

Chinook and Coho Salmon Genetic Stock Identification

Terry Beacham Ruth Withler

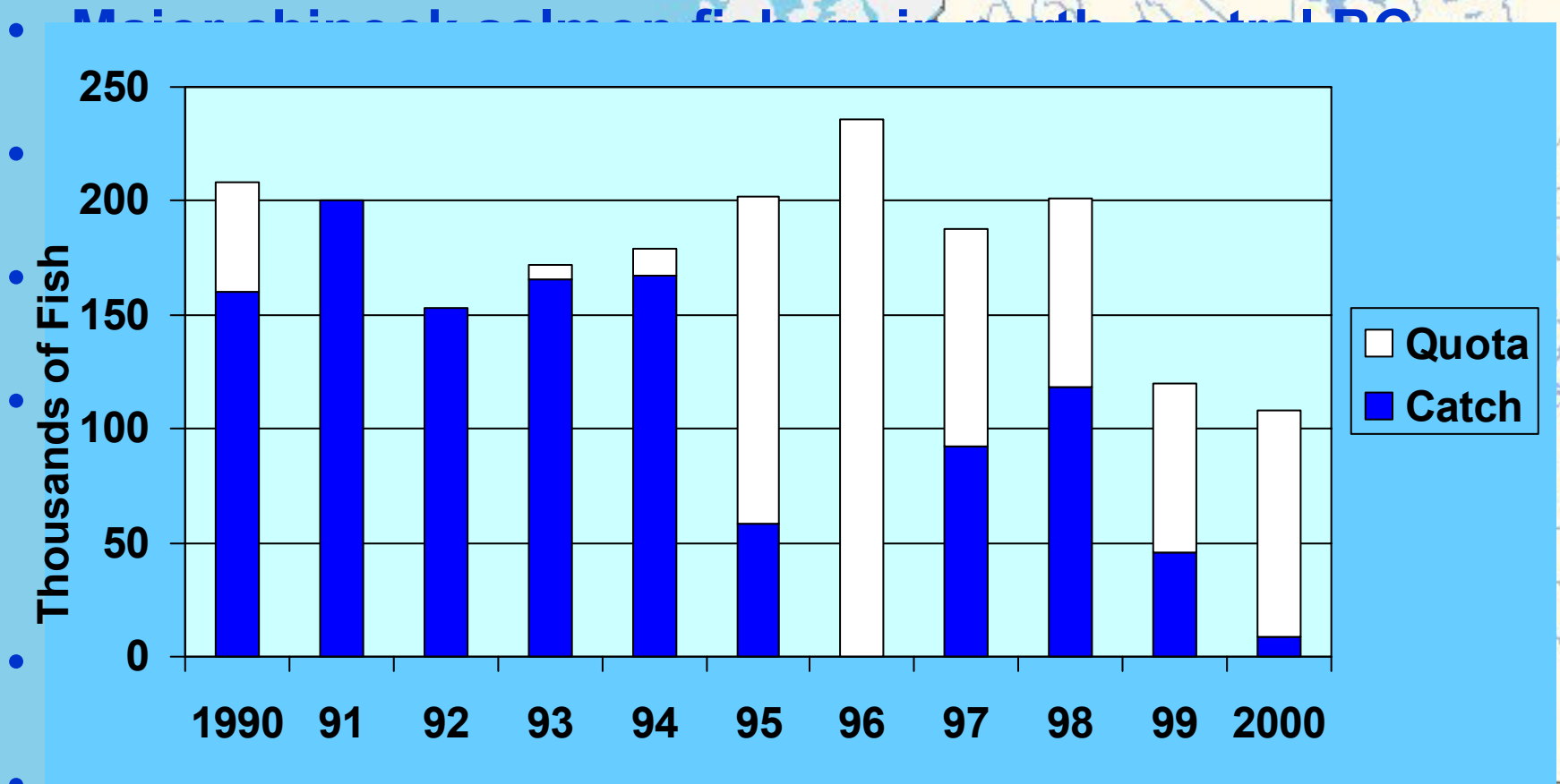
John Candy

Kristi Miller

Department of Fisheries and Oceans

North Coast Chinook Salmon Troll Fishery

BRITISH



NO real-time fishery management to conserve WCV chinook using Coded Wire Tags

Stikine

Taku

Nass

Alaska

Skeena

Northern BC

Columbia

Oregon

Was

Ca

Southern BC

Fraser

WC Vancouver Is

QCI

Chinook Salmon Genetic Database

Mixed Stock Analysis

- 46,000 fish
- Real-time analysis of fishery
- 260 stocks
- Shift harvest to avoid WCVI fish California to Yukon River

