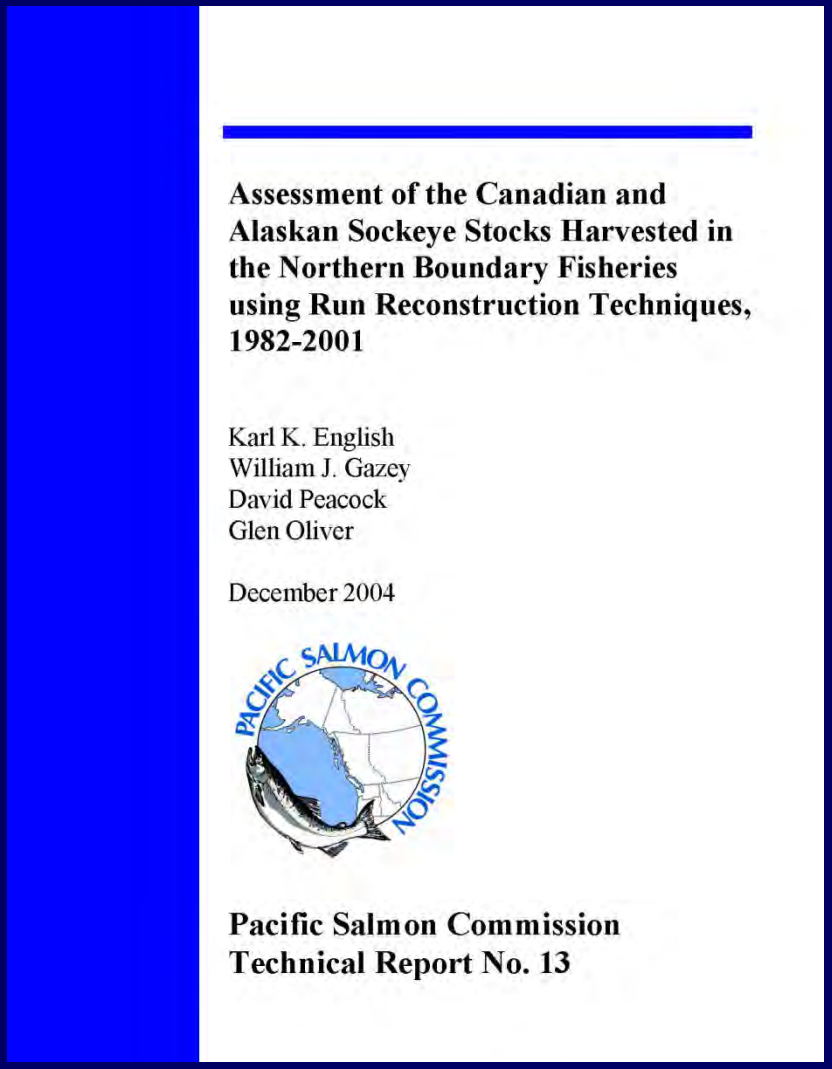
Northern Boundary Sockeye Run Reconstructions 1982-2017

Northern Boundary Technical Committee

9-10 January 2018

Run Reconstruction Model

- Data Input and Parameters
  - Catch Data by gear for 28 fisheries
    - Alaska catch by opening
    - BC Catch by day



Assessment of the Canadian and Alaskan Sockeye Stocks Harvested in the Northern Boundary Fisheries using Run Reconstruction Techniques, 1982-2001

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Run Reconstruction Model

- Data Input and Parameters
  - Escapement data for 5 stocks
    - Alaska (McDonald Lake and others)
      - annual totals & estimated timing
    - Nass and Skeena
      - Daily escapement
    - Stikine
  - Alaskan stock comp. data (scale 82-09; DNA 10-present)
  - Canadian DNA data for Areas 3-5 (since 2002)

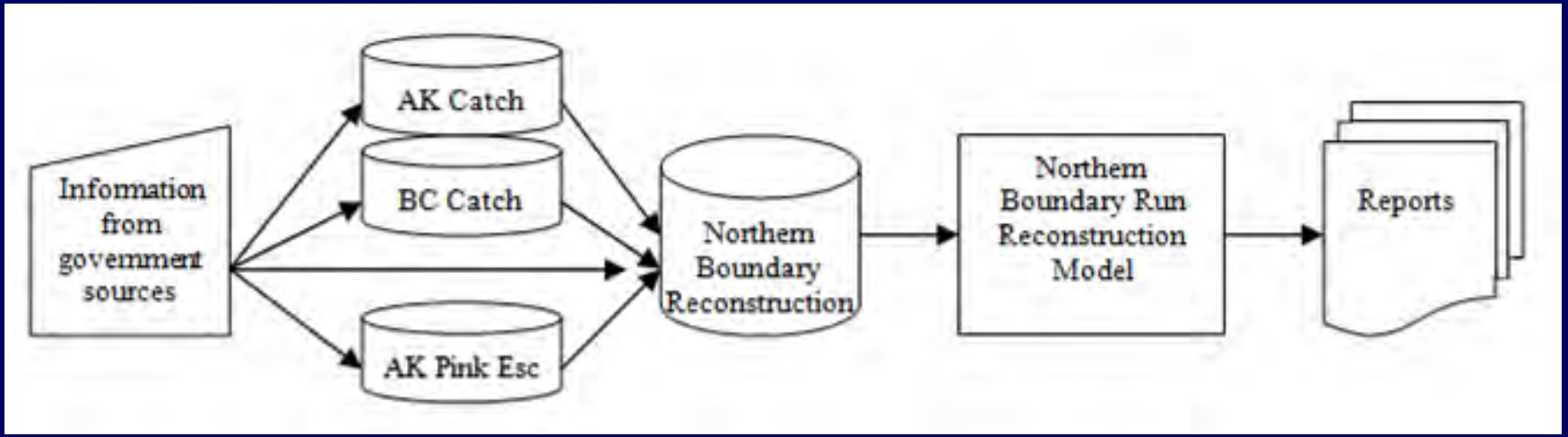
No.	Stock	Definition	Location
1	Skeena	Skeena River	Statistical Area 4-15
2	Nass	Nass River	Statistical Area 3-18
3	Stikine	Stikine River	District 108-40
4	US McD	McDonald Lake	District 101-80
5	US Other	Alaskan Other	Districts 101, 102, 103, 105, 107
6	Fraser	Fraser River	Statistical Area 29

Run Reconstruction Model

Recent changes:

- Since 2013 removed other “stock” catch from BC and Alaskan fisheries before modelling
- Updated model to include release mortality (15%) in BC seine fisheries in 2016

Summary of Run Reconstruction data inputs



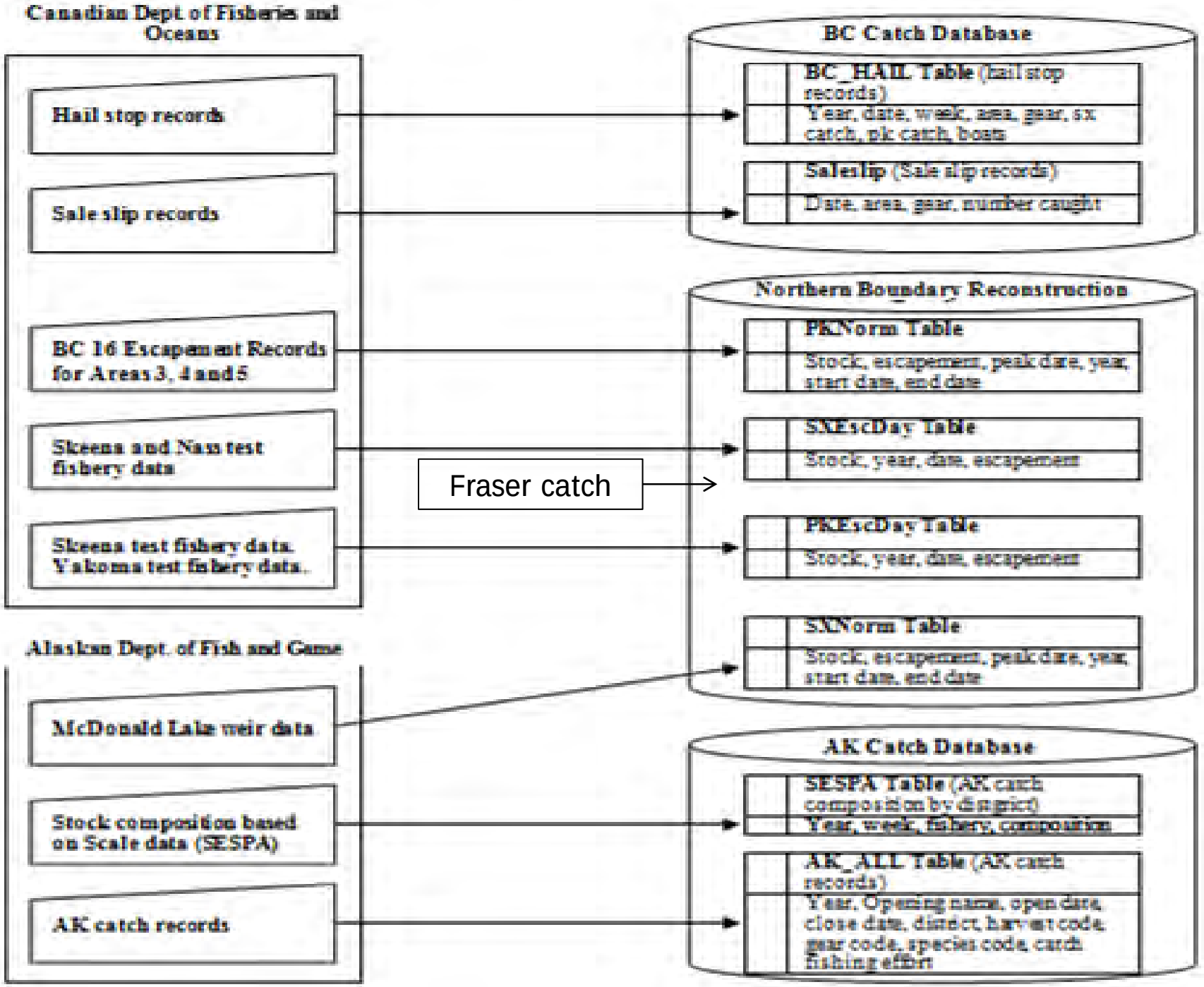
Other data inputs:

BC Catch Database
- Stock composition based on DNA results from DFO in Areas 3 and 4

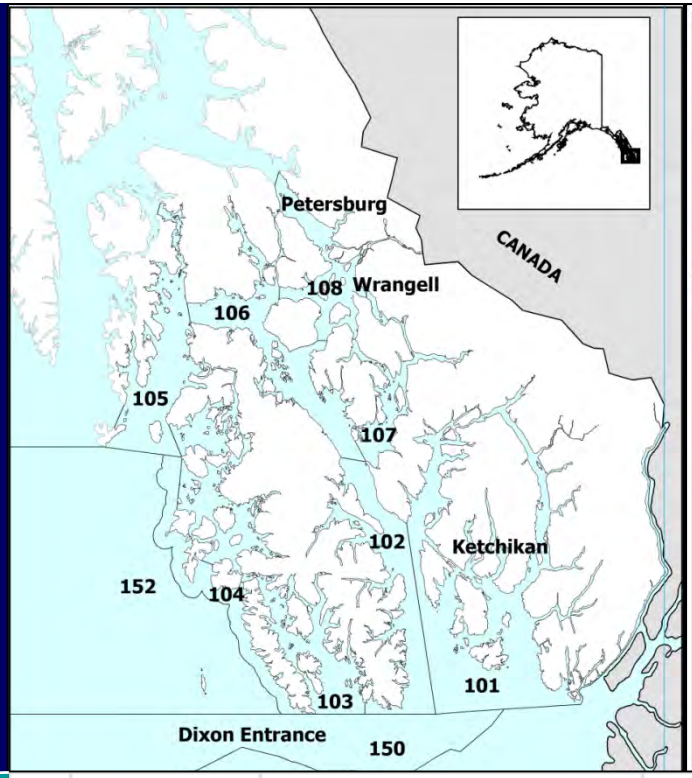
NB Reconstruction Database
- Fraser Catch table
- Other Catch stock composition table (SESPA data)

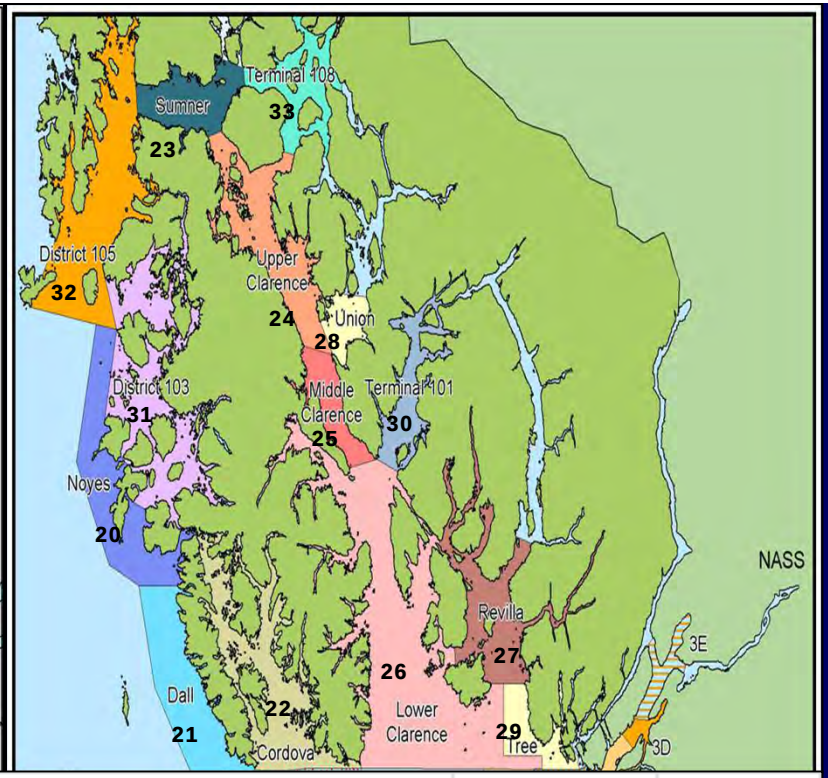
Alaska Catch Database
- Other DNA stock composition calculation
- US other escapement table

***Model was also used for Pink reconstructions from 1981 to 1995**


Canadian Dept. of Fisheries and Oceans
Hail stop records
Sale slip records
BC 16 Escapement Records for Areas 3, 4 and 5
Skeena and Nass test fishery data
Skeena test fishery data. Yakoma test fishery data.
Alaskan Dept. of Fish and Game
McDonald Lake weir data
Stock composition based on Scale data (SESPA)
AK catch records
Fraser catch
BC Catch Database
BC_HAIL Table (hail stop records)
Year, date, week, area, gear, sx catch, pk catch, boats
Saleslip (Sale slip records)
Date, area, gear, number caught
Northern Boundary Reconstruction
PKNorm Table
Stock, escapement, peak date, year, start date, end date
SXEscDay Table
Stock, year, date, escapement
PKEscDay Table
Stock, year, date, escapement
SXNorm Table
Stock, escapement, peak date, year, start date, end date
AK Catch Database
SESPA Table (AK catch composition by district)
Year, week, fishery, composition
AK_ALL Table (AK catch records)
Year, Opening name, open date, close date, district, harvest code, gear code, species code, catch, fishing effort

ALASKAN FISHERIES





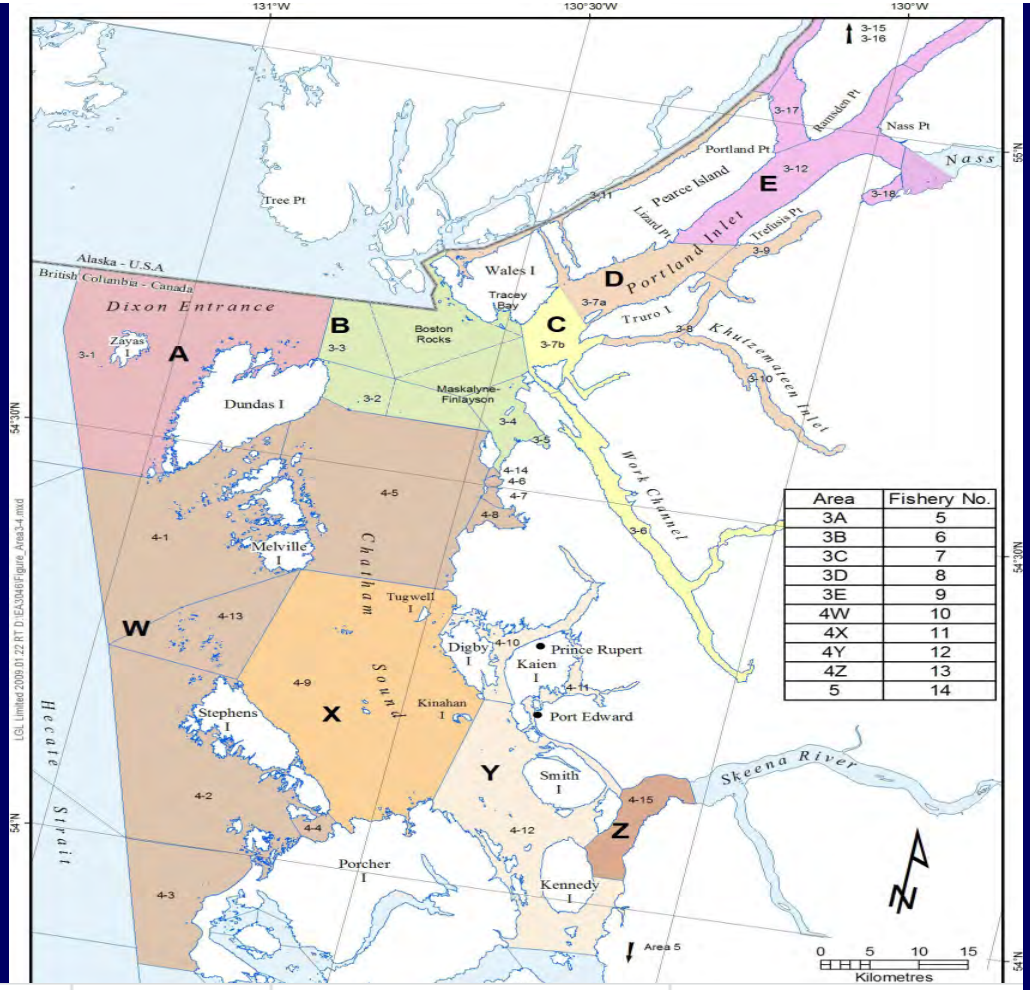
14 FISHERIES

No.	Fishery	Definition	Alaska Sub-Districts
20	Noyes	Noyes Island	104-30, 104-35, 104-40, 104-50
21	Dall	Dall Island	104-10, 104-20
22	Cordova	Cordova Bay	103-11, 103-15, 103-21, 103-23, 103-25, 103-30, 103-40
23	Sumner	Sumner Strait	106-41, 106-42
24	U. Clar	Upper Clarence Strait	106-10, 106-20, 106-22, 106-30
25	M. Clar	Middle Clarence Strait	102-70, 102-80
26	L. Clar	Lower Clarence Strait	101-21, 101-25, 101-26, 101-27, 101-28, 101-29
			102-10, 102-20, 102-40, 102-50, 102-60
27	Revilla	Revilla	101-23, 101-24, 101-30, 101-33, 101-41, 101-42
			101-43, 101-44, 101-45, 101-46, 101-47, 101-53
28	Union	Union Bay	107-10, 107-20
29	Tree	Tree Point (Cape Fox)	101-11
30	Term. 101	Terminal District 101	101-80, 101-85, 101-90, 101-95
31	Dist. 103[1]	District 103	103-50, 103-60, 103-65, 103-70, 103-80, 103-90
32	Dist. 105	District 105	105-10, 105-20, 105-31, 105-41, 105-42, 105-43, 105-50
33	Term. 108	Terminal District 108	108-10, 108-20, 108-30, 108-40, 108-45, 108-50, 108-60

[1] Prior to 2003, the District 103 fishery was modeled as a terminal fishery for Alaskan stocks.

CANADIAN FISHERIES

- 14 FISHERIES
- 9 ACTIVELY FISHED IN RECENT YEARS



No.	Fishery	Definition	1982-1983	1984	1985	1986-present
1	Langara	Area 1 Net	1-2, 1-3, 1-4	1-2, 1-3, 1-4	1-2, 1-3, 1-4	1-2, 1-3, 1-4
2	1TN	Area 1 Troll North	101-4	101-4	101-4 (<July 22)	101-4 (<July 22)
3	1TS	Area 1 Troll South	101-other	101-other	101-other	101-other
4	Masset	Masset Inlet	1-6	1-6	1-6	1-6
5	3A	Dundas West	3X	3X	3-1	3-1W
6	3B	Entrance	3Y	3Y	3Y	3-1E, 3-2, 3-3, 3-4, 3-5
7	3C	Outside Portland	3Z (seine)	3Z (seine)	3-7 (seine)	3-6, 3-7 B
8	3D	Inside Portland	3Z (gillnet)	3Z (gillnet)	3-7 (gillnet), 3-8 to 3-11	3-7 A, 3-8 to 3-11
9	3E	Nass Terminal			3-12 to 3-18	3-12 to 3-18
10	4W	Outside Area 4	15,16,17,18,19,20	4, 5, 6	4, 5, 6	4, 5, 6
11	4X	Lower Chatham Sound	14	3	3	3
12	4Y	Smith		2	2	2
13	4Z	River/Gap/Slough	11,12,13	1	1	1
14	Area 5	Area 5 Net	5-all	5-all	5-all	5-all

Analytical Procedures

- Reconstruct runs by adding daily catch to daily escapement
- work backwards through the fisheries
  - Terminal – inside – outside
- Stock composition (SC) alternatives:
  - Equal Vulnerability – SC for all fisheries determined by stock abundance in each fishery
  - Alaska Scale/DNA Data – SC for Alaska fisheries obtained from AK analysis of scale/DNA data
  - Canadian DNA Data – SC for Canadian fisheries obtained from BC analyses of DNA data (started in 2002)

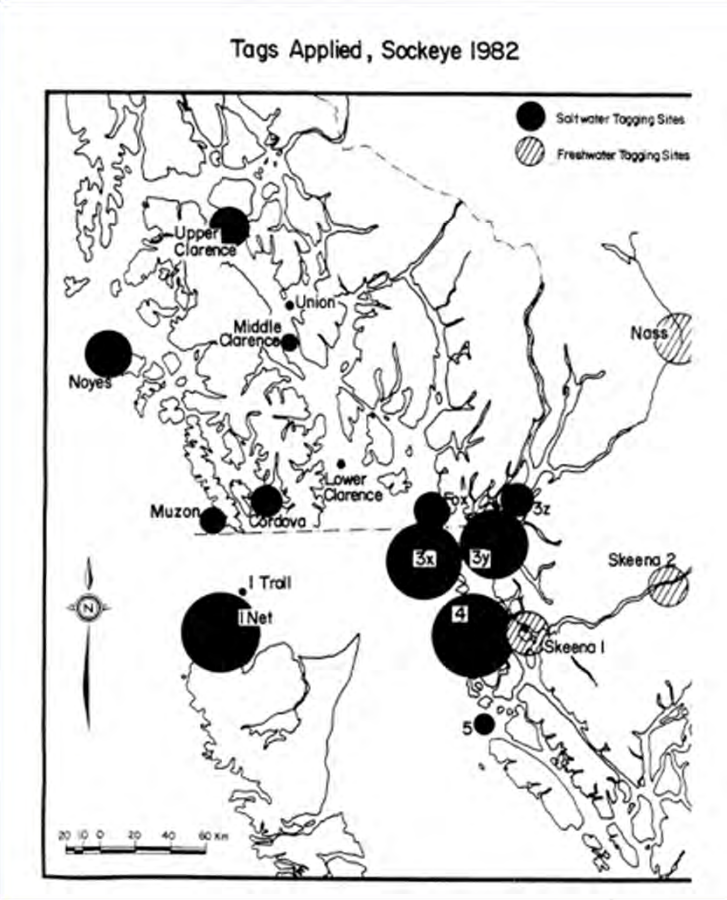
Eight Sets of Migration Routes

- Routing A – 20 years
- Routing B – 3 years
- Routing C – 3 years
- Routing D – 1 year
- Routing E – 3 years
- Routing F – 1 year
- Routing G – 3 years
- Routing H – 1 year

- 35 years

Route	No. Yrs.	Year Used	Comments
A1	14	1982-88, 1992-97, 2000	Originally based on the 1983 migration parameters defined to produce seasonal stock composition estimates that were within 3 percentage points of the 1983 international tagging study estimates for each fishery-stock combinations (Gazey and English 2000). The results of detailed comparisons of weekly stock compositions data for 1983 and other years were used to further refine the 1983 parameters into routing A. These refinements included routing more Skeena sockeye through outside portions of Area 3 and 4, reducing the portion of the Skeena stock that migrates through the Tree Point and Lower Clarence fisheries, and ensuring that the same portions of each stock migrate through both the Dall and Noyes Island fisheries.
A2	6	2003, 2004, 2009, 2013, 2014, 2015	Minor adustment made for route A from 2002 analyses data to route some Nass, Skeena and other US Other sockeye through the District 103 fishery, previously defined as a terminal fishery for US Other stock, starting in 2003.
B1	1	1991	Used when Skeena sockeye comprised a larger portion of the Tree Point fishery than in any other year. A substantial increase in the portion of the Skeena stock routed through Area 3B and on to Tree Point (1.3% to 7.1%) and the portion of the Nass stock routed through the Tree Point fishery was increased from 21% to 30% to replicate the stock proportions estimated from Tree Point stock comp. data.
B2	2	2011, 2016	Minor adustment made for route B from 2002 analyses data to route some Nass, Skeena and other US Other sockeye through the District 103 fishery, previously defined as a terminal fishery for US Other stock, starting in 2003.
C1	2	1989-1990	Used when Alaskan scale data suggested that the abundance of Nass and Skeena stocks in Alaskan fisheries were higher than could be accounted for by changes in run size alone. Routing is based on routing A with more Nass fish routed through all Alaskan fisheries, more Skeena fish in the lower Clarence, Noyes and Dall Island fisheries, and less Alaskan stocks in the Noyes and Dall Island fisheries.
C2	1	2007	Minor adustment made for route C from 2002 analyses data to route some Nass, Skeena and other US Other sockeye through the District 103 fishery, previously defined as a terminal fishery for US Other stock, starting in 2003.
D1	1	1998	Composite of routing A and C parameters for the Nass and Skeena stocks. The Skeena routing is similar to that in routing C with slight increase in the portion passing through Tree Point and lower Clarence fisheries. Most of the migration parameters for Nass sockeye are identical to those for Routing A but two important changes to parameters for the 3B fishery results in a substantial increase in the portion of the Nass stock routed throught the Tree Point fishery and a major reduction in the Nass fish passing through Areas 4 and 5 fisheries.
D2	0	NU	Minor adustment made for route D from 2002 analyses data to route some Nass, Skeena and other US Other sockeye through the District 103 fishery, previously defined as a terminal fishery for US Other stock, starting in 2003.
E1	2	1999, 2001	Represents slight modification to routing A to reduce contribution of Nass and Skeena stocks to the Tree Point and lower Clarence fisheries. This route has the smallest portion of the the Nass and Skeena stocks in the inside Alaskan fisheries while the portion of Alaskan stocks migrating through these fisheries are similar across all sets of routing parameters.
E2	1	2006	Minor adustment made for route E from 2002 analyses data to route some Nass, Skeena and other US Other sockeye through the District 103 fishery, previously defined as a terminal fishery for US Other stock, starting in 2003.
F1	1	2002	Used when very few Nass and Skeena sockeye were caught in the southeast Alaskan fisheries. Substantial reductions in this route for Nass and Skeena sockeye in every Alaskan fishery and produced stock-specific catch estimates using the equal vulnerability assumption that were consistent with those computed using the stock compsition estimates dervied from the Alaskan scale sampling data. The portions of the Skeena stock migrating through Areas 3B, 3C and 4W fisheries were also reduced to provide results that were consistent with the available DNA stock composition estimates for these fisheries.
F2	0	NU	Minor adustment made for route F from 2002 analyses data to route some Nass, Skeena and other US Other sockeye through the District 103 fishery, previously defined as a terminal fishery for US Other stock, starting in 2003.
G3	3	2005, 2010, 2012	Used to route more Alaskan and Other US sockeye into Area 3 based on Canadian genetic sampling data.
H2	1	2008	Used to route less Skeena in Areas 3B, 3C, 4W and inside Alaska and more Stikine in Upper Clarence based on genetic data available.
Total	**35**		

Marine tagging studies – 1982 & 1983 (routes & residence times in fisheries)



Year	Tags Applied	Tags Recovered	Fish Examined
1982	40,556	7,864	2,523,060
1983	21,289	3,533	1,764,950

Tag releases and recoveries, sockeye 1982.

RECOVERY AREA	TAG RELEASE AREA: Troll I	Net I	Area 3w	Area 3y	Area 3z	Area 4	Area 5	TOTAL SOCKEYE: Noyes	Muzon	Clarence Upper	Clarence Mid. Lower	Cordova	Fox	Union	Total	Fish Examined
Area 31,7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59
Area 1,1-5	0	47	3	0	0	0	0	0	2	0	0	1	0	0	53	13499
Area 3	0	12	11	19	3	7	1	4	0	4	1	0	0	0	68	10034
Area 3,1	0	82	85	19	6	40	1	12	2	22	1	0	9	19	2	274	103064
Area 3,2-6	0	42	24	48	7	45	5	10	3	4	1	0	2	19	1	211	34104
Area 3,7-12	0	43	18	500	85	101	4	13	2	2	1	0	4	41	1	817	38410
Area 4	0	15	33	13	3	42	1	3	6	8	0	0	0	0	1	125	33134
Area 4,1	0	29	19	2	0	29	0	5	4	4	0	0	7	7	0	106	22602
Area 4,2-6	0	35	15	2	2	22	1	9	2	3	0	0	2	3	0	97	28036
Area 4,5-8	2	29	42	25	2	32	0	1	2	3	0	0	2	10	0	150	26154
Area 4,9-11	2	101	139	31	9	140	1	27	17	20	4	1	2	23	0	517	119523
Area 4,12	3	131	390	76	3	490	3	33	19	15	2	0	3	19	0	1107	126393
Area 5	0	3	0	0	0	1	0	1	0	0	0	0	0	0	0	5	752
Area 5,1-10	0	20	12	1	0	5	0	4	1	0	0	0	1	0	0	44	7161
Area 5,11-12	0	3	1	1	0	0	0	0	0	0	0	0	0	0	0	5	2302
Area 5,20-22	0	5	0	0	0	0	0	1	0	0	0	0	0	0	0	6	3675
Area 6	0	3	2	0	0	0	2	0	0	0	0	0	0	0	0	7	2982
Area 7	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	2684
Two Area	0	45	49	11	2	41	0	7	4	5	1	0	1	10	0	160	43969
Other Ocean	0	8	1	0	1	0	0	0	0	0	0	0	0	0	0	10	2275
Skeena Test	1	33	27	7	0	50	10	7	3	4	0	0	0	0	0	142	7373
Alistair	0	5	1	0	0	8	0	0	0	0	0	0	0	0	0	12	1855
Lakelse	0	10	1	1	0	13	0	1	0	0	0	0	0	0	0	26	8920
Babine Fence	0	215	445	62	9	562	53	72	15	33	2	0	5	18	3	1472	1200528
Above Fence	0	13	18	3	1	10	1	1	0	4	1	1	1	1	0	55	112833
Nass Test	2	8	5	40	5	9	4	8	1	21	2	0	2	3	0	110	3413
Meziadin	1	109	112	675	96	116	2	58	10	8	5	1	7	87	0	1286	245112
Damdochax	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	2462
Fred-Wright	0	0	0	10	1	3	0	0	1	0	1	0	0	0	0	16	8369
Bowser	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	951
Khutzeymateen	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	413
Hasset	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	139
Other Stream	0	1	3	1	1	0	2	1	0	0	0	0	0	0	0	9	4829
Noyes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16102
Muzon	0	0	0	0	0	0	0	4	1	0	0	0	1	0	0	6	8261
U-Clarence	0	0	0	0	0	0	0	7	0	0	0	0	1	1	0	9	27645
M-Clarence	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39
L-Clarence	0	5	3	3	0	6	0	4	0	11	1	0	6	6	0	45	12122
Cordova	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26
Fox	0	38	9	17	1	69	0	9	4	5	1	0	5	8	0	164	29917
Two Area	0	10	5	0	0	11	0	12	0	5	1	0	4	4	0	48	52271
Stream 101	0	69	10	20	4	85	0	33	8	28	22	5	28	116	3	429	72546
Stream 102	0	6	0	1	0	1	0	26	3	37	14	15	107	1	3	212	55942
Stream 103	0	6	0	0	0	3	0	8	5	0	1	0	3	2	0	28	13739
Stream 106	0	1	0	0	0	0	0	1	0	1	0	0	2	0	0	5	15941
TOTAL	11	1165	1481	1585	239	1845	91	382	113	243	65	21	207	406	14	7864	2523060
TAGS APPLIED	49	7909	7038	5930	1352	8700	498	3038	871	1881	295	89	1184	1694	107	40556	

MIGRATION ROUTING A

Name	Code	Resid.	Name	Code	Resid.	Name	Code	Resid.	Name	Code	Resid.
Term108	33	1	4X	11	1	Tree	29	1	Cordova	22	1
Term101	30	2	4W	10	1	L-Clar	26	2	Dall	21	2
Union	28	1	3E	9	1	1TS	3	3	Noyes	20	2
Revilla	27	2	3D	8	1	1N	1	1	Dist103	31	1
Area 5	14	1	3C	7	1	M-Clar	25	2	Dist105	32	1
4Z	13	2	3B	6	2	U-Clar	24	2	Refuge	15	1
4Y	12	1	3A	5	1	Sumner	23	2			

Migration routes through the fisheries

	From	To	To	To	To	Prop.	Prop.	Prop.	Prop.
Skeena									
4Z	13	12				1.00			
4Y	12	11				1.00			
4X	11	10	14			0.85	0.15		
4W	10	7	6	5	15	0.10	0.10	0.50	0.30
Area 5	14	3				1.00			
3A	5	3	26			0.90	0.10		
3B	6	5	29			0.93	0.08		
3C	7	6				1.00			
Tree	29	26	27			0.50	0.50		
Revilla	27	26				1.00			
L.Clar	26	3	22	25		0.10	0.77	0.13	
1TS	3	21	1			0.50	0.50		
Cordova	22	21				1.00			
Dall	21	20	31			0.99	0.01		
M.Clar	25	24				1.00			
U.Clar	24	23				1.00			
Sumner	23	32				1.00			
Nass									
3E	9	8				1.00			
3D	8	7				1.00			
3C	7	6				1.00			
3B	6	29	5	10		0.21	0.25	0.54	
4W	10	11	5			0.80	0.20		
4X	11	14	15			0.95	0.05		
Area 5	14	3				1.00			
3A	5	3	26			0.05	0.95		
Tree	29	26	27	15		0.20	0.10	0.70	
Revilla	27	25				1.00			
L.Clar	26	22	25			0.84	0.16		
M.Clar	25	24				1.00			
U.Clar	24	23				1.00			
Sumner	23	32				1.00			
Cordova	22	21				1.00			
Dall	21	20	31			0.99	0.01		
1TS	3	21	1			0.18	0.82		

	From	To	To	To	To	Prop.	Prop.	Prop.	Prop.
Stikine									
Term108	33	24	23			0.20	0.80		
U.Clar	24	23				1.00			
Sumner	23	32				1.00			
MacD									
Term101	30	26	27			0.80	0.20		
Revilla	27	29	26			0.50	0.50		
L.Clar	26	25	22	29		0.42	0.55	0.03	
Tree	29	5	6			0.20	0.80		
3B	6	5				1.00			
3A	5	3				1.00			
1TS	3	1				1.00			
Cordova	22	21	15			0.70	0.30		
Dall	21	20	31			0.99	0.01		
M.Clar	25	24				1.00			
U.Clar	24	23				1.00			
Sumner	23	32				1.00			
US_Oth									
Stock	99	27	25	28		0.10	0.50	0.40	
Union	28	24				1.00			
Revilla	27	26	29			0.85	0.15		
L.Clar	26	22				1.00			
M.Clar	25	26	24			0.75	0.25		
U.Clar	24	23				1.00			
Sumner	23	32				1.00			
Cordova	22	21	15			0.70	0.30		
Dall	21	20	31			0.95	0.05		
Tree	29	5	6	26		0.05	0.20	0.75	
3B	6	5	10			0.10	0.90		
4W	10	5	11			0.10	0.90		
4X	11	14				1.00			
3X	5	3				1.00			
1TS	3	1				1.00			

Routes - % modeled stocks in modelled fisheries

	Skeena								Nass							
	A	B	C	D	E	F	G	H	A	B	C	D	E	F	G	H
1N	34.1	43.0	23.5	24.4	36.2	22.2	47.2	21.2	35.1	29.4	26.3	20.0	46.4	35.9	43.8	35.1
1TS	68.1	86.1	47.0	48.8	72.4	44.4	67.5	42.5	42.8	35.9	32.1	24.4	56.6	43.8	62.5	42.8
3A	58.2	77.9	57.8	61.0	59.0	14.4	57.5	13.7	35.8	34.0	33.0	31.0	38.8	34.5	35.8	35.8
3B	17.0	34.0	17.0	17.0	17.0	4.0	17.0	4.0	100.0	100.0	100.0	68.5	100.0	100.0	100.0	100.0
3C	8.5	8.5	8.5	8.5	8.5	0.8	8.5	2.0	100.0	100.0	100.0	68.5	100.0	100.0	100.0	100.0
3D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	100.0	68.5	100.0	100.0	100.0	100.0
3E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	100.0	68.5	100.0	100.0	100.0	100.0
4W	85.0	85.0	85.0	85.0	85.0	20.0	85.0	20.0	54.0	45.0	40.0	30.0	54.0	65.0	54.0	54.0
4X	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	43.2	36.0	32.0	24.0	43.2	9.8	43.2	43.2
4Y	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4Z	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Area 5	15.0	15.0	15.0	15.0	15.0	30.0	15.0	30.0	41.0	34.2	30.4	22.8	41.0	9.3	41.0	41.0
Refuge	25.5	5.0	25.5	21.3	25.5	70.9	25.5	56.0	16.9	22.8	1.6	1.2	14.8	55.5	16.9	16.9
Noyes	39.3	50.4	46.8	49.8	37.8	6.8	26.0	22.3	39.6	38.4	61.2	40.3	32.6	8.4	34.0	39.4
Dall	39.5	50.7	47.0	50.0	38.0	6.9	26.2	22.5	39.8	38.6	61.5	40.5	32.8	8.5	34.3	39.8
Cordova	5.5	7.6	23.6	25.6	1.8	0.2	6.0	1.3	32.1	32.2	55.7	36.1	22.6	0.6	15.6	32.1
Sumner	0.9	1.3	4.0	4.3	0.3	0.0	1.0	0.2	8.2	9.1	10.6	6.9	6.1	0.1	5.1	8.2
U-Clar	0.9	1.3	4.0	4.3	0.3	0.0	1.0	0.2	8.2	9.1	10.6	6.9	6.1	0.1	5.1	8.2
M-Clar	0.9	1.3	4.0	4.3	0.3	0.0	1.0	0.2	8.2	9.1	10.6	6.9	6.1	0.1	5.1	8.2
L-Clar	7.1	9.9	30.6	33.2	2.3	0.3	7.8	1.7	38.2	38.3	66.4	43.0	26.9	0.7	18.5	38.2
Revilla	0.6	0.7	0.9	1.4	0.3	0.1	1.0	0.2	2.1	3.0	17.5	4.5	1.8	0.4	2.1	2.1
Union	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	0.0	0.0	0.0
Tree (Fox)	1.3	7.1	1.7	2.7	0.5	0.6	2.0	0.3	21.0	30.0	35.0	13.5	18.0	7.0	21.0	21.0
Term101	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	0.0	0.0	0.0
Dist. 103[1]	0.2	0.3	0.2	0.3	0.2	0.0	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.0	0.3	0.4
Dist105	0.9	1.3	4.0	4.3	0.3	0.0	1.0	0.2	8.2	9.1	10.6	6.9	6.1	0.1	5.1	8.2
Term108	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	0.0	0.0	0.0

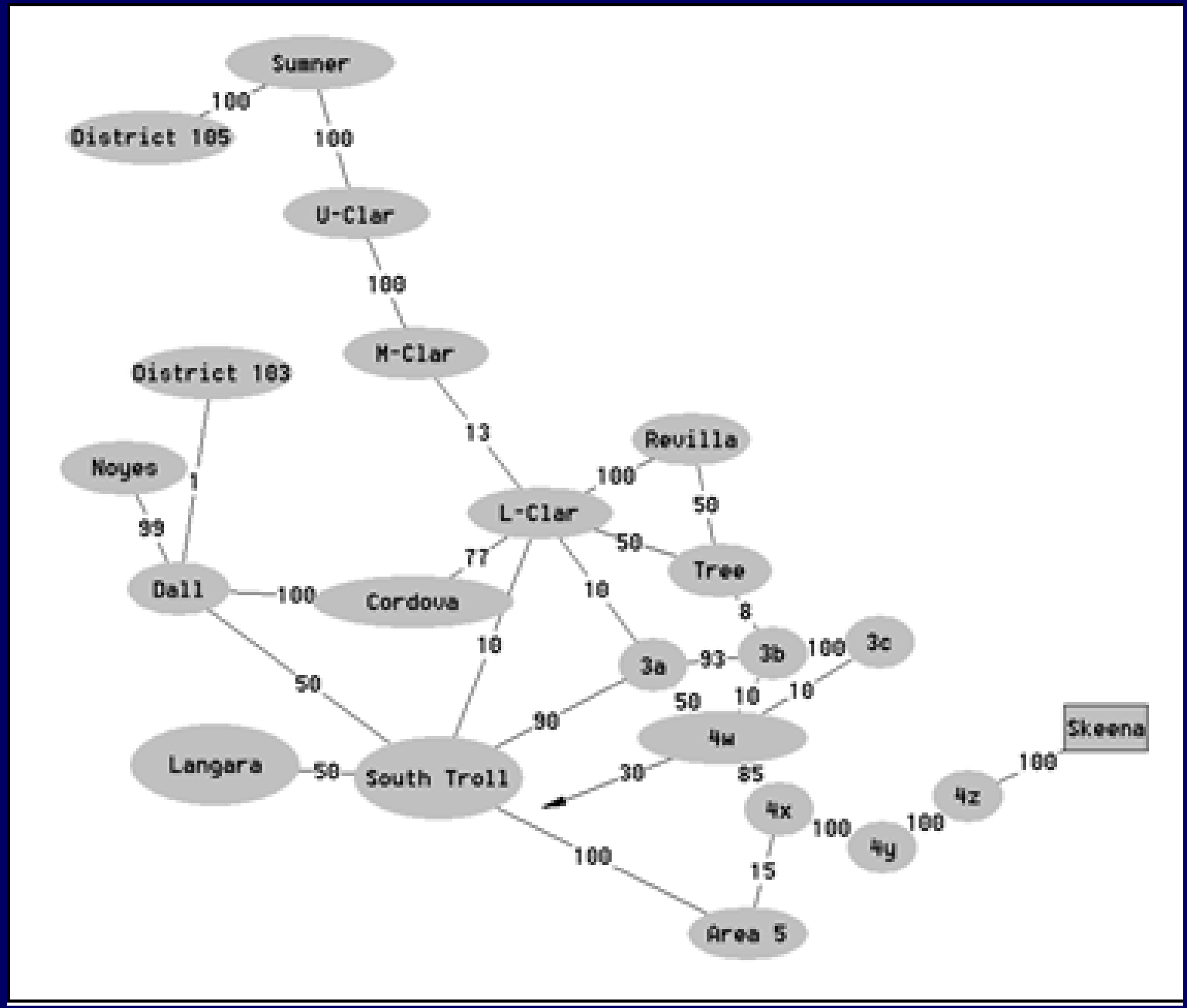
[1] Prior to 2003, the District 103 fishery was modeled as a terminal fishery for Alaskan stocks.

