | 0.0\% | 0.0\% | 18.5\% | 5.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 62.0\% |
| 1997 | 10.2\% | 0.0\% | 7.4\% | 0.0\% | 0.0\% | 8.2\% | 12.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 61.5\% |
| 1998 | 8.5\% | 0.0\% | 3.0\% | 0.0\% | 0.0\% | 1.2\% | 6.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 81.0\% |
| 1999 | 13.9\% | 0.0\% | 9.2\% | 0.0\% | 0.0\% | 0.9\% | 11.6\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 64.4\% |
| 2000 | 6.7\% | 0.0\% | 6.7\% | 0.0\% | 0.0\% | 9.8\% | 6.4\% | 0.0\% | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 70.0\% |
| 2001 | 7.9\% | 0.0\% | 5.2\% | 0.4\% | 0.0\% | 6.9\% | 10.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 0.0\% | 68.8\% |
| 2002 | 12.0\% | 0.2\% | 5.0\% | 1.3\% | 0.0\% | 2.3\% | 16.5\% | 0.0\% | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 62.3\% |
| 2003 | 14.0\% | 0.0\% | 1.7\% | 5.0\% | 0.0\% | 0.0\% | 9.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 70.2\% |
| 2004 | 8.2\% | 2.6\% | 5.4\% | 0.9\% | 0.0\% | 0.8\% | 7.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 74.3\% |
| 2005 | 13.3\% | 0.0\% | 2.3\% | 2.3\% | 0.0\% | 0.0\% | 19.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 62.3\% |
| (85-98) | 12.4\% | 0.2\% | 2.8\% | 6.4\% | 0.1\% | 14.7\% | 6.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 56.8\% |
| (99-05) | 26.1\% | 0.0\% | 1.6\% | 7.1\% | 0.0\% | 13.6\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 51.6\% |

1. Values represent estimates of catch distribution only for this year.

Appendix E.4. Percent distribution of Kitsumkalum River Summer Chinook total fishing mortalities among fisheries and escapement ( $\mathrm{NA}=$ not available).

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch <br> Year | Alaska Troll | Alaska Net | Alaska Sport | North Troll | $\begin{array}{r} \text { Central } \\ \text { Troll } \\ \hline \end{array}$ | N/CBC $\qquad$ | N/CBC Sport | WCVI <br> Troll | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{gathered}$ | Canada $\qquad$ | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { U.S. } \\ \text { Net } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \\ \hline \end{array}$ |  |
| 1984 | 52.6\% | 0.0\% | 0.0\% | 21.1\% | 0.0\% | 26.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | NA ${ }^{1}$ |
| 1985 | 29.6\% | 0.0\% | 1.5\% | 7.7\% | 0.0\% | 12.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 48.5\% |
| 1986 | 10.2\% | 0.0\% | 0.0\% | 13.9\% | 0.0\% | 8.8\% | 2.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 64.8\% |
| 1987 | 12.8\% | 0.0\% | 2.6\% | 9.8\% | 0.0\% | 7.2\% | 5.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 62.3\% |
| 1988 | 23.4\% | 2.4\% | 4.9\% | 7.3\% | 0.0\% | 18.0\% | 7.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 36.6\% |
| 1989 | 14.3\% | 0.6\% | 6.9\% | 5.3\% | 0.0\% | 10.6\% | 6.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 55.5\% |
| 1990 | 11.8\% | 0.0\% | 3.3\% | 7.7\% | 0.3\% | 6.8\% | 7.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 62.1\% |
| 1991 | 19.9\% | 0.0\% | 4.2\% | 10.7\% | 0.9\% | 14.8\% | 13.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 36.5\% |
| 1992 | 15.4\% | 0.0\% | 2.0\% | 7.9\% | 0.0\% | 9.1\% | 6.9\% | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 58.3\% |
| 1993 | 11.6\% | 1.7\% | 2.1\% | 11.6\% | 0.0\% | 17.8\% | 4.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 50.8\% |
| 1994 | 13.3\% | 0.0\% | 0.0\% | 6.7\% | 0.0\% | 17.8\% | 8.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 54.1\% |
| 1995 | 13.2\% | 0.0\% | 2.7\% | 9.5\% | 0.0\% | 30.9\% | 8.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 35.5\% |
| 1996 | 9.9\% | 0.2\% | 6.4\% | 0.4\% | 0.0\% | 20.5\% | 5.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 57.0\% |
| 1997 | 11.5\% | 0.0\% | 8.5\% | 0.0\% | 0.0\% | 8.5\% | 14.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 57.2\% |
| 1998 | 10.3\% | 0.0\% | 3.5\% | 0.0\% | 0.0\% | 1.4\% | 7.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 77.8\% |
| 1999 | 14.9\% | 0.0\% | 11.3\% | 0.0\% | 0.0\% | 0.9\% | 14.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 58.3\% |
| 2000 | 8.5\% | 0.0\% | 8.8\% | 0.0\% | 0.0\% | 9.8\% | 8.3\% | 0.0\% | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 64.3\% |
| 2001 | 8.8\% | 0.0\% | 5.3\% | 0.4\% | 0.0\% | 13.4\% | 11.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 0.0\% | 60.1\% |
| 2002 | 12.6\% | 0.6\% | 5.5\% | 1.4\% | 0.0\% | 4.7\% | 19.1\% | 0.0\% | 0.6\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 55.6\% |
| 2003 | 15.7\% | 0.0\% | 1.9\% | 5.7\% | 0.0\% | 0.0\% | 10.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 66.5\% |
| 2004 | 8.4\% | 6.8\% | 5.8\% | 0.9\% | 0.0\% | 1.3\% | 9.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 66.9\% |
| 2005 | 13.9\% | 0.0\% | 2.2\% | 2.2\% | 0.0\% | 0.0\% | 21.6\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 60.1\% |
| (85-98) | 15.1\% | 0.4\% | 3.5\% | 7.6\% | 0.1\% | 14.1\% | 7.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 52.2\% |
| (99-05) | 11.8\% | 1.1\% | 5.8\% | 1.5\% | 0.0\% | 4.3\% | 13.6\% | 0.0\% | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 61.7\% |

${ }^{1}$ Values represent estimates of fishing mortality distribution only for this year.

Appendix E.5. Percent distribution of Robertson Creek Fall Chinook reported catch among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska Net | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \end{array}$ | N/CBC Sport | WCVI <br> Troll | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | Canada Net | Canada Sport | $\begin{aligned} & \text { U.S. } \\ & \text { Troll } \end{aligned}$ | $\begin{gathered} \text { U.S. } \\ \text { Net } \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1979 | 17.9\% | 0.8\% | 0.7\% | 11.5\% | 10.9\% | 7.8\% | 0.3\% | 8.1\% | 1.7\% | 2.3\% | 5.2\% | 0.0\% | 0.1\% | 0.0\% | 32.6\% |
| 1980 | 26.9\% | 7.0\% | 0.9\% | 8.1\% | 8.3\% | 4.5\% | 0.1\% | 7.0\% | 0.1\% | 11.2\% | 3.4\% | 0.0\% | 0.2\% | 0.0\% | 22.5\% |
| 1981 | 29.7\% | 1.6\% | 0.8\% | 12.2\% | 8.2\% | 4.9\% | 0.5\% | 5.3\% | 0.6\% | 13.5\% | 5.7\% | 0.0\% | 0.4\% | 0.0\% | 16.5\% |
| 1982 | 25.0\% | 3.4\% | 1.5\% | 13.5\% | 7.5\% | 5.0\% | 0.1\% | 5.8\% | 0.9\% | 14.8\% | 6.4\% | 0.1\% | 0.6\% | 0.2\% | 15.3\% |
| 1983 | 36.0\% | 3.3\% | 0.6\% | 10.4\% | 8.0\% | 2.4\% | 0.3\% | 5.3\% | 0.3\% | 18.2\% | 4.6\% | 0.0\% | 0.2\% | 0.0\% | 10.4\% |
| 1984 | 26.6\% | 4.0\% | 0.0\% | 14.7\% | 3.0\% | 2.8\% | 0.0\% | 6.7\% | 0.8\% | 17.7\% | 16.0\% | 0.0\% | 0.2\% | 0.0\% | 7.6\% |
| 1985 | 14.1\% | 5.8\% | 0.0\% | 17.7\% | 0.5\% | 4.5\% | 0.0\% | 2.0\% | 0.8\% | 3.6\% | 17.7\% | 0.0\% | 2.0\% | 0.0\% | 31.3\% |
| 1986 | 13.9\% | 4.6\% | 0.0\% | 8.1\% | 1.1\% | 3.1\% | 0.7\% | 4.4\% | 0.0\% | 1.5\% | 26.6\% | 0.0\% | 0.0\% | 1.1\% | 35.0\% |
| 1987 | 6.5\% | 1.5\% | 0.6\% | 6.1\% | 2.9\% | 2.4\% | 0.5\% | 2.2\% | 0.5\% | 1.1\% | 20.9\% | 0.0\% | 0.3\% | 0.1\% | 54.3\% |
| 1988 | 9.9\% | 2.1\% | 0.9\% | 6.6\% | 1.2\% | 2.0\% | 1.1\% | 4.1\% | 0.6\% | 8.1\% | 18.6\% | 0.0\% | 0.3\% | 0.2\% | 44.4\% |
| 1989 | 8.0\% | 1.9\% | 0.4\% | 7.8\% | 0.8\% | 1.1\% | 1.0\% | 1.6\% | 0.8\% | 20.6\% | 18.6\% | 0.0\% | 0.1\% | 0.1\% | 37.1\% |
| 1990 | 15.8\% | 1.1\% | 1.3\% | 7.3\% | 2.0\% | 1.7\% | 0.9\% | 6.3\% | 0.3\% | 10.4\% | 10.8\% | 0.0\% | 0.0\% | 0.1\% | 41.9\% |
| 1991 | 16.9\% | 0.8\% | 3.1\% | 9.2\% | 2.7\% | 0.6\% | 0.8\% | 4.5\% | 0.3\% | 15.0\% | 13.7\% | 0.0\% | 0.0\% | 0.1\% | 32.4\% |
| 1992 | 13.7\% | 3.0\% | 1.7\% | 7.2\% | 3.0\% | 0.9\% | 1.5\% | 18.8\% | 0.1\% | 0.8\% | 8.0\% | 0.0\% | 0.1\% | 0.1\% | 41.1\% |
| 1993 | 13.9\% | 1.0\% | 2.5\% | 7.1\% | 2.0\% | 0.4\% | 1.4\% | 13.7\% | 0.5\% | 8.4\% | 15.7\% | 0.0\% | 0.0\% | 0.1\% | 33.2\% |
| 1994 | 15.8\% | 2.2\% | 3.7\% | 9.5\% | 1.1\% | 1.1\% | 1.1\% | 5.3\% | 0.4\% | 12.8\% | 21.3\% | 0.0\% | 0.0\% | 0.1\% | 25.6\% |
| 1995 | 15.1\% | 0.0\% | 4.0\% | 3.0\% | 0.3\% | 0.3\% | 2.0\% | 1.5\% | 1.4\% | 7.2\% | 12.3\% | 0.0\% | 0.2\% | 0.0\% | 52.6\% |
| 1996 | 5.6\% | 0.1\% | 1.9\% | 0.0\% | 0.7\% | 0.0\% | 2.8\% | 0.0\% | 1.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 87.4\% |
| 1997 | 10.7\% | 3.2\% | 3.9\% | 4.5\% | 1.8\% | 0.4\% | 3.3\% | 0.1\% | 0.5\% | 6.5\% | 20.0\% | 0.1\% | 0.0\% | 0.0\% | 44.9\% |
| 1998 | 16.3\% | 1.2\% | 5.0\% | 6.1\% | 0.0\% | 0.0\% | 3.1\% | 0.0\% | 0.6\% | 4.1\% | 18.9\% | 0.1\% | 0.0\% | 0.0\% | 44.6\% |
| 1999 | 11.8\% | 0.4\% | 7.7\% | 3.2\% | 0.2\% | 0.0\% | 6.1\% | 0.0\% | 0.8\% | 6.7\% | 21.6\% | 0.0\% | 0.0\% | 0.0\% | 41.5\% |
| 2000 | 5.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 9.0\% | 0.0\% | 1.6\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 84.1\% |
| 2001 | 3.0\% | 0.0\% | 1.7\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.0\% | 2.2\% | 0.0\% | 2.1\% | 0.0\% | 0.0\% | 0.0\% | 90.5\% |
| 2002 | 10.4\% | 0.2\% | 1.4\% | 2.5\% | 0.1\% | 0.0\% | 3.9\% | 0.3\% | 0.6\% | 7.2\% | 23.8\% | 0.0\% | 0.0\% | 0.0\% | 49.4\% |
| 2003 | 13.2\% | 2.0\% | 3.2\% | 0.7\% | 0.0\% | 0.0\% | 3.8\% | 0.0\% | 0.2\% | 3.1\% | 17.5\% | 0.0\% | 0.0\% | 0.0\% | 56.3\% |
| 2004 | 11.4\% | 7.2\% | 2.5\% | 2.2\% | 0.0\% | 0.0\% | 4.5\% | 0.1\% | 1.3\% | 12.1\% | 17.0\% | 0.0\% | 0.0\% | 0.1\% | 41.7\% |
| 2005 | 13.3\% | 2.5\% | 3.5\% | 2.6\% | 0.0\% | 0.0\% | 8.2\% | 0.0\% | 0.7\% | 31.4\% | 12.6\% | 0.0\% | 0.0\% | 0.0\% | 25.3\% |
| (79-84) | 27.0\% | 3.4\% | 0.8\% | 11.7\% | 7.7\% | 4.6\% | 0.2\% | 6.4\% | 0.7\% | 13.0\% | 6.9\% | 0.0\% | 0.3\% | 0.0\% | 17.5\% |
| (85-98) | 12.6\% | 2.0\% | 2.1\% | 7.2\% | 1.4\% | 1.3\% | 1.4\% | 4.6\% | 0.6\% | 7.2\% | 15.9\% | 0.0\% | 0.2\% | 0.1\% | 43.3\% |
| (99-05) | 9.8\% | 1.8\% | 2.9\% | 1.6\% | 0.0\% | 0.0\% | 5.1\% | 0.1\% | 1.1\% | 8.6\% | 13.5\% | 0.0\% | 0.0\% | 0.0\% | 55.5\% |

Appendix E.6. Percent distribution of Robertson Creek Fall Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch <br> Year | Alaska Troll | Alaska Net | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \end{array}$ | N/CBC Sport | WCVI <br> Troll | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | Canada Net | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | $\begin{gathered} \text { U.S. } \\ \text { Net } \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1979 | 20.7\% | 0.7\% | 0.7\% | 12.8\% | 12.0\% | 7.1\% | 0.3\% | 9.0\% | 1.6\% | 2.0\% | 4.8\% | 0.0\% | 0.1\% | 0.0\% | 28.1\% |
| 1980 | 27.7\% | 6.9\% | 1.0\% | 8.6\% | 8.7\% | 4.4\% | 0.1\% | 7.5\% | 0.1\% | 10.6\% | 3.4\% | 0.0\% | 0.2\% | 0.0\% | 20.6\% |
| 1981 | 32.9\% | 1.5\% | 1.0\% | 13.1\% | 8.9\% | 4.4\% | 0.5\% | 5.8\% | 0.6\% | 11.9\% | 5.2\% | 0.0\% | 0.5\% | 0.0\% | 13.7\% |
| 1982 | 28.5\% | 3.1\% | 1.6\% | 14.2\% | 7.8\% | 4.6\% | 0.1\% | 6.1\% | 0.8\% | 13.2\% | 5.9\% | 0.1\% | 0.6\% | 0.2\% | 13.0\% |
| 1983 | 40.6\% | 3.0\% | 0.6\% | 10.1\% | 7.7\% | 2.2\% | 0.3\% | 5.1\% | 0.3\% | 16.5\% | 4.4\% | 0.0\% | 0.2\% | 0.0\% | 9.1\% |
| 1984 | 28.0\% | 3.8\% | 0.0\% | 14.8\% | 3.0\% | 2.7\% | 0.0\% | 6.9\% | 0.8\% | 16.8\% | 15.9\% | 0.0\% | 0.2\% | 0.0\% | 7.1\% |
| 1985 | 14.9\% | 16.8\% | 0.0\% | 16.0\% | 0.4\% | 3.7\% | 0.0\% | 1.8\% | 0.7\% | 3.0\% | 15.4\% | 0.0\% | 1.9\% | 0.0\% | 25.4\% |
| 1986 | 17.8\% | 12.6\% | 0.0\% | 8.6\% | 1.2\% | 2.9\% | 1.1\% | 4.4\% | 0.0\% | 1.2\% | 22.1\% | 0.0\% | 0.0\% | 1.8\% | 26.2\% |
| 1987 | 10.2\% | 3.4\% | 1.1\% | 7.5\% | 3.5\% | 2.3\% | 0.6\% | 2.7\% | 0.5\% | 1.0\% | 19.8\% | 0.0\% | 0.3\% | 0.1\% | 47.1\% |
| 1988 | 11.0\% | 4.8\% | 1.2\% | 7.3\% | 1.3\% | 1.9\% | 1.1\% | 4.7\% | 0.7\% | 7.5\% | 18.3\% | 0.0\% | 0.4\% | 0.2\% | 39.7\% |
| 1989 | 11.2\% | 5.7\% | 0.6\% | 9.1\% | 1.0\% | 1.1\% | 1.0\% | 1.9\% | 0.8\% | 18.5\% | 17.5\% | 0.0\% | 0.1\% | 0.1\% | 31.4\% |
| 1990 | 19.5\% | 2.9\% | 1.5\% | 8.8\% | 2.3\% | 1.6\% | 0.9\% | 6.7\% | 0.3\% | 9.4\% | 10.0\% | 0.0\% | 0.0\% | 0.1\% | 35.9\% |
| 1991 | 20.1\% | 1.8\% | 3.3\% | 9.9\% | 2.9\% | 0.6\% | 0.8\% | 4.8\% | 0.3\% | 13.7\% | 13.1\% | 0.0\% | 0.0\% | 0.1\% | 28.7\% |
| 1992 | 16.8\% | 8.1\% | 1.7\% | 7.5\% | 3.0\% | 0.8\% | 1.4\% | 18.6\% | 0.1\% | 0.6\% | 7.2\% | 0.0\% | 0.1\% | 0.1\% | 34.1\% |
| 1993 | 16.0\% | 2.3\% | 2.5\% | 7.6\% | 2.1\% | 0.4\% | 1.4\% | 14.4\% | 0.5\% | 7.7\% | 15.1\% | 0.0\% | 0.0\% | 0.1\% | 29.9\% |
| 1994 | 18.1\% | 4.9\% | 3.6\% | 9.2\% | 1.0\% | 1.0\% | 1.1\% | 5.2\% | 0.4\% | 11.7\% | 20.6\% | 0.0\% | 0.0\% | 0.1\% | 23.1\% |
| 1995 | 17.2\% | 0.0\% | 4.5\% | 3.6\% | 0.4\% | 0.5\% | 2.6\% | 1.8\% | 1.5\% | 6.7\% | 13.1\% | 0.0\% | 0.2\% | 0.0\% | 47.9\% |
| 1996 | 9.2\% | 0.1\% | 4.5\% | 2.7\% | 0.7\% | 0.0\% | 6.1\% | 0.7\% | 1.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 74.2\% |
| 1997 | 13.7\% | 8.2\% | 4.4\% | 5.0\% | 2.0\% | 0.4\% | 3.6\% | 0.2\% | 0.6\% | 5.9\% | 18.0\% | 0.1\% | 0.0\% | 0.0\% | 37.9\% |
| 1998 | 16.8\% | 3.0\% | 5.0\% | 6.1\% | 0.0\% | 0.0\% | 3.6\% | 0.0\% | 0.6\% | 3.9\% | 19.0\% | 0.1\% | 0.0\% | 0.0\% | 41.8\% |
| 1999 | 12.4\% | 0.8\% | 7.8\% | 3.2\% | 0.2\% | 0.0\% | 6.8\% | 0.0\% | 0.8\% | 6.5\% | 22.2\% | 0.0\% | 0.0\% | 0.0\% | 39.3\% |
| 2000 | 5.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 16.5\% | 0.0\% | 1.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 75.7\% |
| 2001 | 4.5\% | 0.0\% | 3.1\% | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 0.0\% | 2.8\% | 0.0\% | 2.6\% | 0.0\% | 0.0\% | 0.0\% | 86.4\% |
| 2002 | 12.0\% | 0.6\% | 1.7\% | 2.8\% | 0.2\% | 0.0\% | 4.9\% | 0.3\% | 0.7\% | 6.7\% | 24.9\% | 0.0\% | 0.0\% | 0.0\% | 45.0\% |
| 2003 | 14.3\% | 5.6\% | 3.7\% | 0.8\% | 0.0\% | 0.0\% | 4.9\% | 0.0\% | 0.3\% | 2.8\% | 18.0\% | 0.0\% | 0.0\% | 0.0\% | 49.6\% |
| 2004 | 11.2\% | 19.6\% | 2.4\% | 2.2\% | 0.0\% | 0.0\% | 5.1\% | 0.1\% | 1.3\% | 9.8\% | 15.6\% | 0.0\% | 0.0\% | 0.0\% | 32.7\% |
| 2005 | 13.9\% | 4.4\% | 3.6\% | 2.7\% | 0.0\% | 0.0\% | 9.8\% | 0.0\% | 0.7\% | 29.1\% | 12.8\% | 0.0\% | 0.0\% | 0.0\% | 23.0\% |
| (79-84) | 29.7\% | 3.2\% | 0.8\% | 12.3\% | 8.0\% | 4.2\% | 0.2\% | 6.7\% | 0.7\% | 11.8\% | 6.6\% | 0.0\% | 0.3\% | 0.0\% | 15.3\% |
| (85-98) | 15.2\% | 5.3\% | 2.4\% | 7.8\% | 1.6\% | 1.2\% | 1.8\% | 4.9\% | 0.6\% | 6.5\% | 14.9\% | 0.0\% | 0.2\% | 0.2\% | 37.4\% |
| (99-05) | 10.6\% | 4.4\% | 3.2\% | 1.7\% | 0.1\% | 0.0\% | 7.0\% | 0.1\% | 1.2\% | 7.8\% | 13.7\% | 0.0\% | 0.0\% | 0.0\% | 50.2\% |

Appendix E.7. Percent distribution of Quinsam River Fall Chinook reported catch among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska Net | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \end{array}$ | N/CBC <br> Sport | $\begin{gathered} \text { WCVI } \\ \text { Troll } \\ \hline \end{gathered}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | Canada Net | Canada Sport | $\begin{aligned} & \text { U.S. } \\ & \text { Troll } \end{aligned}$ | $\begin{gathered} \text { U.S. } \\ \text { Net } \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1979 | 4.7\% | 5.0\% | 0.7\% | 5.3\% | 10.0\% | 18.8\% | 3.0\% | 0.0\% | 6.8\% | 4.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 41.4\% |
| 1980 | 14.6\% | 5.0\% | 2.9\% | 10.4\% | 16.3\% | 12.8\% | 5.2\% | 0.0\% | 6.6\% | 8.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 17.5\% |
| 1981 | 10.9\% | 2.4\% | 1.6\% | 13.2\% | 12.3\% | 10.4\% | 6.5\% | 0.6\% | 12.0\% | 6.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 23.6\% |
| 1982 | 16.3\% | 7.1\% | 5.0\% | 7.5\% | 6.4\% | 19.3\% | 2.2\% | 0.4\% | 3.9\% | 7.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 24.4\% |
| 1983 | 21.0\% | 1.6\% | 0.3\% | 14.7\% | 11.5\% | 17.0\% | 2.8\% | 0.7\% | 4.7\% | 8.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 17.4\% |
| 1984 | 14.3\% | 5.9\% | 4.6\% | 5.8\% | 5.0\% | 14.9\% | 4.0\% | 0.8\% | 7.8\% | 6.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 30.5\% |
| 1985 | 25.7\% | 5.7\% | 4.3\% | 5.1\% | 3.6\% | 10.9\% | 1.0\% | 0.1\% | 4.4\% | 8.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 30.9\% |
| 1986 | 13.8\% | 4.3\% | 2.8\% | 6.6\% | 7.2\% | 19.8\% | 2.9\% | 0.0\% | 6.2\% | 6.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 30.0\% |
| 1987 | 10.7\% | 3.6\% | 2.8\% | 6.3\% | 6.1\% | 17.1\% | 6.5\% | 0.4\% | 4.0\% | 7.3\% | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 34.8\% |
| 1988 | 18.6\% | 1.8\% | 1.2\% | 6.5\% | 2.4\% | 5.4\% | 2.8\% | 0.7\% | 3.7\% | 4.0\% | 0.9\% | 0.0\% | 0.0\% | 0.1\% | 51.7\% |
| 1989 | 12.7\% | 1.8\% | 2.8\% | 3.9\% | 1.9\% | 5.0\% | 3.3\% | 0.3\% | 7.4\% | 13.1\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 47.6\% |
| 1990 | 16.0\% | 2.0\% | 0.5\% | 6.2\% | 4.6\% | 10.3\% | 8.3\% | 1.3\% | 3.4\% | 4.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 43.0\% |
| 1991 | 10.6\% | 1.7\% | 1.4\% | 5.9\% | 9.4\% | 10.6\% | 12.5\% | 0.5\% | 4.6\% | 3.7\% | 0.8\% | 0.0\% | 0.0\% | 0.0\% | 38.3\% |
| 1992 | 12.0\% | 0.5\% | 2.5\% | 10.5\% | 9.7\% | 7.7\% | 6.5\% | 0.3\% | 3.7\% | 2.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 43.9\% |
| 1993 | 7.8\% | 3.3\% | 1.2\% | 5.7\% | 5.7\% | 19.2\% | 8.7\% | 1.2\% | 10.5\% | 3.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 33.5\% |
| 1994 | 5.3\% | 6.0\% | 4.0\% | 9.3\% | 1.3\% | 13.9\% | 5.0\% | 0.0\% | 6.0\% | 4.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 45.4\% |
| 1995 | 7.0\% | 4.5\% | 0.0\% | 9.1\% | 0.0\% | 14.5\% | 9.5\% | 0.0\% | 6.6\% | 0.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 47.9\% |
| 1996 | 6.4\% | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 17.4\% | 4.5\% | 0.0\% | 6.0\% | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 64.9\% |
| 1997 | 9.0\% | 3.2\% | 2.5\% | 4.1\% | 3.4\% | 2.3\% | 9.0\% | 0.7\% | 8.7\% | 0.2\% | 5.1\% | 0.0\% | 0.0\% | 0.0\% | 51.7\% |
| 1998 | 13.8\% | 2.2\% | 2.0\% | 0.0\% | 0.0\% | 0.4\% | 9.1\% | 0.0\% | 5.4\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.0\% | 66.8\% |
| 1999 | 8.6\% | 3.4\% | 4.2\% | 1.3\% | 0.2\% | 1.4\% | 11.9\% | 0.0\% | 1.6\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 67.3\% |
| 2000 | 12.8\% | 2.2\% | 4.9\% | 0.3\% | 0.0\% | 0.0\% | 5.6\% | 0.0\% | 2.8\% | 0.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 71.0\% |
| 2001 | 9.6\% | 1.4\% | 1.8\% | 0.1\% | 0.0\% | 0.0\% | 5.4\% | 0.0\% | 1.7\% | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 80.0\% |
| 2002 | 13.7\% | 2.9\% | 0.8\% | 0.4\% | 0.1\% | 0.0\% | 17.7\% | 0.0\% | 2.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 62.1\% |
| 2003 | 18.6\% | 1.8\% | 0.9\% | 0.0\% | 0.0\% | 0.0\% | 15.8\% | 0.0\% | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 62.6\% |
| 2004 | 8.4\% | 14.0\% | 1.7\% | 0.3\% | 0.0\% | 1.0\% | 15.8\% | 0.0\% | 0.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 58.2\% |
| 2005 | 17.0\% | 2.8\% | 2.8\% | 0.3\% | 0.0\% | 1.0\% | 14.8\% | 0.0\% | 1.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 60.0\% |
| (79-84) | 13.6\% | 4.5\% | 2.5\% | 9.5\% | 10.3\% | 15.5\% | 4.0\% | 0.4\% | 7.0\% | 7.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 25.8\% |
| (85-98) | 12.1\% | 2.9\% | 2.0\% | 5.7\% | 4.0\% | 11.0\% | 6.4\% | 0.4\% | 5.8\% | 4.2\% | 0.5\% | 0.0\% | 0.0\% | 0.0\% | 45.0\% |
| (99-05) | 12.7\% | 4.1\% | 2.4\% | 0.4\% | 0.0\% | 0.5\% | 12.4\% | 0.0\% | 1.5\% | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 65.9\% |

Appendix E.8. Percent distribution of Quinsam River Fall Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch <br> Year | Alaska Troll | Alaska $\qquad$ | Alaska Sport | North Troll | Central $\qquad$ | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \\ \hline \end{array}$ | $\begin{array}{r} \text { N/CBC } \\ \text { Sport } \\ \hline \end{array}$ | $\begin{gathered} \text { WCVI } \\ \text { Troll } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{array}$ | $\begin{array}{r} \text { Canada } \\ \text { Net } \\ \hline \end{array}$ | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | $\begin{gathered} \hline \text { U.S. } \\ \text { Net } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \\ \hline \end{array}$ |  |
| 1979 | 6.3\% | 4.9\% | 1.0\% | 6.6\% | 11.6\% | 18.2\% | 3.0\% | 0.1\% | 6.5\% | 4.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 37.6\% |
| 1980 | 15.2\% | 4.8\% | 3.2\% | 10.9\% | 17.3\% | 12.7\% | 5.1\% | 0.0\% | 6.5\% | 8.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 15.9\% |
| 1981 | 11.6\% | 2.3\% | 1.8\% | 14.3\% | 12.9\% | 10.2\% | 6.6\% | 0.6\% | 11.8\% | 6.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 21.7\% |
| 1982 | 20.0\% | 7.0\% | 5.4\% | 7.8\% | 6.7\% | 18.7\% | 2.2\% | 0.4\% | 3.6\% | 7.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 21.3\% |
| 1983 | 25.1\% | 1.4\% | 0.3\% | 14.7\% | 11.5\% | 16.4\% | 2.9\% | 0.7\% | 4.4\% | 7.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 15.0\% |
| 1984 | 15.6\% | 5.9\% | 5.4\% | 6.1\% | 5.1\% | 14.7\% | 4.1\% | 0.9\% | 7.7\% | 6.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 28.3\% |
| 1985 | 27.2\% | 12.7\% | 4.2\% | 4.7\% | 3.3\% | 9.9\% | 1.0\% | 0.1\% | 3.9\% | 7.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 25.9\% |
| 1986 | 15.4\% | 10.8\% | 3.1\% | 6.6\% | 7.2\% | 18.4\% | 3.0\% | 0.0\% | 5.5\% | 5.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 24.2\% |
| 1987 | 15.9\% | 10.4\% | 2.7\% | 6.8\% | 6.7\% | 14.3\% | 5.6\% | 0.4\% | 3.4\% | 6.0\% | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 27.5\% |
| 1988 | 19.7\% | 4.4\% | 1.3\% | 6.9\% | 2.5\% | 5.4\% | 3.0\% | 0.8\% | 3.9\% | 3.9\% | 0.9\% | 0.0\% | 0.0\% | 0.2\% | 47.1\% |
| 1989 | 14.6\% | 5.3\% | 2.9\% | 4.2\% | 2.0\% | 4.7\% | 3.3\% | 0.3\% | 7.8\% | 12.2\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 42.6\% |
| 1990 | 17.5\% | 5.1\% | 0.5\% | 6.8\% | 5.0\% | 9.8\% | 8.3\% | 1.4\% | 3.5\% | 4.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 37.9\% |
| 1991 | 12.0\% | 5.0\% | 1.5\% | 6.3\% | 10.0\% | 9.7\% | 12.0\% | 0.6\% | 4.8\% | 3.4\% | 0.7\% | 0.0\% | 0.0\% | 0.0\% | 34.0\% |
| 1992 | 16.3\% | 1.2\% | 2.6\% | 11.1\% | 9.9\% | 7.4\% | 6.6\% | 0.3\% | 3.8\% | 2.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 38.3\% |
| 1993 | 8.7\% | 7.2\% | 1.3\% | 6.4\% | 6.4\% | 17.6\% | 8.4\% | 1.3\% | 11.3\% | 2.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 28.6\% |
| 1994 | 6.8\% | 12.7\% | 4.0\% | 9.6\% | 1.4\% | 12.4\% | 4.8\% | 0.0\% | 6.2\% | 3.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 38.7\% |
| 1995 | 8.4\% | 5.1\% | 0.0\% | 11.1\% | 0.0\% | 16.6\% | 11.1\% | 0.0\% | 6.4\% | 2.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 39.2\% |
| 1996 | 6.9\% | 0.7\% | 0.0\% | 1.3\% | 0.0\% | 19.8\% | 7.6\% | 0.0\% | 6.6\% | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 56.8\% |
| 1997 | 9.8\% | 5.9\% | 3.0\% | 4.3\% | 3.5\% | 2.4\% | 10.8\% | 0.8\% | 9.1\% | 1.4\% | 4.7\% | 0.0\% | 0.0\% | 0.0\% | 44.3\% |
| 1998 | 14.6\% | 6.3\% | 2.2\% | 0.0\% | 0.0\% | 0.3\% | 11.8\% | 0.0\% | 5.8\% | 0.2\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 58.5\% |
| 1999 | 9.9\% | 7.2\% | 5.2\% | 1.4\% | 0.2\% | 1.7\% | 13.8\% | 0.0\% | 1.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 59.0\% |
| 2000 | 14.3\% | 3.7\% | 5.5\% | 0.2\% | 0.0\% | 0.0\% | 7.1\% | 0.0\% | 3.1\% | 1.6\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 64.5\% |
| 2001 | 10.7\% | 2.8\% | 2.0\% | 0.1\% | 0.0\% | 0.0\% | 6.7\% | 0.0\% | 1.8\% | 0.6\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 75.3\% |
| 2002 | 13.8\% | 6.4\% | 0.8\% | 0.4\% | 0.1\% | 0.0\% | 21.2\% | 0.0\% | 2.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 54.9\% |
| 2003 | 20.2\% | 5.9\% | 0.9\% | 0.0\% | 0.0\% | 0.0\% | 19.5\% | 0.0\% | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 53.1\% |
| 2004 | 6.9\% | 33.2\% | 1.5\% | 0.2\% | 0.0\% | 1.2\% | 16.7\% | 0.0\% | 0.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 39.5\% |
| 2005 | 17.6\% | 4.4\% | 3.3\% | 0.4\% | 0.0\% | 1.1\% | 19.2\% | 0.0\% | 1.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 52.6\% |
| (79-84) | 15.6\% | 4.4\% | 2.9\% | 10.1\% | 10.9\% | 15.2\% | 4.0\% | 0.5\% | 6.8\% | 6.6\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 23.3\% |
| (85-98) | 13.8\% | 6.6\% | 2.1\% | 6.2\% | 4.1\% | 10.6\% | 7.0\% | 0.4\% | 5.9\% | 3.9\% | 0.5\% | 0.0\% | 0.0\% | 0.0\% | 38.8\% |
| (99-05) | 13.3\% | 9.1\% | 2.7\% | 0.4\% | 0.0\% | 0.6\% | 14.9\% | 0.0\% | 1.7\% | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 57.0\% |

Appendix E.9. Percent distribution of Puntledge River Summer Chinook reported catch among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska Net | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \end{array}$ | N/CBC <br> Sport | $\begin{gathered} \text { WCVI } \\ \text { Troll } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{array}$ | Canada Net | Canada Sport | $\begin{aligned} & \text { U.S. } \\ & \text { Troll } \end{aligned}$ | $\begin{aligned} & \text { U.S. } \\ & \text { Net } \end{aligned}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1979 | 1.6\% | 0.3\% | 0.2\% | 2.5\% | 8.0\% | 6.4\% | 0.3\% | 0.9\% | 37.0\% | 6.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 36.8\% |
| 1980 | 2.4\% | 0.0\% | 0.4\% | 2.0\% | 5.9\% | 4.4\% | 1.3\% | 4.9\% | 38.6\% | 5.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 34.1\% |
| 1981 | 0.8\% | 0.0\% | 0.0\% | 5.3\% | 7.3\% | 3.5\% | 3.9\% | 0.0\% | 59.0\% | 5.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 14.9\% |
| 1982 | 0.8\% | 0.4\% | 0.0\% | 2.6\% | 14.6\% | 6.2\% | 1.2\% | 1.8\% | 22.0\% | 16.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 33.7\% |
| 1983 | 1.0\% | 0.2\% | 0.0\% | 7.8\% | 16.2\% | 5.3\% | 3.1\% | 2.5\% | 26.0\% | 2.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 35.2\% |
| 1984 | 0.0\% | 1.0\% | 0.0\% | 2.0\% | 5.0\% | 3.3\% | 1.0\% | 2.0\% | 23.0\% | 2.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 60.3\% |
| 1985 | 10.5\% | 0.8\% | 2.3\% | 6.0\% | 1.5\% | 8.3\% | 6.0\% | 0.0\% | 32.3\% | 6.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 26.3\% |
| 1986 | 5.6\% | 0.0\% | 4.4\% | 2.8\% | 3.9\% | 10.0\% | 0.0\% | 2.8\% | 42.8\% | 1.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 26.1\% |
| 1987 | 2.7\% | 0.7\% | 0.0\% | 12.2\% | 2.0\% | 6.8\% | 10.1\% | 0.0\% | 16.9\% | 0.0\% | 4.7\% | 0.0\% | 0.0\% | 0.0\% | 43.9\% |
| 1988 | 12.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 4.3\% | 14.1\% | 0.0\% | 17.4\% | 1.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 51.1\% |
| 1989 | 3.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 48.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 48.4\% |
| 1990 | 8.3\% | 0.0\% | 0.0\% | 0.0\% | 3.1\% | 10.4\% | 4.2\% | 0.0\% | 8.3\% | 4.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 61.5\% |
| 1991 | 6.5\% | 2.2\% | 0.0\% | 0.0\% | 0.0\% | 5.4\% | 9.7\% | 0.0\% | 28.0\% | 6.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 41.9\% |
| 1992 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 6.9\% | 3.4\% | 0.0\% | 36.8\% | 14.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 37.9\% |
| 1993 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 7.1\% | 11.4\% | 0.0\% | 48.6\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 32.9\% |
| 1994 | 7.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 7.1\% | 0.0\% | 0.0\% | 53.6\% | 3.6\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 28.6\% |
| 1995 | 5.6\% | 2.8\% | 0.0\% | 0.0\% | 0.0\% | 13.9\% | 0.0\% | 0.0\% | 30.6\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 47.2\% |
| 1996 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.2\% | 6.7\% | 0.0\% | 28.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 62.2\% |
| 1997 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 8.6\% | 11.4\% | 0.0\% | 5.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 74.3\% |
| 1998 | 4.8\% | 4.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 23.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 66.7\% |
| 1999 | 13.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.8\% | 0.0\% | 0.0\% | 6.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 76.9\% |
| 2000 | 0.0\% | 1.6\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 9.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 88.9\% |
| 2001 | 2.7\% | 0.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.7\% | 2.3\% | 2.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 87.7\% |
| 2002 | 4.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 8.9\% | 0.0\% | 3.6\% | 0.0\% | 9.8\% | 0.0\% | 0.0\% | 0.0\% | 73.2\% |
| 2003 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.9\% | 13.3\% | 0.0\% | 4.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 81.4\% |
| 2004 | 14.3\% | 1.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.1\% | 8.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 73.5\% |
| 2005 | 1.7\% | 0.0\% | 0.0\% | 1.3\% | 0.0\% | 0.0\% | 7.4\% | 0.7\% | 11.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 77.8\% |
| (79-84) | 1.1\% | 0.3\% | 0.1\% | 3.7\% | 9.5\% | 4.9\% | 1.8\% | 2.0\% | 34.3\% | 6.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 35.8\% |
| (85-98) | 4.7\% | 0.8\% | 0.5\% | 1.5\% | 0.8\% | 6.5\% | 7.2\% | 0.2\% | 28.5\% | 2.7\% | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 46.4\% |
| (99-05) | 5.3\% | 0.5\% | 0.0\% | 0.2\% | 0.0\% | 0.5\% | 4.8\% | 0.9\% | 6.6\% | 0.0\% | 1.4\% | 0.0\% | 0.0\% | 0.0\% | 79.9\% |

Appendix E.10. Percent distribution of Puntledge River Summer Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska Net | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \end{array}$ | N/CBC <br> Sport | $\begin{gathered} \text { WCVI } \\ \text { Troll } \\ \hline \end{gathered}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | Canada Net | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | $\begin{gathered} \text { U.S. } \\ \text { Net } \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1979 | 1.9\% | 0.3\% | 0.3\% | 2.8\% | 9.0\% | 6.3\% | 0.3\% | 1.3\% | 36.9\% | 6.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.9\% |
| 1980 | 2.8\% | 0.0\% | 0.5\% | 2.4\% | 6.7\% | 4.6\% | 1.4\% | 5.7\% | 38.5\% | 5.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.8\% |
| 1981 | 0.9\% | 0.0\% | 0.0\% | 6.5\% | 8.5\% | 3.2\% | 4.0\% | 0.0\% | 58.1\% | 5.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.9\% |
| 1982 | 1.1\% | 0.5\% | 0.0\% | 2.9\% | 16.7\% | 6.5\% | 1.4\% | 2.2\% | 21.7\% | 16.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.1\% |
| 1983 | 2.1\% | 0.2\% | 0.0\% | 8.3\% | 17.3\% | 5.3\% | 3.2\% | 2.6\% | 26.0\% | 2.6\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.1\% |
| 1984 | 0.0\% | 1.0\% | 0.0\% | 2.2\% | 5.7\% | 3.5\% | 1.3\% | 2.2\% | 23.9\% | 2.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% |
| 1985 | 14.7\% | 1.3\% | 3.8\% | 6.4\% | 1.3\% | 8.3\% | 6.4\% | 0.0\% | 30.1\% | 5.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 14.7\% |
| 1986 | 6.0\% | 0.0\% | 5.5\% | 3.0\% | 4.5\% | 10.0\% | 0.0\% | 3.0\% | 43.3\% | 1.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 6.0\% |
| 1987 | 3.1\% | 1.2\% | 0.0\% | 15.3\% | 3.1\% | 6.1\% | 10.4\% | 0.0\% | 16.6\% | 0.0\% | 4.3\% | 0.0\% | 0.0\% | 0.0\% | 3.1\% |
| 1988 | 11.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 5.0\% | 15.8\% | 0.0\% | 19.8\% | 1.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 11.9\% |
| 1989 | 2.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 54.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.8\% |
| 1990 | 9.8\% | 0.0\% | 0.0\% | 0.0\% | 3.9\% | 10.8\% | 3.9\% | 0.0\% | 8.8\% | 4.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 9.8\% |
| 1991 | 7.1\% | 5.3\% | 0.0\% | 0.0\% | 0.0\% | 5.3\% | 10.6\% | 0.0\% | 31.0\% | 6.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 7.1\% |
| 1992 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 7.1\% | 3.1\% | 0.0\% | 42.9\% | 13.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% |
| 1993 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 6.3\% | 11.4\% | 0.0\% | 53.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% |
| 1994 | 9.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 6.3\% | 0.0\% | 0.0\% | 56.3\% | 3.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 9.4\% |
| 1995 | 4.9\% | 2.4\% | 0.0\% | 0.0\% | 0.0\% | 14.6\% | 0.0\% | 0.0\% | 34.1\% | 2.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 4.9\% |
| 1996 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.0\% | 8.0\% | 0.0\% | 34.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% |
| 1997 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 10.0\% | 17.5\% | 0.0\% | 5.0\% | 2.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% |
| 1998 | 3.8\% | 11.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 30.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.8\% |
| 1999 | 15.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.5\% | 0.0\% | 0.0\% | 8.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 15.0\% |
| 2000 | 0.0\% | 3.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 12.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% |
| 2001 | 3.1\% | 1.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 4.9\% | 2.2\% | 3.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.1\% |
| 2002 | 5.6\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 12.1\% | 0.0\% | 4.8\% | 0.0\% | 11.3\% | 0.0\% | 0.0\% | 0.0\% | 5.6\% |
| 2003 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.8\% | 17.4\% | 0.0\% | 5.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% |
| 2004 | 16.8\% | 1.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.8\% | 11.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 16.8\% |
| 2005 | 1.9\% | 0.0\% | 0.0\% | 1.5\% | 0.0\% | 0.0\% | 10.5\% | 0.6\% | 13.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.9\% |
| (79-84) | 1.5\% | 0.3\% | 0.1\% | 4.2\% | 10.7\% | 4.9\% | 1.9\% | 2.3\% | 34.2\% | 6.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.5\% |
| (85-98) | 5.3\% | 1.6\% | 0.7\% | 1.8\% | 0.9\% | 6.6\% | 8.4\% | 0.2\% | 30.7\% | 2.9\% | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 5.3\% |
| (99-05) | 6.1\% | 1.0\% | 0.0\% | 0.2\% | 0.0\% | 0.6\% | 6.4\% | 0.8\% | 8.4\% | 0.0\% | 1.6\% | 0.0\% | 0.0\% | 0.0\% | 6.1\% |

Appendix E.11. Percent distribution of Big Qualicum River Fall Chinook reported catch among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska $\qquad$ <br> Net | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \end{array}$ | N/CBC Sport | WCVI <br> Troll | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | $\begin{array}{r} \text { Canada } \\ \text { Net } \end{array}$ | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \\ \hline \end{gathered}$ | U.S. <br> Net | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1979 | 3.4\% | 0.9\% | 0.3\% | 1.7\% | 9.4\% | 4.1\% | 0.4\% | 2.2\% | 39.3\% | 8.0\% | 0.1\% | 0.0\% | 0.3\% | 0.1\% | 29.8\% |
| 1980 | 1.4\% | 1.6\% | 0.4\% | 4.3\% | 6.6\% | 3.4\% | 1.3\% | 4.2\% | 39.2\% | 9.4\% | 0.0\% | 0.1\% | 0.3\% | 0.2\% | 27.6\% |
| 1981 | 1.9\% | 0.3\% | 0.4\% | 1.3\% | 11.5\% | 4.5\% | 0.8\% | 1.6\% | 54.7\% | 9.7\% | 0.3\% | 0.0\% | 0.1\% | 0.6\% | 12.3\% |
| 1982 | 4.5\% | 0.4\% | 1.2\% | 4.5\% | 5.8\% | 8.5\% | 0.4\% | 4.3\% | 25.6\% | 12.1\% | 0.0\% | 0.0\% | 1.1\% | 0.7\% | 30.9\% |
| 1983 | 5.4\% | 0.3\% | 0.3\% | 4.9\% | 6.8\% | 4.6\% | 1.0\% | 1.1\% | 36.6\% | 14.6\% | 0.0\% | 0.0\% | 0.0\% | 0.6\% | 23.7\% |
| 1984 | 1.4\% | 0.4\% | 0.0\% | 1.4\% | 6.6\% | 3.6\% | 5.8\% | 1.4\% | 52.3\% | 6.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 20.7\% |
| 1985 | 3.9\% | 0.3\% | 0.0\% | 1.7\% | 3.8\% | 6.8\% | 1.7\% | 1.4\% | 35.8\% | 12.5\% | 0.0\% | 0.0\% | 2.6\% | 0.0\% | 29.4\% |
| 1986 | 1.9\% | 0.2\% | 0.0\% | 0.7\% | 12.6\% | 8.1\% | 2.8\% | 1.4\% | 44.6\% | 7.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 20.1\% |
| 1987 | 8.7\% | 0.0\% | 0.9\% | 3.9\% | 2.4\% | 2.6\% | 2.7\% | 4.2\% | 31.4\% | 5.1\% | 0.0\% | 0.8\% | 0.7\% | 0.0\% | 36.5\% |
| 1988 | 2.8\% | 0.5\% | 0.0\% | 2.3\% | 1.3\% | 10.2\% | 1.3\% | 2.8\% | 31.8\% | 4.8\% | 2.0\% | 0.0\% | 1.0\% | 0.0\% | 39.2\% |
| 1989 | 4.2\% | 1.2\% | 0.6\% | 3.2\% | 0.6\% | 1.0\% | 1.8\% | 4.8\% | 39.3\% | 8.2\% | 0.0\% | 0.2\% | 0.0\% | 1.0\% | 33.9\% |
| 1990 | 4.7\% | 1.9\% | 0.0\% | 6.0\% | 1.6\% | 6.6\% | 2.4\% | 3.0\% | 22.6\% | 11.2\% | 0.0\% | 0.2\% | 0.0\% | 1.9\% | 37.8\% |
| 1991 | 2.4\% | 0.2\% | 0.0\% | 2.1\% | 1.1\% | 2.9\% | 1.9\% | 1.9\% | 44.9\% | 5.7\% | 0.0\% | 0.5\% | 0.5\% | 0.0\% | 35.8\% |
| 1992 | 2.3\% | 0.0\% | 2.5\% | 5.4\% | 5.9\% | 1.6\% | 7.7\% | 3.4\% | 41.2\% | 3.9\% | 0.0\% | 0.0\% | 0.4\% | 0.0\% | 25.6\% |
| 1993 | 1.2\% | 1.2\% | 0.0\% | 1.5\% | 3.9\% | 2.9\% | 3.2\% | 1.7\% | 45.0\% | 6.8\% | 0.0\% | 0.0\% | 0.0\% | 1.0\% | 31.5\% |
| 1994 | 4.4\% | 0.0\% | 0.0\% | 1.6\% | 1.6\% | 3.6\% | 2.0\% | 2.8\% | 33.7\% | 2.4\% | 0.0\% | 0.0\% | 2.8\% | 0.0\% | 45.2\% |
| 1995 | 7.0\% | 0.0\% | 0.0\% | 1.5\% | 0.0\% | 7.0\% | 2.5\% | 0.0\% | 20.9\% | 0.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 60.7\% |
| 1996 | 2.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 1.1\% | 0.0\% | 46.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.1\% | 47.9\% |
| 1997 | 3.0\% | 0.0\% | 0.0\% | 5.0\% | 1.5\% | 1.5\% | 2.0\% | 0.0\% | 30.3\% | 0.5\% | 4.5\% | 0.0\% | 0.0\% | 0.0\% | 51.7\% |
| 1998 | 7.0\% | 0.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 5.9\% | 0.0\% | 19.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 67.0\% |
| 1999 | 5.5\% | 2.4\% | 0.0\% | 2.0\% | 2.4\% | 0.0\% | 3.5\% | 0.0\% | 11.4\% | 0.0\% | 3.5\% | 0.0\% | 0.8\% | 0.0\% | 68.6\% |
| 2000 | 13.8\% | 0.9\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 3.6\% | 0.0\% | 11.1\% | 0.0\% | 0.0\% | 0.0\% | 3.1\% | 0.0\% | 67.1\% |
| 2001 | 4.1\% | 6.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 10.7\% | 0.6\% | 10.5\% | 0.0\% | 0.0\% | 0.0\% | 1.7\% | 0.0\% | 65.6\% |
| 2002 | 9.6\% | 0.0\% | 2.9\% | 2.5\% | 0.0\% | 0.0\% | 11.8\% | 2.2\% | 8.9\% | 0.3\% | 2.9\% | 0.0\% | 1.9\% | 1.0\% | 56.1\% |
| 2003 | 8.0\% | 0.4\% | 1.7\% | 0.0\% | 0.0\% | 0.0\% | 9.7\% | 3.4\% | 8.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 68.1\% |
| 2004 | 7.0\% | 0.0\% | 0.3\% | 4.0\% | 0.0\% | 0.0\% | 4.8\% | 1.1\% | 8.3\% | 0.0\% | 0.0\% | 0.5\% | 1.3\% | 0.0\% | 72.7\% |
| 2005 | 9.0\% | 0.4\% | 0.0\% | 2.0\% | 0.0\% | 0.8\% | 9.2\% | 5.0\% | 7.2\% | 0.0\% | 2.8\% | 0.6\% | 3.0\% | 0.6\% | 59.2\% |
| (79-84) | 3.0\% | 0.7\% | 0.4\% | 3.0\% | 7.8\% | 4.8\% | 1.6\% | 2.5\% | 41.3\% | 10.0\% | 0.1\% | 0.0\% | 0.3\% | 0.4\% | 24.2\% |
| (85-98) | 4.0\% | 0.4\% | 0.3\% | 2.5\% | 2.6\% | 4.0\% | 2.8\% | 2.0\% | 34.8\% | 4.9\% | 0.5\% | 0.1\% | 0.6\% | 0.4\% | 40.2\% |
| (99-05) | 8.1\% | 1.6\% | 0.7\% | 1.5\% | 0.3\% | 0.2\% | 7.6\% | 1.8\% | 9.5\% | 0.0\% | 1.3\% | 0.2\% | 1.7\% | 0.2\% | 65.3\% |

Appendix E.12. Percent distribution of Big Qualicum Fall Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \text { Catch } \\ \text { Year } \\ \hline \end{gathered}$ | Alaska Troll | Alaska Net $\qquad$ | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \\ \hline \end{array}$ | $\begin{array}{r} \text { N/CBC } \\ \text { Sport } \\ \hline \end{array}$ | $\begin{array}{r} \text { WCVI } \\ \text { Troll } \\ \hline \end{array}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{gathered}$ | Canada $\qquad$ | $\begin{array}{r} \text { Canada } \\ \text { Sport } \\ \hline \end{array}$ | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | $\begin{aligned} & \text { U.S. } \\ & \text { Net } \end{aligned}$ | $\begin{aligned} & \text { U.S. } \\ & \text { Sport } \end{aligned}$ |  |
| 1979 | 4.3\% | 0.9\% | 0.4\% | 2.2\% | 11.7\% | 4.0\% | 0.4\% | 2.8\% | 38.0\% | 7.6\% | 0.1\% | 0.0\% | 0.3\% | 0.1\% | 27.1\% |
| 1980 | 1.5\% | 1.7\% | 0.4\% | 4.9\% | 7.5\% | 3.4\% | 1.3\% | 4.9\% | 38.7\% | 9.3\% | 0.0\% | 0.2\% | 0.3\% | 0.2\% | 25.5\% |
| 1981 | 2.4\% | 0.3\% | 0.4\% | 1.6\% | 13.4\% | 4.5\% | 0.8\% | 1.9\% | 53.1\% | 9.4\% | 0.3\% | 0.0\% | 0.2\% | 0.6\% | 11.1\% |
| 1982 | 5.7\% | 0.5\% | 1.4\% | 4.9\% | 6.4\% | 8.4\% | 0.4\% | 4.9\% | 25.1\% | 11.8\% | 0.0\% | 0.0\% | 1.1\% | 0.8\% | 28.6\% |
| 1983 | 5.5\% | 0.3\% | 0.7\% | 5.0\% | 7.2\% | 4.8\% | 1.2\% | 1.2\% | 37.6\% | 14.1\% | 0.0\% | 0.0\% | 0.0\% | 1.0\% | 21.5\% |
| 1984 | 2.4\% | 0.4\% | 0.0\% | 1.6\% | 7.2\% | 3.6\% | 6.5\% | 1.6\% | 51.9\% | 6.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 18.6\% |
| 1985 | 6.8\% | 1.1\% | 0.0\% | 2.1\% | 4.4\% | 6.6\% | 2.1\% | 1.6\% | 34.6\% | 12.1\% | 0.0\% | 0.0\% | 3.2\% | 0.0\% | 25.3\% |
| 1986 | 3.2\% | 1.3\% | 0.0\% | 0.8\% | 13.4\% | 7.7\% | 2.8\% | 1.4\% | 44.6\% | 6.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 17.8\% |
| 1987 | 10.5\% | 0.0\% | 1.0\% | 4.2\% | 2.7\% | 2.5\% | 2.9\% | 4.7\% | 31.3\% | 5.0\% | 0.0\% | 0.9\% | 0.7\% | 0.0\% | 33.6\% |
| 1988 | 3.0\% | 2.0\% | 0.0\% | 2.6\% | 1.3\% | 10.0\% | 1.3\% | 3.3\% | 35.4\% | 4.3\% | 2.0\% | 0.0\% | 1.5\% | 0.0\% | 33.4\% |
| 1989 | 4.5\% | 3.7\% | 0.8\% | 3.7\% | 0.5\% | 0.8\% | 1.8\% | 5.2\% | 41.6\% | 7.4\% | 0.0\% | 0.3\% | 0.0\% | 1.2\% | 28.4\% |
| 1990 | 5.1\% | 5.0\% | 0.0\% | 7.0\% | 1.7\% | 6.4\% | 2.5\% | 3.2\% | 24.0\% | 10.4\% | 0.0\% | 0.1\% | 0.0\% | 2.5\% | 32.0\% |
| 1991 | 3.3\% | 0.7\% | 0.0\% | 2.5\% | 1.4\% | 2.7\% | 1.9\% | 2.2\% | 48.9\% | 5.1\% | 0.0\% | 0.5\% | 0.4\% | 0.0\% | 30.4\% |
| 1992 | 4.0\% | 0.0\% | 2.7\% | 6.0\% | 6.2\% | 1.5\% | 7.5\% | 3.5\% | 43.7\% | 3.4\% | 0.0\% | 0.0\% | 0.4\% | 0.0\% | 21.1\% |
| 1993 | 1.6\% | 2.8\% | 0.0\% | 1.6\% | 4.7\% | 2.6\% | 3.0\% | 1.8\% | 48.4\% | 6.1\% | 0.0\% | 0.0\% | 0.0\% | 1.2\% | 26.1\% |
| 1994 | 5.1\% | 0.0\% | 0.0\% | 1.8\% | 1.8\% | 3.2\% | 1.8\% | 2.9\% | 37.2\% | 2.2\% | 0.0\% | 0.0\% | 2.9\% | 0.0\% | 41.2\% |
| 1995 | 7.4\% | 0.0\% | 0.0\% | 2.2\% | 0.0\% | 8.7\% | 3.5\% | 0.0\% | 22.5\% | 3.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 52.8\% |
| 1996 | 3.3\% | 0.0\% | 0.0\% | 0.6\% | 0.0\% | 0.9\% | 1.5\% | 0.3\% | 51.5\% | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 1.2\% | 40.4\% |
| 1997 | 3.9\% | 0.0\% | 0.0\% | 5.7\% | 1.7\% | 1.7\% | 2.6\% | 0.0\% | 31.7\% | 3.0\% | 4.3\% | 0.0\% | 0.0\% | 0.0\% | 45.2\% |
| 1998 | 7.4\% | 1.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 8.8\% | 0.0\% | 21.6\% | 0.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 60.8\% |
| 1999 | 6.3\% | 5.9\% | 0.0\% | 2.4\% | 2.8\% | 0.0\% | 4.5\% | 0.0\% | 12.5\% | 0.0\% | 3.8\% | 0.0\% | 0.7\% | 0.0\% | 61.0\% |
| 2000 | 16.0\% | 2.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 5.2\% | 0.0\% | 12.4\% | 0.0\% | 0.0\% | 0.0\% | 3.6\% | 0.0\% | 60.4\% |
| 2001 | 4.4\% | 16.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 12.3\% | 0.5\% | 10.4\% | 0.0\% | 0.0\% | 0.0\% | 1.8\% | 0.0\% | 54.0\% |
| 2002 | 10.3\% | 0.0\% | 3.0\% | 2.7\% | 0.0\% | 0.0\% | 13.9\% | 1.9\% | 10.1\% | 4.6\% | 3.0\% | 0.0\% | 1.9\% | 0.8\% | 47.8\% |
| 2003 | 8.9\% | 1.9\% | 2.2\% | 0.0\% | 0.0\% | 0.0\% | 13.0\% | 3.3\% | 10.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 60.0\% |
| 2004 | 8.1\% | 0.0\% | 0.2\% | 4.6\% | 0.0\% | 0.0\% | 7.1\% | 1.2\% | 10.3\% | 0.0\% | 0.0\% | 0.5\% | 1.5\% | 0.0\% | 66.5\% |
| 2005 | 10.4\% | 0.7\% | 0.0\% | 2.1\% | 0.0\% | 1.1\% | 13.0\% | 4.9\% | 8.3\% | 0.0\% | 3.0\% | 0.5\% | 3.5\% | 0.7\% | 51.8\% |
| (79-84) | 3.6\% | 0.7\% | 0.6\% | 3.4\% | 8.9\% | 4.8\% | 1.8\% | 2.9\% | 40.7\% | 9.7\% | 0.1\% | 0.0\% | 0.3\% | 0.5\% | 22.1\% |
| (85-98) | 4.9\% | 1.3\% | 0.3\% | 2.9\% | 2.8\% | 4.0\% | 3.1\% | 2.2\% | 36.9\% | 5.0\% | 0.5\% | 0.1\% | 0.7\% | 0.4\% | 34.9\% |
| (99-05) | 9.2\% | 3.9\% | 0.8\% | 1.7\% | 0.4\% | 0.2\% | 9.9\% | 1.7\% | 10.7\% | 0.7\% | 1.4\% | 0.1\% | 1.9\% | 0.2\% | 57.4\% |