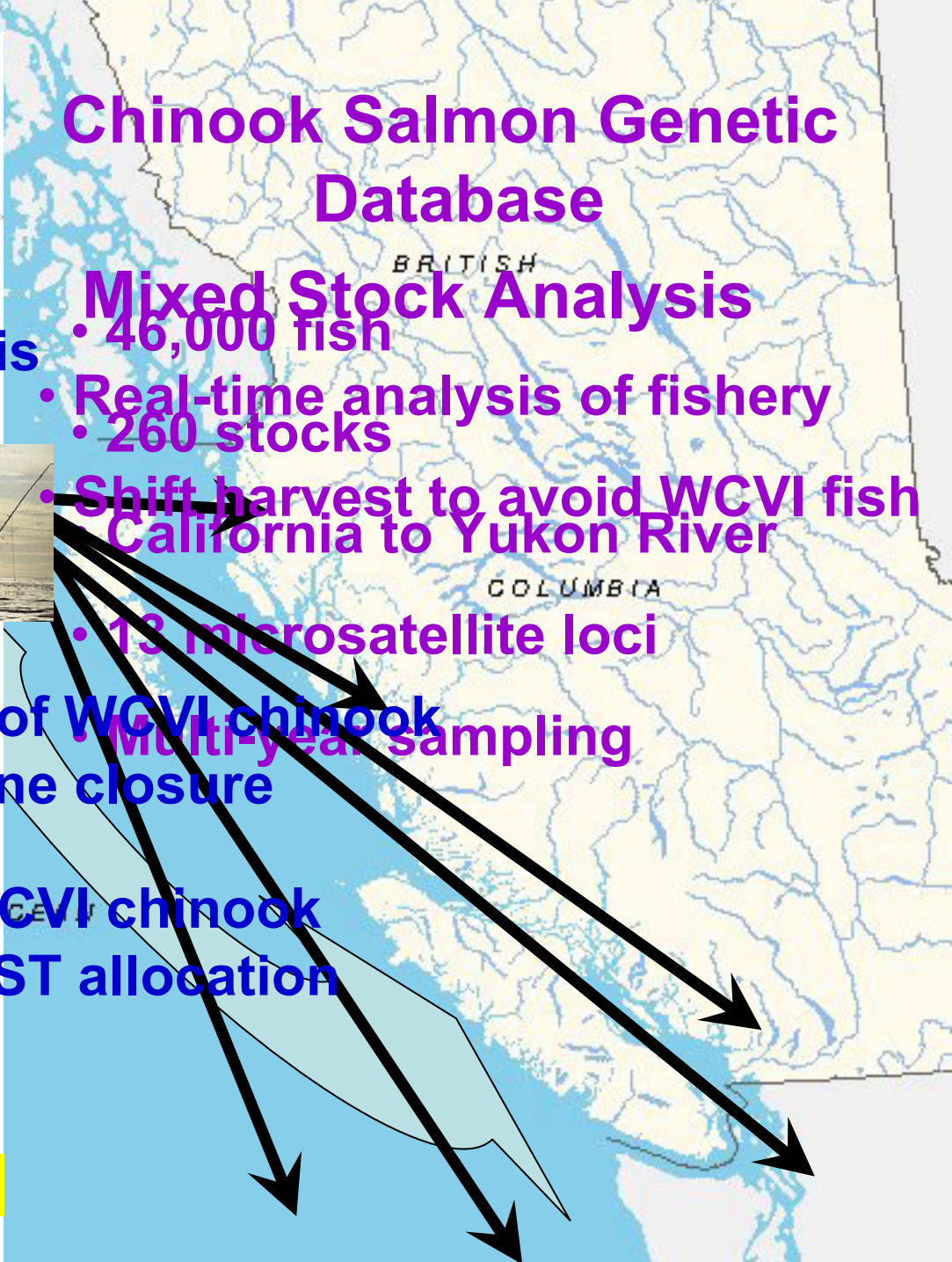
• 13 microsatellite loci

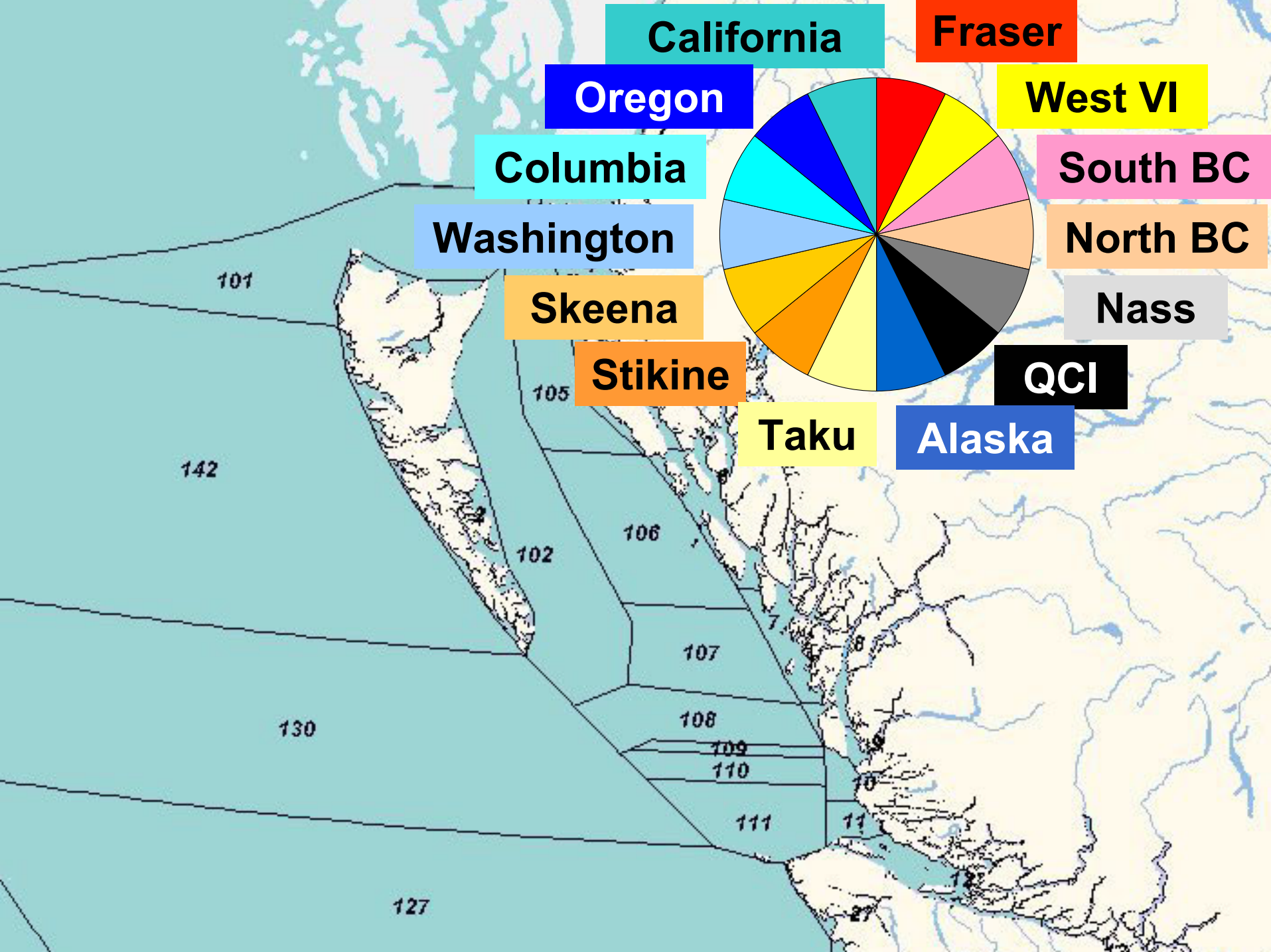
• Multi-year sampling

2001: test fishery only
Samples for DNA analysis

2002: 1.5% exploitation of WCVI chinook
DNA analysis to determine closure

2003: harvest of 6700 WCVI chinook
DNA analysis to reach PST allocation





California

Fraser

Oregon

West VI

Columbia

South BC

Washington

North BC

Skeena

Nass

Stikine

QCI

Taku

Alaska

101

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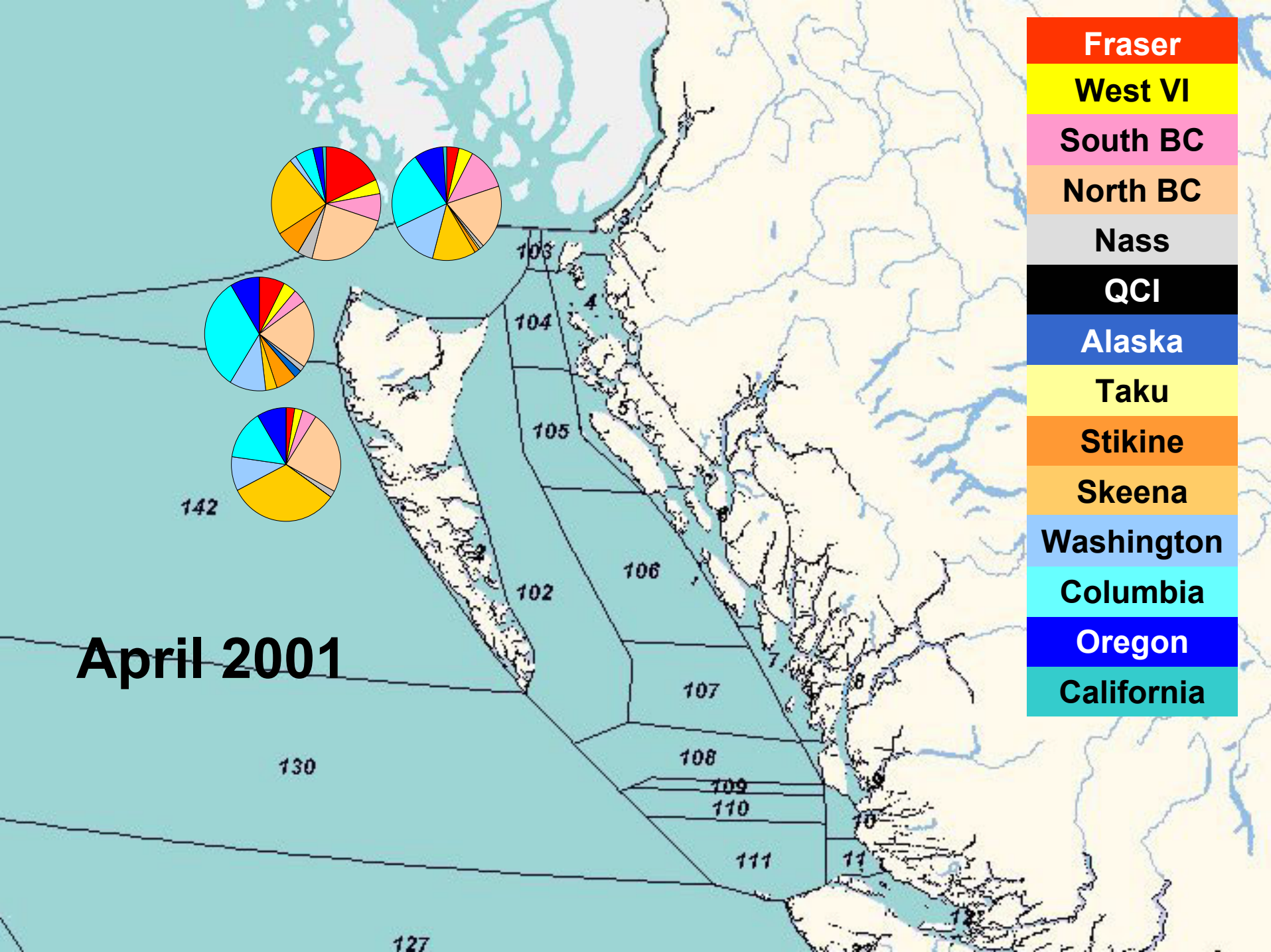
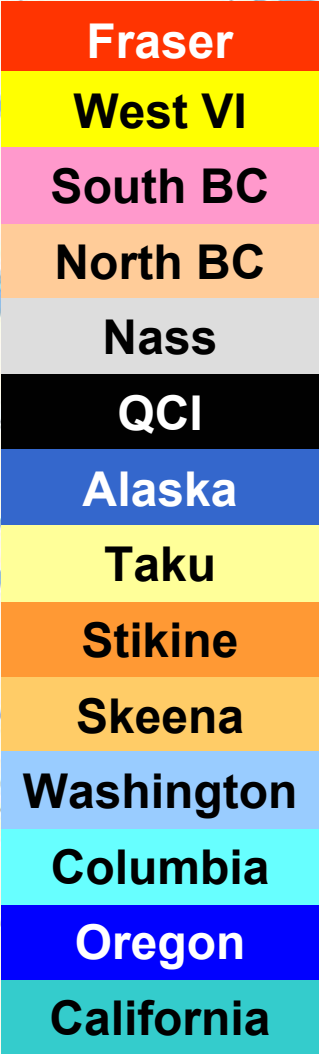
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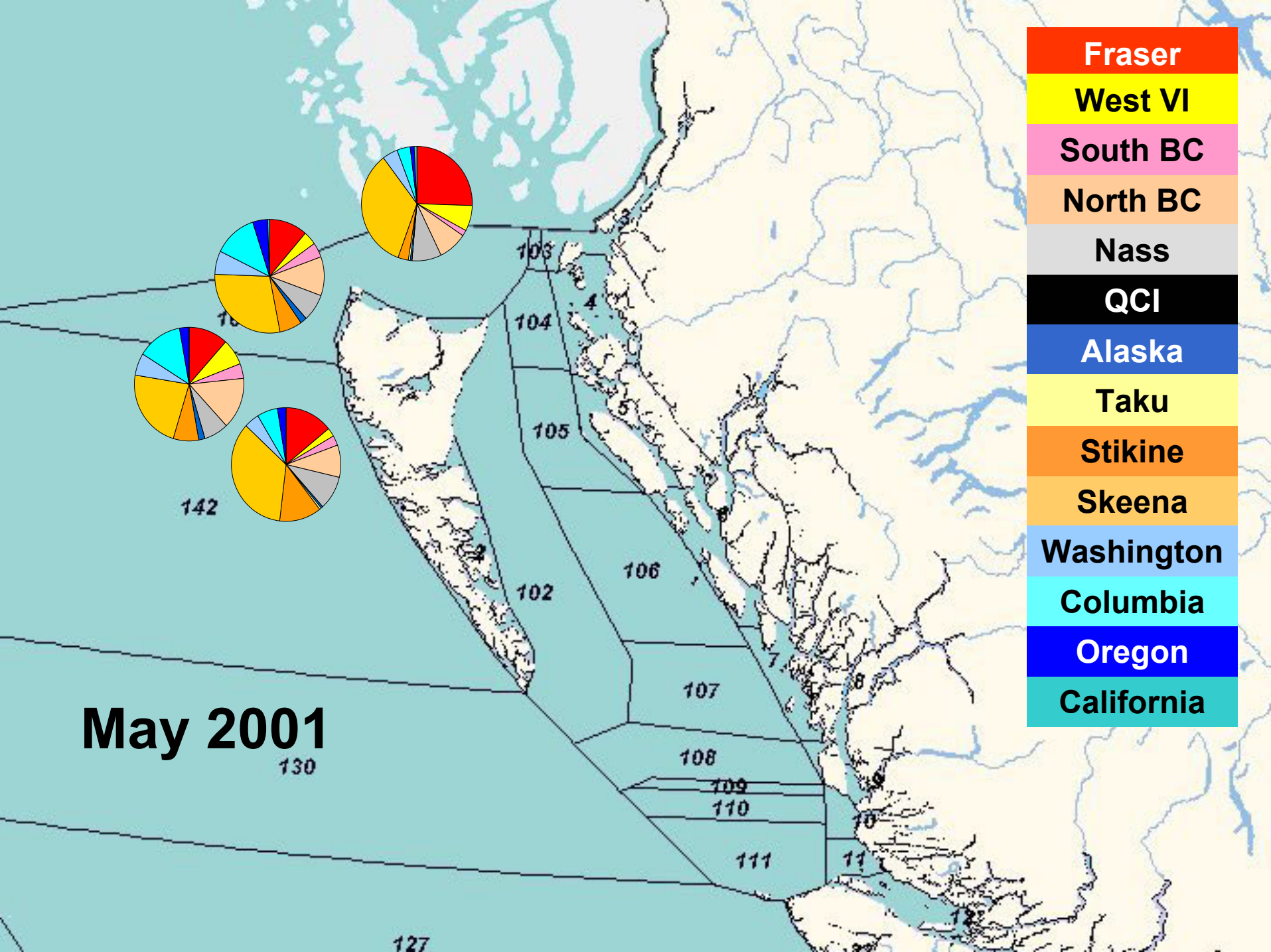
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April 2001



Fraser

West VI

South BC

North BC

Nass

QCI

Alaska

Taku

Stikine

Skeena

Washington

Columbia

Oregon

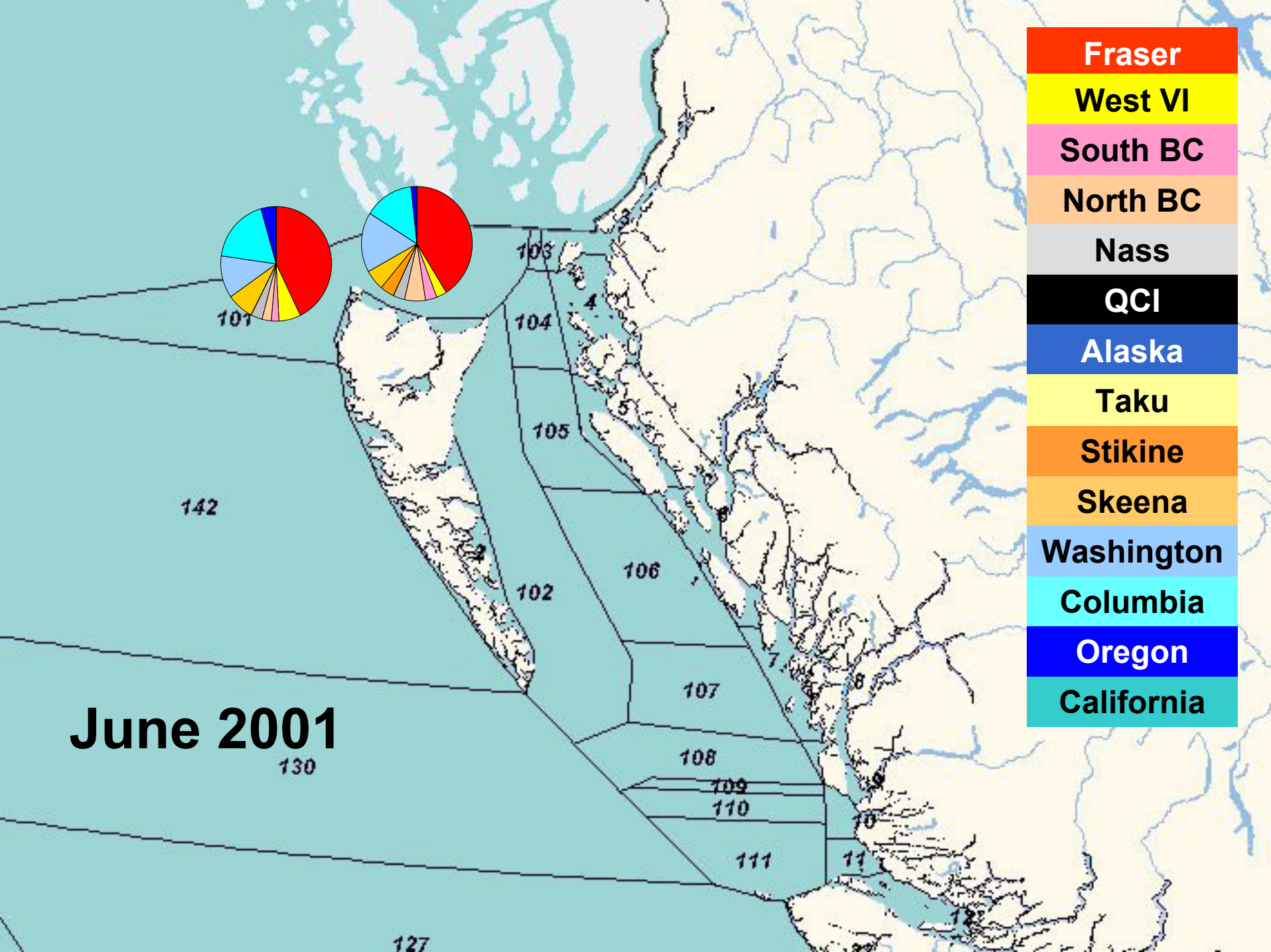
California

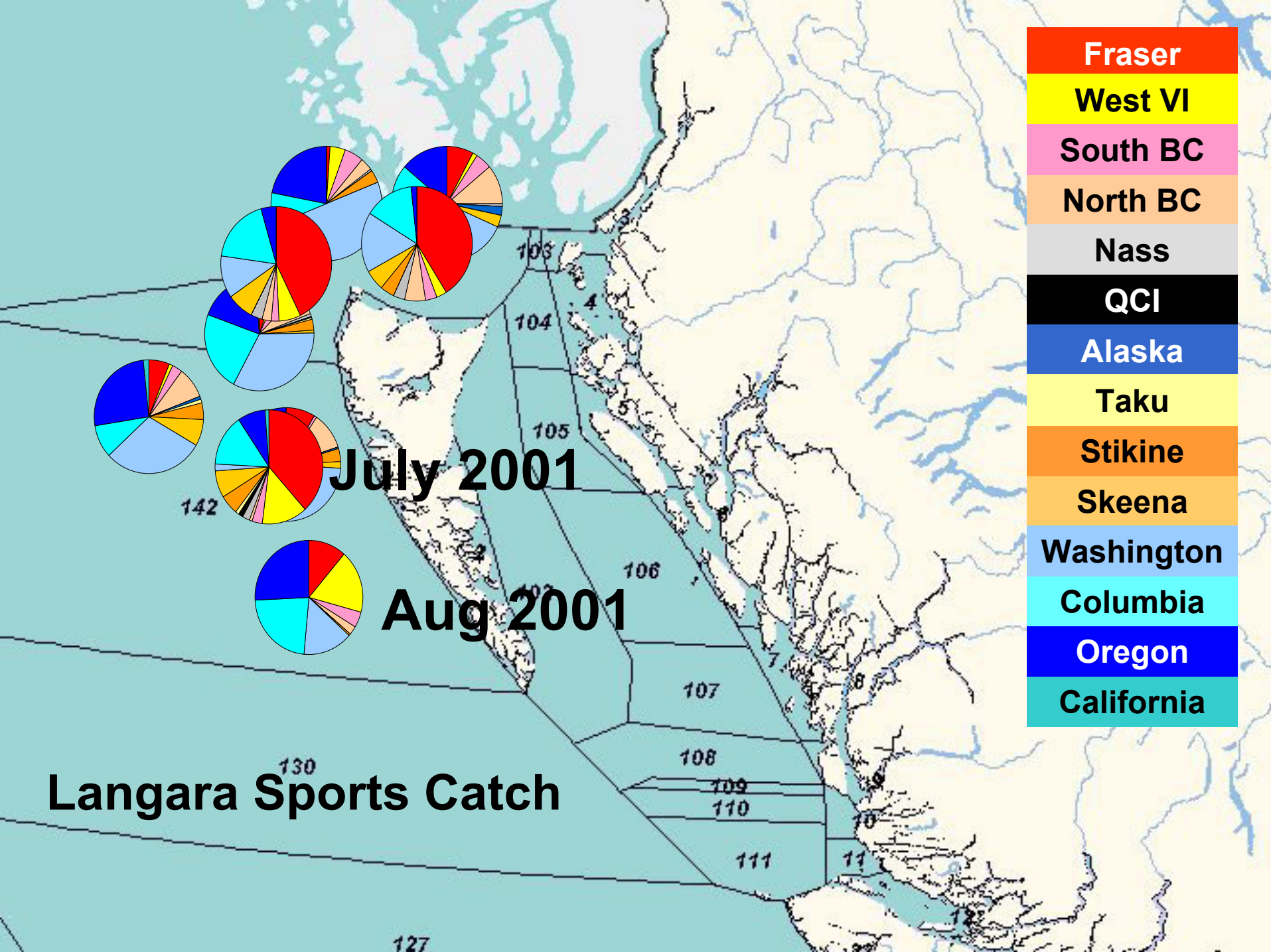
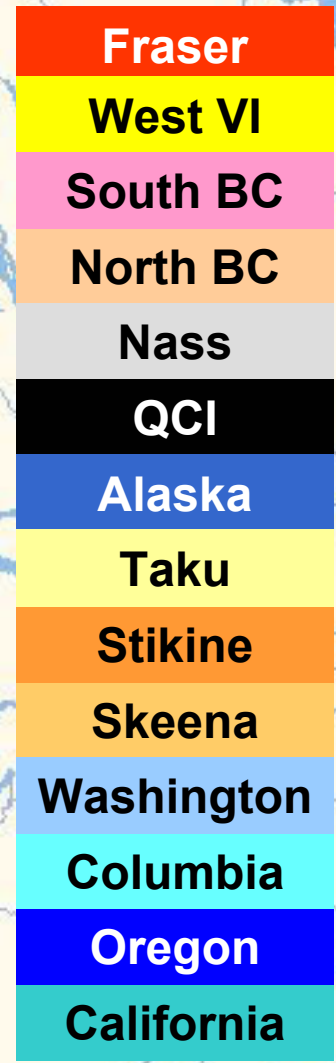
May 2001