Routes - % modeled stocks in modelled fisheries

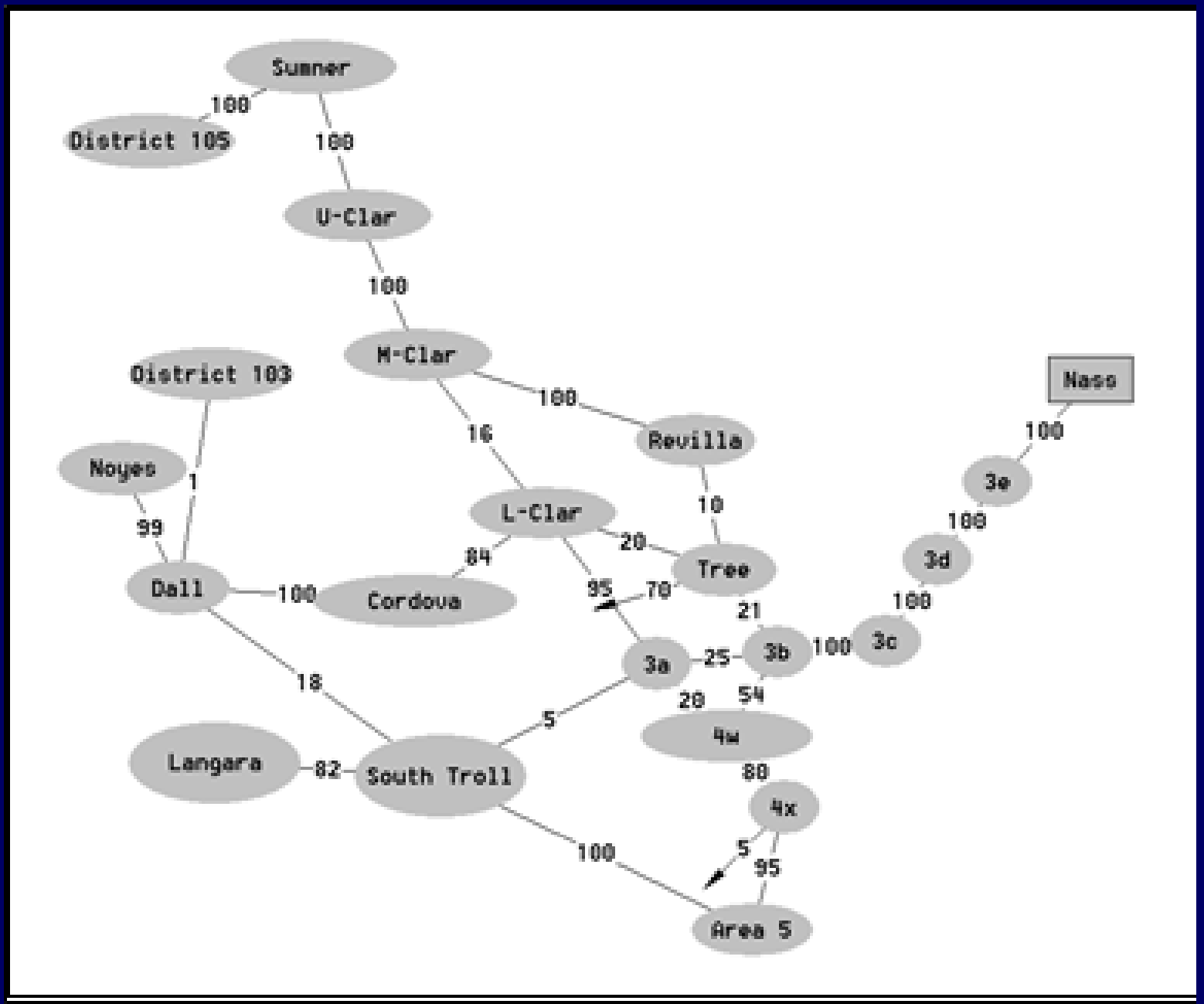
	Stikine		US McD				US Other					
	A-G	H	ABDEF	C	G	H	ABE	C	D	F	G	H
1N	0.0	0.0	12.7	12.7	28.8	12.7	0.1	0.3	0.3	0.3	1.4	0.1
1TS	0.0	0.0	12.7	12.7	28.8	12.7	0.1	0.3	0.3	0.3	1.4	0.1
3A	0.0	0.0	12.7	12.7	28.8	12.7	0.1	0.3	0.3	0.3	1.4	0.1
3B	0.0	0.0	10.2	10.2	23.0	10.2	0.3	0.7	0.7	0.7	6.6	0.3
3C	0.0	0.0	0.0	0.0	5.8	0.0	0.0	0.0	0.0	0.7	0.6	0.0
3D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4W	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.6	0.6	0.6	5.9	0.3
4X	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.6	0.6	5.3	0.2
4Y	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Area 5	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.6	0.6	5.3	0.2
Refuge	0.0	0.0	14.9	24.8	0.0	14.9	14.1	23.3	14.0	14.0	5.5	14.1
Noyes	0.0	0.0	34.5	24.6	42.3	34.3	31.3	22.1	31.0	31.0	47.2	31.3
Dall	0.0	0.0	34.7	24.8	42.8	34.7	33.0	23.3	32.6	32.6	49.7	33.0
Cordova	0.0	0.0	49.5	49.5	42.8	49.5	47.1	46.6	46.6	46.6	55.3	47.1
Sumner	100.0	100.0	37.8	37.8	28.5	37.8	52.5	52.5	52.5	52.5	38.0	52.5
U-Clar	20.0	40.0	37.8	37.8	28.5	37.8	52.5	52.5	52.5	52.5	38.0	52.5
M-Clar	0.0	0.0	37.8	37.8	28.5	37.8	50.0	50.0	50.0	50.0	40.0	50.0
L-Clar	0.0	0.0	90.0	90.0	95.0	90.0	47.1	46.6	46.6	46.6	55.3	47.1
Revilla	0.0	0.0	20.0	20.0	10.0	20.0	10.0	10.0	10.0	10.0	30.0	10.0
Union	0.0	0.0	0.0	0.0	0.0	0.0	40.0	40.0	40.0	40.0	30.0	40.0
Tree (Fox)	0.0	0.0	12.7	12.7	28.8	12.7	1.5	3.5	3.5	3.5	3.0	1.5
Term101	0.0	0.0	100.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Dist. 103[1]	0.0	0.0	0.2	0.1	0.4	0.3	1.6	1.2	1.6	1.6	2.5	1.6
Dist105	100.0	100.0	37.8	37.8	28.5	37.8	52.5	52.5	52.5	52.5	38.0	52.5
Term108	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

[1] Prior to 2003, the District 103 fishery was modeled as a terminal fishery for Alaskan stocks.

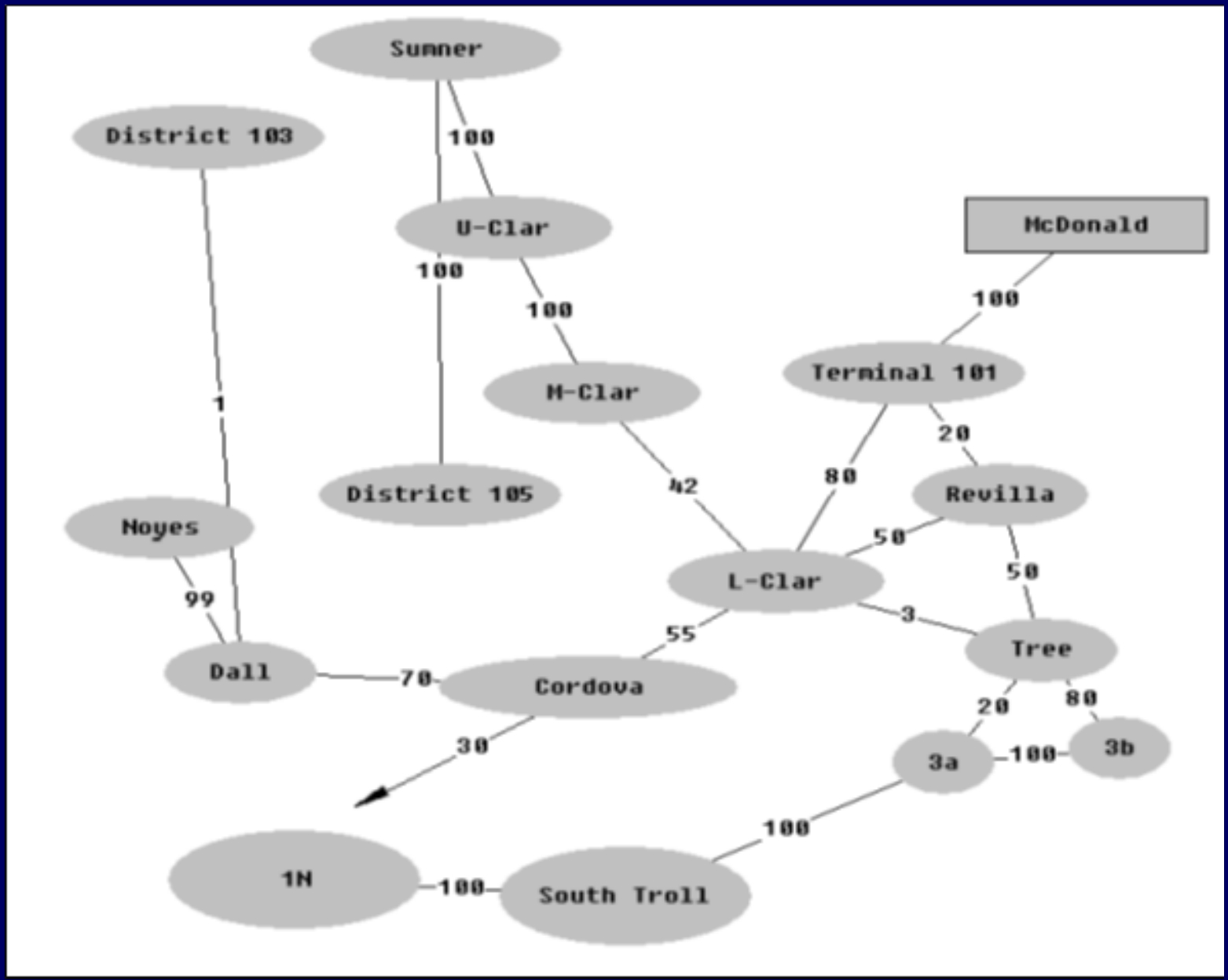
MIGRATION ROUTE A MAPS - SKEENA



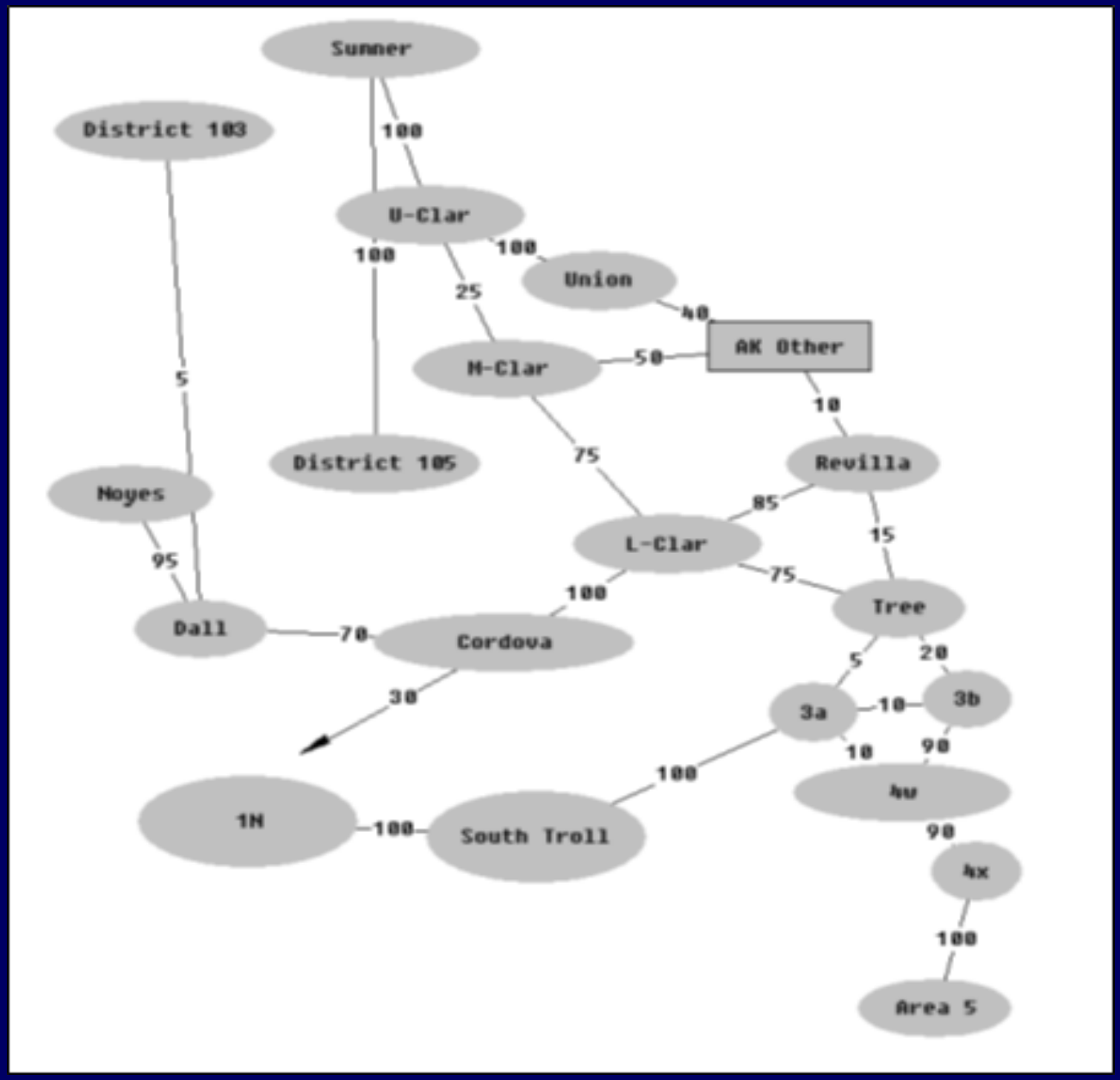
MIGRATION ROUTE A MAPS - NASS



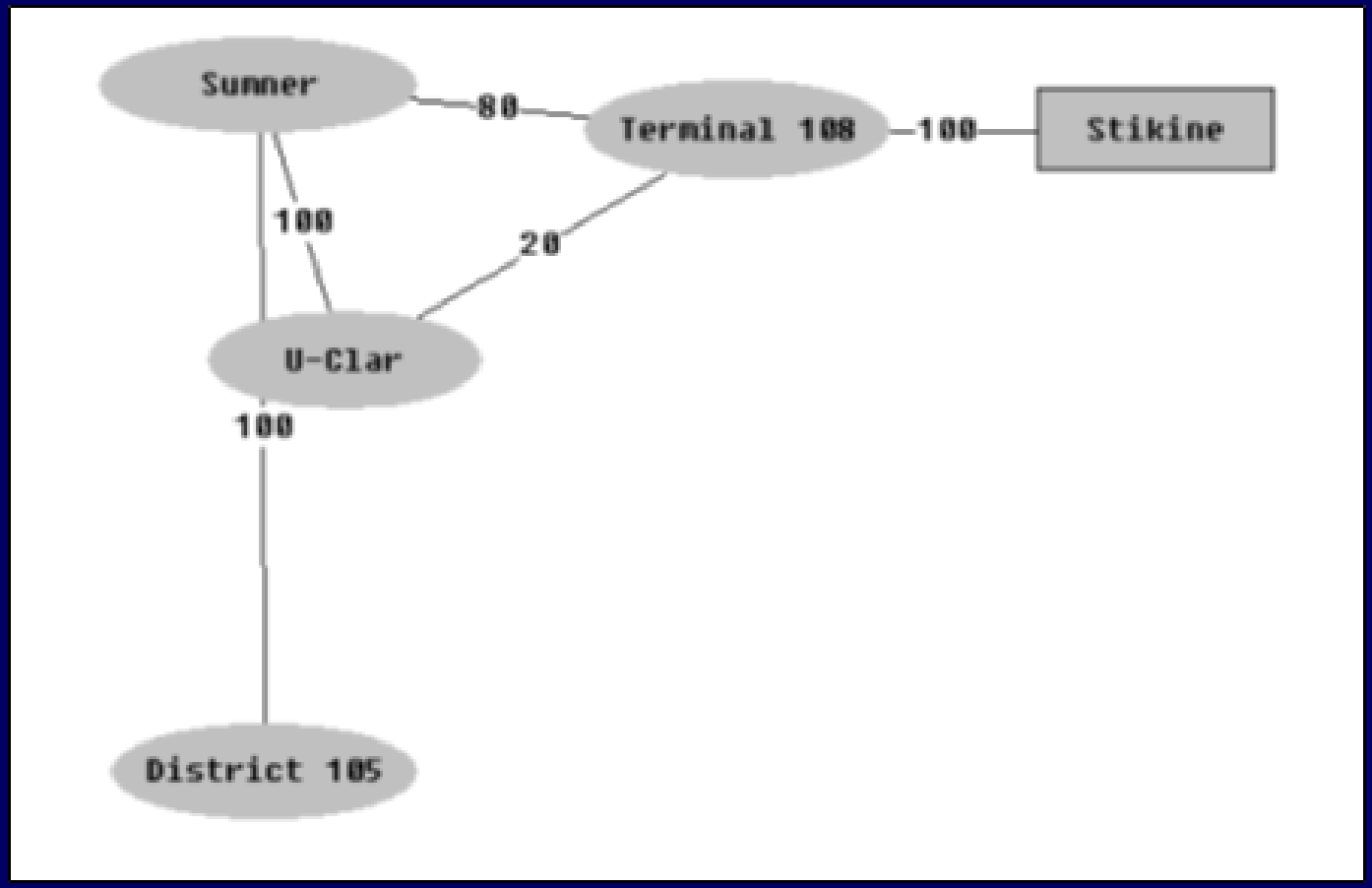
MIGRATION ROUTE A MAPS - MCDONALD



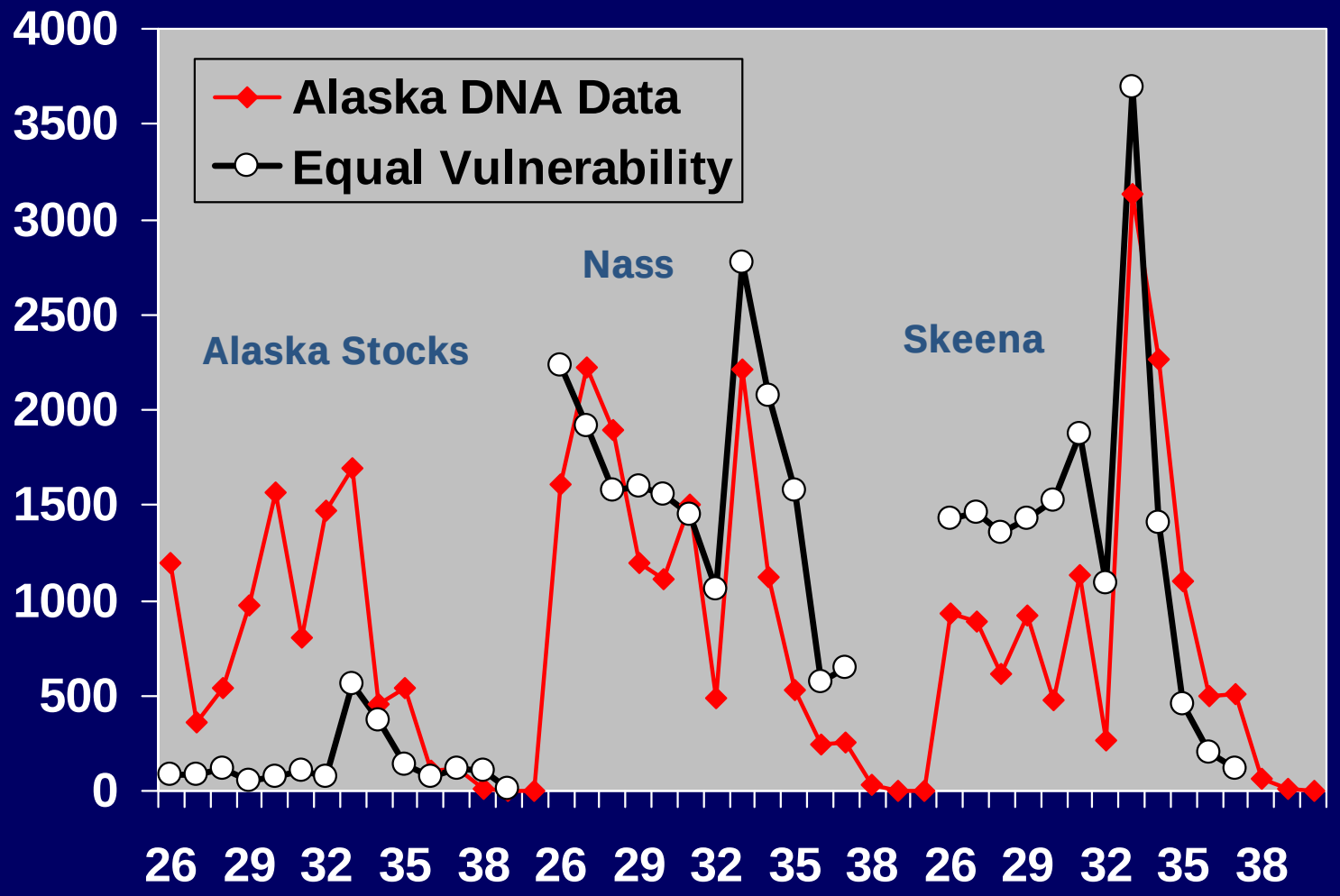
MIGRATION ROUTE A MAPS – US OTHER



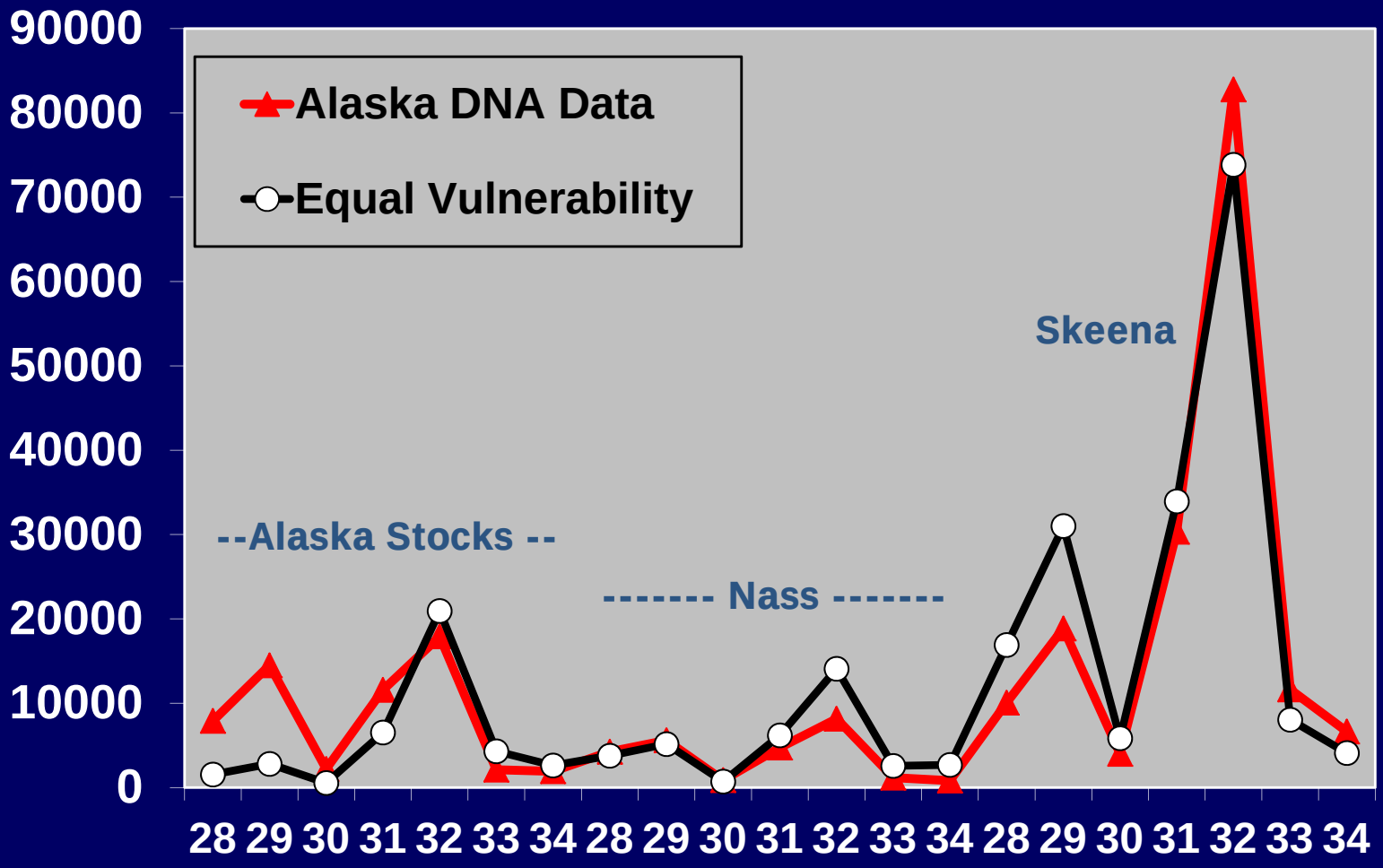
MIGRATION ROUTE A MAPS - STIKINE



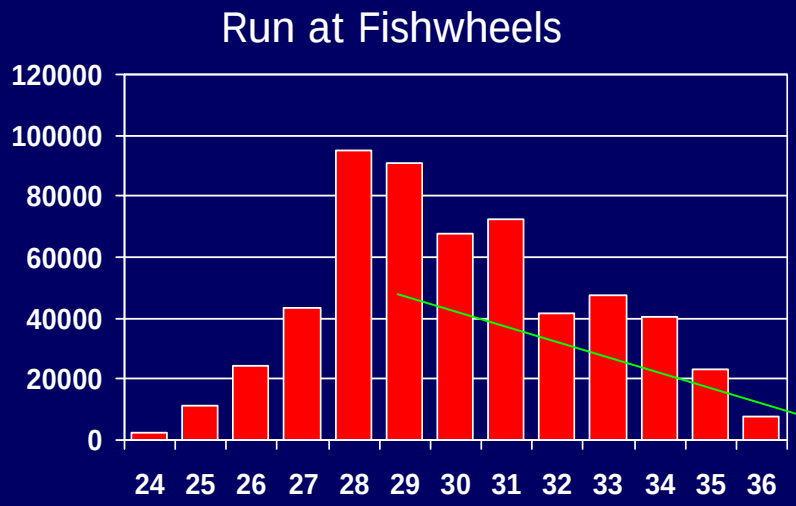
Comparison of Catch Results - Routing B (2016) – Tree Point

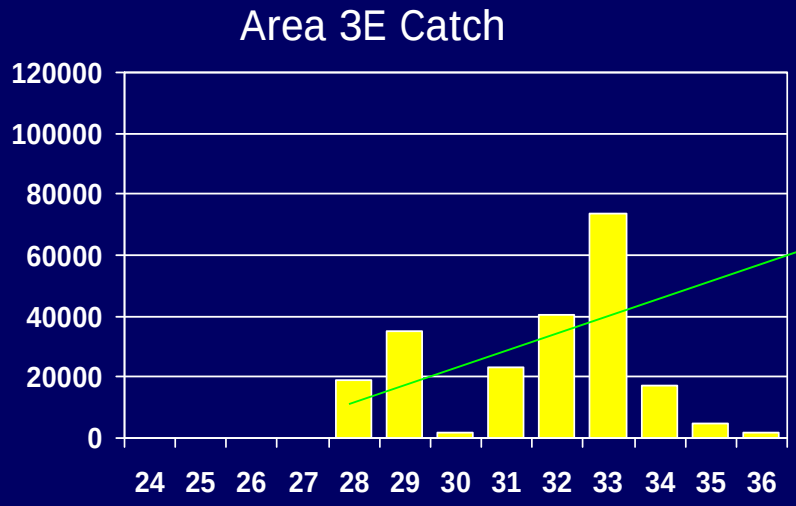


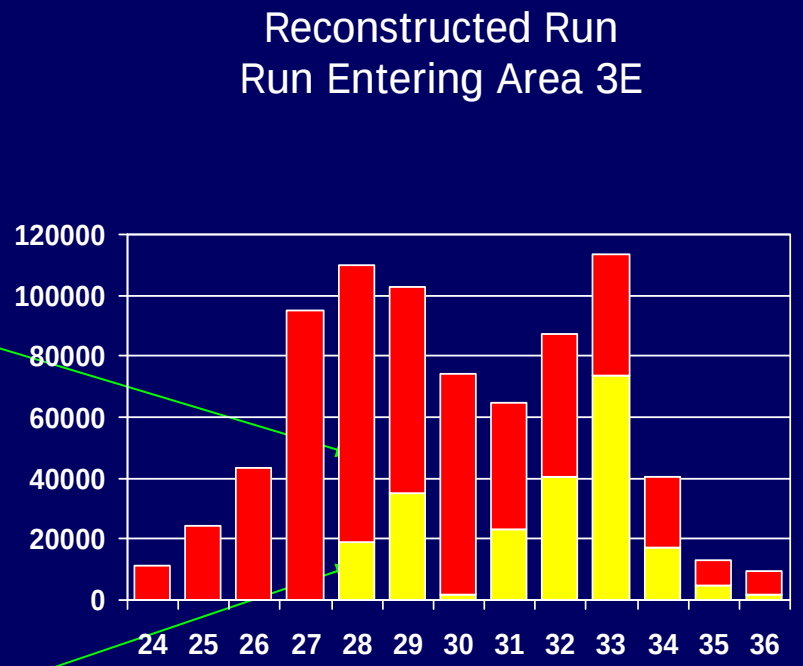
Comparison of Catch Results - Routing B (2016) – Noyes



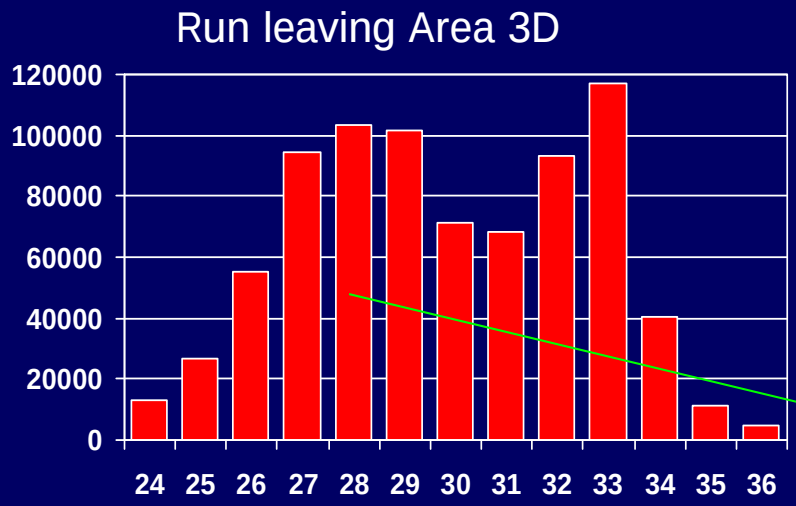
Run Reconstruction - Nass Sockeye 1993
(Area 3E fishery – 100% Nass)