Appendix E.13. Percent distribution of Cowichan River Fall Chinook reported catch among fisheries and escapement.

| Catch <br> Year | Alaska Troll |  | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \\ \hline \end{array}$ | $\mathrm{N} / \mathbf{C B C}$Sport |  | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{gathered}$ | Other Fisheries |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Alaska $\qquad$ <br> Net |  |  |  |  |  | WCVI <br> Troll |  | Canada $\qquad$ | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { U.S. } \\ \text { Net } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ | Escapement |
| 1990 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.4\% | 4.6\% | 0.3\% | 1.3\% | 52.0\% | 12.8\% | 0.0\% | 0.7\% | 3.1\% | 2.2\% | 21.6\% |
| 1991 | 0.1\% | 0.0\% | 0.0\% | 0.2\% | 0.2\% | 0.6\% | 1.5\% | 3.2\% | 57.3\% | 4.8\% | 0.7\% | 0.9\% | 3.6\% | 0.8\% | 26.0\% |
| 1992 | 0.1\% | 0.0\% | 0.0\% | 0.4\% | 1.1\% | 1.2\% | 0.9\% | 9.6\% | 63.1\% | 4.3\% | 1.4\% | 0.3\% | 1.4\% | 1.3\% | 15.1\% |
| 1993 | 0.2\% | 0.0\% | 0.0\% | 0.1\% | 0.5\% | 0.6\% | 1.5\% | 7.8\% | 59.6\% | 3.4\% | 1.6\% | 0.6\% | 0.9\% | 0.5\% | 22.8\% |
| 1994 | 0.6\% | 0.0\% | 0.0\% | 0.4\% | 0.2\% | 2.3\% | 0.0\% | 4.1\% | 37.9\% | 6.3\% | 0.9\% | 0.4\% | 3.7\% | 0.5\% | 42.7\% |
| 1995 | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.2\% | 0.0\% | 4.0\% | 33.2\% | 0.5\% | 0.6\% | 0.0\% | 2.2\% | 0.7\% | 57.3\% |
| 1996 | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 0.0\% | 42.6\% | 0.4\% | 1.1\% | 0.0\% | 0.9\% | 3.6\% | 50.6\% |
| 1997 | 0.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.6\% | 2.8\% | 25.3\% | 0.2\% | 1.1\% | 0.0\% | 3.7\% | 2.9\% | 62.1\% |
| 1998 | 3.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.8\% | 0.5\% | 26.7\% | 0.3\% | 1.5\% | 0.0\% | 2.8\% | 0.0\% | 63.7\% |
| 1999 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.0\% | 0.0\% | 38.7\% | 1.2\% | 4.1\% | 1.0\% | 6.8\% | 0.7\% | 46.5\% |
| 2000 | 1.2\% | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.3\% | 19.2\% | 0.0\% | 3.7\% | 0.0\% | 4.2\% | 1.3\% | 69.0\% |
| 2001 | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.8\% | 9.5\% | 26.7\% | 0.3\% | 0.0\% | 0.2\% | 11.8\% | 1.0\% | 49.3\% |
| 2002 | 1.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 4.3\% | 3.8\% | 32.2\% | 0.2\% | 3.4\% | 0.6\% | 3.7\% | 4.0\% | 46.8\% |
| 2003 | 2.4\% | 0.3\% | 0.0\% | 2.8\% | 3.8\% | 0.0\% | 4.5\% | 11.1\% | 23.0\% | 0.0\% | 2.4\% | 0.7\% | 7.7\% | 2.8\% | 38.3\% |
| 2004 | 0.0\% | 0.3\% | 0.0\% | 0.6\% | 0.0\% | 0.0\% | 4.3\% | 16.0\% | 21.2\% | 2.5\% | 15.6\% | 2.5\% | 6.1\% | 1.8\% | 29.1\% |
| 2005 | 0.0\% | 0.3\% | 0.0\% | 1.0\% | 0.0\% | 1.0\% | 7.9\% | 24.0\% | 8.6\% | 0.0\% | 2.1\% | 0.3\% | 15.1\% | 1.7\% | 38.0\% |
| (90-98) | 0.7\% | 0.0\% | 0.0\% | 0.1\% | 0.4\% | 1.3\% | 0.6\% | 3.7\% | 44.2\% | 3.7\% | 1.0\% | 0.3\% | 2.5\% | 1.4\% | 40.2\% |
| (99-05) | 0.7\% | 0.1\% | 0.0\% | 0.6\% | 0.5\% | 0.1\% | 3.3\% | 9.4\% | 24.2\% | 0.6\% | 4.5\% | 0.8\% | 7.9\% | 1.9\% | 45.3\% |

Appendix E.14. Percent distribution of Cowichan River Fall Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska Net | Alaska Sport | North Troll | Central Troll | $\mathrm{N} / \mathrm{CBC}$ Net | N/CBC Sport | $\begin{gathered} \text { WCVI } \\ \text { Troll } \\ \hline \end{gathered}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | Canada Net | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | U.S. <br> Net | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1990 | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 1.4\% | 3.6\% | 0.6\% | 2.8\% | 58.5\% | 9.9\% | 0.1\% | 0.8\% | 4.5\% | 2.6\% | 15.1\% |
| 1991 | 0.1\% | 0.0\% | 0.0\% | 0.2\% | 0.4\% | 0.6\% | 1.4\% | 4.3\% | 62.0\% | 4.2\% | 0.7\% | 0.8\% | 3.6\% | 0.9\% | 20.6\% |
| 1992 | 0.1\% | 0.1\% | 0.0\% | 0.4\% | 1.1\% | 1.0\% | 0.9\% | 9.7\% | 66.7\% | 3.6\% | 1.2\% | 0.3\% | 1.4\% | 1.4\% | 12.0\% |
| 1993 | 0.3\% | 0.0\% | 0.0\% | 0.1\% | 0.5\% | 0.5\% | 1.4\% | 8.2\% | 63.7\% | 2.9\% | 1.4\% | 0.6\% | 0.9\% | 0.5\% | 18.9\% |
| 1994 | 0.6\% | 0.0\% | 0.0\% | 0.4\% | 0.3\% | 2.3\% | 0.0\% | 4.4\% | 42.9\% | 6.3\% | 0.8\% | 0.4\% | 4.6\% | 0.7\% | 36.4\% |
| 1995 | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.4\% | 0.0\% | 5.6\% | 37.0\% | 1.5\% | 0.6\% | 0.0\% | 2.5\% | 1.0\% | 49.9\% |
| 1996 | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 0.3\% | 47.3\% | 0.5\% | 1.1\% | 0.0\% | 1.1\% | 5.3\% | 43.5\% |
| 1997 | 1.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.7\% | 3.5\% | 29.2\% | 1.1\% | 1.1\% | 0.0\% | 4.2\% | 3.9\% | 54.7\% |
| 1998 | 4.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.9\% | 0.5\% | 30.8\% | 0.5\% | 1.6\% | 0.0\% | 3.9\% | 0.0\% | 57.6\% |
| 1999 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.2\% | 0.0\% | 43.5\% | 1.0\% | 4.1\% | 1.0\% | 9.0\% | 0.6\% | 39.4\% |
| 2000 | 1.6\% | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.3\% | 22.4\% | 0.0\% | 4.1\% | 0.0\% | 5.3\% | 2.4\% | 62.5\% |
| 2001 | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.0\% | 8.9\% | 30.2\% | 0.3\% | 0.0\% | 0.1\% | 14.1\% | 3.1\% | 41.9\% |
| 2002 | 1.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 4.8\% | 3.5\% | 37.1\% | 0.1\% | 3.5\% | 0.6\% | 3.9\% | 5.4\% | 39.7\% |
| 2003 | 2.5\% | 0.8\% | 0.0\% | 2.8\% | 5.0\% | 0.0\% | 5.6\% | 9.8\% | 25.8\% | 0.0\% | 2.5\% | 0.6\% | 9.5\% | 4.2\% | 30.8\% |
| 2004 | 0.0\% | 0.8\% | 0.0\% | 0.5\% | 0.0\% | 0.0\% | 5.7\% | 14.1\% | 24.7\% | 2.3\% | 15.9\% | 2.6\% | 6.9\% | 2.1\% | 24.4\% |
| 2005 | 0.0\% | 0.6\% | 0.0\% | 1.2\% | 0.0\% | 1.2\% | 9.8\% | 22.5\% | 9.8\% | 0.0\% | 2.3\% | 0.3\% | 18.4\% | 2.0\% | 32.0\% |
| (90-98) | 0.8\% | 0.0\% | 0.0\% | 0.1\% | 0.4\% | 1.1\% | 0.7\% | 4.4\% | 48.7\% | 3.4\% | 1.0\% | 0.3\% | 3.0\% | 1.8\% | 34.3\% |
| (99-05) | 0.8\% | 0.4\% | 0.0\% | 0.6\% | 0.7\% | 0.2\% | 4.0\% | 8.6\% | 27.6\% | 0.5\% | 4.6\% | 0.7\% | 9.6\% | 2.8\% | 38.7\% |

Appendix E.15. Percent distribution of Chilliwack River Fall Chinook reported catch among fisheries and escapement.

| Catch Year | Alaska Troll | Alaska Net | Alaska Sport | North Troll | Central Troll | N/CBC Net | $\begin{array}{r} \text { N/CBC } \\ \text { Sport } \\ \hline \end{array}$ | WCVI <br> Troll | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{gathered}$ | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  | Canada | Canada | U.S. | U.S. | U.S. |  |
|  |  |  |  |  |  |  |  |  |  | Net | Sport | Troll | Net | Sport |  |
| 1985 | 0.5\% | 0.0\% | 0.0\% | 0.3\% | 2.3\% | 0.8\% | 0.2\% | 34.5\% | 28.9\% | 5.9\% | 0.0\% | 4.0\% | 4.2\% | 3.7\% | 14.6\% |
| 1986 | 0.0\% | 0.0\% | 0.0\% | 0.8\% | 2.5\% | 1.5\% | 0.2\% | 19.5\% | 28.2\% | 12.6\% | 0.0\% | 2.6\% | 4.0\% | 5.8\% | 22.2\% |
| 1987 | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 0.4\% | 0.3\% | 0.3\% | 16.2\% | 35.4\% | 2.2\% | 0.5\% | 3.8\% | 3.9\% | 2.7\% | 33.5\% |
| 1988 | 0.4\% | 0.1\% | 0.0\% | 0.2\% | 0.0\% | 0.1\% | 0.0\% | 17.9\% | 19.7\% | 2.2\% | 0.0\% | 4.2\% | 3.0\% | 1.8\% | 50.3\% |
| 1989 | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 19.5\% | 17.4\% | 3.7\% | 0.0\% | 5.3\% | 3.8\% | 1.4\% | 48.3\% |
| 1990 | 0.9\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 1.5\% | 0.3\% | 9.4\% | 15.3\% | 4.3\% | 2.4\% | 6.2\% | 12.1\% | 5.6\% | 41.9\% |
| 1991 | 0.2\% | 0.1\% | 0.0\% | 0.4\% | 0.2\% | 1.0\% | 0.2\% | 18.3\% | 21.9\% | 4.2\% | 0.7\% | 13.4\% | 5.3\% | 4.6\% | 29.5\% |
| 1992 | 0.3\% | 0.0\% | 0.0\% | 0.1\% | 0.6\% | 0.3\% | 0.2\% | 18.0\% | 16.1\% | 1.0\% | 0.1\% | 8.3\% | 0.9\% | 3.4\% | 50.7\% |
| 1993 | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 11.9\% | 14.7\% | 1.5\% | 0.4\% | 7.1\% | 0.0\% | 0.9\% | 63.0\% |
| 1994 | 0.3\% | 0.2\% | 0.0\% | 0.7\% | 0.3\% | 1.6\% | 0.0\% | 6.5\% | 13.5\% | 4.4\% | 2.4\% | 1.6\% | 3.8\% | 3.6\% | 61.0\% |
| 1995 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 0.2\% | 8.8\% | 6.5\% | 0.6\% | 0.5\% | 1.2\% | 1.1\% | 1.7\% | 78.9\% |
| 1996 | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.1\% | 0.0\% | 0.0\% | 15.7\% | 1.1\% | 0.5\% | 4.5\% | 0.9\% | 2.8\% | 73.1\% |
| 1997 | 0.7\% | 0.0\% | 0.0\% | 0.1\% | 0.4\% | 0.6\% | 0.6\% | 9.9\% | 15.1\% | 1.5\% | 2.0\% | 4.9\% | 2.3\% | 3.3\% | 58.5\% |
| 1998 | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.2\% | 3.9\% | 0.3\% | 0.3\% | 3.0\% | 0.3\% | 0.4\% | 91.1\% |
| 1999 | 0.1\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 0.0\% | 0.2\% | 0.3\% | 10.3\% | 0.5\% | 1.9\% | 11.6\% | 0.7\% | 0.8\% | 73.5\% |
| 2000 | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 5.1\% | 5.8\% | 0.0\% | 1.8\% | 3.8\% | 0.5\% | 0.4\% | 82.1\% |
| 2001 | 0.1\% | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 3.6\% | 8.6\% | 0.1\% | 0.8\% | 6.3\% | 0.9\% | 2.9\% | 76.4\% |
| 2002 | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 8.1\% | 10.1\% | 0.2\% | 5.1\% | 6.8\% | 0.3\% | 2.3\% | 66.6\% |
| 2003 | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 5.8\% | 6.9\% | 0.2\% | 2.1\% | 7.6\% | 0.3\% | 1.4\% | 75.4\% |
| 2004 | 0.1\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 4.8\% | 6.5\% | 0.5\% | 2.2\% | 5.8\% | 0.1\% | 0.9\% | 79.0\% |
| 2005 | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 0.1\% | 0.2\% | 7.3\% | 9.8\% | 1.4\% | 3.9\% | 3.4\% | 0.8\% | 1.3\% | 71.7\% |
| (85-98) | 0.3\% | 0.0\% | 0.0\% | 0.2\% | 0.5\% | 0.7\% | 0.2\% | 13.6\% | 18.0\% | 3.3\% | 0.7\% | 5.0\% | 3.3\% | 3.0\% | 51.2\% |
| (99-05) | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 5.0\% | 8.3\% | 0.4\% | 2.5\% | 6.5\% | 0.5\% | 1.4\% | 75.0\% |

Appendix E.16. Percent distribution of Chilliwack River Fall Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch | Alaska | Alaska | Alaska | North | Central | $\mathrm{N} / \mathbf{C B C}$ | $\mathbf{N} / \mathbf{C B C}$ | WCVI | GeoSt | Canada | Canada | U.S. | U.S. | U.S. |  |
| Year | Troll | Net | Sport | Troll | Troll | Net | Sport | Troll | Tr\&Sp | Net | Sport | Troll | Net | Sport | Escapement |
| 1986 | 0.0\% | 0.0\% | 0.0\% | 0.8\% | 2.6\% | 1.5\% | 0.2\% | 20.5\% | 28.4\% | 11.6\% | 0.0\% | 2.8\% | 5.0\% | 7.8\% | 18.9\% |
| 1987 | 0.0\% | 0.0\% | 0.0\% | 0.8\% | 0.5\% | 0.3\% | 0.3\% | 19.0\% | 35.8\% | 2.0\% | 0.5\% | 4.0\% | 3.9\% | 2.9\% | 29.9\% |
| 1988 | 0.4\% | 0.2\% | 0.0\% | 0.2\% | 0.0\% | 0.1\% | 0.0\% | 18.6\% | 20.3\% | 2.2\% | 0.0\% | 4.3\% | 4.1\% | 2.9\% | 46.7\% |
| 1989 | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 24.0\% | 20.9\% | 3.3\% | 0.0\% | 6.0\% | 3.8\% | 1.5\% | 39.7\% |
| 1990 | 1.0\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 1.3\% | 0.4\% | 11.3\% | 15.9\% | 3.7\% | 2.2\% | 6.5\% | 16.6\% | 8.7\% | 32.4\% |
| 1991 | 0.3\% | 0.2\% | 0.0\% | 0.4\% | 0.2\% | 0.9\% | 0.2\% | 20.0\% | 24.2\% | 3.6\% | 0.7\% | 13.8\% | 6.0\% | 5.3\% | 24.3\% |
| 1992 | 0.3\% | 0.0\% | 0.0\% | 0.1\% | 0.7\% | 0.3\% | 0.2\% | 20.2\% | 18.3\% | 0.9\% | 0.1\% | 8.7\% | 0.9\% | 3.7\% | 45.6\% |
| 1993 | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 13.4\% | 17.0\% | 1.4\% | 0.4\% | 7.6\% | 0.0\% | 1.1\% | 58.6\% |
| 1994 | 0.4\% | 0.3\% | 0.0\% | 0.8\% | 0.4\% | 1.7\% | 0.0\% | 8.0\% | 14.8\% | 4.9\% | 2.7\% | 1.6\% | 5.5\% | 6.1\% | 52.8\% |
| 1995 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.8\% | 0.2\% | 13.1\% | 7.5\% | 0.9\% | 0.5\% | 1.1\% | 1.4\% | 2.5\% | 72.0\% |
| 1996 | 0.2\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 1.4\% | 0.0\% | 2.1\% | 18.1\% | 1.3\% | 0.6\% | 4.3\% | 1.2\% | 4.6\% | 66.1\% |
| 1997 | 0.8\% | 0.0\% | 0.0\% | 0.2\% | 0.4\% | 0.6\% | 0.8\% | 12.4\% | 16.7\% | 1.8\% | 1.9\% | 5.5\% | 2.5\% | 4.1\% | 52.2\% |
| 1998 | 0.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.2\% | 4.5\% | 0.3\% | 0.3\% | 3.4\% | 0.3\% | 0.9\% | 89.3\% |
| 1999 | 0.1\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 0.0\% | 0.3\% | 0.3\% | 12.2\% | 0.5\% | 1.9\% | 13.6\% | 0.7\% | 1.0\% | 69.3\% |
| 2000 | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.6\% | 5.5\% | 6.6\% | 0.0\% | 2.1\% | 4.5\% | 0.8\% | 1.1\% | 78.7\% |
| 2001 | 0.1\% | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 3.7\% | 9.9\% | 0.1\% | 0.9\% | 7.2\% | 1.2\% | 6.0\% | 70.3\% |
| 2002 | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.3\% | 8.2\% | 11.4\% | 0.2\% | 5.9\% | 7.8\% | 0.3\% | 3.2\% | 62.3\% |
| 2003 | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 6.0\% | 7.8\% | 0.2\% | 2.5\% | 8.7\% | 0.3\% | 1.9\% | 72.3\% |
| 2004 | 0.2\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 4.9\% | 7.1\% | 0.5\% | 2.6\% | 6.7\% | 0.1\% | 1.3\% | 76.5\% |
| 2005 | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 0.1\% | 0.2\% | 7.5\% | 10.7\% | 1.4\% | 4.5\% | 3.7\% | 0.9\% | 2.0\% | 68.8\% |
| (85-98) | 0.4\% | 0.1\% | 0.0\% | 0.3\% | 0.5\% | 0.7\% | 0.2\% | 15.5\% | 19.4\% | 3.1\% | 0.7\% | 5.3\% | 4.0\% | 4.1\% | 45.8\% |
| (99-05) | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 5.2\% | 9.4\% | 0.4\% | 2.9\% | 7.5\% | 0.6\% | 2.4\% | 71.2\% |

Appendix E.17. Percent distribution of Nooksack Spring Fingerling Chinook reported catch among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch ${ }^{1}$ <br> Year | Alaska Troll | Alaska $\qquad$ <br> Net | Alaska Sport | North Troll | Central Troll | N/CBC $\qquad$ | N/CBC Sport | $\begin{gathered} \text { WCVI } \\ \text { Troll } \end{gathered}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{gathered}$ | $\begin{array}{r} \hline \text { Canada } \\ \text { Net } \\ \hline \end{array}$ | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | $\begin{gathered} \hline \text { U.S. } \\ \text { Net } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1996 | 1.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 5.1\% | 1.3\% | 0.0\% | 16.8\% | 0.2\% | 4.2\% | 0.7\% | 0.3\% | 6.4\% | 63.6\% |
| 1997 | 3.5\% | 0.2\% | 0.7\% | 0.2\% | 0.1\% | 0.4\% | 0.2\% | 1.6\% | 10.3\% | 0.1\% | 2.9\% | 0.5\% | 1.3\% | 5.2\% | 73.0\% |
| 1998 | 8.1\% | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 1.7\% | 2.9\% | 0.0\% | 2.4\% | 0.2\% | 0.1\% | 0.6\% | 83.6\% |
| 1999 | 1.6\% | 0.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.1\% | 1.1\% | 3.6\% | 0.0\% | 5.5\% | 1.3\% | 0.0\% | 0.7\% | 84.2\% |
| 2000 | 4.7\% | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 19.8\% | 12.1\% | 0.0\% | 3.9\% | 0.2\% | 0.2\% | 0.4\% | 58.5\% |
| 2001 | 1.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 9.3\% | 4.5\% | 0.0\% | 3.3\% | 1.0\% | 0.9\% | 0.7\% | 78.9\% |
| 2002 | 5.6\% | 0.0\% | 0.5\% | 0.7\% | 0.0\% | 0.0\% | 1.5\% | 17.2\% | 1.6\% | 0.0\% | 2.6\% | 0.2\% | 0.2\% | 0.9\% | 69.0\% |
| 2003 | 3.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.6\% | 14.7\% | 5.8\% | 0.0\% | 1.5\% | 0.0\% | 1.4\% | 1.8\% | 71.3\% |
| 2004 | 1.4\% | 0.0\% | 0.0\% | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 27.5\% | 5.0\% | 0.0\% | 6.2\% | 3.0\% | 0.0\% | 1.6\% | 54.9\% |
| 2005 | 3.5\% | 0.1\% | 0.0\% | 0.3\% | 0.0\% | 0.4\% | 0.0\% | 34.5\% | 3.3\% | 0.0\% | 4.1\% | 0.5\% | 0.3\% | 0.8\% | 52.3\% |
| (96-98) | 4.3\% | 0.1\% | 0.2\% | 0.1\% | 0.0\% | 1.9\% | 0.5\% | 1.1\% | 10.0\% | 0.1\% | 3.2\% | 0.5\% | 0.6\% | 4.1\% | 73.4\% |
| (99-05) | 3.0\% | 0.2\% | 0.1\% | 0.2\% | 0.0\% | 0.1\% | 0.5\% | 17.7\% | 5.1\% | 0.0\% | 3.9\% | 0.9\% | 0.4\% | 1.0\% | 67.0\% |

Appendix E.18. Percent distribution of Nooksack Spring Fingerling Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch ${ }^{1}$ <br> Year | Alaska Troll | Alaska Net | Alaska Sport | North Troll | Central Troll | N/CBC <br> Net | N/CBC Sport | WCVI <br> Troll | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{gathered}$ | Canada $\qquad$ | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | $\begin{aligned} & \text { U.S. } \\ & \text { Net } \end{aligned}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1996 | 3.3\% | 0.0\% | 0.2\% | 0.0\% | 0.0\% | 5.8\% | 1.7\% | 0.7\% | 18.5\% | 0.5\% | 4.1\% | 0.7\% | 0.3\% | 9.4\% | 54.9\% |
| 1997 | 4.0\% | 0.4\% | 0.8\% | 0.3\% | 0.0\% | 0.4\% | 0.2\% | 2.0\% | 11.4\% | 0.9\% | 2.9\% | 0.6\% | 1.3\% | 6.4\% | 68.4\% |
| 1998 | 8.8\% | 0.5\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 1.8\% | 3.3\% | 0.0\% | 2.7\% | 0.2\% | 0.1\% | 1.1\% | 81.3\% |
| 1999 | 2.0\% | 2.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.3\% | 1.1\% | 4.3\% | 0.0\% | 5.8\% | 1.5\% | 0.0\% | 1.1\% | 80.4\% |
| 2000 | 5.4\% | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 20.2\% | 13.7\% | 0.0\% | 4.6\% | 0.2\% | 0.2\% | 0.7\% | 54.7\% |
| 2001 | 2.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 9.4\% | 5.4\% | 0.0\% | 3.7\% | 1.2\% | 0.8\% | 1.7\% | 75.8\% |
| 2002 | 6.4\% | 0.0\% | 0.6\% | 0.8\% | 0.0\% | 0.0\% | 1.8\% | 17.3\% | 2.1\% | 0.0\% | 3.0\% | 0.2\% | 0.2\% | 1.2\% | 66.5\% |
| 2003 | 3.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.8\% | 15.3\% | 7.0\% | 0.0\% | 1.8\% | 0.0\% | 1.3\% | 3.4\% | 67.2\% |
| 2004 | 1.8\% | 0.0\% | 0.0\% | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 27.0\% | 6.5\% | 0.0\% | 7.0\% | 3.5\% | 0.0\% | 2.2\% | 51.6\% |
| 2005 | 3.8\% | 0.1\% | 0.0\% | 0.2\% | 0.0\% | 0.5\% | 0.0\% | 34.9\% | 4.0\% | 0.0\% | 4.6\% | 0.5\% | 0.2\% | 1.1\% | 49.9\% |
| (96-98) | 5.4\% | 0.3\% | 0.3\% | 0.1\% | 0.0\% | 2.1\% | 0.6\% | 1.5\% | 11.1\% | 0.5\% | 3.2\% | 0.5\% | 0.6\% | 5.6\% | 68.2\% |
| (99-05) | 3.5\% | 0.4\% | 0.1\% | 0.2\% | 0.0\% | 0.1\% | 0.6\% | 17.9\% | 6.1\% | 0.0\% | 4.4\% | 1.0\% | 0.4\% | 1.6\% | 63.7\% |

Appendix E.19. Percent distribution of Nooksack Spring Yearling Chinook reported catch among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \text { Catch }^{1} \\ \text { Year } \\ \hline \end{gathered}$ | Alaska Troll | Alaska Net | Alaska Sport | North Troll | Central Troll | N/CBC $\qquad$ | $\begin{array}{r} \text { N/CBC } \\ \text { Sport } \\ \hline \end{array}$ | $\begin{array}{r} \text { WCVI } \\ \text { Troll } \\ \hline \end{array}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { Canada } \\ \text { Net } \\ \hline \end{array}$ | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \\ \hline \end{gathered}$ | $\begin{aligned} & \text { U.S. } \\ & \text { Net } \\ & \hline \end{aligned}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1986 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 8.9\% | 4.7\% | 0.0\% | 0.0\% | 0.0\% | 1.6\% | 84.8\% |
| 1989 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 6.0\% | 0.0\% | 0.0\% | 0.0\% | 13.8\% | 6.9\% | 73.3\% |
| 1990 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 4.9\% | 0.0\% | 0.0\% | 14.6\% | 9.8\% | 0.0\% | 2.4\% | 4.9\% | 34.1\% | 29.3\% |
| 1991 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 0.0\% | 2.1\% | 32.6\% | 5.6\% | 7.0\% | 2.1\% | 8.4\% | 5.3\% | 36.1\% |
| 1992 | 0.4\% | 0.4\% | 0.0\% | 0.0\% | 0.9\% | 0.6\% | 0.4\% | 17.4\% | 12.3\% | 1.1\% | 2.3\% | 0.9\% | 0.4\% | 7.8\% | 55.3\% |
| 1993 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 4.4\% | 14.7\% | 6.0\% | 7.6\% | 0.8\% | 5.3\% | 11.5\% | 49.2\% |
| 1994 | 0.6\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 5.1\% | 34.2\% | 1.0\% | 0.0\% | 0.2\% | 6.3\% | 3.3\% | 49.3\% |
| 1995 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 22.8\% | 0.0\% | 0.0\% | 0.0\% | 2.9\% | 7.0\% | 67.3\% |
| 1996 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.1\% | 0.0\% | 12.4\% | 0.0\% | 3.2\% | 0.5\% | 0.0\% | 3.2\% | 79.6\% |
| 1997 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 14.2\% | 2.7\% | 5.3\% | 0.0\% | 3.5\% | 15.9\% | 58.4\% |
| 1998 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.5\% | 3.5\% | 0.0\% | 15.9\% | 0.9\% | 6.2\% | 0.0\% | 4.4\% | 5.3\% | 60.2\% |
| 1999 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.8\% | 25.4\% | 0.0\% | 1.1\% | 2.8\% | 5.0\% | 1.1\% | 61.9\% |
| (86-98) | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.9\% | 0.5\% | 2.6\% | 17.1\% | 2.9\% | 2.9\% | 0.6\% | 4.5\% | 9.3\% | 58.4\% |
| (1999) | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.8\% | 25.4\% | 0.0\% | 1.1\% | 2.8\% | 5.0\% | 1.1\% | 61.9\% |

${ }^{1}$ No data are shown for 2000-2004 because of lack of coded-wire tagging of broods from 1997-2000.
Appendix E.20. Percent distribution of Nooksack Spring Yearling Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \text { Catch }^{1} \\ \text { Year } \\ \hline \end{gathered}$ | Alaska Troll | Alaska Net | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \\ \hline \end{array}$ | $\begin{array}{r} \text { N/CBC } \\ \text { Sport } \\ \hline \end{array}$ | $\begin{array}{r} \text { WCVI } \\ \text { Troll } \\ \hline \end{array}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{gathered}$ | $\begin{array}{r} \hline \text { Canada } \\ \text { Net } \\ \hline \end{array}$ | Canada Sport | $\begin{aligned} & \text { U.S. } \\ & \text { Troll } \\ & \hline \end{aligned}$ | U.S. <br> Net | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1986 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.0\% | 0.0\% | 2.1\% | 11.8\% | 4.6\% | 0.8\% | 0.4\% | 8.0\% | 3.8\% | 68.1\% |
| 1989 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 8.1\% | 0.0\% | 0.0\% | 0.0\% | 14.5\% | 8.9\% | 68.5\% |
| 1990 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.4\% | 4.2\% | 0.0\% | 8.5\% | 26.8\% | 8.5\% | 1.4\% | 1.4\% | 2.8\% | 28.2\% | 16.9\% |
| 1991 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.6\% | 0.0\% | 2.4\% | 36.9\% | 5.7\% | 6.8\% | 2.4\% | 7.7\% | 6.8\% | 30.7\% |
| 1992 | 2.0\% | 0.9\% | 0.0\% | 0.0\% | 1.0\% | 0.6\% | 0.4\% | 19.5\% | 13.7\% | 1.0\% | 2.3\% | 1.0\% | 0.4\% | 9.7\% | 47.4\% |
| 1993 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 4.8\% | 17.6\% | 5.7\% | 7.7\% | 0.8\% | 5.1\% | 12.3\% | 45.6\% |
| 1994 | 0.6\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 5.1\% | 35.8\% | 0.9\% | 0.0\% | 0.2\% | 6.0\% | 3.8\% | 47.5\% |
| 1995 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 24.5\% | 0.5\% | 0.0\% | 0.0\% | 3.1\% | 12.0\% | 59.9\% |
| 1996 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.0\% | 0.5\% | 14.6\% | 0.0\% | 3.5\% | 0.5\% | 0.0\% | 5.5\% | 74.4\% |
| 1997 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 15.6\% | 2.3\% | 5.5\% | 0.0\% | 3.1\% | 21.9\% | 51.6\% |
| 1998 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.9\% | 5.4\% | 0.0\% | 17.1\% | 1.6\% | 6.2\% | 0.0\% | 3.9\% | 9.3\% | 52.7\% |
| 1999 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.6\% | 28.0\% | 0.0\% | 1.6\% | 3.1\% | 4.7\% | 2.1\% | 58.0\% |
| (86-98) | 0.2\% | 0.1\% | 0.0\% | 0.0\% | 0.3\% | 0.9\% | 0.6\% | 3.9\% | 20.2\% | 2.8\% | 3.1\% | 0.6\% | 5.0\% | 11.1\% | 51.2\% |
| (1999) | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.6\% | 28.0\% | 0.0\% | 1.6\% | 3.1\% | 4.7\% | 2.1\% | 58.0\% |

${ }^{1}$ No data are shown for 2000-2004 because of lack of coded-wire tagging of broods from 1997-2000.

Appendix E.21. Percent distribution of Skagit Spring Fingerling Chinook reported catch among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch <br> Year | Alaska Troll | Alaska Net | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \end{array}$ | N/CBC Sport | WCVI <br> Troll | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | Canada Net | Canada Sport | $\begin{aligned} & \text { U.S. } \\ & \text { Troll } \end{aligned}$ | $\begin{gathered} \text { U.S. } \\ \text { Net } \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1997 | 1.0\% | 0.0\% | 0.0\% | 0.4\% | 0.6\% | 1.5\% | 0.9\% | 1.4\% | 8.7\% | 0.2\% | 4.0\% | 0.0\% | 1.4\% | 7.3\% | 72.5\% |
| 1998 | 2.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.6\% | 1.1\% | 0.0\% | 9.4\% | 0.3\% | 3.0\% | 0.0\% | 1.7\% | 2.6\% | 79.4\% |
| 1999 | 0.5\% | 0.6\% | 0.0\% | 0.2\% | 0.0\% | 0.1\% | 0.7\% | 0.5\% | 4.7\% | 0.0\% | 6.1\% | 0.3\% | 1.2\% | 1.7\% | 83.4\% |
| 2000 | 1.6\% | 0.0\% | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 5.6\% | 9.3\% | 0.1\% | 5.4\% | 0.0\% | 0.2\% | 2.5\% | 74.6\% |
| 2001 | 1.3\% | 0.2\% | 0.3\% | 0.2\% | 0.0\% | 0.0\% | 1.2\% | 5.0\% | 6.0\% | 0.0\% | 2.7\% | 0.2\% | 0.7\% | 4.3\% | 77.9\% |
| 2002 | 2.6\% | 0.0\% | 0.5\% | 0.2\% | 0.0\% | 0.1\% | 1.1\% | 4.7\% | 5.8\% | 0.0\% | 5.2\% | 0.3\% | 0.6\% | 2.6\% | 76.4\% |
| 2003 | 2.1\% | 0.0\% | 0.9\% | 1.1\% | 0.0\% | 0.1\% | 1.3\% | 22.3\% | 4.3\% | 0.0\% | 0.7\% | 1.3\% | 0.9\% | 1.1\% | 64.0\% |
| 2004 | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 10.8\% | 8.9\% | 0.0\% | 2.9\% | 2.2\% | 1.3\% | 1.5\% | 71.9\% |
| 2005 | 1.3\% | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 2.3\% | 12.9\% | 4.3\% | 0.0\% | 5.6\% | 0.0\% | 0.3\% | 4.2\% | 68.7\% |
| (97-98) | 1.5\% | 0.0\% | 0.0\% | 0.2\% | 0.3\% | 1.1\% | 1.0\% | 0.7\% | 9.1\% | 0.3\% | 3.5\% | 0.0\% | 1.6\% | 5.0\% | 76.0\% |
| (99-05) | 1.3\% | 0.1\% | 0.3\% | 0.3\% | 0.0\% | 0.1\% | 1.0\% | 8.8\% | 6.2\% | 0.0\% | 4.1\% | 0.6\% | 0.7\% | 2.6\% | 73.8\% |

Appendix E.22. Percent distribution of Skagit Spring Fingerling Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch <br> Year | Alaska Troll | Alaska Net | Alaska Sport | North Troll | Central Troll | N/CBC Net | N/CBC Sport | WCVI <br> Troll | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | Canada Net | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | U.S. <br> Net | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1997 | 1.2\% | 0.0\% | 0.0\% | 0.4\% | 0.5\% | 1.8\% | 1.2\% | 1.6\% | 9.9\% | 1.1\% | 4.3\% | 0.0\% | 1.3\% | 8.9\% | 67.5\% |
| 1998 | 2.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 1.8\% | 0.0\% | 10.8\% | 0.3\% | 3.4\% | 0.0\% | 1.5\% | 6.3\% | 73.0\% |
| 1999 | 0.9\% | 1.3\% | 0.0\% | 0.2\% | 0.0\% | 0.1\% | 0.9\% | 0.6\% | 5.8\% | 0.0\% | 6.6\% | 0.4\% | 1.3\% | 2.8\% | 79.2\% |
| 2000 | 2.0\% | 0.0\% | 0.6\% | 0.0\% | 0.0\% | 0.0\% | 0.6\% | 6.0\% | 11.0\% | 0.3\% | 6.1\% | 0.0\% | 0.2\% | 5.1\% | 68.2\% |
| 2001 | 1.8\% | 0.4\% | 0.4\% | 0.3\% | 0.0\% | 0.0\% | 1.6\% | 4.9\% | 6.7\% | 0.0\% | 2.9\% | 0.2\% | 0.7\% | 9.6\% | 70.8\% |
| 2002 | 2.8\% | 0.0\% | 0.6\% | 0.2\% | 0.0\% | 0.1\% | 1.3\% | 4.6\% | 7.4\% | 0.0\% | 6.0\% | 0.3\% | 0.6\% | 3.7\% | 72.3\% |
| 2003 | 2.3\% | 0.0\% | 0.9\% | 1.2\% | 0.0\% | 0.1\% | 1.6\% | 22.8\% | 5.3\% | 0.0\% | 0.8\% | 1.4\% | 0.8\% | 1.8\% | 60.9\% |
| 2004 | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 11.0\% | 11.2\% | 0.0\% | 3.3\% | 2.7\% | 1.3\% | 2.4\% | 67.7\% |
| 2005 | 1.6\% | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 3.3\% | 13.3\% | 5.5\% | 0.0\% | 6.5\% | 0.0\% | 0.3\% | 4.8\% | 64.1\% |
| (97-98) | 1.7\% | 0.0\% | 0.0\% | 0.2\% | 0.3\% | 1.3\% | 1.5\% | 0.8\% | 10.4\% | 0.7\% | 3.9\% | 0.0\% | 1.4\% | 7.6\% | 70.3\% |
| (99-05) | 1.6\% | 0.3\% | 0.4\% | 0.3\% | 0.0\% | 0.1\% | 1.3\% | 9.0\% | 7.6\% | 0.0\% | 4.6\% | 0.7\% | 0.7\% | 4.3\% | 69.0\% |

Appendix E.23. Percent distribution of Skagit Spring Yearling Chinook reported catch among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch <br> Year | Alaska Troll | Alaska Net | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \end{array}$ | N/CBC Sport | WCVI <br> Troll | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | Canada Net | Canada Sport | $\begin{aligned} & \text { U.S. } \\ & \text { Troll } \end{aligned}$ | $\begin{aligned} & \text { U.S. } \\ & \text { Net } \end{aligned}$ | $\begin{aligned} & \text { U.S. } \\ & \text { Sport } \end{aligned}$ |  |
| 1985 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 6.7\% | 29.2\% | 26.7\% | 0.0\% | 0.0\% | 10.0\% | 15.8\% | 11.7\% |
| 1986 | 1.4\% | 0.0\% | 0.0\% | 0.0\% | 4.3\% | 6.6\% | 0.0\% | 6.2\% | 41.7\% | 2.8\% | 5.7\% | 0.0\% | 3.3\% | 7.6\% | 20.4\% |
| 1987 | 0.0\% | 0.0\% | 0.0\% | 4.6\% | 0.0\% | 6.5\% | 0.0\% | 3.7\% | 10.2\% | 5.6\% | 0.0\% | 1.9\% | 24.1\% | 20.4\% | 23.1\% |
| 1988 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 5.9\% | 0.0\% | 1.8\% | 14.9\% | 7.7\% | 9.6\% | 1.8\% | 20.6\% | 14.5\% | 23.2\% |
| 1989 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.8\% | 0.1\% | 0.0\% | 3.4\% | 17.5\% | 3.3\% | 1.8\% | 4.3\% | 30.4\% | 8.4\% | 29.9\% |
| 1990 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 1.9\% | 1.0\% | 4.9\% | 14.0\% | 4.0\% | 8.7\% | 3.4\% | 15.4\% | 22.9\% | 23.3\% |
| 1997 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.1\% | 0.0\% | 2.0\% | 19.6\% | 1.6\% | 10.2\% | 0.0\% | 2.4\% | 20.9\% | 42.2\% |
| 1998 | 0.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 3.5\% | 1.3\% | 9.1\% | 0.0\% | 7.3\% | 0.0\% | 3.2\% | 17.1\% | 57.7\% |
| 1999 | 0.6\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 1.2\% | 7.7\% | 0.0\% | 4.5\% | 0.2\% | 1.1\% | 9.1\% | 75.4\% |
| 2000 | 0.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.8\% | 6.6\% | 15.3\% | 0.0\% | 2.5\% | 0.0\% | 1.5\% | 15.6\% | 56.9\% |
| 2001 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.2\% | 12.1\% | 0.0\% | 1.2\% | 3.2\% | 2.0\% | 10.9\% | 67.2\% |
| 2002 | 1.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 12.5\% | 0.0\% | 17.6\% | 0.0\% | 1.5\% | 8.1\% | 58.6\% |
| 2003 | 0.0\% | 0.0\% | 0.0\% | 0.8\% | 0.0\% | 0.0\% | 0.3\% | 25.6\% | 9.6\% | 0.0\% | 2.8\% | 0.1\% | 0.7\% | 7.0\% | 52.9\% |
| 2004 | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.8\% | 12.5\% | 4.5\% | 0.0\% | 4.1\% | 0.8\% | 1.0\% | 4.0\% | 72.1\% |
| 2005 | 1.0\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 7.4\% | 5.7\% | 0.4\% | 5.6\% | 0.3\% | 1.1\% | 13.2\% | 65.2\% |
| (85-98) | 0.2\% | 0.0\% | 0.0\% | 0.6\% | 0.7\% | 2.8\% | 0.6\% | 3.8\% | 19.5\% | 6.5\% | 5.4\% | 1.4\% | 13.7\% | 16.0\% | 28.9\% |
| (99-05) | 0.5\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 0.0\% | 0.3\% | 8.2\% | 9.6\% | 0.1\% | 5.5\% | 0.7\% | 1.3\% | 9.7\% | 64.0\% |

Appendix E.24. Percent distribution of Skagit Spring Yearling Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska $\qquad$ Net | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \\ \hline \end{array}$ | $\begin{array}{r} \text { N/CBC } \\ \text { Sport } \\ \hline \end{array}$ | $\begin{array}{r} \text { WCVI } \\ \text { Troll } \\ \hline \end{array}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { Canada } \\ \text { Net } \\ \hline \end{array}$ | $\begin{array}{r} \hline \text { Canada } \\ \text { Sport } \\ \hline \end{array}$ | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | $\begin{gathered} \hline \text { U.S. } \\ \text { Net } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1985 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.8\% | 0.0\% | 6.9\% | 29.2\% | 24.6\% | 0.0\% | 0.0\% | 9.2\% | 18.5\% | 10.8\% |
| 1986 | 1.8\% | 0.0\% | 0.0\% | 0.0\% | 4.0\% | 6.6\% | 0.0\% | 6.2\% | 41.6\% | 2.7\% | 5.8\% | 0.0\% | 3.1\% | 9.3\% | 19.0\% |
| 1987 | 0.0\% | 0.0\% | 0.0\% | 4.9\% | 0.0\% | 4.9\% | 0.0\% | 3.1\% | 7.4\% | 4.3\% | 0.0\% | 1.2\% | 19.0\% | 39.9\% | 15.3\% |
| 1988 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 5.5\% | 0.0\% | 2.4\% | 17.6\% | 7.1\% | 9.3\% | 2.1\% | 19.5\% | 16.2\% | 20.3\% |
| 1989 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.8\% | 0.1\% | 0.0\% | 4.0\% | 19.5\% | 3.3\% | 1.9\% | 4.7\% | 28.2\% | 10.4\% | 26.9\% |
| 1990 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 1.9\% | 1.1\% | 5.1\% | 14.8\% | 3.7\% | 8.6\% | 3.7\% | 14.6\% | 24.6\% | 21.6\% |
| 1997 | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.8\% | 1.0\% | 2.6\% | 19.3\% | 2.8\% | 9.0\% | 0.0\% | 1.8\% | 31.1\% | 31.1\% |
| 1998 | 0.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 4.0\% | 1.2\% | 10.1\% | 0.2\% | 7.1\% | 0.0\% | 3.0\% | 21.1\% | 52.4\% |
| 1999 | 0.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 1.2\% | 8.1\% | 0.0\% | 4.7\% | 0.2\% | 1.0\% | 12.7\% | 71.3\% |
| 2000 | 0.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.9\% | 6.2\% | 16.1\% | 0.0\% | 2.7\% | 0.0\% | 1.4\% | 19.8\% | 52.2\% |
| 2001 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.9\% | 11.7\% | 0.0\% | 1.3\% | 2.9\% | 1.6\% | 27.0\% | 52.7\% |
| 2002 | 0.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.6\% | 15.7\% | 0.0\% | 18.9\% | 0.0\% | 1.3\% | 12.3\% | 50.3\% |
| 2003 | 0.0\% | 0.0\% | 0.0\% | 0.9\% | 0.0\% | 0.0\% | 0.4\% | 25.0\% | 11.7\% | 0.0\% | 3.2\% | 0.1\% | 0.7\% | 9.5\% | 48.7\% |
| 2004 | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.2\% | 12.6\% | 5.5\% | 0.0\% | 4.6\% | 0.9\% | 1.0\% | 5.9\% | 68.1\% |
| 2005 | 1.1\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 7.1\% | 6.5\% | 0.4\% | 6.3\% | 0.3\% | 1.1\% | 15.2\% | 62.0\% |
| (85-98) | 0.4\% | 0.0\% | 0.0\% | 0.6\% | 0.7\% | 2.6\% | 0.8\% | 3.9\% | 19.9\% | 6.1\% | 5.2\% | 1.5\% | 12.3\% | 21.4\% | 24.7\% |
| (99-05) | 0.5\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 0.0\% | 0.4\% | 7.9\% | 10.8\% | 0.1\% | 6.0\% | 0.6\% | 1.2\% | 14.6\% | 57.9\% |

Appendix E.25. Percent distribution of Samish Fall Fingerling Chinook reported catch among fisheries and escapement.

| Catch Year | Alaska Troll | Alaska Net |  |  | Central Troll | N/CBC <br> Net | N/CBC <br> Sport |  | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | Other Fisheries |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Alaska Sport | North Troll |  |  |  | WCVI <br> Troll |  | Canada Net | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | $\begin{gathered} \text { U.S. } \\ \text { Net } \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ | Escapement |
| 1989 | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.2\% | 0.2\% | 0.3\% | 6.8\% | 17.2\% | 3.5\% | 1.9\% | 7.4\% | 36.2\% | 9.7\% | 16.5\% |
| 1990 | 2.1\% | 0.0\% | 0.0\% | 0.5\% | 0.1\% | 0.2\% | 0.0\% | 18.5\% | 12.9\% | 1.3\% | 2.0\% | 9.0\% | 30.5\% | 7.4\% | 15.4\% |
| 1991 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.3\% | 0.0\% | 13.4\% | 11.3\% | 2.6\% | 3.2\% | 8.9\% | 23.0\% | 10.8\% | 26.4\% |
| 1992 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.5\% | 11.4\% | 14.6\% | 2.1\% | 0.9\% | 10.2\% | 15.6\% | 17.2\% | 27.4\% |
| 1993 | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.2\% | 0.5\% | 0.3\% | 12.3\% | 19.0\% | 2.3\% | 8.5\% | 3.9\% | 16.5\% | 12.7\% | 23.6\% |
| 1994 | 0.2\% | 0.0\% | 0.0\% | 0.4\% | 0.0\% | 0.4\% | 0.0\% | 11.8\% | 13.8\% | 1.9\% | 5.4\% | 2.2\% | 38.5\% | 3.9\% | 21.2\% |
| 1995 | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 0.0\% | 5.8\% | 5.1\% | 0.3\% | 3.4\% | 3.4\% | 27.2\% | 15.0\% | 38.8\% |
| 1996 | 0.0\% | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.0\% | 0.0\% | 10.7\% | 0.1\% | 0.7\% | 1.9\% | 33.9\% | 24.1\% | 28.1\% |
| 1997 | 0.5\% | 0.2\% | 0.0\% | 0.3\% | 0.7\% | 0.8\% | 0.3\% | 2.0\% | 8.2\% | 0.1\% | 1.8\% | 0.9\% | 34.5\% | 9.8\% | 40.0\% |
| 1998 | 3.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.7\% | 10.9\% | 0.0\% | 1.7\% | 0.7\% | 44.2\% | 4.1\% | 33.3\% |
| 1999 | 3.7\% | 0.0\% | 0.0\% | 1.2\% | 0.0\% | 0.0\% | 3.3\% | 1.6\% | 11.0\% | 0.0\% | 10.2\% | 1.6\% | 38.6\% | 3.7\% | 25.2\% |
| 2000 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 11.5\% | 6.5\% | 0.0\% | 8.5\% | 0.4\% | 38.1\% | 1.5\% | 33.5\% |
| 2001 | 0.0\% | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.3\% | 4.9\% | 8.5\% | 0.0\% | 3.3\% | 2.5\% | 40.3\% | 4.1\% | 35.9\% |
| 2002 | 0.8\% | 0.0\% | 0.0\% | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 8.6\% | 7.6\% | 0.0\% | 7.1\% | 2.8\% | 36.5\% | 5.0\% | 31.3\% |
| 2003 | 0.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 14.6\% | 5.0\% | 0.3\% | 2.2\% | 6.1\% | 38.7\% | 2.7\% | 29.6\% |
| 2004 | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 7.2\% | 4.3\% | 0.0\% | 6.4\% | 10.7\% | 32.2\% | 6.1\% | 32.8\% |
| 2005 | 0.3\% | 0.2\% | 0.0\% | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 11.7\% | 6.3\% | 0.0\% | 8.2\% | 7.7\% | 37.4\% | 4.5\% | 23.3\% |
| (89-98) | 0.6\% | 0.0\% | 0.0\% | 0.2\% | 0.1\% | 0.4\% | 0.1\% | 8.4\% | 12.4\% | 1.4\% | 3.0\% | 4.9\% | 30.0\% | 11.5\% | 27.1\% |
| (99-05) | 0.9\% | 0.1\% | 0.0\% | 0.3\% | 0.0\% | 0.0\% | 0.5\% | 8.6\% | 7.0\% | 0.0\% | 6.6\% | 4.5\% | 37.4\% | 3.9\% | 30.2\% |

Appendix E.26. Percent distribution of Samish Fall Fingerling Chinook total fishing mortalities among fisheries and escapement.

| Catch Year | Alaska Troll | Alaska Net | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \end{array}$ |  | $\begin{gathered} \text { WCVI } \\ \text { Troll } \\ \hline \end{gathered}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | Other Fisheries |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | $\mathrm{N} / \mathbf{C B C}$ Sport |  |  | Canada Net | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | $\begin{gathered} \hline \text { U.S. } \\ \text { Net } \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ | Escapement |
| 1989 | 0.2\% | 0.0\% | 0.0\% | 0.2\% | 0.2\% | 0.2\% | 0.2\% | 9.1\% | 18.4\% | 3.1\% | 1.8\% | 8.0\% | 33.3\% | 11.0\% | 14.3\% |
| 1990 | 2.1\% | 0.0\% | 0.0\% | 0.5\% | 0.1\% | 0.2\% | 0.0\% | 19.9\% | 13.5\% | 1.3\% | 2.0\% | 9.3\% | 28.7\% | 8.2\% | 14.2\% |
| 1991 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.4\% | 0.0\% | 14.5\% | 12.3\% | 2.5\% | 3.2\% | 9.4\% | 21.6\% | 12.0\% | 24.1\% |
| 1992 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.6\% | 11.6\% | 15.3\% | 1.8\% | 0.8\% | 9.9\% | 14.2\% | 23.8\% | 21.8\% |
| 1993 | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.2\% | 0.4\% | 0.3\% | 14.0\% | 21.7\% | 2.0\% | 8.0\% | 4.1\% | 15.3\% | 13.6\% | 20.1\% |
| 1994 | 0.5\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 0.4\% | 0.0\% | 13.1\% | 15.1\% | 1.9\% | 5.5\% | 2.1\% | 37.0\% | 4.6\% | 19.3\% |
| 1995 | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.9\% | 0.0\% | 7.3\% | 5.3\% | 0.7\% | 3.3\% | 3.0\% | 24.3\% | 22.6\% | 32.3\% |
| 1996 | 0.0\% | 0.1\% | 0.0\% | 0.1\% | 0.0\% | 0.4\% | 0.0\% | 1.0\% | 11.4\% | 0.2\% | 0.7\% | 1.7\% | 32.6\% | 29.1\% | 22.9\% |
| 1997 | 0.6\% | 0.4\% | 0.0\% | 0.4\% | 0.8\% | 0.8\% | 0.4\% | 2.5\% | 9.3\% | 0.4\% | 1.7\% | 1.1\% | 33.6\% | 11.7\% | 36.5\% |
| 1998 | 3.6\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.7\% | 11.9\% | 0.0\% | 1.8\% | 0.8\% | 43.2\% | 5.5\% | 31.6\% |
| 1999 | 4.0\% | 0.0\% | 0.0\% | 1.5\% | 0.0\% | 0.0\% | 3.6\% | 1.5\% | 12.4\% | 0.0\% | 10.5\% | 1.8\% | 36.4\% | 5.8\% | 22.5\% |
| 2000 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 10.5\% | 6.9\% | 0.0\% | 8.7\% | 0.3\% | 40.5\% | 6.9\% | 26.1\% |
| 2001 | 0.0\% | 0.7\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.4\% | 4.5\% | 9.8\% | 0.0\% | 3.3\% | 2.7\% | 38.7\% | 7.9\% | 31.7\% |
| 2002 | 0.8\% | 0.0\% | 0.0\% | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 8.2\% | 9.3\% | 0.0\% | 7.8\% | 2.9\% | 35.0\% | 6.6\% | 29.0\% |
| 2003 | 0.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 14.6\% | 6.1\% | 0.6\% | 2.5\% | 6.5\% | 37.5\% | 3.6\% | 27.6\% |
| 2004 | 0.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 6.9\% | 5.3\% | 0.0\% | 6.9\% | 11.8\% | 30.7\% | 8.9\% | 29.0\% |
| 2005 | 0.3\% | 0.3\% | 0.0\% | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 11.4\% | 7.7\% | 0.0\% | 8.9\% | 8.3\% | 35.8\% | 6.1\% | 20.9\% |
| (89-98) | 0.7\% | 0.1\% | 0.0\% | 0.2\% | 0.1\% | 0.4\% | 0.2\% | 9.5\% | 13.4\% | 1.4\% | 2.9\% | 4.9\% | 28.4\% | 14.2\% | 23.7\% |
| (99-05) | 0.9\% | 0.1\% | 0.0\% | 0.3\% | 0.0\% | 0.0\% | 0.6\% | 8.2\% | 8.2\% | 0.1\% | 6.9\% | 4.9\% | 36.4\% | 6.5\% | 26.7\% |

Appendix E.27. Percent distribution of Skagit Summer Fingerling Chinook reported catch among fisheries and escapement.

| Catch Year | Alaska Troll | Alaska$\qquad$ | Alaska Sport |  |  | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \\ \hline \end{array}$ | $\begin{array}{r} \text { N/CBC } \\ \text { Sport } \\ \hline \end{array}$ |  | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{gathered}$ | Other Fisheries |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | North Troll | Central Troll |  |  | $\begin{array}{r} \text { WCVI } \\ \text { Troll } \\ \hline \end{array}$ |  | Canada $\qquad$ | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | U.S. <br> Net | $\begin{gathered} \text { U.S. } \\ \text { Sport } \end{gathered}$ | Escapement |
| 1998 | 3.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.7\% | 1.7\% | 1.7\% | 0.0\% | 2.9\% | 0.0\% | 0.0\% | 1.2\% | 87.3\% |
| 1999 | 7.1\% | 2.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 7.1\% | 0.0\% | 20.2\% | 0.0\% | 1.2\% | 0.0\% | 61.9\% |
| 2000 | 6.0\% | 0.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.3\% | 6.9\% | 0.0\% | 6.9\% | 0.0\% | 2.3\% | 5.5\% | 69.1\% |
| 2001 | 7.2\% | 1.9\% | 0.9\% | 0.0\% | 0.0\% | 0.0\% | 1.6\% | 7.6\% | 8.2\% | 0.0\% | 4.3\% | 0.1\% | 0.8\% | 1.4\% | 65.9\% |
| 2002 | 12.8\% | 0.0\% | 0.8\% | 0.9\% | 0.0\% | 0.1\% | 1.6\% | 6.4\% | 3.6\% | 0.2\% | 1.7\% | 0.1\% | 0.9\% | 0.0\% | 70.8\% |
| 2003 | 6.1\% | 0.1\% | 0.0\% | 3.8\% | 0.0\% | 0.0\% | 3.3\% | 12.2\% | 5.9\% | 0.1\% | 3.2\% | 0.4\% | 0.7\% | 0.7\% | 63.5\% |
| 2004 | 5.0\% | 0.0\% | 0.0\% | 2.4\% | 0.0\% | 0.0\% | 1.4\% | 9.7\% | 1.6\% | 0.0\% | 1.3\% | 0.8\% | 1.0\% | 0.5\% | 76.4\% |
| 2005 | 6.8\% | 0.2\% | 0.4\% | 1.3\% | 0.0\% | 0.3\% | 2.9\% | 5.1\% | 1.9\% | 0.0\% | 3.9\% | 0.0\% | 3.5\% | 0.8\% | 72.8\% |
| (1998) | 3.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.7\% | 1.7\% | 1.7\% | 0.0\% | 2.9\% | 0.0\% | 0.0\% | 1.2\% | 87.3\% |
| (99-05) | 7.3\% | 0.8\% | 0.3\% | 1.2\% | 0.0\% | 0.1\% | 1.5\% | 6.2\% | 5.0\% | 0.0\% | 5.9\% | 0.2\% | 1.5\% | 1.3\% | 68.6\% |

Appendix E.28. Percent distribution of Skagit Summer Fingerling Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch <br> Year | Alaska Troll | Alaska Net | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \\ \hline \end{array}$ | N/CBC Sport | WCVI <br> Troll | $\begin{array}{r} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{array}$ | Canada Net | Canada Sport | $\begin{aligned} & \text { U.S. } \\ & \text { Troll } \end{aligned}$ | $\begin{aligned} & \text { U.S. } \\ & \text { Net } \end{aligned}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1998 | 3.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.2\% | 1.7\% | 2.8\% | 0.0\% | 2.8\% | 0.0\% | 0.0\% | 1.7\% | 84.8\% |
| 1999 | 10.2\% | 5.1\% | 0.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.5\% | 7.6\% | 0.0\% | 19.3\% | 0.0\% | 1.0\% | 2.0\% | 52.8\% |
| 2000 | 10.5\% | 1.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.4\% | 7.5\% | 0.0\% | 7.1\% | 0.0\% | 1.9\% | 12.0\% | 56.4\% |
| 2001 | 10.1\% | 4.5\% | 1.1\% | 0.0\% | 0.0\% | 0.0\% | 1.9\% | 7.0\% | 9.2\% | 0.0\% | 4.4\% | 0.1\% | 0.7\% | 2.7\% | 58.2\% |
| 2002 | 13.3\% | 0.0\% | 0.8\% | 1.0\% | 0.0\% | 0.1\% | 2.0\% | 6.2\% | 4.3\% | 2.8\% | 1.9\% | 0.1\% | 0.9\% | 0.0\% | 66.5\% |
| 2003 | 6.7\% | 0.6\% | 0.0\% | 4.0\% | 0.0\% | 0.0\% | 4.2\% | 12.2\% | 6.9\% | 0.2\% | 3.8\% | 0.3\% | 0.7\% | 0.8\% | 59.7\% |
| 2004 | 5.7\% | 0.0\% | 0.0\% | 2.9\% | 0.0\% | 0.0\% | 1.9\% | 10.0\% | 2.2\% | 0.0\% | 1.4\% | 0.8\% | 1.0\% | 0.7\% | 73.3\% |
| 2005 | 8.0\% | 0.5\% | 0.6\% | 1.4\% | 0.0\% | 0.4\% | 3.8\% | 5.2\% | 2.3\% | 0.0\% | 4.5\% | 0.0\% | 3.4\% | 1.1\% | 68.8\% |
| (1998) | 3.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.2\% | 1.7\% | 2.8\% | 0.0\% | 2.8\% | 0.0\% | 0.0\% | 1.7\% | 84.8\% |
| (99-05) | 9.2\% | 1.7\% | 0.4\% | 1.3\% | 0.0\% | 0.1\% | 2.0\% | 6.5\% | 5.7\% | 0.4\% | 6.1\% | 0.2\% | 1.4\% | 2.8\% | 62.2\% |

Appendix E.29. Percent distribution of Stillaguamish Fall Fingerling Chinook reported catch among fisheries and escapement ( $\mathrm{NA}=$ not available).