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July 2001

Aug 2001

Langara Sports Catch

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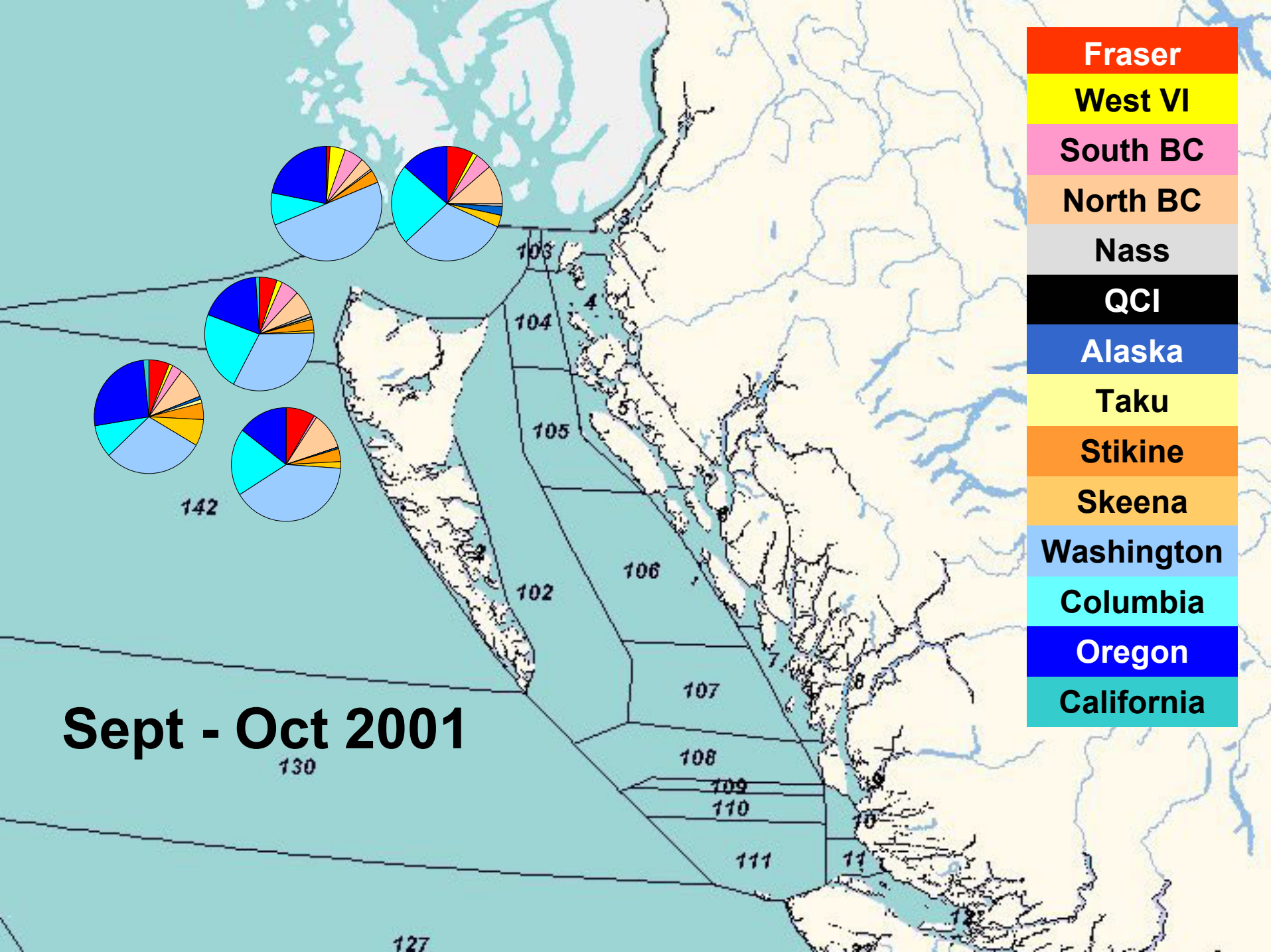
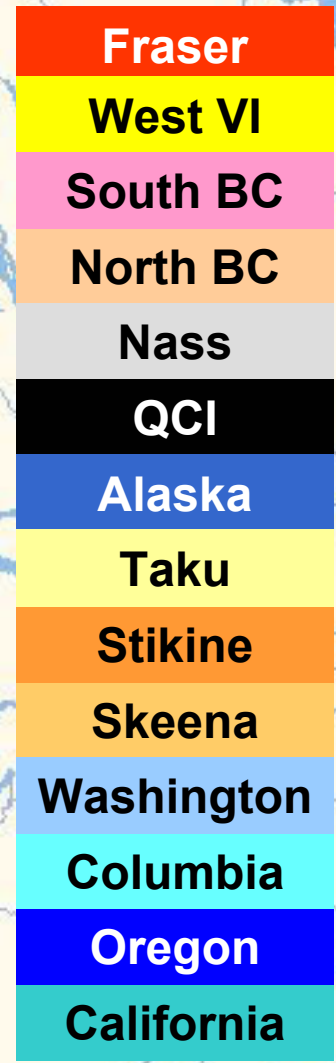
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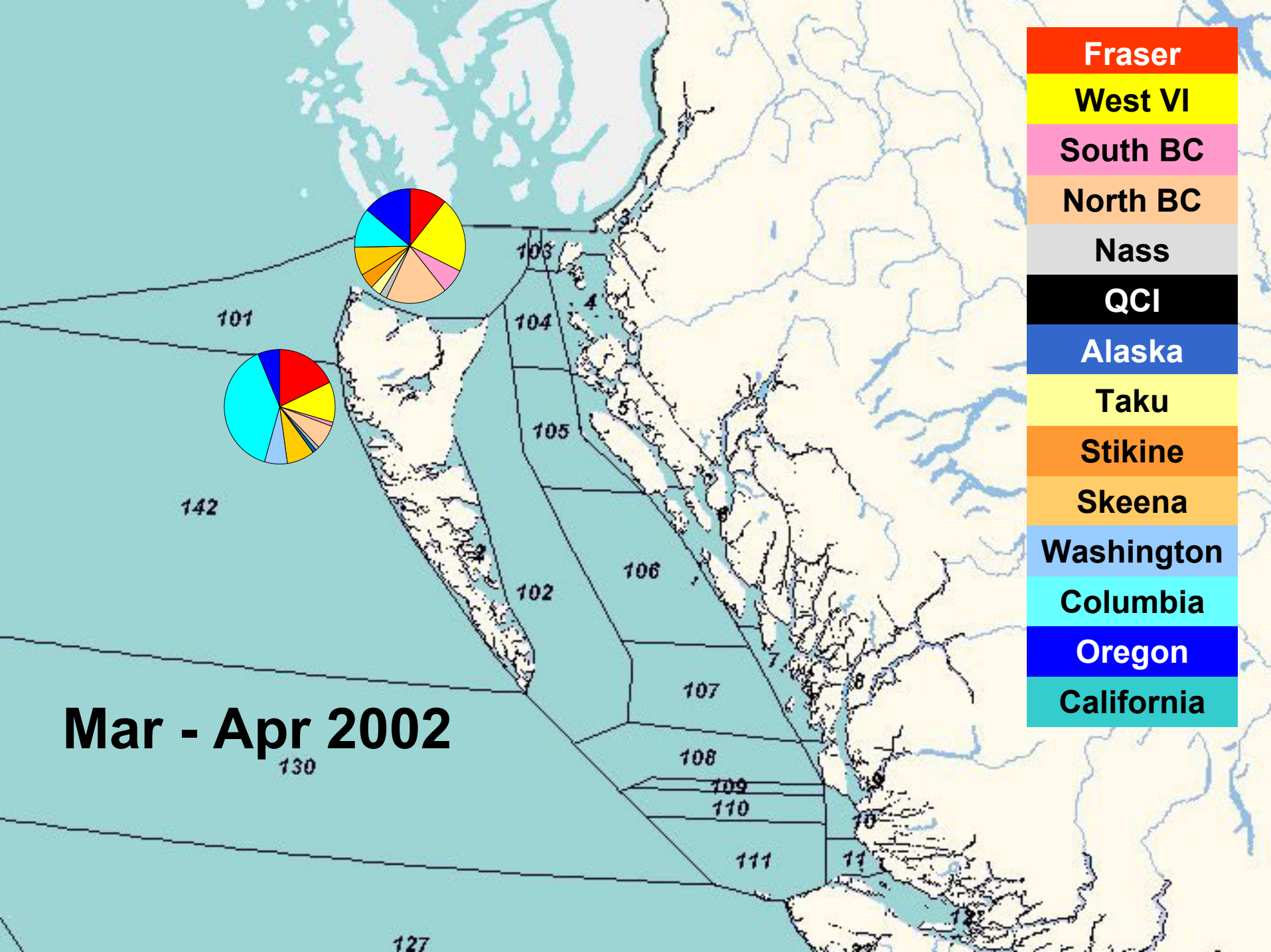
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Sept - Oct 2001



Mar - Apr 2002

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Fraser

West VI

South BC

North BC

Nass

QCI

Alaska

Taku

Stikine

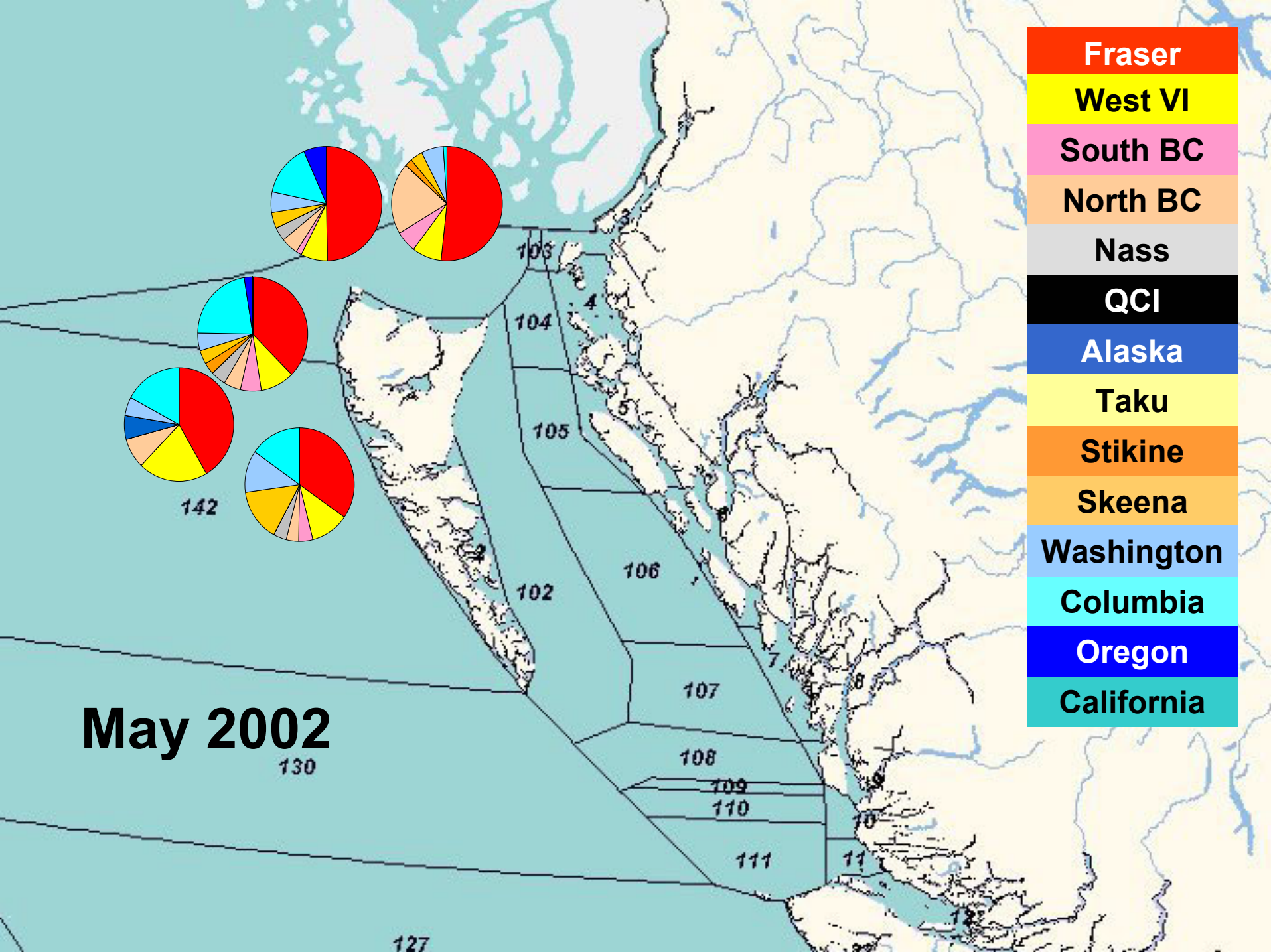
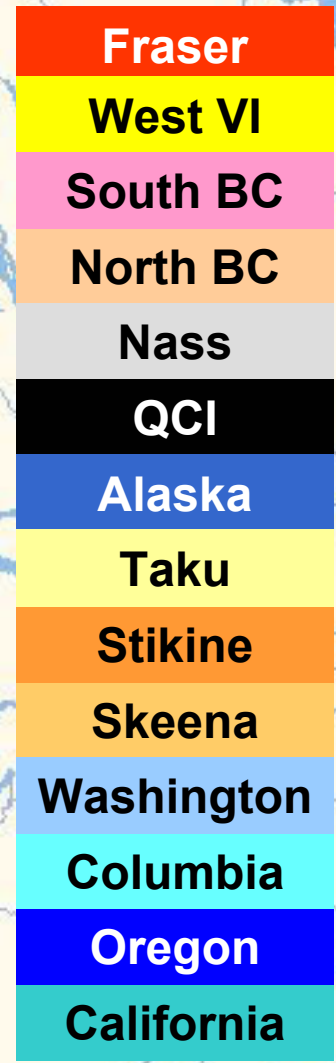
Skeena

Washington

Columbia

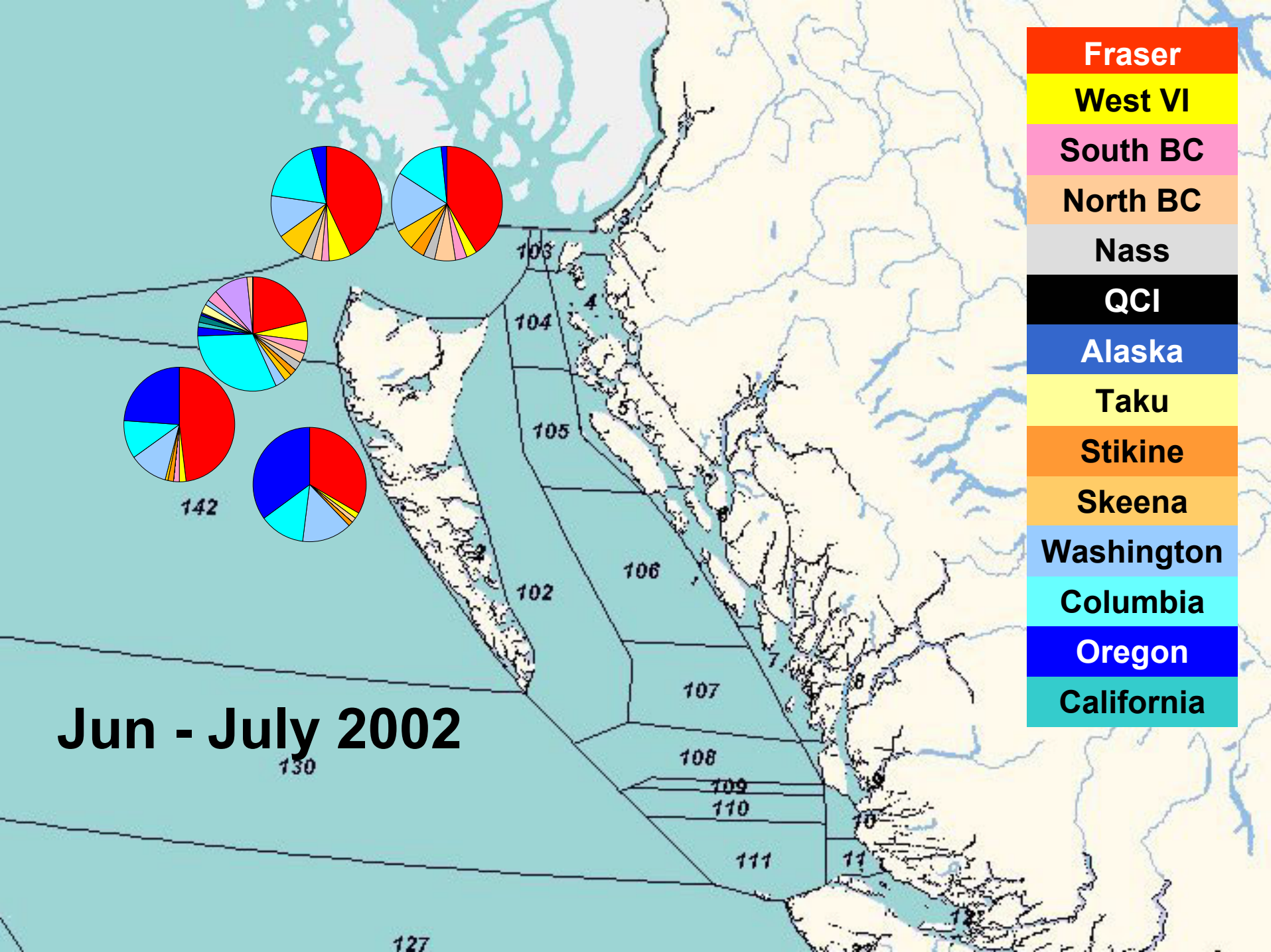
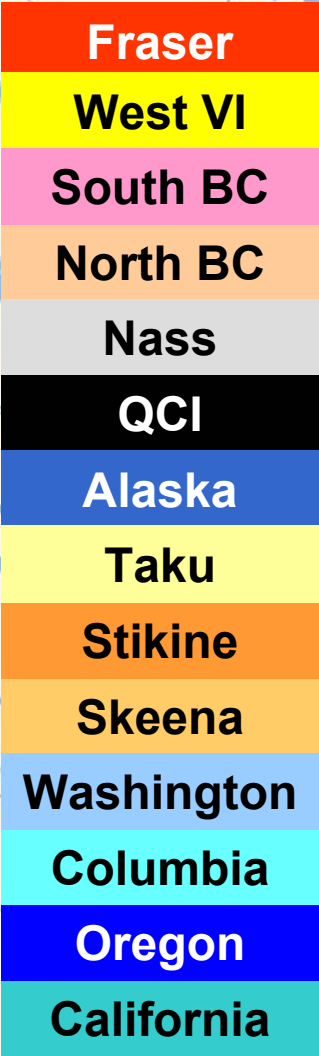
Oregon