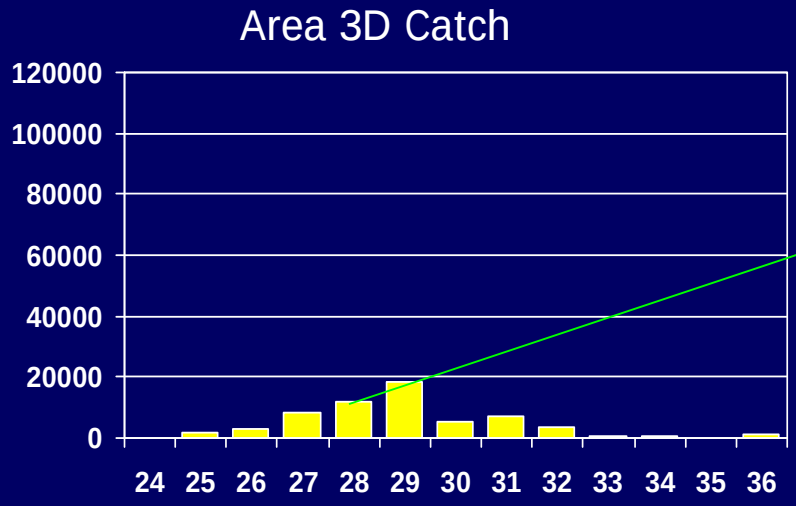


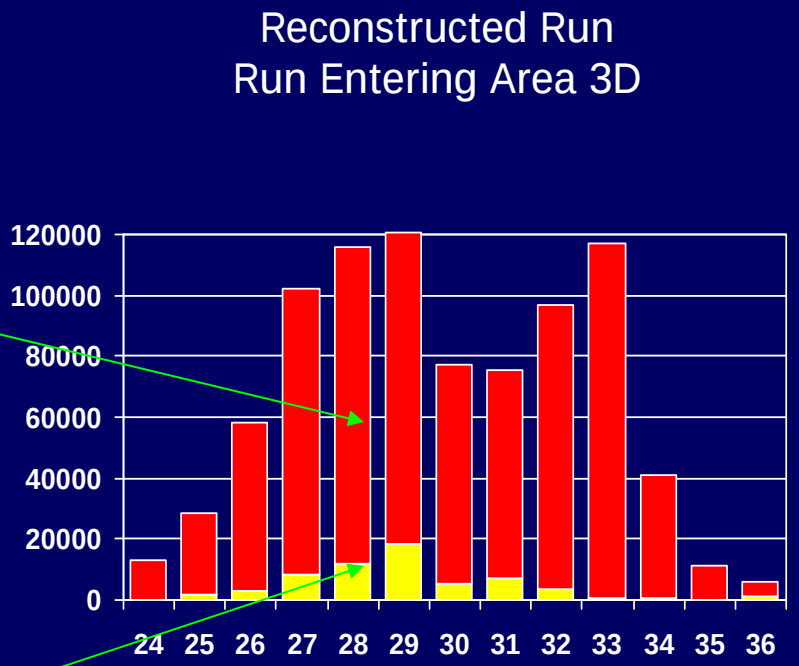




Run Reconstruction - Nass Sockeye 1993
(Area 3D fishery – 100% Nass)

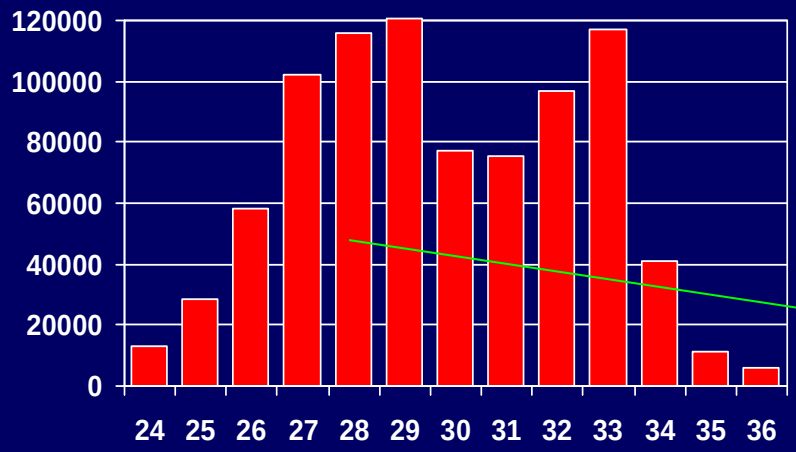




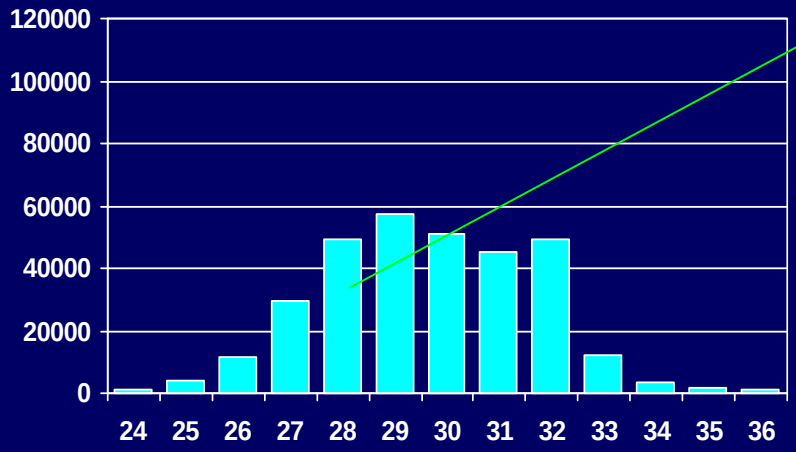


Run Reconstruction - Nass Sockeye 1993
(Area 3C fishery – Mixed Stock)

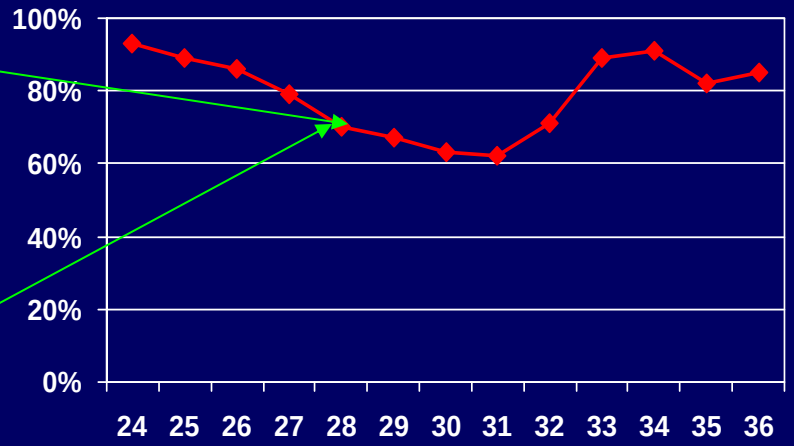
Nass Abundance in Area 3C



Skeena Abundance in Area 3C

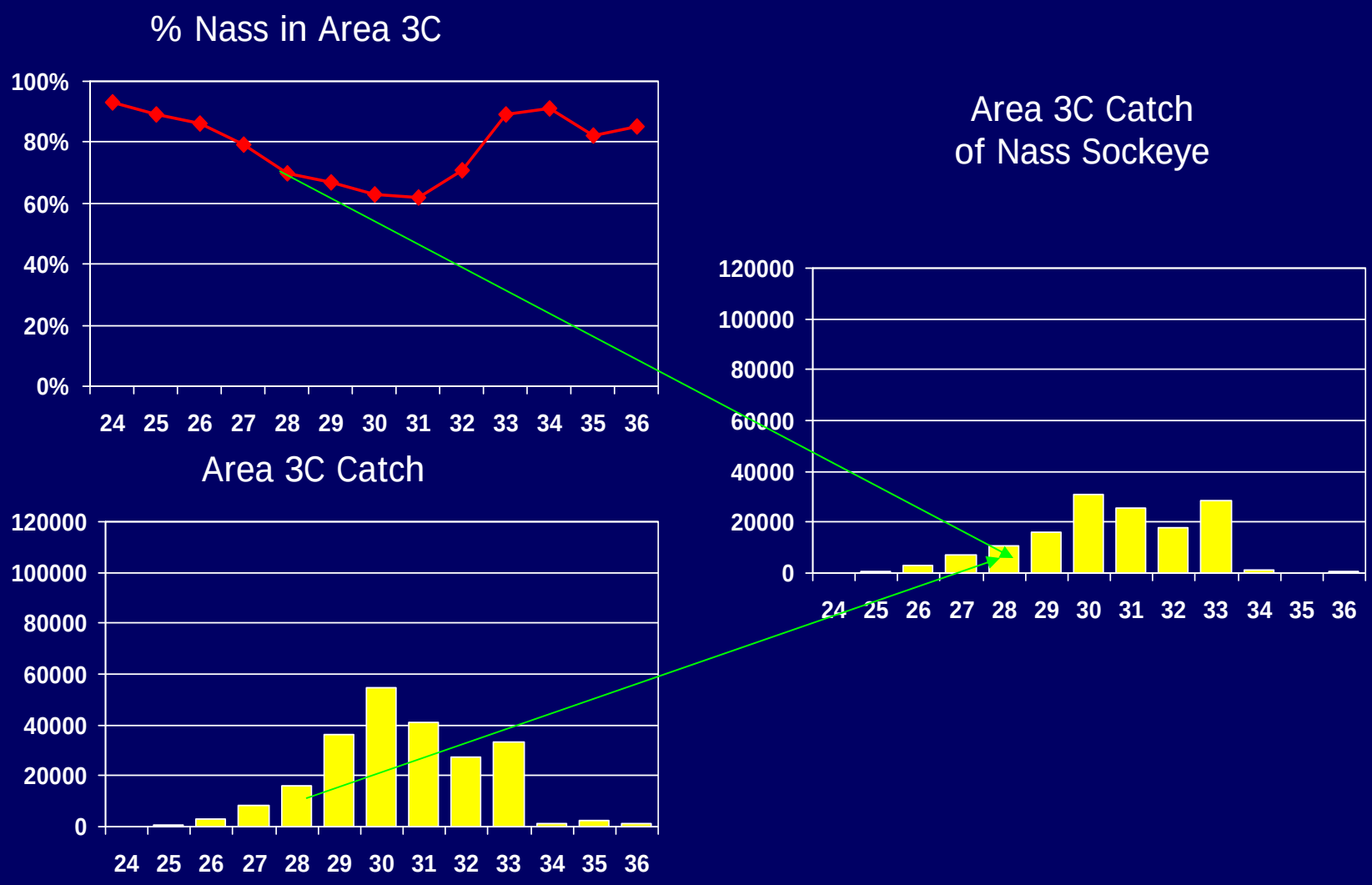


% Nass of Area 3C Sockeye Catch

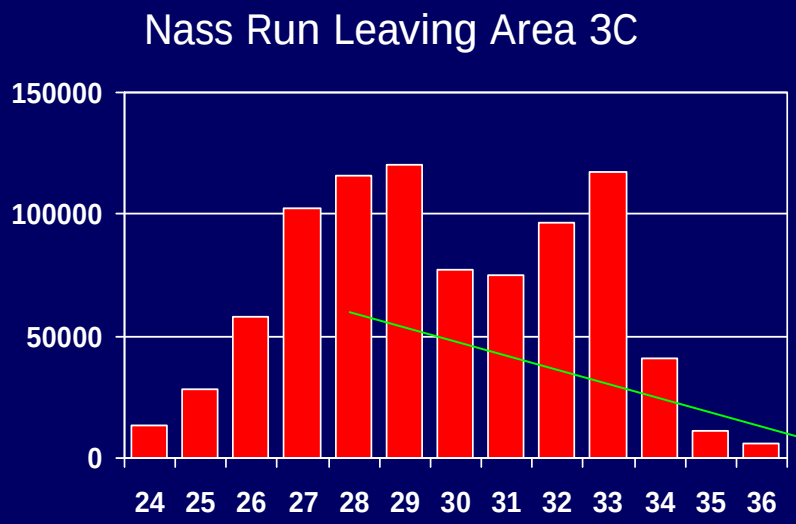


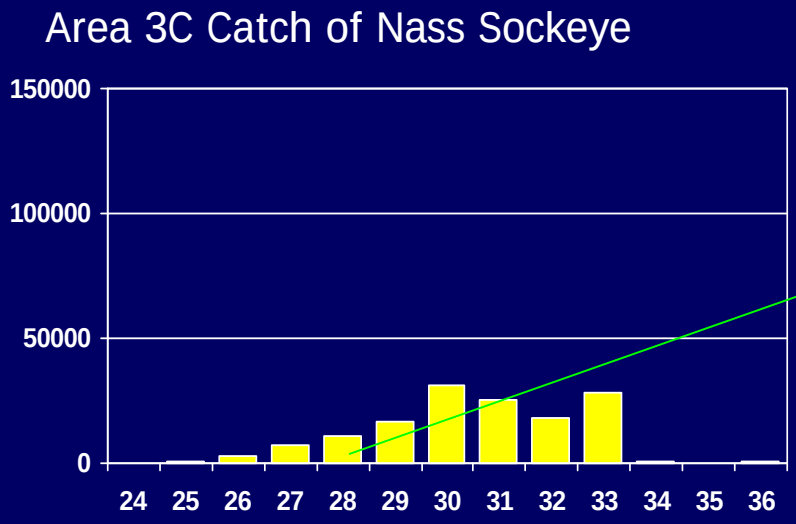
Equal Vulnerability Model
- stock comp. determined by abundance in fishery

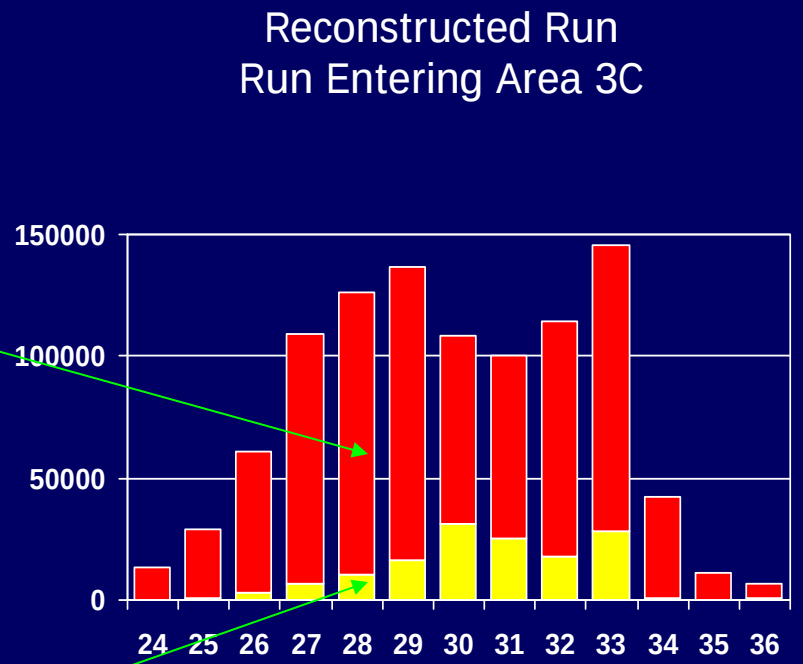
Run Reconstruction - Nass Sockeye 1993
(Area 3C fishery – Calculate Nass Catch)



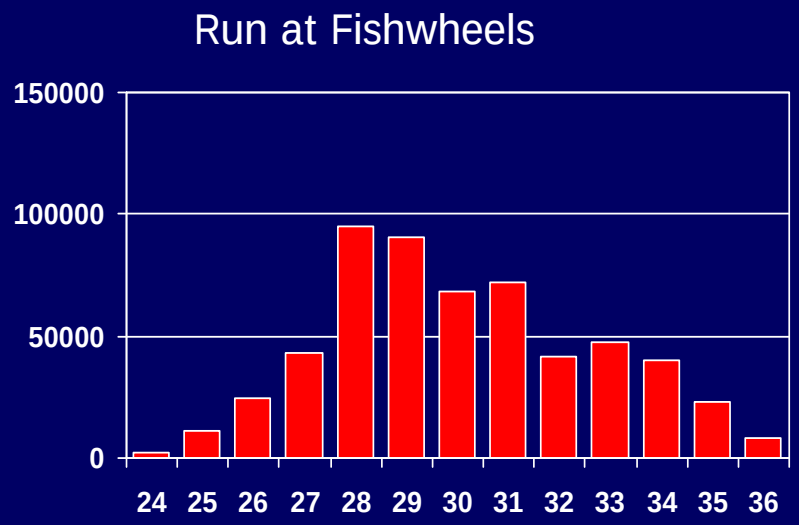
Run Reconstruction - Nass Sockeye 1993 (Through Area 3C)



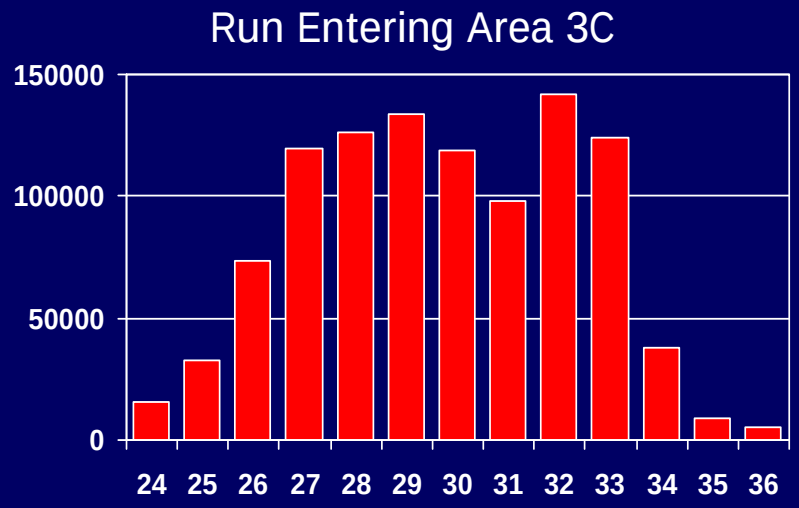




Run Reconstruction - Nass Sockeye 1993 (Summary)



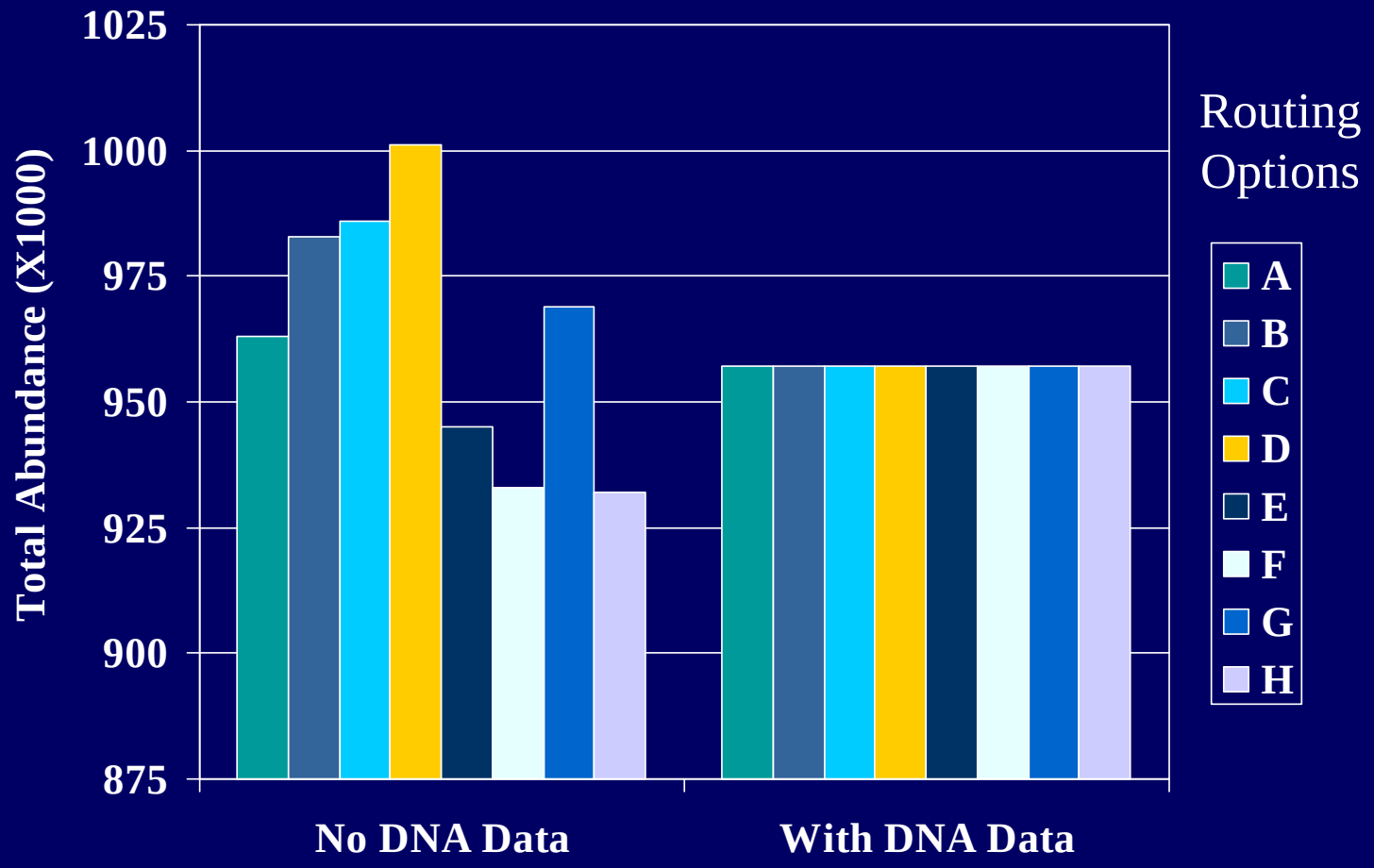
= Escapement



= Area 3C Nass Catch+
Area 3D Catch+
Area 3E Catch+
Escapement

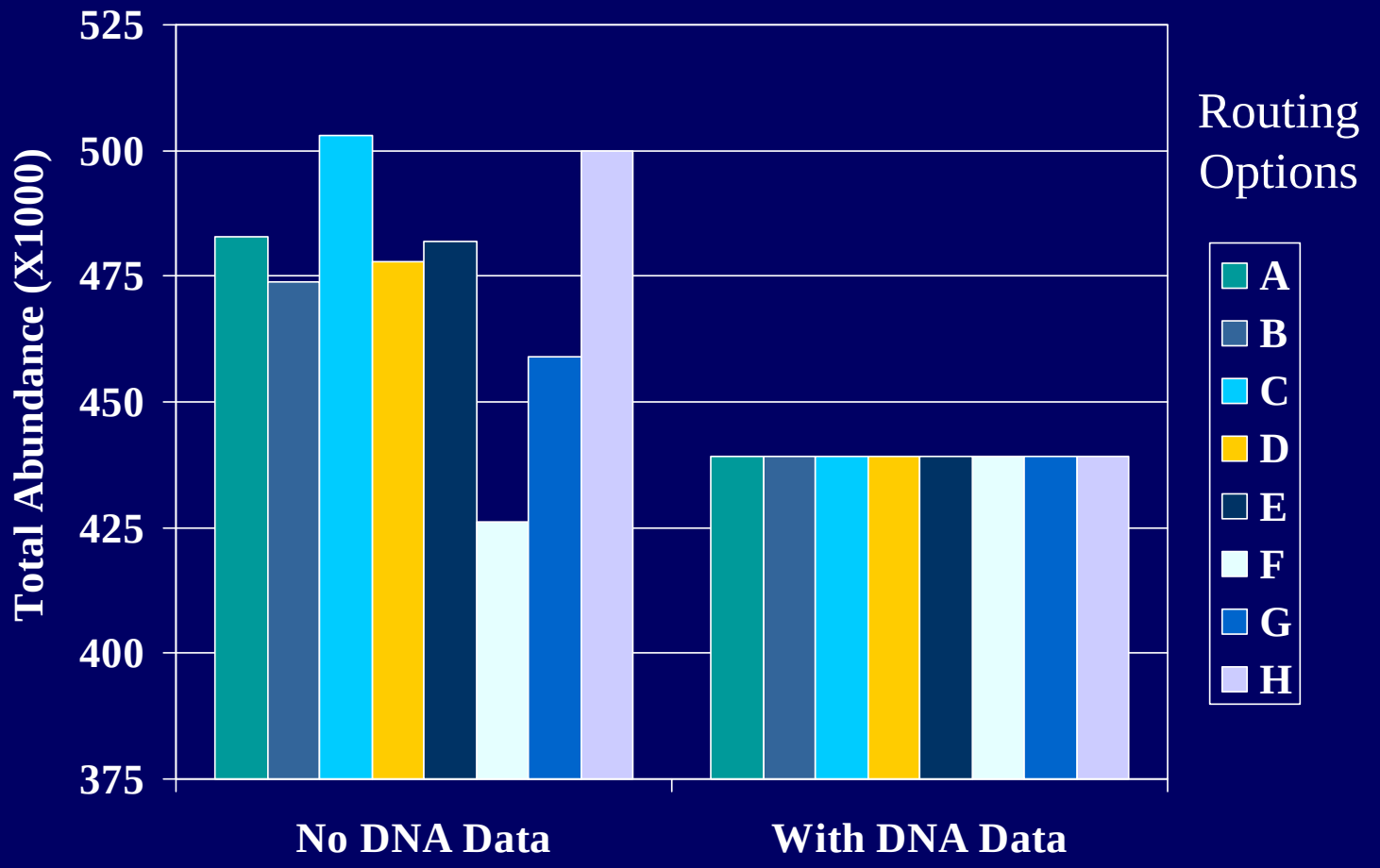
Skeena Abundance Estimates for 2010

- effect of DNA data and alternative routing options
  route G was used in 2010



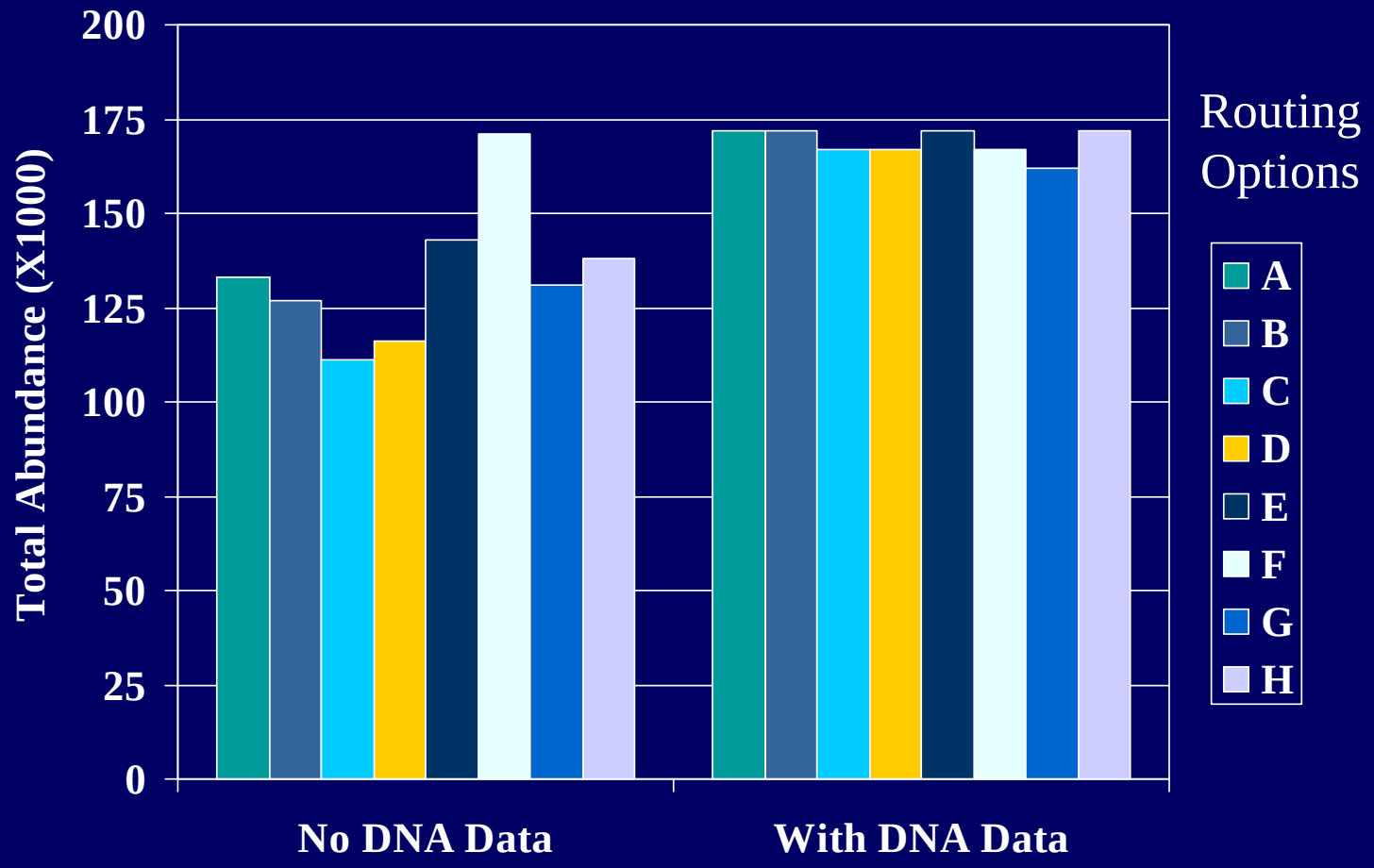
Nass Abundance Estimates for 2010

- effect of DNA data and alternative routing options (Route G was used for 2010)



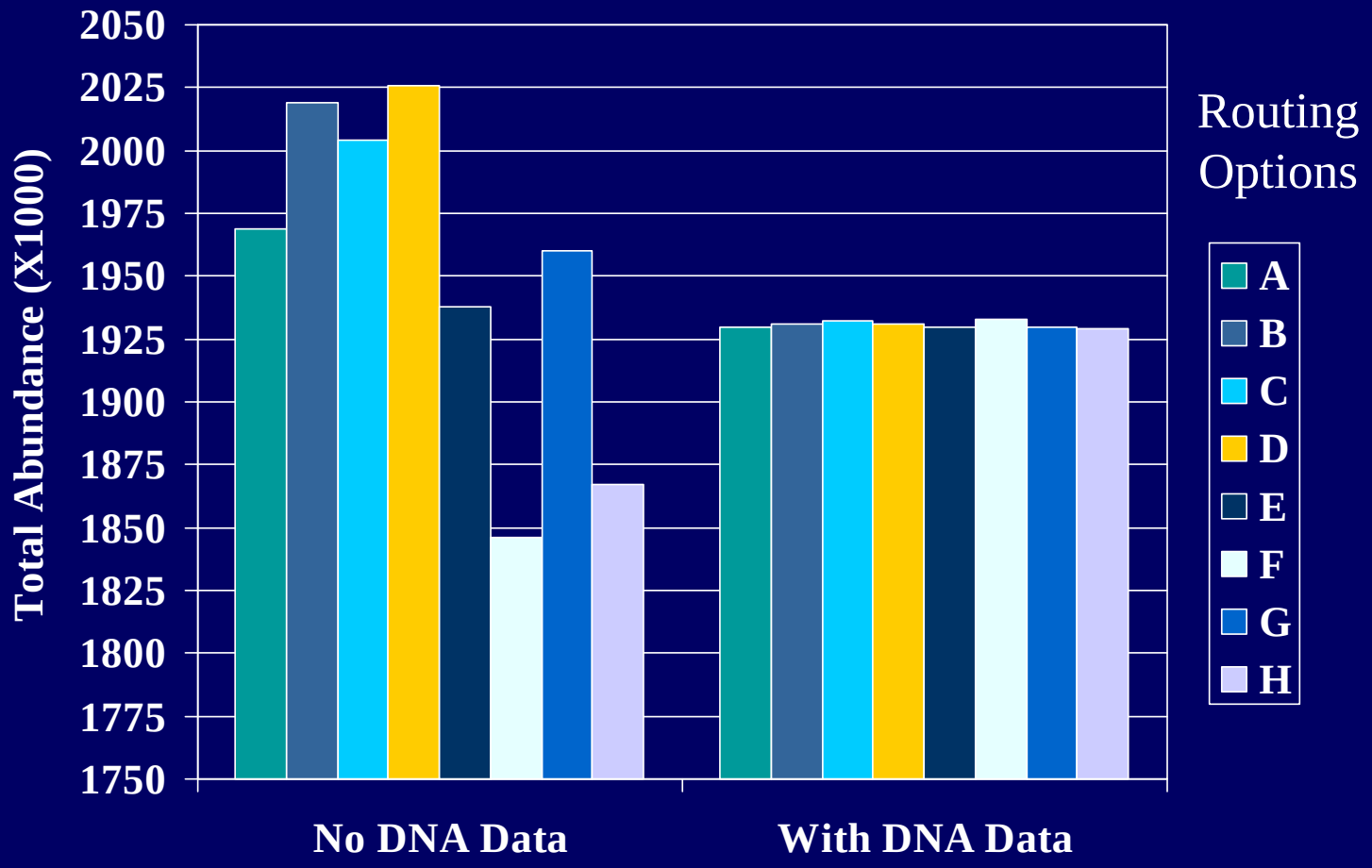
McDonald Abundance Estimates for 2010

- effect of DNA data and alternative routing options
  route G was used in 2010



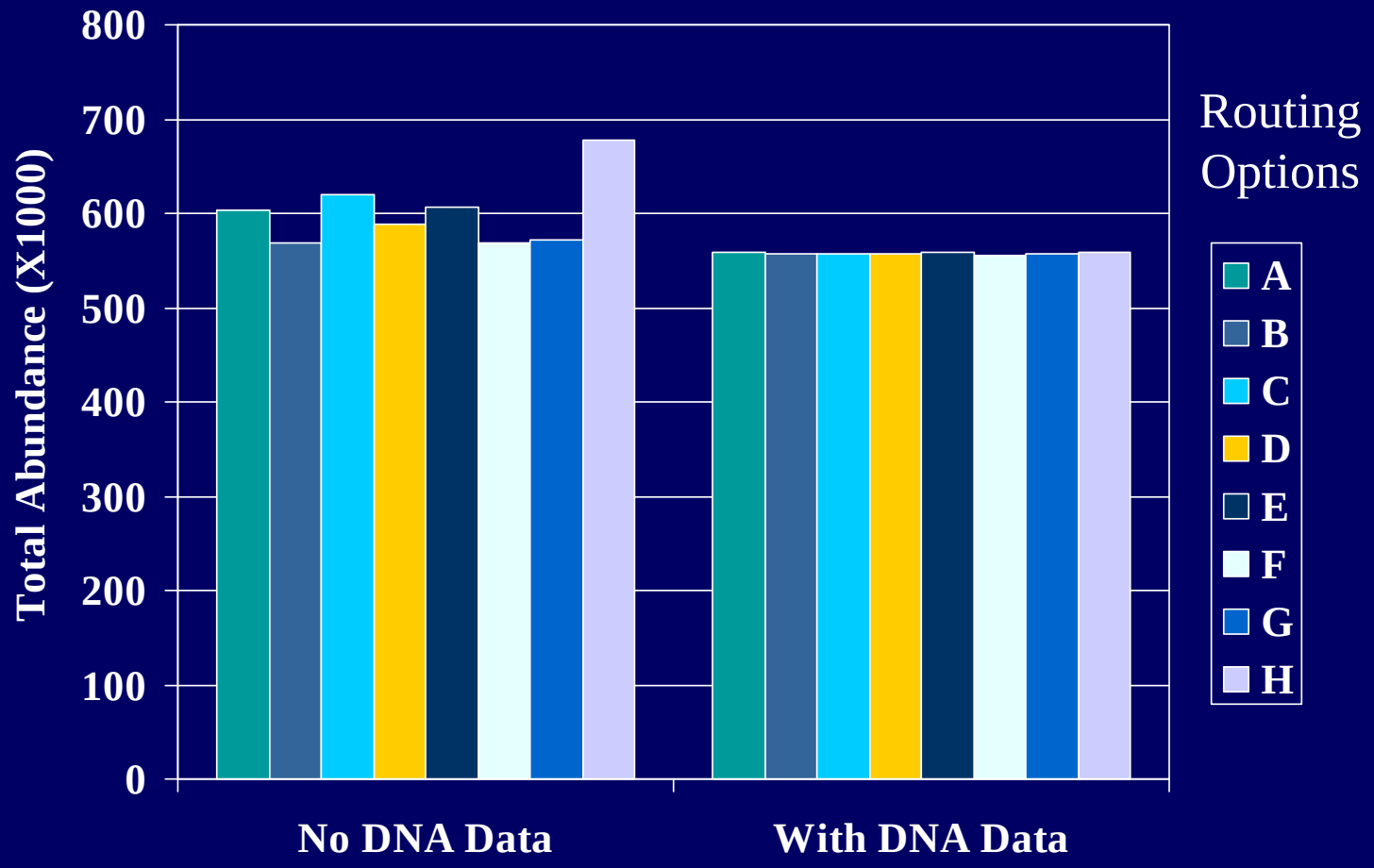
Skeena Abundance Estimates for 2011

- effect of DNA data and alternative routing options (Route B was used in 2011)



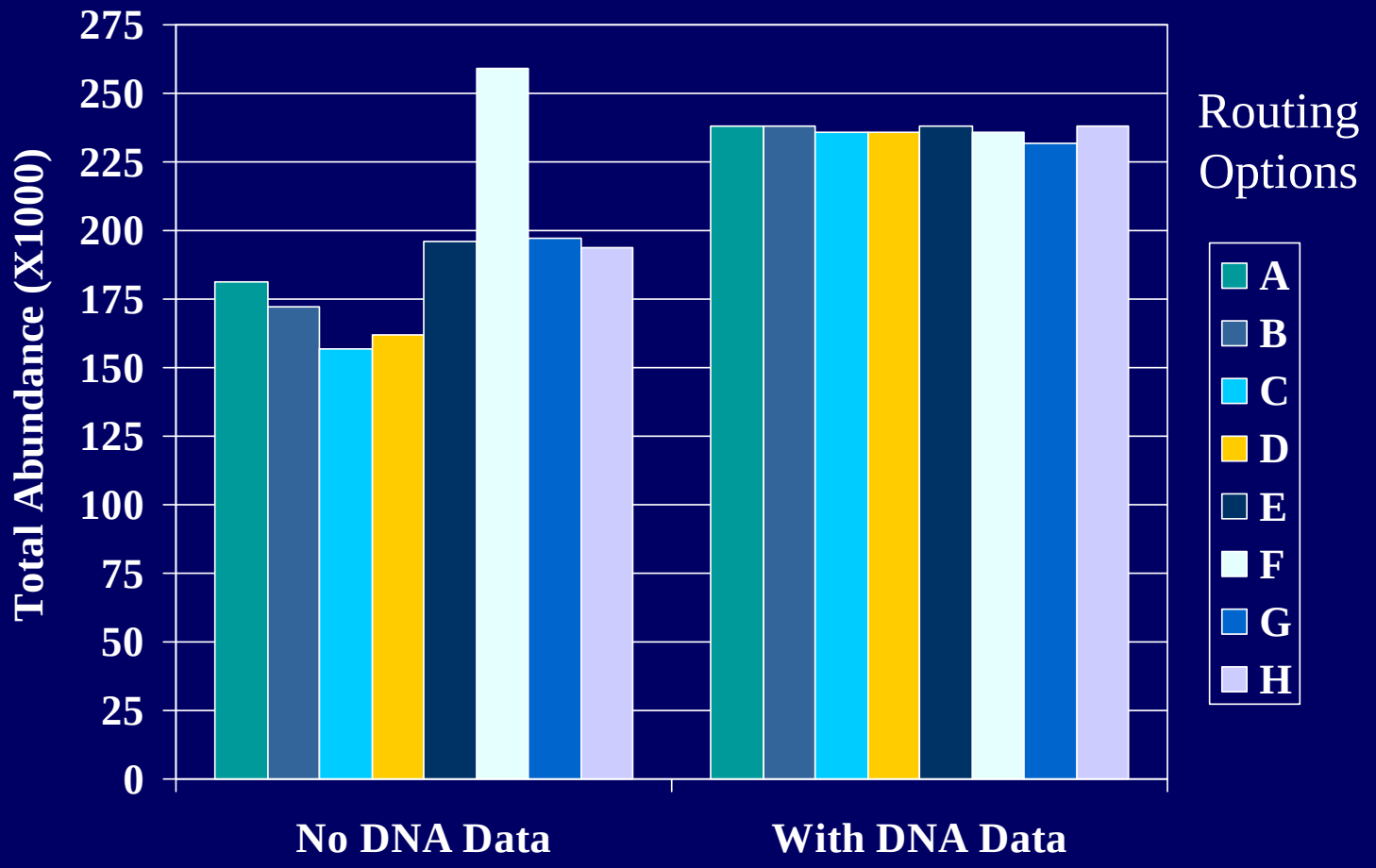
Nass Abundance Estimates for 2011

- effect of DNA data and alternative routing options (Route B was used for 2011)



McDonald Abundance Estimates for 2011

- effect of DNA data and alternative routing options
  route B was used in 2011



RUN RECONSTRUCTION SUMMARY - 2016

Equal Vulnerability Summary - Sum of Squares Differences

	2016
Route	Sum of Squares
A2	851
A3	908
B2	808
C2	996
D2	857
E2	1060
F2	1898
G2	1295
G3	981
H2	1370
Min	808
Route:	B2

CATCH DIFFERENCES

	2016							
NO DNA	Skeena	Nass	Stikine	US MaD	US Other	Fraser	Other	Total
A2	411,988	186,791	113,358	14,724	197,393	34,204	26,630	985,088
A3	411,991	186,771	113,358	14,734	197,404	34,204	26,630	985,093
B2	454,276	164,470	112,506	12,987	180,011	34,204	26,630	985,083
C2	463,060	223,793	109,043	7,780	120,574	34,204	26,630	985,084
D2	484,171	185,338	108,943	8,969	136,804	34,204	26,630	985,059
E2	371,070	183,438	115,404	18,496	235,894	34,204	26,630	985,136
F2	239,095	82,202	121,864	32,703	448,390	34,204	26,630	985,088
G2	399,273	160,258	115,568	12,738	236,418	34,204	26,630	985,089
G3	381,688	147,965	119,623	15,099	259,882	34,204	26,630	985,090
H2	307,232	238,311	119,932	18,148	240,634	34,204	26,630	985,091
max	484,171	238,311	121,864	32,703	448,390	34,204	26,630	985,136
min	239,095	82,202	108,943	7,780	120,574	34,204	26,630	985,059
diff	245,076	156,109	12,921	24,923	327,816			
DNA								
A2	461,685	101,028	92,112	21,158	247,629	34,204	26,630	984,446
A3	461,682	101,025	92,112	21,187	247,693	34,204	26,630	984,532
B2	462,489	100,537	92,112	21,151	247,598	34,204	26,630	984,722
C2	462,690	100,522	92,112	19,332	249,003	34,204	26,630	984,492
D2	462,671	100,606	92,112	19,329	248,989	34,204	26,630	984,542
E2	461,449	100,949	92,112	21,192	247,906	34,204	26,630	984,442
F2	458,054	103,099	92,112	19,549	250,937	34,204	26,630	984,586
G2	461,653	100,695	92,112	18,518	250,721	34,204	26,630	984,533
G3	461,626	100,459	92,112	18,647	250,849	34,204	26,630	984,527
H2	458,373	104,150	92,110	21,177	247,797	34,204	26,630	984,441
max	462,690	104,150	92,112	21,192	250,937	34,204	26,630	984,722
min	458,054	100,459	92,110	18,518	247,598	34,204	26,630	984,441
diff	4,636	3,691	2	2,674	3,339			

GROSS TERMINAL RUN DATA

Considerations for final modelling:

- Skeena 2016 estimate
- McDonald 2016 estimate

NB Sockeye Run Reconstruction Escapement (to mouth), 1982-17.