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \text { Catch }^{1} \\ \text { Year } \end{gathered}$ | Alaska Troll | Alaska Net | Alaska Sport | North Troll | Central Troll | N/CBC <br> Net | N/CBC Sport | $\begin{array}{r} \text { WCVI } \\ \text { Troll } \\ \hline \end{array}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | Canada Net | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | $\begin{gathered} \hline \text { U.S. } \\ \text { Net } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1984 | 0.0\% | 0.0\% | 0.0\% | 3.6\% | 19.3\% | 2.4\% | 3.6\% | 7.2\% | 15.7\% | 24.1\% | 0.0\% | 0.0\% | 4.8\% | 19.3\% | NA ${ }^{2}$ |
| 1985 | 7.2\% | 0.0\% | 0.0\% | 4.1\% | 0.0\% | 4.1\% | 0.0\% | 29.9\% | 10.3\% | 11.3\% | 9.3\% | 0.0\% | 9.3\% | 13.4\% | NA ${ }^{2}$ |
| 1986 | 4.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 4.5\% | 0.0\% | 31.8\% | 20.5\% | 0.0\% | 0.0\% | 0.0\% | 17.0\% | 21.6\% | NA ${ }^{2}$ |
| 1990 | 0.6\% | 0.0\% | 0.0\% | 0.9\% | 8.0\% | 5.3\% | 0.0\% | 21.2\% | 10.0\% | 5.6\% | 6.5\% | 5.6\% | 9.4\% | 13.6\% | 13.3\% |
| 1991 | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.5\% | 5.3\% | 4.0\% | 1.0\% | 2.3\% | 4.6\% | 6.2\% | 7.2\% | 68.6\% |
| 1992 | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.0\% | 2.4\% | 0.0\% | 17.2\% | 5.1\% | 2.5\% | 4.0\% | 5.7\% | 12.0\% | 28.1\% | 22.5\% |
| 1993 | 0.0\% | 0.0\% | 0.0\% | 0.6\% | 0.4\% | 1.0\% | 1.3\% | 11.1\% | 8.4\% | 1.3\% | 9.3\% | 5.2\% | 1.4\% | 21.8\% | 38.1\% |
| 1994 | 2.4\% | 0.0\% | 0.0\% | 0.7\% | 0.0\% | 1.3\% | 0.0\% | 6.6\% | 7.7\% | 0.9\% | 5.3\% | 0.0\% | 2.4\% | 5.8\% | 66.8\% |
| 1995 | 2.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 9.8\% | 0.0\% | 2.4\% | 4.2\% | 1.1\% | 9.8\% | 1.1\% | 2.4\% | 14.0\% | 52.9\% |
| 1996 | 0.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 7.8\% | 1.3\% | 0.0\% | 5.9\% | 0.4\% | 7.2\% | 0.0\% | 0.3\% | 18.4\% | 57.7\% |
| 1997 | 9.1\% | 0.4\% | 0.0\% | 0.5\% | 0.0\% | 1.5\% | 1.1\% | 7.0\% | 4.8\% | 0.0\% | 5.0\% | 0.0\% | 2.0\% | 15.5\% | 53.2\% |
| 1998 | 9.3\% | 0.2\% | 0.3\% | 1.0\% | 0.0\% | 0.0\% | 0.6\% | 1.0\% | 1.6\% | 0.1\% | 2.1\% | 0.0\% | 1.7\% | 1.9\% | 80.2\% |
| 1999 | 0.6\% | 1.5\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.3\% | 1.1\% | 5.7\% | 0.0\% | 7.6\% | 0.0\% | 0.3\% | 2.6\% | 79.8\% |
| 2000 | 5.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 7.5\% | 2.0\% | 0.0\% | 1.4\% | 0.6\% | 0.1\% | 1.9\% | 81.2\% |
| 2001 | 2.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 5.3\% | 5.3\% | 0.0\% | 2.5\% | 0.4\% | 1.4\% | 10.2\% | 72.8\% |
| (90-98) | 2.8\% | 0.1\% | 0.0\% | 0.5\% | 0.9\% | 3.2\% | 0.5\% | 8.0\% | 5.7\% | 1.4\% | 5.7\% | 2.5\% | 4.2\% | 14.0\% | 50.4\% |
| (99-01) | 2.6\% | 0.5\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.1\% | 4.6\% | 4.3\% | 0.0\% | 3.8\% | 0.3\% | 0.6\% | 4.9\% | 77.9\% |

Appendix E.30. Percent distribution of Stillaguamish Fall Fingerling Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { Catch }^{1} \\ & \text { Year } \end{aligned}$ | Alaska Troll | Alaska Net | Alaska Sport | North Troll | Central Troll | $\mathrm{N} / \mathrm{CBC}$ <br> Net | $\mathrm{N} / \mathrm{CBC}$ Sport | $\begin{gathered} \text { WCVI } \\ \text { Troll } \end{gathered}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | Canada Net | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | $\begin{gathered} \hline \text { U.S. } \\ \text { Net } \end{gathered}$ | U.S. Sport |  |
| 1984 | 0.9\% | 0.0\% | 0.0\% | 3.7\% | 16.8\% | 1.9\% | 2.8\% | 10.3\% | 13.1\% | 19.6\% | 0.0\% | 0.0\% | 4.7\% | 26.2\% | NA ${ }^{2}$ |
| 1985 | 7.0\% | 0.0\% | 0.0\% | 4.4\% | 0.0\% | 3.5\% | 0.0\% | 30.7\% | 8.8\% | 9.6\% | 8.8\% | 0.0\% | 8.8\% | 17.5\% | NA ${ }^{2}$ |
| 1986 | 6.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 4.2\% | 0.0\% | 31.3\% | 20.8\% | 0.0\% | 0.0\% | 0.0\% | 15.6\% | 21.9\% | NA ${ }^{2}$ |
| 1990 | 0.7\% | 0.0\% | 0.0\% | 1.0\% | 7.8\% | 4.6\% | 0.0\% | 21.5\% | 10.5\% | 4.9\% | 6.1\% | 6.6\% | 8.8\% | 16.4\% | 11.0\% |
| 1991 | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.5\% | 6.1\% | 4.7\% | 0.9\% | 2.4\% | 5.3\% | 6.2\% | 9.3\% | 64.2\% |
| 1992 | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.0\% | 2.1\% | 0.0\% | 17.4\% | 5.1\% | 2.0\% | 3.6\% | 5.5\% | 10.3\% | 37.4\% | 16.3\% |
| 1993 | 0.0\% | 0.0\% | 0.0\% | 0.8\% | 0.5\% | 0.8\% | 1.3\% | 13.3\% | 9.7\% | 1.3\% | 8.9\% | 5.7\% | 1.3\% | 22.9\% | 33.5\% |
| 1994 | 2.9\% | 0.0\% | 0.0\% | 0.6\% | 0.0\% | 1.3\% | 0.0\% | 7.3\% | 8.6\% | 1.0\% | 5.6\% | 0.0\% | 2.3\% | 7.1\% | 63.2\% |
| 1995 | 2.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 10.8\% | 0.0\% | 3.8\% | 4.4\% | 1.8\% | 9.0\% | 0.8\% | 2.2\% | 24.6\% | 40.1\% |
| 1996 | 1.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 8.7\% | 2.1\% | 1.1\% | 6.3\% | 0.6\% | 6.9\% | 0.0\% | 0.2\% | 25.5\% | 47.5\% |
| 1997 | 9.8\% | 0.8\% | 0.0\% | 0.5\% | 0.0\% | 1.4\% | 1.2\% | 7.8\% | 5.1\% | 0.4\% | 4.9\% | 0.0\% | 1.8\% | 18.5\% | 47.8\% |
| 1998 | 10.3\% | 0.7\% | 0.4\% | 1.6\% | 0.0\% | 0.0\% | 0.8\% | 0.9\% | 1.7\% | 0.1\% | 2.3\% | 0.0\% | 1.7\% | 2.9\% | 76.5\% |
| 1999 | 0.7\% | 6.8\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.3\% | 1.0\% | 6.4\% | 0.0\% | 7.6\% | 0.0\% | 0.3\% | 3.5\% | 73.0\% |
| 2000 | 6.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 7.7\% | 2.4\% | 0.0\% | 1.7\% | 0.6\% | 0.1\% | 3.1\% | 78.3\% |
| 2001 | 2.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 5.2\% | 5.2\% | 0.0\% | 2.6\% | 0.3\% | 1.3\% | 16.0\% | 67.3\% |
| (90-98) | 3.0\% | 0.2\% | 0.0\% | 0.5\% | 0.9\% | 3.3\% | 0.7\% | 8.8\% | 6.2\% | 1.4\% | 5.5\% | 2.7\% | 3.9\% | 18.3\% | 44.5\% |
| (99-01) | 3.0\% | 2.3\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.1\% | 4.6\% | 4.7\% | 0.0\% | 4.0\% | 0.3\% | 0.6\% | 7.5\% | 72.9\% |

[^4]Appendix E.31. Percent distribution of Nisqually Fall Fingerling Chinook reported catch among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska $\qquad$ <br> Net | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \\ \hline \end{array}$ | N/CBC Sport | $\begin{gathered} \text { WCVI } \\ \text { Troll } \\ \hline \end{gathered}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | $\begin{array}{r} \text { Canada } \\ \text { Net } \end{array}$ | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | U.S. <br> Net | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1983 | 0.0\% | 0.0\% | 0.0\% | 2.5\% | 0.0\% | 0.0\% | 0.0\% | 16.4\% | 12.4\% | 6.0\% | 0.0\% | 4.5\% | 10.9\% | 45.8\% | NA ${ }^{1}$ |
| 1984 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 28.8\% | 1.5\% | 2.5\% | 0.0\% | 1.5\% | 37.9\% | 21.7\% | NA ${ }^{1}$ |
| 1985 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 30.3\% | 0.0\% | 6.1\% | 3.0\% | 7.6\% | 31.8\% | 16.7\% | NA ${ }^{1}$ |
| 1986 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 15.7\% | 13.0\% | 1.7\% | 0.0\% | 0.0\% | 35.7\% | 14.8\% | 19.1\% |
| 1987 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.0\% | 1.3\% | 0.0\% | 10.7\% | 13.3\% | 0.7\% | 0.0\% | 5.3\% | 35.3\% | 18.7\% | 12.7\% |
| 1988 | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 2.2\% | 0.7\% | 2.2\% | 5.4\% | 17.7\% | 4.7\% | 0.0\% | 8.7\% | 17.3\% | 10.5\% | 30.0\% |
| 1989 | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.0\% | 0.7\% | 0.0\% | 4.4\% | 2.5\% | 3.6\% | 6.3\% | 13.3\% | 42.6\% | 18.3\% | 8.0\% |
| 1990 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 0.0\% | 22.5\% | 3.1\% | 0.2\% | 5.8\% | 10.2\% | 37.7\% | 12.2\% | 8.2\% |
| 1991 | 0.0\% | 0.0\% | 0.0\% | 2.1\% | 0.0\% | 0.0\% | 0.0\% | 8.2\% | 3.3\% | 2.5\% | 2.1\% | 16.5\% | 23.0\% | 24.3\% | 18.1\% |
| 1992 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.8\% | 7.6\% | 2.9\% | 2.6\% | 4.2\% | 7.6\% | 18.2\% | 16.7\% | 39.3\% |
| 1993 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.0\% | 0.0\% | 12.4\% | 3.9\% | 2.2\% | 1.8\% | 2.9\% | 22.4\% | 19.2\% | 34.3\% |
| 1994 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 4.5\% | 2.4\% | 2.4\% | 0.5\% | 0.8\% | 22.0\% | 21.2\% | 46.2\% |
| 1995 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.3\% | 5.4\% | 1.7\% | 0.1\% | 3.1\% | 2.7\% | 32.3\% | 24.4\% | 29.6\% |
| 1996 | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.0\% | 0.0\% | 0.0\% | 3.3\% | 0.0\% | 1.1\% | 1.7\% | 42.0\% | 21.3\% | 29.4\% |
| 1997 | 0.0\% | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.6\% | 2.4\% | 0.6\% | 0.0\% | 4.5\% | 0.8\% | 18.9\% | 24.4\% | 47.0\% |
| 1998 | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.5\% | 1.5\% | 0.0\% | 0.7\% | 0.5\% | 36.4\% | 12.0\% | 47.9\% |
| 1999 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 2.9\% | 0.0\% | 2.7\% | 2.8\% | 43.8\% | 19.6\% | 27.7\% |
| 2000 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 13.8\% | 3.0\% | 0.0\% | 2.8\% | 1.8\% | 46.4\% | 18.0\% | 14.2\% |
| 2001 | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.1\% | 1.4\% | 0.0\% | 1.8\% | 4.3\% | 30.0\% | 16.1\% | 43.1\% |
| 2002 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 6.9\% | 1.0\% | 0.0\% | 3.7\% | 3.5\% | 41.9\% | 10.9\% | 32.2\% |
| 2003 | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 5.9\% | 1.1\% | 0.0\% | 1.4\% | 4.2\% | 43.2\% | 14.3\% | 29.4\% |
| 2004 | 0.0\% | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 5.8\% | 1.2\% | 0.0\% | 1.4\% | 6.6\% | 31.8\% | 8.6\% | 44.6\% |
| 2005 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.0\% | 5.7\% | 1.9\% | 0.0\% | 1.9\% | 3.7\% | 11.0\% | 7.8\% | 67.8\% |
| (86-98) | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.3\% | 0.4\% | 0.3\% | 9.3\% | 4.9\% | 1.9\% | 2.4\% | 5.6\% | 29.7\% | 18.2\% | 26.7\% |
| (99-05) | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 5.9\% | 1.8\% | 0.0\% | 2.2\% | 3.8\% | 35.4\% | 13.6\% | 37.0\% |

${ }^{1}$ Values represent estimates of catch distribution only for this year.

Appendix E.32. Percent distribution of Nisqually Fall Fingerling Chinook total fishing mortalities among fisheries and escapement.

| Catch Year | Alaska Troll | Alaska$\qquad$ | Alaska Sport | North Troll | $\begin{array}{r} \text { Central } \\ \text { Troll } \\ \hline \end{array}$ | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \\ \hline \end{array}$ | N/CBC <br> Sport | $\begin{gathered} \text { WCVI } \\ \text { Troll } \\ \hline \end{gathered}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{gathered}$ | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  | $\begin{array}{r} \text { Canada } \\ \text { Net } \\ \hline \end{array}$ | $\begin{array}{r} \hline \text { Canada } \\ \text { Sport } \\ \hline \end{array}$ | $\begin{gathered} \text { U.S. } \\ \text { Troll } \\ \hline \end{gathered}$ | $\begin{aligned} & \hline \text { U.S. } \\ & \text { Net } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { U.S. } \\ & \text { Sport } \end{aligned}$ |  |
| 1983 | 0.0\% | 0.0\% | 0.0\% | 1.7\% | 0.0\% | 0.0\% | 0.0\% | 15.0\% | 8.8\% | 4.8\% | 0.0\% | 3.1\% | 9.2\% | 56.5\% | NA ${ }^{1}$ |
| 1984 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 28.8\% | 1.3\% | 2.5\% | 0.0\% | 1.7\% | 35.2\% | 25.4\% | NA ${ }^{1}$ |
| 1985 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 28.6\% | 0.0\% | 4.8\% | 3.6\% | 7.1\% | 31.0\% | 21.4\% | NA ${ }^{1}$ |
| 1986 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 16.4\% | 12.5\% | 1.6\% | 0.0\% | 0.0\% | 32.8\% | 19.5\% | 17.2\% |
| 1987 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.7\% | 1.1\% | 0.0\% | 14.4\% | 11.8\% | 0.5\% | 0.0\% | 5.9\% | 29.9\% | 23.5\% | 10.2\% |
| 1988 | 0.0\% | 0.0\% | 0.0\% | 0.8\% | 2.1\% | 0.8\% | 2.6\% | 5.8\% | 18.6\% | 3.7\% | 0.0\% | 8.1\% | 16.0\% | 19.7\% | 21.8\% |
| 1989 | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.0\% | 0.6\% | 0.0\% | 5.4\% | 3.0\% | 3.2\% | 6.0\% | 14.6\% | 40.4\% | 19.1\% | 7.2\% |
| 1990 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 0.0\% | 23.4\% | 3.2\% | 0.1\% | 5.9\% | 10.4\% | 35.6\% | 13.6\% | 7.6\% |
| 1991 | 0.0\% | 0.0\% | 0.0\% | 2.2\% | 0.0\% | 0.0\% | 0.0\% | 9.1\% | 3.6\% | 2.2\% | 1.8\% | 17.2\% | 21.2\% | 26.6\% | 16.1\% |
| 1992 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 1.0\% | 7.2\% | 2.9\% | 1.9\% | 3.7\% | 7.0\% | 18.4\% | 28.5\% | 29.3\% |
| 1993 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.9\% | 0.0\% | 14.7\% | 4.5\% | 2.0\% | 1.7\% | 3.2\% | 21.6\% | 21.8\% | 29.6\% |
| 1994 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 4.1\% | 2.3\% | 2.4\% | 0.4\% | 0.6\% | 17.8\% | 39.8\% | 32.3\% |
| 1995 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.4\% | 8.0\% | 2.0\% | 0.3\% | 3.0\% | 2.4\% | 30.2\% | 27.7\% | 25.8\% |
| 1996 | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.2\% | 0.0\% | 0.7\% | 3.6\% | 0.0\% | 1.2\% | 1.6\% | 38.9\% | 26.3\% | 26.4\% |
| 1997 | 0.0\% | 0.6\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.8\% | 2.8\% | 0.7\% | 0.3\% | 4.3\% | 0.8\% | 17.4\% | 31.9\% | 40.2\% |
| 1998 | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.4\% | 1.5\% | 0.0\% | 0.7\% | 0.5\% | 31.6\% | 26.3\% | 38.3\% |
| 1999 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 3.3\% | 0.0\% | 2.6\% | 3.1\% | 41.8\% | 24.1\% | 24.6\% |
| 2000 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 12.4\% | 2.8\% | 0.0\% | 2.8\% | 1.7\% | 37.9\% | 31.1\% | 11.3\% |
| 2001 | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.9\% | 1.5\% | 0.0\% | 1.8\% | 4.5\% | 26.7\% | 26.8\% | 35.6\% |
| 2002 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 6.7\% | 1.2\% | 0.0\% | 4.1\% | 3.7\% | 39.9\% | 15.3\% | 29.0\% |
| 2003 | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 5.7\% | 1.4\% | 0.0\% | 1.6\% | 4.5\% | 41.2\% | 18.2\% | 26.8\% |
| 2004 | 0.0\% | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 5.8\% | 1.4\% | 0.0\% | 1.5\% | 7.2\% | 29.9\% | 13.6\% | 40.3\% |
| 2005 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.0\% | 5.7\% | 2.4\% | 0.0\% | 2.2\% | 4.3\% | 10.7\% | 13.3\% | 61.0\% |
| (86-98) | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.4\% | 0.4\% | 0.4\% | 10.1\% | 5.0\% | 1.6\% | 2.3\% | 5.7\% | 27.3\% | 24.7\% | 21.8\% |
| (99-05) | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 5.7\% | 2.0\% | 0.0\% | 2.4\% | 4.1\% | 32.6\% | 20.3\% | 32.7\% |

Appendix E.33. Percent distribution of George Adams Fall Fingerling Chinook among fisheries reported catch and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska $\qquad$ <br> Net | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \end{array}$ | N/CBC Sport | $\begin{gathered} \text { WCVI } \\ \text { Troll } \\ \hline \end{gathered}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | $\begin{array}{r} \text { Canada } \\ \text { Net } \end{array}$ | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | $\begin{gathered} \hline \text { U.S. } \\ \text { Net } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1982 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.3\% | 0.0\% | 20.8\% | 4.4\% | 0.4\% | 0.0\% | 3.0\% | 38.1\% | 10.7\% | 21.9\% |
| 1983 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.6\% | 1.6\% | 0.0\% | 15.7\% | 3.5\% | 4.2\% | 0.5\% | 0.2\% | 29.8\% | 25.8\% | 17.2\% |
| 1984 | 0.0\% | 0.1\% | 0.0\% | 0.5\% | 3.2\% | 0.7\% | 0.4\% | 18.1\% | 5.7\% | 1.2\% | 0.0\% | 2.2\% | 31.3\% | 20.6\% | 15.9\% |
| 1989 | 0.0\% | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 8.5\% | 3.8\% | 4.6\% | 1.7\% | 12.9\% | 38.7\% | 17.2\% | 12.2\% |
| 1990 | 0.1\% | 0.0\% | 0.0\% | 0.4\% | 0.3\% | 0.5\% | 0.0\% | 19.3\% | 4.7\% | 1.0\% | 5.0\% | 15.0\% | 28.4\% | 18.4\% | 6.8\% |
| 1991 | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 18.4\% | 2.2\% | 0.4\% | 4.5\% | 8.6\% | 33.3\% | 18.0\% | 14.4\% |
| 1992 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 15.6\% | 2.1\% | 5.2\% | 0.0\% | 20.3\% | 9.4\% | 39.6\% | 7.3\% |
| 1993 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 33.9\% | 4.3\% | 0.0\% | 7.8\% | 8.7\% | 4.3\% | 22.6\% | 18.3\% |
| 1994 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 7.0\% | 0.0\% | 0.0\% | 0.0\% | 14.0\% | 7.0\% | 72.1\% |
| 1995 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.0\% | 0.0\% | 7.8\% | 3.9\% | 0.5\% | 3.9\% | 1.0\% | 4.4\% | 18.6\% | 57.8\% |
| 1996 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.4\% | 0.0\% | 0.0\% | 12.6\% | 0.0\% | 4.7\% | 5.9\% | 0.0\% | 13.8\% | 60.6\% |
| 1997 | 1.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 4.2\% | 3.0\% | 0.3\% | 1.4\% | 3.0\% | 0.8\% | 18.8\% | 66.5\% |
| 1998 | 0.7\% | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.7\% | 0.0\% | 1.1\% | 1.8\% | 1.8\% | 7.4\% | 86.2\% |
| 1999 | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.8\% | 2.5\% | 0.0\% | 9.0\% | 4.9\% | 2.9\% | 10.9\% | 68.5\% |
| 2000 | 0.4\% | 0.0\% | 0.0\% | 0.3\% | 0.0\% | 0.1\% | 0.0\% | 19.8\% | 2.8\% | 0.0\% | 7.3\% | 3.6\% | 0.4\% | 18.3\% | 47.1\% |
| 2001 | 0.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 11.8\% | 3.0\% | 0.0\% | 1.3\% | 6.4\% | 11.1\% | 10.0\% | 55.1\% |
| 2002 | 1.4\% | 0.0\% | 0.0\% | 0.9\% | 0.0\% | 0.0\% | 0.0\% | 10.8\% | 2.0\% | 0.0\% | 11.6\% | 4.0\% | 10.9\% | 14.7\% | 43.5\% |
| 2003 | 0.5\% | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 11.8\% | 2.3\% | 0.0\% | 1.7\% | 6.5\% | 10.6\% | 18.2\% | 48.3\% |
| 2004 | 0.5\% | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.0\% | 14.8\% | 1.9\% | 0.0\% | 3.1\% | 6.0\% | 11.5\% | 7.1\% | 54.6\% |
| 2005 | 0.3\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 0.0\% | 0.7\% | 10.6\% | 4.7\% | 0.0\% | 8.6\% | 6.9\% | 5.7\% | 14.1\% | 48.2\% |
| (82-84) | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 1.8\% | 0.9\% | 0.1\% | 18.2\% | 4.5\% | 1.9\% | 0.2\% | 1.8\% | 33.1\% | 19.0\% | 18.3\% |
| (89-98) | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.6\% | 0.0\% | 10.8\% | 4.4\% | 1.2\% | 3.0\% | 7.7\% | 13.5\% | 18.1\% | 40.2\% |
| (99-05) | 0.6\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 0.1\% | 0.2\% | 11.5\% | 2.7\% | 0.0\% | 6.1\% | 5.5\% | 7.6\% | 13.3\% | 52.2\% |

Appendix E.34. Percent distribution of George Adams Fall Fingerling Chinook total fishing among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska $\qquad$ <br> Net | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \end{array}$ | N/CBC Sport | $\begin{gathered} \text { WCVI } \\ \text { Troll } \\ \hline \end{gathered}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | $\begin{array}{r} \text { Canada } \\ \text { Net } \end{array}$ | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | $\begin{gathered} \hline \text { U.S. } \\ \text { Net } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1982 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.6\% | 0.3\% | 0.0\% | 21.6\% | 4.3\% | 0.5\% | 0.0\% | 2.9\% | 36.7\% | 12.8\% | 20.3\% |
| 1983 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.2\% | 1.1\% | 0.0\% | 12.6\% | 2.4\% | 3.1\% | 0.3\% | 0.1\% | 25.7\% | 42.4\% | 11.0\% |
| 1984 | 0.0\% | 0.1\% | 0.0\% | 0.6\% | 3.2\% | 0.7\% | 0.5\% | 18.2\% | 5.6\% | 1.1\% | 0.0\% | 2.3\% | 30.6\% | 22.5\% | 14.6\% |
| 1989 | 0.0\% | 0.2\% | 0.0\% | 0.1\% | 0.1\% | 0.3\% | 0.0\% | 10.3\% | 4.0\% | 4.1\% | 1.8\% | 13.1\% | 35.8\% | 20.0\% | 10.4\% |
| 1990 | 0.8\% | 0.0\% | 0.0\% | 0.5\% | 0.4\% | 0.5\% | 0.0\% | 21.2\% | 4.9\% | 1.0\% | 4.6\% | 15.5\% | 25.9\% | 18.9\% | 5.9\% |
| 1991 | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 19.4\% | 2.3\% | 0.4\% | 4.5\% | 8.7\% | 31.6\% | 19.7\% | 13.3\% |
| 1992 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 16.6\% | 1.8\% | 4.6\% | 0.0\% | 20.3\% | 8.3\% | 41.5\% | 6.5\% |
| 1993 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 33.6\% | 5.1\% | 0.0\% | 7.3\% | 8.0\% | 4.4\% | 26.3\% | 15.3\% |
| 1994 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 8.3\% | 0.0\% | 0.0\% | 0.0\% | 16.7\% | 10.4\% | 64.6\% |
| 1995 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.3\% | 0.0\% | 9.7\% | 4.2\% | 1.2\% | 3.9\% | 0.8\% | 4.2\% | 28.2\% | 45.6\% |
| 1996 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.7\% | 0.0\% | 1.3\% | 14.3\% | 0.0\% | 4.6\% | 5.7\% | 0.0\% | 15.9\% | 55.5\% |
| 1997 | 2.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 4.5\% | 3.0\% | 0.8\% | 1.3\% | 3.0\% | 0.8\% | 24.2\% | 60.5\% |
| 1998 | 0.7\% | 0.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.9\% | 0.0\% | 1.2\% | 1.7\% | 2.0\% | 26.8\% | 65.9\% |
| 1999 | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.9\% | 3.1\% | 0.0\% | 9.2\% | 5.8\% | 2.8\% | 14.3\% | 63.5\% |
| 2000 | 0.4\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 0.2\% | 0.0\% | 19.2\% | 3.0\% | 0.0\% | 7.8\% | 3.7\% | 0.3\% | 24.3\% | 40.7\% |
| 2001 | 0.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 11.2\% | 3.4\% | 0.0\% | 1.3\% | 6.9\% | 10.6\% | 17.0\% | 48.1\% |
| 2002 | 1.7\% | 0.0\% | 0.0\% | 1.0\% | 0.0\% | 0.0\% | 0.0\% | 10.5\% | 2.4\% | 0.0\% | 13.0\% | 4.3\% | 10.4\% | 17.3\% | 39.3\% |
| 2003 | 0.6\% | 0.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 11.5\% | 2.8\% | 0.0\% | 1.9\% | 6.9\% | 10.3\% | 21.7\% | 43.8\% |
| 2004 | 0.6\% | 0.8\% | 0.0\% | 0.0\% | 0.0\% | 0.6\% | 0.0\% | 14.6\% | 2.2\% | 0.0\% | 3.4\% | 6.5\% | 11.5\% | 11.3\% | 48.6\% |
| 2005 | 0.4\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 0.0\% | 0.9\% | 10.0\% | 5.8\% | 0.0\% | 9.3\% | 7.6\% | 5.5\% | 16.7\% | 43.7\% |
| (82-84) | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 1.7\% | 0.7\% | 0.2\% | 17.5\% | 4.1\% | 1.6\% | 0.1\% | 1.8\% | 31.0\% | 25.9\% | 15.3\% |
| (89-98) | 0.4\% | 0.1\% | 0.0\% | 0.1\% | 0.1\% | 0.6\% | 0.0\% | 11.7\% | 4.9\% | 1.2\% | 2.9\% | 7.7\% | 13.0\% | 23.2\% | 34.4\% |
| (99-05) | 0.7\% | 0.2\% | 0.0\% | 0.2\% | 0.0\% | 0.1\% | 0.2\% | 11.1\% | 3.2\% | 0.0\% | 6.6\% | 6.0\% | 7.3\% | 17.5\% | 46.8\% |

Appendix E.35. Percent distribution of South Puget Sound Fall Fingerling Chinook reported catch among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska $\qquad$ Net | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \end{array}$ | N/CBC Sport | $\begin{gathered} \text { WCVI } \\ \text { Troll } \\ \hline \end{gathered}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | $\begin{array}{r} \text { Canada } \\ \text { Net } \end{array}$ | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | $\begin{gathered} \hline \text { U.S. } \\ \text { Net } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1982 | 0.3\% | 0.0\% | 0.1\% | 0.3\% | 1.5\% | 0.4\% | 0.1\% | 26.2\% | 11.3\% | 1.1\% | 0.0\% | 3.3\% | 28.4\% | 15.2\% | 11.8\% |
| 1983 | 0.3\% | 0.0\% | 0.0\% | 1.7\% | 1.1\% | 0.7\% | 0.0\% | 12.4\% | 5.7\% | 3.2\% | 0.0\% | 2.1\% | 31.3\% | 28.3\% | 13.1\% |
| 1984 | 0.0\% | 0.2\% | 0.0\% | 0.6\% | 1.2\% | 0.5\% | 0.3\% | 14.4\% | 8.7\% | 1.5\% | 0.2\% | 0.6\% | 15.6\% | 23.2\% | 33.1\% |
| 1985 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 14.8\% | 5.5\% | 2.3\% | 0.4\% | 1.2\% | 33.3\% | 15.1\% | 27.4\% |
| 1986 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.4\% | 0.0\% | 17.5\% | 6.0\% | 1.9\% | 0.0\% | 4.6\% | 6.3\% | 24.3\% | 38.0\% |
| 1987 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 12.8\% | 12.8\% | 3.5\% | 0.0\% | 7.2\% | 13.9\% | 10.9\% | 39.0\% |
| 1988 | 0.1\% | 0.0\% | 0.0\% | 0.3\% | 0.6\% | 0.7\% | 0.5\% | 5.9\% | 5.6\% | 3.4\% | 4.8\% | 8.1\% | 24.5\% | 14.4\% | 31.1\% |
| 1989 | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.1\% | 0.0\% | 0.0\% | 6.6\% | 4.7\% | 4.0\% | 1.1\% | 10.9\% | 19.0\% | 16.0\% | 37.2\% |
| 1990 | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.1\% | 0.3\% | 0.0\% | 22.1\% | 3.5\% | 1.0\% | 3.5\% | 8.9\% | 22.9\% | 12.8\% | 24.5\% |
| 1991 | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 0.0\% | 16.3\% | 1.6\% | 1.3\% | 3.4\% | 10.5\% | 20.1\% | 13.8\% | 32.5\% |
| 1992 | 0.2\% | 0.1\% | 0.0\% | 0.0\% | 0.9\% | 0.5\% | 0.0\% | 17.4\% | 3.8\% | 2.6\% | 2.2\% | 9.2\% | 22.9\% | 18.0\% | 22.1\% |
| 1993 | 0.2\% | 0.1\% | 0.0\% | 0.0\% | 0.1\% | 0.6\% | 0.0\% | 15.7\% | 3.8\% | 2.2\% | 4.6\% | 5.5\% | 15.7\% | 21.0\% | 30.4\% |
| 1994 | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 0.2\% | 0.0\% | 8.9\% | 3.0\% | 4.1\% | 1.3\% | 0.7\% | 16.3\% | 10.0\% | 55.0\% |
| 1995 | 0.2\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 0.9\% | 0.0\% | 3.7\% | 1.8\% | 0.2\% | 1.1\% | 1.3\% | 5.6\% | 11.7\% | 73.4\% |
| 1996 | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.1\% | 0.0\% | 4.1\% | 0.1\% | 1.8\% | 2.9\% | 6.3\% | 14.8\% | 69.4\% |
| 1997 | 0.5\% | 0.0\% | 0.0\% | 0.3\% | 0.0\% | 0.5\% | 0.0\% | 5.2\% | 1.8\% | 0.0\% | 1.5\% | 1.6\% | 2.9\% | 13.2\% | 72.5\% |
| 1998 | 1.3\% | 0.0\% | 0.0\% | 0.9\% | 0.0\% | 0.0\% | 0.2\% | 0.5\% | 1.7\% | 0.0\% | 0.8\% | 1.0\% | 8.0\% | 6.3\% | 79.3\% |
| 1999 | 0.5\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 2.4\% | 0.0\% | 4.0\% | 3.0\% | 9.2\% | 5.3\% | 74.8\% |
| 2000 | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 9.2\% | 1.8\% | 0.0\% | 3.4\% | 0.3\% | 12.3\% | 6.8\% | 65.9\% |
| 2001 | 0.1\% | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 7.7\% | 3.2\% | 0.0\% | 2.3\% | 4.2\% | 11.6\% | 9.2\% | 61.4\% |
| 2002 | 0.7\% | 0.0\% | 0.0\% | 0.4\% | 0.0\% | 0.1\% | 0.4\% | 11.2\% | 4.0\% | 0.0\% | 3.5\% | 4.0\% | 18.3\% | 6.8\% | 50.4\% |
| 2003 | 0.6\% | 0.0\% | 0.0\% | 0.8\% | 0.0\% | 0.0\% | 0.0\% | 14.5\% | 3.9\% | 0.0\% | 2.9\% | 4.9\% | 14.4\% | 10.3\% | 47.6\% |
| 2004 | 0.4\% | 0.1\% | 0.0\% | 0.6\% | 0.0\% | 0.0\% | 0.2\% | 17.3\% | 2.0\% | 0.0\% | 4.4\% | 9.9\% | 14.6\% | 10.7\% | 40.0\% |
| 2005 | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.0\% | 0.0\% | 0.3\% | 12.7\% | 2.9\% | 0.0\% | 4.6\% | 5.6\% | 6.0\% | 7.4\% | 60.0\% |
| (82-84) | 0.2\% | 0.1\% | 0.0\% | 0.9\% | 1.3\% | 0.5\% | 0.1\% | 17.7\% | 8.6\% | 1.9\% | 0.1\% | 2.0\% | 25.1\% | 22.2\% | 19.3\% |
| (85-98) | 0.2\% | 0.0\% | 0.0\% | 0.2\% | 0.1\% | 0.4\% | 0.1\% | 10.5\% | 4.3\% | 1.9\% | 1.9\% | 5.3\% | 15.6\% | 14.5\% | 45.1\% |
| (99-05) | 0.4\% | 0.0\% | 0.0\% | 0.3\% | 0.0\% | 0.0\% | 0.2\% | 10.5\% | 2.9\% | 0.0\% | 3.6\% | 4.6\% | 12.3\% | 8.1\% | 57.2\% |

Appendix E.36. Percent distribution of South Puget Sound Fall Fingerling Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch <br> Year | Alaska Troll | Alaska Net | Alaska Sport | North Troll | Central $\qquad$ Troll | N/CBC $\qquad$ | $\begin{array}{r} \text { N/CBC } \\ \text { Sport } \\ \hline \end{array}$ | $\begin{array}{r} \text { WCVI } \\ \text { Troll } \\ \hline \end{array}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{gathered}$ | $\begin{array}{r} \hline \text { Canada } \\ \text { Net } \\ \hline \end{array}$ | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | $\begin{gathered} \hline \text { U.S. } \\ \text { Net } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1982 | 0.4\% | 0.0\% | 0.1\% | 0.4\% | 1.6\% | 0.4\% | 0.2\% | 27.4\% | 11.0\% | 1.0\% | 0.0\% | 3.3\% | 27.0\% | 16.4\% | 10.9\% |
| 1983 | 0.3\% | 0.0\% | 0.0\% | 1.6\% | 1.1\% | 0.7\% | 0.0\% | 11.9\% | 4.7\% | 2.7\% | 0.0\% | 2.0\% | 27.0\% | 38.3\% | 9.8\% |
| 1984 | 0.0\% | 0.2\% | 0.0\% | 0.6\% | 1.2\% | 0.4\% | 0.3\% | 14.7\% | 8.5\% | 1.4\% | 0.2\% | 0.7\% | 15.3\% | 26.1\% | 30.2\% |
| 1985 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 14.8\% | 5.5\% | 2.2\% | 0.4\% | 1.1\% | 32.5\% | 17.7\% | 25.6\% |
| 1986 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.4\% | 0.0\% | 17.8\% | 5.6\% | 1.9\% | 0.0\% | 4.6\% | 5.8\% | 30.2\% | 32.7\% |
| 1987 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 20.2\% | 10.6\% | 3.0\% | 0.0\% | 8.7\% | 12.2\% | 15.4\% | 29.8\% |
| 1988 | 0.4\% | 0.0\% | 0.0\% | 0.2\% | 1.0\% | 0.6\% | 0.5\% | 9.6\% | 7.3\% | 2.7\% | 4.0\% | 8.3\% | 21.6\% | 22.0\% | 21.8\% |
| 1989 | 0.1\% | 0.0\% | 0.0\% | 0.3\% | 0.2\% | 0.0\% | 0.0\% | 7.9\% | 5.4\% | 3.7\% | 1.1\% | 12.2\% | 18.3\% | 17.3\% | 33.6\% |
| 1990 | 0.0\% | 0.1\% | 0.0\% | 0.3\% | 0.2\% | 0.3\% | 0.0\% | 23.4\% | 3.6\% | 1.0\% | 3.5\% | 9.2\% | 21.5\% | 14.5\% | 22.4\% |
| 1991 | 0.5\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 0.0\% | 18.2\% | 1.8\% | 1.2\% | 3.4\% | 11.2\% | 18.9\% | 15.2\% | 29.5\% |
| 1992 | 0.3\% | 0.2\% | 0.0\% | 0.0\% | 1.0\% | 0.5\% | 0.0\% | 17.6\% | 3.9\% | 2.4\% | 2.1\% | 9.1\% | 20.3\% | 24.1\% | 18.4\% |
| 1993 | 0.3\% | 0.1\% | 0.0\% | 0.0\% | 0.1\% | 0.6\% | 0.0\% | 18.2\% | 4.5\% | 2.0\% | 4.3\% | 5.9\% | 14.7\% | 22.7\% | 26.5\% |
| 1994 | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 0.2\% | 0.0\% | 9.4\% | 3.3\% | 4.8\% | 1.3\% | 0.6\% | 15.5\% | 17.4\% | 46.9\% |
| 1995 | 0.2\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 1.1\% | 0.0\% | 5.4\% | 2.1\% | 0.7\% | 1.2\% | 1.3\% | 5.8\% | 17.3\% | 64.9\% |
| 1996 | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.2\% | 0.9\% | 4.8\% | 0.2\% | 1.8\% | 2.8\% | 6.3\% | 17.9\% | 64.5\% |
| 1997 | 0.5\% | 0.0\% | 0.0\% | 0.3\% | 0.0\% | 0.6\% | 0.0\% | 6.2\% | 2.0\% | 0.3\% | 1.5\% | 1.7\% | 2.8\% | 16.3\% | 67.7\% |
| 1998 | 1.4\% | 0.0\% | 0.0\% | 0.9\% | 0.0\% | 0.0\% | 0.3\% | 0.5\% | 1.8\% | 0.0\% | 0.8\% | 1.1\% | 8.0\% | 11.9\% | 73.2\% |
| 1999 | 0.6\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 3.0\% | 0.0\% | 4.3\% | 3.5\% | 9.3\% | 7.9\% | 70.6\% |
| 2000 | 0.4\% | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 9.1\% | 2.0\% | 0.0\% | 3.7\% | 0.3\% | 12.0\% | 14.3\% | 58.0\% |
| 2001 | 0.1\% | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 7.4\% | 3.8\% | 0.0\% | 2.4\% | 4.7\% | 11.1\% | 14.4\% | 55.6\% |
| 2002 | 0.9\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 0.2\% | 0.4\% | 11.0\% | 5.1\% | 0.0\% | 3.9\% | 4.4\% | 17.5\% | 9.6\% | 46.5\% |
| 2003 | 0.7\% | 0.0\% | 0.0\% | 0.8\% | 0.0\% | 0.0\% | 0.0\% | 14.1\% | 4.7\% | 0.0\% | 3.3\% | 5.3\% | 13.8\% | 13.7\% | 43.7\% |
| 2004 | 0.4\% | 0.2\% | 0.0\% | 0.6\% | 0.0\% | 0.0\% | 0.2\% | 16.5\% | 2.3\% | 0.0\% | 4.7\% | 10.3\% | 13.5\% | 16.5\% | 34.7\% |
| 2005 | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.0\% | 0.0\% | 0.4\% | 12.6\% | 3.6\% | 0.0\% | 5.2\% | 6.2\% | 5.9\% | 11.3\% | 54.4\% |
| (82-84) | 0.2\% | 0.1\% | 0.0\% | 0.9\% | 1.3\% | 0.5\% | 0.2\% | 18.0\% | 8.1\% | 1.7\% | 0.1\% | 2.0\% | 23.1\% | 26.9\% | 17.0\% |
| (85-98) | 0.3\% | 0.0\% | 0.0\% | 0.2\% | 0.2\% | 0.4\% | 0.1\% | 12.2\% | 4.4\% | 1.9\% | 1.8\% | 5.6\% | 14.6\% | 18.6\% | 39.8\% |
| (99-05) | 0.4\% | 0.1\% | 0.0\% | 0.4\% | 0.0\% | 0.0\% | 0.2\% | 10.2\% | 3.5\% | 0.0\% | 3.9\% | 5.0\% | 11.9\% | 12.5\% | 51.9\% |

Appendix E.37. Percent distribution of South Puget Sound Fall Yearling Chinook reported catch among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch ${ }^{1}$ | Alaska | Alaska | Alaska | North | Central | N/CBC | N/CBC | WCVI | GeoSt | Canada | Canada | U.S. | U.S. | U.S. |  |
| Year | Troll | Net | Sport | Troll | Troll | Net | Sport | Troll | Tr\&Sp | Net | Sport | Troll | Net | Sport |  |
| 1982 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.5\% | 0.0\% | 0.0\% | 2.8\% | 3.2\% | 0.0\% | 0.0\% | 1.1\% | 14.5\% | 67.5\% | 8.5\% |
| 1983 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.8\% | 0.0\% | 0.0\% | 5.8\% | 0.5\% | 0.0\% | 0.0\% | 0.0\% | 9.8\% | 76.3\% | 5.8\% |
| 1984 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 7.3\% | 1.6\% | 0.0\% | 0.0\% | 0.0\% | 33.6\% | 43.3\% | 14.2\% |
| 1990 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.1\% | 0.0\% | 0.3\% | 0.0\% | 0.5\% | 0.0\% | 1.4\% | 32.3\% | 54.7\% | 10.6\% |
| 1991 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 5.6\% | 0.7\% | 0.0\% | 0.0\% | 3.7\% | 12.8\% | 57.6\% | 19.6\% |
| 1992 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 4.6\% | 0.8\% | 0.0\% | 1.2\% | 4.6\% | 28.2\% | 48.7\% | 11.9\% |
| 1993 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.4\% | 1.1\% | 0.0\% | 0.0\% | 1.4\% | 10.4\% | 57.7\% | 28.0\% |
| 1994 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.8\% | 0.5\% | 2.2\% | 0.7\% | 0.0\% | 15.6\% | 63.3\% | 16.9\% |
| 1995 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 6.4\% | 2.6\% | 0.0\% | 2.0\% | 0.4\% | 10.4\% | 68.2\% | 10.0\% |
| 1996 | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.7\% | 0.0\% | 1.3\% | 0.7\% | 3.2\% | 89.3\% | 3.3\% |
| 1997 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.5\% | 1.1\% | 0.0\% | 0.4\% | 1.3\% | 4.0\% | 66.6\% | 25.2\% |
| 1998 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.2\% | 5.6\% | 82.2\% | 10.0\% |
| 1999 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 15.0\% | 0.0\% | 0.0\% | 7.5\% | 2.5\% | 70.0\% | 5.0\% |
| 2000 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 4.0\% | 6.7\% | 12.0\% | 70.7\% | 6.7\% |
| 2001 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 4.5\% | 0.0\% | 0.0\% | 0.0\% | 3.0\% | 0.0\% | 74.6\% | 17.9\% |
| 2002 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 83.3\% | 16.7\% |
| 2004 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.1\% | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 0.0\% | 10.7\% | 86.4\% |
| 2005 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.6\% | 0.8\% | 19.3\% | 54.3\% | 24.0\% |
| (82-84) | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.4\% | 0.0\% | 0.0\% | 5.3\% | 1.8\% | 0.0\% | 0.0\% | 0.4\% | 19.3\% | 62.4\% | 9.5\% |
| (90-98) | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.3\% | 0.9\% | 0.3\% | 0.6\% | 1.7\% | 13.6\% | 65.4\% | 15.1\% |
| (99-05) | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.9\% | 2.1\% | 0.0\% | 0.8\% | 3.0\% | 5.6\% | 63.7\% | 23.8\% |

Appendix E.38. Percent distribution of South Puget Sound Fall Yearling Chinook for total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \text { Catch }^{1} \\ \text { Year } \\ \hline \end{gathered}$ | Alaska Troll | Alaska $\qquad$ | Alaska Sport | North Troll | $\begin{array}{r} \text { Central } \\ \text { Troll } \\ \hline \end{array}$ | N/CBC Net | $\begin{array}{r} \text { N/CBC } \\ \text { Sport } \\ \hline \end{array}$ | $\begin{array}{r} \text { WCVI } \\ \text { Troll } \\ \hline \end{array}$ | $\begin{array}{r} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{array}$ | $\begin{array}{r} \hline \text { Canada } \\ \text { Net } \\ \hline \end{array}$ | Canada Sport | $\begin{aligned} & \text { U.S. } \\ & \text { Troll } \end{aligned}$ | $\begin{gathered} \hline \text { U.S. } \\ \text { Net } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1982 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.2\% | 0.0\% | 0.0\% | 3.8\% | 2.7\% | 0.0\% | 0.0\% | 0.8\% | 12.7\% | 71.4\% | 6.5\% |
| 1983 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.8\% | 0.0\% | 0.0\% | 5.5\% | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 8.8\% | 78.8\% | 4.7\% |
| 1984 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 7.0\% | 1.8\% | 0.0\% | 0.0\% | 0.0\% | 31.7\% | 46.5\% | 12.9\% |
| 1990 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.1\% | 0.0\% | 0.8\% | 0.1\% | 0.4\% | 0.0\% | 1.6\% | 30.5\% | 56.9\% | 9.5\% |
| 1991 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 5.4\% | 0.6\% | 0.0\% | 0.0\% | 3.5\% | 11.4\% | 62.5\% | 16.5\% |
| 1992 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 4.9\% | 0.9\% | 0.0\% | 1.2\% | 4.8\% | 26.8\% | 51.2\% | 10.2\% |
| 1993 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.2\% | 1.0\% | 0.0\% | 0.0\% | 1.2\% | 6.7\% | 75.0\% | 15.0\% |
| 1994 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.0\% | 0.6\% | 2.3\% | 0.6\% | 0.0\% | 14.5\% | 67.0\% | 14.0\% |
| 1995 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 5.9\% | 2.0\% | 0.4\% | 1.6\% | 0.3\% | 8.2\% | 74.7\% | 6.9\% |
| 1996 | 0.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 1.9\% | 0.0\% | 1.2\% | 0.6\% | 2.8\% | 90.0\% | 2.8\% |
| 1997 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.4\% | 1.0\% | 0.0\% | 0.3\% | 1.2\% | 3.4\% | 72.0\% | 20.6\% |
| 1998 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.7\% | 4.3\% | 86.1\% | 7.8\% |
| 1999 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 8.7\% | 0.0\% | 0.0\% | 3.8\% | 1.0\% | 84.6\% | 1.9\% |
| 2000 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 4.3\% | 6.5\% | 9.7\% | 74.2\% | 5.4\% |
| 2001 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.3\% | 0.0\% | 0.0\% | 0.0\% | 2.2\% | 0.0\% | 81.3\% | 13.2\% |
| 2002 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 89.5\% | 10.5\% |
| 2004 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.5\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 1.5\% | 34.7\% | 61.7\% |
| 2005 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.6\% | 1.0\% | 16.4\% | 60.9\% | 20.1\% |
| (82-84) | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.3\% | 0.0\% | 0.0\% | 5.4\% | 1.6\% | 0.0\% | 0.0\% | 0.3\% | 17.7\% | 65.6\% | 8.0\% |
| (90-98) | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.3\% | 0.9\% | 0.3\% | 0.5\% | 1.7\% | 12.1\% | 70.6\% | 11.5\% |
| (99-05) | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 1.2\% | 0.0\% | 0.8\% | 2.2\% | 4.7\% | 73.0\% | 17.2\% |

${ }^{1}$ No data are shown for 2003 because of lack of coded-wire tagging of broods from 1998 and 2000, for both landed catch and total mortality.

Appendix E.39. Percent distribution of Squaxin Pens Fall Yearling Chinook reported catch among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement ${ }^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \text { Catch }^{1} \\ \text { Year } \\ \hline \end{gathered}$ | Alaska Troll | Alaska $\qquad$ | Alaska Sport | North <br> Troll | Central Troll | N/CBC $\qquad$ | N/CBC Sport | WCVI Troll | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { Canada } \\ \text { Net } \\ \hline \end{array}$ | Canada Sport | $\begin{array}{r} \text { U.S. } \\ \text { Troll } \\ \hline \end{array}$ | $\begin{gathered} \text { U.S. } \\ \text { Net } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \\ \hline \end{array}$ |  |
| 1990 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 3.4\% | 0.7\% | 1.2\% | 0.6\% | 4.1\% | 33.5\% | 56.3\% | NA ${ }^{2}$ |
| 1991 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 4.4\% | 1.6\% | 0.6\% | 0.0\% | 9.1\% | 34.0\% | 50.3\% | NA ${ }^{2}$ |
| 1992 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.5\% | 2.4\% | 3.6\% | 1.3\% | 0.8\% | 7.5\% | 23.4\% | 60.0\% | NA ${ }^{2}$ |
| 1993 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.0\% | 0.0\% | 11.2\% | 6.2\% | 1.6\% | 2.7\% | 15.6\% | 3.9\% | 57.7\% | NA ${ }^{2}$ |
| 1994 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 31.5\% | 7.5\% | 4.5\% | 6.0\% | 8.3\% | 28.6\% | 13.5\% | NA ${ }^{2}$ |
| 1995 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 60.9\% | 39.1\% | NA ${ }^{2}$ |
| 1996 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.9\% | 0.0\% | 0.0\% | 1.1\% | 4.8\% | 92.1\% | NA ${ }^{2}$ |
| 1997 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.4\% | 0.0\% | 0.0\% | 0.0\% | 2.8\% | 8.0\% | 85.7\% | NA ${ }^{2}$ |
| 1998 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.0\% | 3.0\% | 94.0\% | NA ${ }^{2}$ |
| 1999 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 16.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 83.3\% | NA ${ }^{2}$ |
| (90-98) | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.1\% | 7.3\% | 2.2\% | 0.9\% | 1.0\% | 5.2\% | 20.0\% | 63.2\% | NA ${ }^{2}$ |
| (1999) | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 16.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 83.3\% | NA ${ }^{2}$ |

${ }^{1}$ No data are shown for 2000-2003 because of lack of coded-wire tagging of broods from 1998-2000.
${ }^{2}$ Values represent estimates of catch distribution only because escapement data is of insufficient quality.