California



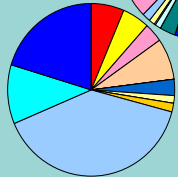
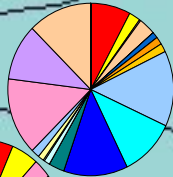
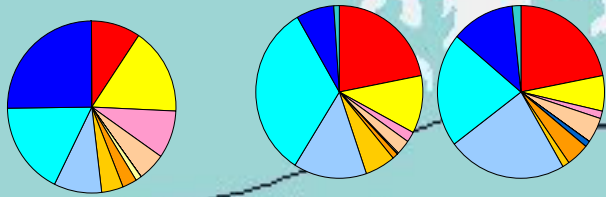
May 2002
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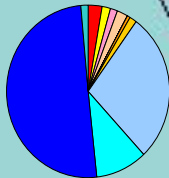


Jun - July 2002
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Sport 2002



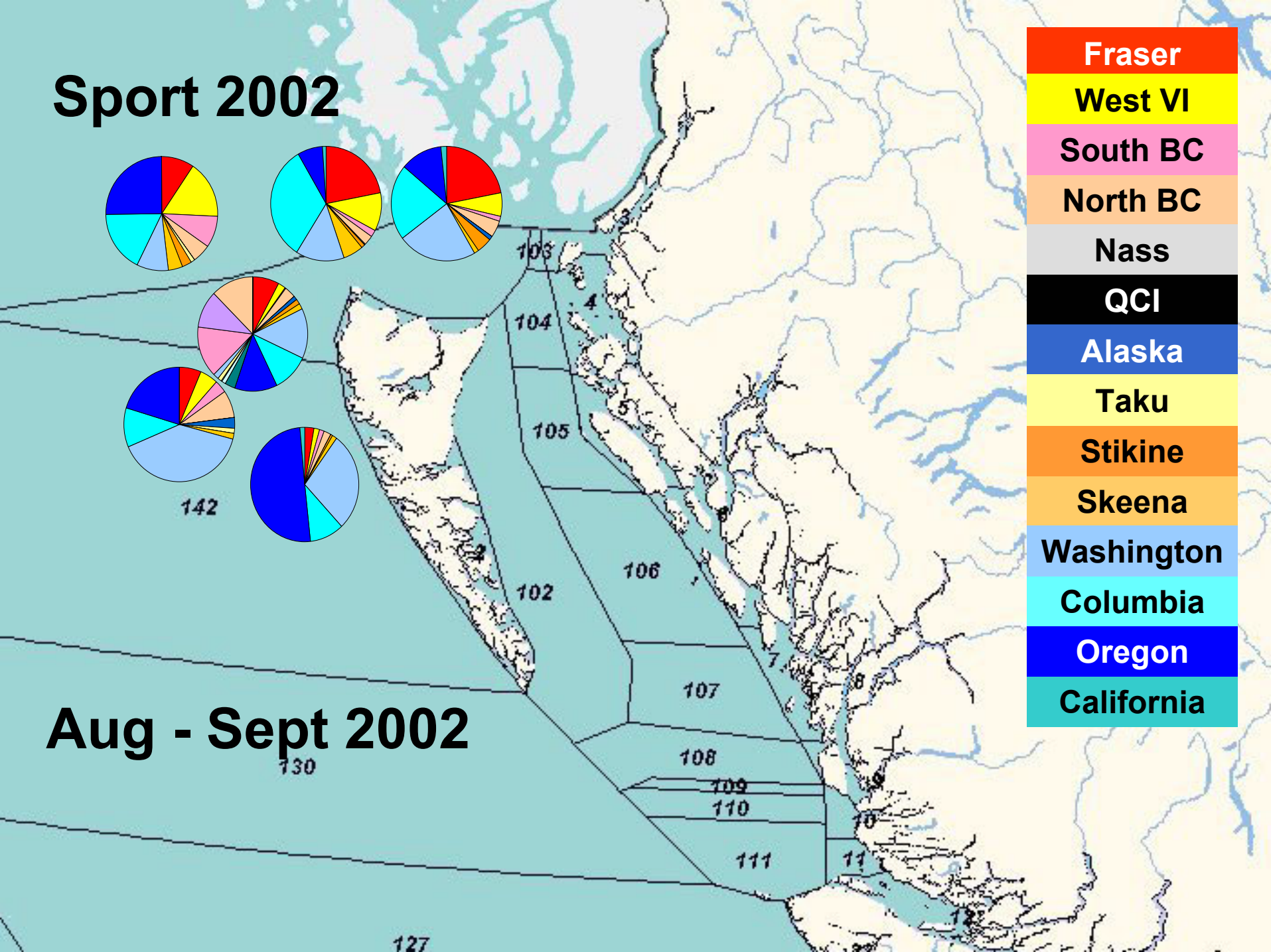
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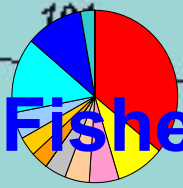
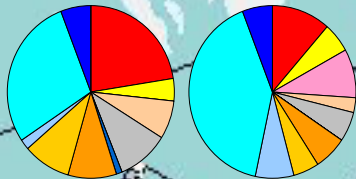
Aug - Sept 2002

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Fraser
West VI
South BC
North BC
Nass
QCI
Alaska
Taku
Stikine
Skeena
Washington
Columbia
Oregon
California



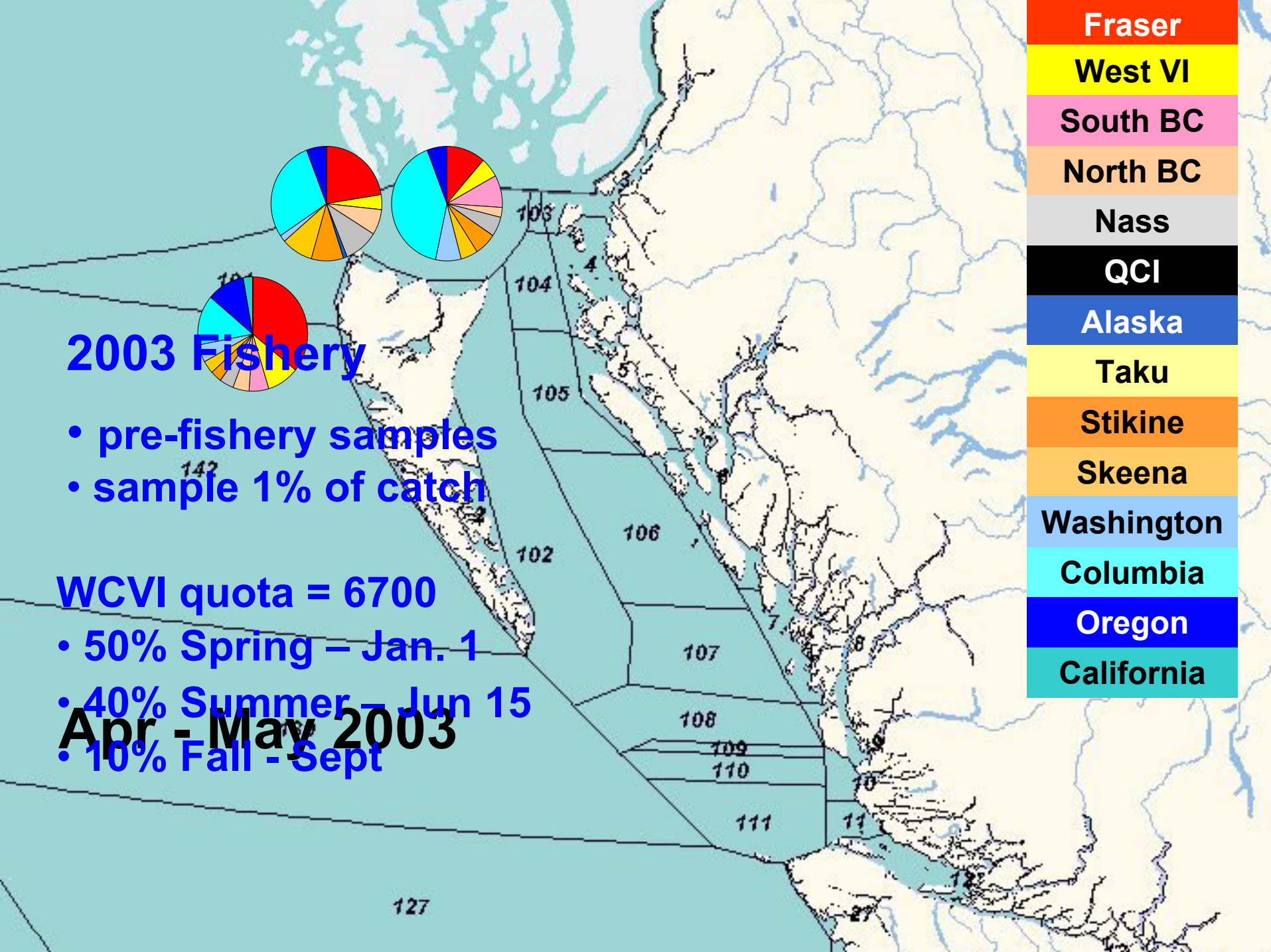
2003 Fishery

- pre-fishery samples
- sample 1% of catch

WCVI quota = 6700

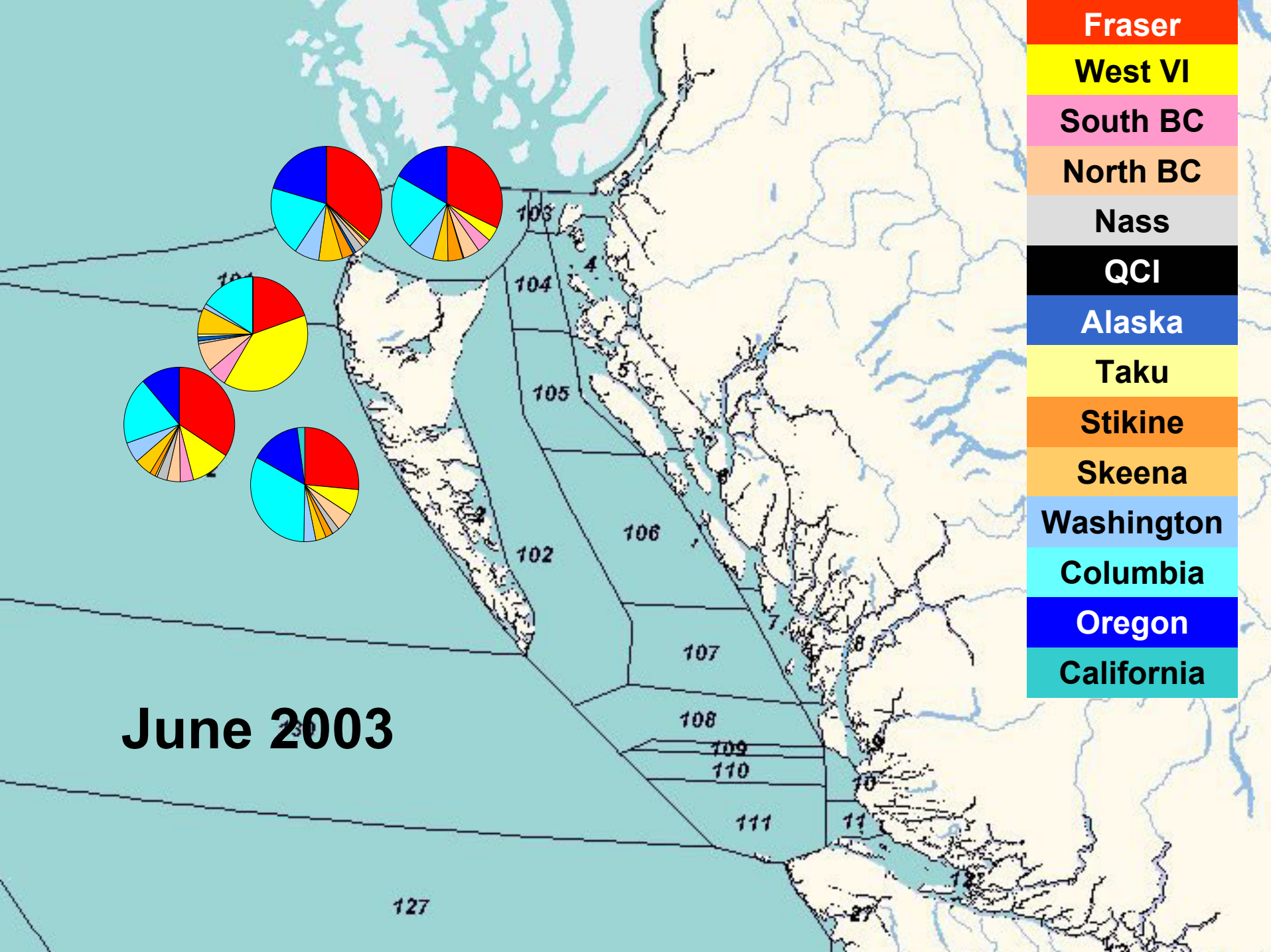
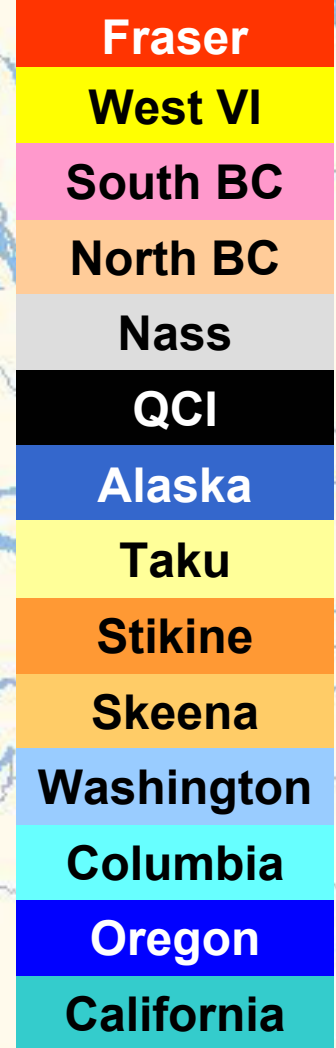
- 50% Spring – Jan. 1
- 40% Summer – Jun 15
- 10% Fall - Sept