Year	1 Skeena	2 Nass	3 Stikine	4 US McD	5 US Other
1982	1,447,331	372,880	68,761	49,716	292,283
1983	1,114,507	234,871	71,683	56,142	219,223
1984	1,311,575	243,051	76,211	121,224	142,454
1985	2,479,035	448,416	184,747	100,792	269,497
1986	963,709	259,299	69,036	94,581	209,798
1987	1,576,061	250,819	39,264	187,173	86,485
1988	1,637,238	190,022	41,915	67,486	162,174
1989	1,362,147	158,920	75,054	75,908	225,679
1990	1,216,884	205,318	57,386	112,974	231,456
1991	1,530,996	381,588	120,152	166,267	183,311
1992	1,581,361	731,540	154,542	99,828	405,230
1993	2,100,087	573,697	176,100	79,729	594,720
1994	1,334,373	344,369	127,527	104,960	305,957
1995	2,236,899	303,743	142,308	44,052	234,039
1996	2,651,202	252,206	184,400	61,933	575,238
1997	1,394,273	287,246	125,657	68,462	459,585
1998	715,689	304,893	90,459	57,501	157,807
1999	838,601	256,024	65,879	89,608	160,201
2000	2,392,719	300,469	56,354	90,624	137,389
2001	2,300,594	246,985	50,000	42,767	217,578
2002	799,599	553,098	81,098	25,776	88,977
2003	1,506,757	408,021	193,451	89,000	279,603
2004	1,145,166	363,723	183,900	21,000	262,084
2005	904,892	348,020	159,974	46,000	231,793
2006	1,805,192	345,121	193,514	17,000	106,650
2007	1,298,389	219,933	116,360	29,000	317,920
2008	1,406,808	273,225	69,249	21,000	10,768
2009	939,971	322,518	114,157	51,000	114,861
2010	869,068	305,974	118,800	72,500	129,271
2011	1,428,400	350,239	143,829	113,000	133,338
2012	1,720,093	286,087	90,014	57,000	79,749
2013	460,206	294,362	93,447	15,400	103,604
2014	2,326,658	357,308	133,145	43,400	249,038
2015	1,793,364	564,464	142,334	70,200	230,589
2016	1,093,330	337,774	170,056	15,600	251,309
2017	923,329	296,939	80,900	23,959	70,536
Mean - 82+	1,461,000	333,000	113,000	69,000	220,000
Mean - 00+	1,395,000	343,000	122,000	47,000	168,000

Skeena River

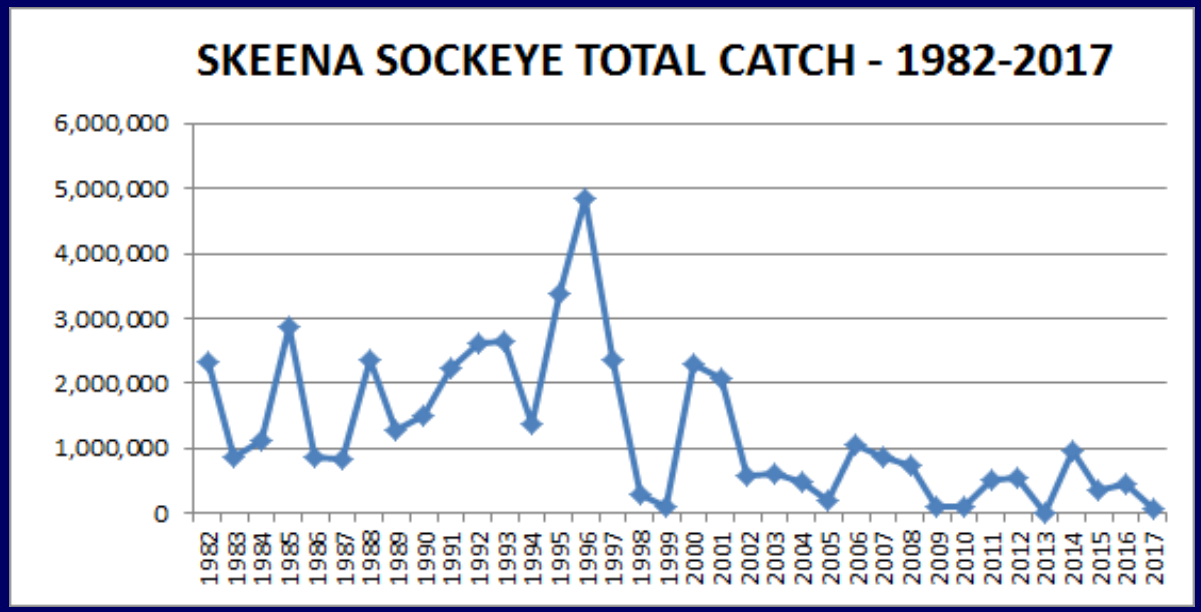
The Skeena River drains 54,432 km2, making it the second largest watershed in British Columbia. It originates in the Skeena Mountains and flows south and southwest for 400 km where it empties into Chatham Sound on the northern BC

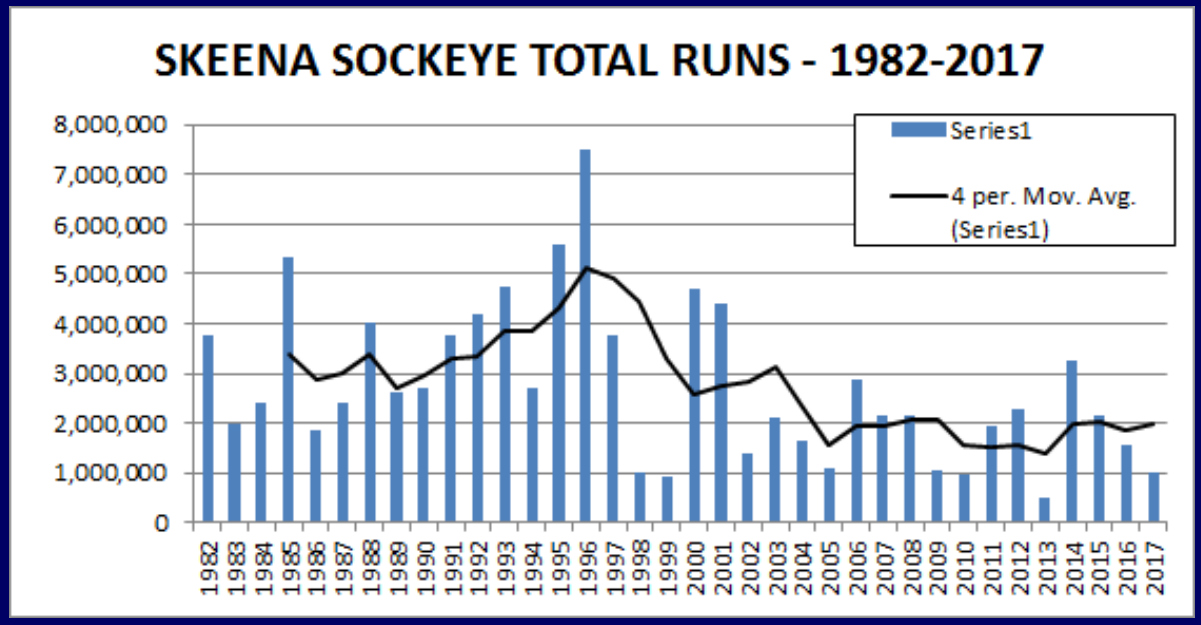
SKEENA RETURN DATA, 1985-2017

	Babine	Babine	Harvest above Fence				Harvest below Fence					Total FSC	Total Sale	Total Other	Non-Babine Escapement			Terminal	Adj. Net
Year	Fence Count	Missed[1]	FSC[2]	Sale[3]	Sport	Total	FSC[2]	Sale[3]	Sport	Tyee TF	Total	Harvest	Harvest	Harvest	Unadjusted	Factor[4]	Adjusted	Run[5]	Esc.
1985	2,148,044	0	16,000	0		16,000	168,072	0			168,072	184,072	0	0	44,262	3.68	162,918	2,479,034	2,294,962
1986	701,507	0	4,050	0		4,050	146,716	0			146,716	150,766	0	0	38,305	3.01	115,485	963,708	812,942
1987	1,307,852	0	0	0		0	139,307	0			139,307	139,307	0	0	36,372	3.54	128,903	1,576,062	1,436,755
1988	1,408,879	0	25,000	0		25,000	109,586	0			109,586	134,586	0	0	33,614	3.53	118,772	1,637,237	1,502,651
1989	1,132,316	0	22,000	0		22,000	126,828	0			126,828	148,828	0	0	27,678	3.72	103,000	1,362,144	1,213,316
1990	978,646	0	27,008	0		27,008	130,177	0			130,177	157,185	0	0	32,920	3.28	108,062	1,216,885	1,059,700
1991	1,176,318	0	15,650	0		15,650	123,419	0			123,419	139,069	0	0	77,050	3.00	231,264	1,531,001	1,391,932
1992	1,825,074	117,514	33,093	0		33,093	85,138	0			85,138	118,231	0	0	76,152	3.10	235,791	2,263,517	2,145,286
1993	1,737,426	0	68,250	104,340		172,590	120,105	29,395			149,500	188,355	133,735	0	69,590	3.06	213,165	2,100,091	1,778,001
1994	1,052,905	0	32,300	15,900		48,200	104,011	26,376			130,387	136,311	42,276	0	22,366	6.76	151,084	1,334,376	1,155,789
1995	1,737,009	0	18,491	80,000		98,491	116,925	129,421			246,346	135,416	209,421	0	81,175	3.12	253,547	2,236,902	1,892,065
1996	1,900,591	145,860	39,422	150,000		189,422	101,047	234,280			335,327	140,469	384,280	0	78,075	3.45	269,427	2,651,205	2,126,456
1997	995,147	110,992	13,699	75,000		88,699	111,767	151,106			262,873	125,466	226,106	0	53,495	3.30	176,368	1,545,380	1,193,808
1998	510,246	0	9,744	0		9,744	120,046	0			120,046	129,790	0	0	21,865	3.91	85,395	715,687	585,897
1999	606,136	0	23,220	0		23,220	89,635	0			89,635	112,855	0	0	41,450	3.45	142,828	838,599	725,744
2000	1,831,613	0	23,000	432,456		455,456	146,679	352,248			498,927	169,679	784,704	0	17,271	*3.60*	62,177	2,392,717	1,438,334
2001	1,984,261	0	12,050	483,310		495,360	48,537	217,799			266,336	60,587	701,109	0	33,444	*3.60*	120,402	2,370,999	1,609,303
2002	425,031	164,981	24,785	0		24,785	128,955	0			128,955	153,740	0	0	22,398	*3.60*	80,635	799,602	645,862
2003	1,170,509	0	33,954	0		33,954	85,604	0			85,604	119,558	0	0	69,623	*3.60*	250,650	1,506,763	1,387,205
2004	919,250	0	32,008	0		32,008	99,197	0			99,197	131,205	0	0	35,198	*3.60*	126,716	1,145,163	1,013,958
2005	709,198	0	33,979	0		33,979	95,331	0			95,331	129,310	0	0	27,878	*3.60*	100,364	904,893	775,583
2006	1,391,679	0	39,232	219,000		258,232	99,727	174,137			273,864	138,959	393,137	0	38,790	*3.60*	139,648	1,805,191	1,273,095
2007	442,989	607,492	36,489	13,777		50,266	96,765	0			96,765	133,254	13,777	0	41,983	*3.60*	151,143	1,298,389	1,151,358
2008	1,083,319	0	49,427	192,479		241,906	116,290	109,004			225,294	165,717	301,483	0	27,276	*3.60*	98,196	1,406,809	939,609
2009	672,002	0	58,597	0		58,597	72,416	0			72,416	131,013	0	0	54,319	*3.60*	195,554	939,972	808,959
2010	639,054	0	38,257	1,611		39,868	88,737	1,427		5,546	95,710	126,994	3,038	5,546	67,126	1.92	128,761	863,525	727,947
2011	1,110,006	0	40,469	218,241		258,710	89,392	22,124		9,941	121,457	129,861	240,365	9,941	52,346	3.57	186,996	1,418,459	1,038,292
2012	1,361,399	0	38,403	275,779	17,000	331,182	86,468	55,902	8,000	8,093	158,463	124,871	331,681	33,093	64,596	3.10	200,228	1,720,090	1,230,445
2013	312,327	0	5,141	0	0	5,141	19,160	0	0	3,572	22,732	24,301	0	3,572	52,346	2.39	125,149	460,208	432,335
2014	2,052,845	0	34,007	509,716	20,000	563,723	56,252	40,611	10,000	10,039	116,902	90,259	550,327	40,039	47,432	3.31	156,915	2,326,662	1,646,037
2015	1,489,851	0	46,587	290,737	5,626	342,950	72,443	1,038	3,000	4,586	81,067	119,030	291,775	13,212	55,761	3.99	222,447	1,793,365	1,369,348
2016	924,131	0	45,282	98,289	1,016	144,587	59,501	0	2,253	4,565	66,319	104,783	98,289	7,834	49,874	4.87	242,637	1,233,087	1,022,181
2017	805,662	0	7,533	0	0	7,533	24,457	0	0	3,691	28,148	31,990	0	3,691	43,883	2.04	89,520	923,330	887,649
Average:																			
All years	1,156,079	31,857	28,367	87,795		125,800	103,626	42,913			148,389	131,993	130,708	3,248	45,347	3.51	153,336	1,489,846	1,233,721
1985-1998	1,329,426	26,740	23,193	30,374		53,568	121,653	40,756			162,409	144,847	71,130	0	49,494	3.60	168,084	1,686,659	1,470,683
1999-2008	1,006,748	70,225	28,899	121,911		150,810	102,433	77,563			179,996	131,332	199,474	0	34,289	3.61	123,469	1,380,437	1,049,632
2009+	1,040,809	0	34,920	154,930	7,274	194,699	63,203	13,456	3,876	6,254	84,802	98,122	168,386	12,992	54,187	3.20	172,023	1,297,633	1,018,132

SKEENA TRENDS - 2017

Year	MARINE CATCH	TOTAL RUN	M-ER%
1982	2,318,000	3,765,000	62%
1983	853,000	1,967,000	43%
1984	1,116,000	2,428,000	46%
1985	2,859,000	5,338,000	54%
1986	879,000	1,843,000	48%
1987	824,000	2,400,000	34%
1988	2,365,000	4,003,000	59%
1989	1,271,000	2,633,000	48%
1990	1,505,000	2,722,000	55%
1991	2,229,000	3,760,000	59%
1992	2,618,000	4,199,000	62%
1993	2,654,000	4,754,000	56%
1994	1,386,000	2,720,000	51%
1995	3,373,000	5,610,000	60%
1996	4,835,000	7,486,000	65%
1997	2,365,000	3,759,000	63%
1998	287,000	1,003,000	29%
1999	90,000	928,000	10%
2000	2,300,000	4,692,000	49%
2001	2,084,000	4,385,000	48%
2002	573,000	1,373,000	42%
2003	622,000	2,129,000	29%
2004	490,000	1,635,000	30%
2005	199,000	1,104,000	18%
2006	1,070,000	2,875,000	37%
2007	851,000	2,150,000	40%
2008	744,000	2,151,000	35%
2009	88,000	1,028,000	9%
2010	88,000	957,000	9%
2011	503,000	1,931,000	26%
2012	540,000	2,260,000	24%
2013	20,000	480,000	4%
2014	948,000	3,275,000	29%
2015	353,000	2,146,000	16%
2016	462,000	1,556,000	30%
2017	*66,000*	*989,000*	7%
All years	1,273,000	2,734,278	38%
2007-16	459,700	1,793,400	22%

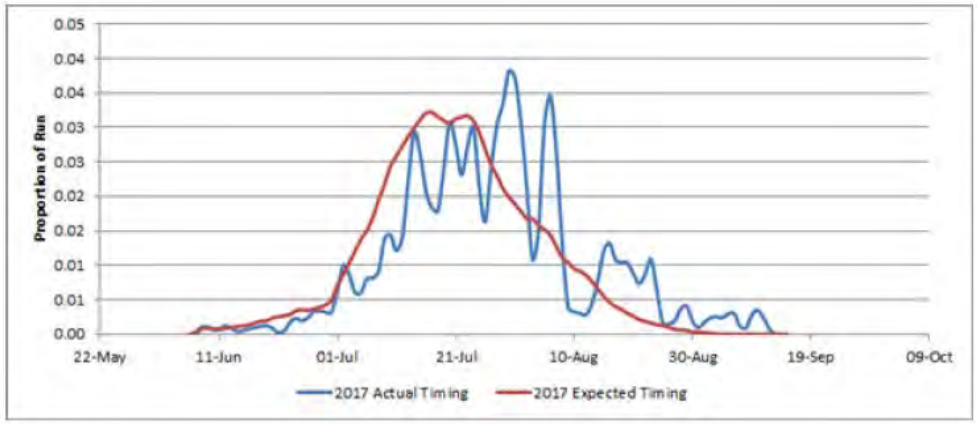




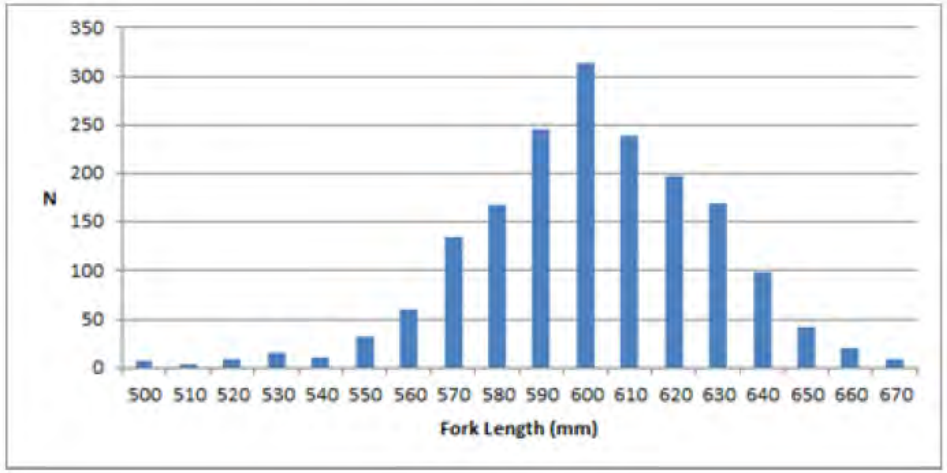
Observations of late run timing

Observations of decreasing size by age & species

Skeena run-timing was late in 2017…4th year running



Size at age was smaller in 2017 ..mostly small age 5 (92%)

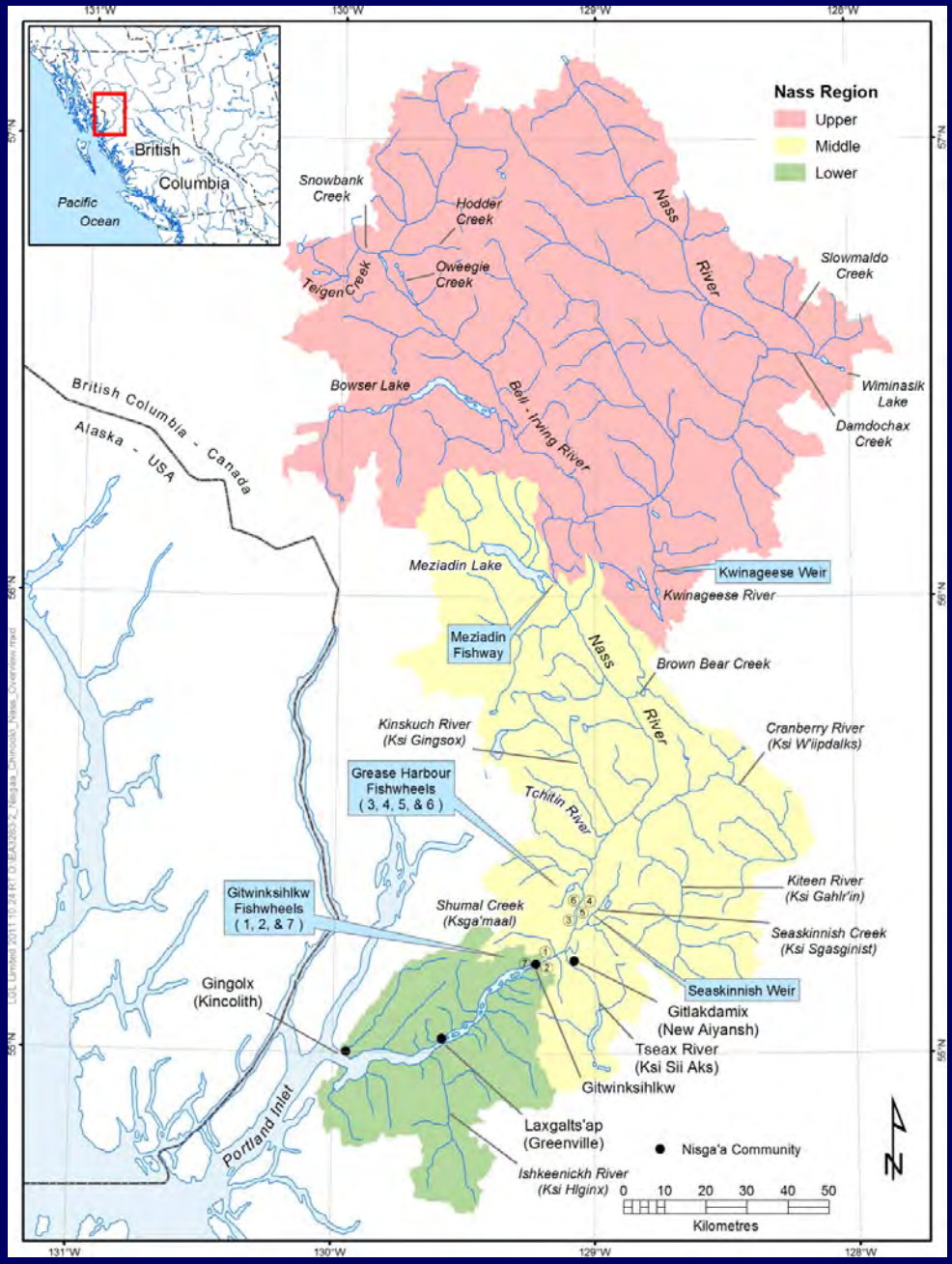


Nass River

- **Area – 20,500 km^2**
- **Length - 400 km**
- **Average Total Run (2000-2014):**
  - **Pink 800,000**
  - **Sockeye 700,000**
  - **Coho 400,000**
  - **Chum 42,000**
  - **Chinook 31,500**

Major projects:

- Fishwheel
- Meziadin Fishway
- Kwinageese Weir
- Damdochax surveys
- Catch programs



Nisga’a Fisheries Program 1992-2017

Celebrating 26 years of success!

Hands on Stock Assessment

Dedication

Team Work

Leadership (WSN)

NISGA'A FISHWHEEL PROGRAM

6 Fishwheels operating in 2017
(2 at GW and 4 at GH)

GREASE HARBOUR FISHWHEELS (FW 3, 4, 5, 6)

ADDITIONAL TAGGING, SAMPLING, TAG RECOVERY FOR IN-SEASON POPULATION ESTIMATES & SOME SELECTIVE HARVESTING

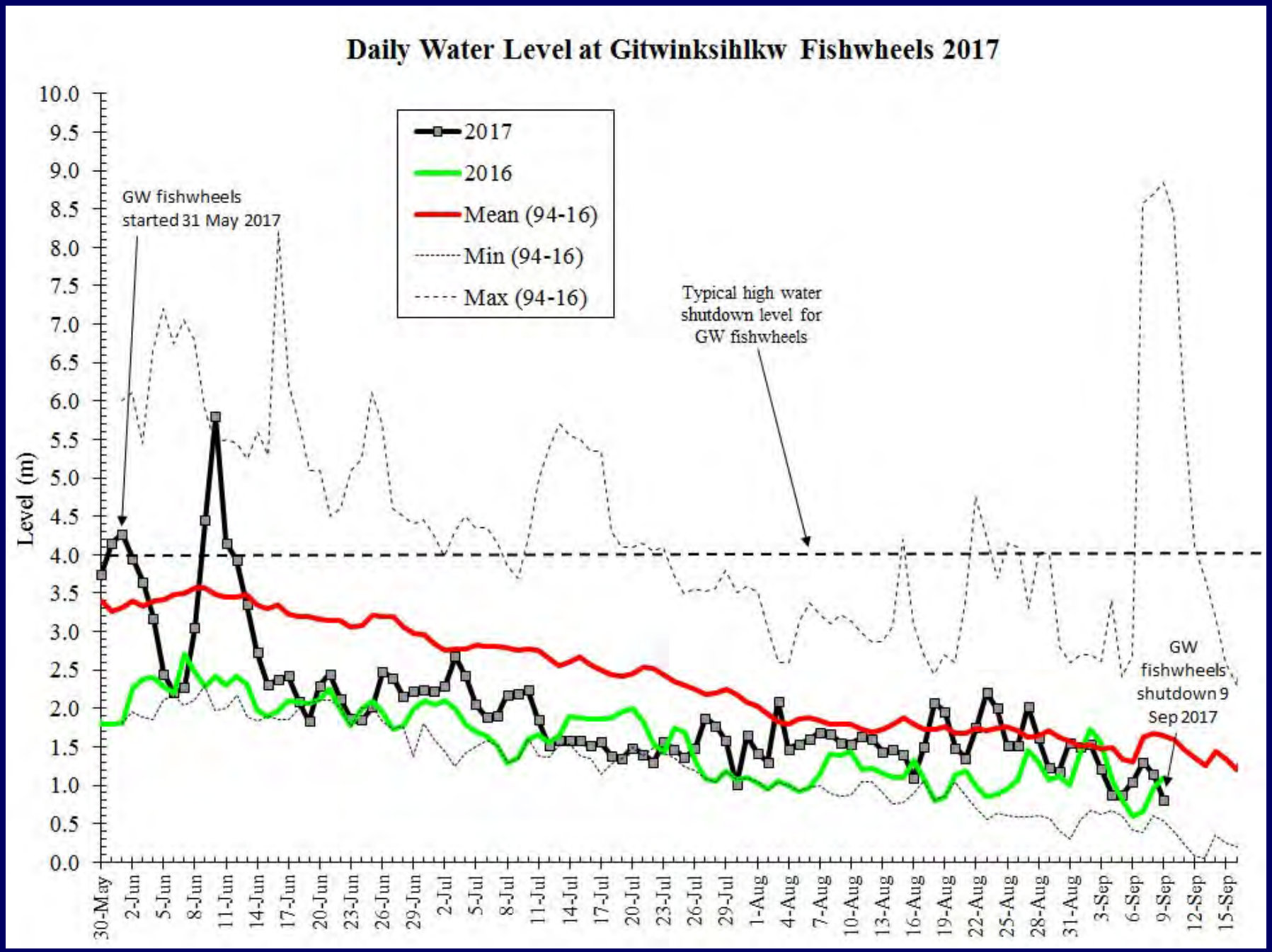
GH

GITWINKSIHLKW FISHWHEELS (FW 1 and 2)

GW

TAGGING, POPULATION INDEX, & AGE/DNA ASSESSMENTS ONLY

Image © 2009 TerraMetrics
© 2009 Tele Atlas
55°15'21.86" N 129°09'01.37" W elev 0 m


Daily Water Level at Gitwinksihlkw Fishwheels 2017
2017
2016
Mean (94-16)
Min (94-16)
Max (94-16)
GW fishwheels started 31 May 2017
Typical high water shutdown level for GW fishwheels
GW fishwheels shutdown 9 Sep 2017
Level (m)
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
30-May
2-Jun
5-Jun
8-Jun
11-Jun
14-Jun
17-Jun
20-Jun
23-Jun
26-Jun
29-Jun
2-Jul
5-Jul
8-Jul
11-Jul
14-Jul
17-Jul
20-Jul
23-Jul
26-Jul
29-Jul
1-Aug
4-Aug
7-Aug
10-Aug
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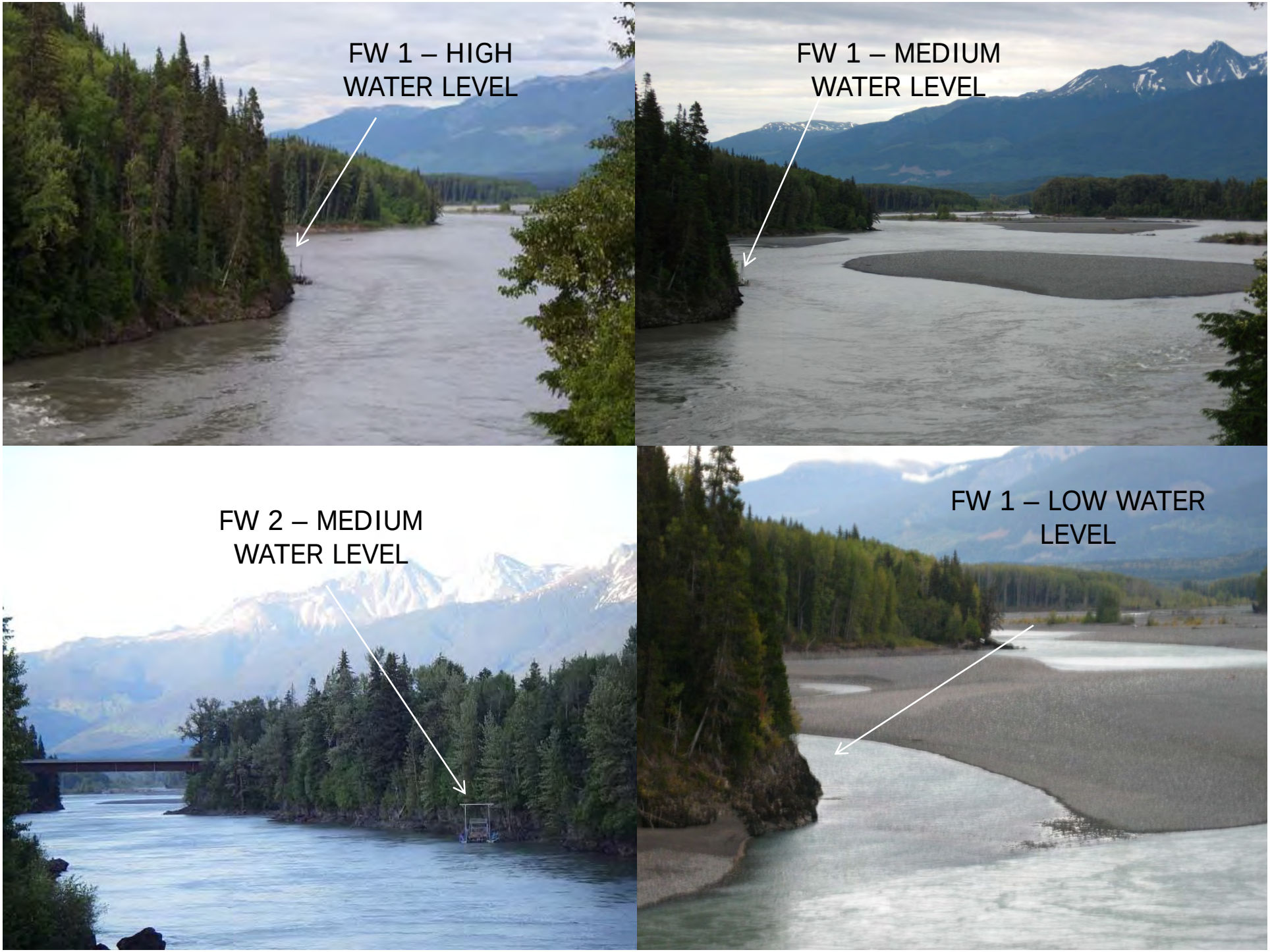
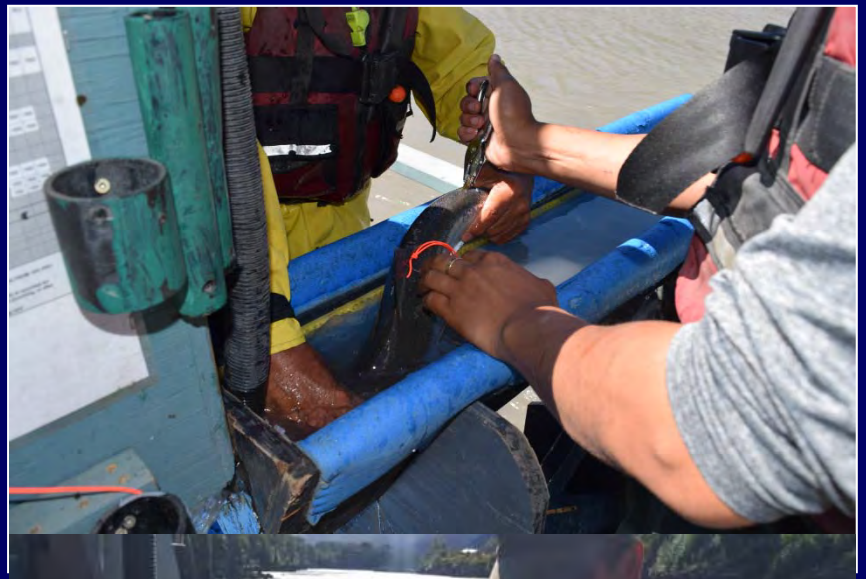
9-Sep
12-Sep
15-Sep


FW 1 – HIGH WATER LEVEL
FW 1 – MEDIUM WATER LEVEL
FW 2 – MEDIUM WATER LEVEL
FW 1 – LOW WATER LEVEL

Fishwheels – Capture, Tagging & Bio-sampling (size, sex, and age)



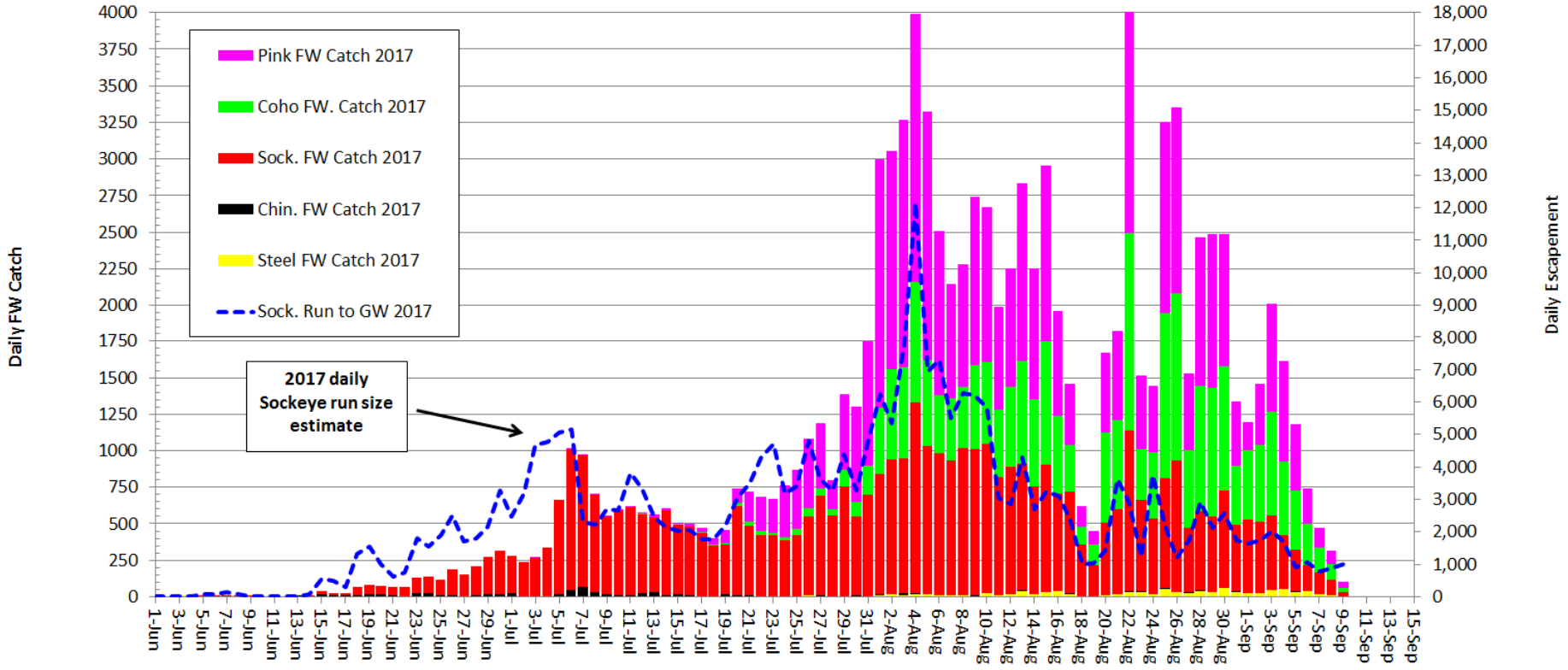
Nass Salmon, Steelhead and Trout catches in 2017

1 June – 9 September

Species (adults)	2017	Mean (00-16)	Min. catch	Max. Catch
Chinook	700	4,900	1,100	12,100
Sockeye	44,000	43,000	26,000	71,000
Coho	22,900	13,000	5,800	23,000
Pink	38,000	18,000	2,000	43,000
Chum	68	140	50	240
Steelhead	980	1,000	470	1,700
Rainbow	154	70	10	160
Cutthroat	40	80	30	160
Dolly Varden	150	330	130	560
Whitefish	183	130	50	390
Pacific Lamprey	1,200	500	200	1,100
Pike Minnow	95	110	10	180

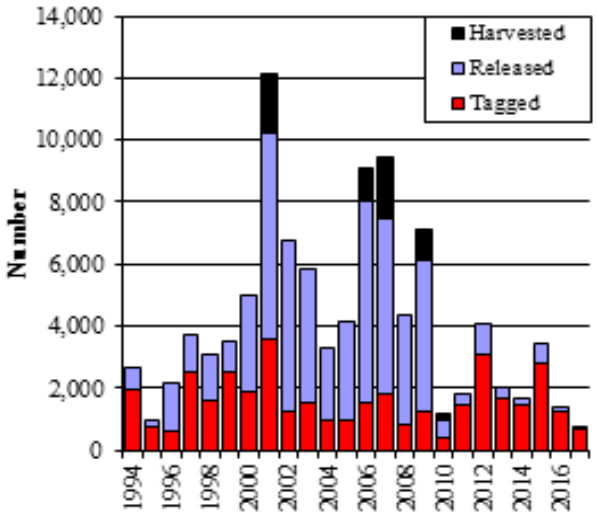
2017– Below average catches of Chinook and chum; average catches of sockeye and steelhead, and above average catches of Coho and Pacific Lamprey.