Appendix E.40. Percent distribution of Squaxin Pens Fall Yearling Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement ${ }^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \text { Catch }^{1} \\ \text { Year } \end{gathered}$ | Alaska Troll | Alaska Net | Alaska Sport | North Troll | Central Troll | N/CBC <br> Net | $\begin{gathered} \text { N/CBC } \\ \text { Sport } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { WCVI } \\ \text { Troll } \\ \hline \end{array}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{gathered}$ | Canada Net | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | $\begin{gathered} \hline \text { U.S. } \\ \text { Net } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \\ \hline \end{array}$ |  |
| 1990 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 3.3\% | 0.8\% | 1.0\% | 0.6\% | 4.2\% | 32.2\% | 57.8\% | NA ${ }^{2}$ |
| 1991 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 4.4\% | 1.7\% | 0.5\% | 0.0\% | 9.2\% | 31.8\% | 52.4\% | NA ${ }^{2}$ |
| 1992 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.4\% | 2.1\% | 3.1\% | 0.9\% | 0.6\% | 6.2\% | 22.9\% | 63.4\% | NA ${ }^{2}$ |
| 1993 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.9\% | 0.0\% | 12.1\% | 6.7\% | 1.5\% | 2.3\% | 14.7\% | 4.1\% | 57.7\% | NA ${ }^{2}$ |
| 1994 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 29.0\% | 7.2\% | 5.2\% | 6.0\% | 7.8\% | 25.7\% | 19.1\% | NA ${ }^{2}$ |
| $1995{ }^{3}$ | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 23.8\% | 75.4\% | NA ${ }^{2}$ |
| 1996 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.8\% | 0.0\% | 0.0\% | 0.9\% | 5.3\% | 91.9\% | NA ${ }^{2}$ |
| 1997 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.0\% | 0.0\% | 0.0\% | 0.0\% | 2.1\% | 6.4\% | 88.4\% | NA ${ }^{2}$ |
| 1998 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.4\% | 2.4\% | 95.3\% | NA ${ }^{2}$ |
| $1999{ }^{3}$ | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.0\% | 0.5\% | 0.0\% | 0.0\% | 1.0\% | 0.5\% | 95.9\% | NA ${ }^{2}$ |
| (90-98) | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 5.6\% | 2.2\% | 0.9\% | 0.9\% | 4.9\% | 15.5\% | 69.7\% | NA ${ }^{2}$ |
| (1999) | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.0\% | 0.5\% | 0.0\% | 0.0\% | 1.0\% | 0.5\% | 95.9\% | NA ${ }^{2}$ |

I No data are shown for 2000-2003 because of lack of coded-wire tagging of broods from 1998-2000.
${ }^{2}$ Values represent
${ }^{3}$ Relatively high age-2 survival, combined with relatively few total catch recoveries of CWTs, result in large estimates of sublegal CNR mortality in 1995 and 1999.

Appendix E.41. Percent distribution of White River Spring Yearling Chinook reported catch among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \text { Catch }^{1} \\ \text { Year } \\ \hline \end{gathered}$ | Alaska Troll | Alaska Net | Alaska Sport | North Troll | Central $\qquad$ Troll | N/CBC $\qquad$ | $\begin{array}{r} \text { N/CBC } \\ \text { Sport } \\ \hline \end{array}$ | $\begin{array}{r} \text { WCVI } \\ \text { Troll } \\ \hline \end{array}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{gathered}$ | Canada $\qquad$ | Canada Sport | $\begin{array}{r} \text { U.S. } \\ \text { Troll } \\ \hline \end{array}$ | $\begin{gathered} \hline \text { U.S. } \\ \text { Net } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \\ \hline \end{array}$ |  |
| 1982 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.4\% | 0.0\% | 0.0\% | 0.0\% | 73.2\% | 23.2\% | NA ${ }^{1}$ |
| 1983 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.6\% | 0.0\% | 4.3\% | 0.0\% | 0.0\% | 0.0\% | 1.6\% | 11.3\% | 59.7\% | 21.5\% |
| 1984 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 5.8\% | 0.0\% | 0.0\% | 4.5\% | 5.2\% | 0.0\% | 0.0\% | 2.6\% | 9.0\% | 25.2\% | 47.7\% |
| 1985 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.9\% | 2.2\% | 0.0\% | 30.8\% | 50.6\% | 13.5\% |
| 1986 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.0\% | 0.0\% | 0.6\% | 2.4\% | 2.0\% | 0.0\% | 0.4\% | 15.3\% | 52.3\% | 26.8\% |
| 1987 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.5\% | 0.4\% | 0.0\% | 3.3\% | 11.3\% | 42.3\% | 41.2\% |
| 1988 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 2.5\% | 0.2\% | 0.8\% | 1.3\% | 13.0\% | 48.4\% | 33.6\% |
| 1989 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.2\% | 1.2\% | 1.0\% | 0.0\% | 6.0\% | 13.6\% | 41.1\% | 35.8\% |
| 1990 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.9\% | 0.4\% | 0.6\% | 0.0\% | 5.2\% | 15.4\% | 44.6\% | 31.8\% |
| 1991 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.8\% | 1.3\% | 0.0\% | 1.3\% | 4.1\% | 10.8\% | 38.1\% | 43.6\% |
| 1992 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 2.4\% | 1.9\% | 2.3\% | 0.8\% | 2.4\% | 7.8\% | 45.5\% | 36.2\% |
| 1993 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 0.0\% | 0.0\% | 2.9\% | 3.6\% | 30.5\% | 62.4\% |
| 1994 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.8\% | 0.9\% | 0.0\% | 0.0\% | 1.4\% | 45.2\% | 50.7\% |
| 1995 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 0.0\% | 0.0\% | 0.8\% | 29.4\% | 69.3\% |
| 1996 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.9\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 42.9\% | 55.9\% |
| 1997 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.7\% | 40.4\% | 55.8\% |
| 1998 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.6\% | 1.6\% | 27.0\% | 69.8\% |
| 1999 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.4\% | 2.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 30.5\% | 64.6\% |
| 2000 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 4.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.4\% | 37.6\% | 55.3\% |
| (83-84) | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.9\% | 0.8\% | 0.0\% | 4.4\% | 2.6\% | 0.0\% | 0.0\% | 2.1\% | 10.2\% | 42.5\% | 34.6\% |
| (85-98) | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 1.1\% | 0.7\% | 0.4\% | 1.9\% | 9.2\% | 41.3\% | 44.7\% |
| (99-00) | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.6\% | 1.2\% | 0.0\% | 0.0\% | 0.0\% | 1.2\% | 34.1\% | 60.0\% |

[^5]Appendix E.42. Percent distribution of White River Spring Yearling Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \text { Catch }^{1} \\ \text { Year } \\ \hline \end{gathered}$ | Alaska Troll | Alaska $\qquad$ <br> Net | Alaska Sport | North Troll | $\begin{array}{r} \text { Central } \\ \text { Troll } \\ \hline \end{array}$ | N/CBC $\qquad$ | $\begin{array}{r} \text { N/CBC } \\ \text { Sport } \\ \hline \end{array}$ | $\begin{array}{r} \text { WCVI } \\ \text { Troll } \\ \hline \end{array}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { Canada } \\ \text { Net } \\ \hline \end{array}$ | Canada Sport | $\begin{gathered} \hline \text { U.S. } \\ \text { Troll } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { U.S. } \\ \text { Net } \\ \hline \end{gathered}$ | $\begin{array}{r} \hline \text { U.S. } \\ \text { Sport } \\ \hline \end{array}$ |  |
| 1982 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.9\% | 0.0\% | 0.0\% | 1.9\% | 1.9\% | 0.0\% | 0.0\% | 0.9\% | 59.8\% | 33.6\% | NA ${ }^{1}$ |
| 1983 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.4\% | 0.0\% | 4.3\% | 0.0\% | 0.0\% | 0.0\% | 1.4\% | 10.4\% | 63.5\% | 19.0\% |
| 1984 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 4.8\% | 0.0\% | 0.0\% | 3.9\% | 4.4\% | 0.0\% | 0.0\% | 1.8\% | 7.0\% | 45.6\% | 32.5\% |
| 1985 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.5\% | 1.8\% | 0.0\% | 25.7\% | 60.3\% | 9.6\% |
| 1986 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.0\% | 0.0\% | 0.6\% | 2.3\% | 2.0\% | 0.0\% | 0.4\% | 14.1\% | 56.5\% | 23.6\% |
| 1987 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.0\% | 0.4\% | 0.0\% | 2.5\% | 8.2\% | 61.9\% | 25.9\% |
| 1988 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 2.9\% | 0.2\% | 0.8\% | 1.4\% | 12.6\% | 52.3\% | 29.6\% |
| 1989 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.3\% | 1.3\% | 1.0\% | 0.0\% | 6.3\% | 12.3\% | 46.5\% | 31.4\% |
| 1990 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.0\% | 0.4\% | 0.6\% | 0.0\% | 5.5\% | 13.7\% | 50.6\% | 27.2\% |
| 1991 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.9\% | 1.3\% | 0.0\% | 1.3\% | 4.1\% | 9.8\% | 46.0\% | 36.7\% |
| 1992 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 2.7\% | 2.1\% | 2.1\% | 0.7\% | 2.7\% | 7.5\% | 49.0\% | 32.9\% |
| 1993 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.6\% | 0.0\% | 0.0\% | 2.8\% | 3.1\% | 39.3\% | 54.2\% |
| 1994 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.0\% | 0.8\% | 0.0\% | 0.0\% | 1.6\% | 52.4\% | 43.3\% |
| 1995 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.6\% | 0.0\% | 0.0\% | 0.0\% | 0.9\% | 41.3\% | 57.2\% |
| 1996 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.1\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 48.5\% | 50.1\% |
| 1997 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.5\% | 49.5\% | 47.0\% |
| 1998 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.4\% | 1.4\% | 33.3\% | 63.8\% |
| 1999 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.9\% | 1.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 45.2\% | 51.0\% |
| 2000 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 4.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.1\% | 44.2\% | 49.5\% |
| (83-84) | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.4\% | 0.7\% | 0.0\% | 4.1\% | 2.2\% | 0.0\% | 0.0\% | 1.6\% | 8.7\% | 54.6\% | 25.8\% |
| (85-98) | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.6\% | 1.1\% | 0.7\% | 0.3\% | 1.9\% | 8.2\% | 49.1\% | 38.0\% |
| (99-00) | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.1\% | 1.0\% | 0.0\% | 0.0\% | 0.0\% | 1.1\% | 44.7\% | 50.3\% |

${ }^{1}$ No data are shown for 2001 to 2003 because of lack of coded-wire tagging of broods from 1998-2000.
${ }^{2}$ Values represent estimates of total fishing mortality distribution only for this year because escapement data is of insufficient quality.

Appendix E.43. Percent distribution of Hoko Fall Fingerling Chinook reported catch among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska $\qquad$ | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \\ \hline \end{array}$ | $\begin{array}{r} \text { N/CBC } \\ \text { Sport } \\ \hline \end{array}$ | $\begin{gathered} \text { WCVI } \\ \text { Troll } \end{gathered}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | Canada Net | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \\ \hline \end{gathered}$ | $\begin{aligned} & \hline \text { U.S. } \\ & \text { Net } \end{aligned}$ | $\begin{aligned} & \text { U.S. } \\ & \text { Sport } \end{aligned}$ |  |
| 1989 | 4.8\% | 0.4\% | 0.0\% | 7.7\% | 0.4\% | 6.0\% | 0.0\% | 10.9\% | 1.6\% | 15.3\% | 0.0\% | 0.8\% | 0.8\% | 21.8\% | 29.4\% |
| 1990 | 15.8\% | 1.9\% | 0.5\% | 8.0\% | 0.7\% | 2.4\% | 0.0\% | 17.0\% | 0.8\% | 1.9\% | 0.0\% | 0.5\% | 1.0\% | 14.4\% | 35.1\% |
| 1991 | 15.2\% | 0.0\% | 0.0\% | 5.0\% | 1.1\% | 0.3\% | 0.6\% | 6.9\% | 0.4\% | 0.6\% | 0.5\% | 0.2\% | 1.0\% | 8.2\% | 59.8\% |
| 1992 | 7.7\% | 1.1\% | 1.2\% | 4.4\% | 1.2\% | 1.4\% | 0.7\% | 9.9\% | 0.5\% | 0.0\% | 2.1\% | 0.0\% | 0.2\% | 2.5\% | 67.1\% |
| 1993 | 6.6\% | 0.0\% | 2.0\% | 6.6\% | 0.0\% | 3.3\% | 0.0\% | 14.9\% | 0.3\% | 2.0\% | 0.0\% | 0.0\% | 0.3\% | 4.6\% | 59.4\% |
| 1994 | 13.6\% | 2.1\% | 2.4\% | 14.8\% | 0.6\% | 1.5\% | 0.0\% | 11.4\% | 2.1\% | 1.5\% | 2.1\% | 0.0\% | 0.0\% | 0.0\% | 47.9\% |
| 1995 | 12.5\% | 0.0\% | 4.1\% | 6.1\% | 0.0\% | 0.3\% | 0.8\% | 2.9\% | 0.8\% | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 71.6\% |
| 1996 | 10.5\% | 0.0\% | 3.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 85.3\% |
| 1997 | 13.9\% | 0.0\% | 0.0\% | 1.7\% | 0.2\% | 0.0\% | 0.6\% | 0.9\% | 0.0\% | 0.0\% | 0.6\% | 0.0\% | 0.0\% | 0.5\% | 81.7\% |
| 1998 | 9.0\% | 0.0\% | 0.4\% | 5.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.0\% | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 84.1\% |
| 1999 | 6.6\% | 0.0\% | 0.7\% | 4.3\% | 0.0\% | 0.0\% | 1.0\% | 0.0\% | 0.3\% | 0.0\% | 1.4\% | 0.0\% | 0.1\% | 0.0\% | 85.7\% |
| 2000 | 4.4\% | 0.2\% | 1.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.8\% | 0.0\% | 0.0\% | 0.6\% | 0.0\% | 0.0\% | 92.0\% |
| 2001 | 6.0\% | 0.0\% | 1.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 90.1\% |
| 2002 | 17.4\% | 0.0\% | 0.9\% | 3.7\% | 0.3\% | 0.0\% | 4.3\% | 1.5\% | 2.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.2\% | 68.7\% |
| 2003 | 13.8\% | 0.1\% | 2.7\% | 3.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.7\% | 0.0\% | 0.5\% | 0.0\% | 0.0\% | 0.0\% | 78.2\% |
| 2004 | 11.3\% | 0.0\% | 1.1\% | 8.4\% | 0.0\% | 0.0\% | 0.9\% | 0.6\% | 2.0\% | 0.0\% | 1.1\% | 0.0\% | 0.0\% | 0.8\% | 74.0\% |
| (89-98) | 11.3\% | 0.2\% | 1.2\% | 10.6\% | 0.0\% | 0.0\% | 4.8\% | 0.0\% | 5.0\% | 0.0\% | 1.2\% | 0.9\% | 0.0\% | 0.9\% | 64.1\% |
| (99-05) | 11.0\% | 0.6\% | 1.4\% | 6.0\% | 0.4\% | 1.5\% | 0.3\% | 7.5\% | 0.7\% | 2.1\% | 0.6\% | 0.2\% | 0.4\% | 5.3\% | 62.1\% |

Appendix E.44. Percent distribution of Hoko Fall Fingerling Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska $\qquad$ <br> Net | Alaska Sport | North Troll | Central Troll Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \\ \hline \end{array}$ | $\begin{array}{r} \text { N/CBC } \\ \text { Sport } \\ \hline \end{array}$ | WCVI <br> Troll | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{gathered}$ | Canada $\qquad$ | Canada Sport | $\begin{array}{r} \hline \text { U.S. } \\ \text { Troll } \\ \hline \end{array}$ | $\begin{gathered} \hline \text { U.S. } \\ \text { Net } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1989 | 11.8\% | 2.3\% | 0.3\% | 8.6\% | 1.1\% | 4.9\% | 0.0\% | 13.8\% | 1.7\% | 11.5\% | 0.0\% | 0.6\% | 0.6\% | 21.8\% | 21.0\% |
| 1990 | 18.5\% | 4.7\% | 0.6\% | 8.4\% | 0.9\% | 2.0\% | 0.0\% | 16.9\% | 0.7\% | 1.6\% | 0.0\% | 0.6\% | 0.9\% | 14.1\% | 30.1\% |
| 1991 | 18.8\% | 0.0\% | 0.1\% | 5.2\% | 1.1\% | 0.3\% | 0.5\% | 7.0\% | 0.4\% | 0.6\% | 0.4\% | 0.2\% | 1.0\% | 8.8\% | 55.5\% |
| 1992 | 8.8\% | 2.4\% | 1.6\% | 5.7\% | 1.1\% | 1.5\% | 0.8\% | 10.6\% | 0.6\% | 0.0\% | 2.1\% | 0.0\% | 0.2\% | 2.8\% | 61.9\% |
| 1993 | 12.4\% | 0.6\% | 2.3\% | 7.8\% | 0.0\% | 2.9\% | 0.0\% | 14.9\% | 0.6\% | 1.7\% | 0.0\% | 0.0\% | 0.3\% | 4.9\% | 51.7\% |
| 1994 | 20.8\% | 4.8\% | 2.8\% | 13.5\% | 0.5\% | 1.3\% | 0.0\% | 10.7\% | 2.0\% | 1.5\% | 1.8\% | 0.0\% | 0.0\% | 0.0\% | 40.4\% |
| 1995 | 16.3\% | 0.0\% | 4.7\% | 7.8\% | 0.0\% | 0.4\% | 1.0\% | 3.7\% | 0.8\% | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 1.0\% | 64.3\% |
| 1996 | 14.0\% | 0.0\% | 4.4\% | 0.7\% | 0.0\% | 0.0\% | 0.0\% | 1.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.0\% | 79.2\% |
| 1997 | 16.5\% | 0.0\% | 0.0\% | 1.8\% | 0.2\% | 0.0\% | 0.7\% | 1.1\% | 0.0\% | 0.1\% | 0.5\% | 0.0\% | 0.0\% | 0.4\% | 78.6\% |
| 1998 | 10.0\% | 0.0\% | 0.3\% | 6.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.0\% | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 82.8\% |
| 1999 | 7.9\% | 0.0\% | 0.7\% | 4.7\% | 0.0\% | 0.0\% | 1.1\% | 0.0\% | 0.3\% | 0.0\% | 1.5\% | 0.0\% | 0.1\% | 0.0\% | 83.7\% |
| 2000 | 6.0\% | 0.2\% | 2.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 1.0\% | 0.0\% | 0.0\% | 0.8\% | 0.0\% | 0.0\% | 89.0\% |
| 2001 | 8.7\% | 0.0\% | 3.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.6\% | 85.8\% |
| 2002 | 19.7\% | 0.0\% | 1.0\% | 4.0\% | 0.3\% | 0.0\% | 5.1\% | 1.4\% | 2.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.1\% | 64.7\% |
| 2003 | 15.1\% | 0.2\% | 2.9\% | 3.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.0\% | 0.0\% | 0.6\% | 0.0\% | 0.0\% | 0.0\% | 75.9\% |
| 2004 | 12.8\% | 0.0\% | 1.1\% | 9.4\% | 0.0\% | 0.0\% | 1.2\% | 0.7\% | 2.4\% | 0.0\% | 1.2\% | 0.0\% | 0.0\% | 0.9\% | 70.3\% |
| (89-98) | 12.1\% | 0.2\% | 1.3\% | 11.3\% | 0.0\% | 0.0\% | 6.0\% | 0.0\% | 5.6\% | 0.0\% | 1.3\% | 0.8\% | 0.0\% | 1.1\% | 60.4\% |
| (99-05) | 14.8\% | 1.5\% | 1.7\% | 6.6\% | 0.5\% | 1.3\% | 0.3\% | 8.0\% | 0.7\% | 1.7\% | 0.5\% | 0.1\% | 0.3\% | 5.4\% | 56.6\% |

Appendix E.45. Percent distribution of Sooes Fall Fingerling Chinook reported catch among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch <br> Year | Alaska <br> Troll | Alaska | Alaska Sport | North Troll | Central Troll | $\mathrm{N} / \mathrm{CBC}$ | $\mathrm{N} / \mathrm{CBC}$ Snort | WCVI | GeoSt <br> Tr\&Sp | Canada Net | Canada Sport | U.S. | U.S. | U.S. |  |
| 1989 | 7.0\% | 0.6\% | 0.0\% | 0.0\% | 0.0\% | 4.5\% | 0.0\% | 1.9\% | 0.0\% | 1.9\% | Sport | Troin | Net | Sport | Escapement |
| 1990 | 9.9\% | 2.8\% | 4.3\% | 14.2\% | 1.4\% | 0.7\% | 0.0\% | 17.7\% | 7.1\% | 2.1\% | 0.0\% | 1.4\% | 0.0\% | 3.5\% | 34.8\% |
| 1991 | 11.9\% | 0.0\% | 0.0\% | 9.9\% | 0.0\% | 1.7\% | 0.0\% | 5.2\% | 0.0\% | 2.0\% | 0.0\% | 0.0\% | 0.0\% | 4.9\% | 64.3\% |
| 1992 | 8.5\% | 0.0\% | 0.0\% | 9.5\% | 2.0\% | 0.0\% | 0.0\% | 19.3\% | 1.0\% | 3.4\% | 1.7\% | 0.3\% | 0.0\% | 2.4\% | 51.9\% |
| 1993 | 4.6\% | 0.0\% | 0.0\% | 7.6\% | 2.1\% | 2.1\% | 2.1\% | 16.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.0\% | 0.8\% | 64.1\% |
| 1994 | 17.0\% | 3.0\% | 4.0\% | 10.5\% | 1.0\% | 0.0\% | 1.0\% | 8.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 55.5\% |
| 1995 | 8.5\% | 0.0\% | 0.0\% | 4.6\% | 0.0\% | 0.7\% | 0.0\% | 9.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.6\% | 0.0\% | 73.9\% |
| 1996 | 8.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 90.3\% |
| 1997 | 10.3\% | 0.0\% | 5.2\% | 5.5\% | 0.7\% | 0.3\% | 0.0\% | 0.0\% | 1.4\% | 0.0\% | 2.8\% | 1.0\% | 23.4\% | 0.0\% | 49.3\% |
| 1998 | 9.0\% | 0.0\% | 1.5\% | 17.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 72.0\% |
| 1999 | 12.3\% | 0.0\% | 12.3\% | 4.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.9\% | 0.0\% | 70.5\% |
| 2000 | 0.0\% | 0.0\% | 2.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 7.4\% | 0.0\% | 0.0\% | 0.0\% | 90.1\% |
| 2001 | 6.2\% | 0.0\% | 2.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.4\% | 0.0\% | 1.0\% | 0.0\% | 0.0\% | 0.0\% | 89.4\% |
| 2002 | 10.8\% | 0.2\% | 1.3\% | 1.7\% | 0.0\% | 0.0\% | 2.5\% | 0.6\% | 1.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.8\% | 81.2\% |
| 2003 | 12.1\% | 0.1\% | 0.0\% | 4.6\% | 0.0\% | 0.0\% | 2.6\% | 0.0\% | 1.2\% | 0.0\% | 0.0\% | 0.0\% | 25.2\% | 1.3\% | 52.8\% |
| 2004 | 17.4\% | 0.5\% | 2.0\% | 14.5\% | 0.0\% | 0.0\% | 0.0\% | 0.8\% | 0.0\% | 0.0\% | 1.9\% | 0.0\% | 0.9\% | 0.9\% | 61.0\% |
| 2005 | 27.7\% | 0.0\% | 2.4\% | 24.3\% | 0.0\% | 0.0\% | 6.3\% | 1.0\% | 1.8\% | 0.0\% | 0.0\% | 0.8\% | 0.0\% | 2.0\% | 33.6\% |
| (89-98) | 9.5\% | 0.6\% | 1.5\% | 7.9\% | 0.7\% | 1.1\% | 0.3\% | 7.8\% | 1.0\% | 0.9\% | 1.3\% | 0.3\% | 2.6\% | 1.2\% | 63.2\% |
| (99-05) | 12.4\% | 0.1\% | 3.2\% | 7.0\% | 0.0\% | 0.0\% | 1.6\% | 0.3\% | 0.8\% | 0.0\% | 1.5\% | 0.1\% | 3.9\% | 0.7\% | 68.4\% |

Appendix E.46. Percent distribution of Sooes Fall Fingerling Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska $\qquad$ | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \\ \hline \end{array}$ | N/CBC Sport | $\begin{gathered} \text { WCVI } \\ \text { Troll } \end{gathered}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{gathered}$ | Canada Net | Canada Sport | $\begin{aligned} & \text { U.S. } \\ & \text { Troll } \end{aligned}$ | $\begin{gathered} \text { U.S. } \\ \text { Net } \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1989 | 11.2\% | 2.1\% | 0.5\% | 3.2\% | 0.0\% | 3.7\% | 0.0\% | 4.8\% | 0.0\% | 2.1\% | 7.4\% | 0.0\% | 0.0\% | 1.6\% | 63.3\% |
| 1990 | 11.6\% | 7.0\% | 4.1\% | 16.3\% | 1.7\% | 0.6\% | 0.0\% | 17.4\% | 6.4\% | 1.7\% | 0.0\% | 1.7\% | 0.0\% | 2.9\% | 28.5\% |
| 1991 | 14.1\% | 0.0\% | 0.3\% | 10.6\% | 0.3\% | 1.6\% | 0.0\% | 7.2\% | 0.0\% | 1.9\% | 0.0\% | 0.0\% | 0.0\% | 5.1\% | 59.0\% |
| 1992 | 11.0\% | 0.3\% | 0.3\% | 10.7\% | 2.1\% | 0.0\% | 0.0\% | 20.4\% | 1.2\% | 3.0\% | 1.5\% | 0.3\% | 0.0\% | 2.4\% | 46.6\% |
| 1993 | 7.5\% | 0.4\% | 0.0\% | 7.9\% | 2.0\% | 2.0\% | 2.0\% | 16.9\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.0\% | 1.2\% | 59.8\% |
| 1994 | 21.0\% | 7.4\% | 3.5\% | 9.6\% | 0.9\% | 0.0\% | 0.9\% | 7.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.9\% | 0.0\% | 48.5\% |
| 1995 | 14.9\% | 0.0\% | 0.0\% | 6.1\% | 0.0\% | 1.1\% | 0.0\% | 12.7\% | 0.0\% | 0.6\% | 0.0\% | 0.0\% | 2.2\% | 0.0\% | 62.4\% |
| 1996 | 15.5\% | 0.0\% | 0.0\% | 0.9\% | 0.0\% | 0.4\% | 0.0\% | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 82.3\% |
| 1997 | 12.0\% | 0.0\% | 5.8\% | 5.8\% | 0.6\% | 0.3\% | 0.0\% | 0.0\% | 1.3\% | 0.3\% | 2.6\% | 1.0\% | 23.7\% | 0.0\% | 46.4\% |
| 1998 | 10.3\% | 0.0\% | 1.8\% | 19.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 68.7\% |
| 1999 | 13.5\% | 0.0\% | 13.5\% | 4.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.3\% | 0.0\% | 67.4\% |
| 2000 | 0.0\% | 0.0\% | 5.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 9.3\% | 0.0\% | 0.0\% | 0.0\% | 84.9\% |
| 2001 | 9.7\% | 0.0\% | 2.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.6\% | 0.0\% | 1.3\% | 0.0\% | 0.0\% | 0.0\% | 84.5\% |
| 2002 | 13.3\% | 0.4\% | 1.6\% | 2.0\% | 0.0\% | 0.0\% | 3.2\% | 0.5\% | 1.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 76.9\% |
| 2003 | 14.1\% | 0.4\% | 0.0\% | 5.2\% | 0.0\% | 0.0\% | 3.2\% | 0.0\% | 1.4\% | 0.0\% | 0.0\% | 0.0\% | 24.6\% | 1.4\% | 49.8\% |
| 2004 | 19.2\% | 1.4\% | 2.1\% | 15.7\% | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 0.0\% | 0.0\% | 2.1\% | 0.0\% | 0.8\% | 1.0\% | 56.9\% |
| 2005 | 28.1\% | 0.0\% | 2.3\% | 24.8\% | 0.0\% | 0.0\% | 7.6\% | 1.0\% | 1.9\% | 0.0\% | 0.0\% | 0.8\% | 0.0\% | 1.9\% | 31.7\% |
| (89-98) | 12.9\% | 1.7\% | 1.6\% | 9.0\% | 0.8\% | 1.0\% | 0.3\% | 8.7\% | 0.9\% | 1.0\% | 1.2\% | 0.3\% | 2.7\% | 1.4\% | 56.6\% |
| (99-05) | 14.0\% | 0.3\% | 4.0\% | 7.4\% | 0.0\% | 0.0\% | 2.0\% | 0.3\% | 0.9\% | 0.0\% | 1.8\% | 0.1\% | 3.8\% | 0.7\% | 64.6\% |

Appendix E.47. Percent distribution of Queets Fall Fingerling Chinook reported catch among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska Net | Alaska Sport | North Troll | Central Troll | $\mathrm{N} / \mathrm{CBC}$ Net | N/CBC Sport | WCVI <br> Troll | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | Canada Net | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | $\begin{gathered} \text { U.S. } \\ \text { Net } \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1981 | 9.5\% | 0.0\% | 0.0\% | 13.7\% | 2.1\% | 2.1\% | 0.0\% | 11.6\% | 0.0\% | 1.1\% | 0.0\% | 1.1\% | 31.6\% | 3.2\% | 24.2\% |
| 1982 | 11.8\% | 2.4\% | 0.0\% | 22.9\% | 0.0\% | 0.8\% | 1.2\% | 12.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 25.7\% | 0.0\% | 22.9\% |
| 1983 | 33.3\% | 0.0\% | 0.0\% | 6.8\% | 0.0\% | 0.8\% | 0.0\% | 7.6\% | 0.0\% | 2.3\% | 0.0\% | 0.8\% | 25.8\% | 0.0\% | 22.7\% |
| 1984 | 16.1\% | 0.7\% | 0.0\% | 19.6\% | 0.0\% | 0.0\% | 2.1\% | 7.7\% | 0.0\% | 0.0\% | 0.0\% | 2.1\% | 28.7\% | 0.0\% | 23.1\% |
| 1985 | 15.6\% | 0.0\% | 0.0\% | 31.6\% | 0.0\% | 0.0\% | 0.0\% | 2.0\% | 0.0\% | 1.6\% | 0.0\% | 0.0\% | 14.4\% | 1.2\% | 33.6\% |
| 1986 | 17.3\% | 0.0\% | 1.1\% | 11.6\% | 1.8\% | 0.0\% | 0.0\% | 7.0\% | 0.0\% | 1.1\% | 0.0\% | 0.0\% | 9.9\% | 0.0\% | 50.4\% |
| 1987 | 22.3\% | 0.2\% | 0.0\% | 11.7\% | 0.9\% | 0.6\% | 0.9\% | 0.7\% | 0.0\% | 0.0\% | 0.0\% | 0.6\% | 22.7\% | 0.6\% | 38.7\% |
| 1988 | 14.4\% | 0.8\% | 1.7\% | 7.8\% | 2.5\% | 0.4\% | 0.0\% | 4.0\% | 0.0\% | 0.0\% | 1.1\% | 0.0\% | 16.6\% | 3.3\% | 47.3\% |
| 1989 | 11.1\% | 0.0\% | 0.0\% | 9.1\% | 0.5\% | 0.2\% | 1.1\% | 7.6\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 27.8\% | 1.6\% | 41.1\% |
| 1990 | 12.6\% | 0.0\% | 0.0\% | 5.5\% | 0.3\% | 0.3\% | 1.8\% | 6.6\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 13.9\% | 0.0\% | 58.9\% |
| 1991 | 20.5\% | 0.2\% | 1.1\% | 9.7\% | 0.0\% | 0.0\% | 1.3\% | 4.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 15.7\% | 0.5\% | 46.3\% |
| 1992 | 8.3\% | 0.8\% | 2.2\% | 7.7\% | 0.0\% | 0.2\% | 1.9\% | 17.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 19.2\% | 0.8\% | 41.4\% |
| 1993 | 15.6\% | 0.0\% | 0.7\% | 14.1\% | 0.3\% | 0.0\% | 2.1\% | 12.1\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 16.1\% | 2.8\% | 35.7\% |
| 1994 | 16.1\% | 0.3\% | 0.5\% | 21.7\% | 0.2\% | 0.4\% | 1.5\% | 4.1\% | 0.3\% | 0.0\% | 1.0\% | 0.0\% | 21.4\% | 0.0\% | 32.4\% |
| 1995 | 17.2\% | 0.0\% | 1.6\% | 6.0\% | 0.0\% | 0.1\% | 4.1\% | 0.7\% | 0.3\% | 0.0\% | 0.4\% | 0.7\% | 33.1\% | 0.0\% | 35.9\% |
| 1996 | 10.4\% | 0.0\% | 1.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 17.5\% | 0.6\% | 70.2\% |
| 1997 | 34.5\% | 0.3\% | 0.0\% | 6.0\% | 0.8\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 20.8\% | 0.0\% | 37.4\% |
| 1998 | 23.7\% | 0.0\% | 3.0\% | 19.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 12.1\% | 5.2\% | 37.0\% |
| 1999 | 9.3\% | 0.0\% | 1.4\% | 1.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 8.8\% | 0.3\% | 78.4\% |
| 2000 | 23.9\% | 0.0\% | 10.0\% | 10.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.9\% | 0.0\% | 51.5\% |
| 2001 | 23.7\% | 0.0\% | 5.9\% | 3.6\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.1\% | 42.4\% | 0.7\% | 22.6\% |
| 2002 | 26.3\% | 0.0\% | 3.4\% | 1.8\% | 0.0\% | 0.0\% | 2.3\% | 0.0\% | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 25.7\% | 0.3\% | 40.0\% |
| 2003 | 21.0\% | 0.1\% | 3.6\% | 10.5\% | 0.0\% | 0.0\% | 4.1\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.0\% | 21.6\% | 0.7\% | 38.0\% |
| 2004 | 23.2\% | 0.7\% | 4.7\% | 9.9\% | 0.0\% | 0.0\% | 11.0\% | 1.6\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 18.2\% | 0.2\% | 30.4\% |
| 2005 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| (81-84) | 17.7\% | 0.8\% | 0.0\% | 15.8\% | 0.5\% | 0.9\% | 0.8\% | 9.8\% | 0.0\% | 0.9\% | 0.0\% | 1.0\% | 28.0\% | 0.8\% | 23.2\% |
| (85-98) | 17.1\% | 0.2\% | 1.0\% | 11.5\% | 0.5\% | 0.2\% | 1.1\% | 4.8\% | 0.0\% | 0.2\% | 0.2\% | 0.1\% | 18.7\% | 1.2\% | 43.3\% |
| (99-04) | 21.2\% | 0.1\% | 4.8\% | 6.4\% | 0.0\% | 0.0\% | 2.9\% | 0.3\% | 0.1\% | 0.0\% | 0.1\% | 0.2\% | 20.1\% | 0.4\% | 43.5\% |

${ }^{1} 2005$ not shown due to lack of reporting of escapement CWTs.

Appendix E.48. Percent distribution of Queets Fall Fingerling Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska $\qquad$ | Alaska Sport | North Troll | $\begin{array}{r} \text { Central } \\ \text { Troll } \\ \hline \end{array}$ | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \\ \hline \end{array}$ | N/CBC <br> Sport | $\begin{gathered} \text { WCVI } \\ \text { Troll } \\ \hline \end{gathered}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | Canada Net | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \\ \hline \end{gathered}$ | U.S. <br> Net | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1981 | 12.9\% | 0.0\% | 0.0\% | 18.1\% | 1.7\% | 1.7\% | 0.0\% | 12.9\% | 0.0\% | 0.9\% | 0.0\% | 1.7\% | 26.7\% | 3.4\% | 19.8\% |
| 1982 | 14.2\% | 2.2\% | 0.0\% | 24.0\% | 0.0\% | 0.7\% | 1.1\% | 12.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 24.7\% | 0.0\% | 21.0\% |
| 1983 | 50.5\% | 0.0\% | 0.0\% | 5.5\% | 0.0\% | 0.5\% | 0.0\% | 5.5\% | 0.0\% | 1.6\% | 0.0\% | 0.5\% | 19.2\% | 0.0\% | 16.5\% |
| 1984 | 20.9\% | 0.6\% | 0.0\% | 20.2\% | 0.0\% | 0.0\% | 2.5\% | 7.4\% | 0.0\% | 0.0\% | 0.0\% | 2.5\% | 25.8\% | 0.0\% | 20.2\% |
| 1985 | 20.2\% | 0.0\% | 0.0\% | 33.6\% | 0.0\% | 0.0\% | 0.0\% | 2.1\% | 0.0\% | 1.4\% | 0.0\% | 0.0\% | 12.3\% | 1.7\% | 28.8\% |
| 1986 | 26.8\% | 0.0\% | 1.2\% | 11.0\% | 1.5\% | 0.0\% | 0.0\% | 6.8\% | 0.0\% | 0.9\% | 0.0\% | 0.0\% | 9.2\% | 0.0\% | 42.6\% |
| 1987 | 28.7\% | 0.5\% | 0.0\% | 11.7\% | 0.8\% | 0.5\% | 1.0\% | 1.3\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 20.2\% | 0.7\% | 34.2\% |
| 1988 | 17.4\% | 2.4\% | 1.6\% | 9.4\% | 2.4\% | 0.4\% | 0.1\% | 5.6\% | 0.0\% | 0.0\% | 1.0\% | 0.0\% | 14.9\% | 3.4\% | 41.5\% |
| 1989 | 17.0\% | 0.2\% | 0.2\% | 10.6\% | 0.6\% | 0.3\% | 1.1\% | 8.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 24.3\% | 1.7\% | 35.3\% |
| 1990 | 15.5\% | 0.1\% | 0.1\% | 6.4\% | 0.3\% | 0.3\% | 1.9\% | 7.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 13.3\% | 0.0\% | 54.9\% |
| 1991 | 24.5\% | 0.3\% | 1.2\% | 10.1\% | 0.0\% | 0.0\% | 1.4\% | 5.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 14.6\% | 0.5\% | 42.5\% |
| 1992 | 15.4\% | 2.2\% | 2.4\% | 8.6\% | 0.0\% | 0.1\% | 1.8\% | 17.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 16.2\% | 0.8\% | 34.4\% |
| 1993 | 20.0\% | 0.0\% | 0.7\% | 15.3\% | 0.3\% | 0.0\% | 2.0\% | 13.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 14.3\% | 2.9\% | 31.1\% |
| 1994 | 24.8\% | 0.6\% | 0.4\% | 20.9\% | 0.2\% | 0.3\% | 1.5\% | 4.0\% | 0.2\% | 0.0\% | 1.0\% | 0.0\% | 18.4\% | 0.0\% | 27.6\% |
| 1995 | 21.9\% | 0.0\% | 1.8\% | 7.3\% | 0.0\% | 0.2\% | 5.0\% | 0.8\% | 0.2\% | 0.0\% | 0.4\% | 0.7\% | 29.8\% | 0.0\% | 31.9\% |
| 1996 | 18.9\% | 0.0\% | 1.5\% | 1.1\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 15.8\% | 0.5\% | 61.8\% |
| 1997 | 38.5\% | 0.5\% | 0.0\% | 6.1\% | 0.7\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 19.5\% | 0.0\% | 34.6\% |
| 1998 | 25.6\% | 0.0\% | 3.1\% | 19.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 11.5\% | 5.3\% | 34.8\% |
| 1999 | 13.1\% | 0.0\% | 1.9\% | 2.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 8.5\% | 0.3\% | 74.1\% |
| 2000 | 27.9\% | 0.0\% | 12.5\% | 11.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.6\% | 0.0\% | 44.8\% |
| 2001 | 29.4\% | 0.0\% | 6.8\% | 4.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.2\% | 38.2\% | 0.6\% | 19.9\% |
| 2002 | 30.0\% | 0.0\% | 3.6\% | 1.9\% | 0.0\% | 0.0\% | 2.8\% | 0.0\% | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 24.2\% | 0.3\% | 36.9\% |
| 2003 | 22.9\% | 0.1\% | 3.9\% | 11.2\% | 0.0\% | 0.0\% | 5.2\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.0\% | 20.3\% | 0.7\% | 35.3\% |
| $\begin{aligned} & 2004 \\ & 2005 \end{aligned}$ | 25.4\% | 2.0\% | 4.6\% | 10.1\% | 0.0\% | 0.0\% | 13.4\% | 1.5\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 16.1\% | 0.2\% | 26.6\% |
| (81-84) | 24.6\% | 0.7\% | 0.0\% | 17.0\% | 0.4\% | 0.7\% | 0.9\% | 9.5\% | 0.0\% | 0.6\% | 0.0\% | 1.2\% | 24.1\% | 0.9\% | 19.4\% |
| (85-98) | 22.5\% | 0.5\% | 1.0\% | 12.3\% | 0.5\% | 0.2\% | 1.1\% | 5.2\% | 0.0\% | 0.2\% | 0.2\% | 0.1\% | 16.7\% | 1.3\% | 38.3\% |
| (99-04) | 24.8\% | 0.4\% | 5.6\% | 6.7\% | 0.0\% | 0.0\% | 3.6\% | 0.3\% | 0.1\% | 0.0\% | 0.1\% | 0.2\% | 18.5\% | 0.4\% | 39.6\% |

${ }^{1} 2005$ not shown due to lack of reporting of escapement CWTs.

Appendix E.49. Percent distribution of Willamette Spring Chinook reported catch among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch <br> Year | Alaska Troll | Alaska <br> Net | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \end{array}$ | N/CBC Sport | WCVI <br> Troll | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | Canada Net | Canada Sport | $\begin{aligned} & \text { U.S. } \\ & \text { Troll } \end{aligned}$ | $\begin{aligned} & \text { U.S. } \\ & \text { Net } \end{aligned}$ | $\begin{aligned} & \text { U.S. } \\ & \text { Sport } \end{aligned}$ |  |
| 1980 | 6.5\% | 0.9\% | 0.3\% | 11.0\% | 0.3\% | 0.8\% | 0.1\% | 4.7\% | 0.0\% | 0.1\% | 0.0\% | 0.9\% | 0.6\% | 15.8\% | 57.9\% |
| 1981 | 8.7\% | 1.1\% | 0.2\% | 12.0\% | 0.8\% | 0.2\% | 0.0\% | 2.7\% | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 3.1\% | 18.4\% | 52.2\% |
| 1982 | 4.1\% | 1.1\% | 0.1\% | 6.6\% | 0.1\% | 0.3\% | 0.1\% | 4.1\% | 0.0\% | 0.0\% | 0.0\% | 1.1\% | 7.3\% | 24.9\% | 50.1\% |
| 1983 | 12.8\% | 0.1\% | 0.0\% | 12.0\% | 0.3\% | 0.0\% | 0.0\% | 1.9\% | 0.8\% | 0.0\% | 0.0\% | 1.9\% | 6.5\% | 21.2\% | 42.6\% |
| 1984 | 4.0\% | 0.3\% | 0.3\% | 2.1\% | 0.1\% | 0.1\% | 0.1\% | 1.9\% | 0.1\% | 0.0\% | 0.0\% | 1.0\% | 6.2\% | 23.9\% | 59.8\% |
| 1985 | 5.1\% | 0.1\% | 0.0\% | 0.5\% | 0.2\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 18.3\% | 20.5\% | 54.6\% |
| 1986 | 3.1\% | 0.4\% | 0.0\% | 6.6\% | 0.6\% | 2.5\% | 0.0\% | 5.5\% | 0.0\% | 0.0\% | 0.6\% | 0.0\% | 9.2\% | 17.1\% | 54.4\% |
| 1987 | 9.8\% | 0.0\% | 0.6\% | 13.3\% | 0.8\% | 1.1\% | 0.0\% | 0.9\% | 0.0\% | 0.0\% | 1.3\% | 2.4\% | 6.3\% | 27.0\% | 36.5\% |
| 1988 | 8.6\% | 0.2\% | 0.4\% | 6.2\% | 0.6\% | 0.1\% | 0.0\% | 3.1\% | 0.0\% | 0.0\% | 0.0\% | 2.2\% | 6.9\% | 28.8\% | 42.9\% |
| 1989 | 4.4\% | 0.0\% | 0.2\% | 1.8\% | 0.0\% | 0.1\% | 0.0\% | 1.4\% | 0.5\% | 0.2\% | 0.5\% | 1.5\% | 12.6\% | 20.3\% | 56.6\% |
| 1990 | 6.3\% | 0.3\% | 0.2\% | 1.4\% | 0.2\% | 0.5\% | 0.2\% | 2.1\% | 0.0\% | 0.1\% | 0.7\% | 1.3\% | 17.0\% | 27.7\% | 42.0\% |
| 1991 | 3.1\% | 0.6\% | 0.6\% | 1.7\% | 0.0\% | 0.2\% | 0.0\% | 0.4\% | 0.2\% | 0.0\% | 0.2\% | 0.7\% | 6.0\% | 43.0\% | 43.3\% |
| 1992 | 3.6\% | 0.3\% | 0.2\% | 1.7\% | 0.0\% | 0.2\% | 0.2\% | 2.7\% | 0.0\% | 0.1\% | 0.2\% | 2.4\% | 5.9\% | 31.7\% | 51.0\% |
| 1993 | 8.1\% | 0.0\% | 0.0\% | 1.3\% | 0.0\% | 0.0\% | 0.1\% | 1.4\% | 0.0\% | 0.0\% | 0.2\% | 1.5\% | 0.8\% | 43.1\% | 43.5\% |
| 1994 | 4.1\% | 0.3\% | 0.9\% | 0.7\% | 0.2\% | 0.2\% | 0.1\% | 0.6\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 5.1\% | 38.8\% | 48.7\% |
| 1995 | 2.8\% | 0.1\% | 0.3\% | 1.0\% | 0.0\% | 0.3\% | 0.0\% | 0.3\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 0.3\% | 43.8\% | 50.9\% |
| 1996 | 2.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 1.2\% | 7.9\% | 88.6\% |
| 1997 | 3.6\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.8\% | 15.8\% | 79.0\% |
| 1998 | 4.2\% | 0.1\% | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.4\% | 16.4\% | 78.5\% |
| 1999 | 4.3\% | 0.0\% | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.6\% | 0.0\% | 0.8\% | 14.7\% | 79.3\% |
| 2000 | 7.8\% | 0.1\% | 0.4\% | 0.1\% | 0.0\% | 0.0\% | 0.7\% | 0.3\% | 0.0\% | 0.0\% | 0.3\% | 0.3\% | 2.3\% | 29.7\% | 58.0\% |
| 2001 | 1.4\% | 0.0\% | 0.1\% | 0.1\% | 0.0\% | 0.0\% | 0.1\% | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 3.5\% | 23.2\% | 70.9\% |
| 2002 | 1.9\% | 0.1\% | 0.1\% | 0.7\% | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 0.0\% | 0.0\% | 0.1\% | 0.8\% | 14.4\% | 20.7\% | 60.6\% |
| 2003 | 4.8\% | 0.0\% | 0.1\% | 0.4\% | 0.0\% | 0.0\% | 0.2\% | 2.4\% | 0.0\% | 0.0\% | 0.1\% | 0.3\% | 1.5\% | 15.8\% | 74.6\% |
| 2004 | 3.0\% | 0.3\% | 0.1\% | 0.5\% | 0.0\% | 0.0\% | 0.0\% | 5.8\% | 0.0\% | 0.0\% | 0.0\% | 1.6\% | 6.3\% | 17.4\% | 65.0\% |
| 2005 | 3.0\% | 0.0\% | 0.1\% | 0.3\% | 0.0\% | 0.0\% | 0.3\% | 6.2\% | 0.0\% | 0.0\% | 0.0\% | 1.0\% | 5.6\% | 14.9\% | 68.5\% |
| (80-84) | 7.2\% | 0.7\% | 0.2\% | 8.7\% | 0.3\% | 0.3\% | 0.1\% | 3.1\% | 0.2\% | 0.0\% | 0.0\% | 1.1\% | 4.7\% | 20.8\% | 52.5\% |
| (85-98) | 4.9\% | 0.2\% | 0.3\% | 2.6\% | 0.2\% | 0.4\% | 0.0\% | 1.4\% | 0.1\% | 0.0\% | 0.3\% | 0.9\% | 6.5\% | 27.3\% | 55.0\% |
| (99-05) | 3.7\% | 0.1\% | 0.2\% | 0.3\% | 0.0\% | 0.0\% | 0.2\% | 2.3\% | 0.0\% | 0.0\% | 0.2\% | 0.6\% | 4.9\% | 19.5\% | 68.1\% |

Appendix E.50. Percent distribution of Willamette Spring Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska Net | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \end{array}$ | N/CBC <br> Sport | $\begin{gathered} \text { WCVI } \\ \text { Troll } \\ \hline \end{gathered}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{gathered}$ | Canada Net | Canada Sport | $\begin{aligned} & \text { U.S. } \\ & \text { Troll } \end{aligned}$ | $\begin{gathered} \text { U.S. } \\ \text { Net } \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1980 | 8.7\% | 0.9\% | 0.3\% | 14.2\% | 0.4\% | 0.8\% | 0.1\% | 5.8\% | 0.0\% | 0.1\% | 0.0\% | 1.1\% | 0.7\% | 15.2\% | 51.5\% |
| 1981 | 10.7\% | 1.1\% | 0.3\% | 14.8\% | 0.9\% | 0.2\% | 0.0\% | 3.3\% | 0.0\% | 0.0\% | 0.0\% | 0.8\% | 3.0\% | 17.8\% | 47.0\% |
| 1982 | 5.8\% | 1.2\% | 0.2\% | 8.2\% | 0.1\% | 0.4\% | 0.1\% | 5.1\% | 0.0\% | 0.0\% | 0.0\% | 1.3\% | 7.0\% | 24.8\% | 45.9\% |
| 1983 | 19.0\% | 0.1\% | 0.0\% | 13.3\% | 0.3\% | 0.0\% | 0.0\% | 2.0\% | 0.8\% | 0.0\% | 0.0\% | 2.1\% | 5.9\% | 19.9\% | 36.7\% |
| 1984 | 4.6\% | 0.3\% | 0.4\% | 2.5\% | 0.1\% | 0.1\% | 0.1\% | 2.1\% | 0.1\% | 0.0\% | 0.0\% | 1.2\% | 6.3\% | 24.7\% | 57.6\% |
| 1985 | 7.9\% | 0.3\% | 0.0\% | 0.5\% | 0.2\% | 0.0\% | 0.0\% | 0.6\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 17.7\% | 20.8\% | 51.8\% |
| 1986 | 4.9\% | 1.2\% | 0.0\% | 7.5\% | 0.7\% | 2.6\% | 0.0\% | 6.2\% | 0.0\% | 0.0\% | 0.7\% | 0.0\% | 8.8\% | 17.1\% | 50.3\% |
| 1987 | 18.8\% | 0.0\% | 1.0\% | 15.4\% | 1.2\% | 1.0\% | 0.0\% | 1.5\% | 0.0\% | 0.0\% | 1.2\% | 3.1\% | 5.3\% | 23.1\% | 28.4\% |
| 1988 | 11.5\% | 0.4\% | 0.6\% | 7.8\% | 0.8\% | 0.0\% | 0.0\% | 3.7\% | 0.0\% | 0.0\% | 0.0\% | 2.4\% | 6.5\% | 30.3\% | 36.0\% |
| 1989 | 5.7\% | 0.0\% | 0.2\% | 2.2\% | 0.0\% | 0.1\% | 0.0\% | 1.6\% | 0.6\% | 0.1\% | 0.6\% | 1.7\% | 12.2\% | 22.1\% | 52.8\% |
| 1990 | 10.3\% | 0.8\% | 0.3\% | 2.0\% | 0.2\% | 0.5\% | 0.2\% | 2.7\% | 0.0\% | 0.1\% | 0.7\% | 1.5\% | 15.6\% | 28.0\% | 37.3\% |
| 1991 | 4.2\% | 1.5\% | 0.7\% | 2.1\% | 0.0\% | 0.2\% | 0.0\% | 0.4\% | 0.2\% | 0.0\% | 0.2\% | 0.7\% | 5.7\% | 44.9\% | 39.1\% |
| 1992 | 7.9\% | 0.7\% | 0.3\% | 2.1\% | 0.0\% | 0.1\% | 0.2\% | 3.2\% | 0.0\% | 0.1\% | 0.3\% | 2.8\% | 5.4\% | 32.3\% | 44.6\% |
| 1993 | 13.4\% | 0.0\% | 0.0\% | 1.5\% | 0.0\% | 0.0\% | 0.1\% | 1.6\% | 0.0\% | 0.0\% | 0.2\% | 1.6\% | 0.7\% | 43.9\% | 36.9\% |
| 1994 | 5.8\% | 0.7\% | 1.1\% | 0.9\% | 0.3\% | 0.2\% | 0.1\% | 0.8\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 4.8\% | 40.7\% | 44.4\% |
| 1995 | 5.3\% | 0.1\% | 0.4\% | 1.4\% | 0.0\% | 0.4\% | 0.0\% | 0.5\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 0.3\% | 46.0\% | 45.5\% |
| 1996 | 3.4\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 0.3\% | 0.0\% | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 1.2\% | 8.9\% | 85.9\% |
| 1997 | 4.5\% | 0.0\% | 0.0\% | 0.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.8\% | 17.2\% | 76.4\% |
| 1998 | 5.7\% | 0.4\% | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.4\% | 18.5\% | 74.4\% |
| 1999 | 9.2\% | 0.0\% | 1.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.9\% | 0.0\% | 0.8\% | 16.0\% | 72.2\% |
| 2000 | 13.7\% | 0.2\% | 0.9\% | 0.1\% | 0.0\% | 0.0\% | 0.9\% | 0.3\% | 0.0\% | 0.0\% | 0.3\% | 0.3\% | 2.1\% | 31.6\% | 49.4\% |
| 2001 | 1.6\% | 0.1\% | 0.1\% | 0.1\% | 0.0\% | 0.0\% | 0.2\% | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 3.7\% | 26.9\% | 66.6\% |
| 2002 | 2.3\% | 0.3\% | 0.1\% | 0.7\% | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 0.0\% | 0.0\% | 0.1\% | 0.9\% | 14.0\% | 22.9\% | 58.0\% |
| 2003 | 6.0\% | 0.0\% | 0.1\% | 0.5\% | 0.0\% | 0.0\% | 0.2\% | 2.5\% | 0.0\% | 0.0\% | 0.1\% | 0.3\% | 1.5\% | 17.2\% | 71.6\% |
| 2004 | 4.0\% | 1.1\% | 0.1\% | 0.7\% | 0.0\% | 0.0\% | 0.0\% | 5.7\% | 0.0\% | 0.0\% | 0.0\% | 1.8\% | 6.2\% | 19.2\% | 61.1\% |
| 2005 | 3.6\% | 0.0\% | 0.2\% | 0.4\% | 0.0\% | 0.0\% | 0.5\% | 6.6\% | 0.0\% | 0.0\% | 0.0\% | 1.2\% | 5.6\% | 16.3\% | 65.7\% |
| (80-84) | 9.8\% | 0.7\% | 0.2\% | 10.6\% | 0.4\% | 0.3\% | 0.1\% | 3.7\% | 0.2\% | 0.0\% | 0.0\% | 1.3\% | 4.6\% | 20.5\% | 47.7\% |
| (85-98) | 7.8\% | 0.4\% | 0.4\% | 3.2\% | 0.2\% | 0.4\% | 0.0\% | 1.6\% | 0.1\% | 0.0\% | 0.3\% | 1.1\% | 6.1\% | 28.1\% | 50.3\% |
| (99-05) | 5.8\% | 0.2\% | 0.4\% | 0.4\% | 0.0\% | 0.0\% | 0.3\% | 2.3\% | 0.0\% | 0.0\% | 0.2\% | 0.7\% | 4.8\% | 21.4\% | 63.5\% |