Apr - May 2003

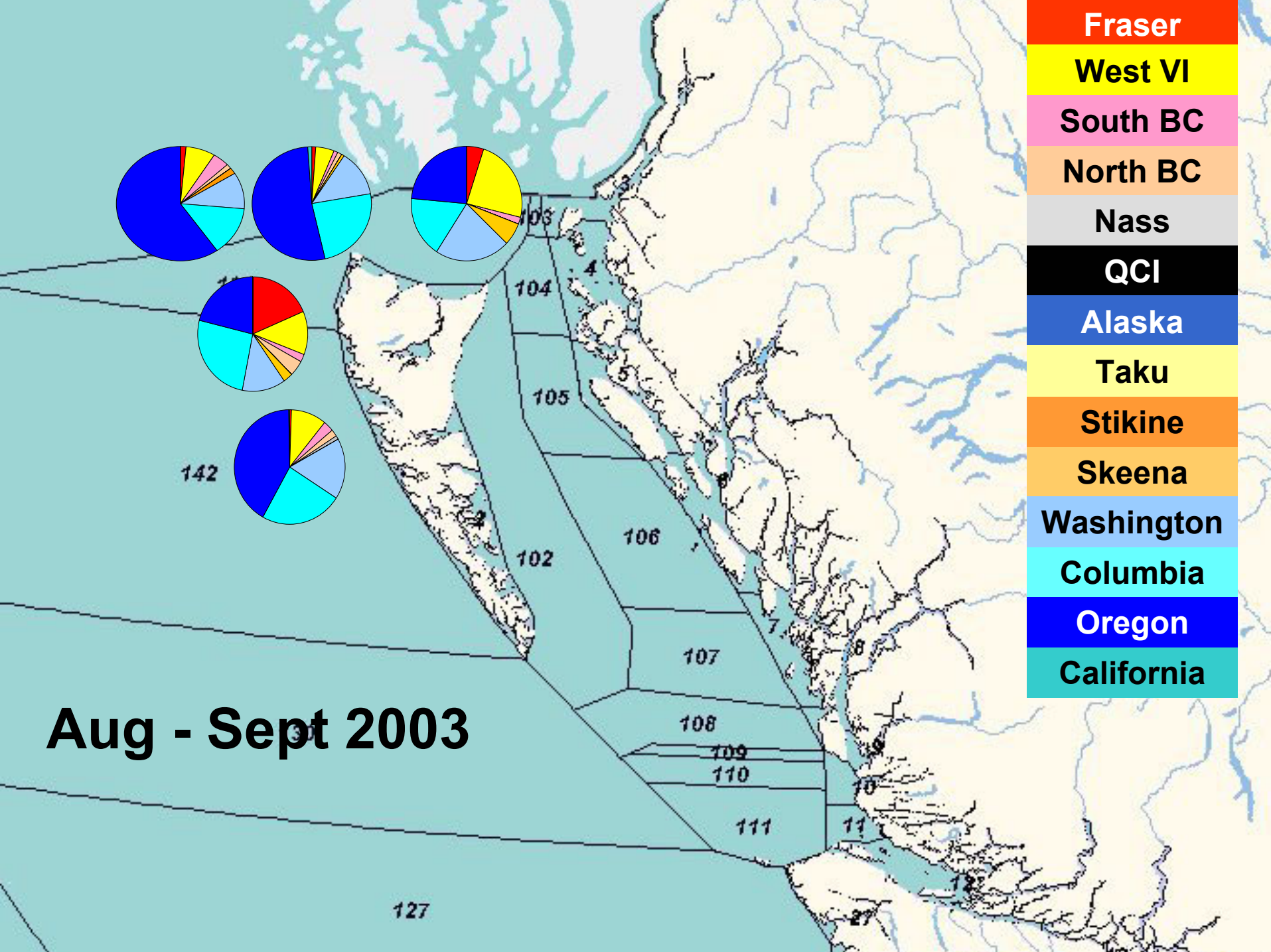
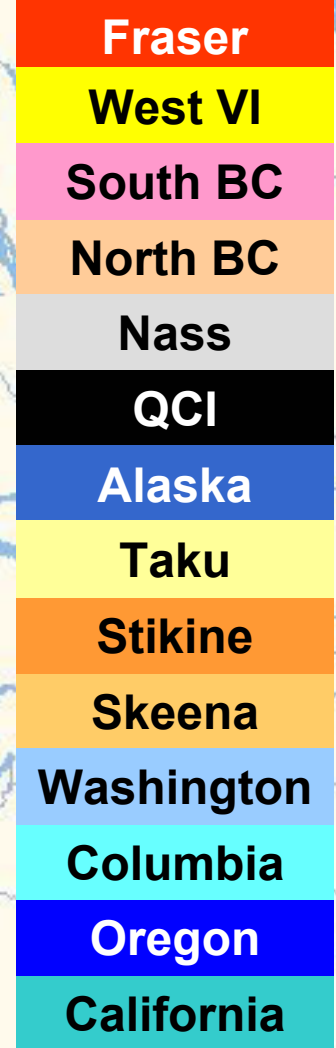


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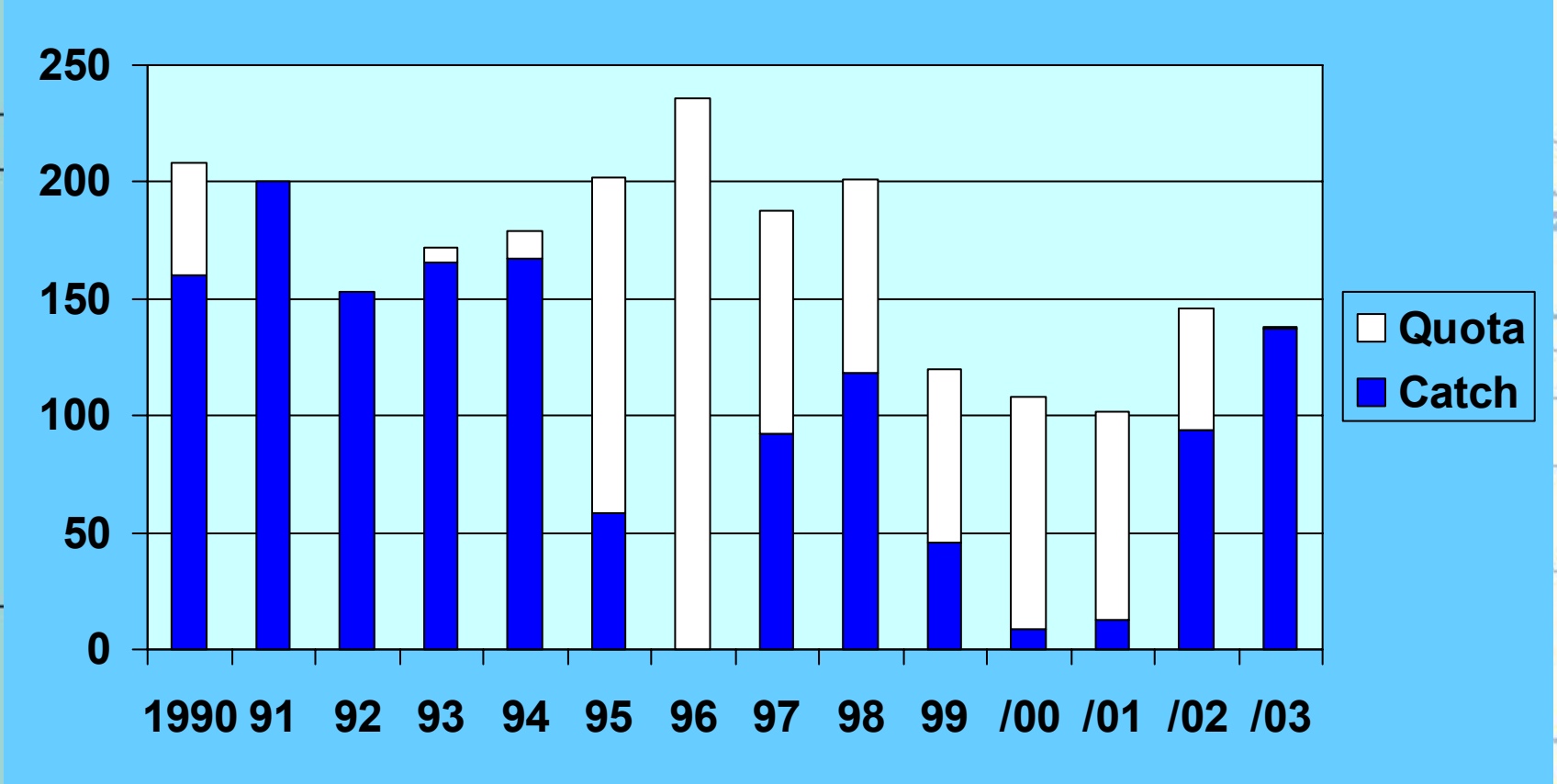
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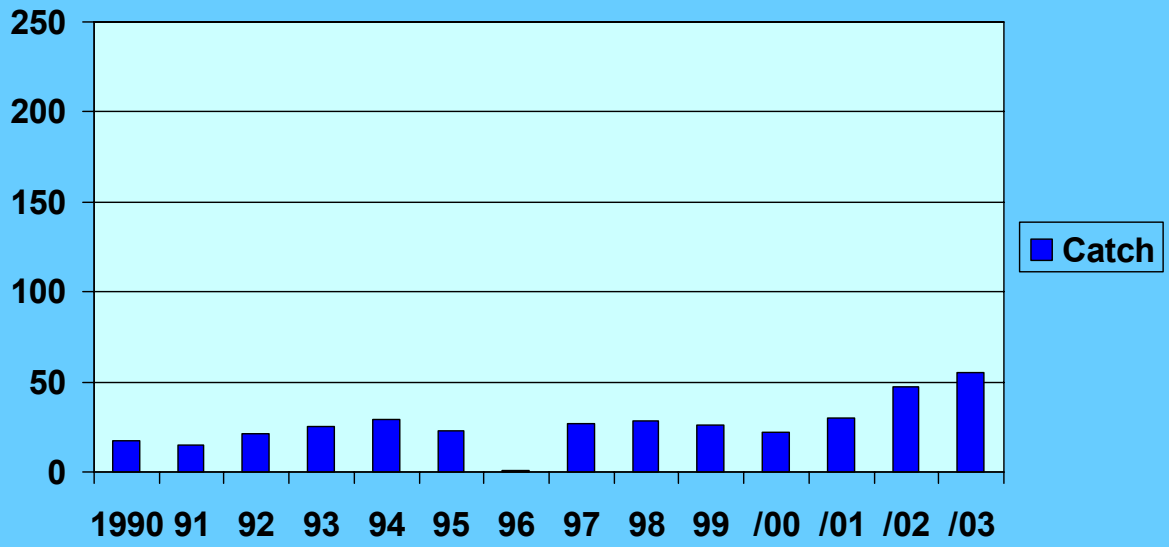
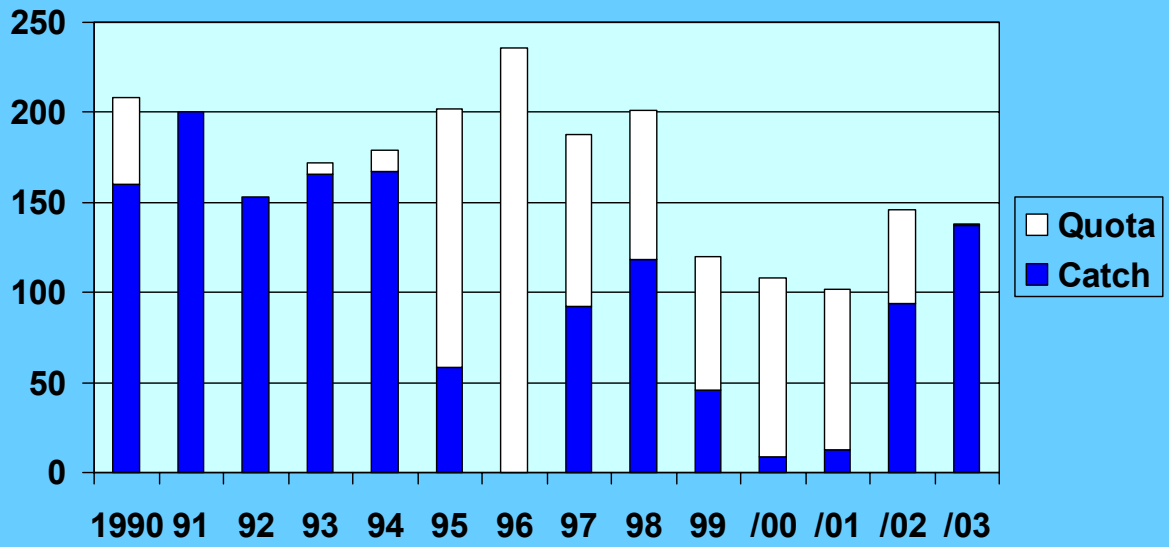