DAILY CATCHES OF NASS SALMON AND STEELHEAD AT THE FISHWHEELS 2017

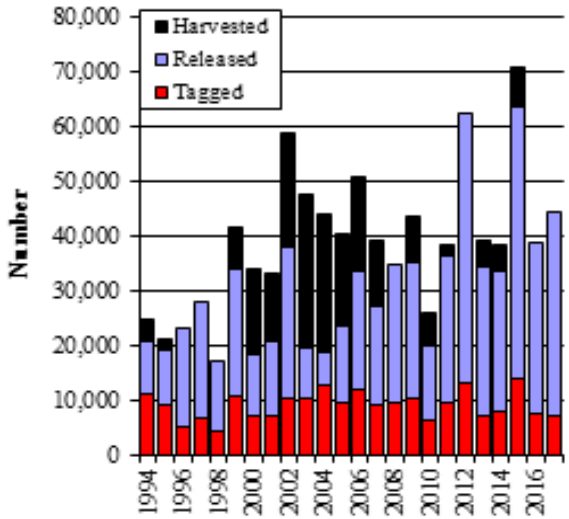


NASS FISHWHEEL SALMON AND STEELHEAD CATCH CHARTS - 1994 TO 2017

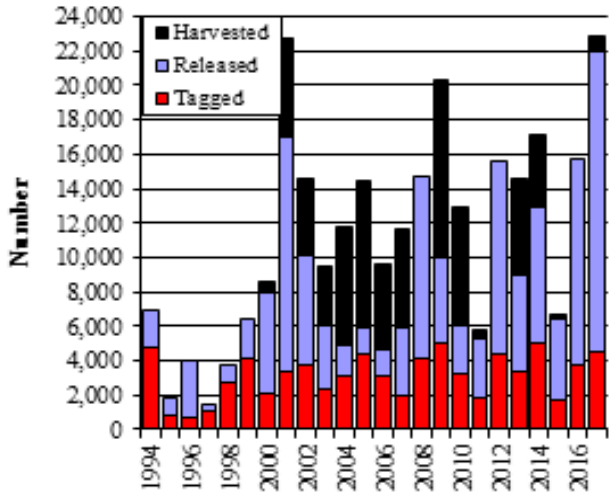
Chinook FW Catch



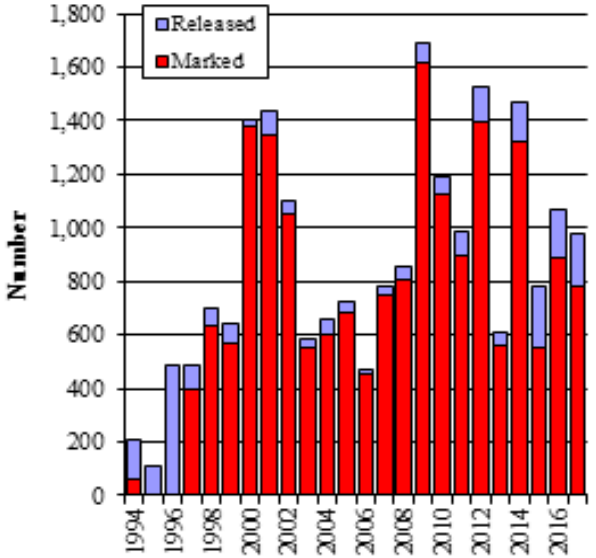
Sockeye FW Catch



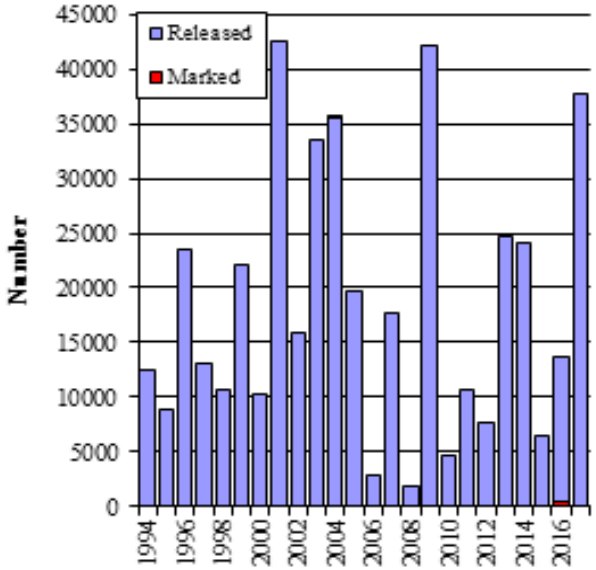
Coho FW Catch



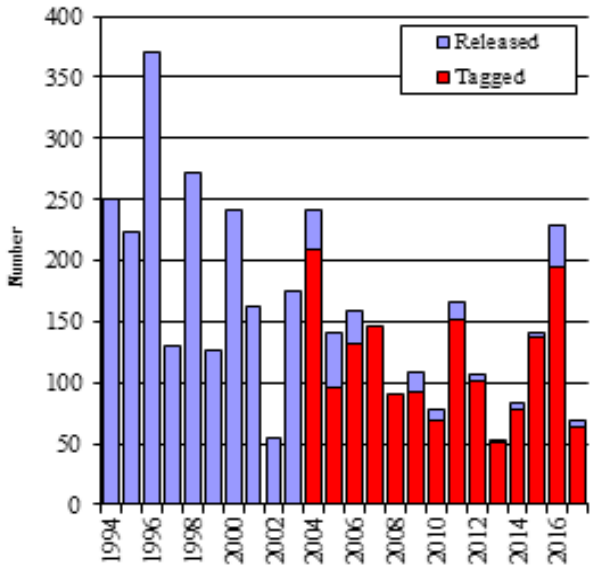
Steelhead FW Catch



Pink FW Catch

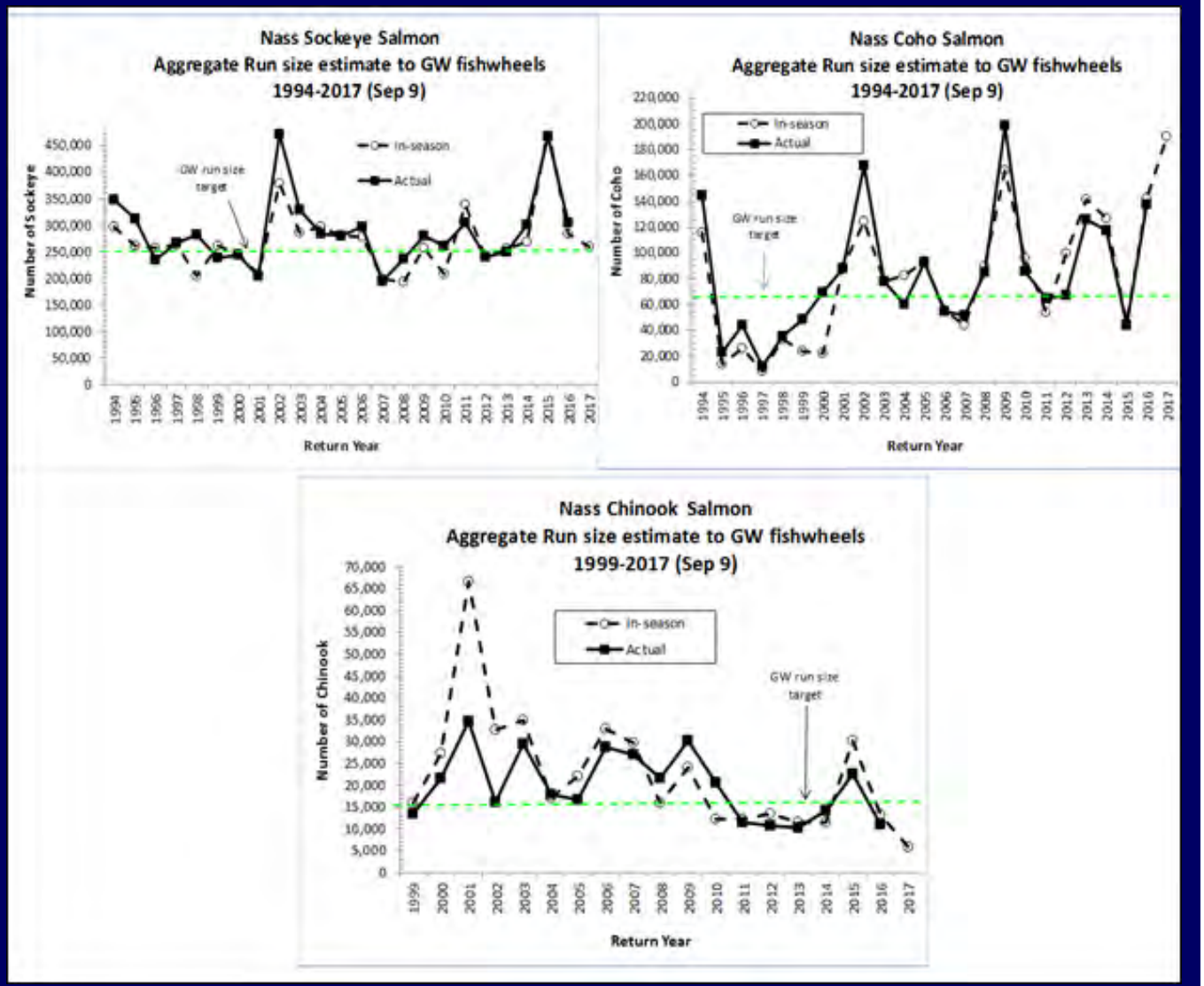


Chum FW Catch

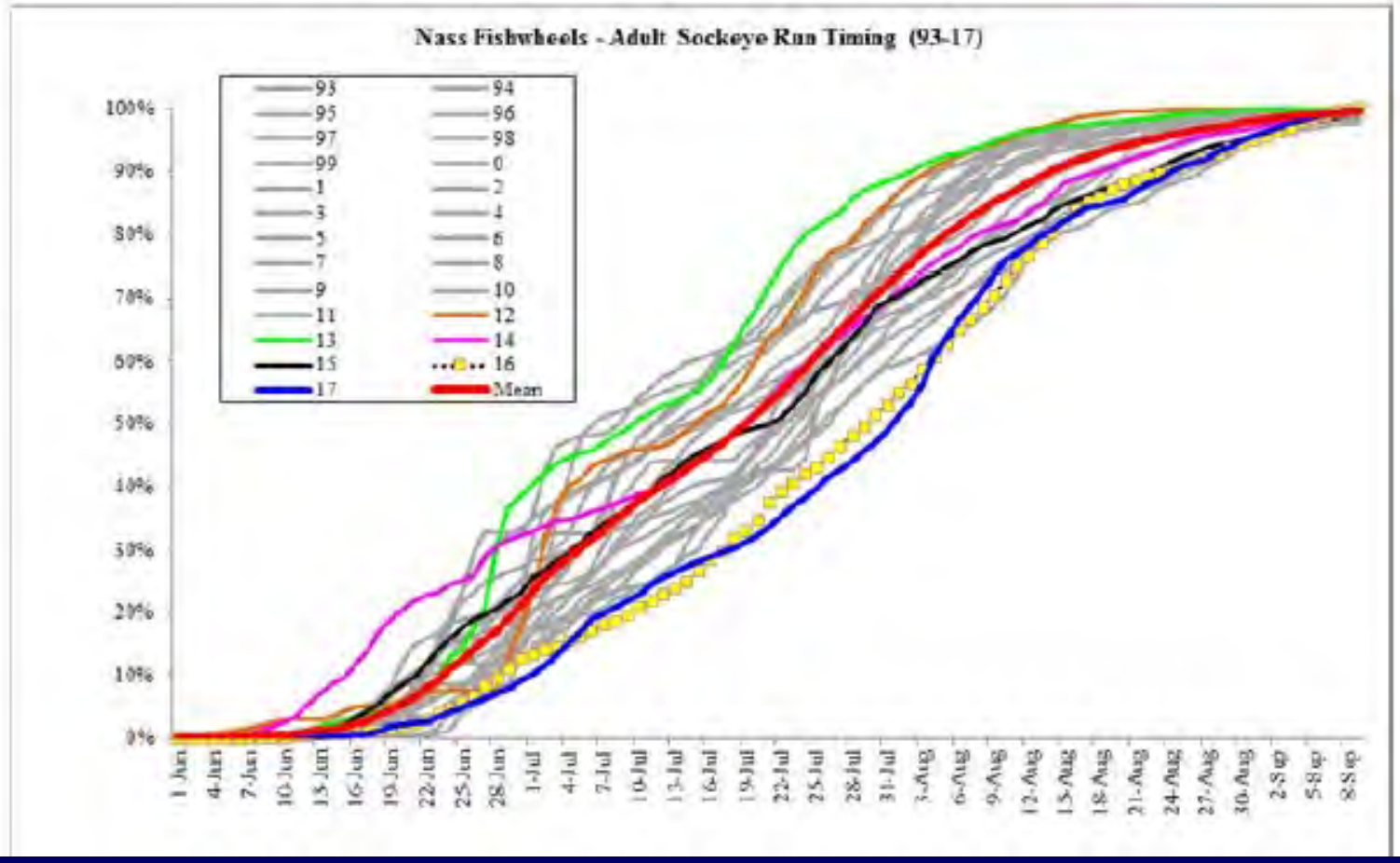


VERY GOOD IN-SEASON NASS ASSESSMENT DATA TO MANAGE FISHERIES

- independent mark rates used in-season (upper fishwheels)
- final post-season estimates use Meziadin fishway mark-recapture data



Nass Run was very was late in 2017..as in 2016

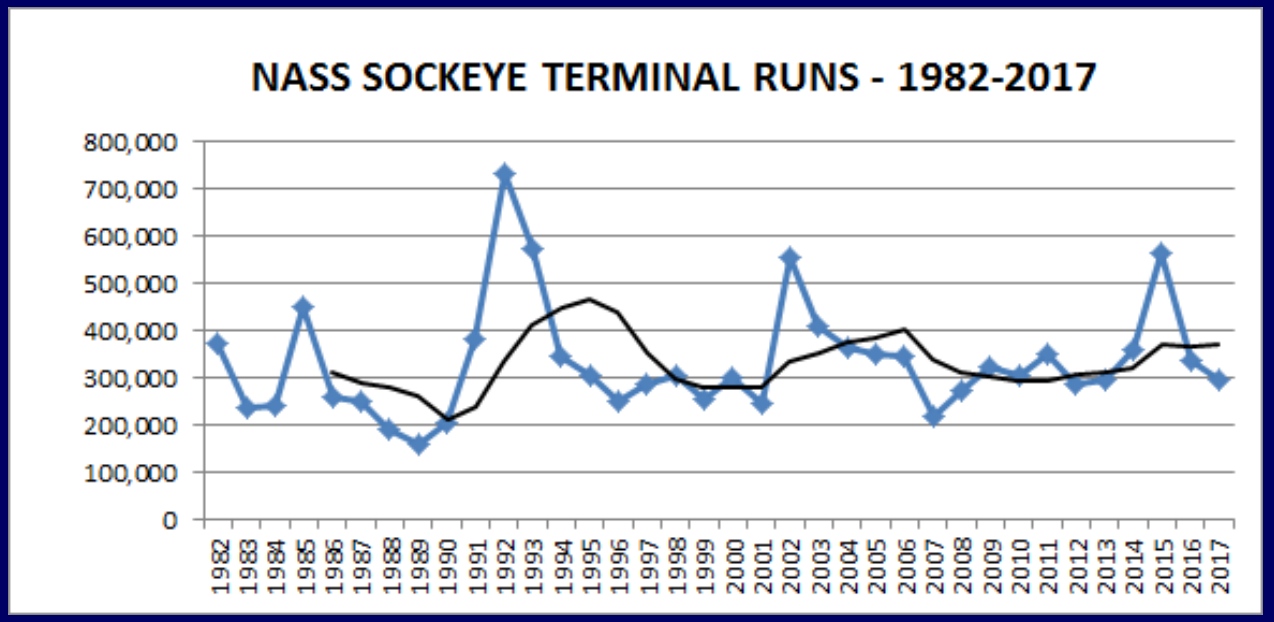


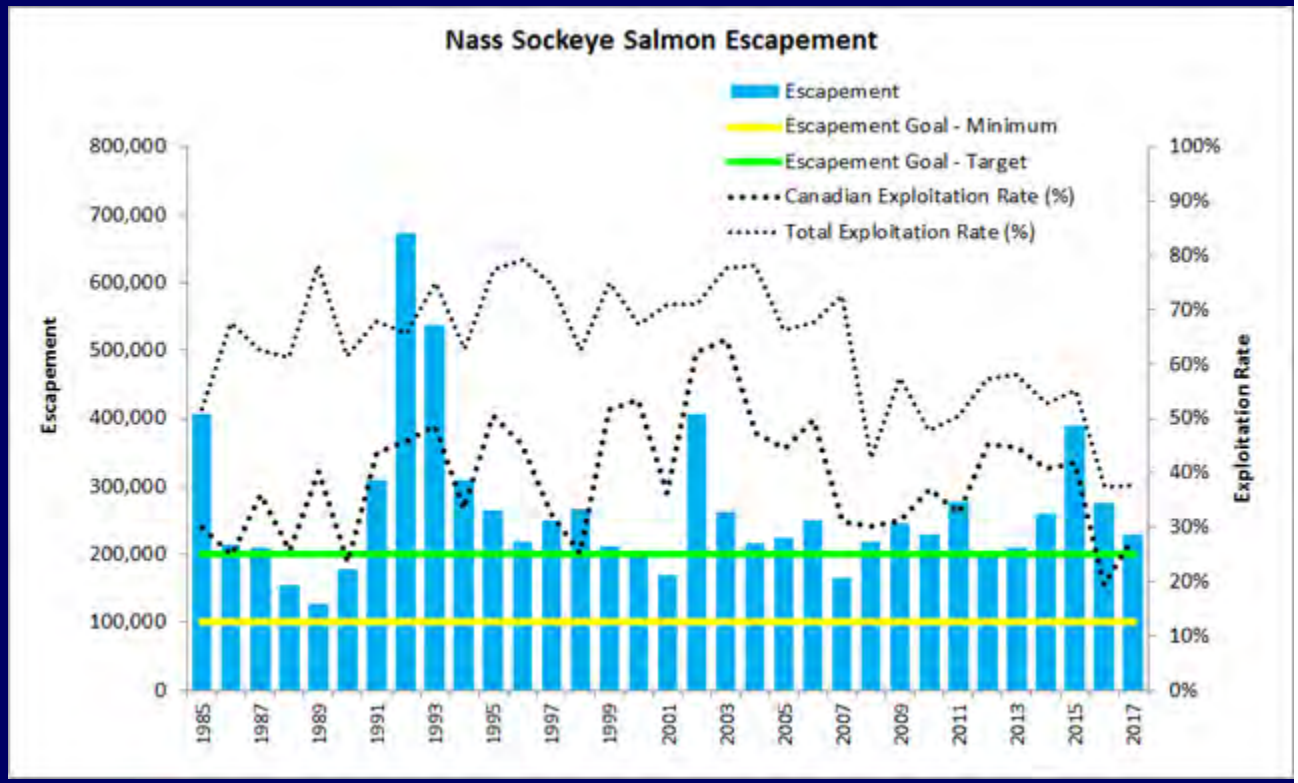
NASS RETURN DATA, 1985-2017

	Harvest in Nisga'a fisheries				Harvest above Grease Harbour				In-River			
Year	FSC	Treaty Sale	Demo Sale	Total	FSC	Demo Sale	Total	Sport	Harvest	Net Esc	Terminal Run	Run above GW
1985	35,601			35,601	5,773		5773		41,374	407,046	448,420	
1986	39,241			39,241	6,363		6363		45,604	213,696	259,300	
1987	34,981			34,981	5,673		5673		40,653	210,162	250,816	
1988	29,453			29,453	4,776		4776		34,229	155,794	190,023	
1989	27,107			27,107	4,396		4396		31,502	127,417	158,920	
1990	23,970			23,970	3,887		3,887		27,857	177,462	205,319	
1991	62,704			62,704	10,168		10,168		72,872	308,717	381,589	
1992	50,506			50,506	8,190		8,190		58,696	672,838	731,534	704,801
1993	30,490			30,490	4,944		4,944		35,434	538,260	573,694	555,776
1994	29,325			29,325	5,000		5,000		34,325	310,043	344,368	325,043
1995	34,054			34,054	5,000		5,000		39,054	264,685	303,739	281,616
1996	29,220			29,220	5,000		5,000		34,220	218,116	252,336	232,270
1997	31,640			31,640	5,146		5,146		36,786	250,456	287,242	266,804
1998	32,149			32,149	6,281		6,281		38,430	266,458	304,888	281,928
1999	33,838			33,838	11,227		11,227		45,065	210,957	256,022	239,346
2000	22,448	70,729		93,177	2,884		2,884		96,061	204,407	300,468	243,584
2001	25,756	51,427		77,183	2,544		2,544		79,727	167,253	246,980	206,033
2002	31,852	108,814		140,666	6,958		6,958		147,624	405,473	553,097	470,083
2003	26,289	114,572		140,861	3,472		3,472		144,333	263,688	408,021	328,916
2004	28,570	116,671		145,241	2,622		2,622		147,863	215,857	363,720	283,712
2005	30,666	82,679		113,345	10,113		10,113		123,458	224,559	348,017	285,916
2006	23,768	64,253		88,021	6,460		6,460		94,480	250,642	345,123	296,338
2007	20,239	33,624		53,863	1,325		1,325		55,188	164,747	219,935	195,238
2008	27,716	17,728		45,444	9,406		9,406		54,849	218,375	273,225	235,222
2009	23,904	45,542		69,446	6,672	1,500	8,172		77,618	244,899	322,517	281,234
2010	33,873	33,818		67,691	6,154	3,000	9,154	119	76,964	229,010	305,974	261,597
2011	42,077	18,364		60,441	10,091	3,000	13,091	7	73,539	276,700	350,239	308,625
2012	24,564	44,195		68,759	9,725	4,573	14,298	0	83,057	203,028	286,085	239,400
2013	26,851	41,573	5,008	73,432	7,681	3,098	10,779	31	84,242	210,126	294,368	248,513
2014	30,006	44,951	4,793	79,750	11,107	6,229	17,336	120	97,206	260,102	357,308	301,072
2015	39,987	106,652	7,501	154,140	9,412	11,385	20,797	19	174,956	389,503	564,459	469,466
2016	38,458	8,400		46,858	14,499		14,499		61,357	276,413	337,770	304,135
2017	46,406	11,773		58,179	10,852	0	10,852	0	69,031	227,901	296,932	260,585
Averages												
1985-1998	35,032			35,032			5,757		40,788	294,368	335,156	378,320
1999-2008	27,114	73,389		93,164			5,701		98,865	232,596	331,461	278,439
1994-present	30,569	56,431		73,613			8,434		82,060	248,058	330,118	285,278
2000-present	30,191	56,431	5,767	87,583	7,332	4,098	9,153		96,753	246,260	343,013	289,982

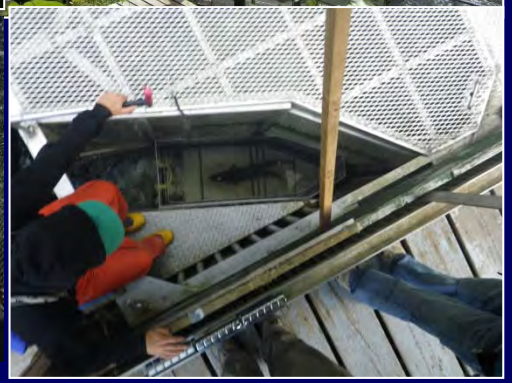
NASS SOCKEYE TERMINAL RUN 2017

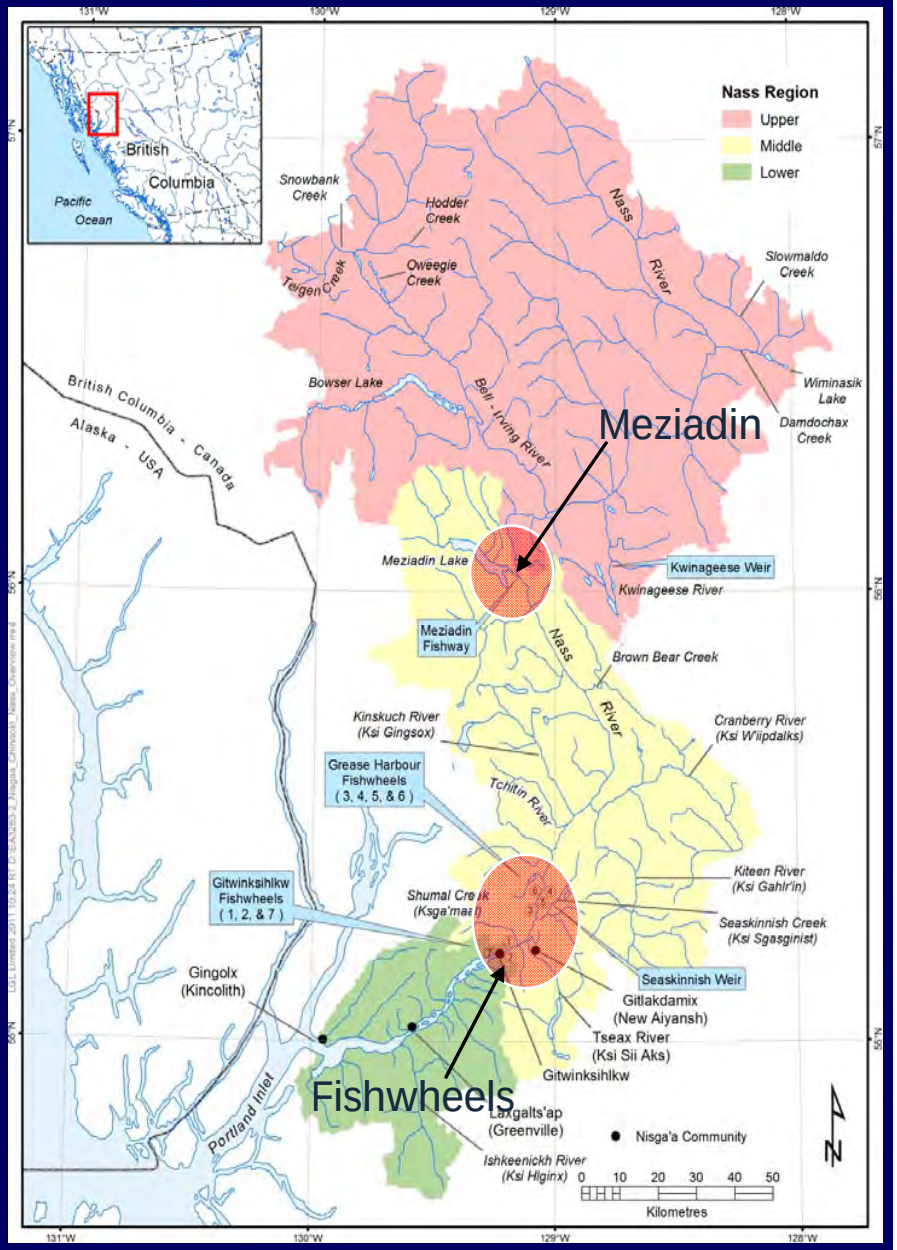
296,939



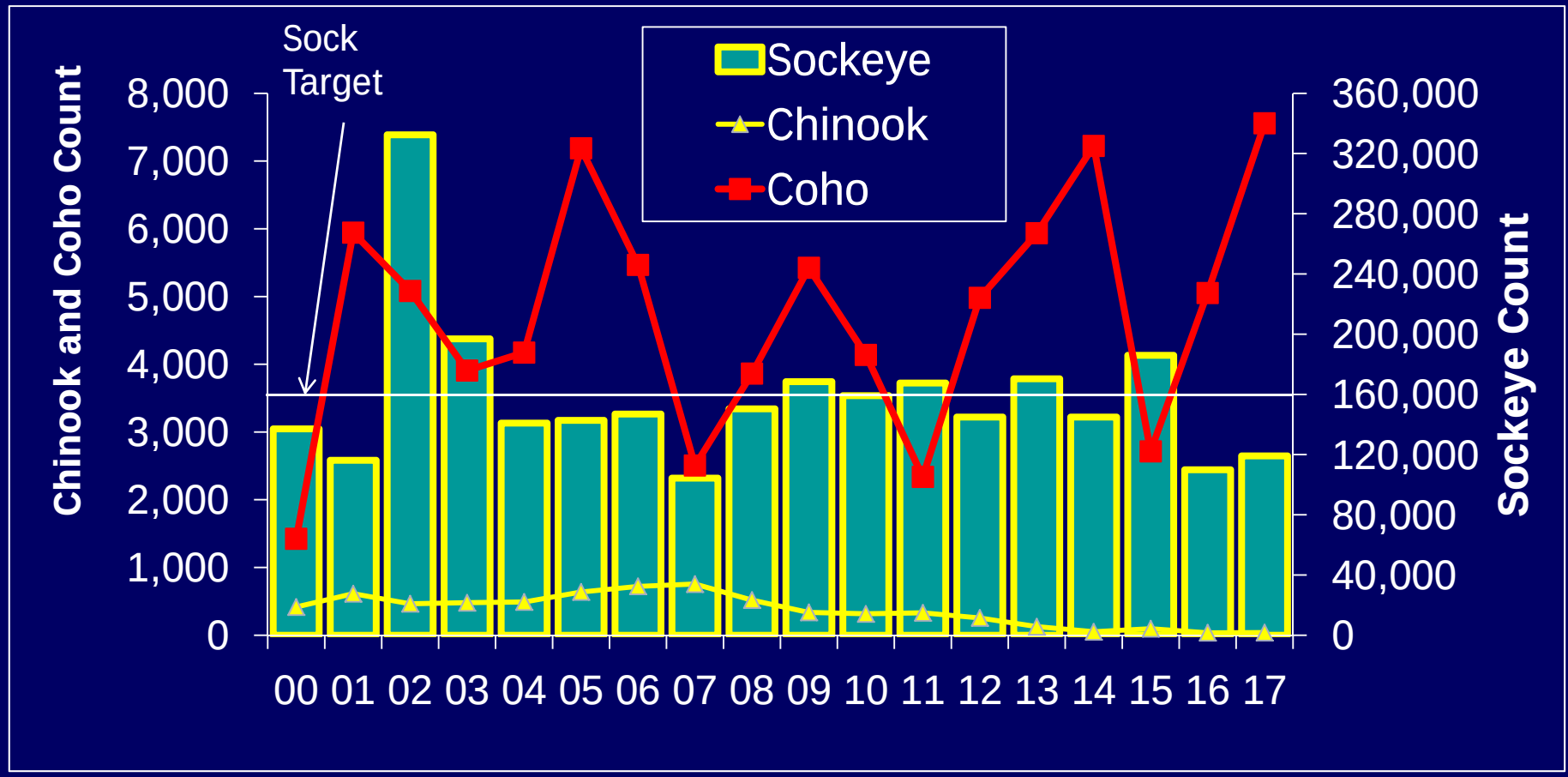


MEZIADIN FISHWAY - ~149 km upstream of tagging site



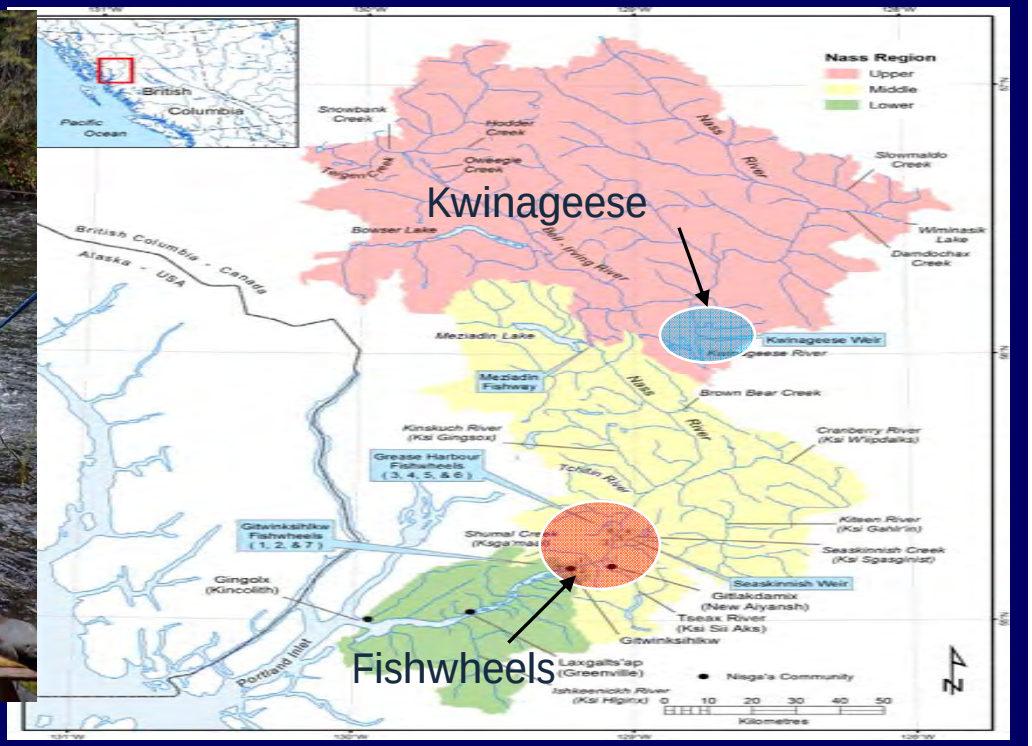


Meziadin Fishway Counts 2000-17



- **2017 monitoring was from 1 July to 5 October – 119,088 Sockeye**
- **Only 38 Chinook counted passing fishway in 2017. Chinook were observed jumping the falls and counted above.**