Appendix E.51. Percent distribution of Columbia Summer Chinook reported catch among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska <br> Net | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \end{array}$ | N/CBC Sport | WCVI <br> Troll | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | Canada Net | Canada Sport | $\begin{aligned} & \text { U.S. } \\ & \text { Troll } \end{aligned}$ | $\begin{gathered} \text { U.S. } \\ \text { Net } \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1979 | 11.4\% | 0.0\% | 1.2\% | 7.2\% | 2.4\% | 9.6\% | 0.0\% | 16.3\% | 7.8\% | 1.8\% | 0.0\% | 0.0\% | 4.8\% | 4.8\% | 32.5\% |
| 1980 | 33.1\% | 0.0\% | 0.9\% | 8.8\% | 4.0\% | 1.2\% | 0.0\% | 16.7\% | 0.0\% | 0.0\% | 0.0\% | 1.5\% | 0.6\% | 0.0\% | 33.1\% |
| 1987 | 13.6\% | 0.0\% | 0.0\% | 5.6\% | 4.8\% | 4.0\% | 3.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 20.0\% | 15.2\% | 0.0\% | 33.6\% |
| 1988 | 1.1\% | 0.8\% | 0.0\% | 7.6\% | 0.0\% | 7.6\% | 1.9\% | 15.9\% | 0.0\% | 1.5\% | 4.2\% | 3.4\% | 15.2\% | 3.0\% | 37.9\% |
| 1989 | 4.8\% | 0.5\% | 0.6\% | 5.1\% | 0.6\% | 0.3\% | 0.6\% | 14.8\% | 1.4\% | 2.2\% | 2.4\% | 14.4\% | 8.5\% | 2.6\% | 41.1\% |
| 1990 | 9.7\% | 0.0\% | 0.0\% | 6.6\% | 1.1\% | 1.3\% | 0.0\% | 19.5\% | 0.6\% | 0.4\% | 0.0\% | 5.7\% | 10.8\% | 2.5\% | 41.8\% |
| 1991 | 3.9\% | 0.0\% | 0.0\% | 2.2\% | 0.5\% | 1.6\% | 0.0\% | 5.7\% | 0.0\% | 1.1\% | 0.7\% | 3.4\% | 3.9\% | 2.2\% | 74.7\% |
| 1992 | 14.1\% | 0.0\% | 0.0\% | 3.4\% | 2.1\% | 1.0\% | 0.0\% | 14.8\% | 0.7\% | 0.0\% | 0.0\% | 6.5\% | 1.4\% | 1.4\% | 54.6\% |
| 1993 | 7.1\% | 0.0\% | 0.0\% | 1.4\% | 0.0\% | 2.4\% | 0.0\% | 14.3\% | 0.0\% | 0.0\% | 1.9\% | 5.2\% | 3.3\% | 1.4\% | 62.9\% |
| 1994 | 13.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 13.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 10.8\% | 0.0\% | 62.2\% |
| 1995 | 2.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 5.1\% | 0.0\% | 0.0\% | 0.0\% | 2.2\% | 1.4\% | 0.0\% | 88.4\% |
| 1996 | 13.3\% | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 2.8\% | 0.0\% | 0.0\% | 2.2\% | 0.0\% | 0.0\% | 2.8\% | 3.9\% | 4.2\% | 70.6\% |
| 1997 | 7.7\% | 0.1\% | 3.2\% | 0.2\% | 0.0\% | 0.4\% | 1.3\% | 1.6\% | 0.0\% | 0.0\% | 0.0\% | 2.9\% | 1.2\% | 0.8\% | 80.6\% |
| 1998 | 8.5\% | 0.1\% | 0.9\% | 0.5\% | 0.0\% | 0.1\% | 1.3\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 1.8\% | 5.0\% | 1.0\% | 80.3\% |
| 1999 | 10.1\% | 2.6\% | 1.8\% | 0.4\% | 0.0\% | 0.6\% | 2.6\% | 0.6\% | 0.0\% | 0.0\% | 5.0\% | 8.5\% | 1.2\% | 3.4\% | 63.3\% |
| 2000 | 21.7\% | 1.4\% | 2.6\% | 0.4\% | 0.0\% | 0.0\% | 2.1\% | 4.5\% | 0.6\% | 0.0\% | 3.9\% | 3.1\% | 1.1\% | 3.9\% | 54.6\% |
| 2001 | 14.2\% | 2.8\% | 1.5\% | 0.5\% | 0.0\% | 0.0\% | 3.5\% | 12.4\% | 0.2\% | 0.0\% | 1.9\% | 17.7\% | 0.8\% | 6.3\% | 38.4\% |
| 2002 | 22.2\% | 0.0\% | 1.4\% | 10.4\% | 0.0\% | 0.0\% | 1.9\% | 15.4\% | 0.1\% | 0.0\% | 1.4\% | 8.7\% | 1.4\% | 5.9\% | 31.1\% |
| 2003 | 26.4\% | 0.4\% | 1.1\% | 11.2\% | 0.0\% | 0.0\% | 1.9\% | 12.4\% | 0.1\% | 0.0\% | 0.2\% | 6.6\% | 3.0\% | 6.9\% | 29.7\% |
| 2004 | 13.3\% | 0.3\% | 1.1\% | 5.0\% | 0.0\% | 0.0\% | 1.5\% | 11.5\% | 0.2\% | 0.0\% | 1.5\% | 10.5\% | 7.9\% | 16.0\% | 31.3\% |
| 2005 | 12.1\% | 0.0\% | 1.0\% | 7.7\% | 0.0\% | 0.0\% | 2.2\% | 14.9\% | 0.0\% | 0.0\% | 1.1\% | 8.7\% | 7.6\% | 11.3\% | 33.4\% |
| (79-80) | 22.3\% | 0.0\% | 1.1\% | 8.0\% | 3.2\% | 5.4\% | 0.0\% | 16.5\% | 3.9\% | 0.9\% | 0.0\% | 0.8\% | 2.7\% | 2.4\% | 32.8\% |
| (87-98) | 8.4\% | 0.2\% | 0.4\% | 2.7\% | 0.8\% | 1.8\% | 1.8\% | 7.6\% | 0.4\% | 0.4\% | 0.8\% | 5.7\% | 6.7\% | 1.6\% | 60.7\% |
| (99-05) | 17.1\% | 1.1\% | 1.5\% | 5.1\% | 0.0\% | 0.1\% | 2.2\% | 10.2\% | 0.2\% | 0.0\% | 2.1\% | 9.1\% | 3.3\% | 7.7\% | 40.3\% |

Appendix E.52. Percent distribution of Columbia Summer Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch <br> Year | Alaska Troll | Alaska $\qquad$ | Alaska Sport | North Troll | $\begin{array}{r} \text { Central } \\ \text { Troll } \\ \hline \end{array}$ | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \\ \hline \end{array}$ | $\begin{array}{r} \text { N/CBC } \\ \text { Sport } \\ \hline \end{array}$ | $\begin{gathered} \text { WCVI } \\ \text { Troll } \end{gathered}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | Canada Net | Canada Sport | $\begin{aligned} & \text { U.S. } \\ & \text { Troll } \\ & \hline \end{aligned}$ | $\begin{gathered} \text { U.S. } \\ \text { Net } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1979 | 14.4\% | 0.0\% | 1.0\% | 9.0\% | 4.0\% | 8.5\% | 0.0\% | 18.9\% | 7.0\% | 1.5\% | 0.0\% | 0.5\% | 4.0\% | 4.5\% | 26.9\% |
| 1980 | 32.8\% | 0.0\% | 0.9\% | 9.2\% | 4.3\% | 1.1\% | 0.0\% | 18.1\% | 0.0\% | 0.0\% | 0.0\% | 1.7\% | 0.6\% | 0.0\% | 31.3\% |
| 1987 | 16.0\% | 0.0\% | 0.0\% | 8.0\% | 3.7\% | 4.3\% | 2.5\% | 7.4\% | 0.0\% | 0.0\% | 0.0\% | 19.8\% | 11.7\% | 0.6\% | 25.9\% |
| 1988 | 1.9\% | 2.2\% | 0.0\% | 10.0\% | 0.0\% | 7.5\% | 1.9\% | 20.9\% | 0.0\% | 1.2\% | 4.0\% | 3.4\% | 13.1\% | 2.8\% | 31.2\% |
| 1989 | 7.1\% | 2.1\% | 0.7\% | 5.6\% | 0.7\% | 0.3\% | 0.6\% | 16.4\% | 1.4\% | 1.9\% | 2.4\% | 14.9\% | 7.5\% | 2.5\% | 35.9\% |
| 1990 | 10.6\% | 0.0\% | 0.0\% | 7.6\% | 1.1\% | 1.3\% | 0.0\% | 20.3\% | 0.6\% | 0.3\% | 0.0\% | 5.7\% | 10.3\% | 2.6\% | 39.5\% |
| 1991 | 4.1\% | 0.0\% | 0.0\% | 2.3\% | 0.5\% | 1.7\% | 0.0\% | 6.3\% | 0.0\% | 1.1\% | 0.7\% | 3.6\% | 4.0\% | 2.3\% | 73.4\% |
| 1992 | 18.5\% | 0.0\% | 0.0\% | 3.4\% | 1.9\% | 0.9\% | 0.0\% | 15.4\% | 0.6\% | 0.0\% | 0.0\% | 6.6\% | 1.3\% | 1.6\% | 49.8\% |
| 1993 | 7.8\% | 0.0\% | 0.0\% | 1.4\% | 0.0\% | 2.8\% | 0.0\% | 15.6\% | 0.0\% | 0.0\% | 1.8\% | 5.5\% | 3.2\% | 1.4\% | 60.6\% |
| 1994 | 17.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 15.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 10.0\% | 0.0\% | 57.5\% |
| 1995 | 4.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 7.4\% | 0.0\% | 1.4\% | 0.0\% | 2.0\% | 2.7\% | 0.0\% | 82.4\% |
| 1996 | 21.3\% | 0.7\% | 0.0\% | 1.8\% | 0.0\% | 3.0\% | 0.0\% | 2.7\% | 2.5\% | 0.2\% | 0.0\% | 2.5\% | 3.2\% | 3.9\% | 58.1\% |
| 1997 | 8.8\% | 0.1\% | 3.6\% | 0.2\% | 0.0\% | 0.4\% | 1.9\% | 1.8\% | 0.0\% | 0.0\% | 0.0\% | 3.3\% | 1.1\% | 0.9\% | 77.8\% |
| 1998 | 10.1\% | 0.5\% | 1.1\% | 0.5\% | 0.0\% | 0.1\% | 1.8\% | 0.0\% | 0.0\% | 0.0\% | 0.6\% | 2.1\% | 4.9\% | 1.0\% | 77.3\% |
| 1999 | 13.6\% | 5.0\% | 3.0\% | 0.3\% | 0.0\% | 0.6\% | 3.7\% | 0.5\% | 0.0\% | 0.0\% | 5.2\% | 9.1\% | 1.0\% | 3.3\% | 54.5\% |
| 2000 | 25.8\% | 2.3\% | 3.4\% | 0.4\% | 0.0\% | 0.0\% | 2.7\% | 4.2\% | 0.7\% | 0.1\% | 4.1\% | 3.3\% | 1.0\% | 3.9\% | 48.0\% |
| 2001 | 16.4\% | 5.9\% | 1.5\% | 0.5\% | 0.0\% | 0.0\% | 3.9\% | 11.2\% | 0.2\% | 0.0\% | 1.9\% | 17.6\% | 0.7\% | 6.5\% | 33.8\% |
| 2002 | 23.4\% | 0.1\% | 1.5\% | 10.6\% | 0.0\% | 0.0\% | 2.4\% | 15.2\% | 0.1\% | 0.0\% | 1.6\% | 8.9\% | 1.3\% | 6.0\% | 28.9\% |
| 2003 | 27.7\% | 1.7\% | 1.1\% | 11.7\% | 0.0\% | 0.0\% | 2.2\% | 11.8\% | 0.1\% | 0.0\% | 0.3\% | 6.8\% | 2.8\% | 6.8\% | 27.0\% |
| 2004 | 14.5\% | 0.7\% | 1.1\% | 5.3\% | 0.0\% | 0.0\% | 1.9\% | 11.0\% | 0.2\% | 0.0\% | 1.6\% | 10.7\% | 7.5\% | 16.3\% | 29.2\% |
| 2005 | 12.4\% | 0.1\% | 1.0\% | 7.7\% | 0.0\% | 0.0\% | 2.6\% | 14.6\% | 0.0\% | 0.0\% | 1.3\% | 8.7\% | 7.4\% | 11.7\% | 32.3\% |
| (79-80) | 23.6\% | 0.0\% | 1.0\% | 9.1\% | 4.2\% | 4.8\% | 0.0\% | 18.5\% | 3.5\% | 0.8\% | 0.0\% | 1.1\% | 2.3\% | 2.3\% | 29.1\% |
| (87-98) | 10.7\% | 0.5\% | 0.5\% | 3.4\% | 0.7\% | 1.9\% | 2.0\% | 9.5\% | 0.4\% | 0.5\% | 0.8\% | 5.8\% | 6.1\% | 1.6\% | 55.8\% |
| (99-05) | 19.1\% | 2.3\% | 1.8\% | 5.2\% | 0.0\% | 0.1\% | 2.8\% | 9.8\% | 0.2\% | 0.0\% | 2.3\% | 9.3\% | 3.1\% | 7.8\% | 36.2\% |

Appendix E.53. Percent distribution of Cowlitz Tule Chinook reported catch among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska $\qquad$ <br> Net | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \\ \hline \end{array}$ | N/CBC Sport | $\begin{gathered} \text { WCVI } \\ \text { Troll } \\ \hline \end{gathered}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | Canada Net | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | $\begin{gathered} \text { U.S. } \\ \text { Net } \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1981 | 5.6\% | 0.0\% | 0.0\% | 2.4\% | 0.0\% | 1.3\% | 6.5\% | 16.1\% | 0.0\% | 2.4\% | 0.0\% | 9.7\% | 15.1\% | 12.9\% | 28.0\% |
| 1982 | 3.7\% | 0.0\% | 0.2\% | 1.4\% | 0.5\% | 2.1\% | 0.0\% | 14.5\% | 0.0\% | 1.2\% | 0.9\% | 18.5\% | 9.7\% | 12.5\% | 34.9\% |
| 1983 | 3.7\% | 0.0\% | 0.0\% | 6.7\% | 3.7\% | 0.5\% | 0.0\% | 17.8\% | 0.4\% | 0.5\% | 0.0\% | 6.9\% | 4.8\% | 18.7\% | 36.2\% |
| 1984 | 4.4\% | 0.0\% | 0.0\% | 7.2\% | 2.1\% | 0.1\% | 0.8\% | 24.5\% | 0.0\% | 1.7\% | 0.0\% | 4.4\% | 15.1\% | 3.6\% | 36.0\% |
| 1985 | 3.7\% | 0.3\% | 0.0\% | 4.0\% | 0.0\% | 4.4\% | 0.0\% | 11.4\% | 0.4\% | 1.2\% | 0.0\% | 4.4\% | 6.5\% | 13.7\% | 49.9\% |
| 1986 | 0.4\% | 0.1\% | 0.0\% | 0.2\% | 0.6\% | 0.8\% | 0.0\% | 12.6\% | 0.4\% | 1.1\% | 0.0\% | 13.0\% | 31.0\% | 12.4\% | 27.4\% |
| 1987 | 3.7\% | 0.3\% | 0.0\% | 3.9\% | 1.2\% | 0.0\% | 0.0\% | 9.7\% | 0.0\% | 0.8\% | 1.0\% | 11.4\% | 22.9\% | 16.1\% | 29.0\% |
| 1988 | 1.7\% | 0.3\% | 0.0\% | 1.9\% | 0.0\% | 0.1\% | 0.0\% | 15.9\% | 0.0\% | 0.6\% | 0.0\% | 15.5\% | 24.0\% | 12.3\% | 27.7\% |
| 1989 | 3.3\% | 0.0\% | 0.7\% | 4.5\% | 0.0\% | 0.3\% | 0.0\% | 6.6\% | 0.0\% | 1.0\% | 0.0\% | 17.8\% | 7.1\% | 10.6\% | 48.1\% |
| 1990 | 4.4\% | 0.0\% | 0.0\% | 1.8\% | 2.9\% | 2.6\% | 0.0\% | 14.2\% | 0.0\% | 0.7\% | 0.0\% | 9.5\% | 0.0\% | 12.0\% | 51.8\% |
| 1991 | 9.7\% | 0.0\% | 0.0\% | 3.2\% | 1.6\% | 0.0\% | 0.0\% | 5.6\% | 0.0\% | 0.0\% | 3.2\% | 10.5\% | 11.3\% | 9.7\% | 45.2\% |
| 1992 | 2.2\% | 0.0\% | 0.0\% | 0.0\% | 2.2\% | 0.0\% | 1.6\% | 17.7\% | 0.0\% | 0.0\% | 0.0\% | 7.0\% | 5.4\% | 4.8\% | 59.1\% |
| 1993 | 3.4\% | 0.0\% | 0.0\% | 2.5\% | 0.0\% | 0.9\% | 0.0\% | 6.7\% | 0.0\% | 0.0\% | 0.0\% | 17.5\% | 3.1\% | 22.4\% | 43.6\% |
| 1994 | 4.2\% | 0.0\% | 0.0\% | 1.9\% | 0.0\% | 0.0\% | 0.0\% | 1.9\% | 0.0\% | 0.0\% | 0.0\% | 3.3\% | 0.0\% | 0.0\% | 88.7\% |
| 1995 | 0.6\% | 0.0\% | 0.0\% | 1.8\% | 0.0\% | 1.2\% | 0.0\% | 1.8\% | 0.0\% | 0.0\% | 2.4\% | 4.7\% | 2.4\% | 1.8\% | 83.4\% |
| 1996 | 4.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.2\% | 0.0\% | 0.0\% | 5.9\% | 1.1\% | 3.7\% | 83.0\% |
| 1997 | 4.9\% | 0.0\% | 9.8\% | 3.0\% | 0.0\% | 0.0\% | 0.0\% | 4.9\% | 2.4\% | 0.0\% | 0.0\% | 5.5\% | 0.0\% | 1.2\% | 68.3\% |
| 1998 | 3.7\% | 0.0\% | 0.0\% | 7.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 9.9\% | 0.0\% | 2.5\% | 76.5\% |
| 1999 | 4.4\% | 0.0\% | 3.7\% | 0.0\% | 0.0\% | 0.0\% | 4.4\% | 3.7\% | 0.0\% | 0.0\% | 0.0\% | 8.8\% | 0.0\% | 17.6\% | 57.4\% |
| 2000 | 3.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 7.4\% | 0.0\% | 0.0\% | 10.5\% | 13.7\% | 5.3\% | 7.4\% | 52.6\% |
| 2001 | 0.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.3\% | 0.0\% | 0.0\% | 1.6\% | 10.6\% | 1.6\% | 12.0\% | 72.1\% |
| 2002 | 6.1\% | 0.0\% | 0.0\% | 0.7\% | 0.0\% | 0.0\% | 0.0\% | 6.9\% | 0.0\% | 0.0\% | 3.6\% | 24.6\% | 7.4\% | 24.2\% | 26.4\% |
| 2003 | 5.0\% | 0.0\% | 0.0\% | 1.4\% | 0.0\% | 0.0\% | 0.0\% | 9.9\% | 1.4\% | 0.0\% | 1.9\% | 17.2\% | 8.9\% | 11.4\% | 42.8\% |
| 2004 | 4.3\% | 0.0\% | 0.0\% | 1.0\% | 0.0\% | 0.0\% | 0.0\% | 6.3\% | 0.0\% | 0.0\% | 0.0\% | 17.8\% | 9.1\% | 13.5\% | 48.1\% |
| 2005 | 2.7\% | 7.6\% | 0.0\% | 2.7\% | 0.0\% | 0.0\% | 0.0\% | 3.6\% | 0.0\% | 0.0\% | 3.1\% | 7.6\% | 3.6\% | 9.0\% | 60.1\% |
| (81-84) | 4.4\% | 0.0\% | 0.1\% | 4.4\% | 1.6\% | 1.0\% | 1.8\% | 18.2\% | 0.1\% | 1.5\% | 0.2\% | 9.9\% | 11.2\% | 11.9\% | 33.8\% |
| (85-98) | 3.6\% | 0.1\% | 0.8\% | 2.2\% | 0.7\% | 0.8\% | 0.1\% | 8.4\% | 0.4\% | 0.4\% | 0.5\% | 9.7\% | 8.8\% | 9.3\% | 54.2\% |
| (99-05) | 3.8\% | 1.1\% | 0.5\% | 0.8\% | 0.0\% | 0.0\% | 0.6\% | 5.6\% | 0.2\% | 0.0\% | 3.0\% | 14.3\% | 5.1\% | 13.6\% | 51.4\% |

Appendix E.54. Percent distribution of Cowlitz Tule Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska $\qquad$ <br> Net | Alaska Sport | North Troll | $\begin{array}{r} \text { Central } \\ \text { Troll } \\ \hline \end{array}$ | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \\ \hline \end{array}$ | N/CBC Sport | WCVI <br> Troll | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{gathered}$ | Canada $\qquad$ | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { U.S. } \\ \text { Net } \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1981 | 6.0\% | 0.0\% | 0.0\% | 2.4\% | 0.0\% | 1.2\% | 6.3\% | 18.8\% | 0.0\% | 2.2\% | 0.0\% | 11.3\% | 14.2\% | 12.7\% | 25.0\% |
| 1982 | 4.3\% | 0.0\% | 0.4\% | 1.6\% | 0.4\% | 2.2\% | 0.0\% | 16.8\% | 0.0\% | 1.2\% | 1.0\% | 20.2\% | 9.5\% | 12.6\% | 29.8\% |
| 1983 | 4.4\% | 0.0\% | 0.0\% | 7.2\% | 3.9\% | 0.5\% | 0.0\% | 18.9\% | 0.3\% | 0.5\% | 0.0\% | 7.8\% | 4.7\% | 18.7\% | 33.2\% |
| 1984 | 4.5\% | 0.0\% | 0.0\% | 7.5\% | 2.3\% | 0.1\% | 0.9\% | 25.6\% | 0.0\% | 1.8\% | 0.0\% | 4.7\% | 14.8\% | 3.7\% | 34.2\% |
| 1985 | 4.0\% | 1.1\% | 0.0\% | 4.4\% | 0.0\% | 4.4\% | 0.0\% | 12.6\% | 0.4\% | 1.2\% | 0.0\% | 5.1\% | 6.3\% | 14.9\% | 45.4\% |
| 1986 | 0.5\% | 0.2\% | 0.0\% | 0.2\% | 0.7\% | 0.8\% | 0.0\% | 14.0\% | 0.3\% | 1.0\% | 0.0\% | 14.6\% | 30.1\% | 12.7\% | 24.9\% |
| 1987 | 6.0\% | 0.7\% | 0.0\% | 4.6\% | 1.4\% | 0.0\% | 0.0\% | 11.2\% | 0.0\% | 0.7\% | 0.9\% | 12.1\% | 21.2\% | 15.5\% | 25.6\% |
| 1988 | 1.8\% | 0.8\% | 0.0\% | 2.1\% | 0.0\% | 0.1\% | 0.0\% | 17.8\% | 0.0\% | 0.6\% | 0.0\% | 16.0\% | 22.7\% | 12.5\% | 25.7\% |
| 1989 | 4.6\% | 0.0\% | 0.7\% | 4.7\% | 0.0\% | 0.3\% | 0.0\% | 7.2\% | 0.0\% | 1.0\% | 0.0\% | 18.7\% | 6.8\% | 10.9\% | 45.2\% |
| 1990 | 4.4\% | 0.0\% | 0.0\% | 2.4\% | 3.4\% | 2.7\% | 0.0\% | 15.5\% | 0.0\% | 1.0\% | 0.0\% | 10.1\% | 0.0\% | 12.8\% | 47.8\% |
| 1991 | 12.4\% | 0.0\% | 0.0\% | 3.6\% | 1.5\% | 0.0\% | 0.0\% | 6.6\% | 0.0\% | 0.0\% | 2.9\% | 11.7\% | 10.9\% | 9.5\% | 40.9\% |
| 1992 | 2.5\% | 0.0\% | 0.0\% | 0.0\% | 2.5\% | 0.0\% | 2.0\% | 20.2\% | 0.0\% | 0.0\% | 0.0\% | 7.9\% | 5.4\% | 5.4\% | 54.2\% |
| 1993 | 4.3\% | 0.0\% | 0.0\% | 3.0\% | 0.0\% | 1.1\% | 0.0\% | 7.6\% | 0.0\% | 0.0\% | 0.0\% | 18.7\% | 3.0\% | 23.8\% | 38.5\% |
| 1994 | 5.1\% | 0.0\% | 0.0\% | 2.3\% | 0.0\% | 0.0\% | 0.0\% | 2.3\% | 0.0\% | 0.0\% | 0.0\% | 3.2\% | 0.0\% | 0.0\% | 87.1\% |
| 1995 | 1.1\% | 0.0\% | 0.0\% | 2.8\% | 0.0\% | 1.1\% | 0.0\% | 2.3\% | 0.0\% | 2.3\% | 2.3\% | 4.5\% | 2.3\% | 1.7\% | 79.7\% |
| 1996 | 5.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.5\% | 0.0\% | 0.0\% | 6.1\% | 1.1\% | 4.0\% | 80.9\% |
| 1997 | 5.7\% | 0.0\% | 10.8\% | 3.4\% | 0.0\% | 0.0\% | 0.0\% | 5.7\% | 2.8\% | 1.1\% | 0.0\% | 5.7\% | 0.0\% | 1.1\% | 63.6\% |
| 1998 | 4.8\% | 0.0\% | 0.0\% | 8.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 10.7\% | 0.0\% | 2.4\% | 73.8\% |
| 1999 | 6.7\% | 0.0\% | 4.0\% | 0.0\% | 0.0\% | 0.0\% | 5.4\% | 3.4\% | 0.0\% | 0.0\% | 0.0\% | 9.4\% | 0.0\% | 18.8\% | 52.3\% |
| 2000 | 3.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 7.5\% | 0.0\% | 0.0\% | 12.3\% | 17.0\% | 4.7\% | 7.5\% | 47.2\% |
| 2001 | 1.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.3\% | 0.0\% | 0.0\% | 1.9\% | 12.3\% | 1.5\% | 13.3\% | 68.7\% |
| 2002 | 6.8\% | 0.0\% | 0.0\% | 0.8\% | 0.0\% | 0.0\% | 0.0\% | 6.4\% | 0.0\% | 0.0\% | 4.0\% | 26.3\% | 7.1\% | 24.5\% | 24.1\% |
| 2003 | 5.3\% | 0.0\% | 0.0\% | 1.5\% | 0.0\% | 0.0\% | 0.0\% | 10.0\% | 1.6\% | 0.0\% | 2.2\% | 18.4\% | 8.6\% | 12.0\% | 40.3\% |
| 2004 | 5.4\% | 0.0\% | 0.0\% | 0.9\% | 0.0\% | 0.0\% | 0.0\% | 5.8\% | 0.0\% | 0.0\% | 0.0\% | 19.3\% | 9.0\% | 14.8\% | 44.8\% |
| 2005 | 2.8\% | 13.0\% | 0.0\% | 2.8\% | 0.0\% | 0.0\% | 0.0\% | 3.3\% | 0.0\% | 0.0\% | 3.3\% | 8.1\% | 3.3\% | 8.9\% | 54.5\% |
| (81-84) | 4.8\% | 0.0\% | 0.1\% | 4.7\% | 1.7\% | 1.0\% | 1.8\% | 20.0\% | 0.1\% | 1.4\% | 0.3\% | 11.0\% | 10.8\% | 11.9\% | 30.6\% |
| (85-98) | 4.4\% | 0.2\% | 0.9\% | 2.6\% | 0.7\% | 0.8\% | 0.2\% | 9.5\% | 0.5\% | 0.7\% | 0.5\% | 10.3\% | 8.4\% | 9.6\% | 50.7\% |
| (99-05) | 4.6\% | 1.9\% | 0.6\% | 0.9\% | 0.0\% | 0.0\% | 0.8\% | 5.4\% | 0.2\% | 0.0\% | 3.4\% | 15.8\% | 4.9\% | 14.3\% | 47.4\% |

Appendix E.55. Percent distribution of Spring Creek Tule Chinook reported catch among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska <br> Net | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \end{array}$ | N/CBC Sport | $\begin{gathered} \text { WCVI } \\ \text { Troll } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{array}$ | Canada Net | Canada Sport | $\begin{aligned} & \text { U.S. } \\ & \text { Troll } \end{aligned}$ | $\begin{gathered} \text { U.S. } \\ \text { Net } \end{gathered}$ | $\begin{aligned} & \text { U.S. } \\ & \text { Sport } \end{aligned}$ |  |
| 1979 | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.7\% | 0.3\% | 0.0\% | 24.0\% | 1.5\% | 2.4\% | 0.1\% | 16.6\% | 23.5\% | 12.8\% | 18.3\% |
| 1980 | 0.1\% | 0.0\% | 0.0\% | 0.1\% | 0.5\% | 0.1\% | 0.0\% | 25.4\% | 2.8\% | 1.0\% | 0.1\% | 23.6\% | 23.7\% | 10.1\% | 12.6\% |
| 1981 | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.2\% | 0.1\% | 0.0\% | 21.0\% | 1.5\% | 1.9\% | 0.1\% | 23.5\% | 20.7\% | 12.6\% | 18.3\% |
| 1982 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 0.0\% | 22.0\% | 1.0\% | 0.2\% | 0.0\% | 19.6\% | 35.6\% | 8.3\% | 12.7\% |
| 1983 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.0\% | 0.0\% | 29.8\% | 1.1\% | 0.0\% | 0.5\% | 8.4\% | 20.2\% | 9.8\% | 29.7\% |
| 1984 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.4\% | 0.0\% | 0.0\% | 27.5\% | 0.0\% | 1.3\% | 0.4\% | 6.0\% | 25.9\% | 7.4\% | 29.1\% |
| 1985 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 0.0\% | 14.2\% | 0.0\% | 0.2\% | 0.7\% | 13.8\% | 27.2\% | 4.0\% | 39.7\% |
| 1986 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.9\% | 0.0\% | 0.0\% | 20.6\% | 1.9\% | 1.6\% | 2.5\% | 2.5\% | 36.2\% | 7.9\% | 23.8\% |
| 1987 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 7.9\% | 0.0\% | 0.0\% | 0.0\% | 14.0\% | 38.6\% | 20.2\% | 19.3\% |
| 1988 | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.3\% | 0.2\% | 0.0\% | 23.2\% | 0.9\% | 1.9\% | 2.2\% | 18.3\% | 31.0\% | 10.3\% | 11.3\% |
| 1989 | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 14.4\% | 0.4\% | 0.4\% | 3.3\% | 24.8\% | 34.5\% | 8.3\% | 13.8\% |
| 1990 | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.3\% | 0.1\% | 0.0\% | 17.6\% | 0.7\% | 0.8\% | 4.5\% | 14.3\% | 23.0\% | 13.1\% | 25.3\% |
| 1991 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.1\% | 0.0\% | 13.1\% | 0.2\% | 0.4\% | 1.3\% | 16.9\% | 34.2\% | 11.0\% | 22.5\% |
| 1992 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.0\% | 0.0\% | 11.9\% | 0.6\% | 0.5\% | 2.5\% | 26.5\% | 14.7\% | 11.8\% | 31.3\% |
| 1993 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 17.7\% | 0.0\% | 0.4\% | 4.2\% | 17.7\% | 21.4\% | 10.5\% | 28.2\% |
| 1994 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 18.6\% | 0.0\% | 0.8\% | 3.9\% | 3.5\% | 28.9\% | 0.8\% | 43.4\% |
| 1995 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 6.7\% | 0.0\% | 0.2\% | 2.7\% | 1.8\% | 37.9\% | 0.0\% | 50.7\% |
| 1996 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.1\% | 6.1\% | 57.8\% | 3.3\% | 29.7\% |
| 1997 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 11.9\% | 0.0\% | 0.0\% | 2.7\% | 5.4\% | 24.3\% | 11.7\% | 44.0\% |
| 1998 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.0\% | 0.0\% | 0.5\% | 2.8\% | 15.0\% | 12.8\% | 68.5\% |
| 1999 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.3\% | 0.0\% | 3.8\% | 16.9\% | 36.5\% | 9.3\% | 33.0\% |
| 2000 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.7\% | 0.0\% | 0.0\% | 4.5\% | 5.5\% | 22.3\% | 9.9\% | 54.0\% |
| 2001 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.2\% | 0.2\% | 0.0\% | 0.4\% | 14.0\% | 22.6\% | 5.3\% | 54.3\% |
| 2002 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 10.6\% | 0.2\% | 0.0\% | 1.4\% | 16.0\% | 26.7\% | 10.5\% | 34.5\% |
| 2003 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 10.2\% | 0.0\% | 0.0\% | 2.1\% | 10.6\% | 22.3\% | 5.6\% | 49.2\% |
| 2004 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 11.5\% | 0.0\% | 0.0\% | 2.9\% | 8.7\% | 15.0\% | 5.3\% | 56.6\% |
| 2005 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 18.5\% | 0.0\% | 0.0\% | 2.7\% | 6.3\% | 28.7\% | 2.2\% | 41.7\% |
| (79-84) | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.8\% | 0.1\% | 0.0\% | 25.0\% | 1.3\% | 1.1\% | 0.2\% | 16.3\% | 24.9\% | 10.2\% | 20.1\% |
| (85-98) | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.3\% | 0.0\% | 0.0\% | 12.7\% | 0.3\% | 0.5\% | 2.4\% | 12.0\% | 30.3\% | 9.0\% | 32.3\% |
| (99-05) | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 8.3\% | 0.1\% | 0.0\% | 2.5\% | 11.1\% | 24.9\% | 6.9\% | 46.2\% |

Appendix E.56. Percent distribution of Spring Creek Tule Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska $\qquad$ <br> Net | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \end{array}$ | N/CBC <br> Sport | WCVI <br> Troll | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | $\begin{array}{r} \text { Canada } \\ \text { Net } \end{array}$ | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | $\begin{gathered} \text { U.S. } \\ \text { Net } \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1979 | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.8\% | 0.2\% | 0.0\% | 27.3\% | 1.3\% | 2.2\% | 0.1\% | 18.0\% | 21.5\% | 13.3\% | 15.2\% |
| 1980 | 0.1\% | 0.0\% | 0.0\% | 0.1\% | 0.6\% | 0.1\% | 0.0\% | 27.8\% | 2.5\% | 0.9\% | 0.1\% | 24.7\% | 21.9\% | 10.7\% | 10.6\% |
| 1981 | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.2\% | 0.1\% | 0.0\% | 22.9\% | 1.4\% | 1.8\% | 0.1\% | 24.7\% | 19.7\% | 12.9\% | 16.1\% |
| 1982 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 0.0\% | 25.0\% | 1.0\% | 0.2\% | 0.0\% | 21.4\% | 32.9\% | 8.0\% | 11.1\% |
| 1983 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 0.0\% | 31.5\% | 1.1\% | 0.0\% | 0.5\% | 9.1\% | 18.9\% | 12.1\% | 26.4\% |
| 1984 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.4\% | 0.0\% | 0.0\% | 27.2\% | 0.0\% | 1.2\% | 0.3\% | 6.1\% | 24.6\% | 12.7\% | 25.5\% |
| 1985 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 0.0\% | 15.3\% | 0.0\% | 0.2\% | 0.6\% | 16.0\% | 27.0\% | 4.1\% | 36.6\% |
| 1986 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.9\% | 0.0\% | 0.0\% | 21.8\% | 1.8\% | 1.8\% | 2.7\% | 2.7\% | 35.4\% | 8.8\% | 22.1\% |
| 1987 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 9.9\% | 0.0\% | 0.0\% | 0.0\% | 15.2\% | 40.4\% | 19.9\% | 14.6\% |
| 1988 | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.2\% | 0.2\% | 0.0\% | 26.8\% | 1.0\% | 1.5\% | 2.2\% | 18.8\% | 27.3\% | 12.6\% | 8.9\% |
| 1989 | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 16.5\% | 0.5\% | 0.4\% | 3.2\% | 26.7\% | 31.9\% | 8.8\% | 11.8\% |
| 1990 | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.4\% | 0.1\% | 0.0\% | 19.9\% | 0.7\% | 0.8\% | 4.5\% | 15.5\% | 21.1\% | 14.9\% | 21.7\% |
| 1991 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.1\% | 0.0\% | 15.2\% | 0.3\% | 0.4\% | 1.3\% | 18.6\% | 32.0\% | 12.2\% | 19.6\% |
| 1992 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.0\% | 0.0\% | 14.0\% | 0.7\% | 0.5\% | 2.4\% | 28.7\% | 13.8\% | 12.3\% | 27.5\% |
| 1993 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 19.7\% | 0.0\% | 0.3\% | 4.2\% | 19.2\% | 19.8\% | 11.7\% | 25.0\% |
| 1994 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 22.0\% | 0.0\% | 0.9\% | 4.0\% | 3.5\% | 28.6\% | 1.1\% | 39.9\% |
| 1995 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 10.1\% | 0.0\% | 0.4\% | 2.8\% | 1.8\% | 37.8\% | 0.0\% | 47.1\% |
| 1996 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.4\% | 0.0\% | 0.0\% | 3.2\% | 6.0\% | 57.9\% | 3.9\% | 27.7\% |
| 1997 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 14.7\% | 0.0\% | 0.0\% | 2.6\% | 5.8\% | 23.5\% | 13.2\% | 40.2\% |
| 1998 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 0.0\% | 0.6\% | 3.3\% | 15.3\% | 16.8\% | 63.7\% |
| 1999 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.3\% | 0.0\% | 3.8\% | 19.2\% | 35.8\% | 10.7\% | 29.9\% |
| 2000 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.9\% | 0.0\% | 0.0\% | 5.3\% | 6.2\% | 21.3\% | 16.0\% | 47.4\% |
| 2001 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.2\% | 0.3\% | 0.0\% | 0.5\% | 16.2\% | 22.7\% | 6.9\% | 50.3\% |
| 2002 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 10.6\% | 0.3\% | 0.0\% | 1.6\% | 18.4\% | 26.1\% | 11.5\% | 31.5\% |
| 2003 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 10.4\% | 0.0\% | 0.0\% | 2.5\% | 11.9\% | 22.3\% | 6.2\% | 46.7\% |
| 2004 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 11.5\% | 0.0\% | 0.0\% | 3.2\% | 10.1\% | 15.1\% | 5.8\% | 54.2\% |
| 2005 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 19.0\% | 0.0\% | 0.0\% | 3.1\% | 7.1\% | 28.6\% | 2.3\% | 39.9\% |
| (79-84) | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.8\% | 0.1\% | 0.0\% | 27.0\% | 1.2\% | 1.1\% | 0.2\% | 17.3\% | 23.3\% | 11.6\% | 17.5\% |
| (85-98) | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.3\% | 0.0\% | 0.0\% | 14.8\% | 0.4\% | 0.5\% | 2.5\% | 13.0\% | 29.4\% | 10.0\% | 29.0\% |
| (99-05) | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 8.4\% | 0.1\% | 0.0\% | 2.9\% | 12.7\% | 24.6\% | 8.5\% | 42.8\% |

Appendix E.57. Percent distribution of Columbia Lower River Hatchery Chinook reported catch among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska Net | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \end{array}$ | N/CBC Sport | WCVI <br> Troll | $\begin{array}{r} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{array}$ | Canada Net | Canada Sport | $\begin{aligned} & \text { U.S. } \\ & \text { Troll } \end{aligned}$ | $\begin{gathered} \text { U.S. } \\ \text { Net } \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1980 | 0.8\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 1.3\% | 0.0\% | 16.0\% | 3.4\% | 6.4\% | 1.3\% | 18.3\% | 9.8\% | 22.4\% | 19.8\% |
| 1981 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.1\% | 0.0\% | 30.6\% | 1.8\% | 2.4\% | 0.3\% | 22.6\% | 1.9\% | 11.6\% | 28.2\% |
| 1982 | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 1.8\% | 0.0\% | 0.0\% | 26.0\% | 0.8\% | 0.3\% | 0.5\% | 18.6\% | 16.4\% | 9.0\% | 26.5\% |
| 1983 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.3\% | 0.3\% | 0.1\% | 35.0\% | 1.4\% | 0.6\% | 0.4\% | 11.2\% | 6.8\% | 8.5\% | 33.4\% |
| 1984 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.2\% | 0.0\% | 0.0\% | 49.9\% | 1.3\% | 1.6\% | 0.3\% | 5.9\% | 11.3\% | 3.7\% | 22.7\% |
| 1985 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.9\% | 0.4\% | 0.0\% | 28.2\% | 1.1\% | 1.2\% | 0.7\% | 15.6\% | 4.1\% | 5.8\% | 41.9\% |
| 1986 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 0.1\% | 9.1\% | 2.5\% | 7.5\% | 2.7\% | 6.9\% | 11.2\% | 11.5\% | 47.9\% |
| 1987 | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 1.6\% | 0.0\% | 0.0\% | 26.9\% | 0.5\% | 0.2\% | 2.5\% | 16.6\% | 20.7\% | 9.5\% | 21.3\% |
| 1988 | 0.3\% | 0.0\% | 0.0\% | 0.3\% | 0.6\% | 0.0\% | 0.0\% | 28.8\% | 1.0\% | 0.0\% | 2.4\% | 11.5\% | 24.3\% | 3.2\% | 27.6\% |
| 1989 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 15.4\% | 0.0\% | 2.0\% | 0.0\% | 22.4\% | 5.9\% | 5.1\% | 49.2\% |
| 1990 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.0\% | 19.8\% | 0.0\% | 1.7\% | 0.0\% | 16.3\% | 0.3\% | 11.1\% | 50.3\% |
| 1991 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 0.0\% | 10.2\% | 0.7\% | 2.5\% | 2.0\% | 9.3\% | 2.3\% | 14.9\% | 57.9\% |
| 1992 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 0.0\% | 16.3\% | 0.0\% | 1.0\% | 1.9\% | 28.0\% | 0.8\% | 11.0\% | 40.5\% |
| 1993 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.6\% | 0.0\% | 0.0\% | 18.4\% | 0.0\% | 0.0\% | 4.5\% | 19.7\% | 2.0\% | 11.1\% | 43.6\% |
| 1994 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 27.6\% | 10.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 62.1\% |
| 1995 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.3\% | 10.0\% | 86.7\% |
| 1996 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 8.1\% | 6.5\% | 0.0\% | 85.5\% |
| 1997 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 16.4\% | 2.9\% | 0.0\% | 3.9\% | 8.7\% | 1.0\% | 11.6\% | 55.6\% |
| 1998 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 4.0\% | 1.0\% | 0.0\% | 0.0\% | 5.1\% | 1.0\% | 2.0\% | 23.2\% | 63.6\% |
| 1999 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.3\% | 0.0\% | 0.0\% | 9.1\% | 6.8\% | 3.6\% | 9.4\% | 68.7\% |
| 2000 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 17.1\% | 1.9\% | 0.0\% | 10.6\% | 2.3\% | 2.8\% | 4.6\% | 60.6\% |
| 2001 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 8.3\% | 0.3\% | 0.0\% | 1.7\% | 19.5\% | 1.5\% | 8.8\% | 59.9\% |
| 2002 | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 9.9\% | 0.0\% | 0.0\% | 3.3\% | 19.6\% | 13.4\% | 10.3\% | 43.2\% |
| 2003 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 16.4\% | 0.4\% | 0.0\% | 4.8\% | 15.4\% | 7.3\% | 9.9\% | 45.8\% |
| 2004 | 0.5\% | 0.0\% | 0.0\% | 0.3\% | 0.0\% | 0.0\% | 0.7\% | 21.0\% | 0.5\% | 0.0\% | 9.2\% | 8.5\% | 18.6\% | 5.1\% | 35.6\% |
| 2005 | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.0\% | 0.0\% | 0.0\% | 29.0\% | 0.0\% | 0.0\% | 7.3\% | 7.1\% | 19.4\% | 2.5\% | 34.3\% |
| (80-84) | 0.2\% | 0.0\% | 0.0\% | 0.1\% | 1.7\% | 0.3\% | 0.0\% | 31.5\% | 1.7\% | 2.3\% | 0.6\% | 15.3\% | 9.2\% | 11.0\% | 26.1\% |
| (85-98) | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.1\% | 0.3\% | 15.6\% | 1.4\% | 1.2\% | 1.8\% | 11.7\% | 6.0\% | 9.1\% | 52.4\% |
| (99-05) | 0.1\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 0.0\% | 0.1\% | 14.9\% | 0.4\% | 0.0\% | 6.6\% | 11.3\% | 9.5\% | 7.2\% | 49.7\% |

Appendix E.58. Percent distribution of Columbia Lower River Hatchery Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch <br> Year | Alaska Troll | Alaska $\qquad$ <br> Net | Alaska Sport | North Troll | Central $\qquad$ Troll | N/CBC $\qquad$ | $\begin{array}{r} \text { N/CBC } \\ \text { Sport } \\ \hline \end{array}$ | WCVI Troll | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | Canada Net | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | $\begin{gathered} \hline \text { U.S. } \\ \text { Net } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1980 | 0.4\% | 0.0\% | 0.0\% | 0.1\% | 0.8\% | 0.8\% | 0.0\% | 32.4\% | 2.0\% | 4.2\% | 0.7\% | 23.1\% | 6.7\% | 17.7\% | 10.9\% |
| 1981 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.1\% | 0.0\% | 33.4\% | 1.6\% | 2.2\% | 0.3\% | 25.0\% | 1.8\% | 11.5\% | 23.6\% |
| 1982 | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 2.0\% | 0.0\% | 0.0\% | 29.2\% | 0.8\% | 0.3\% | 0.5\% | 20.0\% | 15.2\% | 8.9\% | 22.9\% |
| 1983 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.4\% | 0.3\% | 0.1\% | 37.0\% | 1.3\% | 0.5\% | 0.4\% | 12.3\% | 6.7\% | 9.6\% | 29.4\% |
| 1984 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.4\% | 0.0\% | 0.0\% | 51.6\% | 1.3\% | 1.6\% | 0.2\% | 6.3\% | 11.1\% | 4.1\% | 20.4\% |
| 1985 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.9\% | 0.4\% | 0.0\% | 30.3\% | 1.1\% | 1.2\% | 0.7\% | 17.7\% | 4.1\% | 5.9\% | 37.7\% |
| 1986 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.6\% | 0.2\% | 8.5\% | 1.9\% | 6.3\% | 2.5\% | 6.3\% | 9.5\% | 30.0\% | 34.1\% |
| 1987 | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 1.9\% | 0.0\% | 0.0\% | 33.0\% | 0.5\% | 0.2\% | 2.2\% | 17.3\% | 18.4\% | 8.6\% | 17.6\% |
| 1988 | 0.3\% | 0.0\% | 0.0\% | 0.3\% | 0.6\% | 0.0\% | 0.0\% | 31.6\% | 1.0\% | 0.0\% | 2.4\% | 11.7\% | 23.1\% | 3.3\% | 25.8\% |
| 1989 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 17.0\% | 0.0\% | 1.8\% | 0.0\% | 25.3\% | 5.4\% | 5.4\% | 45.1\% |
| 1990 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.0\% | 22.8\% | 0.0\% | 1.5\% | 0.0\% | 18.2\% | 0.3\% | 12.0\% | 44.8\% |
| 1991 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 0.0\% | 12.3\% | 1.0\% | 2.4\% | 2.2\% | 10.9\% | 2.4\% | 18.2\% | 50.6\% |
| 1992 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.6\% | 0.0\% | 0.0\% | 19.5\% | 0.0\% | 0.8\% | 1.8\% | 30.3\% | 0.7\% | 11.3\% | 34.9\% |
| 1993 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 0.0\% | 0.0\% | 20.8\% | 0.0\% | 0.0\% | 4.3\% | 20.8\% | 1.9\% | 11.6\% | 39.9\% |
| 1994 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 31.3\% | 12.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 56.3\% |
| 1995 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.1\% | 0.0\% | 0.0\% | 3.1\% | 12.5\% | 81.3\% |
| 1996 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 8.1\% | 6.5\% | 0.0\% | 85.5\% |
| 1997 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 20.2\% | 3.1\% | 0.4\% | 3.5\% | 9.2\% | 0.9\% | 12.3\% | 50.4\% |
| 1998 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 6.5\% | 0.9\% | 0.0\% | 0.0\% | 5.6\% | 0.9\% | 1.9\% | 25.9\% | 58.3\% |
| 1999 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.2\% | 0.0\% | 0.0\% | 9.6\% | 8.0\% | 3.7\% | 11.1\% | 65.3\% |
| 2000 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 17.7\% | 2.5\% | 0.0\% | 12.3\% | 2.5\% | 2.5\% | 8.6\% | 53.9\% |
| 2001 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 8.4\% | 0.3\% | 0.0\% | 2.0\% | 22.4\% | 1.5\% | 10.8\% | 54.6\% |
| 2002 | 0.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 9.9\% | 0.0\% | 0.0\% | 3.8\% | 22.3\% | 13.1\% | 11.0\% | 39.5\% |
| 2003 | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 16.0\% | 0.6\% | 0.0\% | 5.5\% | 17.5\% | 7.2\% | 10.5\% | 42.7\% |
| 2004 | 0.5\% | 0.0\% | 0.0\% | 0.3\% | 0.0\% | 0.0\% | 1.0\% | 20.6\% | 0.6\% | 0.0\% | 10.3\% | 9.1\% | 18.3\% | 5.3\% | 34.0\% |
| 2005 | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 29.0\% | 0.0\% | 0.0\% | 8.4\% | 7.5\% | 19.2\% | 2.6\% | 33.0\% |
| (80-84) | 0.1\% | 0.0\% | 0.0\% | 0.1\% | 1.8\% | 0.2\% | 0.0\% | 36.7\% | 1.4\% | 1.8\% | 0.4\% | 17.3\% | 8.3\% | 10.4\% | 21.4\% |
| (85-98) | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.1\% | 0.5\% | 17.7\% | 1.5\% | 1.3\% | 1.8\% | 12.6\% | 5.6\% | 11.2\% | 47.3\% |
| (99-05) | 0.1\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 0.0\% | 0.1\% | 14.8\% | 0.6\% | 0.0\% | 7.4\% | 12.8\% | 9.4\% | 8.6\% | 46.1\% |

Appendix E.59. Percent distribution of Upriver Bright Chinook reported catch among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch <br> Year | Alaska Troll | Alaska $\qquad$ | Alaska Sport | North Troll | Central $\qquad$ | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \\ \hline \end{array}$ | $\begin{array}{r} \text { N/CBC } \\ \text { Sport } \\ \hline \end{array}$ | $\begin{array}{r} \text { WCVI } \\ \text { Troll } \\ \hline \end{array}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { Canada } \\ \text { Net } \\ \hline \end{array}$ | Canada Sport | $\begin{array}{r} \text { U.S. } \\ \text { Troll } \\ \hline \end{array}$ | $\begin{aligned} & \text { U.S. } \\ & \text { Net } \end{aligned}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1979 | 18.0\% | 0.3\% | 0.6\% | 7.6\% | 4.0\% | 3.7\% | 0.1\% | 11.8\% | 0.5\% | 0.7\% | 0.0\% | 1.3\% | 23.0\% | 1.8\% | 26.7\% |
| 1980 | 19.9\% | 0.6\% | 0.5\% | 6.5\% | 1.6\% | 1.7\% | 0.1\% | 7.3\% | 1.0\% | 0.2\% | 0.0\% | 1.1\% | 6.3\% | 1.8\% | 51.4\% |
| 1981 | 16.1\% | 0.0\% | 0.4\% | 5.6\% | 1.1\% | 1.3\% | 0.0\% | 3.8\% | 0.4\% | 0.5\% | 0.2\% | 0.5\% | 3.6\% | 1.0\% | 65.8\% |
| 1982 | 6.4\% | 0.4\% | 0.2\% | 3.5\% | 0.2\% | 1.1\% | 0.1\% | 4.6\% | 0.0\% | 0.4\% | 0.0\% | 0.6\% | 2.5\% | 0.7\% | 79.2\% |
| 1983 | 15.5\% | 0.2\% | 0.0\% | 10.7\% | 1.8\% | 3.4\% | 0.2\% | 3.7\% | 0.2\% | 0.1\% | 0.0\% | 0.4\% | 8.1\% | 0.0\% | 55.6\% |
| 1984 | 14.5\% | 1.1\% | 0.1\% | 8.6\% | 2.0\% | 1.5\% | 0.2\% | 7.2\% | 0.2\% | 0.8\% | 0.2\% | 0.2\% | 15.3\% | 1.9\% | 46.3\% |
| 1985 | 9.2\% | 1.2\% | 0.2\% | 8.8\% | 0.8\% | 1.3\% | 0.0\% | 7.9\% | 0.1\% | 1.2\% | 0.1\% | 0.4\% | 32.8\% | 4.5\% | 31.5\% |
| 1986 | 10.3\% | 0.7\% | 0.1\% | 7.9\% | 1.2\% | 1.0\% | 0.0\% | 6.3\% | 0.1\% | 0.2\% | 0.1\% | 0.7\% | 33.1\% | 2.4\% | 35.8\% |
| 1987 | 14.6\% | 0.4\% | 0.4\% | 12.4\% | 1.8\% | 0.6\% | 0.1\% | 7.8\% | 0.0\% | 0.1\% | 0.3\% | 1.5\% | 35.2\% | 3.7\% | 21.2\% |
| 1988 | 10.2\% | 0.8\% | 0.5\% | 7.4\% | 0.6\% | 0.6\% | 0.0\% | 11.2\% | 0.0\% | 0.1\% | 0.0\% | 2.1\% | 47.0\% | 2.6\% | 16.9\% |
| 1989 | 11.9\% | 0.0\% | 0.2\% | 14.9\% | 0.2\% | 0.7\% | 0.6\% | 7.7\% | 0.0\% | 0.7\% | 0.0\% | 1.2\% | 42.5\% | 2.0\% | 17.3\% |
| 1990 | 13.6\% | 0.0\% | 1.0\% | 9.9\% | 0.7\% | 0.7\% | 0.0\% | 8.1\% | 0.0\% | 0.0\% | 0.0\% | 1.2\% | 33.8\% | 2.4\% | 28.6\% |
| 1991 | 6.3\% | 0.4\% | 2.6\% | 5.9\% | 0.0\% | 0.0\% | 0.0\% | 8.9\% | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 19.6\% | 4.4\% | 51.1\% |
| 1992 | 3.0\% | 0.0\% | 0.0\% | 3.0\% | 0.0\% | 2.3\% | 0.0\% | 11.5\% | 0.0\% | 0.7\% | 1.0\% | 0.0\% | 17.0\% | 6.6\% | 55.1\% |
| 1993 | 10.9\% | 0.0\% | 0.0\% | 6.7\% | 0.0\% | 0.4\% | 0.6\% | 17.0\% | 0.0\% | 0.0\% | 0.0\% | 1.7\% | 15.7\% | 6.5\% | 40.4\% |
| 1994 | 9.8\% | 0.9\% | 0.0\% | 8.0\% | 0.2\% | 0.9\% | 1.7\% | 6.9\% | 0.0\% | 0.0\% | 0.7\% | 0.0\% | 14.2\% | 3.5\% | 53.1\% |
| 1995 | 8.1\% | 0.1\% | 1.7\% | 2.0\% | 0.0\% | 0.4\% | 0.0\% | 5.3\% | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 9.9\% | 4.3\% | 67.3\% |
| 1996 | 2.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.8\% | 22.4\% | 5.4\% | 68.0\% |
| 1997 | 11.0\% | 0.3\% | 2.5\% | 4.5\% | 0.2\% | 0.0\% | 0.6\% | 0.5\% | 0.0\% | 0.0\% | 0.1\% | 1.0\% | 20.6\% | 11.4\% | 47.2\% |
| 1998 | 8.1\% | 1.5\% | 2.2\% | 2.6\% | 0.0\% | 0.0\% | 1.1\% | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 13.6\% | 6.3\% | 64.5\% |
| 1999 | 10.4\% | 0.5\% | 2.6\% | 3.8\% | 0.0\% | 0.0\% | 1.0\% | 0.0\% | 0.4\% | 0.0\% | 0.3\% | 0.5\% | 13.5\% | 9.7\% | 57.2\% |
| 2000 | 16.7\% | 0.1\% | 2.3\% | 0.0\% | 0.0\% | 0.0\% | 1.8\% | 0.9\% | 0.0\% | 0.0\% | 1.8\% | 0.3\% | 21.0\% | 4.6\% | 50.5\% |
| 2001 | 3.8\% | 0.0\% | 0.7\% | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 0.7\% | 0.0\% | 0.0\% | 0.2\% | 1.7\% | 13.0\% | 7.8\% | 71.5\% |
| 2002 | 14.2\% | 0.0\% | 2.3\% | 0.8\% | 0.0\% | 0.0\% | 0.8\% | 1.4\% | 0.3\% | 0.1\% | 0.5\% | 1.7\% | 18.8\% | 8.4\% | 50.6\% |
| 2003 | 13.6\% | 0.9\% | 0.6\% | 4.5\% | 0.0\% | 0.0\% | 0.9\% | 0.7\% | 0.0\% | 0.0\% | 0.5\% | 0.7\% | 14.3\% | 7.3\% | 56.1\% |
| 2004 | 8.7\% | 1.2\% | 0.5\% | 3.0\% | 0.0\% | 0.0\% | 1.6\% | 2.4\% | 0.0\% | 0.0\% | 0.4\% | 0.8\% | 18.6\% | 7.0\% | 55.8\% |
| 2005 | 13.9\% | 1.4\% | 0.9\% | 8.6\% | 0.0\% | 0.0\% | 3.9\% | 3.8\% | 0.0\% | 0.0\% | 2.0\% | 0.7\% | 13.4\% | 7.8\% | 43.5\% |
| (79-84) | 15.1\% | 0.4\% | 0.3\% | 7.1\% | 1.8\% | 2.1\% | 0.1\% | 6.4\% | 0.4\% | 0.5\% | 0.1\% | 0.7\% | 9.8\% | 1.2\% | 54.2\% |
| (85-98) | 9.3\% | 0.5\% | 0.8\% | 6.7\% | 0.4\% | 0.7\% | 0.4\% | 7.1\% | 0.0\% | 0.2\% | 0.2\% | 0.9\% | 25.5\% | 4.7\% | 42.7\% |
| (99-05) | 11.6\% | 0.6\% | 1.4\% | 3.0\% | 0.0\% | 0.0\% | 1.5\% | 1.4\% | 0.1\% | 0.0\% | 0.8\% | 0.9\% | 16.1\% | 7.5\% | 55.0\% |