June 2003



Aug - Sept 2003



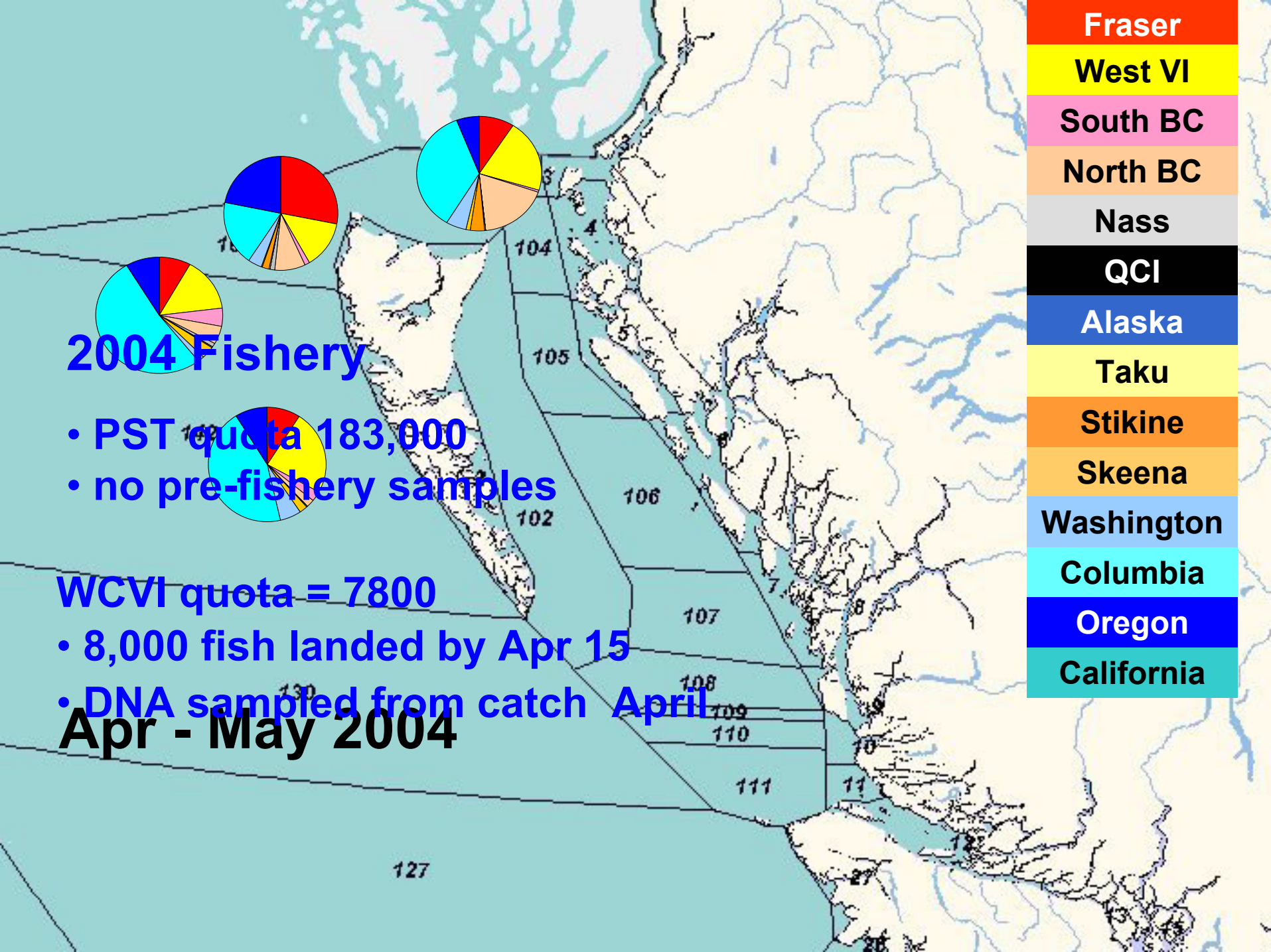


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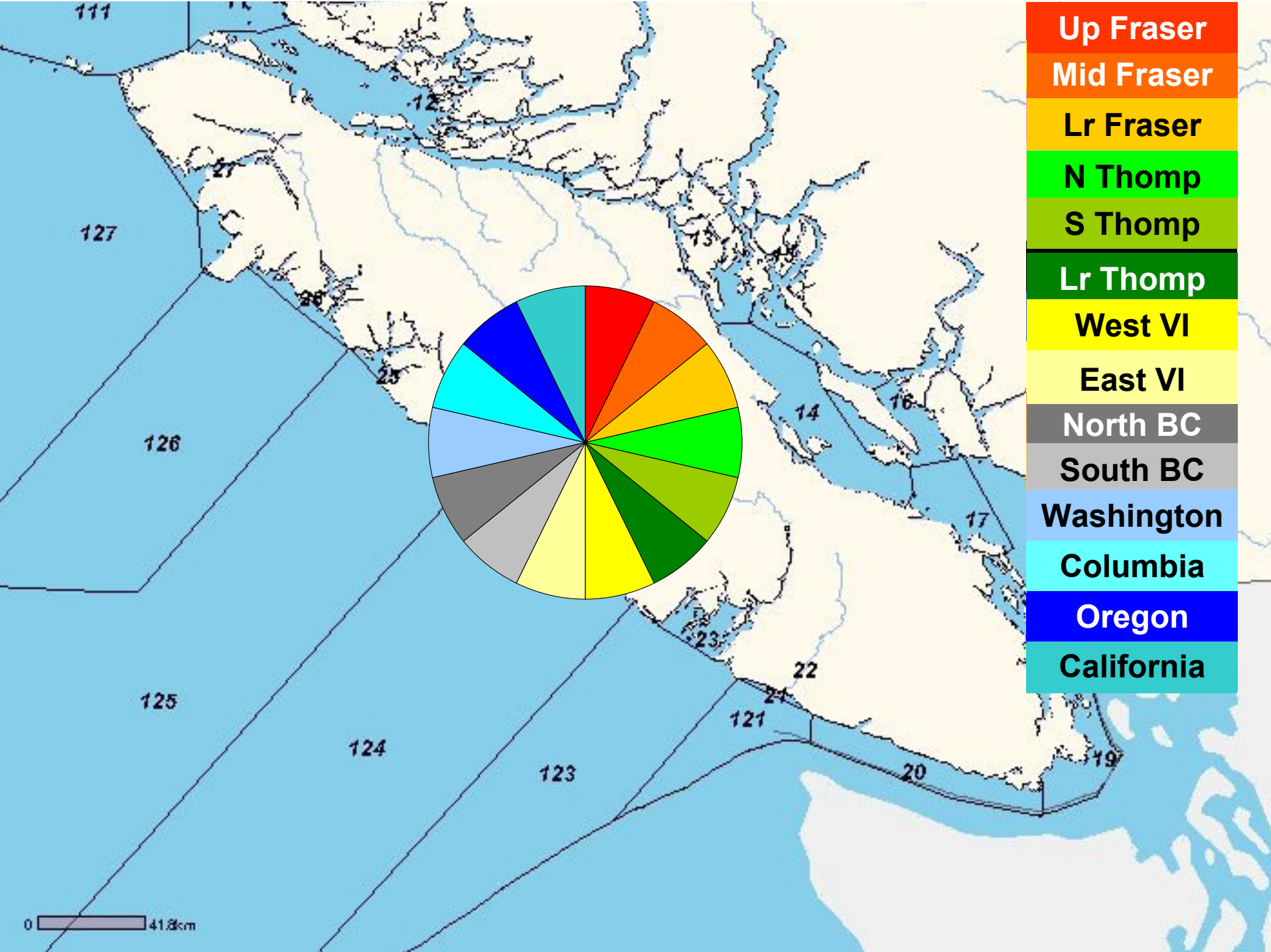
2004 Fishery

- PST quota 183,000
- no pre-fishery samples

WCVI quota = 7800

- 8,000 fish landed by Apr 15
- DNA sampled from catch April

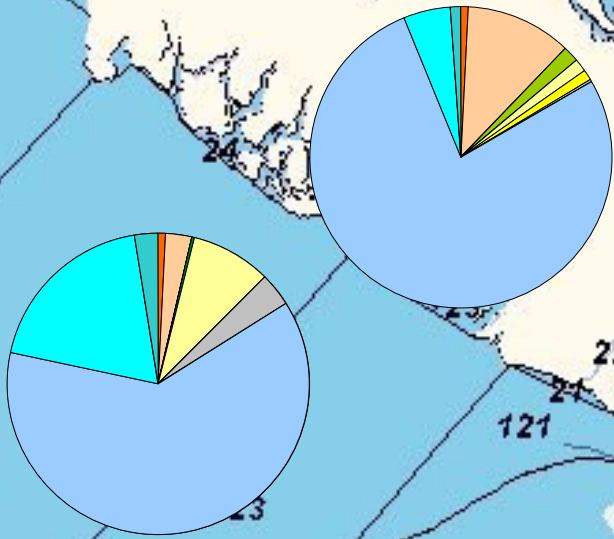
Apr - May 2004



SW Vancouver Island Troll Fishery

- Up Fraser
- Mid Fraser
- Lr Fraser
- N Thomp
- S Thomp
- Lr Thomp
- West VI
- East VI
- North BC
- South BC
- Washington
- Columbia
- Oregon
- California

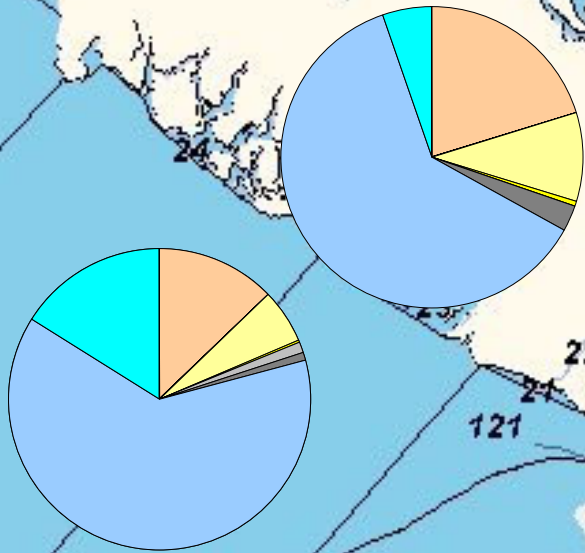
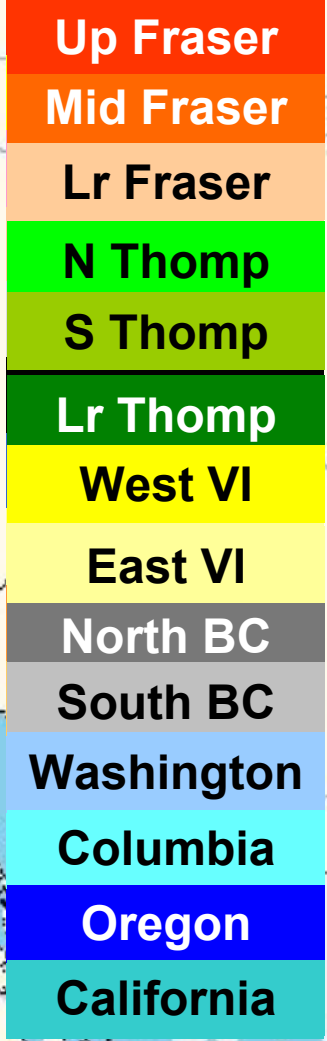
Jan 2001



0 41.8km

SW Vancouver Island Troll Fishery

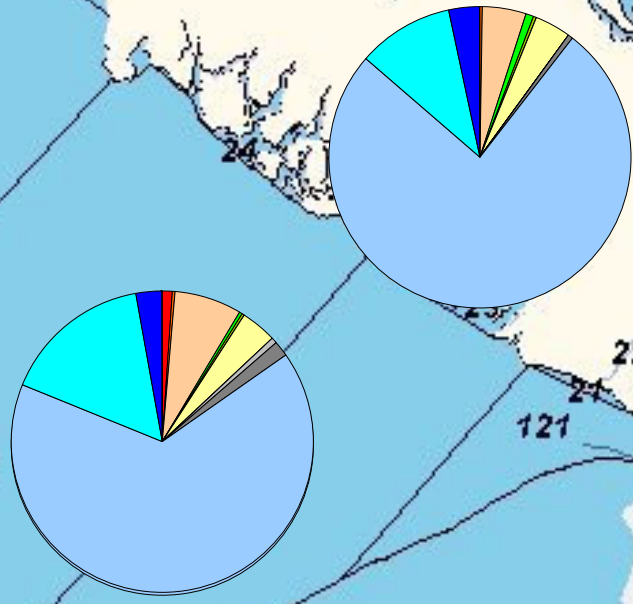
Feb 2001



0 41.8km

SW Vancouver Island Troll Fishery

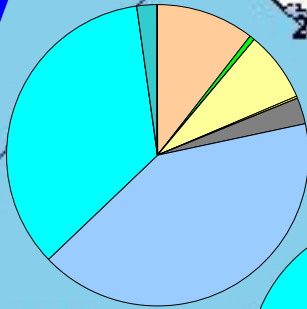
Mar 2001



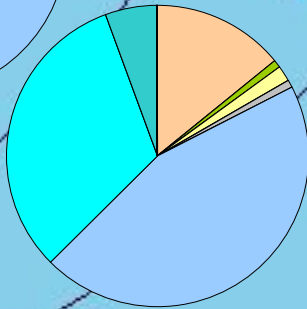
0 41.8km

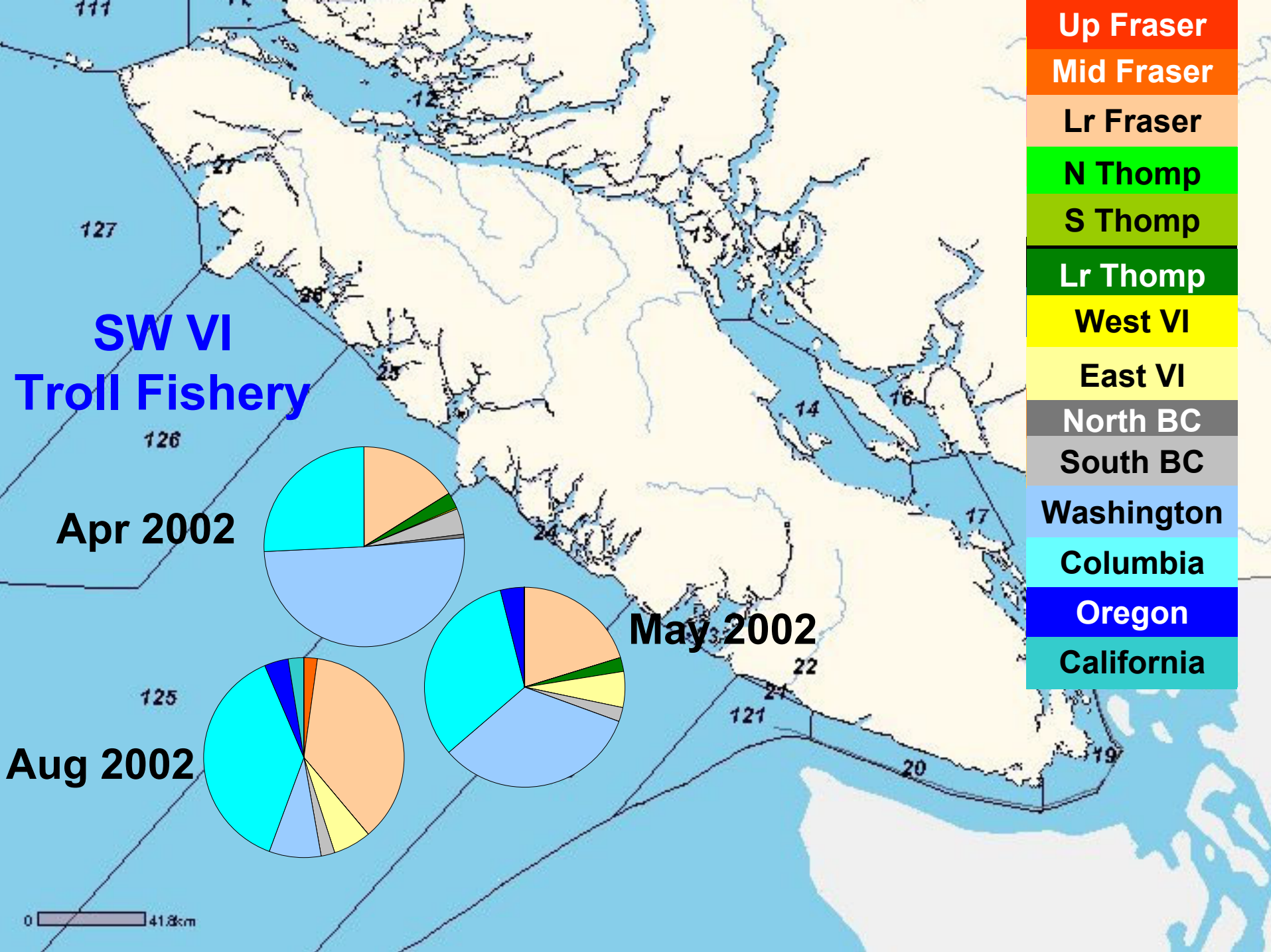
SW Vancouver Island Troll Fishery

Apr 2001



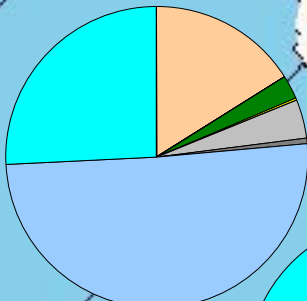
May 2001



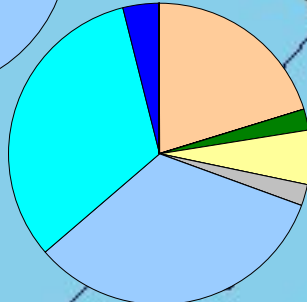


SW VI Troll Fishery

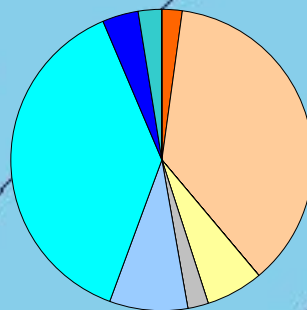
Apr 2002



May 2002



Aug 2002

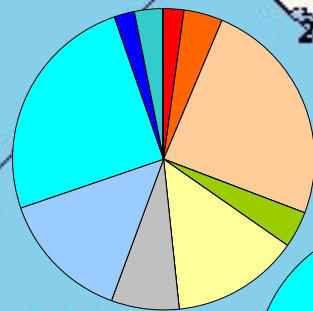


- Up Fraser
- Mid Fraser
- Lr Fraser
- N Thomp
- S Thomp
- Lr Thomp
- West VI
- East VI
- North BC
- South BC
- Washington
- Columbia
- Oregon
- California