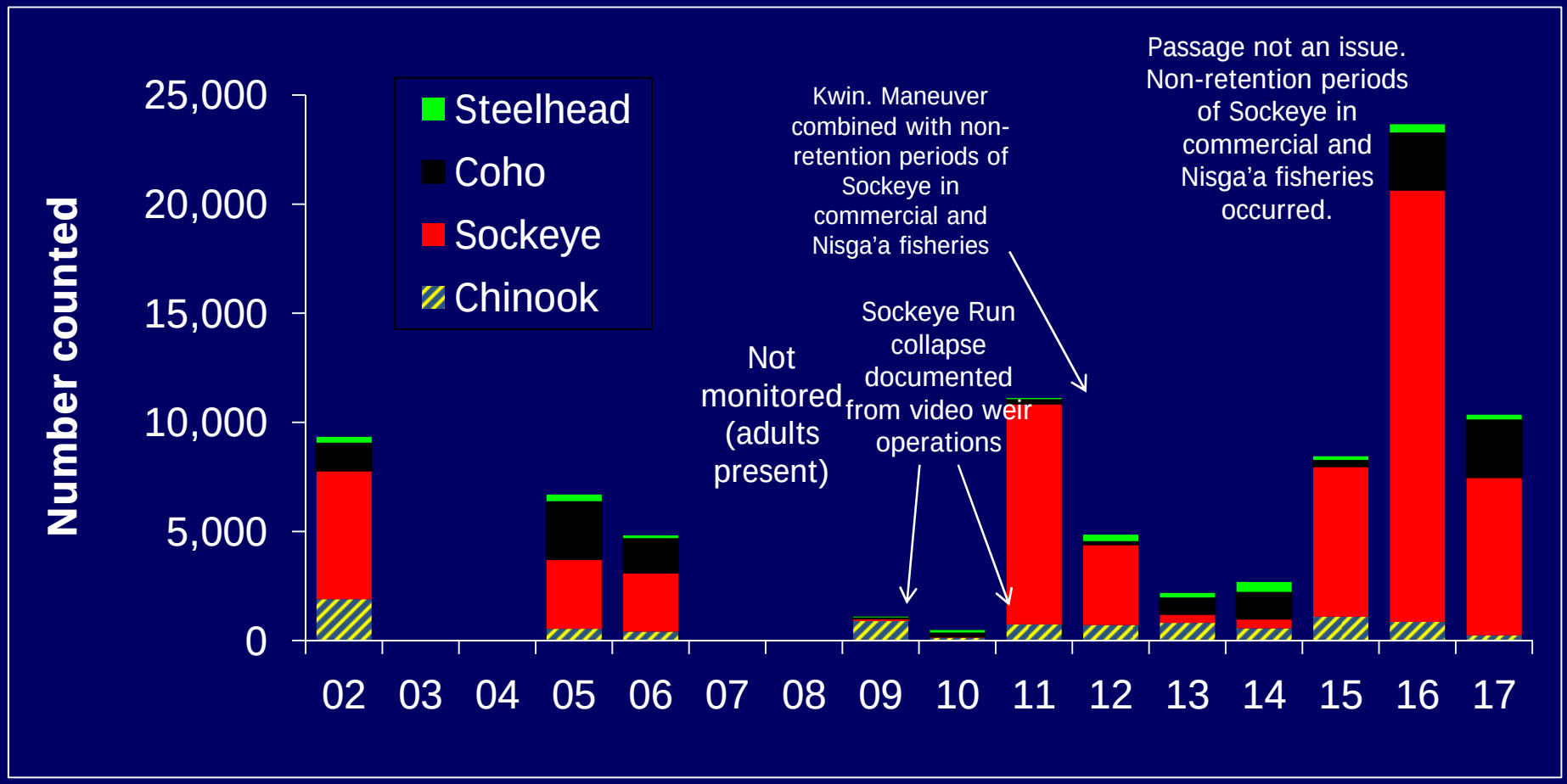
KWINAGEESE WEIR - ~208 km upstream of tagging sites



Kwinageese Blockage update – 2017

- Funds from the PSC were used for enabling fish passage in 2011 due to rock slide blockage
- Barrier was removed in January 2016
- No passage issues were identified in 2017
- economic fishery closures planned to occur during passage in 2018

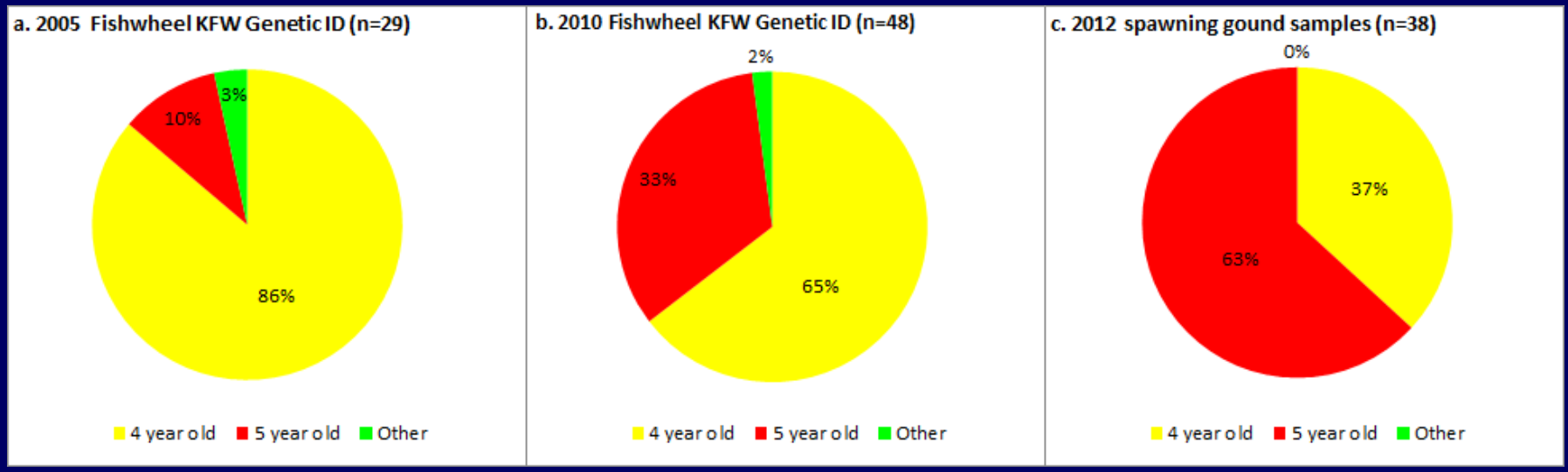
Kwinageese River Weir Fish Counts 2002-17



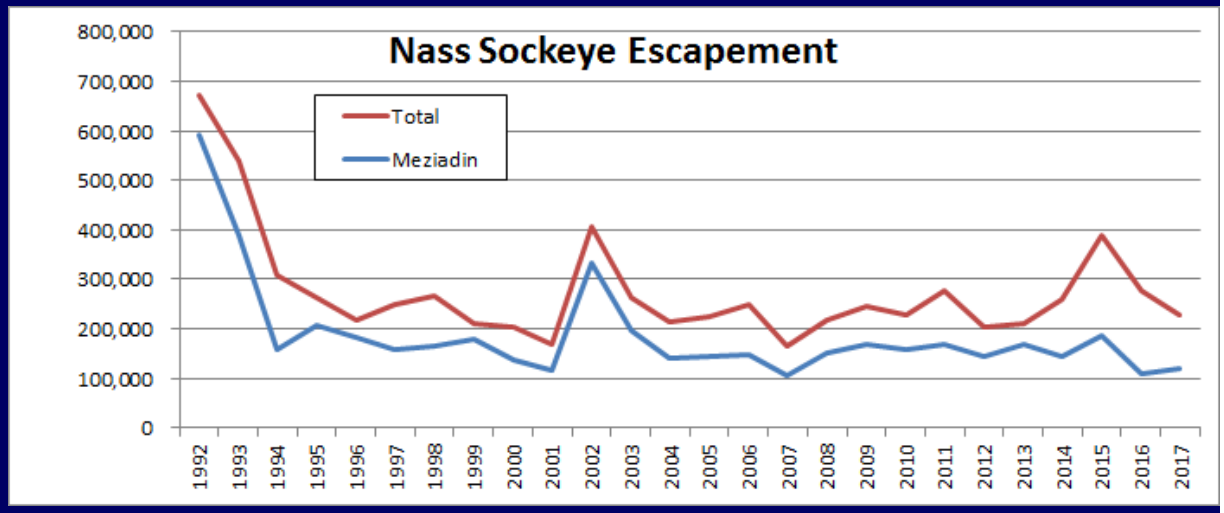
- **2017 monitoring was from 9 July to 14 October**

Kwinageese Sockeye Recovery Planning

			RETURN YEAR										
	Year	ESCAPEMENT	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
BROOD YEAR	2006	2,700	Age 5										
	2007	?	Age 4	Age 5									
	2008	?		Age 4	Age 5								
	2009	107			Age 4	Age 5							
	2010	48				Age 4	Age 5						
	2011	10,273					Age 4	Age 5					
	2012	3,688						Age 4	Age 5				
	2013	397							Age 4	Age 5			
	2014	438								Age 4	Age 5		
	2015	7,044									Age 4	Age 5	
	2016	19,797										Age 4	Age 5



Non-Meziadin Sockeye Research



- Priority research to assess non-Meziadin populations (e.g., Bell-Irving stocks) as cannot visually account for large spawning populations each year (grouped as non-Mez in table)

	Nass Stocks							
Year	Mez	Gingit	Brown Bear	Kwin	Dam	Non-Mez	Net esc.	%Non-Mez
2000	137,042	870				66,495	204,407	33%
2001	116,192	3,000				48,061	167,253	29%
2002	332,442	380				72,651	405,473	18%
2003	196,852	1,790				65,046	263,688	25%
2004	140,923	990				73,944	215,857	34%
2005	142,859	2,770	680		505	77,745	224,559	35%
2006	146,954	810	133	2,700	1,701	98,344	250,642	39%
2007	104,308	5,830	162		2,067	52,380	164,747	32%
2008	150,396	3,380	75		2,000	62,524	218,375	29%
2009	168,404	9,310	111	107	1,716	65,251	244,899	27%
2010	159,620	2,427	80	48	1,970	64,865	229,010	28%
2011	167,524	11,837	1	10,273	2,996	84,069	276,700	30%
2012	144,923	7,499	6	3,688	2,902	44,010	203,028	22%
2013	170,376	10,035	532	397	4,217	24,569	210,126	12%
2014	144,920	7,493		438	5,557	101,694	260,102	39%
2015	185,917	19,944	550	7,044	4,117	171,931	389,503	44%
2016	109,868	8,250	1,300	19,797	3,548	133,650	276,413	48%
2017	119,088	5,313	??	7,240	NI	96,260	227,901	42%
Averages								
1985-1998	208,334					86,034	294,368	32%
1999-2008	164,832	2,202	263	2,700	1,568	64,780	232,596	29%
1994-present	161,997	5,663	330	5,173	2,775	78,120	248,058	31%
2000-present	157,700	5,663	330	5,173	2,775	77,972	246,260	31%

Aggregate Nass Sockeye pop estimate – Mark recapture censoring of tag losses

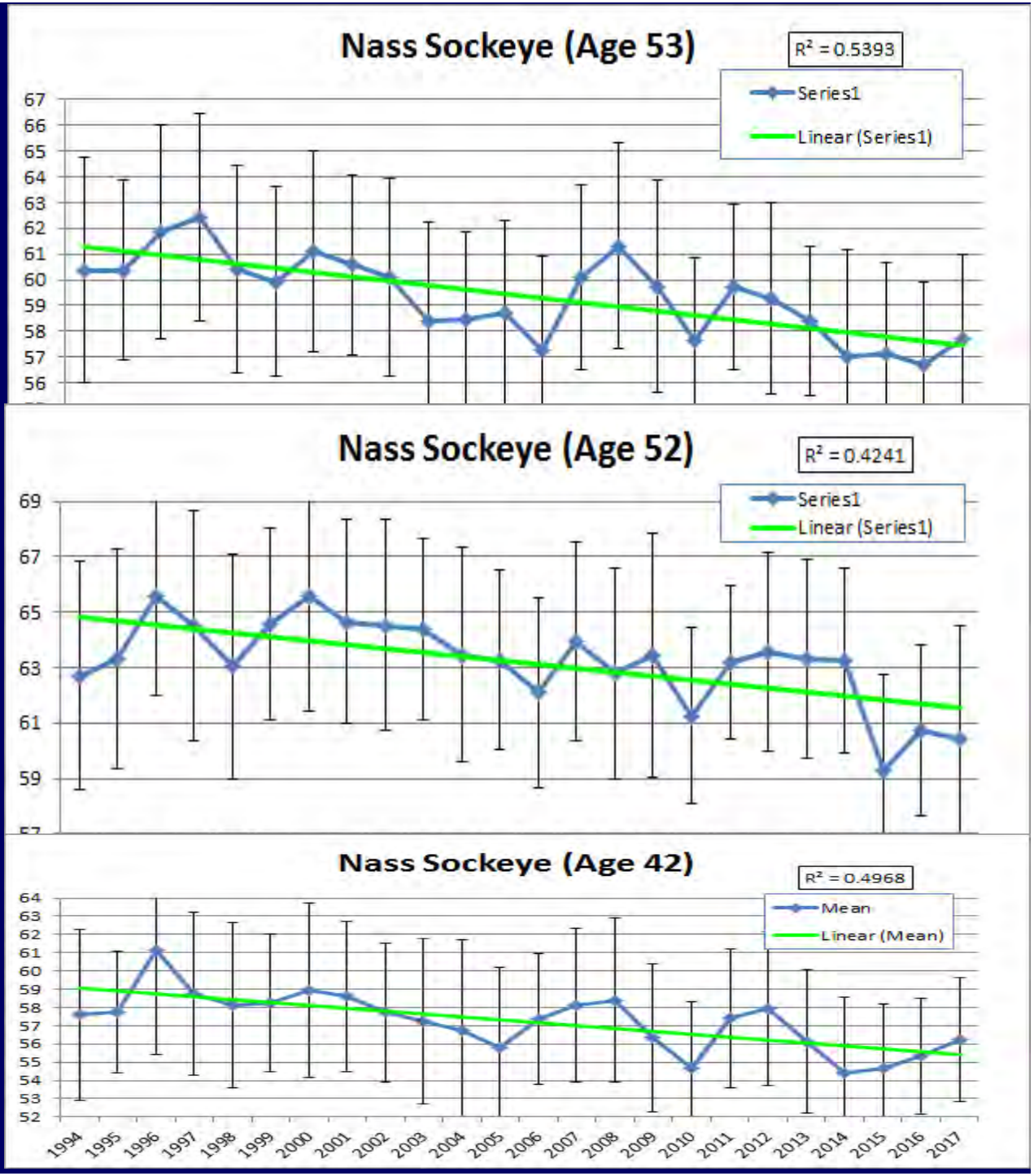
					% marks censored from estimated losses associated with:				
Year	Marks released (M)	Marks removed in Nisga'a fisheries	Compliance rate	Total marks censored below GH	Capture/tagging losses	Loss of primary mark	Removal in fisheries below GH	Total	Net marks released (M adj)
1994	10,916	546		2,183	10.0%	5.0%	5.0%	20.0%	8,733
1995	9,031	433		1,969	10.0%	7.0%	4.8%	21.8%	7,062
1996	4,843	242		969	10.0%	5.0%	5.0%	20.0%	3,874
1997	6,513	326		1,303	10.0%	5.0%	5.0%	20.0%	5,210
1998	4,030	202		806	10.0%	5.0%	5.0%	20.0%	3,224
1999	10,755	538		2,151	10.0%	5.0%	5.0%	20.0%	8,604
2000	6,833	1,666	79.2%	2,349	10.0%		24.4%	34.4%	4,484
2001	6,841	1,799	74.2%	2,483	10.0%		26.3%	36.3%	4,358
2002	10,292	1,785	94.8%	2,814	10.0%		17.3%	27.3%	7,478
2003	10,190	2,860	89.8%	3,879	10.0%		28.1%	38.1%	6,311
2004	12,463	4,368	85.0%	5,615	10.0%		35.1%	45.1%	6,848
2005	9,308	2,100	91.8%	3,031	10.0%		22.6%	32.6%	6,277
2006	11,626	2,250	93.1%	3,413	10.0%		19.4%	29.4%	8,213
2007	9,007	1,607	77.6%	2,508	10.0%		17.8%	27.8%	6,499
2008	9,297	491	*85.7%*	1,672	10.0%	2.7%	5.3%	18.0%	7,625
2009	10,393	1,728	79.4%	3,048	10.0%	2.7%	16.6%	29.3%	7,345
2010	6,140	1,361	67.2%	2,141	10.0%	2.7%	22.2%	34.9%	3,999
2011	9,286	817	100.0%	1,997	10.0%	2.7%	8.8%	21.5%	7,289
2012	13,106	1,645	89.4%	3,940	10.0%	8.3%	11.8%	30.1%	9,166
2013	7,102	1,101	77.5%	2,270	10.0%	7.2%	14.8%	32.0%	4,832
2014	7,950	1,200	88.1%	2,443	10.0%	6.3%	14.5%	30.7%	5,507
2015	13,702	1,983	91.9%	5,184	10.0%	12.7%	15.1%	37.8%	8,518
2016	7,516	926	61.3%	2,179	10.0%	7.4%	11.6%	29.0%	5,337
2017	6,946	840	70.4%	1,969	10.0%	6.9%	11.4%	28.3%	4,977
Averages:									
94-pres.	8,920	1,367	84.9%	2,596	10.0%	5.7%	14.7%	28.5%	6,324
Pre-treaty	7,681			1,563	10.0%	5.3%	5.0%	20.3%	6,118
Post-treaty	9,333	1,696	84.9%	2,941	10.0%	6.0%	17.9%	31.3%	6,392

Observations of injuries 2017

Aggregate Nass Sockeye pop estimate – Mark recapture censoring of tag losses

									95% CL							
Year	Net marks released (M adj)	Examined for marks (C)	Marks recovered (R)	MR%	REC %	**Population estimate to GH (N)**	**CV (%)**	SE	LCI	UCI	Sport Harvests above GH	Upper FSC Harvests	Total harvests above GH	**Net Escapement (Goal=200,000)**	Total Harvests above GW	**Population estimate to GW (Goal=~275 k)**
1994	8,733	158,627	4,794	3.0%	55%	**288,937**	**1%**	4,109	280,875	297,232		5,000	5,000	**283,937**	15,167	**298,937**
1995	7,062	205,853	5,139	2.5%	73%	**282,868**	**1%**	3,896	275,242	290,708		5,000	5,000	**264,685**	18,779	**281,616**
1996	3,874	181,840	3,033	1.7%	78%	**232,245**	**2%**	4,180	224,129	240,657		5,000	5,000	**218,116**	14,126	**232,270**
1997	5,210	158,656	3,098	2.0%	59%	**266,782**	**2%**	4,745	257,556	276,342		5,146	5,146	**250,456**	16,313	**266,804**
1998	3,224	163,998	1,875	1.1%	58%	**281,927**	**2%**	6,470	269,459	294,974		6,281	6,281	**266,458**	15,470	**281,928**
1999	8,604	180,350	6,483	3.6%	75%	**239,345**	**1%**	2,918	233,591	245,243		11,227	11,227	**210,957**	20,531	**239,346**
2000	4,484	137,042	2,964	2.2%	66%	**207,283**	**2%**	3,765	199,957	214,879	15	2,884	2,899	**204,407**	39,192	**243,584**
2001	4,358	116,192	2,982	2.6%	68%	**169,796**	**2%**	3,068	163,813	176,000	3	2,544	2,547	**167,253**	37,283	**206,033**
2002	7,478	332,442	6,027	1.8%	81%	**412,455**	**1%**	5,264	402,175	423,000	25	6,958	6,983	**405,473**	64,610	**470,083**
2003	6,311	196,852	4,650	2.4%	74%	**267,159**	**1%**	3,870	259,593	274,949	0	3,472	3,472	**263,688**	65,228	**328,916**
2004	6,848	140,923	4,417	3.1%	64%	**218,478**	**2%**	3,235	212,131	225,016	0	2,622	2,622	**215,857**	67,855	**283,712**
2005	6,277	142,833	3,820	2.7%	61%	**234,671**	**2%**	3,745	227,349	242,231	0	10,113	10,113	**224,559**	61,357	**285,916**
2006	8,213	146,954	4,694	3.2%	57%	**257,101**	**1%**	3,691	249,853	264,561	0	6,460	6,460	**250,642**	45,696	**296,338**
2007	6,499	104,308	4,082	3.9%	63%	**166,065**	**2%**	2,547	161,051	171,238	0	1,325	1,325	**164,747**	30,491	**195,238**
2008	7,625	150,396	5,016	3.3%	66%	**228,616**	**1%**	3,173	222,378	235,030	0	9,406	9,406	**218,376**	17,117	**235,223**
2009	7,345	168,392	4,887	2.9%	67%	**253,071**	**1%**	3,566	246,077	260,266	0	8,172	8,172	**244,900**	36,335	**281,235**
2010	3,999	159,120	2,670	1.7%	67%	**238,164**	**2%**	4,569	229,425	247,499	0	9,154	9,154	**229,010**	32,587	**261,597**
2011	7,289	167,524	4,213	2.5%	58%	**289,798**	**2%**	4,407	281,191	298,692	7	13,091	13,098	**276,700**	31,925	**308,625**
2012	9,166	144,923	6,112	4.2%	67%	**217,326**	**1%**	2,720	211,947	222,843	0	14,298	14,298	**203,028**	36,372	**239,400**
2013	4,832	170,376	3,726	2.2%	77%	**220,936**	**2%**	3,579	213,958	228,144	31	10,779	10,810	**210,126**	38,387	**248,513**
2014	5,507	144,920	2,875	2.0%	52%	**277,546**	**2%**	5,123	267,588	287,876	108	17,336	17,444	**260,102**	40,970	**301,072**
2015	8,518	185,917	3,859	2.1%	45%	**410,319**	**2%**	6,535	397,580	423,469	19	20,797	20,816	**389,503**	79,963	**469,466**
2016	5,337	109,868	2,015	1.8%	38%	**290,912**	**2%**	6,418	278,491	303,889	0	14,499	14,499	**276,413**	27,722	**304,135**
2017	4,977	119,088	2,482	2.1%	50%	**238,753**	**2%**	4,740	229,547	248,329	0	10,852	10,852	**227,901**	32,684	**260,585**
Averages:																
94-pres.	6,324	161,975	3,996	2.5%	63%	**257,940**	**2%**	4,180	249,790	266,378	12	8,434	8,443	**246,971**	36,923	**284,190**
Pre-treaty	6,118	174,887	4,070	2.3%	66%	**265,351**	**2%**	4,386	256,808	274,193		6,276	6,276	**249,102**	16,731	**266,817**
Post-treaty	6,392	157,671	3,972	2.6%	62%	**255,469**	**2%**	4,112	247,450	263,773	12	9,153	9,165	**246,260**	43,654	**289,982**

Observations of decreasing size by age & species



MARK-RECAPTURE REVIEW FROM 2017

- size selectivity would result in larger estimate
- for 2017, used pooled estimate

		Nose-to-fork length			Total used for MR sample
		450-580 mm	≥581 mm		
A. Released at the fishwheels with marks		3,284	3,662		6,946
		47%	53%		100%
B. Removed by:					
1. Mortality (10% of total)	10%	329	366		695
2. Tag loss	6.9%	205	229		434
3. Sport Fisheries (between GW and GH only)					0
4. Nisga'a fishery - Gillnet [a]		323	517		840
		38%	62%		100%
5. Nisga'a fishery - Grease Harbour Fishwheels		0	0		0
Total removals		857	1,112		1,969
C. Total effective marks (released minus removals)		2,427	2,550		4,977
		49%	51%		100%
D. Inspected at (italics were not used in MR sample):					
3. Meziadin Fishway	**Inspected (C)**	51,362	67,726		**119,088**
		43%	57%		100%
Operation dates:	**Recaptures (R)**	814	1,668		**2,482**
		33%	67%		100%
Operation dates: 1 July - 7 October	**R/C**	1.6%	2.5%		**2.1%**

[a] The total removls in the Nisga'a gillnet fishery were estimated by dividing the actual number of recoveries by 0.704 based on mark rate in individual

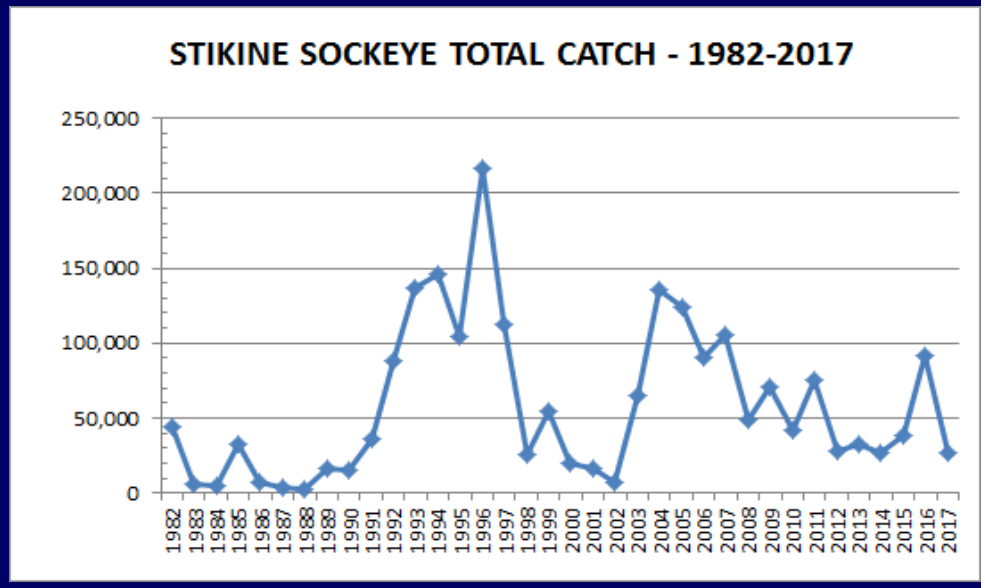
	Medium	Large:	Stratified:	*Pooled:*
Total tags applied:	3,284	3,662	6,946	*6,946*
Adjusted tag total:	2,427	2,550	4,977	*4,977*
Total fish examined:	51,362	67,726	119,088	*119,088*
Total tags recovered:	814	1,668	2,482	*2,482*
Adj. esc. estimate past the Grease Harbour fishwheels:	**152,953**	**103,530**	**256,484**	***238,753***
Lower 95% C.I.:	142,816	98,683	244,743	*229,547*
Upper 95% C.I.:	163,812	108,618	268,224	*248,329*
Variance:	28,198,504	6,261,916	34,460,421	22,469,513
SE:	**5,310**	**2,502**	**5,870**	***4,740***
CV%	**3.5%**	**2.4%**	**2.1%**	***2.0%***
		Upper Nass harvests	10,852	10852
		Sport (above GH):	0	0
		Net Esc.	**245,632**	**227,901**
Nisga'a harvest between Gitwinksilkw and Grease Harbour			21,832	21832
Sport Harvest between Gitwinksilkw and Grease Harbour			0	0
Run size estimate to Gitwinksilkw fishwheels		**GW Esc.**	**278,316**	**260,585**

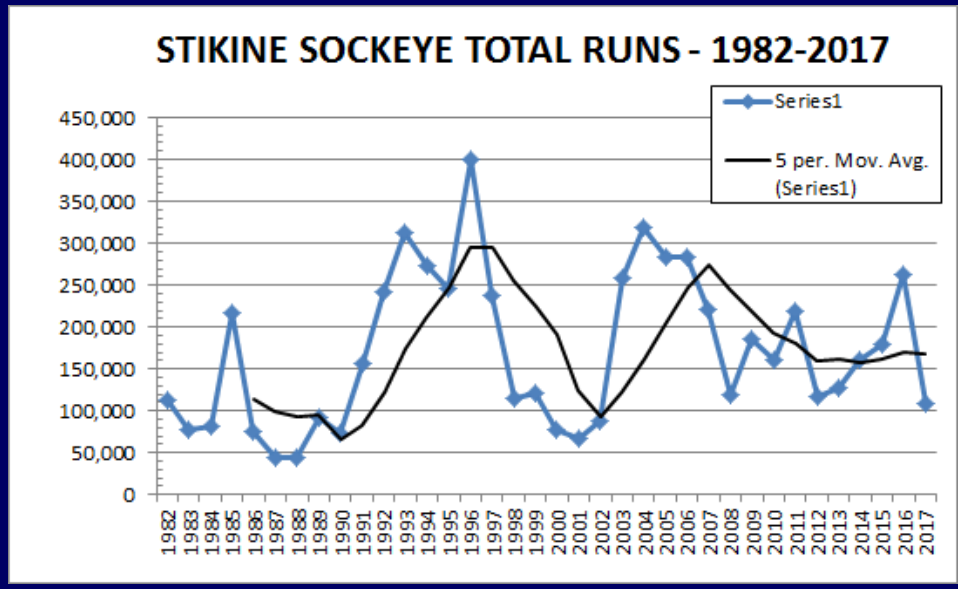
MARK-RECAPTURE REVIEW FROM 2017 –Genetic discrepancies (Meziadin)

Year	Fishway	DNA aggregate	Difference	% diff
1994	158,627			
1995	205,853			
1996	181,840			
1997	158,656			
1998	163,998			
1999	180,350			
2000	137,042	150,841	13,799	10%
2001	116,192	120,920	4,728	4%
2002	332,442	368,004	35,562	11%
2003	196,852			
2004	140,923			
2005	142,859	181,889	39,030	27%
2006	146,954			
2007	104,308			
2008	150,396			
2009	168,404	185,147	16,743	10%
2010	159,620	149,872	(9,748)	-6%
2011	167,524	192,417	24,893	15%
2012	144,923			
2013	170,376	174,077	3,701	2%
2014	144,920	198,413	53,493	37%
2015	185,917	265,163	79,246	43%
2016	109,868			
2016	119,088			

2017 STIKINE TERMINAL RUN

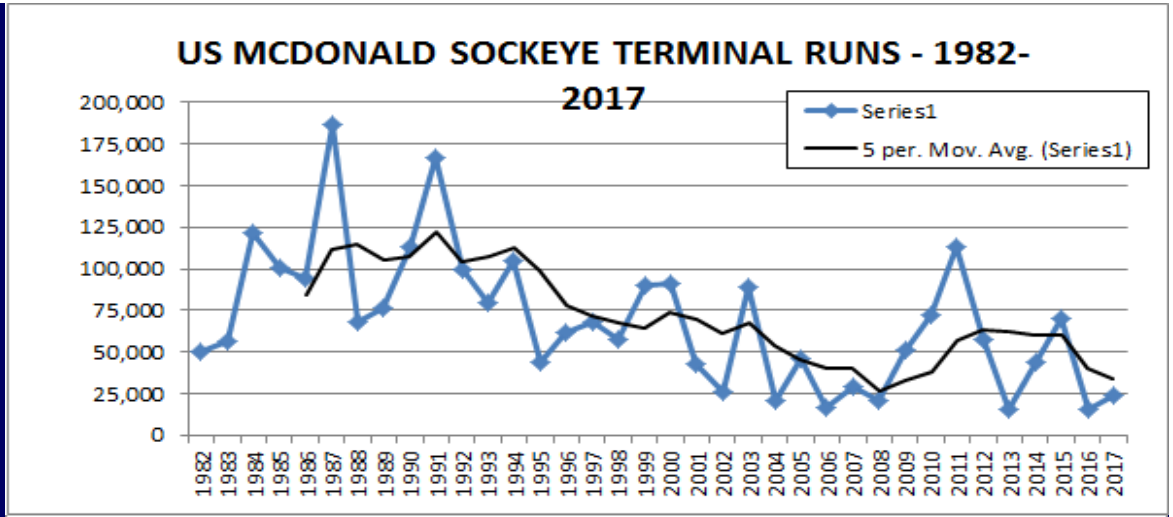
	All Tahltan	Mainstem	Tuya	Total Stikine
Total Counta	19241	15385	2617	37,243
Natural Spawning	16332			
Broodstock	2909			
Excessc			2617	
Tahltan weir Biological Samples	0		0	0
ESSR Harvestb	0			0
est mort. at rockslide	0			
Canadian Harvest				
Aboriginal	7559	172	847	8578
Upper Commercial	287	6	28	322
Lower Commercial	22664	6859	3326	32849
Total	30511	7037	4201	41749
% Harvest	1	0	1	1
Test Fishery Harvest	1292	470	146	1908
Tuya Test	0	0	0	0
All Canadian harvest	31803	7507	4347	43657
(plus biological samples)	31803	7507	4347	43,657
Above Border Run	51044	22892	6964	80900
Inriver Run Check	*51044*	*22892*	*6964*	80,900

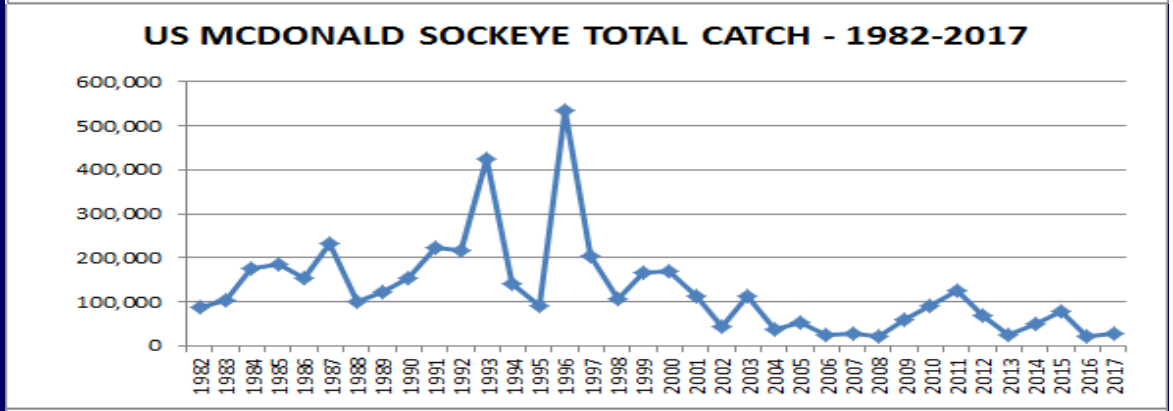


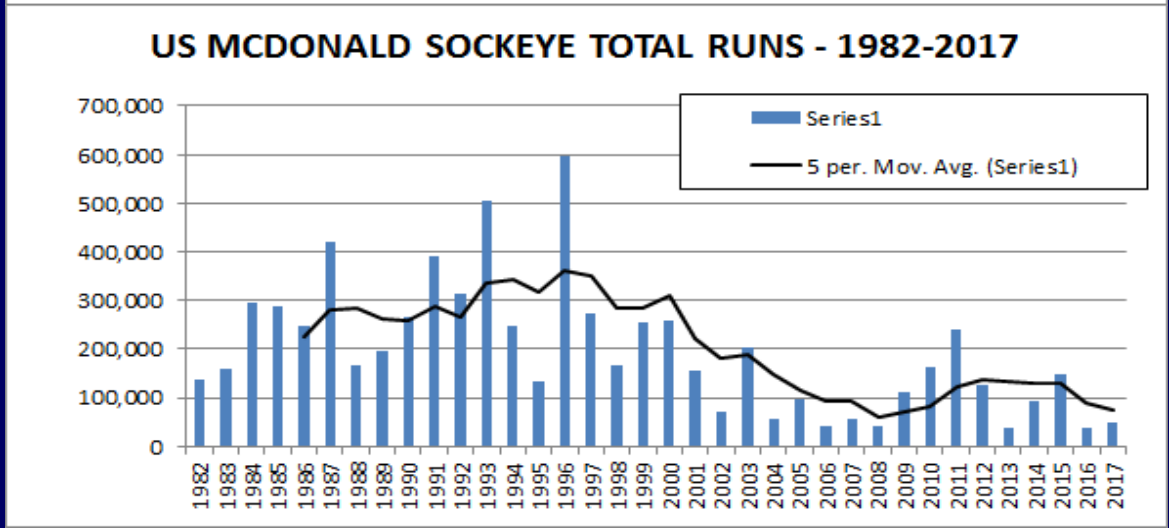


MCDONALD TERMINAL RUN 2017

2017 - 23,589







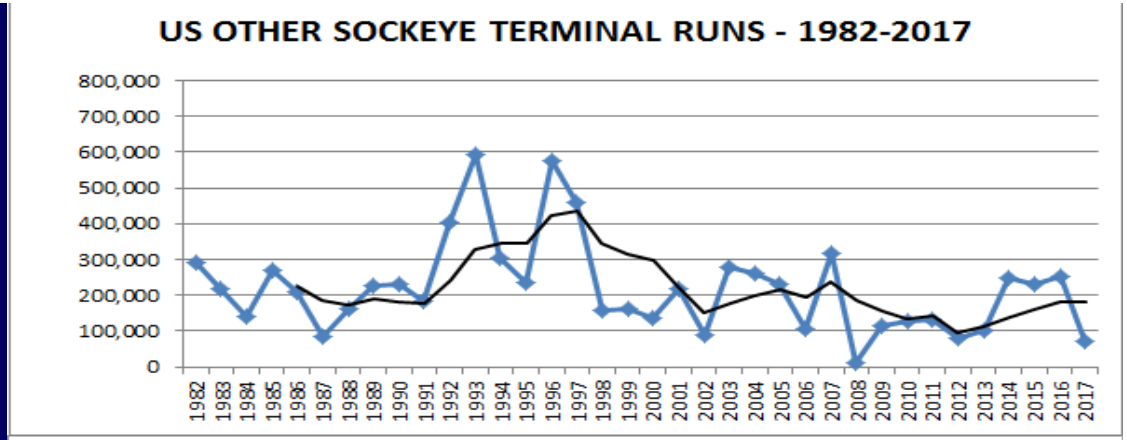
US OTHER TERMINAL RUN - 2017

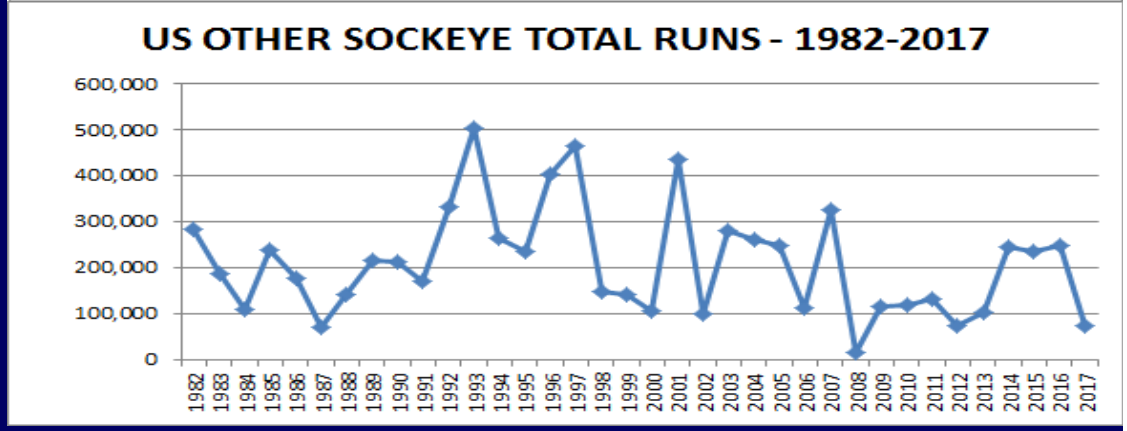
CATCH OF ALASKAN SOCKEYE STOCKS COMPARED TO US OTHER ESCAPEMENT ESTIMATE, 2017.