Appendix E.60. Percent distribution of Upriver Bright Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch <br> Year | Alaska <br> Troll | Alaska $\qquad$ Net | Alaska Sport | North Troll | $\begin{array}{r} \text { Central } \\ \text { Troll } \\ \hline \end{array}$ | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \end{array}$ | $\begin{array}{r} \text { N/CBC } \\ \text { Sport } \\ \hline \end{array}$ | $\begin{array}{r} \text { WCVI } \\ \text { Troll } \\ \hline \end{array}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{gathered}$ | Canada $\qquad$ | $\begin{array}{r} \hline \text { Canada } \\ \text { Sport } \\ \hline \end{array}$ | $\begin{gathered} \text { U.S. } \\ \text { Troll } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { U.S. } \\ \text { Net } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1979 | 18.4\% | 0.3\% | 0.6\% | 7.9\% | 4.1\% | 3.7\% | 0.1\% | 12.5\% | 0.5\% | 0.7\% | 0.0\% | 1.3\% | 22.3\% | 2.0\% | 25.5\% |
| 1980 | 20.8\% | 0.6\% | 0.6\% | 7.0\% | 1.7\% | 1.7\% | 0.1\% | 7.8\% | 1.0\% | 0.2\% | 0.0\% | 1.1\% | 6.2\% | 1.9\% | 49.2\% |
| 1981 | 17.1\% | 0.0\% | 0.4\% | 5.9\% | 1.1\% | 1.3\% | 0.0\% | 4.1\% | 0.3\% | 0.5\% | 0.2\% | 0.6\% | 3.6\% | 1.1\% | 63.9\% |
| 1982 | 8.9\% | 0.4\% | 0.3\% | 4.4\% | 0.3\% | 1.1\% | 0.2\% | 5.5\% | 0.0\% | 0.5\% | 0.0\% | 0.8\% | 2.5\% | 0.7\% | 74.5\% |
| 1983 | 22.1\% | 0.3\% | 0.0\% | 11.7\% | 2.0\% | 3.3\% | 0.2\% | 3.8\% | 0.2\% | 0.1\% | 0.0\% | 0.4\% | 7.4\% | 0.0\% | 48.5\% |
| 1984 | 17.6\% | 1.2\% | 0.2\% | 9.8\% | 2.2\% | 1.4\% | 0.2\% | 8.2\% | 0.2\% | 0.8\% | 0.2\% | 0.2\% | 14.4\% | 2.3\% | 41.0\% |
| 1985 | 12.9\% | 2.3\% | 0.3\% | 9.0\% | 0.8\% | 1.3\% | 0.0\% | 8.1\% | 0.1\% | 1.1\% | 0.1\% | 0.5\% | 30.9\% | 4.6\% | 28.2\% |
| 1986 | 12.2\% | 1.5\% | 0.1\% | 8.1\% | 1.3\% | 1.0\% | 0.0\% | 6.7\% | 0.1\% | 0.2\% | 0.1\% | 0.8\% | 31.9\% | 2.7\% | 33.4\% |
| 1987 | 19.4\% | 1.0\% | 0.4\% | 13.1\% | 2.0\% | 0.6\% | 0.1\% | 8.5\% | 0.0\% | 0.1\% | 0.3\% | 1.5\% | 31.4\% | 3.5\% | 18.3\% |
| 1988 | 11.4\% | 2.1\% | 0.5\% | 7.9\% | 0.6\% | 0.6\% | 0.0\% | 12.4\% | 0.0\% | 0.1\% | 0.0\% | 2.2\% | 44.0\% | 2.7\% | 15.5\% |
| 1989 | 14.5\% | 0.0\% | 0.2\% | 15.2\% | 0.2\% | 0.7\% | 0.5\% | 8.1\% | 0.0\% | 0.7\% | 0.0\% | 1.2\% | 40.4\% | 2.0\% | 16.1\% |
| 1990 | 14.2\% | 0.0\% | 1.1\% | 10.8\% | 0.8\% | 0.7\% | 0.0\% | 8.7\% | 0.0\% | 0.0\% | 0.0\% | 1.3\% | 32.6\% | 2.5\% | 27.2\% |
| 1991 | 8.1\% | 0.7\% | 3.4\% | 6.8\% | 0.0\% | 0.0\% | 0.0\% | 10.1\% | 0.0\% | 0.0\% | 0.0\% | 1.0\% | 18.6\% | 4.7\% | 46.6\% |
| 1992 | 3.6\% | 0.0\% | 0.0\% | 3.6\% | 0.0\% | 2.4\% | 0.0\% | 13.4\% | 0.0\% | 0.6\% | 1.2\% | 0.0\% | 16.7\% | 7.3\% | 51.1\% |
| 1993 | 16.6\% | 0.0\% | 0.0\% | 7.6\% | 0.0\% | 0.3\% | 0.5\% | 18.6\% | 0.0\% | 0.0\% | 0.0\% | 1.6\% | 14.0\% | 6.1\% | 34.7\% |
| 1994 | 11.8\% | 1.8\% | 0.0\% | 8.5\% | 0.2\% | 1.0\% | 1.7\% | 7.3\% | 0.0\% | 0.0\% | 0.6\% | 0.0\% | 13.6\% | 3.6\% | 49.9\% |
| 1995 | 10.2\% | 0.1\% | 2.4\% | 2.7\% | 0.0\% | 0.5\% | 0.0\% | 7.0\% | 0.0\% | 0.1\% | 0.0\% | 0.7\% | 9.6\% | 4.5\% | 62.1\% |
| 1996 | 4.4\% | 0.0\% | 0.0\% | 1.4\% | 0.0\% | 0.2\% | 0.5\% | 0.7\% | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 22.1\% | 6.2\% | 63.7\% |
| 1997 | 12.7\% | 0.5\% | 3.2\% | 4.9\% | 0.2\% | 0.0\% | 0.9\% | 0.6\% | 0.0\% | 0.0\% | 0.1\% | 1.0\% | 19.7\% | 11.8\% | 44.4\% |
| 1998 | 9.9\% | 4.5\% | 2.8\% | 2.9\% | 0.0\% | 0.0\% | 1.3\% | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 13.1\% | 7.0\% | 58.4\% |
| 1999 | 13.5\% | 1.5\% | 2.8\% | 4.1\% | 0.0\% | 0.0\% | 1.1\% | 0.0\% | 0.4\% | 0.0\% | 0.3\% | 0.6\% | 12.8\% | 10.1\% | 52.8\% |
| 2000 | 22.1\% | 0.1\% | 3.2\% | 0.0\% | 0.0\% | 0.0\% | 3.0\% | 1.1\% | 0.0\% | 0.0\% | 2.1\% | 0.3\% | 18.9\% | 4.4\% | 44.7\% |
| 2001 | 5.4\% | 0.0\% | 1.0\% | 0.0\% | 0.0\% | 0.0\% | 1.0\% | 0.7\% | 0.0\% | 0.0\% | 0.3\% | 1.9\% | 13.0\% | 8.8\% | 67.8\% |
| 2002 | 16.3\% | 0.0\% | 2.5\% | 0.9\% | 0.0\% | 0.0\% | 0.9\% | 1.3\% | 0.4\% | 1.1\% | 0.6\% | 1.9\% | 18.1\% | 8.8\% | 47.1\% |
| 2003 | 15.1\% | 2.6\% | 0.6\% | 4.9\% | 0.0\% | 0.0\% | 1.2\% | 0.7\% | 0.0\% | 0.0\% | 0.6\% | 0.8\% | 13.7\% | 7.7\% | 52.2\% |
| 2004 | 10.4\% | 3.7\% | 0.6\% | 3.4\% | 0.0\% | 0.0\% | 2.2\% | 2.3\% | 0.0\% | 0.0\% | 0.4\% | 0.9\% | 17.7\% | 7.4\% | 51.1\% |
| 2005 | 14.8\% | 2.5\% | 0.9\% | 9.0\% | 0.0\% | 0.0\% | 4.7\% | 3.7\% | 0.0\% | 0.0\% | 2.2\% | 0.8\% | 12.8\% | 8.0\% | 40.6\% |
| (79-84) | 17.5\% | 0.5\% | 0.4\% | 7.8\% | 1.9\% | 2.1\% | 0.1\% | 7.0\% | 0.4\% | 0.5\% | 0.1\% | 0.7\% | 9.4\% | 1.3\% | 50.4\% |
| (85-98) | 11.6\% | 1.0\% | 1.0\% | 7.3\% | 0.4\% | 0.7\% | 0.4\% | 7.9\% | 0.0\% | 0.2\% | 0.2\% | 0.9\% | 24.2\% | 4.9\% | 39.3\% |
| (99-05) | 13.9\% | 1.5\% | 1.7\% | 3.2\% | 0.0\% | 0.0\% | 2.0\% | 1.4\% | 0.1\% | 0.2\% | 0.9\% | 1.0\% | 15.3\% | 7.9\% | 50.9\% |

Appendix E.61. Percent distribution of Hanford Wild Chinook reported catch among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska $\qquad$ <br> Net | Alaska Sport | $\begin{gathered} \text { North } \\ \text { Troll } \end{gathered}$ | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \end{array}$ | N/CBC Sport | WCVI <br> Troll | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | $\begin{array}{r} \text { Canada } \\ \text { Net } \\ \hline \end{array}$ | Canada Sport | $\begin{gathered} \hline \text { U.S. } \\ \text { Troll } \end{gathered}$ | U.S. <br> Net | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1990 | 8.4\% | 0.5\% | 0.0\% | 4.3\% | 0.5\% | 0.5\% | 0.0\% | 8.4\% | 0.0\% | 0.2\% | 3.6\% | 0.5\% | 22.5\% | 7.0\% | 43.6\% |
| 1991 | 8.6\% | 0.0\% | 1.3\% | 9.4\% | 0.2\% | 0.0\% | 0.5\% | 4.7\% | 0.8\% | 0.0\% | 0.0\% | 1.0\% | 23.3\% | 4.4\% | 45.7\% |
| 1992 | 16.6\% | 0.4\% | 1.4\% | 6.0\% | 0.0\% | 0.0\% | 0.0\% | 16.3\% | 0.0\% | 0.0\% | 0.0\% | 1.1\% | 18.7\% | 2.8\% | 36.7\% |
| 1993 | 14.0\% | 0.0\% | 2.1\% | 2.9\% | 0.0\% | 0.5\% | 1.3\% | 5.3\% | 0.0\% | 1.9\% | 1.9\% | 3.7\% | 16.1\% | 8.2\% | 42.1\% |
| 1994 | 14.4\% | 0.8\% | 0.0\% | 4.8\% | 0.3\% | 1.1\% | 0.0\% | 4.4\% | 0.0\% | 0.3\% | 0.0\% | 0.7\% | 12.4\% | 5.4\% | 55.3\% |
| 1995 | 11.0\% | 0.0\% | 3.7\% | 4.3\% | 0.0\% | 0.0\% | 0.0\% | 2.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 9.8\% | 7.0\% | 62.0\% |
| 1996 | 9.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 28.4\% | 7.8\% | 53.5\% |
| 1997 | 16.2\% | 0.6\% | 0.9\% | 3.6\% | 0.0\% | 0.0\% | 2.5\% | 0.8\% | 0.0\% | 0.0\% | 0.0\% | 0.9\% | 13.9\% | 7.4\% | 53.1\% |
| 1998 | 12.7\% | 0.0\% | 0.0\% | 8.4\% | 0.0\% | 0.0\% | 2.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 17.2\% | 6.3\% | 53.0\% |
| 1999 | 10.4\% | 0.4\% | 2.1\% | 7.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 12.9\% | 6.7\% | 60.4\% |
| 2000 | 16.4\% | 0.5\% | 1.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 29.1\% | 5.5\% | 46.8\% |
| 2001 | 4.3\% | 1.2\% | 0.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.2\% | 20.5\% | 14.4\% | 57.6\% |
| 2002 | 13.7\% | 0.0\% | 1.3\% | 0.1\% | 0.0\% | 0.0\% | 0.7\% | 2.9\% | 0.0\% | 0.0\% | 0.0\% | 1.4\% | 11.5\% | 10.8\% | 57.6\% |
| 2003 | 12.5\% | 0.0\% | 0.9\% | 3.8\% | 0.0\% | 0.0\% | 0.6\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.6\% | 15.2\% | 9.2\% | 56.8\% |
| 2004 | 15.9\% | 0.0\% | 2.7\% | 5.6\% | 0.0\% | 0.0\% | 2.1\% | 2.4\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 22.5\% | 4.0\% | 44.5\% |
| (90-98) | 12.2\% | 0.0\% | 0.0\% | 8.3\% | 0.0\% | 0.0\% | 3.5\% | 3.9\% | 0.0\% | 0.0\% | 0.9\% | 2.8\% | 12.5\% | 16.6\% | 39.3\% |
| (99-05) | 12.4\% | 0.3\% | 1.0\% | 4.9\% | 0.1\% | 0.3\% | 0.7\% | 4.7\% | 0.1\% | 0.3\% | 0.6\% | 0.9\% | 18.0\% | 6.3\% | 49.4\% |

Appendix E.62. Percent distribution of Hanford Wild Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska <br> Net | Alaska Sport | North Troll | Central Troll | $\mathrm{N} / \mathrm{CBC}$ Net | N/CBC <br> Sport | $\begin{gathered} \text { WCVI } \\ \text { Troll } \\ \hline \end{gathered}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{gathered}$ | Canada Net | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | U.S. <br> Net | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1990 | 9.3\% | 1.1\% | 0.4\% | 5.1\% | 0.4\% | 0.4\% | 0.0\% | 8.9\% | 0.0\% | 0.2\% | 3.6\% | 0.6\% | 21.7\% | 7.4\% | 40.8\% |
| 1991 | 10.7\% | 0.0\% | 1.4\% | 10.4\% | 0.2\% | 0.0\% | 0.5\% | 5.1\% | 1.0\% | 0.0\% | 0.0\% | 1.1\% | 22.1\% | 4.5\% | 43.2\% |
| 1992 | 18.9\% | 1.3\% | 1.6\% | 7.3\% | 0.0\% | 0.0\% | 0.0\% | 17.7\% | 0.0\% | 0.0\% | 0.0\% | 0.9\% | 17.0\% | 2.5\% | 32.8\% |
| 1993 | 20.6\% | 0.0\% | 2.1\% | 3.0\% | 0.0\% | 0.5\% | 1.2\% | 6.0\% | 0.0\% | 1.6\% | 1.9\% | 3.7\% | 14.4\% | 8.1\% | 36.9\% |
| 1994 | 17.5\% | 1.9\% | 0.0\% | 5.2\% | 0.3\% | 1.0\% | 0.0\% | 4.7\% | 0.0\% | 0.3\% | 0.0\% | 0.6\% | 11.7\% | 5.5\% | 51.2\% |
| 1995 | 13.1\% | 0.0\% | 4.1\% | 5.4\% | 0.0\% | 0.0\% | 0.0\% | 2.8\% | 0.0\% | 0.3\% | 0.0\% | 0.0\% | 9.2\% | 7.1\% | 57.9\% |
| 1996 | 13.0\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 0.6\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 27.4\% | 8.0\% | 50.7\% |
| 1997 | 17.8\% | 1.2\% | 1.0\% | 3.6\% | 0.0\% | 0.0\% | 3.1\% | 0.9\% | 0.0\% | 0.1\% | 0.0\% | 0.9\% | 13.3\% | 7.6\% | 50.4\% |
| 1998 | 14.5\% | 0.0\% | 0.0\% | 9.4\% | 0.0\% | 0.0\% | 2.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 16.5\% | 6.6\% | 50.1\% |
| 1999 | 13.8\% | 1.5\% | 2.3\% | 7.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 12.3\% | 6.5\% | 55.8\% |
| 2000 | 19.7\% | 0.4\% | 2.6\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 27.8\% | 5.6\% | 44.0\% |
| 2001 | 5.9\% | 2.7\% | 1.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.4\% | 19.7\% | 15.1\% | 54.1\% |
| 2002 | 17.5\% | 0.0\% | 1.4\% | 0.1\% | 0.0\% | 0.0\% | 0.9\% | 2.8\% | 0.0\% | 0.0\% | 0.0\% | 1.5\% | 11.0\% | 11.1\% | 53.6\% |
| 2003 | 13.4\% | 0.0\% | 0.9\% | 4.0\% | 0.0\% | 0.0\% | 0.8\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.6\% | 15.0\% | 9.7\% | 55.2\% |
| 2004 | 17.3\% | 0.0\% | 2.8\% | 5.9\% | 0.0\% | 0.0\% | 3.0\% | 2.4\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 21.7\% | 4.1\% | 42.4\% |
| (90-98) | 14.0\% | 0.0\% | 0.0\% | 9.0\% | 0.0\% | 0.0\% | 4.1\% | 3.7\% | 0.0\% | 0.0\% | 1.1\% | 2.8\% | 11.8\% | 17.0\% | 36.6\% |
| (99-05) | 15.0\% | 0.6\% | 1.2\% | 5.5\% | 0.1\% | 0.3\% | 0.8\% | 5.1\% | 0.1\% | 0.3\% | 0.6\% | 0.9\% | 17.0\% | 6.4\% | 46.0\% |

Appendix E.63. Percent distribution of Lyons Ferry Chinook reported catch among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch <br> Year | Alaska Troll | Alaska Net | Alaska Sport | North Troll | Central Troll | $\mathrm{N} / \mathrm{CBC}$ Net | N/CBC Sport | $\begin{gathered} \text { WCVI } \\ \text { Troll } \end{gathered}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{gathered}$ | Canada Net | Canada Sport | $\begin{array}{r} \text { U.S. } \\ \text { Troll } \\ \hline \end{array}$ | $\begin{aligned} & \text { U.S. } \\ & \text { Net } \\ & \hline \end{aligned}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1988 | 2.8\% | 0.0\% | 0.0\% | 3.3\% | 0.6\% | 0.8\% | 0.0\% | 18.6\% | 0.0\% | 0.3\% | 0.0\% | 10.8\% | 29.7\% | 3.9\% | 29.4\% |
| 1989 | 2.8\% | 0.0\% | 0.0\% | 6.3\% | 0.0\% | 0.4\% | 0.0\% | 16.0\% | 0.0\% | 1.2\% | 0.9\% | 12.3\% | 27.3\% | 6.6\% | 26.2\% |
| 1990 | 5.3\% | 0.0\% | 0.0\% | 3.5\% | 0.0\% | 0.5\% | 0.0\% | 16.1\% | 0.0\% | 0.0\% | 0.0\% | 9.6\% | 26.4\% | 5.8\% | 32.8\% |
| 1991 | 2.7\% | 0.0\% | 1.8\% | 4.9\% | 0.0\% | 0.4\% | 0.0\% | 8.8\% | 0.0\% | 0.9\% | 0.0\% | 4.0\% | 12.8\% | 2.7\% | 61.1\% |
| 1992 | 1.2\% | 0.6\% | 0.0\% | 3.6\% | 0.0\% | 1.2\% | 0.0\% | 10.7\% | 0.0\% | 1.2\% | 3.0\% | 5.9\% | 8.3\% | 1.8\% | 62.7\% |
| 1993 | 3.6\% | 0.0\% | 0.0\% | 4.7\% | 0.8\% | 0.8\% | 0.0\% | 10.3\% | 0.0\% | 1.2\% | 0.0\% | 7.9\% | 13.8\% | 1.6\% | 55.3\% |
| 1994 | 6.1\% | 0.5\% | 1.4\% | 6.1\% | 0.7\% | 0.5\% | 0.0\% | 7.1\% | 0.7\% | 2.2\% | 0.0\% | 0.0\% | 7.3\% | 0.5\% | 67.0\% |
| 2003 | 6.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 1.0\% | 0.0\% | 0.0\% | 0.0\% | 5.1\% | 11.6\% | 4.9\% | 70.4\% |
| 2004 | 2.3\% | 0.0\% | 0.0\% | 1.3\% | 0.0\% | 0.0\% | 1.3\% | 1.6\% | 0.0\% | 0.0\% | 1.3\% | 5.0\% | 7.2\% | 4.0\% | 76.0\% |
| 2005 | 3.5\% | 0.2\% | 0.0\% | 3.0\% | 0.0\% | 0.0\% | 1.2\% | 3.5\% | 0.0\% | 0.0\% | 0.0\% | 3.5\% | 13.5\% | 4.4\% | 67.1\% |
| (88-94) | 3.5\% | 0.2\% | 0.5\% | 4.6\% | 0.3\% | 0.7\% | 0.0\% | 12.5\% | 0.1\% | 1.0\% | 0.6\% | 7.2\% | 17.9\% | 3.3\% | 47.8\% |
| (03-05) | 4.2\% | 0.1\% | 0.0\% | 1.4\% | 0.0\% | 0.0\% | 0.8\% | 2.0\% | 0.0\% | 0.0\% | 0.4\% | 4.5\% | 10.8\% | 4.4\% | 71.2\% |

Appendix E.64. Percent distribution of Lyons Ferry Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska $\qquad$ | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \\ \hline \end{array}$ | $\begin{array}{r} \text { N/CBC } \\ \text { Sport } \\ \hline \end{array}$ | $\begin{array}{r} \text { WCVI } \\ \text { Troll } \\ \hline \end{array}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{gathered}$ | Canada $\qquad$ | Canada Sport | $\begin{aligned} & \text { U.S. } \\ & \text { Troll } \end{aligned}$ | $\begin{aligned} & \text { U.S. } \\ & \text { Net } \end{aligned}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1988 | 3.2\% | 0.0\% | 0.1\% | 4.0\% | 0.6\% | 0.7\% | 0.0\% | 21.1\% | 0.0\% | 0.2\% | 0.0\% | 11.6\% | 27.7\% | 4.0\% | 26.8\% |
| 1989 | 4.2\% | 0.0\% | 0.0\% | 7.0\% | 0.0\% | 0.4\% | 0.0\% | 17.9\% | 0.0\% | 1.1\% | 0.9\% | 12.9\% | 25.4\% | 6.6\% | 23.6\% |
| 1990 | 5.5\% | 0.0\% | 0.0\% | 3.7\% | 0.0\% | 0.5\% | 0.0\% | 17.1\% | 0.0\% | 0.0\% | 0.0\% | 10.0\% | 25.7\% | 6.3\% | 31.3\% |
| 1991 | 3.4\% | 0.0\% | 2.1\% | 5.5\% | 0.0\% | 0.4\% | 0.0\% | 10.1\% | 0.0\% | 0.8\% | 0.0\% | 4.2\% | 12.6\% | 2.9\% | 58.0\% |
| 1992 | 1.6\% | 1.1\% | 0.0\% | 4.3\% | 0.0\% | 1.6\% | 0.0\% | 12.5\% | 0.0\% | 1.1\% | 3.3\% | 6.5\% | 8.2\% | 2.2\% | 57.6\% |
| 1993 | 5.5\% | 0.4\% | 0.4\% | 5.8\% | 1.1\% | 0.7\% | 0.0\% | 11.6\% | 0.0\% | 1.1\% | 0.0\% | 8.0\% | 13.1\% | 1.5\% | 50.9\% |
| 1994 | 7.1\% | 1.2\% | 1.3\% | 5.9\% | 0.7\% | 0.7\% | 0.0\% | 7.4\% | 0.7\% | 2.8\% | 0.0\% | 0.5\% | 7.4\% | 0.8\% | 63.7\% |
| 2003 | 7.5\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 0.0\% | 0.0\% | 1.2\% | 0.0\% | 0.0\% | 0.0\% | 6.3\% | 11.9\% | 6.1\% | 66.5\% |
| 2004 | 2.4\% | 0.0\% | 0.0\% | 1.5\% | 0.0\% | 0.0\% | 1.7\% | 1.6\% | 0.0\% | 0.0\% | 1.5\% | 5.4\% | 7.3\% | 4.4\% | 74.0\% |
| 2005 | 4.0\% | 0.2\% | 0.0\% | 3.5\% | 0.0\% | 0.0\% | 1.8\% | 3.5\% | 0.0\% | 0.0\% | 0.0\% | 4.2\% | 13.5\% | 5.7\% | 63.6\% |
| (88-94) | 4.4\% | 0.4\% | 0.6\% | 5.2\% | 0.3\% | 0.7\% | 0.0\% | 14.0\% | 0.1\% | 1.0\% | 0.6\% | 7.7\% | 17.2\% | 3.5\% | 44.6\% |
| (03-05) | 4.6\% | 0.1\% | 0.0\% | 1.8\% | 0.0\% | 0.0\% | 1.2\% | 2.1\% | 0.0\% | 0.0\% | 0.5\% | 5.3\% | 10.9\% | 5.4\% | 68.0\% |

Appendix E.65. Percent distribution of Lewis River Wild Chinook reported catch among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska $\qquad$ <br> Net | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \\ \hline \end{array}$ | N/CBC Sport | $\begin{gathered} \text { WCVI } \\ \text { Troll } \\ \hline \end{gathered}$ | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { Canada } \\ \text { Net } \\ \hline \end{array}$ | $\begin{array}{r} \hline \text { Canada } \\ \text { Sport } \\ \hline \end{array}$ | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | $\begin{aligned} & \hline \text { U.S. } \\ & \text { Net } \end{aligned}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ |  |
| 1981 | 6.4\% | 0.0\% | 0.0\% | 3.3\% | 1.4\% | 0.2\% | 2.1\% | 6.0\% | 0.0\% | 0.7\% | 0.0\% | 2.0\% | 4.2\% | 15.9\% | 57.8\% |
| 1982 | 6.0\% | 1.3\% | 0.2\% | 3.0\% | 1.4\% | 0.8\% | 0.0\% | 10.7\% | 0.4\% | 0.8\% | 0.0\% | 4.1\% | 6.2\% | 23.5\% | 41.7\% |
| 1986 | 4.9\% | 0.0\% | 0.0\% | 1.6\% | 2.2\% | 0.9\% | 0.0\% | 6.8\% | 0.0\% | 0.0\% | 2.5\% | 3.3\% | 26.6\% | 12.3\% | 39.0\% |
| 1987 | 4.1\% | 0.0\% | 0.0\% | 4.7\% | 1.3\% | 0.0\% | 0.0\% | 8.4\% | 0.0\% | 0.0\% | 0.9\% | 2.7\% | 25.7\% | 6.3\% | 46.0\% |
| 1988 | 4.4\% | 0.0\% | 0.0\% | 2.9\% | 0.0\% | 0.5\% | 0.0\% | 8.9\% | 0.0\% | 0.1\% | 0.0\% | 4.7\% | 23.1\% | 16.7\% | 38.7\% |
| 1989 | 1.8\% | 0.1\% | 0.2\% | 4.5\% | 0.2\% | 0.7\% | 0.5\% | 5.1\% | 0.0\% | 0.8\% | 0.5\% | 4.9\% | 9.5\% | 7.3\% | 64.0\% |
| 1990 | 5.4\% | 0.0\% | 0.0\% | 1.7\% | 0.4\% | 0.6\% | 0.6\% | 12.1\% | 0.0\% | 0.0\% | 0.8\% | 4.0\% | 3.3\% | 5.2\% | 65.8\% |
| 1991 | 6.0\% | 0.1\% | 0.0\% | 3.8\% | 0.5\% | 0.0\% | 1.1\% | 5.9\% | 0.0\% | 0.7\% | 0.0\% | 2.4\% | 15.8\% | 7.1\% | 56.6\% |
| 1992 | 1.6\% | 0.0\% | 0.0\% | 3.8\% | 1.8\% | 0.0\% | 0.7\% | 6.2\% | 0.0\% | 0.0\% | 0.0\% | 2.9\% | 4.5\% | 23.4\% | 55.1\% |
| 1993 | 3.6\% | 0.0\% | 1.0\% | 4.9\% | 0.0\% | 0.3\% | 0.0\% | 7.6\% | 0.0\% | 1.6\% | 0.0\% | 0.8\% | 6.8\% | 9.1\% | 64.3\% |
| 1994 | 6.4\% | 0.0\% | 0.0\% | 3.2\% | 0.0\% | 0.0\% | 0.0\% | 3.2\% | 0.0\% | 1.6\% | 0.0\% | 0.8\% | 1.6\% | 0.0\% | 83.2\% |
| 1995 | 6.6\% | 0.0\% | 2.3\% | 3.2\% | 0.0\% | 0.4\% | 0.0\% | 5.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 24.6\% | 57.6\% |
| 1996 | 7.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.8\% | 0.9\% | 4.6\% | 84.0\% |
| 1997 | 12.6\% | 0.0\% | 0.0\% | 3.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.6\% | 80.7\% |
| 1998 | 8.1\% | 0.0\% | 0.0\% | 3.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.0\% | 2.0\% | 84.8\% |
| 1999 | 11.8\% | 0.0\% | 0.0\% | 5.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 82.4\% |
| 2000 | 3.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 16.4\% | 3.0\% | 77.6\% |
| 2001 | 5.0\% | 0.0\% | 1.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 8.6\% | 0.0\% | 0.0\% | 1.4\% | 5.9\% | 2.3\% | 5.5\% | 70.0\% |
| 2002 | 11.3\% | 0.0\% | 1.6\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 6.0\% | 0.0\% | 0.0\% | 5.8\% | 5.2\% | 4.9\% | 4.7\% | 60.4\% |
| 2003 | 9.4\% | 0.0\% | 0.0\% | 1.5\% | 0.0\% | 0.0\% | 1.1\% | 5.0\% | 0.0\% | 0.0\% | 1.1\% | 9.4\% | 6.8\% | 6.8\% | 59.0\% |
| 2004 | 6.0\% | 0.0\% | 0.5\% | 3.0\% | 0.0\% | 0.0\% | 0.8\% | 2.2\% | 0.0\% | 0.0\% | 0.0\% | 0.7\% | 2.5\% | 2.0\% | 82.4\% |
| 2005 | 4.2\% | 0.0\% | 0.0\% | 12.2\% | 0.0\% | 0.0\% | 3.9\% | 4.2\% | 0.0\% | 0.0\% | 0.0\% | 1.7\% | 11.9\% | 10.8\% | 51.2\% |
| (81-82) | 6.2\% | 0.7\% | 0.1\% | 3.2\% | 1.4\% | 0.5\% | 1.1\% | 8.4\% | 0.2\% | 0.8\% | 0.0\% | 3.1\% | 5.2\% | 19.7\% | 49.8\% |
| (86-98) | 5.6\% | 0.0\% | 0.3\% | 3.1\% | 0.5\% | 0.3\% | 0.2\% | 5.3\% | 0.0\% | 0.4\% | 0.4\% | 2.3\% | 9.2\% | 9.4\% | 63.1\% |
| (99-05) | 7.2\% | 0.0\% | 0.5\% | 3.2\% | 0.0\% | 0.0\% | 0.8\% | 3.7\% | 0.0\% | 0.0\% | 1.2\% | 3.3\% | 6.4\% | 4.7\% | 69.0\% |

Appendix E.66. Percent distribution of Lewis River Wild Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other fisheries |  |  |  |  | Escapement |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska Net | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \\ \hline \end{array}$ | N/CBC <br> Sport | $\begin{gathered} \text { WCVI } \\ \text { Troll } \\ \hline \end{gathered}$ | $\begin{array}{r} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{array}$ | Canada Net | Canada Sport | $\begin{aligned} & \text { U.S. } \\ & \text { Troll } \end{aligned}$ | $\begin{aligned} & \hline \text { U.S. } \\ & \text { Net } \end{aligned}$ | $\begin{aligned} & \text { U.S. } \\ & \text { Sport } \end{aligned}$ |  |
| 1981 | 7.4\% | 0.0\% | 0.0\% | 3.8\% | 1.6\% | 0.2\% | 2.1\% | 7.5\% | 0.0\% | 0.7\% | 0.0\% | 2.5\% | 4.2\% | 16.8\% | 53.1\% |
| 1982 | 7.4\% | 1.2\% | 0.2\% | 3.5\% | 1.6\% | 0.7\% | 0.0\% | 11.7\% | 0.4\% | 0.7\% | 0.0\% | 4.2\% | 6.0\% | 23.5\% | 38.8\% |
| 1986 | 6.4\% | 0.0\% | 0.0\% | 2.2\% | 2.2\% | 1.0\% | 0.0\% | 8.0\% | 0.0\% | 0.0\% | 2.6\% | 3.8\% | 25.5\% | 12.3\% | 36.0\% |
| 1987 | 5.7\% | 0.0\% | 0.0\% | 5.3\% | 1.4\% | 0.0\% | 0.0\% | 9.5\% | 0.0\% | 0.0\% | 0.9\% | 2.9\% | 24.9\% | 6.6\% | 42.7\% |
| 1988 | 5.2\% | 0.0\% | 0.0\% | 3.5\% | 0.0\% | 0.5\% | 0.0\% | 10.7\% | 0.0\% | 0.1\% | 0.0\% | 5.0\% | 21.9\% | 17.7\% | 35.4\% |
| 1989 | 2.4\% | 0.2\% | 0.3\% | 5.1\% | 0.2\% | 0.7\% | 0.4\% | 5.9\% | 0.0\% | 0.8\% | 0.5\% | 5.4\% | 9.4\% | 7.9\% | 60.7\% |
| 1990 | 7.8\% | 0.0\% | 0.0\% | 1.9\% | 0.5\% | 0.7\% | 0.6\% | 13.3\% | 0.0\% | 0.0\% | 0.8\% | 4.2\% | 3.2\% | 5.5\% | 61.5\% |
| 1991 | 7.0\% | 0.3\% | 0.0\% | 4.1\% | 0.4\% | 0.0\% | 1.2\% | 6.4\% | 0.0\% | 0.7\% | 0.0\% | 2.5\% | 15.4\% | 7.7\% | 54.2\% |
| 1992 | 1.7\% | 0.0\% | 0.0\% | 4.3\% | 1.9\% | 0.0\% | 0.7\% | 6.7\% | 0.0\% | 0.0\% | 0.0\% | 3.1\% | 4.5\% | 24.9\% | 52.2\% |
| 1993 | 4.4\% | 0.0\% | 1.2\% | 5.7\% | 0.0\% | 0.2\% | 0.0\% | 8.4\% | 0.0\% | 1.5\% | 0.0\% | 1.5\% | 6.7\% | 9.4\% | 61.0\% |
| 1994 | 9.4\% | 0.0\% | 0.0\% | 4.9\% | 0.0\% | 0.0\% | 0.0\% | 3.8\% | 0.0\% | 1.5\% | 0.0\% | 0.8\% | 1.5\% | 0.0\% | 78.2\% |
| 1995 | 7.8\% | 0.0\% | 2.3\% | 3.9\% | 0.0\% | 0.5\% | 0.0\% | 6.4\% | 0.0\% | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 25.3\% | 53.7\% |
| 1996 | 9.1\% | 0.0\% | 0.0\% | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.7\% | 0.9\% | 4.8\% | 82.2\% |
| 1997 | 14.0\% | 0.0\% | 0.0\% | 3.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 3.9\% | 78.9\% |
| 1998 | 8.1\% | 0.0\% | 0.0\% | 3.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.0\% | 2.0\% | 84.8\% |
| 1999 | 18.3\% | 0.0\% | 1.7\% | 5.0\% | 0.0\% | 0.0\% | 0.0\% | 1.7\% | 0.0\% | 0.0\% | 1.7\% | 1.7\% | 0.0\% | 0.0\% | 70.0\% |
| 2000 | 6.8\% | 0.0\% | 1.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 2.7\% | 15.1\% | 2.7\% | 71.2\% |
| 2001 | 6.0\% | 0.0\% | 1.7\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 9.0\% | 0.0\% | 0.0\% | 2.1\% | 6.4\% | 2.1\% | 6.4\% | 66.1\% |
| 2002 | 14.4\% | 0.0\% | 1.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 5.8\% | 0.0\% | 0.0\% | 6.3\% | 6.6\% | 4.8\% | 4.8\% | 55.6\% |
| 2003 | 10.3\% | 0.0\% | 0.0\% | 1.7\% | 0.0\% | 0.0\% | 1.3\% | 5.0\% | 0.0\% | 0.0\% | 1.3\% | 10.3\% | 6.7\% | 6.9\% | 56.6\% |
| 2004 | 6.7\% | 0.0\% | 0.5\% | 3.2\% | 0.0\% | 0.0\% | 1.1\% | 2.2\% | 0.0\% | 0.0\% | 0.0\% | 0.8\% | 2.4\% | 2.1\% | 81.1\% |
| 2005 | 4.3\% | 0.0\% | 0.0\% | 13.0\% | 0.0\% | 0.0\% | 4.8\% | 4.0\% | 0.0\% | 0.0\% | 0.0\% | 1.9\% | 11.7\% | 11.2\% | 49.2\% |
| (81-82) | 7.4\% | 0.6\% | 0.1\% | 3.7\% | 1.6\% | 0.5\% | 1.1\% | 9.6\% | 0.2\% | 0.7\% | 0.0\% | 3.4\% | 5.1\% | 20.2\% | 46.0\% |
| (86-98) | 6.8\% | 0.0\% | 0.3\% | 3.6\% | 0.5\% | 0.3\% | 0.2\% | 6.1\% | 0.0\% | 0.4\% | 0.4\% | 2.5\% | 8.9\% | 9.8\% | 60.1\% |
| (99-05) | 9.5\% | 0.0\% | 1.0\% | 3.3\% | 0.0\% | 0.0\% | 1.0\% | 4.0\% | 0.0\% | 0.0\% | 1.6\% | 4.3\% | 6.1\% | 4.9\% | 64.3\% |

Appendix E.67. Percent distribution of Salmon River Chinook reported catch among fisheries and escapement.

| Catch <br> Year | Alaska Troll | Alaska $\qquad$ <br> Net | Alaska Sport |  | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \\ \hline \end{array}$ |  |  | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \\ \hline \end{gathered}$ | Other Fisheries |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | North Troll |  |  | $\begin{array}{r} \text { N/CBC } \\ \text { Sport } \\ \hline \end{array}$ | $\begin{array}{r} \text { WCVI } \\ \text { Troll } \\ \hline \end{array}$ |  | $\begin{array}{r} \text { Canada } \\ \text { Net } \\ \hline \end{array}$ | Canada Sport | $\begin{array}{r} \text { U.S. } \\ \text { Troll } \\ \hline \end{array}$ | $\begin{gathered} \text { U.S. } \\ \text { Net } \end{gathered}$ | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ | Escapement |
| 1981 | 13.9\% | 0.0\% | 0.4\% | 28.2\% | 0.6\% | 1.8\% | 0.0\% | 3.7\% | 0.0\% | 0.0\% | 0.7\% | 1.3\% | 0.0\% | 17.1\% | 32.2\% |
| 1982 | 10.4\% | 1.5\% | 0.9\% | 14.4\% | 1.1\% | 0.8\% | 0.0\% | 7.0\% | 0.0\% | 0.0\% | 0.0\% | 2.6\% | 0.0\% | 21.4\% | 39.9\% |
| 1983 | 20.6\% | 0.6\% | 0.0\% | 21.5\% | 0.6\% | 0.0\% | 0.0\% | 10.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 15.6\% | 30.6\% |
| 1984 | 10.5\% | 0.0\% | 0.0\% | 16.9\% | 3.5\% | 0.4\% | 0.0\% | 3.4\% | 0.0\% | 0.8\% | 0.0\% | 0.3\% | 0.4\% | 21.5\% | 42.4\% |
| 1985 | 11.9\% | 6.5\% | 0.0\% | 19.1\% | 1.1\% | 0.3\% | 0.0\% | 1.5\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 19.9\% | 39.8\% |
| 1986 | 15.2\% | 0.0\% | 0.0\% | 9.0\% | 4.7\% | 0.6\% | 0.0\% | 2.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 16.2\% | 52.1\% |
| 1987 | 10.4\% | 0.0\% | 0.0\% | 15.3\% | 0.4\% | 0.0\% | 0.0\% | 2.4\% | 0.0\% | 0.0\% | 0.0\% | 2.6\% | 0.0\% | 24.1\% | 44.8\% |
| 1988 | 9.6\% | 0.0\% | 0.0\% | 6.4\% | 0.6\% | 0.0\% | 0.0\% | 3.9\% | 0.0\% | 0.0\% | 0.0\% | 0.8\% | 0.0\% | 16.0\% | 62.7\% |
| 1989 | 8.4\% | 0.0\% | 0.0\% | 11.4\% | 0.0\% | 0.2\% | 0.0\% | 3.9\% | 0.0\% | 1.2\% | 0.0\% | 3.4\% | 0.0\% | 24.7\% | 46.8\% |
| 1990 | 11.9\% | 0.7\% | 0.0\% | 10.6\% | 0.3\% | 0.7\% | 1.3\% | 7.8\% | 0.0\% | 0.3\% | 0.0\% | 3.0\% | 0.0\% | 25.6\% | 37.9\% |
| 1991 | 18.4\% | 0.0\% | 0.5\% | 15.2\% | 0.1\% | 0.7\% | 0.8\% | 5.8\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 24.9\% | 33.4\% |
| 1992 | 2.6\% | 0.2\% | 0.0\% | 6.6\% | 0.8\% | 0.4\% | 1.8\% | 15.4\% | 0.0\% | 0.0\% | 0.0\% | 1.8\% | 0.0\% | 16.0\% | 54.3\% |
| 1993 | 7.7\% | 0.2\% | 0.2\% | 15.3\% | 0.2\% | 0.0\% | 1.1\% | 17.8\% | 0.0\% | 0.5\% | 0.0\% | 3.2\% | 0.0\% | 23.0\% | 30.8\% |
| 1994 | 8.8\% | 0.2\% | 1.0\% | 14.8\% | 0.2\% | 0.1\% | 2.1\% | 4.6\% | 0.0\% | 0.0\% | 0.0\% | 1.5\% | 0.0\% | 17.7\% | 49.0\% |
| 1995 | 6.8\% | 0.2\% | 0.3\% | 4.6\% | 0.1\% | 0.1\% | 1.0\% | 0.9\% | 0.0\% | 0.0\% | 0.2\% | 0.1\% | 0.0\% | 30.5\% | 55.3\% |
| 1996 | 11.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 4.7\% | 0.0\% | 52.6\% | 31.5\% |
| 1997 | 27.7\% | 0.0\% | 1.6\% | 3.3\% | 0.1\% | 0.0\% | 0.4\% | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 1.4\% | 0.0\% | 19.1\% | 46.1\% |
| 1998 | 10.4\% | 0.4\% | 0.4\% | 11.1\% | 0.0\% | 0.0\% | 0.8\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.1\% | 32.4\% | 44.2\% |
| 1999 | 12.3\% | 0.4\% | 0.0\% | 2.7\% | 0.0\% | 0.0\% | 3.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 35.8\% | 45.1\% |
| 2000 | 12.8\% | 0.0\% | 0.5\% | 2.2\% | 0.0\% | 0.0\% | 1.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.3\% | 0.0\% | 20.9\% | 61.7\% |
| 2001 | 12.3\% | 0.0\% | 0.7\% | 2.6\% | 0.0\% | 0.0\% | 2.0\% | 0.3\% | 0.0\% | 0.0\% | 0.1\% | 2.5\% | 0.1\% | 26.8\% | 52.6\% |
| 2002 | 18.3\% | 0.0\% | 0.9\% | 2.9\% | 0.0\% | 0.0\% | 1.6\% | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 1.6\% | 0.0\% | 37.1\% | 37.5\% |
| 2003 | 12.9\% | 0.6\% | 0.6\% | 5.9\% | 0.0\% | 0.0\% | 1.6\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 1.4\% | 0.0\% | 35.3\% | 41.4\% |
| 2004 | 18.3\% | 0.8\% | 0.9\% | 7.3\% | 0.0\% | 0.0\% | 3.5\% | 1.2\% | 0.0\% | 0.0\% | 0.0\% | 0.6\% | 0.0\% | 24.2\% | 43.3\% |
| 2005 | 19.6\% | 0.0\% | 1.2\% | 8.4\% | 0.0\% | 0.0\% | 5.6\% | 2.4\% | 0.0\% | 0.0\% | 0.2\% | 1.3\% | 0.1\% | 31.4\% | 29.7\% |
| (81-84) | 13.9\% | 0.5\% | 0.3\% | 20.3\% | 1.5\% | 0.8\% | 0.0\% | 6.1\% | 0.0\% | 0.2\% | 0.2\% | 1.1\% | 0.1\% | 18.9\% | 36.3\% |
| (85-98) | 11.5\% | 0.6\% | 0.3\% | 10.2\% | 0.6\% | 0.2\% | 0.7\% | 4.7\% | 0.0\% | 0.1\% | 0.0\% | 1.6\% | 0.0\% | 24.5\% | 44.9\% |
| (99-05) | 15.2\% | 0.3\% | 0.7\% | 4.6\% | 0.0\% | 0.0\% | 2.7\% | 0.6\% | 0.0\% | 0.0\% | 0.1\% | 1.2\% | 0.0\% | 30.2\% | 44.5\% |

Appendix E.68. Percent distribution of Salmon River Chinook total fishing mortalities among fisheries and escapement.

|  |  |  |  |  |  |  |  |  |  | Other Fisheries |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch Year | Alaska Troll | Alaska $\qquad$ <br> Net | Alaska Sport | North Troll | Central Troll | $\begin{array}{r} \text { N/CBC } \\ \text { Net } \end{array}$ | $\mathrm{N} / \mathrm{CBC}$ Sport | WCVI <br> Troll | $\begin{gathered} \text { GeoSt } \\ \text { Tr\&Sp } \end{gathered}$ | $\begin{array}{r} \text { Canada } \\ \text { Net } \end{array}$ | Canada Sport | $\begin{gathered} \text { U.S. } \\ \text { Troll } \end{gathered}$ | U.S. <br> Net | $\begin{array}{r} \text { U.S. } \\ \text { Sport } \end{array}$ | Escapement |
| 1981 | 15.8\% | 0.0\% | 0.4\% | 29.9\% | 1.0\% | 1.8\% | 0.0\% | 4.7\% | 0.0\% | 0.0\% | 0.6\% | 1.4\% | 0.0\% | 16.4\% | 27.9\% |
| 1982 | 14.2\% | 1.8\% | 0.9\% | 17.7\% | 1.4\% | 0.6\% | 0.0\% | 7.4\% | 0.0\% | 0.0\% | 0.0\% | 2.3\% | 0.0\% | 20.2\% | 33.4\% |
| 1983 | 26.3\% | 0.7\% | 0.0\% | 22.1\% | 0.7\% | 0.0\% | 0.0\% | 10.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 14.1\% | 26.0\% |
| 1984 | 11.8\% | 0.0\% | 0.0\% | 17.9\% | 3.4\% | 0.4\% | 0.0\% | 3.5\% | 0.0\% | 0.7\% | 0.0\% | 0.2\% | 0.4\% | 22.3\% | 39.4\% |
| 1985 | 14.5\% | 11.8\% | 0.0\% | 17.7\% | 1.1\% | 0.2\% | 0.0\% | 1.6\% | 0.0\% | 0.0\% | 0.0\% | 0.1\% | 0.0\% | 20.3\% | 32.5\% |
| 1986 | 22.0\% | 0.0\% | 0.0\% | 11.1\% | 4.3\% | 0.5\% | 0.0\% | 3.0\% | 0.0\% | 0.0\% | 0.0\% | 0.5\% | 0.0\% | 15.7\% | 42.9\% |
| 1987 | 17.7\% | 0.0\% | 0.0\% | 15.5\% | 0.5\% | 0.0\% | 0.0\% | 2.7\% | 0.0\% | 0.0\% | 0.0\% | 2.5\% | 0.0\% | 22.5\% | 38.6\% |
| 1988 | 15.0\% | 0.0\% | 0.0\% | 8.7\% | 0.9\% | 0.0\% | 0.0\% | 5.3\% | 0.0\% | 0.0\% | 0.0\% | 0.9\% | 0.0\% | 15.5\% | 53.6\% |
| 1989 | 18.9\% | 0.0\% | 0.0\% | 16.0\% | 0.0\% | 0.1\% | 0.0\% | 4.5\% | 0.0\% | 1.0\% | 0.0\% | 3.2\% | 0.0\% | 21.6\% | 34.6\% |
| 1990 | 18.8\% | 2.0\% | 0.0\% | 12.8\% | 0.3\% | 0.6\% | 1.2\% | 7.9\% | 0.0\% | 0.2\% | 0.0\% | 2.9\% | 0.0\% | 23.2\% | 30.2\% |
| 1991 | 24.1\% | 0.0\% | 0.5\% | 16.4\% | 0.1\% | 0.7\% | 0.8\% | 6.1\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.0\% | 23.1\% | 28.0\% |
| 1992 | 5.0\% | 0.8\% | 0.0\% | 8.4\% | 0.9\% | 0.3\% | 2.1\% | 17.7\% | 0.0\% | 0.0\% | 0.0\% | 2.0\% | 0.0\% | 15.9\% | 46.8\% |
| 1993 | 11.2\% | 0.6\% | 0.2\% | 17.2\% | 0.2\% | 0.0\% | 1.0\% | 18.8\% | 0.0\% | 0.4\% | 0.0\% | 3.2\% | 0.0\% | 22.1\% | 25.1\% |
| 1994 | 16.3\% | 0.4\% | 1.0\% | 14.9\% | 0.2\% | 0.1\% | 2.1\% | 4.7\% | 0.0\% | 0.0\% | 0.0\% | 1.3\% | 0.0\% | 16.8\% | 42.2\% |
| 1995 | 10.3\% | 0.3\% | 0.4\% | 6.7\% | 0.2\% | 0.1\% | 1.4\% | 1.2\% | 0.0\% | 0.0\% | 0.2\% | 0.1\% | 0.0\% | 30.8\% | 48.3\% |
| 1996 | 20.5\% | 0.0\% | 0.0\% | 2.7\% | 0.0\% | 0.0\% | 0.0\% | 0.6\% | 0.0\% | 0.0\% | 0.0\% | 3.9\% | 0.0\% | 47.7\% | 24.6\% |
| 1997 | 32.2\% | 0.0\% | 1.7\% | 3.4\% | 0.1\% | 0.0\% | 0.5\% | 0.2\% | 0.0\% | 0.0\% | 0.0\% | 1.5\% | 0.0\% | 18.9\% | 41.5\% |
| 1998 | 11.8\% | 1.2\% | 0.5\% | 11.8\% | 0.0\% | 0.0\% | 1.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 0.1\% | 32.8\% | 40.6\% |
| 1999 | 17.7\% | 0.8\% | 0.0\% | 2.9\% | 0.0\% | 0.0\% | 4.4\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.6\% | 0.0\% | 34.8\% | 38.7\% |
| 2000 | 17.4\% | 0.0\% | 0.7\% | 2.6\% | 0.0\% | 0.0\% | 2.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.4\% | 0.0\% | 21.9\% | 55.1\% |
| 2001 | 17.0\% | 0.0\% | 1.0\% | 3.0\% | 0.0\% | 0.0\% | 2.9\% | 0.2\% | 0.0\% | 0.0\% | 0.1\% | 2.8\% | 0.1\% | 26.6\% | 46.3\% |
| 2002 | 22.6\% | 0.0\% | 1.2\% | 3.2\% | 0.0\% | 0.0\% | 2.1\% | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 1.7\% | 0.0\% | 37.3\% | 31.9\% |
| 2003 | 15.1\% | 2.3\% | 0.7\% | 6.5\% | 0.0\% | 0.0\% | 2.0\% | 0.0\% | 0.0\% | 0.0\% | 0.2\% | 1.5\% | 0.0\% | 35.2\% | 36.5\% |
| 2004 | 21.1\% | 2.6\% | 0.9\% | 7.7\% | 0.0\% | 0.0\% | 4.6\% | 1.1\% | 0.0\% | 0.0\% | 0.0\% | 0.6\% | 0.0\% | 23.5\% | 38.0\% |
| 2005 | 21.0\% | 0.0\% | 1.2\% | 8.6\% | 0.0\% | 0.0\% | 6.6\% | 2.3\% | 0.0\% | 0.0\% | 0.2\% | 1.3\% | 0.1\% | 31.5\% | 27.2\% |
| (81-84) | 17.0\% | 0.6\% | 0.3\% | 21.9\% | 1.6\% | 0.7\% | 0.0\% | 6.4\% | 0.0\% | 0.2\% | 0.2\% | 1.0\% | 0.1\% | 18.3\% | 31.7\% |
| (85-98) | 17.0\% | 1.2\% | 0.3\% | 11.7\% | 0.6\% | 0.2\% | 0.7\% | 5.3\% | 0.0\% | 0.1\% | 0.0\% | 1.6\% | 0.0\% | 23.4\% | 37.8\% |
| (99-05) | 18.8\% | 0.8\% | 0.8\% | 4.9\% | 0.0\% | 0.0\% | 3.5\% | 0.5\% | 0.0\% | 0.0\% | 0.1\% | 1.3\% | 0.0\% | 30.1\% | 39.1\% |

## Appendix F. Total mortality and landed catch exploitation rates ${ }^{1}$ for exploitation rate indicator stocks ${ }^{2}$ for complete broods up to 2001.

## LIST OF FIGURES

Page
Figure F.1. Alaska spring (Alaska South SE) total exploitation rates by brood year. ..... 194
Figure F.2. Kitsumkalum River Summers (North/Central BC) total exploitation rates by brood year ..... 194
Figure F.3. Robertson Creek Falls (West Coast Vancouver Island Hatchery and Natural) ocean exploitation rates by brood year. ..... 195
Figure F.4. Quinsam River Falls (Upper Strait of Georgia) total exploitation rates by brood year. ..... 195
Figure F.5. Puntledge River Summers (Lower Strait of Georgia Hatchery) total exploitation rates by brood year. ..... 196
Figure F.6. Big Qualicum River Falls (Lower Strait of Georgia Hatchery and Natural) total exploitation rates by brood year. ..... 196
Figure F.7. Cowichan River Falls (Lower Strait of Georgia Natural) total exploitation rates by brood year. ..... 197
Figure F.8. Chilliwack River Falls (Fraser Late) total exploitation rates by brood year. ..... 197
Figure F.9. Nooksack Spring Fingerling (Nooksack Spring) ocean exploitation rates by brood year. ..... 198
Figure F.10. Nooksack Spring Yearling (Nooksack Spring) ocean exploitation rates by brood year. ..... 198
Figure F.11. Skagit Spring Fingerling ocean exploitation rates by brood year. ..... 199
Figure F.12. Skagit Spring Yearling ocean exploitation rates by brood year. ..... 199
Figure F.13. Samish Fall Fingerling (Samish Fall) ocean exploitation rates by brood year. ..... 200
Figure F.14. Skagit Summer Fingerling (Skagit Wild) ocean exploitation rates by brood year. ..... 200
Figure F.15. Stillaquamish Fall Fingerling (Stillaguamish Wild) ocean exploitation rates by brood year. ..... 201
Figure F.16. George Adams Fall Fingerling ocean exploitation rates by brood year. ..... 201
Figure F.17. South Puget Sound Fall Fingerling (Puget Sound Hatchery Fingerling) ocean exploitation rates by brood year. ..... 202
Figure F.18. Hoko Fall Fingerling ocean exploitation rates by brood year. ..... 202
Figure F.19. Sooes Fall Fingerling (Washington Coastal Wild) ocean exploitation rates by brood year. ..... 203
Figure F.20. Queets Fall Fingerling (Washington Coastal Wild) total exploitation rates by brood year. ..... 203
Figure F.21. Willamette Spring (Willamette River Hatchery) ocean exploitation rates by brood year. ..... 204
Figure F.22. Columbia Summers (Columbia River Summer) total exploitation rates by brood year. ..... 204
Figure F.23. Cowlitz Tule (Fall Cowlitz Hatchery) ocean exploitation rates by brood year. ..... 205
Figure F.24. Spring Creek Tule (Spring Creek Hatchery) total exploitation rates by brood year.205
Figure F.25. Columbia Lower River Hatchery (Lower Bonneville Hatchery) total exploitation rates by brood year. ..... 206
Figure F.26. Upriver Bright (Columbia River Upriver Brights) total exploitation rates by brood year. ..... 206
Figure F.27. Hanford Wild total exploitation rates by brood year ..... 207
Figure F.28. Lyons Ferry (Lyons Ferry Hatchery) total exploitation rates by brood year. ..... 207
Figure F.29. Lewis River Wild (Lewis River Wild) total exploitation rates by brood year. ..... 208
Figure F.30. Salmon River (Oregon Coast) ocean exploitation rates by brood year. ..... 208

[^6]

Figure F.1. Alaska spring (Alaska South SE) total exploitation rates by brood year.


Figure F.2. Kitsumkalum River Summers (North/Central BC) total exploitation rates by brood year.


Figure F.3. Robertson Creek Falls (West Coast Vancouver Island Hatchery and Natural) ocean exploitation rates by brood year.


Figure F.4. Quinsam River Falls (Upper Strait of Georgia) total exploitation rates by brood year.


Figure F.5. Puntledge River Summers (Lower Strait of Georgia Hatchery) total exploitation rates by brood year.


Figure F.6. Big Qualicum River Falls (Lower Strait of Georgia Hatchery and Natural) total exploitation rates by brood year.


Figure F.7. Cowichan River Falls (Lower Strait of Georgia Natural) total exploitation rates by brood year.

Brood Year Total Exploitation Rate Chilliwack River Falls


Figure F.8. Chilliwack River Falls (Fraser Late) total exploitation rates by brood year.


Figure F.9. Nooksack Spring Fingerling (Nooksack Spring) ocean exploitation rates by brood year.

Brood Year Ocean Exploitation Rate Nooksack Spring Yearling


Figure F.10. Nooksack Spring Yearling (Nooksack Spring) ocean exploitation rates by brood year.


Figure F.11. Skagit Spring Fingerling ocean exploitation rates by brood year.


Figure F.12. Skagit Spring Yearling ocean exploitation rates by brood year.


Figure F.13. Samish Fall Fingerling (Samish Fall) ocean exploitation rates by brood year.

Brood Year Ocean Exploitation Rate
Skagit Summer Fingerling


Figure F.14. Skagit Summer Fingerling (Skagit Wild) ocean exploitation rates by brood year.


Figure F.15. Stillaguamish Fall Fingerling (Stillaguamish Wild) ocean exploitation rates by brood year.

Brood Year Ocean Exploitation Rate George Adams Fall Fingerling


Figure F.16. George Adams Fall Fingerling ocean exploitation rates by brood year.

Brood Year Ocean Exploitation Rate South Puget Sound Fall Fingerling


Figure F.17. South Puget Sound Fall Fingerling (Puget Sound Hatchery Fingerling) ocean exploitation rates by brood year.

Brood Year Ocean Exploitation Rate
Hoko Fall Fingerling


Figure F.18. Hoko Fall Fingerling ocean exploitation rates by brood year.

## Brood Year Ocean Exploitation Rate Sooes Fall Fingerling



Figure F.19. Sooes Fall Fingerling (Washington Coastal Wild) ocean exploitation rates by brood year.


Figure F.20. Queets Fall Fingerling (Washington Coastal Wild) total exploitation rates by brood year.

Brood Year Ocean Exploitation Rate Willamette Spring


Figure F.21. Willamette Spring (Willamette River Hatchery) ocean exploitation rates by brood year.

Brood Year Total Exploitation Rate Columbia Summers


Figure F.22. Columbia Summers (Columbia River Summer) total exploitation rates by brood year.


Figure F.23. Cowlitz Tule (Fall Cowlitz Hatchery) ocean exploitation rates by brood year.


Figure F.24. Spring Creek Tule (Spring Creek Hatchery) total exploitation rates by brood year.


Figure F.25. Columbia Lower River Hatchery (Lower Bonneville Hatchery) total exploitation rates by brood year.


Figure F.26. Upriver Bright (Columbia River Upriver Brights) total exploitation rates by brood year.


Figure F.27. Hanford Wild total exploitation rates by brood year.


Figure F.28. Lyons Ferry (Lyons Ferry Hatchery) total exploitation rates by brood year.

Brood Year Total Exploitation Rate Lewis River Wild


Figure F.29. Lewis River Wild (Lewis River Wild) total exploitation rates by brood year.


Figure F.30. Salmon River (Oregon Coast) ocean exploitation rates by brood year

## Appendix G. Model estimates of the stock composition of the AABM, and other troll and sport fisheries for 2006 and the average from 1985 to 2005.

"Catch as Percent of Fishery" represents the stock composition of a specific fishery; "Catch as Percent of All Fisheries" represents the proportion of the total catch of a stock that is caught in a specific fishery; "Percent of Total Return" represents the proportion of total return (catch + escapement) caught in a specific fishery.