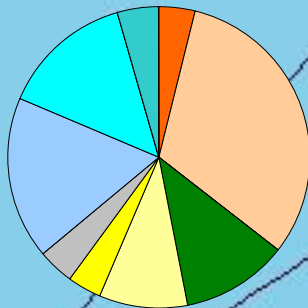
Area 123 Sport Fishery

- Up Fraser
- Mid Fraser
- Lr Fraser
- N Thomp
- S Thomp
- Lr Thomp
- West VI
- East VI
- North BC
- South BC
- Washington
- Columbia
- Oregon
- California

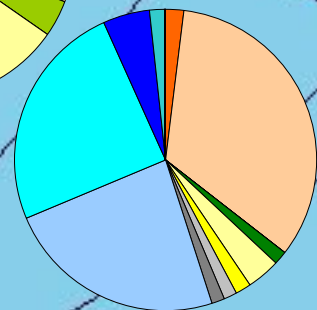
Jun 2002



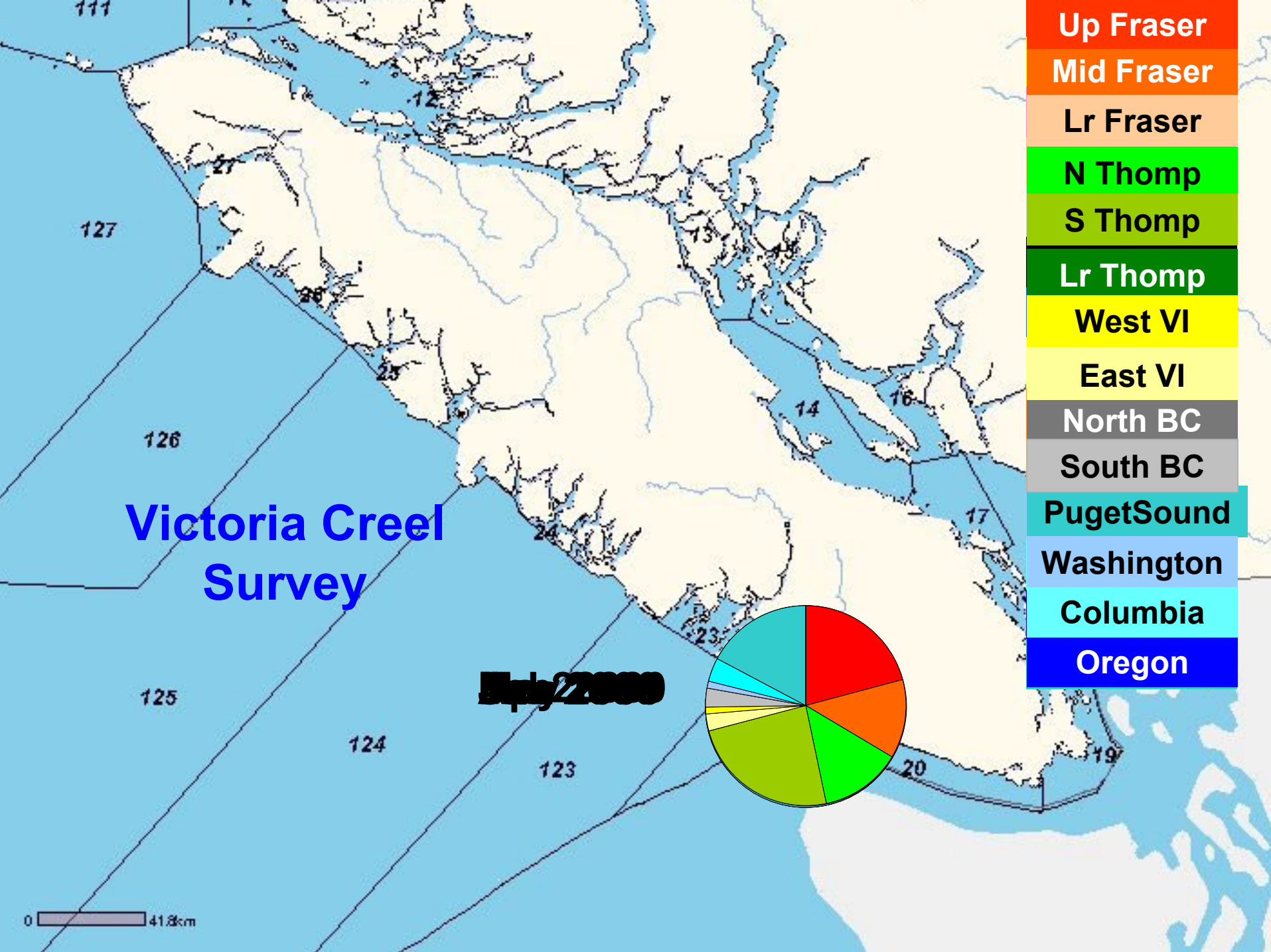
Aug 2002



Jul 2002

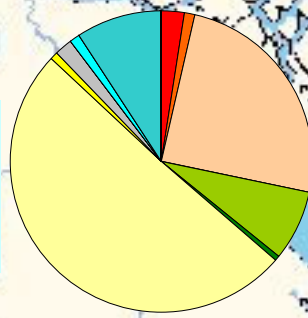


0 41.8km

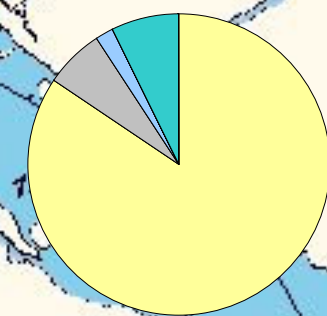


Strait of Georgia Creel Survey 1999

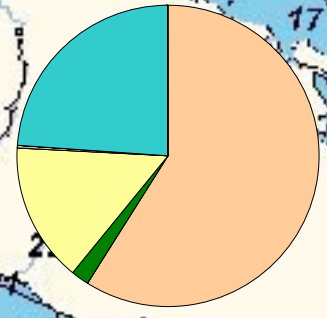
**Campbell River
May - Jun**



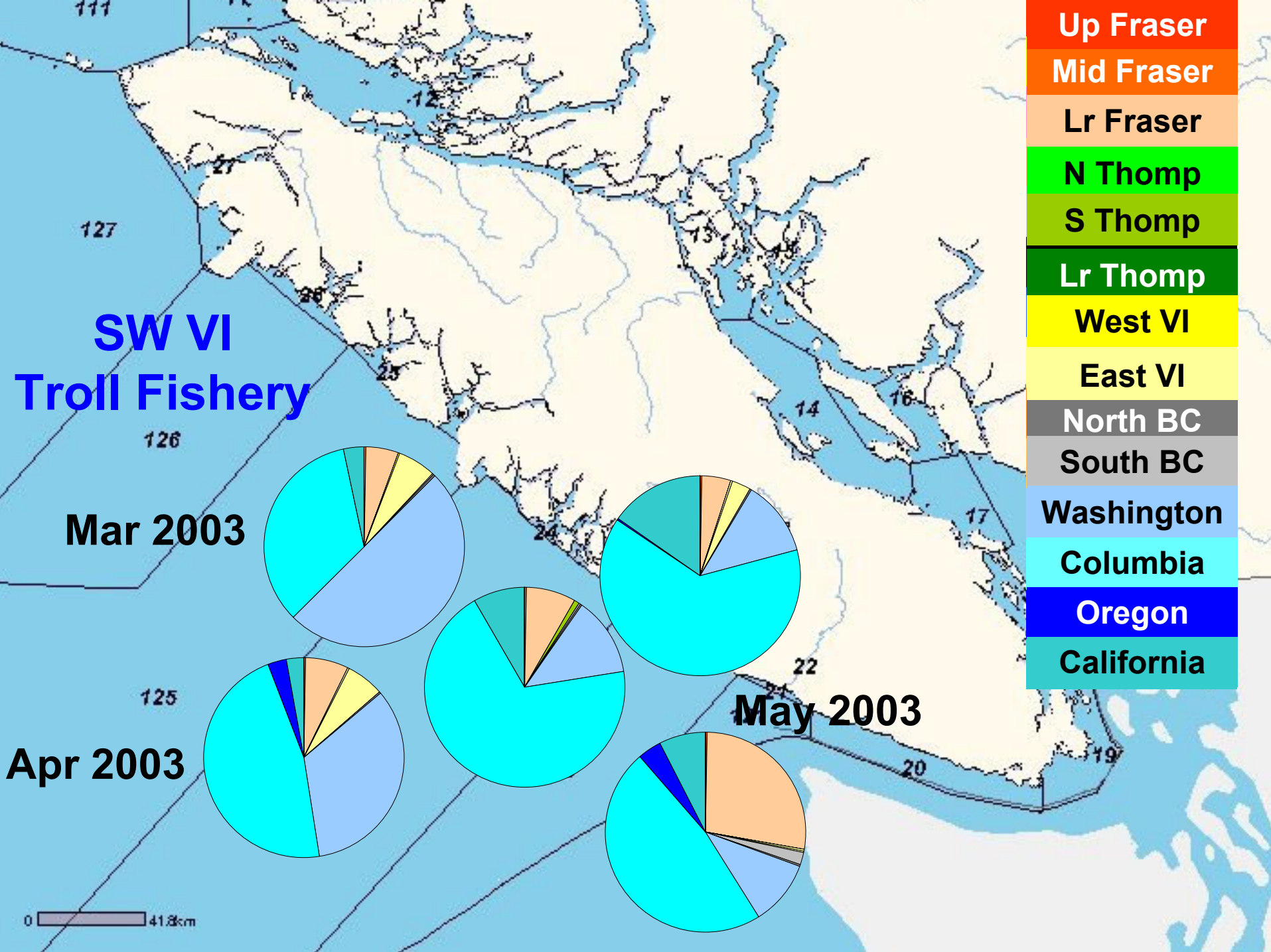
**Powell River
Apr - May**

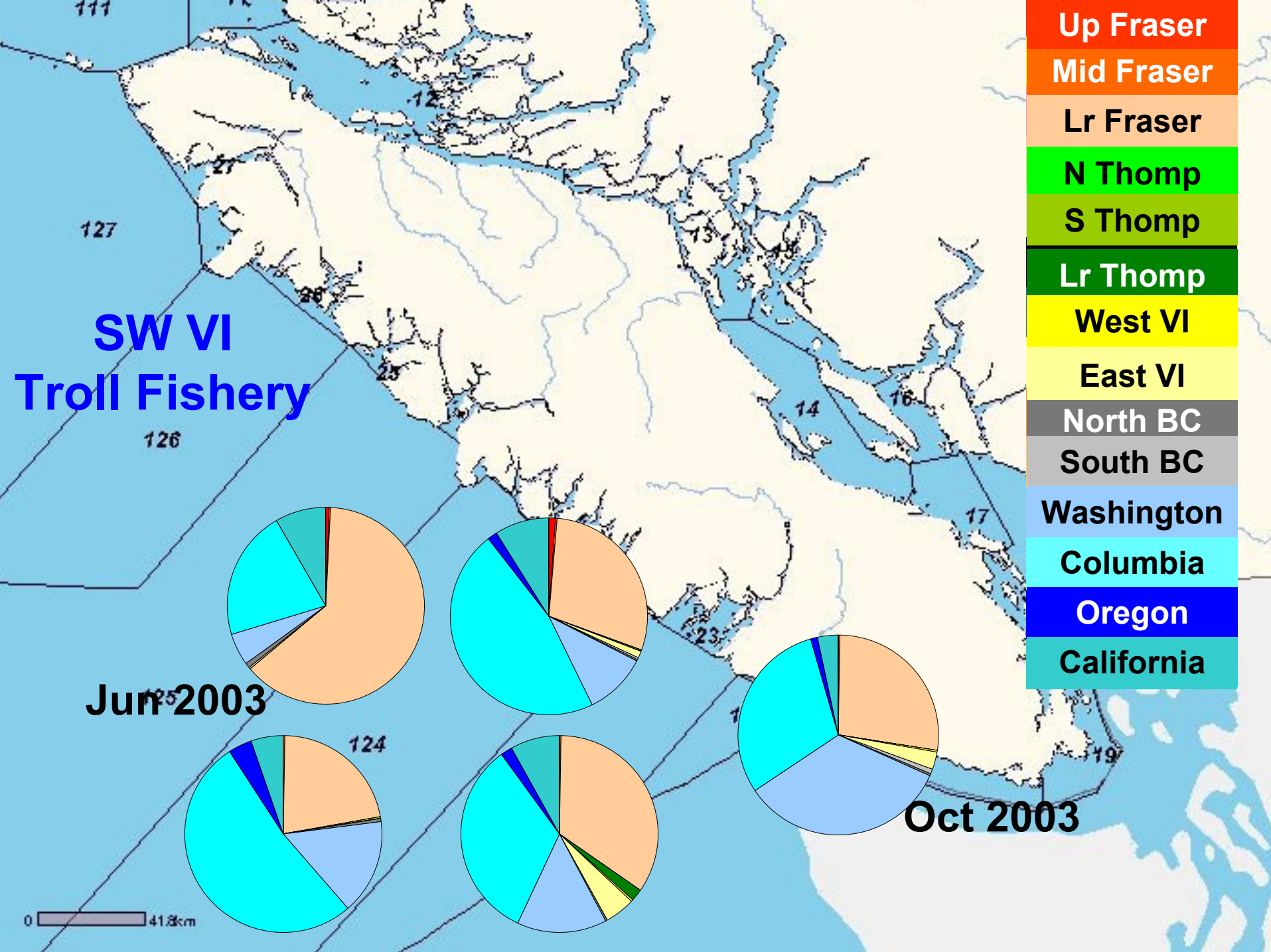


**Nanaimo
June**



- Up Fraser
- Mid Fraser
- Lr Fraser
- N Thomp
- S Thomp
- Lr Thomp
- West VI
- East VI
- North BC
- South BC
- Puget Sound
- Washington
- Columbia
- Oregon