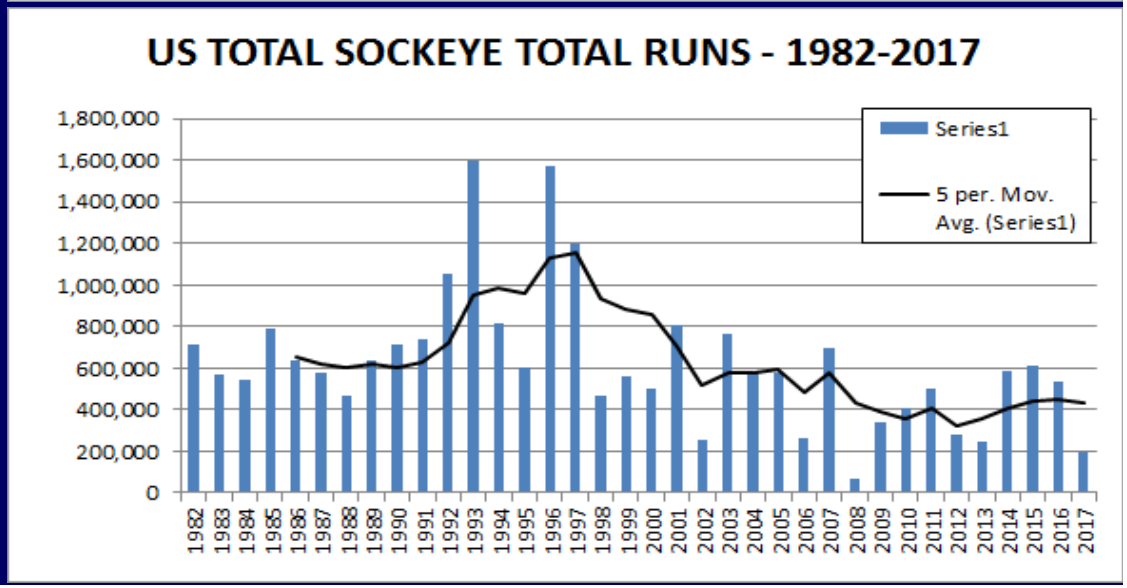
Year	AKwk	01 23 Sumner	01 24 U_ Clar	01 29 Fox	02 20 Noyes	02 21 Dall	02 22 Cordova	02 25 M_ Clar	02 26 L_ Clar	02 27 Revilla	02 28 Union	02 31 Dist103	03 26 L_ Clar	03 27 Revilla	TOTAL
2017	25	1301	275	458	0	0	0	0	0	0	0	0	0	0	2,035
2017	26	2419	754	532	0	0	0	0	0	0	0	0	0	0	3,705
2017	27	2654	917	1,009	0	0	0	0	2,023	520	0	0	300	102	7,525
2017	28	3099	1,398	1,686	0	0	0	0	1,753	426	246	0	595	53	9,257
2017	29	2936	2,292	796	1,415	441	0	0	2,572	700	826	0	952	27	12,958
2017	30	2046	1,577	941	1,212	194	0	0	945	251	652	435	1,060	19	9,333
2017	31	1256	1,116	1,126	6,826	358	0	0	79	693	1,132	27	909	88	13,610
2017	32	984	1,638	950	3,394	1,321	383	0	73	421	714	1,019	174	11	11,081
2017	33	869	735	436	1,601	76	1,226	0	534	452	670	1,071	1,247	35	8,953
2017	34	306	62	349	729	116	1,767	339	523	694	936	2,494	285	5	8,604
2017	35	202	294	193	1,482	710	212	0	110	81	0	2,704	104	0	6,092
2017	36	75	69	52	159	13	433	70	0	0	0	354	0	0	1,225
2017	37	16	14	15	0	0	0	44	0	0	0	0	0	0	90
2017	38	6	6	12	0	0	0	0	0	0	0	0	0	0	23
2017	39	0	2	1	0	0	0	0	0	0	0	0	0	0	3
2017	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
		18,171	11,149	8,556	16,819	3,228	4,021	453	8,612	4,239	5,176	8,105	5,625	340	94,495
														Mcdonald esc:	23,959
										*Total Esc. should equal catch in database				US Other:	**70,536**

“US OTHER” TERMINAL RUN

2017 - 70,536







GROSS TERMINAL RUN DATA

Final terminal run data used for 2016 & 2017

NB Sockeye Run Reconstruction Escapement (to mouth), 1982-17.

Year	1 Skeena	2 Nass	3 Stikine	4 US McD	5 US Other
1982	1,447,331	372,880	68,761	49,716	292,283
1983	1,114,507	234,871	71,683	56,142	219,223
1984	1,311,575	243,051	76,211	121,224	142,454
1985	2,479,035	448,416	184,747	100,792	269,497
1986	963,709	259,299	69,036	94,581	209,798
1987	1,576,061	250,819	39,264	187,173	86,485
1988	1,637,238	190,022	41,915	67,486	162,174
1989	1,362,147	158,920	75,054	75,908	225,679
1990	1,216,884	205,318	57,386	112,974	231,456
1991	1,530,996	381,588	120,152	166,267	183,311
1992	1,581,361	731,540	154,542	99,828	405,230
1993	2,100,087	573,697	176,100	79,729	594,720
1994	1,334,373	344,369	127,527	104,960	305,957
1995	2,236,899	303,743	142,308	44,052	234,039
1996	2,651,202	252,206	184,400	61,933	575,238
1997	1,394,273	287,246	125,657	68,462	459,585
1998	715,689	304,893	90,459	57,501	157,807
1999	838,601	256,024	65,879	89,608	160,201
2000	2,392,719	300,469	56,354	90,624	137,389
2001	2,300,594	246,985	50,000	42,767	217,578
2002	799,599	553,098	81,098	25,776	88,977
2003	1,506,757	408,021	193,451	89,000	279,603
2004	1,145,166	363,723	183,900	21,000	262,084
2005	904,892	348,020	159,974	46,000	231,793
2006	1,805,192	345,121	193,514	17,000	106,650
2007	1,298,389	219,933	116,360	29,000	317,920
2008	1,406,808	273,225	69,249	21,000	10,768
2009	939,971	322,518	114,157	51,000	114,861
2010	869,068	305,974	118,800	72,500	129,271
2011	1,428,400	350,239	143,829	113,000	133,338
2012	1,720,093	286,087	90,014	57,000	79,749
2013	460,206	294,362	93,447	15,400	103,604
2014	2,326,658	357,308	133,145	43,400	249,038
2015	1,793,364	564,464	142,334	70,200	230,589
2016	1,233,089	337,774	164,451	15,600	251,309
2017	989,563	296,939	80,900	23,959	70,536
Mean - 82+	1,467,000	333,000	113,000	69,000	220,000
Mean - 00+	1,407,000	343,000	121,000	47,000	168,000

Alaska Catch 2017 – SESPA vs. Sales Slip

YEAR	2017									
Sum of CATCH		DISTRI								
GEAR_CLASS_COD	HARVEST_CODE	101	102	103	104	105	106	107	108	Grand Total
01	11	15,370	13,971	13,483	98,024	5,807		5,176		151,831
	17	6,075								6,075
01 Total		21,445	13,971	13,483	98,024	5,807		5,176		157,906
03	11	25,073					45,005		14,282	84,360
	17	5,200								5,200
03 Total		30,273					45,005		14,282	89,560
Grand Total		51,718	13,971	13,483	98,024	5,807	45,005	5,176	14,282	247,466
	SESPA	101	102	103	104	105	106	107	108	Grand Total
	SN	15,370	13,971	13,483	98,024					140,848
	GN	25,073					45005		14282	84,360
	TOTAL	40,443	13,971	13,483	98,024	0	45,005	0	14,282	225,208
	DIFF	11,275	0	0	0	5,807	0	5,176	0	22,258

ALASKA GENETIC SAMPLING - 2017

YEAR	HARVES	GEAR	DISTRIC	STAT_W	SOCKEYE	Samples	Analyzed
2017	Traditional	Purse Seir	101	27	1,107	192	199
2017	Traditional	Purse Seir	101	28	980	195	
2017	Traditional	Purse Seir	101	29	2,090	243	
2017	Traditional	Purse Seir	101	30	783	274	196
2017	Traditional	Purse Seir	101	31	942	227	
2017	Traditional	Purse Seir	101	32	571	260	
2017	Traditional	Purse Seir	101	33	1,204	260	
2018	Traditional	Purse Seir	101	34	6,651	260	286
YEAR	HARVES	GEAR	DISTRIC	STAT_W	SOCKEYE	Samples	Analyzed
2017	Traditional	Purse Seir	102	25	1,520	262	224
2017	Traditional	Purse Seir	102	26	1,723	260	
2017	Traditional	Purse Seir	102	27	2,934	235	
2017	Traditional	Purse Seir	102	28	2,586	260	219
2017	Traditional	Purse Seir	102	29	3,011	229	
2017	Traditional	Purse Seir	102	30	678		
2017	Traditional	Purse Seir	102	31	0		
2017	Traditional	Purse Seir	102	32	32	36	
2017	Traditional	Purse Seir	102	33	0		
2017	Traditional	Purse Seir	102	34	344		
2017	Traditional	Purse Seir	102	35			
2017	Traditional	Purse Seir	102	36	787		
2017	Traditional	Purse Seir	102	37	356		
YEAR	HARVES	GEAR	DISTRIC	STAT_W	SOCKEYE	Samples	Analyzed
2017	Traditional	Purse Seir	103	30	529		
2017	Traditional	Purse Seir	103	31	33		
2017	Traditional	Purse Seir	103	32	1,706	175	171
2017	Traditional	Purse Seir	103	33	2,511	160	211
2017	Traditional	Purse Seir	103	34	4,657	98	
2018	Traditional	Purse Seir	103	35	3,187	7	
2017	Traditional	Purse Seir	103	36	860	0	

ALASKA GENETIC SAMPLING - 2017

YEAR	HARVES	GEAR	DISTRIC	STAT_W	SOCKEYE	Samples	Analyzed	% Analyz	% Catch
2017	Traditional	Drift Gillne	101	25	4,926	261	259	99.2%	5.29%
2017	Traditional	Drift Gillne	101	26	1,613	260	254	97.7%	15.48%
2017	Traditional	Drift Gillne	101	27	2,891	220	220	100.0%	7.61%
2017	Traditional	Drift Gillne	101	28	2,375	256	252	98.4%	10.62%
2017	Traditional	Drift Gillne	101	29	2,082	260	259	99.6%	12.43%
2017	Traditional	Drift Gillne	101	30	1,857	260	257	98.8%	13.84%
2017	Traditional	Drift Gillne	101	31	3,302	260	259	99.6%	7.91%
2017	Traditional	Drift Gillne	101	32	2,457	258	257	99.6%	10.34%
2017	Traditional	Drift Gillne	101	33	1,011	260	260	100.0%	25.72%
2017	Traditional	Drift Gillne	101	34	1,035	121	121	100.0%	11.69%
2017	Traditional	Drift Gillne	101	35	1,079	220	220	100.0%	20.39%
2017	Traditional	Drift Gillne	101	36	292				
2017	Traditional	Drift Gillne	101	37	85				
2017	Traditional	Drift Gillne	101	38	65				
2017	Traditional	Drift Gillne	101	39	3				
2017	Traditional	Drift Gillne	101	40					

YEAR	HARVES	GEAR	DISTRIC	STAT_W	SOCKEYE	Samples	Analyzed	% Analyz
2017	Traditional	Purse Seir	104	28				
2017	Traditional	Purse Seir	104	29	7,492	260	259	99.6%
2017	Traditional	Purse Seir	104	30	4,544	0	0	0.0%
2017	Traditional	Purse Seir	104	31	19,349	310	306	98.7%
2017	Traditional	Purse Seir	104	32	16,269	260	260	100.0%
2017	Traditional	Purse Seir	104	33	9,662	300	300	100.0%
2017	Traditional	Purse Seir	104	34	20,025	300	299	99.7%
2017	Traditional	Purse Seir	104	35	19,182	250	250	100.0%
2017	Traditional	Purse Seir	104	36	1,501	0	0	0.0%
					98,024	1680	1674	99.6%

ALASKA GENETIC SAMPLING - 2017

YEAR	HARVES	GEAR	DISTRIC	STAT_W	SOCKEYE	Samples	Analyzed
2017	Traditional	Drift Gillne	106	25	2,771	351	153
2017	Traditional	Drift Gillne	106	26	6,183	564	265
2017	Traditional	Drift Gillne	106	27	6,645	536	281
2017	Traditional	Drift Gillne	106	28	6,473	600	265
2017	Traditional	Drift Gillne	106	29	6,359	600	243
2017	Traditional	Drift Gillne	106	30	4,380	346	209
2017	Traditional	Drift Gillne	106	31	3,051	373	176
2017	Traditional	Drift Gillne	106	32	4,015	600	220
2017	Traditional	Drift Gillne	106	33	2,781	568	205
2017	Traditional	Drift Gillne	106	34	869	313	119
2017	Traditional	Drift Gillne	106	35	1,071	326	93
2017	Traditional	Drift Gillne	106	36	312		
2017	Traditional	Drift Gillne	106	37	65		
2017	Traditional	Drift Gillne	106	38	24		
2018	Traditional	Drift Gillne	106	39	6		
2017	Traditional	Drift Gillne	106	40	0		

YEAR	HARVES	GEAR	DISTRIC	STAT_W	SOCKEYE	Samples	Analyzed
2017	Traditional	Drift Gillne	108	26	1,283	370	89
2017	Traditional	Drift Gillne	108	27	3,962	376	221
2017	Traditional	Drift Gillne	108	28	3,388	520	178
2017	Traditional	Drift Gillne	108	29	2,372	520	137
2017	Traditional	Drift Gillne	108	30	1,277	422	110
2017	Traditional	Drift Gillne	108	31	501	250	92
2017	Traditional	Drift Gillne	108	32	874	278	69
2017	Traditional	Drift Gillne	108	33	317	274	68
2017	Traditional	Drift Gillne	108	34	131		
2017	Traditional	Drift Gillne	108	35	110		
2017	Traditional	Drift Gillne	108	36	57		
2017	Traditional	Drift Gillne	108	37	2		
2017	Traditional	Drift Gillne	108	38	8		
2017	Traditional	Drift Gillne	108	39	0		
2017	Traditional	Drift Gillne	108	40	0		

GENETIC STOCK COMPOSITION ESTIMATES – SESPA* FILE

- **Percent Alaska**
  - o includes NSE AK, SSE AK, McDonald, Hugh Smith?
- **Percent Nass**
  - o include Gingit, Meziadin stocks (lake, Hanna, Tintina), Kwinageese (Fred Wright, Bonney), Bell-Irving (Bowser), and Damdochax.
- **Percent Skeena**
  - o baseline Skeena stocks included
- **Percent Other – confirmation needed in future**
  - o includes Alsek, Taku, Stikine (except Districts 6 and 8 where Stikine is broken out), Queen Charlotte, Central Coast, Washington
- **Percent Fraser**
  - o similar sub stocks should be as used for Fraser DNA analyses for south coast

*SESPA = SALMON ESCAPEMENT SCALE PATTERN ANALYSES

GENETIC STOCK COMPOSITION ESTIMATE - 2017

	Alaska Fisheries (Scale Analyses) [1]					
Districts/Areas	101	101	102	103	104	106
Gear type	GN	SN	SN	SN	SN	GN
Fishery No.	29	26-27	25-26	22&31	20-21	23-24
Alaska						
AK Week 22						
AK Week 23						
AK Week 24						
AK Week 25	.094		.775			.569
AK Week 26	.324		.775			.513
AK Week 27	.349	.629	.775			.537
AK Week 28	.711	.629	.985			.695
AK Week 29	.382	.629	.985		.248	.822
AK Week 30	.507	.819	**.985**	**.822**	.310	.827
AK Week 31	.344	.819	**.985**	**.822**	.371	.778
AK Week 32	.382	.819	**.985**	.822	.290	.653
AK Week 33	.431	.819	**.985**	.915	.174	.577
AK Week 34	.337	.183	**.985**	.915	.042	.424
AK Week 35	.179	.183		.915	.114	.463
AK Week 36	**.179**		**.985**	**.915**	**.114**	**.463**
AK Week 37	**.179**		**.985**			**.463**
AK Week 38	**.179**					**.463**
AK Week 39	**.179**					**.463**
AK Week 40						**.463**
AK Week 41						

	Alaska Fisheries (Scale Analyses) [1]					
Districts/Areas	101	101	102	103	104	106
Gear type	GN	SN	SN	SN	SN	GN
Fishery No.	29	26-27	25-26	22&31	20-21	23-24
Nass						
AK Week 22						
AK Week 23						
AK Week 24						
AK Week 25	.822		.123			.058
AK Week 26	.565		.123			.052
AK Week 27	.556	.192	.123			.033
AK Week 28	.189	.192	.002			.042
AK Week 29	.544	.192	.002		.151	.082
AK Week 30	.387	.041	**.002**	**.008**	.131	.068
AK Week 31	.384	.041	**.002**	**.008**	.111	.048
AK Week 32	.459	.041	**.002**	.008	.109	.122
AK Week 33	.326	.041	**.002**	.000	.069	.094
AK Week 34	.374	.147	**.002**	.000	.023	.098
AK Week 35	.342	.147		.000	.036	.029
AK Week 36	**.342**		**.002**	**.000**	**.036**	**.029**
AK Week 37	**.342**		**.002**			**.029**
AK Week 38	**.342**					**.029**
AK Week 39	**.342**					**.029**
AK Week 40						**.029**
AK Week 41						

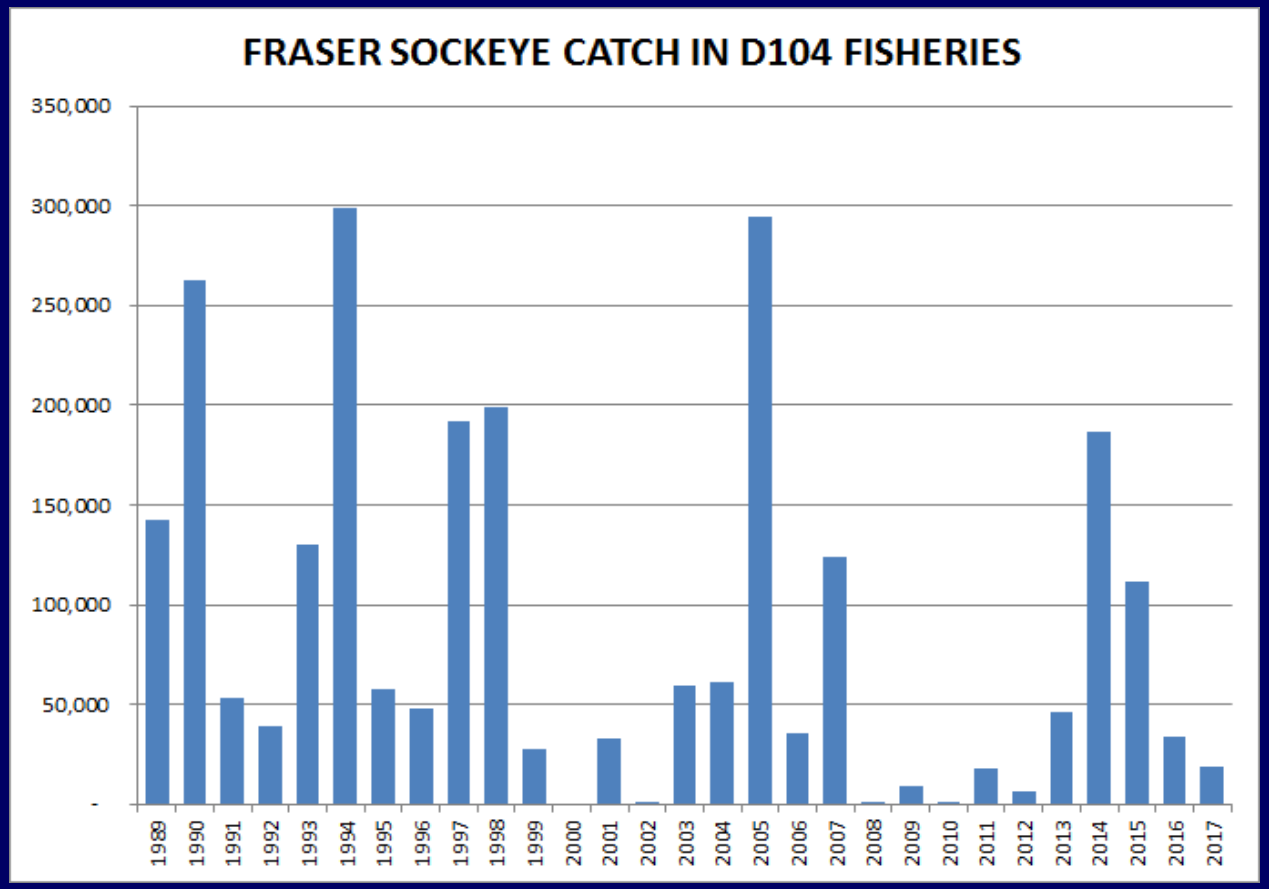
GENETIC STOCK COMPOSITION ESTIMATE - 2017

	Alaska Fisheries (Scale Analyses) [1]					
Districts/Areas	101	101	102	103	104	106
Gear type	GN	SN	SN	SN	SN	GN
Fishery No.	29	26-27	25-26	22&31	20-21	23-24
Skeena						
AK Week 22						
AK Week 23						
AK Week 24						
AK Week 25	.053		.035			.026
AK Week 26	.040		.035			.006
AK Week 27	.031	.138	.035			.012
AK Week 28	.018	.138	.005			.008
AK Week 29	.023	.138	.005		.428	.017
AK Week 30	.046	.127	**.005**	**.169**	.436	.032
AK Week 31	.226	.127	**.005**	**.169**	.443	.090
AK Week 32	.105	.127	**.005**	.169	.442	.162
AK Week 33	.191	.127	**.005**	.075	.464	.195
AK Week 34	.284	.640	**.005**	.075	.505	.360
AK Week 35	.447	.640		.075	.541	.455
AK Week 36	**.447**		**.005**	**.075**	**.541**	**.455**
AK Week 37	**.447**		**.005**			**.455**
AK Week 38	**.447**					**.455**
AK Week 39	**.447**					**.455**
AK Week 40						**.455**
AK Week 41						

	Alaska Fisheries (Scale Analyses) [1]					
Districts/Areas	101	101	102	103	104	106
Gear type	GN	SN	SN	SN	SN	GN
Fishery No.	29	26-27	25-26	22&31	20-21	23-24
Stikine						
AK Week 22						
AK Week 23						
AK Week 24						
AK Week 25						.347
AK Week 26						.429
AK Week 27						.411
AK Week 28						.249
AK Week 29						.078
AK Week 30						.072
AK Week 31						.082
AK Week 32						.063
AK Week 33						.130
AK Week 34						.096
AK Week 35						.051
AK Week 36						**.051**
AK Week 37						**.051**
AK Week 38						**.051**
AK Week 39						**.051**
AK Week 40						**.051**

"Fraser Sockeye" CATCH DATA IN D104 (2017)

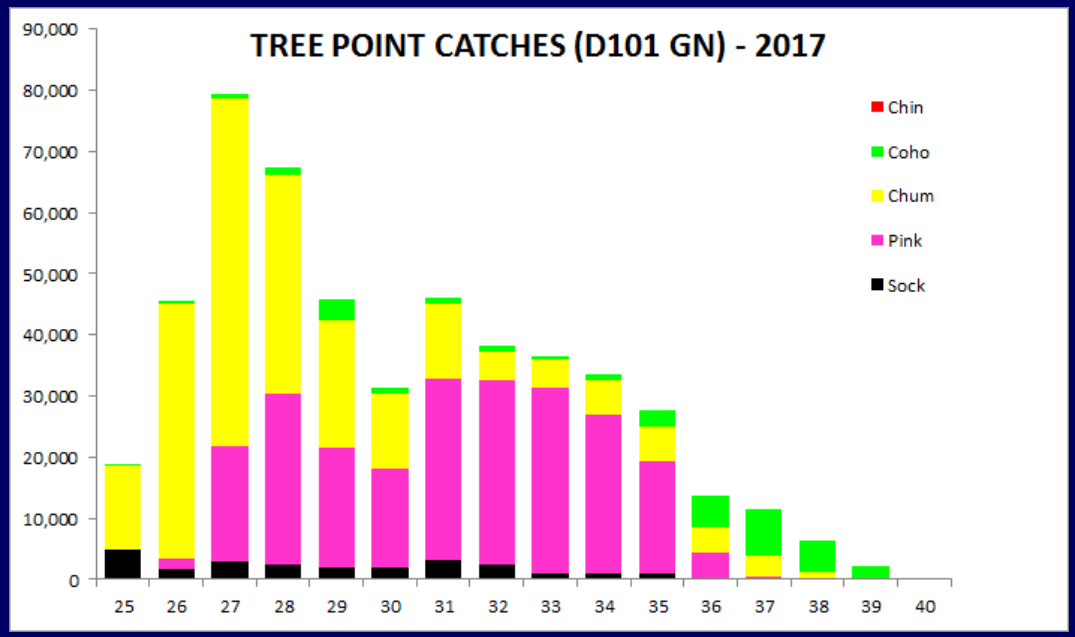
2017	Alaska Catch (Scott Johnson)			SESPA	Fraser Catch		
Week	Noyes	Dall	Total	**Fraser**	Noyes	Dall	Total
28	-	-	-	**0.00%**	-	-	-
29	5,712	1,780	7,492	**0.04%**	2	1	3
30	3,916	628	4,544	**2.49%**	98	16	114
31	18,385	964	19,349	**4.94%**	908	48	956
32	11,712	4,557	16,269	**12.18%**	1,427	555	1,982
33	9,226	436	9,662	**24.93%**	2,300	109	2,409
34	17,282	2,743	20,025	**38.92%**	6,726	1,068	7,794
35	12,970	6,212	19,182	**26.18%**	3,396	1,626	5,022
36	1,389	112	1,501	**26.18%**	364	29	393
Total	80,592	17,432	98,024		15,221	3,452	18,673



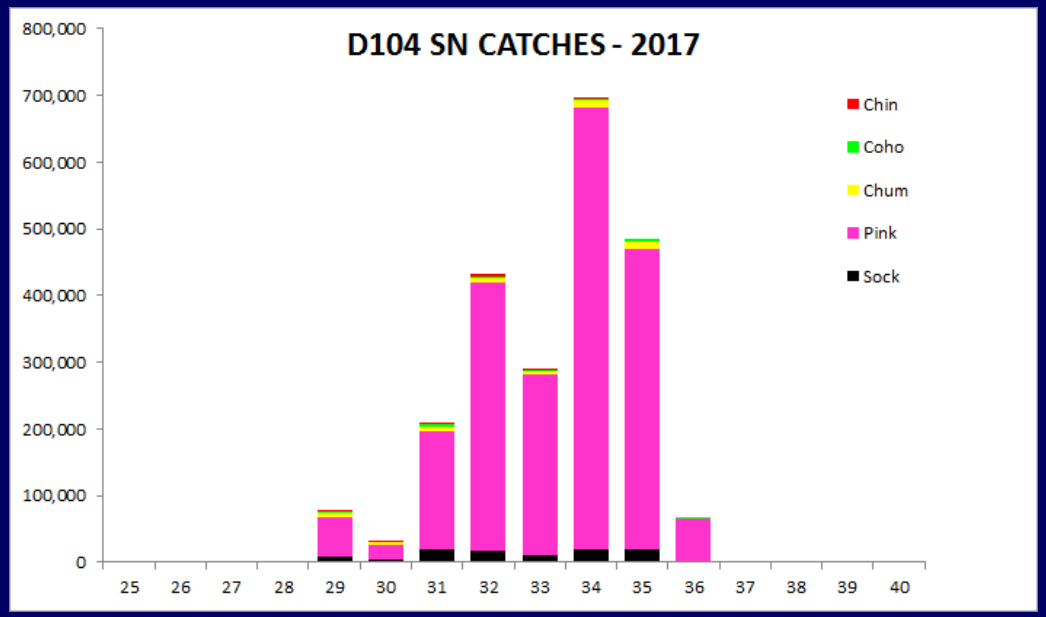
ALASKA COMMERCIAL CATCHES - 2017

Alaska Fisheries:

	Alaska Fishery - Sockeye Catch [1]																
Districts/Areas	104	104	103	106	106	102	101-102	101	107	101	101	103	105	108		Mixed-stock
Gear type	SN	SN	SN	GN	GN/SN	SN	ALL	SN	SN	GN	SN	SN	SN	GN		fisheries
Fishery No.	20	21	22	23	24	25	26	27	28	29	30	31	32	33	Total	total
AK Week 21-22															0	0
AK Week 23															0	0
AK Week 24							30	7							37	37
AK Week 25				2,287	484		2,412	2		4,898					10,083	10083
AK Week 26				4,714	1,469		2,205	9		1,641				1,283	11,321	10038
AK Week 27				4,938	1,707		3,693	989		2,891				3,962	18,180	14218
AK Week 28				4,461	2,012		3,733	763	246	2,373				3,388	16,976	13342
AK Week 29	5,712	1,780		3,571	2,788		5,602	1,156	826	2,084				2,372	25,891	22693
AK Week 30	3,916	628		2,474	1,906		2,448	330	652	1,857		**529**		1,277	16,017	14088
AK Week 31	18,385	964		1,616	1,435		1,206	954	1,132	3,273		**33**		501	29,499	27866
AK Week 32	11,712	4,557	466	1,507	2,508		301	527	714	2,486		1,240	2,355	874	29,247	27659
AK Week 33	9,226	436	1,340	1,507	1,274		2,175	595	670	1,011		1,171	1,359	317	21,081	20094
AK Week 34	17,282	2,743	1,931	722	147	**344**	4,415	3,818	936	1,035		2,726	1,909	131	38,139	37072
AK Week 35	12,970	6,212	232	436	635		1,167	441		1,079		2,955	184	110	26,421	26311
AK Week 36	**1,389**	**112**	**473**	**163**	**149**	**71**	**774**			**292**		**387**		57	3,867	3810
AK Week 37				**35**	**30**	**45**	**335**			**85**				2	532	530
AK Week 38				**12**	**12**		68			**65**				8	165	157
AK Week 39				**1**	**5**		1			**3**					10	10
AK Week 40															0	0
AK Week 41															0	0
Total Catch	**80,592**	**17,432**	**4,442**	**28,444**	**16,561**	**460**	**30,565**	**9,591**	**5,176**	**25,073**	**0**	**9,041**	**5,807**	**14,282**	**247,466**	**228,008**
Total used with stock comp.	80,592	17,432	4,442	28,444	16,561	460	30,466	9,573	0	25,073	0	9,041	0	0	222,084	222,084
Total without stock comp.	0	0	0	0	0	0	99	18	5,176	0	0	0	5,807	14,282	25,382	5,924
% catch with stock comp.	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**0%**	**100%**		**100%**	**0%**	**0%**	**89.7%**	**97.4%**



TREE POINT - D101GN					2017
Wks	Chin	Sock	Pink	Chum	Coho
25	0	4,926	24	13,663	225
26	0	1,613	1,799	41,654	536
27	0	2,891	18,916	56,873	738
28	0	2,375	27,898	35,958	1,219
29	0	2,082	19,380	20,882	3,540
30	0	1,857	16,308	12,204	1,109
31	0	3,302	29,617	12,057	1,059
32	0	2,457	30,063	4,696	975
33	0	1,011	30,428	4,502	663
34	0	1,035	25,948	5,677	953
35	0	1,079	18,351	5,451	2,927
36	0	292	4,179	3,987	5,275
37	0	85	361	3,456	7,569
38	0	65	163	1,070	5,095
39	0	3	4	264	1,970
40	0	0	0	0	0
41	0	0	0	0	0
TOTAL	0	25,073	223,439	222,394	33,853



D104 SN					
Wks	Chin	Sock	Pink	Chum	Coho
25					
26					
27		0	0	0	0
28	1,496	0	0	0	0
29	2,460	7,492	59,588	7,878	1,822
30	174	4,544	21,393	3,585	1,106
31	1,443	19,349	177,203	7,161	2,602
32	3,802	16,269	401,976	7,230	2,274
33	2,046	9,662	272,805	4,304	804
34	785	20,025	660,917	11,104	2,032
35		19,182	450,457	9,853	5,710
36		1,501	62,904	1,357	1,460
37		0	0	0	0
38					
39					
40					
41					
TOTAL	12,206	98,024	2,107,243	52,472	17,810

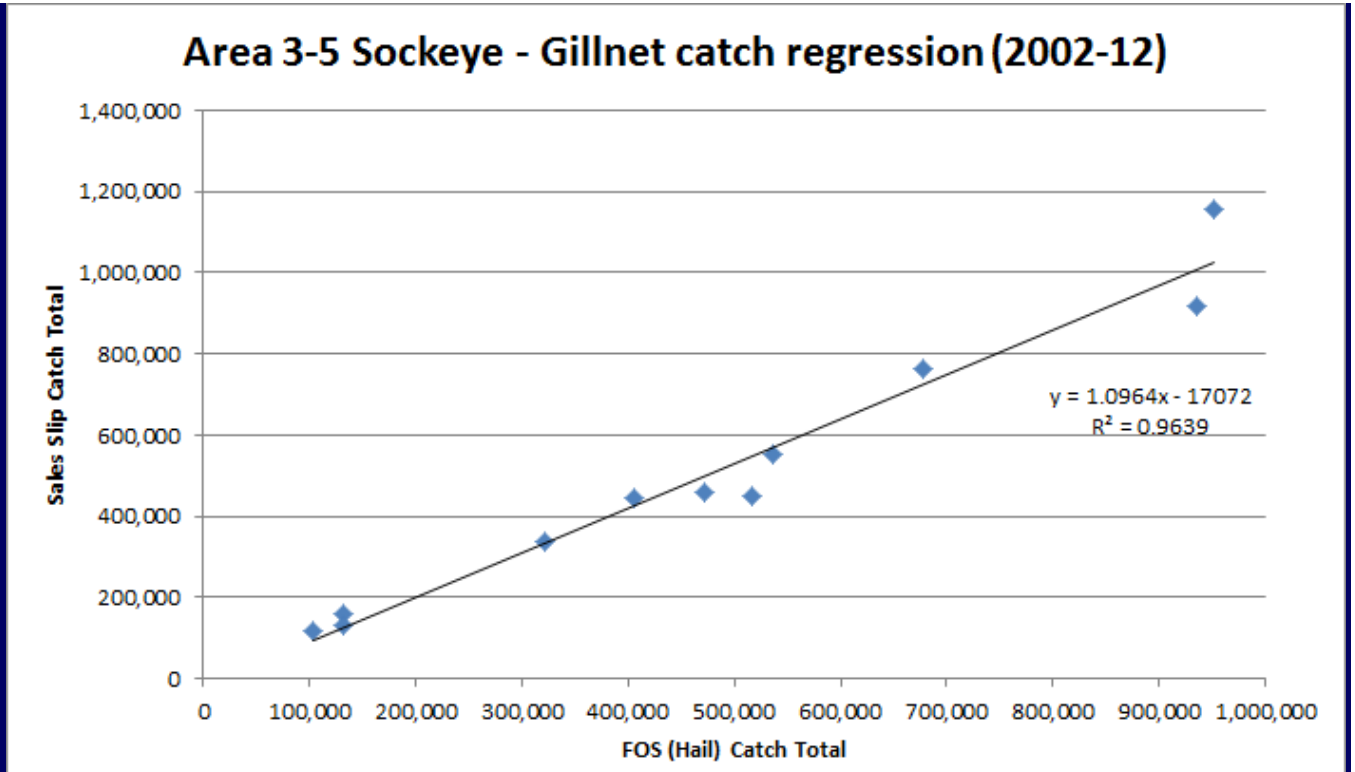
BC MARINE COMMERCIAL CATCHES - 2017

Canadian Fisheries:															
		Canadian Fishery - Sockeye catch [2]													
	Districts/Areas	3B	3B	3C	3C	3D	3E	4W	4W	4X	4X	4Y	4Z	AREA 5		Mixed-stock
	Gear type	GN	SN	GN	SN	ALL	ALL	GN	SN	GN	SN	ALL	ALL	ALL		fisheries
	Fishery No.	6	6	7	7	8	9	10	10	11	11	12	13	14	Total	total
	AK Week 23			512		696	495								1,703	512
	AK Week 24			1,993		785	4,118								6,896	1,993
	AK Week 25	60		2,442		1,421	3,472								7,395	2,502
	AK Week 26	698		3,369		813	9,111								13,991	4,067
	AK Week 27		60			1,761	3,194								5,015	60
	AK Week 28		133		187										320	320
	AK Week 29		200		507										707	707
	AK Week 30		166		415	273	37								891	581
	AK Week 31		353		114	97	13								577	467
	AK Week 32				410										410	410
	AK Week 33														0	0
	AK Week 34														0	0
	AK Week 35														0	0
	AK Week 36														0	0
Total Catch		**758**	**912**	**8,316**	**1,633**	**5,846**	**20,440**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**37,905**	**11,619**
Total used with stock comp.		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total without stock comp.		758	912	8,316	1,633	5,846	20,440	0	0	0	0	0	0	0	37,905	11,619
% catch with stock comp.		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**								**0.0%**	**0.0%**

- BC commercial catches are using hail catches
- BC DNA collections were not conducted in in 2017