## LIST OF APPENDIX G TABLES

Page
Appendix G.1. Southeast Alaska All Gear. ..... 210
Appendix G.2. North B.C. Troll and Sport ..... 211
Appendix G.3. Central B.C. Troll. ..... 212
Appendix G.4. WCVI Troll and Outside Sport ..... 213
Appendix G.5. Strait of Georgia Sport and Troll. ..... 214
Appendix G.6. Washington/Oregon Troll and Sport ..... 215

Appendix G.1.Southeast Alaska All Gear.

|  |  | Average (1985-2005) |  |  |
| :--- | ---: | ---: | ---: | ---: |
| Model Stock | 2006 Catch <br> as Percent <br> of Fishery | Catch as <br> Percent of <br> Fishery | Catch as <br> Percent of All <br> Fisheries | Catch as <br> Percent of <br> Total Return |
|  |  | $16.47 \%$ | $16.56 \%$ | $48.13 \%$ |
| WCVI Hatchery | $15.73 \%$ | $15.85 \%$ | $35.38 \%$ | $16.20 \%$ |
| Oregon Coastal North Migrating | $16.48 \%$ | $16.07 \%$ | $28.10 \%$ | $15.19 \%$ |
| Columbia Upriver Bright | $11.64 \%$ | $14.89 \%$ | $26.94 \%$ | $13.35 \%$ |
| North/Central BC | $6.87 \%$ | $5.66 \%$ | $27.80 \%$ | $6.29 \%$ |
| Fraser Early | $6.29 \%$ | $5.09 \%$ | $33.16 \%$ | $12.61 \%$ |
| Mid-Columbia Brights | $6.53 \%$ | $4.22 \%$ | $36.31 \%$ | $20.07 \%$ |
| Upper Georgia Strait | $4.59 \%$ | $3.98 \%$ | $96.62 \%$ | $35.25 \%$ |
| Alaska South SE | $1.85 \%$ | $3.64 \%$ | $48.19 \%$ | $16.32 \%$ |
| WCVI Wild | $2.33 \%$ | $3.41 \%$ | $19.69 \%$ | $10.12 \%$ |
| Washington Coastal Wild | $2.08 \%$ | $2.56 \%$ | $16.22 \%$ | $9.46 \%$ |
| WA Coastal Hatchery | $4.53 \%$ | $2.36 \%$ | $35.68 \%$ | $14.15 \%$ |
| Columbia Upriver Summer | $1.67 \%$ | $2.05 \%$ | $13.24 \%$ | $4.62 \%$ |
| Willamette River Hatchery | $0.79 \%$ | $1.23 \%$ | $6.51 \%$ | $2.42 \%$ |
| Fall Cowlitz Hatchery | $0.83 \%$ | $0.88 \%$ | $17.63 \%$ | $7.34 \%$ |
| Lewis River Wild | $0.40 \%$ | $0.43 \%$ | $3.81 \%$ | $1.88 \%$ |
| Lower GS Hatchery | $0.11 \%$ | $0.26 \%$ | $4.35 \%$ | $2.13 \%$ |
| Lower Georgia Strait | $0.11 \%$ | $0.22 \%$ | $0.47 \%$ | $0.16 \%$ |
| Fraser Late | $0.16 \%$ | $0.15 \%$ | $0.48 \%$ | $0.26 \%$ |
| PS Hatchery Fingerling | $0.11 \%$ | $0.10 \%$ | $4.45 \%$ | $1.14 \%$ |
| Skagit Summer/Fall | $0.08 \%$ | $0.08 \%$ | $1.66 \%$ | $0.82 \%$ |
| Spring Cowlitz Hatchery | $0.17 \%$ | $0.08 \%$ | $8.62 \%$ | $5.13 \%$ |
| Snake River Fall | $0.03 \%$ | $0.07 \%$ | $0.50 \%$ | $0.26 \%$ |
| Puget Sound Natural | $0.05 \%$ | $0.06 \%$ | $16.76 \%$ | $5.83 \%$ |
| Stillaguamish Summer/Fall | $0.02 \%$ | $0.04 \%$ | $0.15 \%$ | $0.11 \%$ |
| Nooksack Fall | $0.05 \%$ | $0.04 \%$ | $3.71 \%$ | $0.95 \%$ |
| Snohomish Summer/Fall | $0.02 \%$ | $0.02 \%$ | $0.49 \%$ | $0.33 \%$ |
| PS Yearling | $0.00 \%$ | $0.00 \%$ | $0.00 \%$ | $0.00 \%$ |
| Lower Bonneville Hatchery | $0.00 \%$ | $0.00 \%$ | $0.00 \%$ | $0.00 \%$ |
| Spring Creek Hatchery | $0.00 \%$ | $0.00 \%$ | $0.00 \%$ | $0.00 \%$ |
| Nooksack Spring |  |  |  |  |

Appendix G.2.North B.C. Troll and Sport.

|  |  | Average (1985-2005) |  |  |
| :--- | ---: | ---: | ---: | ---: |
| Model Stock | 2006 Catch <br> as Percent <br> of Fishery | Catch as <br> Percent of <br> Fishery | Catch as <br> Percent of All <br> Fisheries | Catch as <br> Percent of <br> Total Return |
| North/Central BC | $47.77 \%$ | $44.22 \%$ | $62.12 \%$ | $25.97 \%$ |
| Oregon Coastal North Migrating | $11.43 \%$ | $14.33 \%$ | $26.79 \%$ | $12.68 \%$ |
| Columbia Upriver Bright | $6.50 \%$ | $7.42 \%$ | $11.30 \%$ | $5.67 \%$ |
| WCVI Hatchery | $5.49 \%$ | $6.55 \%$ | $14.70 \%$ | $5.57 \%$ |
| Upper Georgia Strait | $8.45 \%$ | $4.35 \%$ | $32.11 \%$ | $18.18 \%$ |
| Fraser Early | $3.70 \%$ | $3.39 \%$ | $14.67 \%$ | $4.28 \%$ |
| Washington Coastal Wild | $1.71 \%$ | $3.15 \%$ | $14.58 \%$ | $8.30 \%$ |
| Willamette River Hatchery | $1.64 \%$ | $3.01 \%$ | $14.85 \%$ | $6.03 \%$ |
| WA Coastal Hatchery | $1.59 \%$ | $2.37 \%$ | $12.77 \%$ | $7.78 \%$ |
| Mid-Columbia Brights | $2.52 \%$ | $2.14 \%$ | $12.95 \%$ | $5.31 \%$ |
| Columbia Upriver Summer | $3.58 \%$ | $1.82 \%$ | $22.98 \%$ | $9.71 \%$ |
| WCVI Wild | $0.62 \%$ | $1.49 \%$ | $14.60 \%$ | $5.57 \%$ |
| Lower GS Hatchery | $1.24 \%$ | $1.11 \%$ | $8.82 \%$ | $4.42 \%$ |
| Fall Cowlitz Hatchery | $0.67 \%$ | $1.02 \%$ | $4.39 \%$ | $1.76 \%$ |
| Fraser Late | $0.53 \%$ | $0.82 \%$ | $1.37 \%$ | $0.50 \%$ |
| Lower Georgia Strait | $0.37 \%$ | $0.57 \%$ | $8.68 \%$ | $4.45 \%$ |
| Skagit Summer/Fall | $0.46 \%$ | $0.37 \%$ | $15.15 \%$ | $3.95 \%$ |
| Nooksack Fall | $0.19 \%$ | $0.37 \%$ | $1.28 \%$ | $0.91 \%$ |
| Lewis River Wild | $0.20 \%$ | $0.36 \%$ | $5.55 \%$ | $2.67 \%$ |
| PS Hatchery Fingerling | $0.36 \%$ | $0.28 \%$ | $0.83 \%$ | $0.44 \%$ |
| Spring Cowlitz Hatchery | $0.21 \%$ | $0.25 \%$ | $4.06 \%$ | $2.20 \%$ |
| Snohomish Summer/Fall | $0.28 \%$ | $0.19 \%$ | $14.67 \%$ | $3.96 \%$ |
| Puget Sound Natural | $0.06 \%$ | $0.11 \%$ | $0.77 \%$ | $0.40 \%$ |
| Alaska South SE | $0.11 \%$ | $0.10 \%$ | $2.32 \%$ | $0.84 \%$ |
| PS Yearling | $0.13 \%$ | $0.09 \%$ | $1.86 \%$ | $1.20 \%$ |
| Snake River Fall | $0.13 \%$ | $0.05 \%$ | $5.98 \%$ | $3.83 \%$ |
| Stillaguamish Summer/Fall | $0.04 \%$ | $0.04 \%$ | $9.12 \%$ | $3.27 \%$ |
| Spring Creek Hatchery | $0.02 \%$ | $0.02 \%$ | $0.06 \%$ | $0.05 \%$ |
| Nooksack Spring | $0.00 \%$ | $0.00 \%$ | $1.58 \%$ | $0.49 \%$ |
| Lower Bonneville Hatchery | $0.00 \%$ | $0.00 \%$ | $0.00 \%$ | $0.00 \%$ |
|  |  |  |  |  |

Appendix G.3.Central B.C. Troll.

|  |  | Average (1985-2005) |  |  |
| :--- | ---: | ---: | ---: | ---: |
| Model Stock | 2006 Catch <br> as Percent <br> of Fishery | Catch as <br> Percent of <br> Fishery | Catch as <br> Percent of All <br> Fisheries | Catch as <br> Percent of <br> Total Return |
| Fraser Late | $25.00 \%$ | $20.69 \%$ | $2.10 \%$ | $1.13 \%$ |
| WCVI Hatchery | $25.00 \%$ | $17.84 \%$ | $3.42 \%$ | $1.35 \%$ |
| Columbia Upriver Bright | $12.50 \%$ | $8.62 \%$ | $0.92 \%$ | $0.51 \%$ |
| North/Central BC | $12.50 \%$ | $6.45 \%$ | $1.11 \%$ | $0.40 \%$ |
| Upper Georgia Strait | $12.50 \%$ | $6.19 \%$ | $3.50 \%$ | $2.17 \%$ |
| WCVI Wild | $0.00 \%$ | $3.67 \%$ | $3.37 \%$ | $1.34 \%$ |
| Columbia Upriver Summer | $12.50 \%$ | $3.92 \%$ | $3.57 \%$ | $1.67 \%$ |
| Fraser Early | $0.00 \%$ | $3.60 \%$ | $1.02 \%$ | $0.34 \%$ |
| Washington Coastal Wild | $0.00 \%$ | $3.48 \%$ | $1.19 \%$ | $0.76 \%$ |
| Lower GS Hatchery | $0.00 \%$ | $3.08 \%$ | $1.49 \%$ | $0.98 \%$ |
| WA Coastal Hatchery | $0.00 \%$ | $2.47 \%$ | $1.11 \%$ | $0.70 \%$ |
| Mid-Columbia Brights | $0.00 \%$ | $2.66 \%$ | $1.08 \%$ | $0.52 \%$ |
| Oregon Coastal North Migrating | $0.00 \%$ | $2.33 \%$ | $0.34 \%$ | $0.17 \%$ |
| Lower Bonneville Hatchery | $0.00 \%$ | $1.94 \%$ | $0.82 \%$ | $0.42 \%$ |
| Nooksack Fall | $0.00 \%$ | $1.56 \%$ | $0.37 \%$ | $0.31 \%$ |
| Lower Georgia Strait | $0.00 \%$ | $1.48 \%$ | $1.42 \%$ | $0.97 \%$ |
| PS Hatchery Fingerling | $0.00 \%$ | $1.27 \%$ | $0.26 \%$ | $0.17 \%$ |
| Skagit Summer/Fall | $0.00 \%$ | $0.90 \%$ | $2.14 \%$ | $0.83 \%$ |
| Lewis River Wild | $0.00 \%$ | $0.62 \%$ | $0.67 \%$ | $0.35 \%$ |
| Puget Sound Natural | $0.00 \%$ | $0.59 \%$ | $0.26 \%$ | $0.18 \%$ |
| Snohomish Summer/Fall | $0.00 \%$ | $0.47 \%$ | $1.68 \%$ | $0.85 \%$ |
| Spring Creek Hatchery | $0.00 \%$ | $0.41 \%$ | $0.10 \%$ | $0.08 \%$ |
| PS Yearling | $0.00 \%$ | $0.28 \%$ | $0.38 \%$ | $0.30 \%$ |
| Willameng River Hatchery | $0.00 \%$ | $0.26 \%$ | $0.09 \%$ | $0.05 \%$ |
| Spring Cowlitz Hatchery | $0.00 \%$ | $0.15 \%$ | $0.19 \%$ | $0.13 \%$ |
| Fall Cowlitz Hatchery | $0.00 \%$ | $0.12 \%$ | $0.04 \%$ | $0.02 \%$ |
| Stillaguamish Summer/Fall | $0.00 \%$ | $0.11 \%$ | $1.77 \%$ | $0.84 \%$ |
| Snake River Fall | $0.00 \%$ | $0.08 \%$ | $0.64 \%$ | $0.47 \%$ |
| Nooksack Spring | $0.00 \%$ | $0.01 \%$ | $0.28 \%$ | $0.15 \%$ |
| Alaska South SE | $0.00 \%$ | $0.00 \%$ | $0.01 \%$ | $0.00 \%$ |
|  |  |  |  |  |

Appendix G.4.WCVI Troll and Outside Sport.

| Model Stock | 2006 Catch as Percent of Fishery | Average (1985-2005) |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Catch as Percent of Fishery | Catch as Percent of All Fisheries | Catch as Percent of Total Return |
| Fraser Late | 26.30\% | 22.97\% | 24.05\% | 10.94\% |
| Columbia Upriver Bright | 5.40\% | 8.47\% | 9.50\% | 5.03\% |
| PS Hatchery Fingerling | 13.25\% | 8.34\% | 15.71\% | 9.54\% |
| Spring Creek Hatchery | 7.70\% | 7.75\% | 15.70\% | 12.21\% |
| Fall Cowlitz Hatchery | 7.92\% | 7.74\% | 25.38\% | 11.69\% |
| Lower Bonneville Hatchery | 1.71\% | 6.35\% | 31.78\% | 14.77\% |
| Oregon Coastal North Migrating | 3.48\% | 5.14\% | 7.51\% | 3.58\% |
| WCVI Hatchery | 0.00\% | 5.07\% | 8.28\% | 3.59\% |
| Nooksack Fall | 2.59\% | 4.85\% | 11.03\% | 8.52\% |
| Puget Sound Natural | 2.35\% | 3.72\% | 15.86\% | 9.60\% |
| Mid-Columbia Brights | 5.58\% | 3.33\% | 13.23\% | 5.77\% |
| Columbia Upriver Summer | 6.64\% | 2.53\% | 23.72\% | 10.62\% |
| Washington Coastal Wild | 2.38\% | 2.25\% | 8.20\% | 4.52\% |
| Willamette River Hatchery | 1.87\% | 1.83\% | 6.26\% | 2.74\% |
| WA Coastal Hatchery | 2.48\% | 1.73\% | 7.29\% | 4.36\% |
| Fraser Early | 2.21\% | 1.41\% | 4.04\% | 1.15\% |
| WCVI Wild | 0.00\% | 1.28\% | 8.26\% | 3.60\% |
| Skagit Summer/Fall | 1.18\% | 0.85\% | 21.10\% | 6.72\% |
| Lewis River Wild | 0.59\% | 0.83\% | 10.61\% | 5.08\% |
| PS Yearling | 1.23\% | 0.75\% | 10.00\% | 7.26\% |
| Spring Cowlitz Hatchery | 1.01\% | 0.64\% | 7.14\% | 4.63\% |
| Lower GS Hatchery | 0.90\% | 0.49\% | 2.51\% | 1.36\% |
| Snohomish Summer/Fall | 0.88\% | 0.43\% | 18.35\% | 6.71\% |
| North/Central BC | 0.52\% | 0.40\% | 0.47\% | 0.18\% |
| Snake River Fall | 1.10\% | 0.35\% | 23.64\% | 15.89\% |
| Lower Georgia Strait | 0.32\% | 0.25\% | 2.49\% | 1.38\% |
| Upper Georgia Strait | 0.22\% | 0.11\% | 0.61\% | 0.36\% |
| Stillaguamish Summer/Fall | 0.15\% | 0.10\% | 15.43\% | 6.42\% |
| Nooksack Spring | 0.04\% | 0.02\% | 10.69\% | 3.62\% |
| Alaska South SE | 0.00\% | 0.00\% | 0.00\% | 0.00\% |

Appendix G.5. Strait of Georgia Sport and Troll.

| Model Stock | 2006 Catch <br> as Percent <br> of Fishery | Catch as <br> Percent of <br> Fishery | Catch as <br> Percent of All <br> Fisheries | Catch as <br> Percent of <br> Total Return |
| :--- | ---: | ---: | ---: | ---: |
| Fraser Late | $40.62 \%$ | $49.23 \%$ | $42.23 \%$ | $20.42 \%$ |
| Lower GS Hatchery | $14.64 \%$ | $10.77 \%$ | $45.49 \%$ | $26.47 \%$ |
| Nooksack Fall | $5.76 \%$ | $9.83 \%$ | $18.99 \%$ | $14.36 \%$ |
| Lower Georgia Strait | $4.61 \%$ | $6.04 \%$ | $46.34 \%$ | $28.04 \%$ |
| PS Hatchery Fingerling | $7.65 \%$ | $4.69 \%$ | $7.56 \%$ | $4.56 \%$ |
| Fraser Early | $6.40 \%$ | $4.02 \%$ | $9.35 \%$ | $2.60 \%$ |
| Upper Georgia Strait | $6.57 \%$ | $2.86 \%$ | $12.11 \%$ | $6.98 \%$ |
| Puget Sound Natural | $1.27 \%$ | $2.00 \%$ | $7.31 \%$ | $4.38 \%$ |
| PS Yearling | $3.14 \%$ | $1.80 \%$ | $19.27 \%$ | $13.93 \%$ |
| Columbia Upriver Bright | $1.04 \%$ | $1.16 \%$ | $1.01 \%$ | $0.52 \%$ |
| Skagit Summer/Fall | $1.39 \%$ | $1.07 \%$ | $22.80 \%$ | $7.20 \%$ |
| Washington Coastal Wild | $0.74 \%$ | $0.92 \%$ | $2.72 \%$ | $1.54 \%$ |
| Spring Creek Hatchery | $0.73 \%$ | $0.90 \%$ | $1.47 \%$ | $1.13 \%$ |
| WCVI Hatchery | $1.25 \%$ | $0.85 \%$ | $1.36 \%$ | $0.45 \%$ |
| Lower Bonneville Hatchery | $0.19 \%$ | $0.79 \%$ | $3.34 \%$ | $1.38 \%$ |
| WA Coastal Hatchery | $0.81 \%$ | $0.72 \%$ | $2.43 \%$ | $1.49 \%$ |
| Snohomish Summer/Fall | $1.10 \%$ | $0.55 \%$ | $20.45 \%$ | $7.11 \%$ |
| North/Central BC | $0.53 \%$ | $0.42 \%$ | $0.47 \%$ | $0.17 \%$ |
| Mid-Columbia Brights | $0.45 \%$ | $0.37 \%$ | $1.26 \%$ | $0.54 \%$ |
| Columbia Upriver Summer | $0.44 \%$ | $0.29 \%$ | $2.64 \%$ | $1.10 \%$ |
| Stillaguamish Summer/Fall | $0.23 \%$ | $0.18 \%$ | $22.73 \%$ | $9.35 \%$ |
| WCVI Wild | $0.12 \%$ | $0.18 \%$ | $1.35 \%$ | $0.44 \%$ |
| Nooksack Spring | $0.20 \%$ | $0.17 \%$ | $65.77 \%$ | $24.45 \%$ |
| Willamette River Hatchery | $0.36 \%$ | $0.15 \%$ |  |  |
| Spring Cowlitz Hatchery | $0.06 \%$ | $0.12 \%$ | $0.36 \%$ | $0.23 \%$ |
| Lewis River Wild | $0.03 \%$ | $0.04 \%$ | $0.39 \%$ | $0.10 \%$ |
| Fall Cowlitz Hatchery | $0.00 \%$ | $0.02 \%$ | $0.19 \%$ | $0.02 \%$ |
| Snake River Fall | $0.00 \%$ | $0.02 \%$ | $0.04 \%$ | $0.05 \%$ |
| Oregon Coastal North Migrating | $0.00 \%$ | $0.00 \%$ | $0.08 \%$ | $0.05 \%$ |
| Alaska South SE | $0.00 \%$ | $0.00 \%$ | $0.00 \%$ | $0.00 \%$ |
|  | $0.00 \%$ | $0.00 \%$ | $0.00 \%$ | $0.00 \%$ |
|  |  |  |  |  |

Appendix G.6. Washington/Oregon Troll and Sport.

|  |  | Average (1985-2005) |  |  |
| :--- | ---: | ---: | ---: | ---: |
| Model Stock |  | 2006 Catch <br> of Fishery |  |  |
|  |  | Catch as <br> Percent of <br> Fishery | Catch as <br> Percent of All <br> Fisheries | Catch as <br> Percent of <br> Total Return |
| Spring Creek Hatchery | $21.89 \%$ | $23.64 \%$ | $31.03 \%$ | $24.29 \%$ |
| Fraser Late | $22.56 \%$ | $19.63 \%$ | $12.46 \%$ | $5.47 \%$ |
| Fall Cowlitz Hatchery | $20.34 \%$ | $19.38 \%$ | $40.09 \%$ | $17.19 \%$ |
| Lower Bonneville Hatchery | $3.03 \%$ | $11.91 \%$ | $38.75 \%$ | $16.19 \%$ |
| Spring Cowlitz Hatchery | $6.23 \%$ | $4.01 \%$ | $31.23 \%$ | $17.60 \%$ |
| Columbia Upriver Bright | $4.70 \%$ | $3.96 \%$ | $2.72 \%$ | $1.37 \%$ |
| PS Hatchery Fingerling | $5.34 \%$ | $3.40 \%$ | $3.79 \%$ | $2.19 \%$ |
| Oregon Coastal North Migrating | $3.27 \%$ | $2.57 \%$ | $2.23 \%$ | $0.98 \%$ |
| Nooksack Fall | $1.04 \%$ | $1.99 \%$ | $2.54 \%$ | $1.91 \%$ |
| Willamette River Hatchery | $1.61 \%$ | $1.82 \%$ | $4.09 \%$ | $1.61 \%$ |
| Puget Sound Natural | $0.95 \%$ | $1.55 \%$ | $3.83 \%$ | $2.16 \%$ |
| Lewis River Wild | $1.05 \%$ | $1.38 \%$ | $11.87 \%$ | $4.96 \%$ |
| Mid-Columbia Brights | $1.97 \%$ | $1.24 \%$ | $3.12 \%$ | $1.29 \%$ |
| Washington Coastal Wild | $1.07 \%$ | $1.12 \%$ | $2.17 \%$ | $1.17 \%$ |
| WA Coastal Hatchery | $1.16 \%$ | $0.89 \%$ | $1.96 \%$ | $1.15 \%$ |
| Columbia Upriver Summer | $1.40 \%$ | $0.56 \%$ | $3.29 \%$ | $1.42 \%$ |
| Snake River Fall | $1.62 \%$ | $0.49 \%$ | $20.78 \%$ | $13.40 \%$ |
| Fraser Early | $0.29 \%$ | $0.17 \%$ | $0.38 \%$ | $0.10 \%$ |
| PS Yearling | $0.22 \%$ | $0.12 \%$ | $0.98 \%$ | $0.67 \%$ |
| Alaska South SE | $0.16 \%$ | $0.07 \%$ | $0.71 \%$ | $0.25 \%$ |
| Lower GS Hatchery | $0.04 \%$ | $0.03 \%$ | $0.13 \%$ | $0.06 \%$ |
| WCVI Hatchery | $0.05 \%$ | $0.02 \%$ | $0.03 \%$ | $0.01 \%$ |
| Lower Georgia Strait | $0.01 \%$ | $0.02 \%$ | $0.14 \%$ | $0.07 \%$ |
| WCVI Wild | $0.01 \%$ | $0.01 \%$ | $0.03 \%$ | $0.01 \%$ |
| Skagit Summer/Fall | $0.00 \%$ | $0.00 \%$ | $0.04 \%$ | $0.01 \%$ |
| Snohomish Summer/Fall | $0.00 \%$ | $0.00 \%$ | $0.04 \%$ | $0.01 \%$ |
| Stillaguamish Summer/Fall | $0.00 \%$ | $0.00 \%$ | $0.00 \%$ | $0.00 \%$ |
| North/Central BC | $0.00 \%$ | $0.00 \%$ | $0.00 \%$ | $0.00 \%$ |
| Upper Georgia Strait | $0.00 \%$ | $0.00 \%$ | $0.00 \%$ | $0.00 \%$ |
| Nooksack Spring | $0.00 \%$ | $0.00 \%$ | $0.00 \%$ | $0.00 \%$ |
|  |  |  |  |  |

## Appendix H. Incidental mortality rates applied in the CTC model. Rates in original model were applied to all years. In the current model, rates in some fisheries vary in accordance to changes in management regulations.

|  |  | Rates in original Model |  |  | Rates applied in Model CLB0705 |  |  |  |
| :--- | :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Fishery |  |  |  |  |  |  |  |  |
| Number | Fishery | Sublegal <br> Rate | Legal <br> Rate | Dropoff | Sublegal <br> Rate | Legal <br> Rate | Dropoff | Applicable <br> Years |
| 1 | Alaska T | 0.3 | 0.3 | 0 | 0.255 | 0.211 | 0.008 | All |
| 2 | North T | 0.3 | 0.3 | 0 | 0.255 | 0.211 | 0.017 | $1979-1995$ |
| 2 | North T |  |  |  | 0.220 | 0.185 | 0.017 | $1996-2006$ |
| 3 | Centr T | 0.3 | 0.3 | 0 | 0.255 | 0.211 | 0.017 | $1979-1995$ |
| 3 | Centr T |  |  |  | 0.220 | 0.185 | 0.017 | $1996-2006$ |
| 4 | WCVI T | 0.3 | 0.3 | 0 | 0.255 | 0.211 | 0.017 | $1979-1997$ |
| 4 | WCVI T |  |  |  | 0.220 | 0.185 | 0.017 | $1998-2006$ |
| 5 | WA/OR T | 0.3 | 0.3 | 0 | 0.255 | 0.211 | 0.017 | $1979-1983$ |
| 5 | WA/OR T |  |  |  | 0.220 | 0.185 | 0.017 | $1984-2006$ |
| 6 | Geo St T | 0.3 | 0.3 | 0 | 0.255 | 0.211 | 0.017 | $1979-1985,1987$ |
| 6 | Geo St T |  |  |  | 0.220 | 0.185 | 0.017 | $1986,1988-2006$ |
| 7 | Alaska N | 0.9 | 0.9 | 0 | 0.9 | 0.9 | 0 | All |
| 8 | North N | 0.9 | 0.9 | 0 | 0.9 | 0.9 | 0 | All |
| 9 | Centr N | 0.9 | 0.9 | 0 | 0.9 | 0.9 | 0 | All |
| 10 | WCVI N | 0.9 | 0.9 | 0 | 0.9 | 0.9 | 0 | All |
| 11 | J De F N | 0.9 | 0.9 | 0 | 0.9 | 0.9 | 0 | All |
| 12 | PgtNth N | 0.9 | 0.9 | 0 | 0.9 | 0.9 | 0 | All |
| 13 | PgtSth N | 0.9 | 0.9 | 0 | 0.9 | 0.9 | 0 | All |
| 14 | WashCst N | 0.9 | 0.9 | 0 | 0.9 | 0.9 | 0 | All |
| 15 | Col R N | 0.9 | 0.9 | 0 | 0.9 | 0.9 | 0 | All |
| 16 | JohnSt N | 0.9 | 0.9 | 0 | 0.9 | 0.9 | 0 | All |
| 17 | Fraser N | 0.9 | 0.9 | 0 | 0.9 | 0.9 | 0 | All |
| 18 | Alaska S | 0.3 | 0.3 | 0 | 0.123 | 0.123 | 0.036 | All |
| 19 | Nor/Cen S | 0.3 | 0.3 | 0 | 0.123 | 0.123 | 0.036 | All |
| 20 | WCVI S | 0.3 | 0.3 | 0 | 0.123 | 0.123 | 0.069 | All |
| 21 | WashOcn S | 0.3 | 0.3 | 0 | 0.123 | 0.123 | 0.069 | All |
| 22 | PgtNth S | 0.3 | 0.3 | 0 | 0.123 | 0.123 | 0.145 | All |
| 23 | PgtSth S | 0.3 | 0.3 | 0 | 0.123 | 0.123 | 0.145 | All |
| 24 | Geo St S | 0.3 | 0.3 | 0 | 0.322 | 0.322 | 0.069 | $1979-1981$ |
| 24 | Geo St S |  |  |  | 0.123 | 0.123 | 0.069 | $1982-2006$ |
| 25 | Col R S | 0.3 | 0.3 | 0 | 0.123 | 0.123 | 0.069 | All |

## Appendix I. Time series of abundance indices from 1979 to 2007 for SEAK, NBC, and WCVI AABM fisheries as estimated by CTC Chinook Model calibration CLB0705.

This time series is NOT the first postseason AI and is for trend analysis only (Figures 3.4 to 3.6). For evaluation of overage and underage (Tables 3.4 and 3.5), use the first postseason AI in Table 3.3 instead.

| Year | SEAK | NBC | WCVI |
| :---: | :---: | :---: | :---: |
| 1979 | 0.97 | 1.04 | 1.10 |
| 1980 | 1.03 | 0.98 | 0.96 |
| 1981 | 0.92 | 0.94 | 0.93 |
| 1982 | 1.09 | 1.05 | 1.01 |
| 1983 | 1.29 | 1.24 | 0.95 |
| 1984 | 1.48 | 1.41 | 1.05 |
| 1985 | 1.35 | 1.32 | 0.99 |
| 1986 | 1.51 | 1.48 | 1.03 |
| 1987 | 1.76 | 1.76 | 1.19 |
| 1988 | 2.17 | 1.88 | 1.13 |
| 1989 | 1.88 | 1.70 | 0.99 |
| 1990 | 1.90 | 1.66 | 0.89 |
| 1991 | 1.81 | 1.53 | 0.75 |
| 1992 | 1.67 | 1.41 | 0.78 |
| 1993 | 1.68 | 1.43 | 0.69 |
| 1994 | 1.58 | 1.26 | 0.52 |
| 1995 | 1.07 | 0.98 | 0.41 |
| 1996 | 0.94 | 0.93 | 0.49 |
| 1997 | 1.24 | 1.12 | 0.58 |
| 1998 | 1.20 | 1.01 | 0.56 |
| 1999 | 1.09 | 0.95 | 0.49 |
| 2000 | 0.97 | 0.93 | 0.49 |
| 2001 | 1.16 | 1.20 | 0.77 |
| 2002 | 1.75 | 1.67 | 1.12 |
| 2003 | 2.17 | 1.85 | 1.18 |
| 2004 | 2.06 | 1.78 | 0.98 |
| 2005 | 1.89 | 1.62 | 0.80 |
| 2006 | 1.73 | 1.50 | 0.68 |
| 2007 | 1.60 | 1.35 | 0.67 |

## Appendix J. Abundance indices in total and by model stock for AABM fisheries, from Calibration \#0705.

## LIST OF APPENDIX J TABLES

Page
Table J.1. Abundance indices (AIs) for the Southeast Alaska troll fishery by model
stock and year, from CLB 0705. ......................................................................... 228
Table J.2. Abundance indices (AIs) for the Northern BC troll fishery by stock and
year, from CLB 0705. ..................................................................................... 230
Table J.3. Abundance indices (AIs) for the WCVI troll fishery by stock and year, from
CLB 07.............................................................................................................. 233

Table J.1. Abundance indices (AIs) for the Southeast Alaska troll fishery by model stock and year (stock groups 1-15), from CLB 0705.
Numbers represent the model stock contribution to the total AI: the summation across all 30 stocks and stock groups equals
the AI total for each calendar year.

| Year | Alaska South SE | North Central | Fraser Early | $\begin{gathered} \text { Fraser } \\ \text { Late } \\ \hline \end{gathered}$ | WCVI <br> Hatchery | $\begin{aligned} & \hline \text { WCVI } \\ & \text { Natural } \\ & \hline \end{aligned}$ | Georg. St. Upper | Georg. St. <br> Lwr. Nat. | Georg. St. Lwr. Hat. | Nooksack Fall | Pug. Snd. Fingerling | Pug. Snd. Nat. F. | Pug. Snd. Yearling | Nooksack Spring | $\begin{aligned} & \hline \text { Skagit } \\ & \text { Wild } \end{aligned}$ | $\begin{array}{r} \mathrm{AI} \\ \text { Total } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1979 | 0.03 | 0.12 | 0.06 | 0.00 | 0.05 | 0.07 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.97 |
| 1980 | 0.03 | 0.13 | 0.05 | 0.00 | 0.10 | 0.15 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.03 |
| 1981 | 0.04 | 0.14 | 0.04 | 0.00 | 0.08 | 0.12 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.92 |
| 1982 | 0.05 | 0.14 | 0.04 | 0.00 | 0.19 | 0.21 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.09 |
| 1983 | 0.06 | 0.16 | 0.04 | 0.00 | 0.30 | 0.14 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.29 |
| 1984 | 0.06 | 0.19 | 0.05 | 0.00 | 0.28 | 0.10 | 0.03 | 0.00 | 0.00 | 0.00 | - 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.48 |
| 1985 | 0.06 | 0.21 | 0.07 | 0.00 | 0.15 | 0.05 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 |
| 1986 | 0.07 | 0.22 | 0.07 | 0.00 | 0.12 | 0.04 | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.51 |
| 1987 | 0.07 | 0.24 | 0.07 | 0.00 | 0.09 | 0.03 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.76 |
| 1988 | 0.06 | 0.25 | 0.07 | 0.00 | 0.22 | 0.06 | 0.06 | 0.00 | 0.00 | 0.00 | - 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.17 |
| 1989 | 0.04 | 0.26 | 0.07 | 0.00 | 0.32 | 0.07 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.88 |
| 1990 | 0.03 | 0.26 | 0.07 | 0.00 | 0.47 | 0.10 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.90 |
| 1991 | 0.03 | 0.27 | 0.06 | 0.00 | 0.59 | 0.13 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.81 |
| 1992 | 0.03 | 0.27 | 0.06 | 0.00 | 0.55 | 0.13 | 0.03 | 0.00 | 0.00 | 0.00 | - 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.67 |
| 1993 | 0.04 | 0.24 | 0.06 | 0.00 | 0.52 | 0.14 | 0.02 | 0.00 | 0.00 | 0.00 | - 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.68 |
| 1994 | 0.03 | 0.22 | 0.07 | 0.00 | 0.42 | 0.11 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.58 |
| 1995 | 0.03 | 0.23 | 0.07 | 0.00 | 0.15 | 0.04 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.07 |
| 1996 | 0.03 | 0.23 | 0.08 | 0.00 | 0.05 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.94 |
| 1997 | 0.03 | 0.24 | 0.10 | 0.00 | 0.18 | 0.05 | 0.02 | 0.00 | 0.00 | 0.00 | - 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.24 |
| 1998 | 0.04 | 0.23 | 0.08 | 0.00 | 0.28 | 0.07 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.20 |
| 1999 | 0.04 | 0.24 | 0.07 | 0.00 | 0.14 | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.09 |
| 2000 | 0.05 | 0.26 | 0.07 | 0.00 | 0.05 | 0.01 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.97 |
| 2001 | 0.05 | 0.25 | 0.08 | 0.00 | 0.07 | 0.01 | 0.05 | 0.00 | 0.01 | 0.00 | - 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.16 |
| 2002 | 0.05 | 0.25 | 0.10 | 0.00 | 0.24 | 0.03 | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.75 |
| 2003 | 0.04 | 0.24 | 0.10 | 0.00 | 0.37 | 0.04 | 0.06 | 0.00 | 0.00 | 0.00 | - 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.17 |
| 2004 | 0.05 | 0.24 | 0.09 | 0.00 | 0.39 | 0.03 | 0.07 | 0.00 | 0.00 | 0.00 | - 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.06 |
| 2005 | 0.06 | 0.23 | 0.09 | 0.00 | 0.33 | 0.03 | 0.07 | 0.00 | 0.00 | 0.00 | - 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.89 |
| 2006 | 0.07 | 0.23 | 0.10 | 0.00 | 0.29 | 0.03 | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.73 |
| 2007 | 0.08 | 0.23 | 0.12 | 0.00 | 0.29 | 0.03 | 0.10 | 0.00 | 0.00 | 0.00 | - 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.60 |
| Average | 0.05 | 0.22 | 0.07 | 0.00 | 0.25 | 0.07 | 0.04 | 0.00 | 0.00 | 0.00 | - 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.48 |

Table J.1. Page 2 of 2 (stock groups 16-30).

| Year | Stillaguamish Wild | ohomish Wild | NA Co. Hat. | Upriver Brights | Spring <br> Ck. Hat. | L. Bonn. Hatchery | Fall Cow. Hatchery | Lewis R. Wild | Willamette R. Hat | Spr. Cow. Hatchery | Col. R. Summer | Oregon Coast | WA Co. Wild | Lyons <br> Ferry | Mid. Col. <br> R. Brights | $\begin{array}{r} \mathrm{AI} \\ \text { Total } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1979 | 0.00 | 0.00 | 0.03 | 0.18 | 0.00 | 0.00 | 0.03 | 0.02 | 2.02 | 0.00 | 0.04 | 0.23 | 0.03 | 0.00 | 0.00 | 0.97 |
| 1980 | 0.00 | 0.00 | 0.03 | 0.14 | 0.00 | 0.00 | 0.03 | 0.02 | - 0.03 | 0.00 | 0.04 | 0.17 | 0.04 | 0.00 | 0.00 | 1.03 |
| 1981 | 0.00 | 0.00 | 0.02 | 0.10 | 0.00 | 0.00 | 0.03 | 0.02 | - 0.03 | 0.01 | 0.03 | 0.16 | 0.04 | 0.00 | 0.01 | 0.92 |
| 1982 | 0.00 | 0.00 | 0.02 | 0.06 | 0.00 | 0.00 | 0.03 | 0.01 | 0.03 | 0.00 | 0.02 | 0.17 | 0.04 | 0.00 | 0.01 | 1.09 |
| 1983 | 0.00 | 0.00 | 0.02 | 0.09 | 0.00 | 0.00 | 0.03 | 0.01 | 0.04 | 0.00 | 0.03 | 0.25 | 0.03 | 0.00 | 0.02 | 1.29 |
| 1984 | 0.00 | 0.00 | 0.02 | 0.21 | 0.00 | 0.00 | 0.03 | 0.01 | 0.04 | 0.00 | 0.03 | 0.36 | 0.04 | 0.00 | 0.02 | 1.48 |
| 1985 | 0.00 | 0.00 | 0.02 | 0.24 | 0.00 | 0.00 | 0.03 | 0.01 | 0.03 | 0.00 | 0.03 | 0.34 | 0.04 | 0.00 | 0.01 | 1.35 |
| 1986 | 0.00 | 0.00 | 0.03 | 0.35 | 0.00 | 0.00 | 0.03 | 0.01 | 0.04 | 0.00 | 0.03 | 0.35 | 0.05 | 0.00 | 0.02 | 1.51 |
| 1987 | 0.00 | 0.00 | 0.04 | 0.49 | 0.00 | 0.00 | 0.03 | 0.02 | 0.05 | 0.01 | 0.03 | 0.40 | 0.06 | 0.00 | 0.07 | 1.76 |
| 1988 | 0.00 | 0.00 | 0.05 | 0.53 | 0.00 | 0.00 | 0.14 | 0.04 | 40.06 | 0.00 | 0.03 | 0.38 | 0.07 | 0.00 | 0.14 | 2.17 |
| 1989 | 0.00 | 0.00 | 0.06 | 0.33 | 0.00 | 0.00 | 0.05 | 0.04 | 40.05 | 0.00 | 0.03 | 0.30 | 0.08 | 0.00 | 0.12 | 1.88 |
| 1990 | 0.00 | 0.00 | 0.06 | 0.25 | 0.00 | 0.00 | 0.02 | 0.02 | - 0.07 | 0.00 | 0.03 | 0.32 | 0.08 | 0.00 | 0.08 | 1.90 |
| 1991 | 0.00 | 0.00 | 0.05 | 0.13 | 0.00 | 0.00 | 0.01 | 0.01 | 0.05 | 0.00 | 0.02 | 0.29 | 0.06 | 0.00 | 0.05 | 1.81 |
| 1992 | 0.00 | 0.00 | 0.05 | 0.10 | 0.00 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.02 | 0.26 | 0.05 | 0.00 | 0.04 | 1.67 |
| 1993 | 0.00 | 0.00 | 0.05 | 0.18 | 0.00 | 0.00 | 0.01 | 0.01 | 0.03 | 0.00 | 0.02 | 0.24 | 0.05 | 0.00 | 0.05 | 1.68 |
| 1994 | 0.00 | 0.00 | 0.05 | 0.21 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.02 | 0.29 | 0.05 | 0.00 | 0.05 | 1.58 |
| 1995 | 0.00 | 0.00 | 0.04 | 0.12 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.02 | 0.21 | 0.05 | 0.00 | 0.04 | 1.07 |
| 1996 | 0.00 | 0.00 | 0.04 | 0.13 | 0.00 | 0.00 | 0.02 | 0.01 | 0.01 | 0.00 | 0.02 | 0.17 | 0.05 | 0.00 | 0.05 | 0.94 |
| 1997 | 0.00 | 0.00 | 0.03 | 0.18 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.02 | 0.20 | 0.05 | 0.00 | 0.09 | 1.24 |
| 1998 | 0.00 | 0.00 | 0.02 | 0.12 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.00 | 0.02 | 0.16 | 0.04 | 0.00 | 0.06 | 1.20 |
| 1999 | 0.00 | 0.00 | 0.02 | 0.21 | 0.00 | 0.00 | 0.01 | 0.00 | 0.02 | 0.00 | 0.02 | 0.16 | 0.03 | 0.00 | 0.06 | 1.09 |
| 2000 | 0.00 | 0.00 | 0.02 | 0.17 | 0.00 | 0.00 | 0.01 | 0.01 | 0.03 | 0.00 | 0.04 | 0.13 | 0.03 | 0.00 | 0.05 | 0.97 |
| 2001 | 0.00 | 0.00 | 0.02 | 0.20 | 0.00 | 0.00 | 0.01 | 0.01 | 0.03 | 0.00 | 0.07 | 0.19 | 0.03 | 0.00 | 0.07 | 1.16 |
| 2002 | 0.00 | 0.00 | 0.02 | 0.31 | 0.00 | 0.00 | 0.02 | 0.02 | - 0.07 | 0.00 | 0.10 | 0.27 | 0.03 | 0.00 | 0.16 | 1.75 |
| 2003 | 0.00 | 0.00 | 0.03 | 0.46 | 0.00 | 0.00 | 0.05 | 0.02 | 20.04 | 0.00 | 0.10 | 0.34 | 0.04 | 0.00 | 0.23 | 2.17 |
| 2004 | 0.00 | 0.00 | 0.03 | 0.40 | 0.00 | 0.00 | 0.03 | 0.02 | 0.05 | 0.00 | 0.09 | 0.35 | 0.04 | 0.00 | 0.16 | 2.06 |
| 2005 | 0.00 | 0.00 | 0.03 | 0.39 | 0.00 | 0.00 | 0.03 | 0.01 | 0.02 | 0.00 | 0.09 | 0.32 | 0.04 | 0.00 | 0.13 | 1.89 |
| 2006 | 0.00 | 0.00 | 0.03 | 0.29 | 0.00 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.08 | 0.29 | 0.04 | 0.00 | 0.11 | 1.73 |
| 2007 | 0.00 | 0.00 | 0.03 | 0.21 | 0.00 | 0.00 | 0.02 | 0.01 | 0.01 | 0.00 | 0.07 | 0.25 | 0.03 | 0.00 | 0.10 | 1.60 |
| Average | 0.00 | 0.00 | 0.03 | 0.23 | 0.00 | 0.00 | 0.03 | 0.01 | 0.04 | 0.00 | 0.04 | 0.26 | 0.04 | 0.00 | 0.07 | 1.48 |

Table J.2. Abundance indices (AIs) for the Northern BC troll fishery by stock and year (stock groups 1-15), from CLB 0705. Numbers represent the model stock contribution to the total AI: the summation across all 30 stocks and stock groups equals the AI total for each calendar year.

| Year | Alaska South SE | North Central | Fraser Early | Fraser Late | WCVI | WCVI Natural | Georg. St. Upper | Georg. St Lwr. Nat. | Georg. St. Lwr. Hat. | $\begin{gathered} \hline \text { Nooksack } \\ \text { Fall } \\ \hline \end{gathered}$ | Pug. Snd. Fingerling | Pug. Snd. Nat. F. | Pug. Snd. Yearling | Nooksack Spring | Skagit Wild | $\begin{array}{r} \mathrm{AI} \\ \text { Total } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1979 | 0.00 | 0.08 | 0.07 | 0.02 | 0.04 | 0.05 | 0.06 | 0.02 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 0.01 | 1.04 |
| 1980 | 0.00 | 0.09 | 0.06 | 0.01 | 0.05 | 0.08 | - 0.05 | 0.02 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.98 |
| 1981 | 0.00 | 0.09 | 0.05 | 0.02 | 0.06 | 0.08 | - 0.06 | 0.01 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.94 |
| 1982 | 0.00 | 0.10 | 0.05 | 0.02 | 0.12 | 0.10 | 0.05 | 0.01 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 1.05 |
| 1983 | 0.00 | 0.11 | 0.05 | 0.02 | 0.16 | 0.08 | 0.04 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 1.24 |
| 1984 | 0.00 | 0.12 | 0.06 | 0.02 | 0.14 | 0.05 | 0.05 | 0.01 | 0.03 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 1.41 |
| 1985 | 0.00 | 0.13 | 0.08 | 0.02 | 0.09 | 0.03 | 0.06 | 0.01 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 1.32 |
| 1986 | 0.00 | 0.15 | 0.09 | 0.01 | 0.06 | 0.02 | - 0.06 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 1.48 |
| 1987 | 0.00 | 0.15 | 0.09 | 0.01 | 0.07 | 0.02 | - 0.07 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.76 |
| 1988 | 0.00 | 0.16 | 0.08 | 0.01 | 0.13 | 0.03 | 0.06 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 1.88 |
| 1989 | 0.00 | 0.17 | 0.08 | 0.01 | 0.20 | 0.04 | 0.07 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.70 |
| 1990 | 0.00 | 0.18 | 0.08 | 0.01 | 0.27 | 0.06 | 0.05 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.66 |
| 1991 | 0.00 | 0.18 | 0.08 | 0.01 | 0.32 | 0.07 | 0.05 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.53 |
| 1992 | 0.00 | 0.17 | 0.07 | 0.01 | 0.31 | 0.08 | 0.03 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.41 |
| 1993 | 0.00 | 0.16 | 0.07 | 0.01 | 0.29 | 0.08 | 0.03 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.43 |
| 1994 | 0.00 | 0.16 | 0.08 | 0.00 | 0.20 | 0.05 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.26 |
| 1995 | 0.00 | 0.15 | 0.08 | 0.00 | 0.07 | 0.02 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.98 |
| 1996 | 0.00 | 0.15 | 0.09 | 0.01 | 0.05 | 0.01 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.93 |
| 1997 | 0.00 | 0.16 | 0.11 | 0.01 | 0.12 | 0.03 | 0.03 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.12 |
| 1998 | 0.00 | 0.16 | 0.10 | 0.01 | 0.13 | 0.03 | 0.04 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.01 |
| 1999 | 0.00 | 0.16 | 0.09 | 0.01 | 0.07 | 0.01 | 0.04 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.95 |
| 2000 | 0.00 | 0.16 | 0.08 | 0.01 | 0.03 | 0.00 | 0.05 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.93 |
| 2001 | 0.00 | 0.17 | 0.09 | 0.01 | 0.06 | 0.01 | 0.06 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.20 |
| 2002 | 0.00 | 0.17 | 0.11 | 0.01 | 0.15 | 0.02 | 0.07 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 1.67 |
| 2003 | 0.00 | 0.16 | 0.12 | 0.01 | 0.19 | 0.02 | 0.08 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 1.85 |
| 2004 | 0.00 | 0.17 | 0.12 | 0.01 | 0.22 | 0.02 | - 0.09 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 1.78 |
| 2005 | 0.00 | 0.17 | 0.11 | 0.01 | 0.17 | 0.01 | 0.09 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 1.62 |
| 2006 | 0.00 | 0.16 | 0.12 | 0.01 | 0.17 | 0.02 | - 0.11 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 1.50 |
| 2007 | 0.00 | 0.16 | 0.14 | 0.01 | 0.13 | 0.02 | 0.12 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 |
| Average | 0.00 | 0.15 | 0.09 | 0.01 | 0.14 | 0.04 | 0.06 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 1.34 |

Table J.2. Page 2 of 2 (stock groups 16-30).

| Year | $\begin{gathered} \hline \text { Stillaguamish } \\ \text { Wild } \\ \hline \end{gathered}$ | nohomish Wild | WA Co. <br> Hatchery | Upriver Brights | $\begin{gathered} \hline \text { Spring } \\ \text { Ck. Hat. } \end{gathered}$ | L. Bonn. Hatchery | Fall Cow. Hatchery | $\begin{gathered} \hline \text { Lewis R. V } \\ \text { Wild } \\ \hline \end{gathered}$ | $\begin{aligned} & \hline \text { Willamette } \\ & \text { R. Hat. } \\ & \hline \end{aligned}$ | Spr. Cow. Hatchery | Col. R. <br> Summer | Oregon Coast | WA Co. Wild | Lyons <br> Ferry | Mid. Col. <br> R. Brights | AI Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1979 | 0.00 | 0.01 | 0.04 | 0.12 | 0.00 | 0.00 | 0.02 | 0.01 | 0.05 | 0.01 | 0.02 | 0.30 | 0.05 | 0.00 | 0.00 | 1.04 |
| 1980 | 0.00 | 0.01 | 0.04 | 0.09 | 0.00 | 0.00 | 0.02 | 0.01 | 0.06 | 0.01 | 0.02 | 0.24 | 0.06 | 0.00 | 0.00 | 0.98 |
| 1981 | 0.00 | 0.00 | 0.04 | 0.07 | 0.00 | 0.00 | 0.02 | 0.01 | 0.07 | 0.01 | 0.02 | 0.23 | 0.06 | 0.00 | 0.01 | 0.94 |
| 1982 | 0.00 | 0.00 | 0.03 | 0.04 | 0.00 | 0.00 | 0.02 | 0.01 | 0.09 | 0.01 | 0.02 | 0.28 | 0.06 | 0.00 | 0.01 | 1.05 |
| 1983 | 0.00 | 0.00 | 0.03 | 0.07 | 0.00 | 0.00 | 0.02 | 0.01 | 0.09 | 0.01 | 0.02 | 0.40 | 0.06 | 0.00 | 0.02 | 1.24 |
| 1984 | 0.00 | 0.00 | 0.03 | 0.14 | 0.00 | 0.00 | 0.02 | 0.01 | 0.09 | 0.01 | 0.02 | 0.51 | 0.06 | 0.00 | 0.01 | 1.41 |
| 1985 | 0.00 | 0.00 | 0.03 | 0.16 | 0.00 | 0.00 | 0.02 | 0.00 | 0.08 | 0.00 | 0.02 | 0.47 | 0.07 | 0.00 | 0.01 | 1.32 |
| 1986 | 0.00 | 0.00 | 0.05 | 0.25 | 0.00 | 0.00 | 0.02 | 0.01 | 0.10 | 0.01 | 0.02 | 0.49 | 0.08 | 0.00 | 0.02 | 1.48 |
| 1987 | 0.00 | 0.00 | 0.07 | 0.34 | 0.00 | 0.00 | 0.03 | 0.02 | 0.13 | 0.01 | 0.02 | 0.53 | 0.10 | 0.00 | 0.06 | 1.76 |
| 1988 | 0.00 | 0.00 | 0.09 | 0.33 | 0.00 | 0.00 | 0.08 | 0.02 | 0.14 | 0.01 | 0.02 | 0.48 | 0.12 | 0.00 | 0.09 | 1.88 |
| 1989 | 0.00 | 0.00 | 0.09 | 0.20 | 0.00 | 0.00 | 0.02 | 0.01 | 0.14 | 0.01 | 0.02 | 0.40 | 0.13 | 0.00 | 0.07 | 1.70 |
| 1990 | 0.00 | 0.00 | 0.09 | 0.15 | 0.00 | 0.00 | 0.01 | 0.01 | 0.14 | 0.00 | 0.01 | 0.40 | 0.12 | 0.00 | 0.05 | 1.66 |
| 1991 | 0.00 | 0.00 | 0.08 | 0.08 | 0.00 | 0.00 | 0.01 | 0.01 | 0.10 | 0.00 | 0.01 | 0.37 | 0.10 | 0.00 | 0.03 | 1.53 |
| 1992 | 0.00 | 0.00 | 0.09 | 0.07 | 0.00 | 0.00 | 0.01 | 0.01 | 0.07 | 0.01 | 0.01 | 0.33 | 0.09 | 0.00 | 0.03 | 1.41 |
| 1993 | 0.00 | 0.00 | 0.08 | 0.12 | 0.00 | 0.00 | 0.01 | 0.00 | 0.06 | 0.00 | 0.01 | 0.37 | 0.08 | 0.00 | 0.03 | 1.43 |
| 1994 | 0.00 | 0.00 | - 0.07 | 0.13 | 0.00 | 0.00 | 0.00 | 0.01 | 0.05 | 0.00 | 0.01 | 0.34 | 0.08 | 0.00 | 0.03 | 1.26 |
| 1995 | 0.00 | 0.00 | 0.07 | 0.08 | 0.00 | 0.00 | 0.01 | 0.01 | 0.04 | 0.00 | 0.01 | 0.29 | 0.07 | 0.00 | 0.03 | 0.98 |
| 1996 | 0.00 | 0.00 | 0.06 | 0.09 | 0.00 | 0.00 | 0.01 | 0.01 | 0.04 | 0.00 | 0.01 | 0.24 | 0.07 | 0.00 | 0.04 | 0.93 |
| 1997 | 0.00 | 0.00 | 0.05 | 0.12 | 0.00 | 0.00 | 0.01 | 0.00 | 0.05 | 0.00 | 0.01 | 0.26 | 0.07 | 0.00 | 0.06 | 1.12 |
| 1998 | 0.00 | 0.00 | 0.03 | 0.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 | 0.02 | 0.22 | 0.06 | 0.00 | 0.04 | 1.01 |
| 1999 | 0.00 | 0.00 | 0.03 | 0.14 | 0.00 | 0.00 | 0.01 | 0.00 | 0.06 | 0.00 | 0.03 | 0.19 | 0.04 | 0.00 | 0.04 | 0.95 |
| 2000 | 0.00 | 0.00 | 0.03 | 0.11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.00 | 0.04 | 0.23 | 0.04 | 0.00 | 0.03 | 0.93 |
| 2001 | 0.00 | 0.00 | 0.03 | 0.15 | 0.00 | 0.00 | 0.01 | 0.01 | 0.11 | 0.00 | 0.05 | 0.30 | 0.04 | 0.00 | 0.05 | 1.20 |
| 2002 | 0.00 | 0.00 | - 0.04 | 0.22 | 0.00 | 0.00 | 0.02 | 0.01 | 0.14 | 0.00 | 0.06 | 0.43 | 0.05 | 0.00 | 0.11 | 1.67 |
| 2003 | 0.00 | 0.00 | 0.04 | 0.30 | 0.00 | 0.00 | 0.03 | 0.01 | 0.10 | 0.01 | 0.06 | 0.47 | 0.06 | 0.00 | 0.14 | 1.85 |
| 2004 | 0.00 | 0.00 | 0.05 | 0.25 | 0.00 | 0.00 | 0.01 | 0.01 | 0.09 | 0.01 | 0.06 | 0.47 | 0.07 | 0.00 | 0.10 | 1.78 |
| 2005 | 0.00 | 0.00 | 0.05 | 0.25 | 0.00 | 0.00 | 0.02 | 0.01 | 0.07 | 0.00 | 0.05 | 0.43 | 0.06 | 0.00 | 0.08 | 1.62 |
| 2006 | 0.00 | 0.00 | 0.05 | 0.18 | 0.00 | 0.00 | 0.01 | 0.00 | 0.06 | 0.00 | 0.05 | 0.38 | 0.06 | 0.00 | 0.07 | 1.50 |
| 2007 | 0.00 | 0.00 | - 0.06 | 0.13 | 0.00 | 0.00 | 0.01 | 0.00 | 0.04 | 0.00 | 0.05 | 0.31 | 0.05 | 0.00 | 0.07 | 1.35 |
| Average | 0.00 | 0.00 | 0.05 | 0.15 | 0.00 | 0.00 | 0.02 | 0.01 | 0.08 | 0.00 | 0.03 | 0.36 | 0.07 | 0.00 | 0.05 | 1.34 |

Table J.3. Abundance indices (AIs) for the WCVI troll fishery by stock and year (stock groups 1-15), from CLB 0705. Numbers represent the portion of the AI total estimated for each model stock; the summation across all 30 stock groups equals the AI total for each.

| Year | Alaska South SE | North Central | Fraser Early | $\begin{aligned} & \text { Fraser } \\ & \text { Late } \\ & \hline \end{aligned}$ | WCVI <br> Hatchery | WCVI <br> Natural | Georg. St. Upper | Georg. St. <br> Lwr. Nat. | Georg. St. <br> Lwr. Hat. | Nooksack Fall | Pug. Snd. Fingerling | Pug. Snd. Nat. F. | Pug. Snd. Year. | Nooksack Spring | Skagit <br> Wild | $\begin{array}{r} \mathrm{AI} \\ \text { Total } \\ \hline \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1979 | 0.00 | 0.00 | 0.01 | 0.28 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 | 0.08 | - 0.04 | 0.03 | 0.02 | 0.00 | 0.02 | 1.10 |
| 1980 | 0.00 | 0.00 | 0.01 | 0.21 | 0.02 | 0.02 | 0.00 | 0.01 | 0.01 | 0.09 | 0.05 | 0.02 | 0.03 | 0.00 | 0.02 | 0.96 |
| 1981 | 0.00 | 0.00 | 0.00 | 0.24 | 0.02 | 0.03 | 0.00 | 0.00 | 0.01 | 0.09 | 0.05 | 0.02 | 0.03 | 0.00 | 0.02 | 0.93 |
| 1982 | 0.00 | 0.00 | 0.00 | 0.26 | 0.04 | 0.03 | 0.00 | 0.00 | 0.01 | 0.09 | 0.05 | 0.02 | 0.02 | 0.00 | 0.01 | 1.01 |
| 1983 | 0.00 | 0.00 | 0.01 | 0.24 | 0.05 | 0.02 | 0.00 | 0.00 | 0.00 | 0.11 | 0.06 | 0.03 | 0.02 | 0.00 | 0.01 | 0.95 |
| 1984 | 0.00 | 0.00 | 0.01 | 0.28 | 0.04 | 0.01 | 0.00 | 0.00 | 0.01 | 0.13 | - 0.06 | 0.03 | 0.02 | 0.00 | 0.02 | 1.05 |
| 1985 | 0.00 | 0.00 | 0.01 | 0.29 | 0.03 | 0.01 | 0.00 | 0.00 | 0.01 | 0.11 | 0.05 | 0.03 | 0.01 | 0.00 | 0.01 | 0.99 |
| 1986 | 0.00 | 0.00 | 0.01 | 0.24 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.09 | 0.06 | 0.03 | 0.01 | 0.00 | 0.01 | 1.03 |
| 1987 | 0.00 | 0.00 | 0.01 | 0.12 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.06 | 0.06 | 0.04 | 0.01 | 0.00 | 0.01 | 1.19 |
| 1988 | 0.00 | 0.00 | 0.01 | 0.08 | 0.04 | 0.01 | 0.00 | 0.00 | 0.00 | 0.06 | - 0.07 | 0.05 | 0.01 | 0.00 | 0.01 | 1.13 |
| 1989 | 0.00 | 0.00 | 0.01 | 0.18 | 0.06 | 0.01 | 0.00 | 0.00 | 0.00 | 0.07 | - 0.08 | 0.05 | 0.01 | 0.00 | 0.01 | 0.99 |
| 1990 | 0.00 | 0.00 | 0.01 | 0.21 | 0.08 | 0.02 | 0.00 | 0.00 | 0.00 | 0.07 | 0.07 | 0.05 | 0.01 | 0.00 | 0.01 | 0.89 |
| 1991 | 0.00 | 0.00 | 0.01 | 0.16 | 0.09 | 0.02 | 0.00 | 0.00 | 0.00 | 0.05 | 0.05 | 0.04 | 0.01 | 0.00 | 0.00 | 0.75 |
| 1992 | 0.00 | 0.00 | 0.01 | 0.21 | 0.09 | 0.02 | 0.00 | 0.00 | 0.00 | 0.03 | 0.04 | 0.03 | 0.00 | 0.00 | 0.00 | 0.78 |
| 1993 | 0.00 | 0.00 | 0.01 | 0.17 | 0.08 | 0.02 | 0.00 | 0.00 | 0.00 | 0.03 | 0.05 | 0.03 | 0.00 | 0.00 | 0.00 | 0.69 |
| 1994 | 0.00 | 0.00 | 0.01 | 0.10 | 0.05 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 0.06 | 0.03 | 0.00 | 0.00 | 0.00 | 0.52 |
| 1995 | 0.00 | 0.00 | 0.01 | 0.05 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.07 | 0.03 | 0.00 | 0.00 | 0.00 | 0.41 |
| 1996 | 0.00 | 0.00 | 0.01 | 0.07 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.06 | 0.03 | 0.00 | 0.00 | 0.00 | 0.49 |
| 1997 | 0.00 | 0.00 | 0.01 | 0.17 | 0.04 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | - 0.06 | 0.02 | 0.00 | 0.00 | 0.01 | 0.58 |
| 1998 | 0.00 | 0.00 | 0.01 | 0.18 | 0.04 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 20.06 | 0.02 | 0.00 | 0.00 | 0.00 | 0.56 |
| 1999 | 0.00 | 0.00 | 0.01 | 0.11 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.07 | 0.02 | 0.00 | 0.00 | 0.01 | 0.49 |
| 2000 | 0.00 | 0.00 | 0.01 | 0.11 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.06 | 0.02 | 0.00 | 0.00 | 0.01 | 0.49 |
| 2001 | 0.00 | 0.00 | 0.01 | 0.11 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | -0.07 | 0.02 | 0.00 | 0.00 | 0.01 | 0.77 |
| 2002 | 0.00 | 0.00 | 0.01 | 0.20 | 0.05 | 0.01 | 0.00 | 0.00 | 0.00 | 0.03 | - 0.07 | 0.02 | 0.01 | 0.00 | 0.01 | 1.12 |
| 2003 | 0.00 | 0.00 | 0.01 | 0.24 | 0.06 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 20.06 | 0.02 | 0.00 | 0.00 | 0.01 | 1.18 |
| 2004 | 0.00 | 0.00 | 0.01 | 0.15 | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.06 | 0.02 | 0.01 | 0.00 | 0.01 | 0.98 |
| 2005 | 0.00 | 0.00 | 0.01 | 0.10 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.07 | 0.01 | 0.01 | 0.00 | 0.01 | 0.80 |
| 2006 | 0.00 | 0.00 | 0.01 | 0.11 | 0.05 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 20.09 | 0.02 | 0.01 | 0.00 | 0.01 | 0.68 |
| 2007 | 0.00 | 0.00 | 0.02 | 0.13 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 20.10 | 0.02 | 0.01 | 0.00 | 0.01 | 0.67 |
| Average | 0.00 | 0.00 | 0.01 | 0.17 | 0.04 | 0.01 | 0.00 | 0.00 | 0.00 | 0.05 | - 0.06 | 0.03 | 0.01 | 0.00 | 0.01 | 0.83 |

Table J.3. Page 2 of 2 (stock groups 16-30).

| Year | Stillaguamish Wild | nohomish Wild | WA Co. <br> Hatchery | Upriver Brights | Spring <br> Ck. Hat. | L. Bonn. Hatchery | Fall Cow. Hatchery | Lewis R. Wild | Willamette R. Hat. | Spr. Cow. Hatchery | Col. R. Summer | Oregon <br> Coastal | WA Co. Wild | Lyons <br> Ferry | Mid. Col. <br> R. Brights | $\begin{array}{r} \mathrm{AI} \\ \mathrm{Total} \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1979 | 0.00 | 0.01 | 0.01 | 0.05 | 0.16 | 0.13 | 0.08 | 0.01 | 0.01 | 0.01 | 0.02 | 0.04 | 0.01 | 0.00 | 0.00 | 1.10 |
| 1980 | 0.00 | 0.01 | 0.01 | 0.04 | 0.13 | 0.10 | 0.08 | 0.01 | 0.01 | 0.01 | 0.02 | 0.03 | 0.01 | 0.00 | 0.00 | 0.96 |
| 1981 | 0.00 | 0.01 | 0.01 | 0.03 | 0.12 | 0.09 | 0.07 | 0.01 | 0.01 | 0.01 | 0.02 | 0.03 | 0.01 | 0.00 | 0.00 | 0.93 |
| 1982 | 0.00 | 0.01 | 0.01 | 0.03 | 0.13 | 0.10 | 0.09 | 0.01 | 0.02 | 0.01 | 0.01 | 0.04 | 0.01 | 0.00 | 0.01 | 1.01 |
| 1983 | 0.00 | 0.01 | 0.01 | 0.05 | 0.04 | 0.08 | 0.08 | 0.01 | 0.02 | 0.01 | 0.02 | 0.06 | 0.01 | 0.00 | 0.01 | 0.95 |
| 1984 | 0.00 | 0.01 | 0.01 | 0.08 | 0.05 | 0.08 | 0.07 | 0.01 | 0.02 | 0.01 | 0.02 | 0.07 | 0.01 | 0.00 | 0.00 | 1.05 |
| 1985 | 0.00 | 0.01 | 0.01 | 0.10 | 0.03 | 0.07 | 0.08 | 0.01 | 0.02 | 0.01 | 0.01 | 0.07 | 0.01 | 0.00 | 0.00 | 0.99 |
| 1986 | 0.00 | 0.00 | 0.01 | 0.15 | 0.01 | 0.11 | 0.09 | 0.01 | 0.02 | 0.01 | 0.02 | 0.07 | 0.02 | 0.00 | 0.01 | 1.03 |
| 1987 | 0.00 | 0.00 | 0.02 | 0.18 | 0.01 | 0.24 | 0.18 | 0.02 | 0.03 | 0.01 | 0.02 | 0.07 | 0.02 | 0.00 | 0.04 | 1.19 |
| 1988 | 0.00 | 0.00 | 0.02 | 0.14 | 0.03 | 0.12 | 0.27 | 0.02 | 0.03 | 0.01 | 0.02 | 0.07 | 0.03 | 0.00 | 0.04 | 1.13 |
| 1989 | 0.00 | 0.00 | 0.02 | 0.09 | 0.04 | 0.05 | 0.13 | 0.01 | 0.03 | 0.01 | 0.01 | 0.06 | 0.03 | 0.00 | 0.03 | 0.99 |
| 1990 | 0.00 | 0.00 | 0.02 | 0.06 | 0.04 | 0.03 | 0.06 | 0.01 | 0.03 | 0.01 | 0.01 | 0.05 | 0.02 | 0.00 | 0.02 | 0.89 |
| 1991 | 0.00 | 0.00 | 0.02 | 0.04 | 0.05 | 0.04 | 0.04 | 0.01 | 0.02 | 0.01 | 0.01 | 0.05 | 0.02 | 0.00 | 0.01 | 0.75 |
| 1992 | 0.00 | 0.00 | 0.02 | 0.05 | 0.04 | 0.05 | 0.05 | 0.01 | 0.01 | 0.01 | 0.01 | 0.05 | 0.02 | 0.00 | 0.01 | 0.78 |
| 1993 | 0.00 | 0.00 | 0.02 | 0.06 | 0.02 | 0.03 | 0.04 | 0.00 | 0.01 | 0.00 | 0.01 | 0.05 | 0.02 | 0.00 | 0.02 | 0.69 |
| 1994 | 0.00 | 0.00 | 0.01 | 0.05 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.00 | 0.01 | 0.05 | 0.02 | 0.00 | 0.01 | 0.52 |
| 1995 | 0.00 | 0.00 | 0.01 | 0.04 | 0.02 | 0.02 | 0.03 | 0.00 | 0.01 | 0.00 | 0.01 | 0.04 | 0.01 | 0.00 | 0.01 | 0.41 |
| 1996 | 0.00 | 0.00 | 0.01 | 0.06 | 0.03 | 0.02 | 0.04 | 0.00 | 0.01 | 0.00 | 0.01 | 0.04 | 0.01 | 0.00 | 0.02 | 0.49 |
| 1997 | 0.00 | 0.00 | 0.01 | 0.05 | 0.02 | 0.02 | 0.03 | 0.00 | 0.01 | 0.00 | 0.01 | 0.03 | 0.01 | 0.00 | 0.02 | 0.58 |
| 1998 | 0.00 | 0.00 | 0.01 | 0.05 | 0.02 | 0.01 | 0.02 | 0.00 | 0.01 | 0.00 | 0.01 | 0.03 | 0.01 | 0.00 | 0.02 | 0.56 |
| 1999 | 0.00 | 0.00 | 0.01 | 0.07 | 0.03 | 0.01 | 0.02 | 0.00 | 0.01 | 0.00 | 0.02 | 0.03 | 0.01 | 0.00 | 0.02 | 0.49 |
| 2000 | 0.00 | 0.00 | 0.01 | 0.06 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.00 | 0.03 | 0.03 | 0.01 | 0.00 | 0.02 | 0.49 |
| 2001 | 0.00 | 0.00 | 0.01 | 0.09 | 0.10 | 0.06 | 0.04 | 0.01 | 0.03 | 0.00 | 0.04 | 0.05 | 0.01 | 0.01 | 0.04 | 0.77 |
| 2002 | 0.00 | 0.00 | 0.01 | 0.13 | 0.18 | 0.07 | 0.07 | 0.01 | 0.03 | 0.01 | 0.06 | 0.06 | 0.01 | 0.01 | 0.06 | 1.12 |
| 2003 | 0.00 | 0.00 | 0.01 | 0.14 | 0.18 | 0.06 | 0.10 | 0.01 | 0.02 | 0.01 | 0.05 | 0.07 | 0.01 | 0.01 | 0.06 | 1.18 |
| 2004 | 0.00 | 0.00 | 0.01 | 0.13 | 0.17 | 0.04 | 0.08 | 0.01 | 0.02 | 0.01 | 0.05 | 0.06 | 0.01 | 0.01 | 0.04 | 0.98 |
| 2005 | 0.00 | 0.00 | 0.01 | 0.12 | 0.10 | 0.01 | 0.07 | 0.01 | 0.01 | 0.01 | 0.05 | 0.06 | 0.01 | 0.01 | 0.04 | 0.80 |
| 2006 | 0.00 | 0.01 | 0.01 | 0.08 | 0.04 | 0.01 | 0.05 | 0.00 | 0.01 | 0.01 | 0.04 | 0.05 | 0.01 | 0.01 | 0.03 | 0.68 |
| 2007 | 0.00 | 0.01 | 0.01 | 0.06 | 0.02 | 0.01 | 0.05 | 0.00 | 0.01 | 0.01 | 0.04 | 0.04 | 0.01 | 0.01 | 0.03 | 0.67 |
| Average | 0.00 | 0.00 | 0.01 | 0.08 | 0.06 | 0.06 | 0.07 | 0.01 | 0.02 | 0.01 | 0.02 | 0.05 | 0.01 | 0.00 | 0.02 | 0.83 |

## Appendix K. Fishery exploitation rate indices by stock, age and fishery, based on CWT data, 1975-2005.

## LIST OF APPENDIX K TABLES

PAGE
Table K.1. Alaska troll Stratified Proportion Fishery Index (SPFI) values as landed catch. . 226
Table K.2. Alaska troll Stratified Proportion Fishery Index (SPFI) values as total mortality... 227
Table K.3. Landed catch exploitation rates and exploitation rate indices by stock and age in the NBC troll fishery. Base period is 1979-1982228
Table K.4. Total mortality exploitation rates and exploitation rate indices by stock and age in the NBC troll fishery. Base period is 1979-1982.229

Table K.5. Landed catch exploitation rates and exploitation rate indices by stock and age in
the WCVI troll fishery. Base period is 1979-1982 ..... 230
Table K.6. Total mortality exploitation rates and exploitation rate indices by stock and age in the WCVI troll fishery. Base period is 1979-1982.231

Table K.1. Alaska troll Stratified Proportion Fishery Index (SPFI) values as landed catch, based on CWT data.

| YEAR | SPFI | WIN/SPR | JUNE IN | JUNE OUT | JULY IN | JULY OUT | FALL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1979 | 0.90 | 1.15 | 0.64 | 1.12 | 0.52 | 0.85 | 0.85 |
| 1980 | 1.13 | 0.64 | 1.18 | 0.87 | 0.99 | 1.33 | 1.33 |
| 1981 | 1.11 | 1.25 | 0.65 | 1.08 | 1.26 | 1.18 | 1.18 |
| 1982 | 0.86 | 0.95 | 1.53 | 0.92 | 1.23 | 0.64 | 0.64 |
| 1983 | 0.95 | 0.96 | 0.95 | 0.68 | 1.09 | 1.24 | 1.24 |
| 1984 | 0.68 | 0.36 | 1.74 | 1.03 | 0.40 | 0.50 | 0.50 |
| 1985 | 0.72 | 0.44 | 1.29 | 0.64 | 0.96 | 0.77 | 0.77 |
| 1986 | 0.50 | 0.41 | 0.62 | 0.18 | 0.73 | 1.21 | 1.21 |
| 1987 | 0.53 | 0.57 | 0.86 | 0.19 | 1.77 | 0.65 | 0.65 |
| 1988 | 0.45 | 1.35 | 0.21 | 0.00 | 1.58 | 0.66 | 0.66 |
| 1989 | 0.52 | 0.82 | 0.69 | 0.13 | 0.70 | 0.57 | 0.57 |
| 1990 | 0.78 | 0.64 | 1.35 | 0.12 | 1.54 | 1.15 | 1.15 |
| 1991 | 0.64 | 1.44 | 1.39 | 0.23 | 0.66 | 0.75 | 0.75 |
| 1992 | 0.44 | 1.01 | 0.83 | 0.08 | 0.31 | 0.39 | 0.39 |
| 1993 | 0.47 | 0.72 | 0.45 | 0.02 | 0.34 | 0.88 | 0.88 |
| 1994 | 0.45 | 0.66 | 0.18 | 0.04 | 0.22 | 0.67 | 0.67 |
| 1995 | 0.55 | 0.48 | 0.52 | 0.05 | 1.31 | 0.81 | 0.81 |
| 1996 | 0.48 | 0.56 | 1.06 | 0.10 | 0.68 | 0.56 | 0.56 |
| 1997 | 0.67 | 0.63 | 0.94 | 0.16 | 0.11 | 1.50 | 1.50 |
| 1998 | 0.44 | 0.80 | 0.24 | 0.06 | 0.52 | 0.96 | 0.96 |
| 1999 | 0.68 | 0.81 | 0.43 | 0.13 | 0.16 | 1.02 | 1.02 |
| 2000 | 0.46 | 0.91 | 0.14 | 0.08 | 0.08 | 1.42 | 1.42 |
| 2001 | 0.38 | 0.56 | 0.18 | 0.07 | 0.17 | 0.62 | 0.62 |
| 2002 | 0.53 | 0.40 | 0.16 | 0.06 | 0.20 | 1.14 | 1.14 |
| 2003 | 0.51 | 0.67 | 0.18 | 0.07 | 0.41 | 0.87 | 0.87 |
| 2004 | 0.43 | 0.78 | 0.26 | 0.07 | 0.35 | 0.88 | 0.88 |
| 2005 | 0.43 | 0.81 | 0.26 | 0.11 | 0.44 | 1.06 | 1.06 |

ER Stock Identifiers:

| Alaska Southeast | Age 4 | Age 5 | Age 6 |
| :--- | :--- | :--- | :--- |
| Quinsam | Age 4 | Age 5 |  |
| Robertson Creek | Age 3 | Age 4 | Age 5 |
| Salmon River Hatchery | Age 4 | Age 5 |  |
| Columbia Upriver Brights | Age 4 | Age 5 |  |

Table K.2. Alaska troll Stratified Proportion Fishery Index (SPFI) values as total mortality, based on CWT data.

| YEAR | SPFI | WIN/SPR | JUNE IN | JUNE OUT | JULY IN | JULY OUT | FALL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1979 | 0.88 | 1.12 | 0.63 | 1.12 | 0.50 | 0.83 | 0.83 |
| 1980 | 1.04 | 0.62 | 1.09 | 0.82 | 0.82 | 1.20 | 1.20 |
| 1981 | 1.12 | 1.26 | 0.69 | 1.12 | 1.12 | 1.20 | 1.20 |
| 1982 | 0.97 | 1.01 | 1.59 | 0.94 | 1.56 | 0.78 | 0.78 |
| 1983 | 1.08 | 0.93 | 1.04 | 0.69 | 0.96 | 1.66 | 1.66 |
| 1984 | 0.68 | 0.37 | 1.74 | 1.03 | 0.40 | 0.49 | 0.49 |
| 1985 | 0.85 | 0.46 | 1.25 | 0.62 | 0.90 | 1.06 | 1.06 |
| 1986 | 0.59 | 0.45 | 0.64 | 0.18 | 0.82 | 1.51 | 1.51 |
| 1987 | 0.62 | 0.59 | 0.80 | 0.18 | 2.68 | 0.78 | 0.78 |
| 1988 | 0.47 | 1.28 | 0.23 | 0.01 | 1.84 | 0.67 | 0.67 |
| 1989 | 0.58 | 0.79 | 0.67 | 0.12 | 1.02 | 0.62 | 0.62 |
| 1990 | 1.04 | 0.80 | 1.46 | 0.14 | 1.48 | 1.63 | 1.63 |
| 1991 | 0.69 | 1.36 | 1.30 | 0.22 | 0.97 | 0.81 | 0.81 |
| 1992 | 0.52 | 0.96 | 0.78 | 0.07 | 0.34 | 0.60 | 0.60 |
| 1993 | 0.55 | 0.70 | 0.41 | 0.02 | 0.37 | 1.11 | 1.11 |
| 1994 | 0.57 | 0.64 | 0.23 | 0.04 | 0.34 | 0.92 | 0.92 |
| 1995 | 0.68 | 0.49 | 0.55 | 0.06 | 1.40 | 1.03 | 1.03 |
| 1996 | 0.60 | 0.57 | 1.02 | 0.11 | 0.75 | 0.73 | 0.73 |
| 1997 | 0.67 | 0.62 | 0.87 | 0.16 | 0.14 | 1.49 | 1.49 |
| 1998 | 0.43 | 0.77 | 0.24 | 0.06 | 0.44 | 0.93 | 0.93 |
| 1999 | 0.71 | 0.80 | 0.41 | 0.13 | 0.20 | 1.09 | 1.09 |
| 2000 | 0.49 | 0.91 | 0.15 | 0.09 | 0.11 | 1.49 | 1.49 |
| 2001 | 0.40 | 0.55 | 0.17 | 0.07 | 0.23 | 0.68 | 0.68 |
| 2002 | 0.53 | 0.43 | 0.16 | 0.07 | 0.22 | 1.10 | 1.10 |
| 2003 | 0.49 | 0.69 | 0.18 | 0.07 | 0.35 | 0.83 | 0.83 |
| 2004 | 0.43 | 0.76 | 0.25 | 0.07 | 0.35 | 0.87 | 0.87 |
| 2005 | 0.42 | 0.74 | 0.25 | 0.11 | 0.40 | 1.05 | 1.05 |

ER Stock Identifiers:

| Alaska Southeast | Age 4 | Age 5 | Age 6 |
| :--- | :--- | :--- | :--- |
| Quinsam | Age 4 | Age 5 |  |
| Robertson Creek | Age 3 | Age 4 | Age 5 |
| Salmon River Hatchery | Age 4 | Age 5 |  |
| Columbia Upriver Brights | Age 4 | Age 5 |  |
| Willamette Spring Hatchery | Age 4 | Age 5 |  |

Table K.3. Landed catch exploitation rate indices by stock and age in the NBC troll fishery, based on CWT data. Base period is 19791982.

| LANDED CATCH EXPLOITATION RATE INDEX |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | AKS | QUI | QUI | RBT | RBT | RBT | SRH | SRH | SRH | URB | URB | URB | WSH |  |
| Year | Age 4 | Age 3 | Age 4 | Age 3 | Age 4 | Age 5 | Age 3 | Age 4 | Age 5 | Age 3 | Age 4 | Age 5 | Age 4 | Fishery |
| 1979 | NA | 0.523 | 0.908 | 1.216 | 0.829 | 0.478 | NA | NA | NA | 0.463 | 1.182 | NA | 0.777 | 0.788 |
| 1980 | NA | 0.768 | 1.024 | 1.118 | 0.851 | 0.783 | 0.980 | NA | NA | 1.106 | 0.987 | 1.276 | 1.429 | 0.989 |
| 1981 | NA | 1.858 | 1.515 | 0.753 | 1.045 | 1.740 | 1.587 | 1.113 | NA | NA | 1.133 | 1.308 | 1.388 | 1.331 |
| 1982 | 1.000 | 0.852 | 0.554 | 0.913 | 1.275 | NA | 0.433 | 0.887 | 1.000 | 1.431 | 0.699 | 0.416 | 0.406 | 0.812 |
| 1983 | 1.791 | 1.221 | 1.721 | 1.048 | 0.710 | 0.595 | 0.424 | 0.620 | 1.232 | 1.969 | 1.320 | NA | 0.809 | 0.906 |
| 1984 | 1.226 | 0.244 | 0.535 | 0.406 | 1.364 | 2.028 | NA | 0.605 | 2.523 | 1.039 | 2.005 | NA | 0.303 | 1.237 |
| 1985 | 0.770 | 0.233 | 0.607 | 0.888 | 1.914 | NA | 0.433 | NA | 2.733 | 1.415 | 1.748 | 1.670 | 0.132 | 1.326 |
| 1986 | 0.758 | 0.897 | 0.883 | NA | 1.047 | NA | 0.091 | 0.439 | NA | 1.135 | 1.363 | 1.651 | NA | 0.811 |
| 1987 | 0.634 | 0.335 | 0.651 | 0.487 | NA | NA | 0.162 | 0.372 | 2.280 | 1.222 | 1.954 | 2.878 | 0.340 | 1.021 |
| 1988 | 2.051 | 0.181 | 0.726 | 0.331 | 0.620 | NA | NA | 0.298 | 0.748 | 0.375 | 1.060 | 1.941 | 0.475 | 0.665 |
| 1989 | 1.005 | 0.435 | 0.481 | 0.362 | 0.881 | 1.039 | 0.107 | 0.257 | 2.130 | NA | 1.017 | 4.196 | 0.223 | 0.967 |
| 1990 | 2.062 | 0.345 | 1.003 | 0.313 | 0.712 | 0.558 | 0.139 | 0.232 | 1.974 | NA | 1.221 | 2.374 | 0.184 | 0.790 |
| 1991 | 0.708 | 0.411 | 0.691 | 0.388 | 0.752 | 1.135 | 0.107 | 0.385 | 2.045 | NA | NA | NA | 0.167 | 0.748 |
| 1992 | 0.164 | NA | 1.948 | 0.304 | 0.587 | 0.689 | 0.105 | 0.241 | 0.960 | NA | NA | NA | 0.061 | 0.584 |
| 1993 | 0.299 | NA | NA | 0.177 | 0.616 | 0.831 | 0.105 | 0.567 | 2.353 | 0.000 | 1.127 | NA | 0.124 | 0.776 |
| 1994 | 0.062 | NA | NA | 0.329 | 0.741 | 0.893 | 0.171 | 0.506 | 2.142 | NA | 0.959 | 2.025 | 0.071 | 0.871 |
| 1995 | 0.000 | NA | NA | NA | 0.410 | 0.258 | 0.099 | 0.000 | 0.848 | NA | NA | 0.561 | 0.110 | 0.297 |
| 1996 | 0.000 | NA | NA | 0.000 | NA | NA | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | NA | 0.000 | 0.000 |
| 1997 | 0.000 | 0.375 | 0.410 | 0.218 | 0.411 | NA | 0.117 | 0.111 | 0.446 | NA | 0.653 | NA | 0.163 | 0.298 |
| 1998 | 0.000 | 0.000 | 0.000 | 0.000 | 0.571 | NA | 0.071 | 0.525 | 1.288 | 0.000 | NA | 1.587 | 0.000 | 0.509 |
| 1999 | 0.000 | 0.104 | 0.123 | NA | 0.207 | 0.325 | 0.054 | 0.110 | 0.242 | NA | 0.688 | NA | 0.000 | 0.203 |
| 2000 | 0.000 | 0.000 | 0.043 | NA | NA | NA | 0.031 | 0.201 | 0.279 | NA | 0.000 | 0.000 | 0.005 | 0.107 |
| 2001 | 0.000 | 0.000 | 0.015 | 0.000 | NA | NA | 0.032 | 0.133 | 0.718 | 0.000 | 0.000 | NA | 0.012 | 0.154 |
| 2002 | 0.066 | 0.000 | 0.110 | 0.000 | 0.349 | NA | 0.034 | 0.101 | 0.900 | 0.021 | 0.152 | NA | 0.078 | 0.225 |
| 2003 | 0.000 | 0.000 | 0.000 | 0.045 | 0.047 | 0.000 | 0.041 | 0.285 | 0.521 | 0.000 | 0.710 | 0.805 | 0.032 | 0.218 |
| 2004 | 0.743 | 0.000 | 0.059 | 0.065 | 0.184 | 0.364 | 0.060 | 0.244 | 0.938 | 0.000 | 0.612 | 1.246 | 0.108 | 0.357 |
| 2005 | 0.130 | 0.041 | 0.038 | 0.039 | 0.252 | 0.102 | 0.082 | 0.353 | 0.981 | 0.097 | 1.520 | 0.861 | 0.065 | 0.385 |

Stock Identifiers

| AKS = ALASKA SPRING | QUI = QUINSAM |
| :--- | :--- |
| RBT = ROBERTSON CREEK | SRH = SALMON RIVER HATCHERY |
| URB = COLUMBIA UPRIVER BRIGHT | WSH = WILLAMETTE SPRING |

Table K.4. Total mortality exploitation rate indices by stock and age in the NBC troll fishery, based on CWT data. Base period is 19791982.

| TOTAL MORTALITY EXPLOITATION RATE INDEX |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | AKS | QUI | QUI | RBT | RBT | RBT | SRH | SRH | SRH | URB | URB | URB | WSH |  |
| Year | Age 4 | Age 3 | Age 4 | Age 3 | Age 4 | Age 5 | Age 3 | Age 4 | Age 5 | Age 3 | Age 4 | Age 5 | Age 4 | Fishery |
| 1979 | NA | 0.562 | 0.877 | 1.244 | 0.837 | 0.474 | NA | NA | NA | 0.580 | 1.191 | NA | 0.752 | 0.799 |
| 1980 | NA | 0.779 | 1.025 | 1.034 | 0.848 | 0.777 | 0.967 | NA | NA | 1.078 | 0.991 | 1.272 | 1.369 | 0.983 |
| 1981 | NA | 1.835 | 1.526 | 0.756 | 1.041 | 1.749 | 1.513 | 1.110 | NA | NA | 1.138 | 1.320 | 1.399 | 1.325 |
| 1982 | 1.000 | 0.824 | 0.571 | 0.966 | 1.274 | NA | 0.521 | 0.890 | 1.000 | 1.342 | 0.680 | 0.408 | 0.480 | 0.819 |
| 1983 | 1.580 | 1.105 | 1.694 | 0.915 | 0.697 | 0.610 | 0.489 | 0.626 | 1.232 | 1.663 | 1.284 | NA | 0.706 | 0.879 |
| 1984 | 1.025 | 0.234 | 0.535 | 0.453 | 1.333 | 2.051 | NA | 0.610 | 2.567 | 0.930 | 1.986 | NA | 0.265 | 1.190 |
| 1985 | 0.675 | 0.233 | 0.595 | 0.935 | 1.875 | NA | 0.407 | NA | 2.802 | 1.205 | 1.730 | 1.637 | 0.112 | 1.242 |
| 1986 | 0.636 | 0.830 | 0.853 | NA | 1.033 | NA | 0.116 | 0.436 | NA | 0.996 | 1.356 | 1.619 | NA | 0.777 |
| 1987 | 0.591 | 0.419 | 0.684 | 0.477 | NA | NA | 0.180 | 0.371 | 2.364 | 1.643 | 2.002 | 2.904 | 0.386 | 1.008 |
| 1988 | 1.904 | 0.268 | 0.749 | 0.333 | 0.624 | NA | NA | 0.306 | 0.748 | 0.832 | 1.102 | 1.982 | 0.485 | 0.678 |
| 1989 | 0.881 | 0.461 | 0.498 | 0.391 | 0.873 | 1.049 | 0.208 | 0.272 | 2.186 | NA | 1.082 | 4.203 | 0.207 | 0.948 |
| 1990 | 2.090 | 0.472 | 1.031 | 0.387 | 0.727 | 0.572 | 0.235 | 0.246 | 2.045 | NA | 1.296 | 2.430 | 0.179 | 0.800 |
| 1991 | 0.703 | 0.519 | 0.698 | 0.471 | 0.758 | 1.154 | 0.229 | 0.394 | 2.105 | NA | NA | NA | 0.169 | 0.749 |
| 1992 | 0.221 | NA | 2.020 | 0.408 | 0.604 | 0.712 | 0.144 | 0.248 | 0.999 | NA | NA | NA | 0.066 | 0.589 |
| 1993 | 0.229 | NA | NA | 0.327 | 0.631 | 0.853 | 0.215 | 0.576 | 2.427 | 0.296 | 1.178 | NA | 0.124 | 0.781 |
| 1994 | 0.118 | NA | NA | 0.512 | 0.754 | 0.912 | 0.289 | 0.514 | 2.200 | NA | 0.988 | 2.085 | 0.074 | 0.874 |
| 1995 | 0.074 | NA | NA | NA | 0.419 | 0.281 | 0.166 | 0.015 | 0.919 | NA | NA | 0.600 | 0.136 | 0.319 |
| 1996 | 0.118 | NA | NA | 0.065 | NA | NA | 0.057 | 0.012 | 0.059 | 0.284 | 0.063 | NA | 0.006 | 0.049 |
| 1997 | 0.000 | 0.369 | 0.397 | 0.248 | 0.406 | NA | 0.124 | 0.113 | 0.446 | NA | 0.654 | NA | 0.136 | 0.289 |
| 1998 | 0.000 | 0.000 | 0.000 | 0.102 | 0.571 | NA | 0.153 | 0.523 | 1.314 | 0.065 | NA | 1.556 | 0.000 | 0.490 |
| 1999 | 0.000 | 0.103 | 0.119 | NA | 0.199 | 0.334 | 0.055 | 0.113 | 0.242 | NA | 0.694 | NA | 0.000 | 0.195 |
| 2000 | 0.000 | 0.000 | 0.042 | NA | NA | NA | 0.040 | 0.199 | 0.279 | NA | 0.000 | 0.000 | 0.005 | 0.102 |
| 2001 | 0.046 | 0.000 | 0.015 | 0.000 | NA | NA | 0.039 | 0.132 | 0.718 | 0.000 | 0.000 | NA | 0.010 | 0.141 |
| 2002 | 0.151 | 0.000 | 0.107 | 0.025 | 0.348 | NA | 0.046 | 0.103 | 0.928 | 0.045 | 0.157 | NA | 0.077 | 0.217 |
| 2003 | 0.069 | 0.000 | 0.000 | 0.041 | 0.048 | 0.000 | 0.075 | 0.285 | 0.534 | 0.113 | 0.717 | 0.820 | 0.032 | 0.215 |
| 2004 | 0.673 | 0.000 | 0.057 | 0.093 | 0.193 | 0.381 | 0.105 | 0.254 | 0.990 | 0.125 | 0.636 | 1.297 | 0.101 | 0.360 |
| 2005 | 0.159 | 0.034 | 0.037 | 0.070 | 0.255 | 0.101 | 0.154 | 0.364 | 1.025 | 0.466 | 1.567 | 0.904 | 0.059 | 0.393 |

Stock Identifiers

| AKS $=$ ALASKA SPRING | QUI $=$ QUINSAM |
| :--- | :--- |
| RBT $=$ ROBERTSON CREEK | SRH $=$ SALMON RIVER HATCHERY |
| URB $=$ COLUMBIA UPRIVER BRIGHT | WSH = WILLAMETTE SPRING |

Table K.5. Landed catch exploitation rate indices by stock and age in the WCVI troll fishery, based on CWT data. Base period is 1979-1982.

| LANDED CATCH EXPLOITATION RATE INDEX |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | CWF | GAD | GAD | LRH | LRH | LRW | RBT | RBT | RBT | SAM | SAM | SPR | SPR | SPS | SPS | SRH | SRH | SRH | SUM | URB | URB | UWA | UWA | WSH | CHI | CHI |  |
| Year | Age 4 | Age 3 | Age 4 | Age 3 | Age 4 | Age 4 | Age 3 | Age 4 | Age 5 | Age 3 | Age 4 | Age 3 | Age 4 | Age 3 | Age 4 | Age 3 | Age 4 | Age 5 | Age 4 | Age 3 | Age 4 | Age 3 | Age 4 | Age 4 | Age 3 | Age 4 | Fishery |
| 1979 | NA | NA | NA | 1.176 | NA | NA | 1.154 | 1.270 | NA | NA | 1.000 | 0.979 | 0.818 | NA | 1.113 | NA | NA | NA | NA | 1.397 | 1.691 | 0.709 | 1.185 | 1.305 | NA | NA | 1.058 |
| 1980 | NA | NA | NA | 0.570 | 0.819 | NA | 1.379 | 1.419 | NA | NA | NA | 1.172 | 1.366 | NA | NA | 1.000 | NA | NA | 0.690 | 1.340 | 0.964 | 1.344 | 0.837 | 1.258 | NA | NA | 1.007 |
| 1981 | 0.782 | 0.714 | NA | 1.118 | 0.834 | 0.842 | 0.701 | 0.583 | 1.000 | NA | NA | 0.944 | 0.657 | 0.719 | NA | NA | 1.000 | NA | 1.310 | 0.200 | 0.906 | 0.834 | 0.917 | 0.605 | NA | NA | 0.868 |
| 1982 | 1.218 | 1.286 | 1.000 | 1.137 | 1.348 | 1.159 | 0.766 | 0.728 | NA | 1.000 | NA | 0.906 | 1.159 | 1.282 | 0.887 | NA | NA | NA | NA | 1.064 | 0.440 | 1.114 | 1.061 | 0.833 | NA | NA | 1.066 |
| 1983 | 1.410 | NA | 1.395 | 1.701 | 1.767 | 0.972 | 0.351 | 0.683 | 2.506 | NA | 0.950 | 1.491 | 0.972 | NA | 0.636 | 0.612 | 0.734 | NA | NA | 0.388 | 0.455 | 0.690 | 0.982 | 0.194 | NA | NA | 1.133 |
| 1984 | 1.353 | 2.079 | NA | 2.144 | 2.934 | NA | 1.300 | 1.014 | 1.713 | NA | NA | 1.366 | 1.455 | 1.114 | NA | NA | 0.817 | NA | NA | 0.862 | 1.365 | 1.704 | 0.756 | 0.435 | NA | NA | 1.566 |
| 1985 | 0.937 | NA | 0.837 | 1.236 | 1.184 | NA | 0.630 | 0.000 | NA | NA | NA | 0.563 | 1.096 | 0.728 | 0.559 | NA | NA | NA | NA | 0.760 | 1.078 | 0.886 | 1.087 | 0.311 | NA | NA | 0.886 |
| 1986 | 1.318 | NA | NA | 1.254 | 1.189 | 0.466 | NA | 0.567 | NA | NA | NA | 1.208 | 0.918 | 0.800 | 1.181 | NA | 0.423 | NA | NA | 1.524 | 0.753 | 0.839 | 1.159 | NA | NA | NA | 1.071 |
| 1987 | 0.878 | NA | NA | 0.931 | NA | 1.446 | 0.273 | NA | NA | NA | NA | 0.464 | NA | 0.671 | 0.562 | 0.118 | 0.490 | NA | 0.000 | 0.997 | 0.990 | 0.368 | 0.421 | NA | NA | NA | 0.595 |
| 1988 | 0.863 | 0.431 | NA | 1.111 | 1.426 | 1.048 | 0.451 | 0.571 | NA | 0.557 | NA | 1.001 | NA | 0.273 | 0.755 | NA | 1.414 | NA | 1.147 | 0.086 | 1.967 | NA | 0.801 | 0.554 | NA | NA | 0.931 |
| 1989 | 0.540 | 0.254 | 0.493 | 0.284 | 0.592 | 0.561 | 0.169 | 0.340 | 0.000 | 0.191 | 0.617 | 0.590 | 0.409 | 0.292 | 0.362 | 0.150 | NA | NA | 0.750 | NA | 0.930 | NA | NA | 0.350 | NA | NA | 0.471 |
| 1990 | 0.733 | 1.099 | 0.946 | 1.144 | 0.437 | 1.203 | 0.676 | 0.557 | 1.538 | 0.374 | 0.867 | 0.933 | 0.749 | 0.681 | 0.895 | 0.314 | 0.954 | NA | 1.338 | NA | 1.678 | NA | NA | 0.536 | NA | NA | 0.877 |
| 1991 | NA | NA | 0.946 | 0.797 | NA | 0.738 | 0.611 | 0.548 | 0.736 | 0.230 | 0.587 | 0.603 | 0.659 | 0.369 | 0.668 | 0.411 | 0.785 | NA | 0.448 | NA | NA | NA | NA | 0.050 | NA | NA | 0.641 |
| 1992 | 1.179 | NA | 0.457 | 0.651 | NA | 0.318 | 1.708 | 2.470 | 5.226 | 0.974 | 0.273 | 0.435 | 0.767 | 0.659 | 0.786 | 0.595 | 5.976 | NA | 0.747 | NA | NA | NA | NA | 0.123 | NA | NA | 0.832 |
| 1993 | NA | NA | NA | 1.082 | 0.709 | NA | 1.172 | 2.252 | 2.447 | 1.055 | 0.434 | 0.546 | 1.034 | 0.930 | 0.602 | 0.541 | 2.659 | NA | NA | 0.644 | 2.018 | NA | NA | 0.277 | NA | NA | 0.886 |
| 1994 | 0.120 | NA | NA | NA | NA | 0.222 | 0.614 | 0.732 | 1.395 | 0.079 | 0.710 | 0.844 | 0.664 | 0.196 | 0.507 | NA | 0.827 | NA | NA | NA | 1.023 | NA | NA | 0.163 | NA | NA | 0.559 |
| 1995 | NA | 0.222 | NA | NA | NA | 0.427 | NA | 0.436 | 0.363 | 0.146 | 0.398 | 0.361 | 0.361 | 0.248 | 0.282 | 0.016 | NA | NA | NA | NA | NA | NA | NA | 0.091 | NA | NA | 0.321 |
| 1996 | 0.000 | 0.000 | 0.000 | 0.000 | NA | NA | 0.000 | NA | NA | 0.000 | 0.000 | 0.000 | NA | 0.000 | 0.000 | 0.000 | 0.000 | NA | 0.000 | 0.000 | 0.000 | NA | NA | 0.000 | NA | NA | 0.000 |
| 1997 | 0.348 | NA | 0.200 | 0.713 | NA | NA | 0.000 | 0.064 | NA | 0.022 | 0.242 | 0.506 | 0.479 | 0.025 | 0.304 | 0.000 | 0.081 | NA | 0.072 | NA | 0.094 | NA | NA | 0.000 | NA | NA | 0.304 |
| 1998 | NA | NA | NA | NA | NA | NA | NA | 0.000 | NA | NA | 0.088 | 0.046 | 0.000 | 0.000 | 0.034 | 0.000 | 0.000 | NA | 0.000 | 0.016 | NA | NA | NA | 0.023 | NA | NA | 0.030 |
| 1999 | NA | 0.049 | NA | 0.096 | NA | NA | NA | NA | 0.000 | NA | 0.077 | 0.016 | NA | 0.018 | 0.061 | 0.000 | 0.000 | NA | 0.028 | 0.000 | 0.000 | NA | NA | 0.000 | NA | NA | 0.046 |
| 2000 | NA | NA | 1.165 | 0.098 | 1.995 | NA | NA | NA | NA | NA | NA | 0.039 | 0.707 | 0.024 | 0.722 | 0.000 | 0.000 | NA | 0.208 | 0.078 | 0.320 | NA | NA | 0.042 | NA | NA | 0.648 |
| 2001 | NA | 0.685 | 1.187 | 0.305 | NA | 0.710 | 0.000 | NA | NA | 0.342 | 0.373 | 0.143 | 0.548 | 0.396 | 0.536 | 0.000 | 0.081 | NA | 0.412 | 0.074 | 0.174 | NA | NA | 0.109 | NA | NA | 0.476 |
| 2002 | 0.567 | 0.172 | 0.658 | 0.343 | 0.513 | NA | 0.016 | 0.000 | NA | 0.230 | 0.414 | 0.292 | 0.748 | 0.379 | 0.528 | 0.000 | 0.000 | NA | 0.547 | 0.088 | 0.210 | NA | NA | 0.200 | NA | NA | 0.449 |
| 2003 | 0.561 | 0.116 | 0.756 | 0.302 | 1.030 | 0.124 | 0.000 | 0.000 | NA | NA | 0.661 | 0.307 | 0.620 | 0.332 | 0.640 | 0.000 | 0.000 | NA | 0.619 | 0.137 | 0.098 | NA | NA | 0.385 | NA | NA | 0.521 |
| 2004 | NA | 0.047 | 1.200 | 0.359 | 1.078 | 0.109 | 0.011 | 0.020 | 0.000 | 0.086 | 0.567 | 0.313 | 0.851 | 0.208 | 0.909 | 0.034 | 0.307 | NA | 0.317 | 0.107 | 0.808 | NA | NA | 1.392 | NA | NA | 0.607 |
| 2005 | 0.227 | 0.394 | 0.829 | 0.633 | 1.803 | 0.181 | 0.000 | 0.000 | NA | 0.115 | 0.830 | 0.530 | 1.022 | 0.373 | 0.837 | 0.056 | 0.428 | NA | 0.690 | 0.078 | 0.460 | NA | NA | 0.870 | NA | NA | 0.714 |

Stock Identifiers
CWF = COWLITZ FALL TULE
GAD $=$ G ADAMS FALL FING
LRH = LOWER RIVER TULE
LRW = LEWIS RIVER WILD

RBT = ROBERTSON CREEK
SAM = SAMISH FALL FING
SPR = SPRING CREEK TULE
SPS = SO SOUND FALL FING

SRH = SALMON RIVER HATCHERY
SUM = COL RIVER SUMMERS
URB $=$ COLUMBIA UPRIVER BRIGHT
$U W A=U$ OF W FALL ACCEL

Table K.6. Total mortality exploitation rate indices by stock and age in the WCVI troll fishery, based on CWT data. Base period is 1979-1982.

| TOTAL MORTALITY EXPLOITATION RATE INDEX |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | CWF | GAD | GAD | LRH | LRH | LRW | RBT | RBT | RBT | SAM | SAM | SPR | SPR | SPS | SPS | SRH | SRH | SRH | SUM | URB | URB | UWA | UWA | WSH | CHI | CHI |  |
| Year | Age 4 | Age 3 | Age 4 | Age 3 | Age 4 | Age 4 | Age 3 | Age 4 | Age 5 | Age 3 | Age 4 | Age 3 | Age 4 | Age 3 | Age 4 | Age 3 | Age 4 | Age 5 | Age 4 | Age 3 | Age 4 | Age 3 | Age 4 | Age 4 | Age 3 | Age 4 | Fishery |
| 1979 | NA | NA | NA | 1.144 | NA | NA | 1.227 | 1.286 | NA | NA | 1.000 | 0.964 | 0.827 | NA | 1.116 | NA | NA | NA | NA | 1.376 | 1.685 | 0.692 | 1.179 | 1.251 | NA | NA | 1.050 |
| 1980 | NA | NA | NA | 0.570 | 0.823 | NA | 1.316 | 1.402 | NA | NA | NA | 1.123 | 1.340 | NA | NA | 1.000 | NA | NA | 0.687 | 1.326 | 0.968 | 1.304 | 0.828 | 1.276 | NA | NA | 0.993 |
| 1981 | 0.790 | 0.728 | NA | 1.109 | 0.818 | 0.852 | 0.679 | 0.580 | 1.000 | NA | NA | 0.900 | 0.655 | 0.756 | NA | NA | 1.000 | NA | 1.313 | 0.248 | 0.890 | 0.803 | 0.904 | 0.616 | NA | NA | 0.860 |
| 1982 | 1.210 | 1.272 | 1.000 | 1.177 | 1.359 | 1.148 | 0.778 | 0.731 | NA | 1.000 | NA | 1.012 | 1.178 | 1.244 | 0.884 | NA | NA | NA | NA | 1.050 | 0.457 | 1.201 | 1.089 | 0.857 | NA | NA | 1.089 |
| 1983 | 1.350 | NA | 1.383 | 1.556 | 1.697 | 0.973 | 0.353 | 0.660 | 2.396 | NA | 0.954 | 1.320 | 0.925 | NA | 0.645 | 0.609 | 0.708 | NA | NA | 0.357 | 0.429 | 0.647 | 0.957 | 0.185 | NA | NA | 1.085 |
| 1984 | 1.299 | 1.711 | NA | 1.945 | 2.799 | NA | 1.164 | 0.993 | 1.658 | NA | NA | 1.186 | 1.385 | 0.985 | NA | NA | 0.750 | NA | NA | 0.796 | 1.322 | 1.526 | 0.735 | 0.404 | NA | NA | 1.452 |
| 1985 | 0.895 | NA | 0.838 | 1.177 | 1.138 | NA | 0.540 | 0.000 | NA | NA | NA | 0.545 | 1.050 | 0.673 | 0.550 | NA | NA | NA | NA | 0.715 | 1.046 | 0.807 | 1.073 | 0.276 | NA | NA | 0.851 |
| 1986 | 1.255 | NA | NA | 1.070 | 1.132 | 0.441 | NA | 0.533 | NA | NA | NA | 1.102 | 0.877 | 0.718 | 1.138 | NA | 0.363 | NA | NA | 1.375 | 0.740 | 0.781 | 1.140 | NA | NA | NA | 1.003 |
| 1987 | 0.868 | NA | NA | 1.141 | NA | 1.432 | 0.269 | NA | NA | NA | NA | 0.426 | NA | 0.757 | 0.565 | 0.129 | 0.490 | NA | 0.000 | 1.134 | 1.032 | 0.369 | 0.413 | NA | NA | NA | 0.623 |
| 1988 | 0.900 | 0.481 | NA | 1.266 | 1.503 | 1.077 | 0.442 | 0.570 | NA | 0.625 | NA | 0.938 | NA | 0.335 | 0.774 | NA | 1.316 | NA | 1.122 | 0.523 | 2.054 | NA | 0.798 | 0.556 | NA | NA | 0.959 |
| 1989 | 0.540 | 0.358 | 0.499 | 0.307 | 0.610 | 0.573 | 0.171 | 0.329 | 0.000 | 0.308 | 0.621 | 0.589 | 0.400 | 0.331 | 0.364 | 0.175 | NA | NA | 0.753 | NA | 0.968 | NA | NA | 0.333 | NA | NA | 0.478 |
| 1990 | 0.744 | 1.061 | 0.940 | 1.104 | 0.473 | 1.216 | 0.654 | 0.560 | 1.491 | 0.422 | 0.865 | 0.880 | 0.740 | 0.844 | 0.906 | 0.358 | 0.873 | NA | 1.308 | NA | 1.689 | NA | NA | 0.530 | NA | NA | 0.874 |
| 1991 | NA | NA | 0.972 | 0.703 | NA | 0.748 | 0.607 | 0.554 | 0.709 | 0.376 | 0.597 | 0.581 | 0.649 | 0.489 | 0.670 | 0.429 | 0.737 | NA | 0.437 | NA | NA | NA | NA | 0.051 | NA | NA | 0.636 |
| 1992 | 1.143 | NA | 0.471 | 0.721 | NA | 0.326 | 1.860 | 2.487 | 5.041 | 0.845 | 0.278 | 0.478 | 0.761 | 0.662 | 0.775 | 0.685 | 5.349 | NA | 0.780 | NA | NA | NA | NA | 0.146 | NA | NA | 0.834 |
| 1993 | NA | NA | NA | 1.139 | 0.758 | NA | 1.393 | 2.271 | 2.393 | 1.028 | 0.449 | 0.568 | 1.017 | 0.965 | 0.614 | 0.686 | 2.469 | NA | NA | 0.887 | 2.024 | NA | NA | 0.274 | NA | NA | 0.913 |
| 1994 | 0.113 | NA | NA | NA | NA | 0.236 | 0.669 | 0.755 | 1.355 | 0.221 | 0.710 | 0.819 | 0.660 | 0.213 | 0.494 | NA | 0.774 | NA | NA | NA | 1.037 | NA | NA | 0.154 | NA | NA | 0.558 |
| 1995 | NA | 0.291 | NA | NA | NA | 0.466 | NA | 0.455 | 0.377 | 0.223 | 0.430 | 0.402 | 0.380 | 0.289 | 0.297 | 0.043 | NA | NA | NA | NA | NA | NA | NA | 0.104 | NA | NA | 0.349 |
| 1996 | 0.000 | 0.066 | 0.025 | 0.000 | NA | NA | 0.033 | NA | NA | 0.056 | 0.016 | 0.040 | NA | 0.058 | 0.023 | 0.026 | 0.023 | NA | 0.027 | 0.085 | 0.062 | NA | NA | 0.010 | NA | NA | 0.026 |
| 1997 | 0.326 | NA | 0.204 | 0.798 | NA | NA | 0.005 | 0.060 | NA | 0.074 | 0.241 | 0.552 | 0.501 | 0.111 | 0.312 | 0.008 | 0.069 | NA | 0.071 | NA | 0.089 | NA | NA | 0.000 | NA | NA | 0.327 |
| 1998 | NA | NA | NA | NA | NA | NA | NA | 0.000 | NA | NA | 0.084 | 0.038 | 0.000 | 0.000 | 0.032 | 0.000 | 0.000 | NA | 0.000 | 0.013 | NA | NA | NA | 0.019 | NA | NA | 0.027 |
| 1999 | NA | 0.046 | NA | 0.080 | NA | NA | NA | NA | 0.000 | NA | 0.074 | 0.013 | NA | 0.014 | 0.057 | 0.000 | 0.000 | NA | 0.026 | 0.000 | 0.000 | NA | NA | 0.000 | NA | NA | 0.041 |
| 2000 | NA | NA | 1.138 | 0.082 | 1.906 | NA | NA | NA | NA | NA | NA | 0.032 | 0.656 | 0.026 | 0.697 | 0.000 | 0.000 | NA | 0.200 | 0.065 | 0.302 | NA | NA | 0.034 | NA | NA | 0.595 |
| 2001 | NA | 0.522 | 1.137 | 0.258 | NA | 0.671 | 0.000 | NA | NA | 0.265 | 0.357 | 0.120 | 0.509 | 0.324 | 0.512 | 0.000 | 0.069 | NA | 0.395 | 0.061 | 0.164 | NA | NA | 0.091 | NA | NA | 0.427 |
| 2002 | 0.549 | 0.141 | 0.637 | 0.292 | 0.490 | NA | 0.013 | 0.000 | NA | 0.188 | 0.402 | 0.246 | 0.706 | 0.313 | 0.508 | 0.000 | 0.000 | NA | 0.525 | 0.073 | 0.199 | NA | NA | 0.169 | NA | NA | 0.411 |
| 2003 | 0.536 | 0.086 | 0.739 | 0.258 | 0.971 | 0.117 | 0.000 | 0.000 | NA | NA | 0.646 | 0.259 | 0.585 | 0.275 | 0.615 | 0.000 | 0.000 | NA | 0.593 | 0.113 | 0.101 | NA | NA | 0.322 | NA | NA | 0.480 |
| 2004 | NA | 0.047 | 1.170 | 0.306 | 1.016 | 0.103 | 0.009 | 0.019 | 0.000 | 0.088 | 0.542 | 0.265 | 0.802 | 0.174 | 0.875 | 0.030 | 0.263 | NA | 0.305 | 0.088 | 0.782 | NA | NA | 1.166 | NA | NA | 0.555 |
| 2005 | 0.212 | 0.300 | 0.811 | 0.528 | 1.702 | 0.171 | 0.000 | 0.000 | NA | 0.088 | 0.808 | 0.449 | 0.966 | 0.303 | 0.802 | 0.049 | 0.367 | NA | 0.663 | 0.065 | 0.442 | NA | NA | 0.730 | NA | NA | 0.653 |

Stock Identifiers-
CWF = COWLITZ FALL TULE
GAD = G ADAMS FALL FING
LRH = LOWER RIVER TULE
LRW = LEWIS RIVER WILD

RBT = ROBERTSON CREEK
SAM = SAMISH FALL FING
SPR = SPRING CREEK TULE
SPS = SO SOUND FALL FING

SRH = SALMON RIVER HATCHERY
SUM = COL RIVER SUMMERS
URB $=$ COLUMBIA UPRIVER BRIGHT
UWA $=\mathrm{U}$ OF W FALL ACCEL

WSH = WILLAMETTE SPRING
CHI = CHILLAWACK


[^0]:    ${ }^{1}$ These stocks are CWT-tagged, but there is no reliable quantitative CWT escapement data and CWT data presented for these stocks is useful for distribution of harvest and mortalities only.
    ${ }^{2}$ Subyearlings have been CWT-tagged since brood year 1986, except for brood years 1993 through 1997.

[^1]:    ${ }^{1}$ Since 1998, the catch accounting year for troll fisheries was set from October 1-September 30. To make comparisons to previous years more meaningful, the same catch accounting period was applied for years prior to 1998.
    ${ }^{2}$ Estimate of lower Skeena River sport catch only.
    Note that Troll (Areas 1-5) and Tidal Sport (Areas 1, 2E, 2W) are the components of the NBC AABM fishery. Net catch excludes jacks and small red-fleshed Chinook.
    NA=not available

[^2]:    ${ }^{1}$ Since 1998, the catch accounting year for troll fisheries was set from October 1-September 30. To make comparisons to previous years more meaningful, the same catch accounting period was applied for years prior to 1998.
    ${ }^{2}$ freshwater catch included with tidal catch
    Net catch excludes jacks and small red-fleshed Chinook.
    NA=not available

[^3]:    ${ }^{8 .}$ See the footnote for the corresponding value in the table of indices for the Canadian ISBM fisheries.

[^4]:    ${ }_{2}$ No data are shown for 2002-2004 because of lack of coded-wire tagging of broods from 1999-2000.

[^5]:    ${ }^{1}$ No data are shown for 2001 to 2003 because of lack of coded-wire tagging of broods from 1998-2000
    ${ }^{2}$ Values represent estimates of catch distribution only for this year because escapement data is of insufficient quality.

[^6]:    ${ }^{1}$ Ocean exploitation rates based only on ocean fisheries are shown for stocks in which terminal fisheries differentially impact the coded-wire tagged indicator compared to the associated wild stock. Total exploitation rates based on ocean plus terminal fisheries are shown for stocks in which fishery impacts on the indicator and the associated wild stock are similar in terminal areas. Exploitation rates are not shown for the following hatchery stocks because they are not associated with a wild stock: University of Washington Accelerated, South Puget Sound Fall Yearling, Squaxin Pens Fall Yearling. Exploitation rates cannot be calculated for the following stocks without sufficient escapement data: Nisqually Fall Fingerling, White River Spring Yearling, Elwha Fall Fingerling.
    ${ }^{2}$ The corresponding stocks used in the Chinook model calibration are indicated in brackets.