BC CATCH USING GILLNET REGRESSION BASED ON 2002 TO 2012

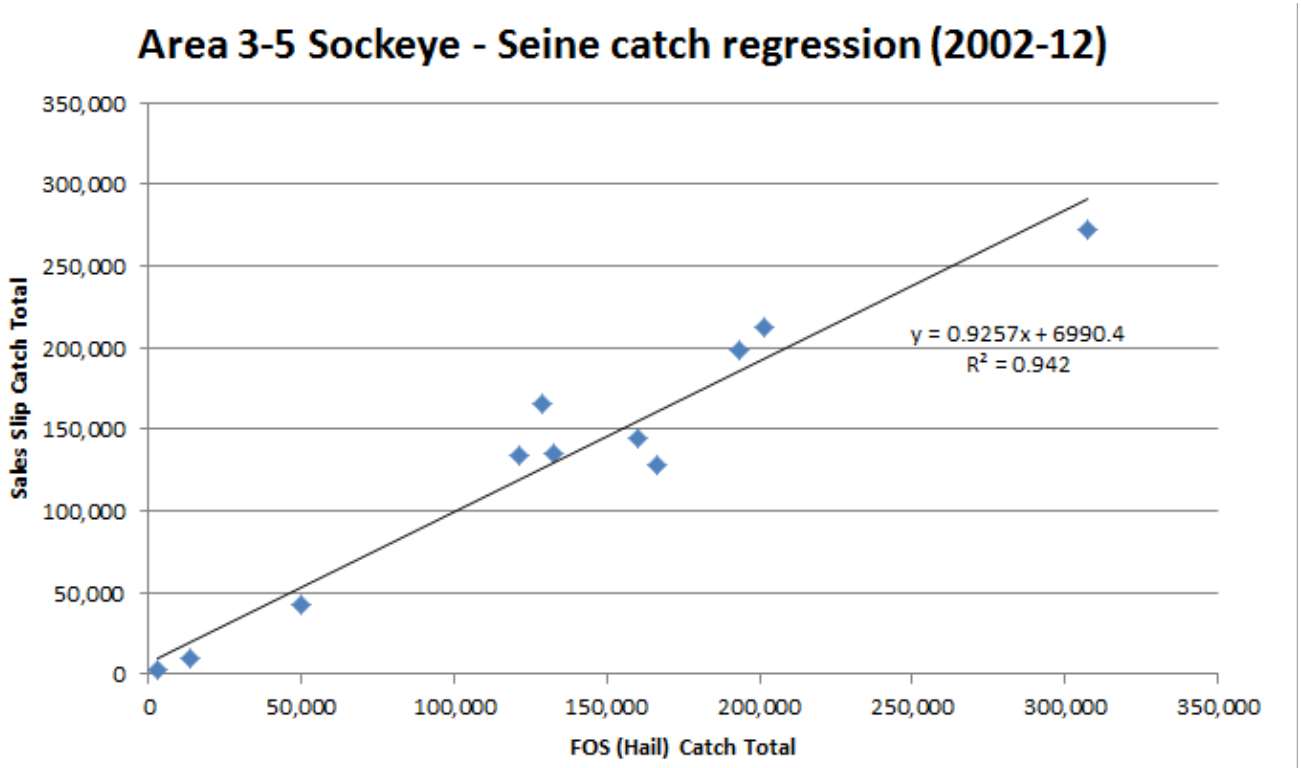
- 2017 - HAIL ESTIMATE IS 13,705 SOCKEYE HIGHER



Year	Gillnet-FOS	Gillnet-SS	Diference	Seine-FOS	Seine-SS	Diference	Total-FOS	Total-SS	Difference
2002	951,630	1,156,068	204,438	166,599	127,657	-38,942	1,118,229	1,283,725	165,496
2003	677,808	761,249	83,441	132,651	135,127	2,476	810,459	896,376	85,917
2004	406,317	445,237	38,920	193,317	198,107	4,790	599,634	643,344	43,710
2005	131,546	161,545	29,999	49,728	42,177	-7,551	181,274	203,722	22,448
2006	934,672	918,976	-15,696	307,222	272,839	-34,383	1,241,894	1,191,815	-50,079
2007	471,134	458,417	-12,717	159,901	144,492	-15,409	631,035	602,909	-28,126
2008	535,620	553,579	17,959	201,683	211,993	10,310	737,303	765,572	28,269
2009	103,760	117,774	14,014	13,532	9,883	-3,649	117,292	127,657	10,365
2010	130,832	131,872	1,040	2,930	2,489	-441	133,762	134,361	599
2011	320,735	338,479	17,744	121,265	133,752	12,487	442,000	472,231	30,231
2012	515,863	448,036	-67,827	128,706	166,094	37,388	644,569	614,130	-30,439
2013	138,062	134,293	-3,769	6,927	13,403	6,476	144,989	147,696	2,707
2014	475,670	504,431	28,761	151,127	146,885	-4,242	626,797	651,316	24,519
2015	194,108	195,739	1,631	24,588	29,751	5,163	218,696	225,490	6,794
2016	127,392	122,595	-4,797	24,043	29,246	5,203	151,435	151,841	406
2017	34,940	21,235	-13,705	0	-	0	34,940	21,235	-13,705

BC CATCH USING SEINE REGRESSION BASED ON 2002 TO 2012

- No seine harvests in 2017



Year	Gillnet-FOS	Gillnet-SS	Diference	Seine-FOS	Seine-SS	Diference	Total-FOS	Total-SS	Difference
2002	951,630	1,156,068	204,438	166,599	127,657	-38,942	1,118,229	1,283,725	165,496
2003	677,808	761,249	83,441	132,651	135,127	2,476	810,459	896,376	85,917
2004	406,317	445,237	38,920	193,317	198,107	4,790	599,634	643,344	43,710
2005	131,546	161,545	29,999	49,728	42,177	-7,551	181,274	203,722	22,448
2006	934,672	918,976	-15,696	307,222	272,839	-34,383	1,241,894	1,191,815	-50,079
2007	471,134	458,417	-12,717	159,901	144,492	-15,409	631,035	602,909	-28,126
2008	535,620	553,579	17,959	201,683	211,993	10,310	737,303	765,572	28,269
2009	103,760	117,774	14,014	13,532	9,883	-3,649	117,292	127,657	10,365
2010	130,832	131,872	1,040	2,930	2,489	-441	133,762	134,361	599
2011	320,735	338,479	17,744	121,265	133,752	12,487	442,000	472,231	30,231
2012	515,863	448,036	-67,827	128,706	166,094	37,388	644,569	614,130	-30,439
2013	138,062	134,293	-3,769	6,927	13,403	6,476	144,989	147,696	2,707
2014	475,670	504,431	28,761	151,127	146,885	-4,242	626,797	651,316	24,519
2015	194,108	195,739	1,631	24,588	29,751	5,163	218,696	225,490	6,794
2016	127,392	122,595	-4,797	24,043	29,246	5,203	151,435	151,841	406
2017	34,940	21,235	-13,705	0	-	0	34,940	21,235	-13,705

2017

BC CATCH ADJUSTED FOR RELEASE MORTALITY (15%)

2016 – 6,926 ADDED

2017 – 3,018 ADDED

LICENCE_AREA	YEAR	Sum of SOCKEYE_KEPT	Sum of SOCKEYE_RELD
Area A - Salmon Seine	2004	162,766	0
	2005	49,728	0
	2006	43,837	0
	2007	117,183	2,822
	2008	5,173	0
	2009	13,532	2,096
	2010	2,660	0
	2011	60,422	2,818
	2012	5,366	2,359
	2013	6,927	20,679
	2014	33,071	19,859
	2015	22,049	5,641
	2016	495	46,174
	2017	0	20,117
Area A - Salmon Seine Total AVERAGE	**AVERAG**	**37,000**	**9,000**

ESTIMATED MORTALITY		SN	15%
LICENCE_AREA	YEAR	Sum of SOCKEYE_KEPT	Sum of SOCKEYE_RELD
Area A - Salmon Seine	2004	162,766	0
	2005	49,728	0
	2006	43,837	0
	2007	117,183	423
	2008	5,173	0
	2009	13,532	314
	2010	2,660	0
	2011	60,422	423
	2012	5,366	354
	2013	6,927	3,102
	2014	33,071	2,979
	2015	22,049	846
	2016	495	6,926
	2017	0	3,018
Area A - Salmon Seine Total AVERAGE		**37,000**	**1,000**

RUN RECONSTRUCTIONS

2016 Run update:

1. Final BC catch - release mortality (15%) used in BC seine fishery? agreed
2. Final Stikine terminal run – 164,451 vs 170,056? agreed
3. Final Skeena terminal run – 1,233,087 vs 1,093,330 agreed

2017 Run initiation:

1. Final BC catch - release mortality (15%) used in BC seine fishery? agreed
2. Final BC catch – Hail estimate or regression estimate? used hail estimate
3. Updated non-Babine escapement best estimate

RUN RECONSTRUCTIONS 2016 – JAN 9, 2018

Annual catch by fishery and stock (route sheet: Route_b2).									
Fishery	**Skeena**	**Nass**	**Stikine**	**US McD**	**US Other**	**Fraser**	**Other**	**Total**	**Unexpl.**
3B	1,641	1,535	0	27	13	0	28	3,244	3
3C	2,806	6,112	0	0	0	0	132	9,049	206
3D	0	2,654	0	0	0	0	0	2,654	0
3E	0	10,831	0	0	0	0	0	10,831	0
4W	9,057	1,797	0	0	22	0	0	10,876	0
4X	19,376	1,097	0	0	9	0	1,395	21,876	95
4Y	41,140	0	0	0	0	0	0	41,140	0
4Z	58,034	0	0	0	0	0	0	58,034	0
Area 5	196	261	0	0	3	0	0	460	0
Noyes	164,276	25,551	0	2,922	55,173	23,379	7,850	279,151	0
Dall	74,414	11,386	0	1,376	25,028	10,825	3,818	126,847	0
Cordova	855	108	0	251	5,724	0	244	7,182	0
Sumner	18,669	5,962	15,798	2,389	29,755	0	237	72,809	145
U-Clar	13,778	4,126	6,196	1,579	19,015	0	145	44,839	92
M-Clar	1,632	218	0	565	10,976	0	259	13,650	5
L-Clar	34,360	14,578	0	6,895	63,611	0	7,617	127,061	1
Revilla	10,670	3,900	0	1,845	14,316	0	1,722	32,453	0
Union	0	0	0	0	9,541	0	0	9,541	0
Tree	12,721	14,389	0	3,233	6,602	0	2,862	39,806	107
Dist103	1,126	142	0	81	7,790	0	322	9,460	0
Term108	0	0	70,118	0	0	0	0	70,118	0
Total Catch	464,750	104,646	92,112	21,162	247,579	34,204	26,630	991,083	653
Escapement	1,233,089	337,774	164,451	15,600	251,309	0	0	2,002,223	
Total Run	1,697,839	442,420	256,563	36,762	498,888	34,204	26,630	2,966,676	
Expl Rate	27.4	23.7	35.9	57.6	49.6	0.0	0.0	32.5	
Alaska Catch	332,501	80,360	92,112	21,136	247,531	34,204	25,076	832,917	350
BC Catch	132,250	24,287	0	27	47	0	1,555	158,164	
TRTC	1,365,338	362,060							

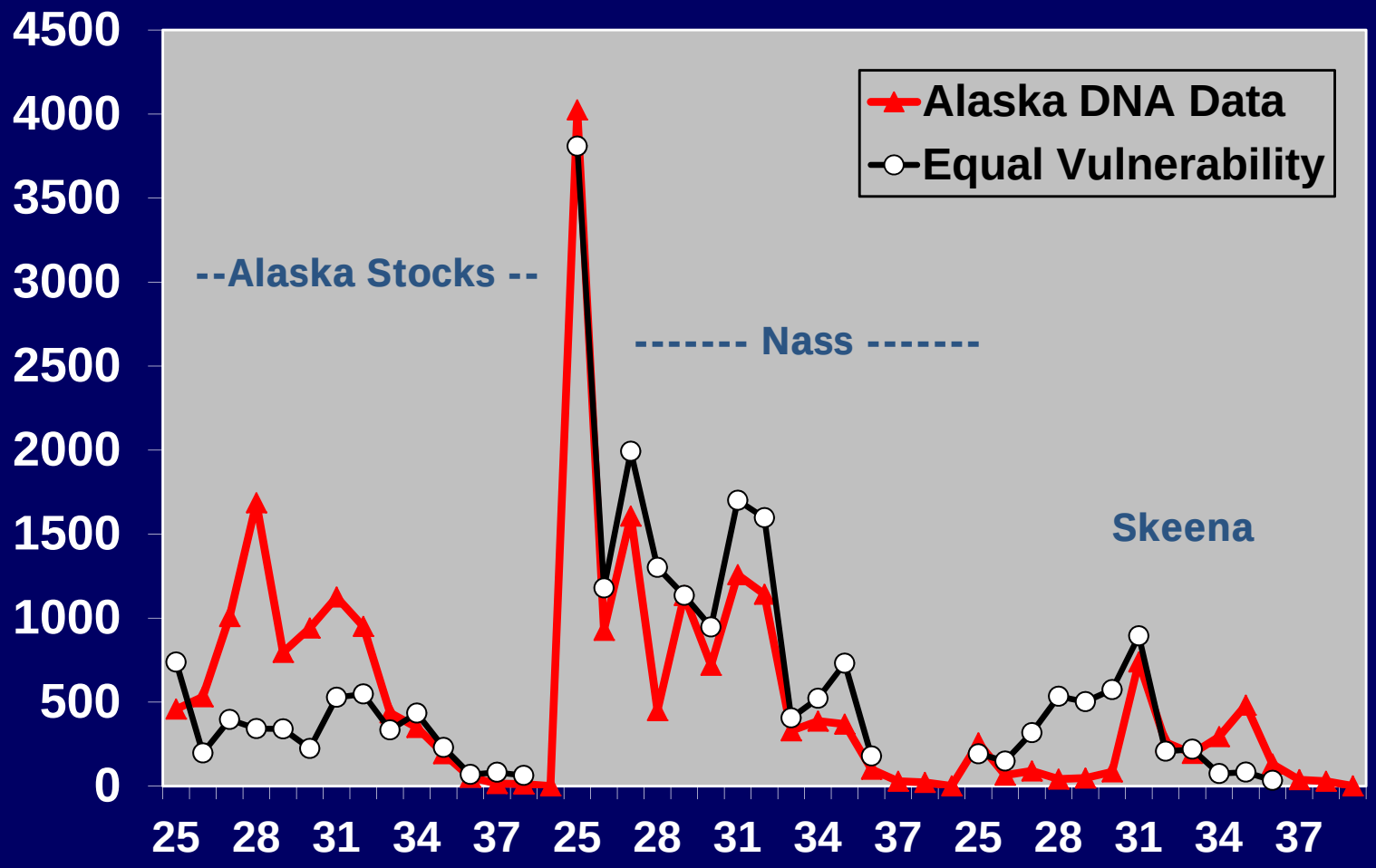
RUN RECONSTRUCTIONS 2017 – JAN 9, 2018

	2017
Route	Sum of Squares
A2	739
A3	739
B2	813
C2	1077
D2	953
E2	723
F2	721
G2	750
G3	621
H2	860
Min	621
Route:	G3

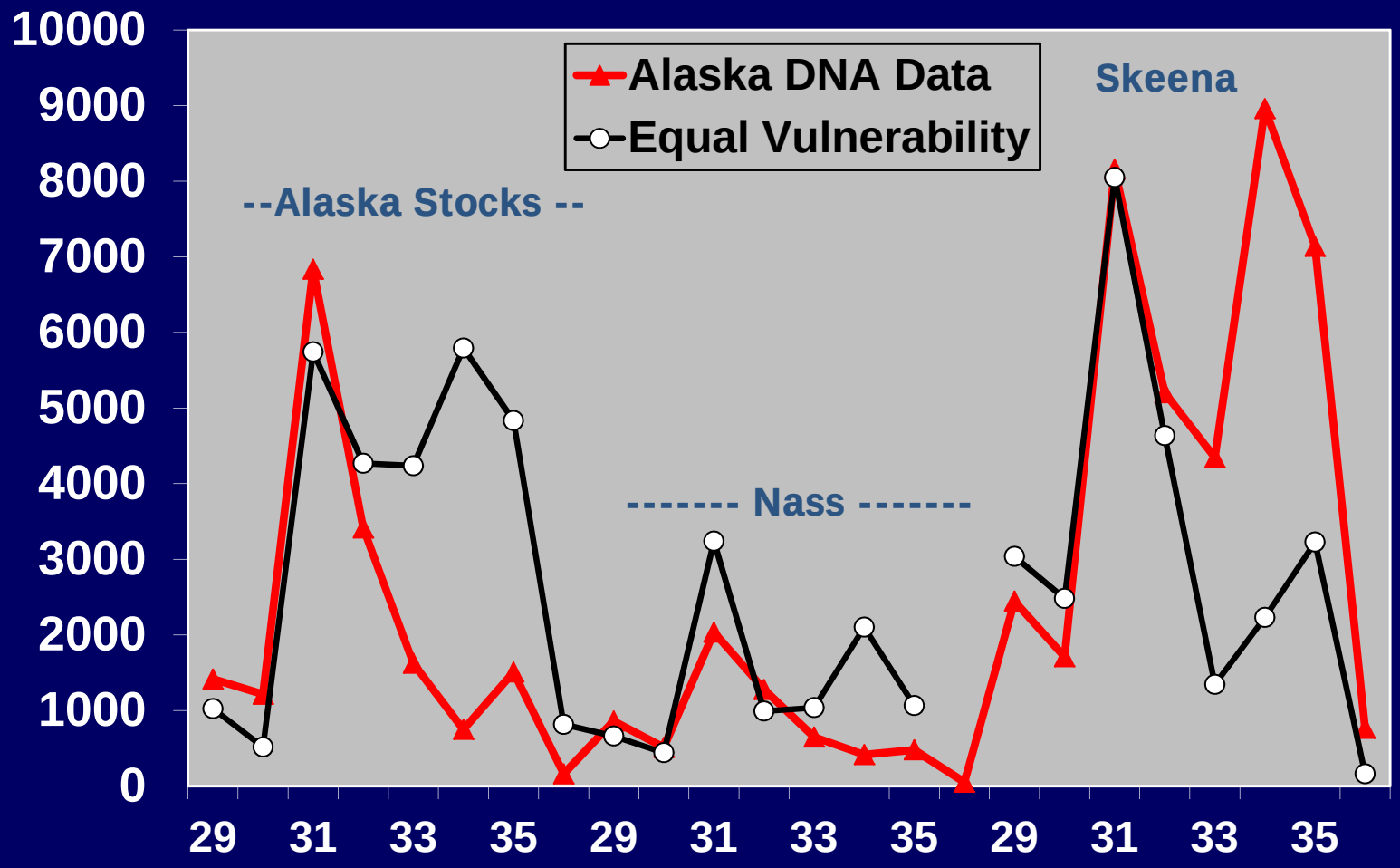
TOTAL CATCH DIFFERENCES

	2017							
NO DNA	Skeena	Nass	Stikine	US MaD	US Other	Fraser	Other	Total
A2	70,807	106,340	33,730	11,920	37,037	18,673	6,846	285,353
A3	70,800	106,285	33,731	11,967	37,053	18,673	6,846	285,356
B2	83,221	98,535	33,035	10,565	34,474	18,673	6,846	285,350
C2	82,711	114,961	30,688	6,493	24,978	18,673	6,846	285,350
D2	89,872	104,375	30,568	7,572	27,445	18,673	6,846	285,352
E2	61,478	105,464	35,285	14,805	42,805	18,673	6,846	285,356
F2	39,037	69,056	39,955	30,816	80,969	18,673	6,846	285,352
G2	76,234	95,005	34,215	10,147	44,230	18,673	6,846	285,350
G3	68,394	93,870	36,649	12,873	48,047	18,673	6,846	285,351
H2	47,756	119,680	36,836	14,047	41,514	18,673	6,846	285,352
max	89,872	119,680	39,955	30,816	80,969	18,673	6,846	285,356
min	39,037	69,056	30,568	6,493	24,978	18,673	6,846	285,350
diff	50,835	50,624	9,387	24,323	55,991			
DNA	TOTAL CATCH BY STOCK							
A2	66,529	68,052	26,516	28,347	69,953	18,673	6,846	284,916
A3	66,518	67,950	26,516	28,432	69,981	18,673	6,846	284,916
B2	66,954	67,796	26,474	28,297	69,877	18,673	6,846	284,917
C2	67,714	67,864	26,335	26,054	71,429	18,673	6,846	284,916
D2	67,878	67,726	26,320	26,053	71,420	18,673	6,846	284,916
E2	66,035	67,875	26,619	28,570	70,298	18,673	6,846	284,917
F2	64,550	65,600	26,983	27,886	74,295	18,673	6,846	284,834
G2	67,898	66,404	26,614	22,261	76,220	18,673	6,846	284,916
G3	66,870	66,874	26,826	26,026	72,798	18,673	6,846	284,914
H2	64,917	69,313	26,543	28,478	70,147	18,673	6,846	284,918
max	67,898	69,313	26,983	28,570	76,220	18,673	6,846	284,918
min	64,550	65,600	26,320	22,261	69,877	18,673	6,846	284,834
diff	3,348	3,713	663	6,309	6,343			

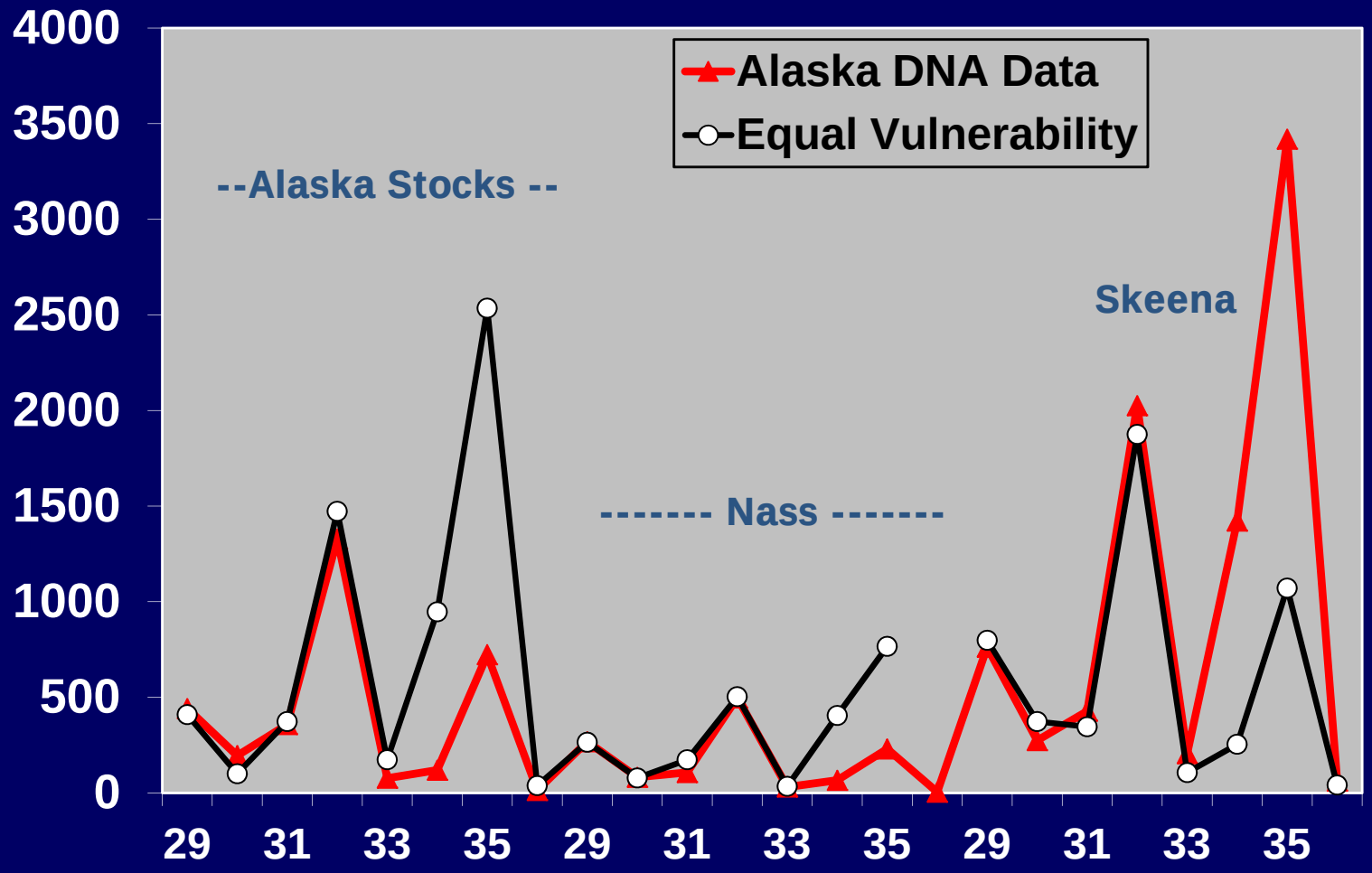
Comparison of Catch Results
- Routing F (2017) – Tree Point (29)



Comparison of Catch Results - Routing F (2017) – Noyes (20)



Comparison of Catch Results - Routing F (2017) – Dall (21)



RUN RECONSTRUCTIONS 2017 – JAN 9, 2018

Annual catch by fishery and stock (route sheet: Route_F2).									
Fishery	**Skeena**	**Nass**	**Stikine**	**US McD**	**US Other**	**Fraser**	**Central**	**Total**	**Unexpl.**
3B	141	1486	0	36	7	0	0	1670	0
3C	138	9749	0	0	62	0	0	9949	0
3D	0	5846	0	0	0	0	0	5846	0
3E	0	20440	0	0	0	0	0	20440	0
Noyes	38724	6024	0	4146	12779	15221	3438	80332	259
Dall	8596	1281	0	811	2442	3452	845	17428	4
Cordova	370	4	0	945	3079	0	36	4435	7
Sumner	1465	1672	6935	4313	13853	0	102	28341	103
U-Clar	1360	1130	2851	2704	8440	0	45	16530	30
M-Clar	2	1	0	92	361	0	4	459	1
L-Clar	6328	4105	0	7332	12032	0	768	30564	1
Revilla	3434	1286	0	1863	2732	0	275	9590	0
Union	0	0	0	0	5176	0	0	5176	0
Tree	2687	12444	0	4620	3935	0	1265	24952	121
Dist103	848	14	0	516	7596	0	67	9041	0
Dist105	457	119	2923	507	1801	0	0	5807	0
Term108	0	0	14273	0	0	0	0	14273	8
Total Catch	64550	65600	26983	27886	74295	18673	6846	284834	535
Escapement	989563	296939	80900	23959	70536	0	0	1461897	
Total Run	1054113	362540	107883	51845	144831	18673	6846	1739884	
Expl Rate	6.12	18.09	25.01	53.79	51.3	0	0	15.98	
Alaska Catch	64,271	28,080	26,982	27,849	74,226	18,673	6,845	246,928	534
BC Catch	279	37,521	0	36	69	0	0	37,905	
TRTC	989,842	334,460							

D101 GN – 2017 (9 Jan 2018)
ANNUAL ALLOWABLE HARVESTS (AAH)

District 101 gillnet

Scales 1999-2009
DNA 2010-current

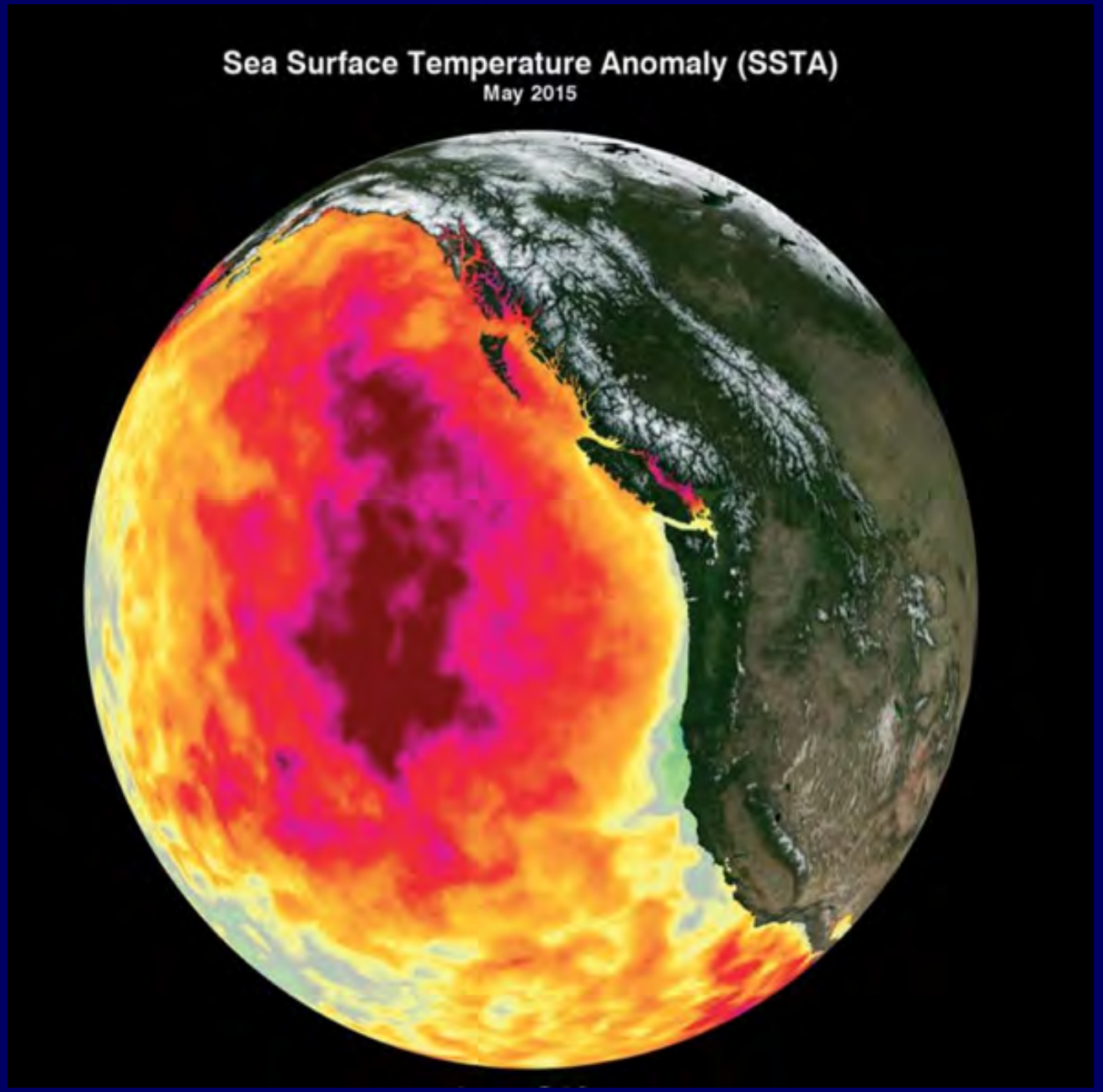
Year	Nass River Total Return	Nass River Escapement[a]	Allowable Nass River AAH	Allowable District 101 GN Gillnet Harvest (13.8%)	Total District 101 Tree Point Sockeye Harvest	Actual Nass River Alaska Harvest	Overage/ Underage Per Year	Cumulative: overage (+) or underage (-)
1999	842,806	200,000	642,806	88,707	160,028	129,794	41,087	41,087
2000	625,982	200,000	425,982	58,786	94,651	46,305	-12,481	28,606
2001	580,611	167,253	413,358	57,043	80,041	55,096	-1,947	26,659
2002	1,403,975	200,000	1,203,975	166,149	120,353	90,553	-75,596	-48,937
2003	1,177,472	200,000	977,472	134,891	105,263	72,942	-61,949	-110,886
2004	986,095	200,000	786,095	108,481	142,357	110,340	1,859	-109,027
2005	666,877	200,000	466,877	64,429	79,725	55,319	-9,110	-118,137
2006	775,112	200,000	575,112	79,365	62,770	47,948	-31,417	-149,554
2007	602,210	164,747	437,463	60,370	66,822	46,369	-14,001	-163,555
2008	380,397	200,000	180,397	24,895	34,113	24,359	-536	-164,091
2009	575,336	200,000	375,336	51,796	69,859	55,270	3,474	-160,617
2010	438,941	200,000	238,941	32,974	62,680	26,613	-6,361	-166,978
2011	556,710	200,000	356,710	49,226	88,618	55,122	5,896	-161,082
2012	476,818	200,000	276,818	38,201	62,342	38,983	782	-160,300
2013	501,428	200,000	301,428	41,597	54,578	35,471	-6,126	-166,426
2014	549,685	200,000	349,685	48,257	55,828	29,022	-19,235	-185,661
2015	868,749	200,000	668,749	92,287	28,155	14,867	-77,420	-263,081
2016	442,420	200,000	242,420	33,454	39,913	14,389	-19,065	-282,146
2017	362,540	200,000	162,540	22,431	25,073	12,444	-9,987	-292,133

D104 SN – 2017 (9 Jan 2018)
ANNUAL ALLOWABLE HARVESTS (AAH)

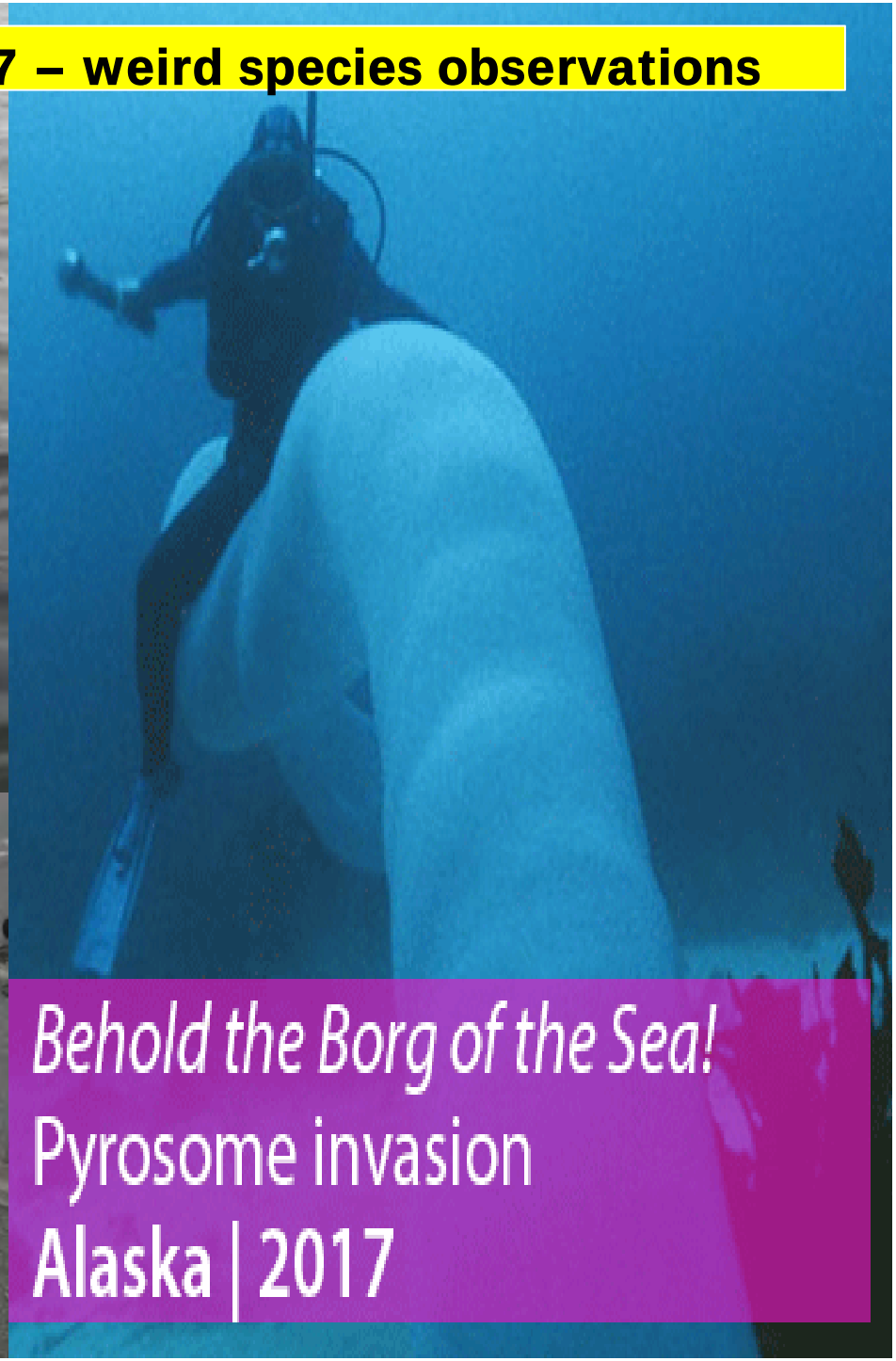
District 104 purse seine

Year	Nass&Skeena River Total Return	Nass & Skeena Escapement[a]	Allowable Nass & Skeena AAH	Allowable Pre-Week 31 Nass & Skeena District 104 PS Harvest (2.45%)	Total Pre-Week 31 Sockeye Harvest	Actual Nass/Skeena Harvest	Overage/ Underage Per Year	Cumulative: overage (+) or underage (-)
1999	1,771,048	936,705	834,343	20,441	7,664	3,232	-17,209	-17,209
2000	5,318,227	1,100,000	4,218,227	103,347	48,969	29,221	-74,126	-91,335
2001	4,965,286	1,100,000	3,865,286	94,700	203,090	167,854	73,154	-18,180
2002	2,776,504	1,051,335	1,725,169	42,267	26,554	18,627	-23,640	-41,820
2003	3,306,526	1,100,000	2,206,526	54,060	84,742	44,258	-9,802	-51,622
2004	2,620,994	1,100,000	1,520,994	37,264	30,758	19,233	-18,031	-69,653
2005	1,770,472	1,000,142	770,330	18,873	35,690	19,442	569	-69,084
2006	3,650,525	1,100,000	2,550,525	62,488	89,615	68,940	6,452	-62,632
2007	2,752,076	1,100,000	1,652,076	40,476	112,135	75,615	35,139	-27,493
2008	2,531,703	1,100,000	1,431,703	35,077	6,262	4,880	-30,197	-57,690
2009	1,602,960	1,053,859	549,101	13,453	15,971	10,128	-3,325	-61,015
2010	1,395,619	956,957	438,662	10,747	4,617	1,091	-9,656	-70,671
2011	2,487,985	1,100,000	1,387,985	34,006	25,280	16,599	-17,407	-88,078
2012	2,737,168	1,100,000	1,637,168	40,111	18,300	9,598	-30,513	-118,590
2013	981,476	642,461	339,015	8,306	13,102	4,228	-4,078	-122,668
2014	3,824,537	1,100,000	2,724,537	66,751	114,375	74,005	7,254	-115,414
2015	3,015,042	1,100,000	1,915,042	46,919	43,873	21,433	-25,486	-140,900
2016	2,140,259	1,100,000	1,040,259	25,486	110,346	65,039	39,553	-101,347
2017	1,416,653	1,100,000	316,653	7,758	12,036	6,916	-842	-102,189

- General poor salmon returns on coast in 2017 due to warm water blob impacts from 2015



2017 – weird species observations



UPDATED: Rare ‘king-of-the-salmon’ washes up on Oak Bay beach

The rare type of ribbonfish was found by a man walking his dog on Rattenbury Beach.

Thu Sep 21st, 2017 12:30pm