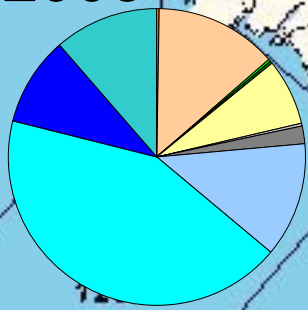




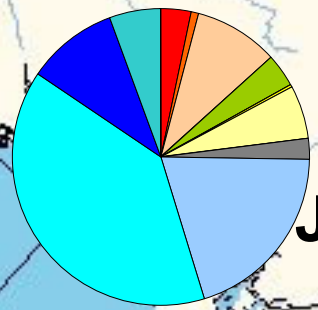
NW VI Troll Fishery



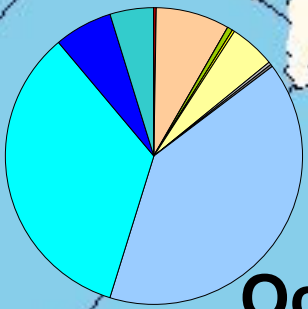
Apr 2003



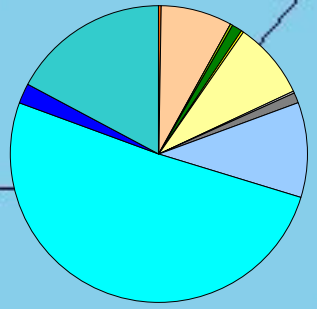
June 2003



Oct 2003



May 2003

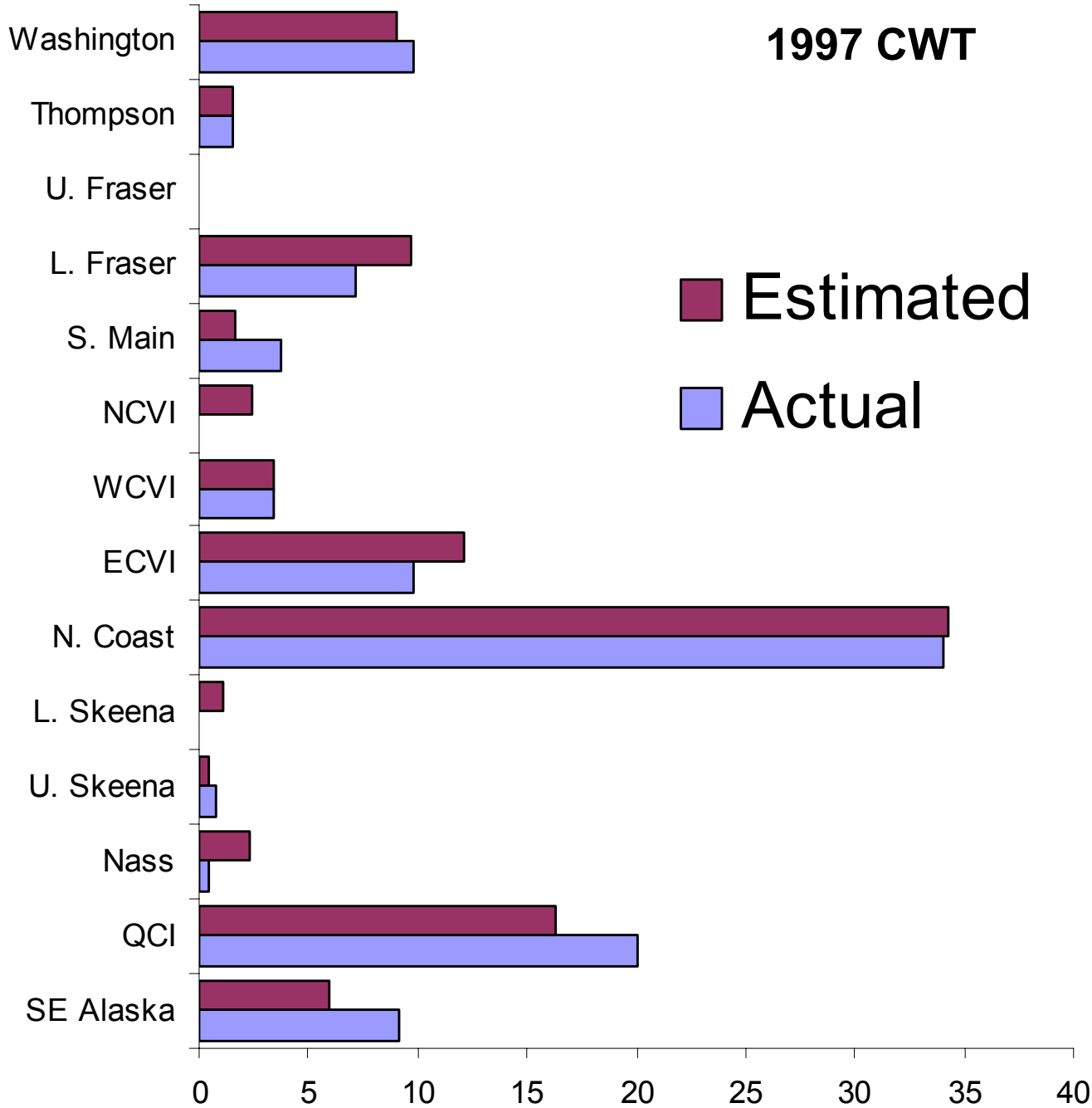


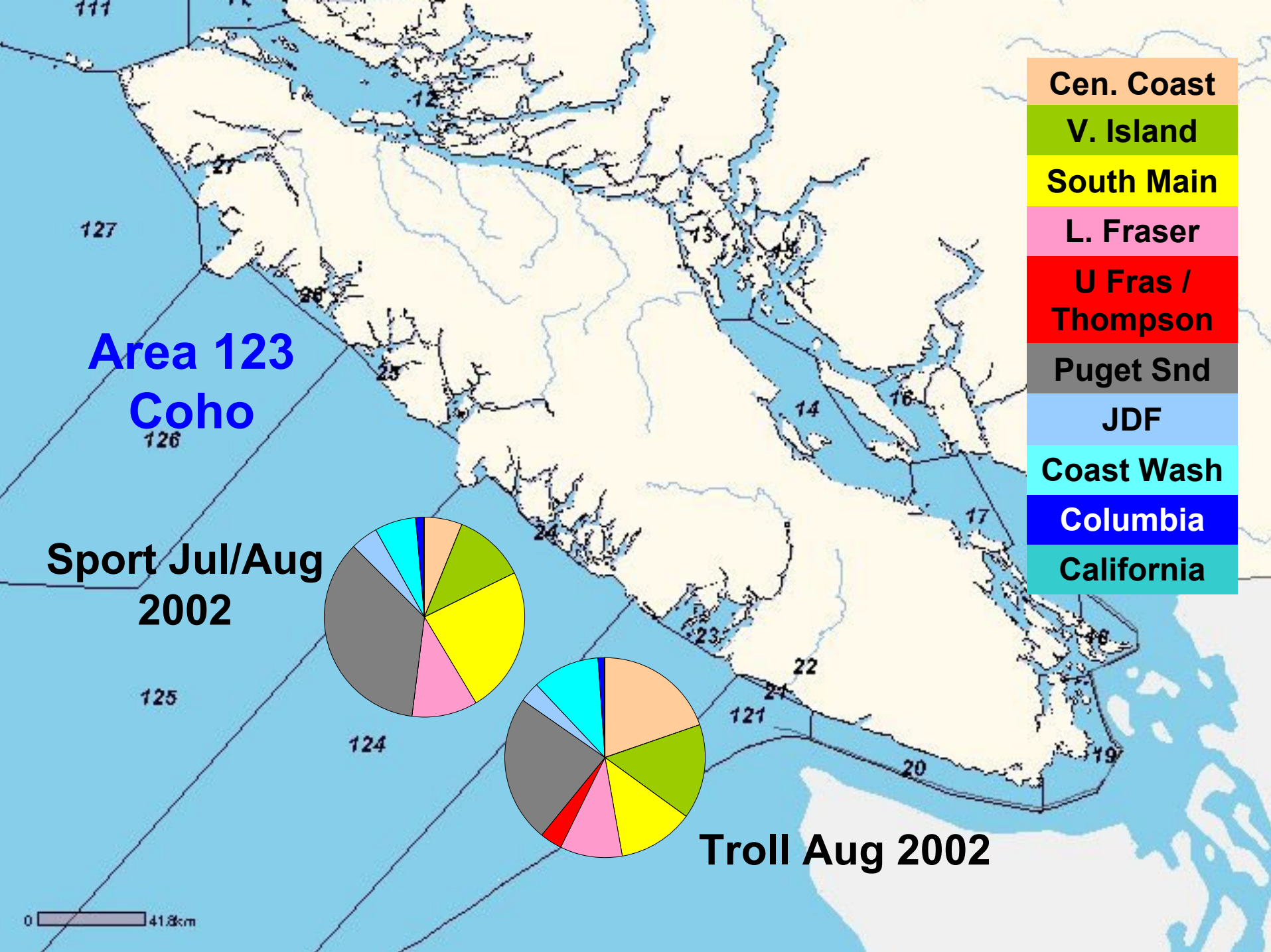
0 41.8 km

Coho Salmon Genetic Database

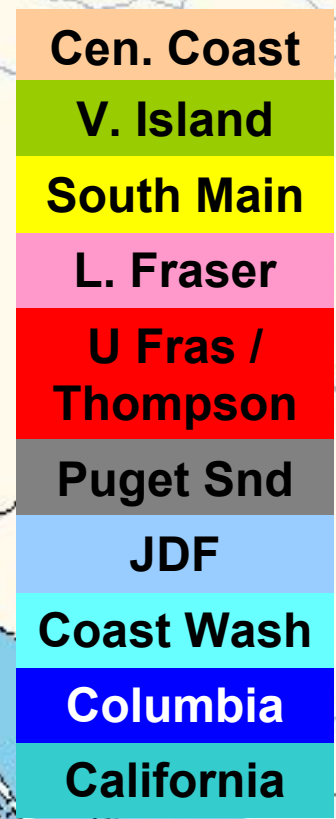
- 44,000 fish
- 230 populations
- California to SE Alaska
- 13 microsatellite, 2 MHC loci
- Multi-year sampling
- Regional population structure

1997 CWT

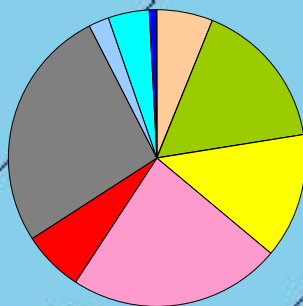




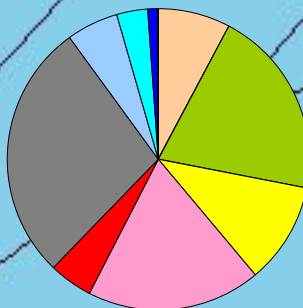
Area 20 Sport Coho



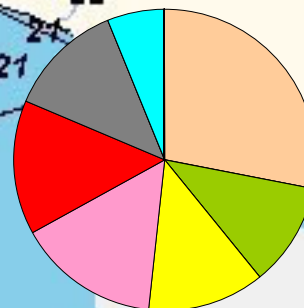
Jul 2001



Aug 2001

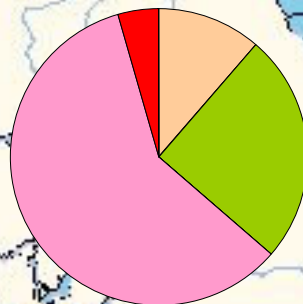


Jul-Sep 2002

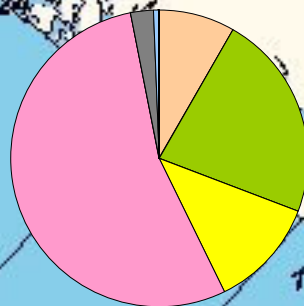


Area 14 Sport Coho

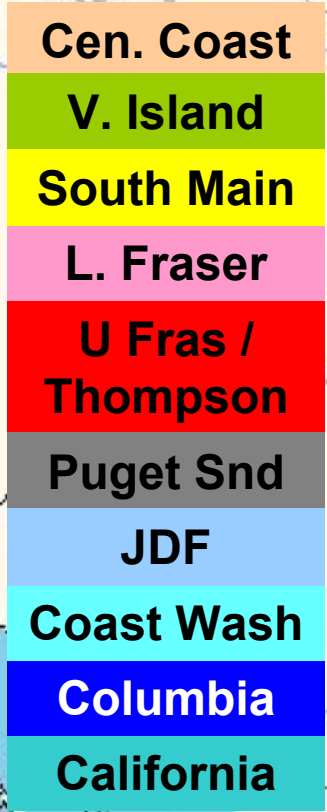
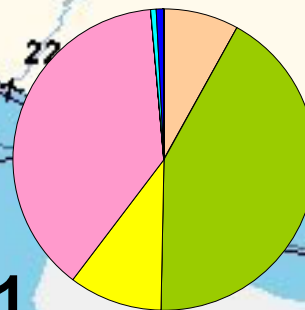
Aug 2001



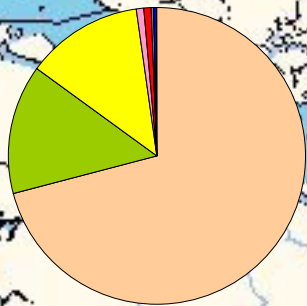
Sep 2001



Oct 2001

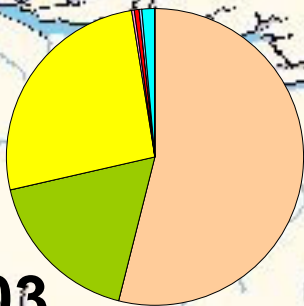


Jul 2003

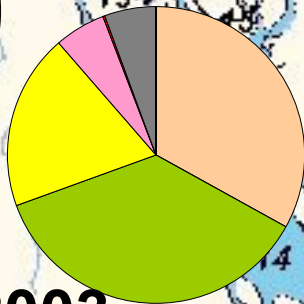


Johnstone St.

Aug 2003

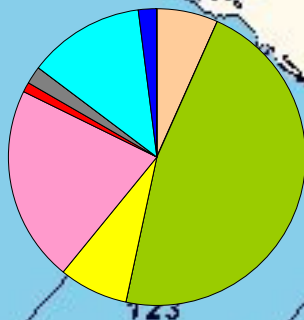


Sep 2003

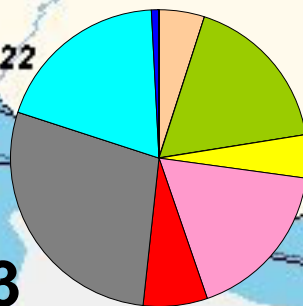


Coho Mixed Gear

SWVI
Oct 2003

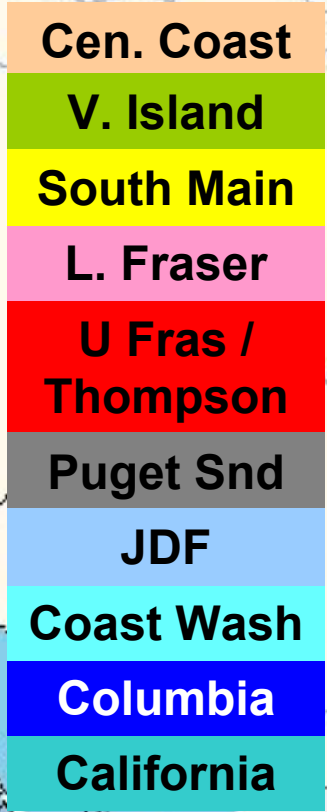
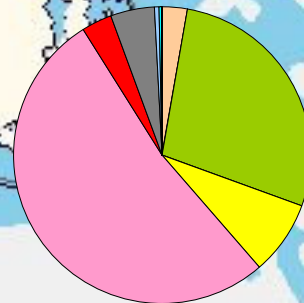


Jul 2003



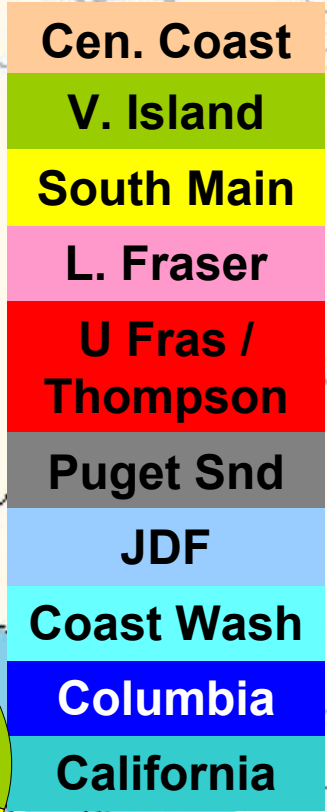
US - JDF

Aug 2003

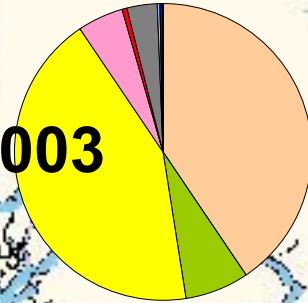


0 41.8km

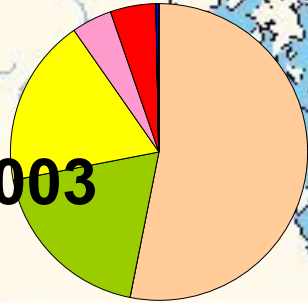
Coho - SOG Sport



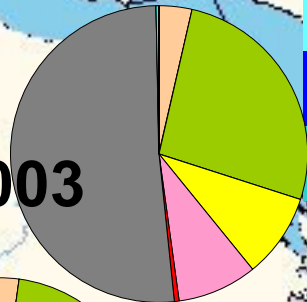
Aug 2003



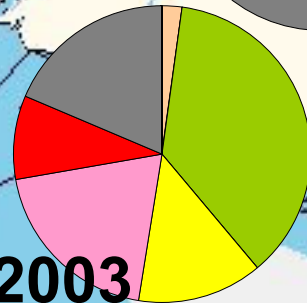
Sep 2003

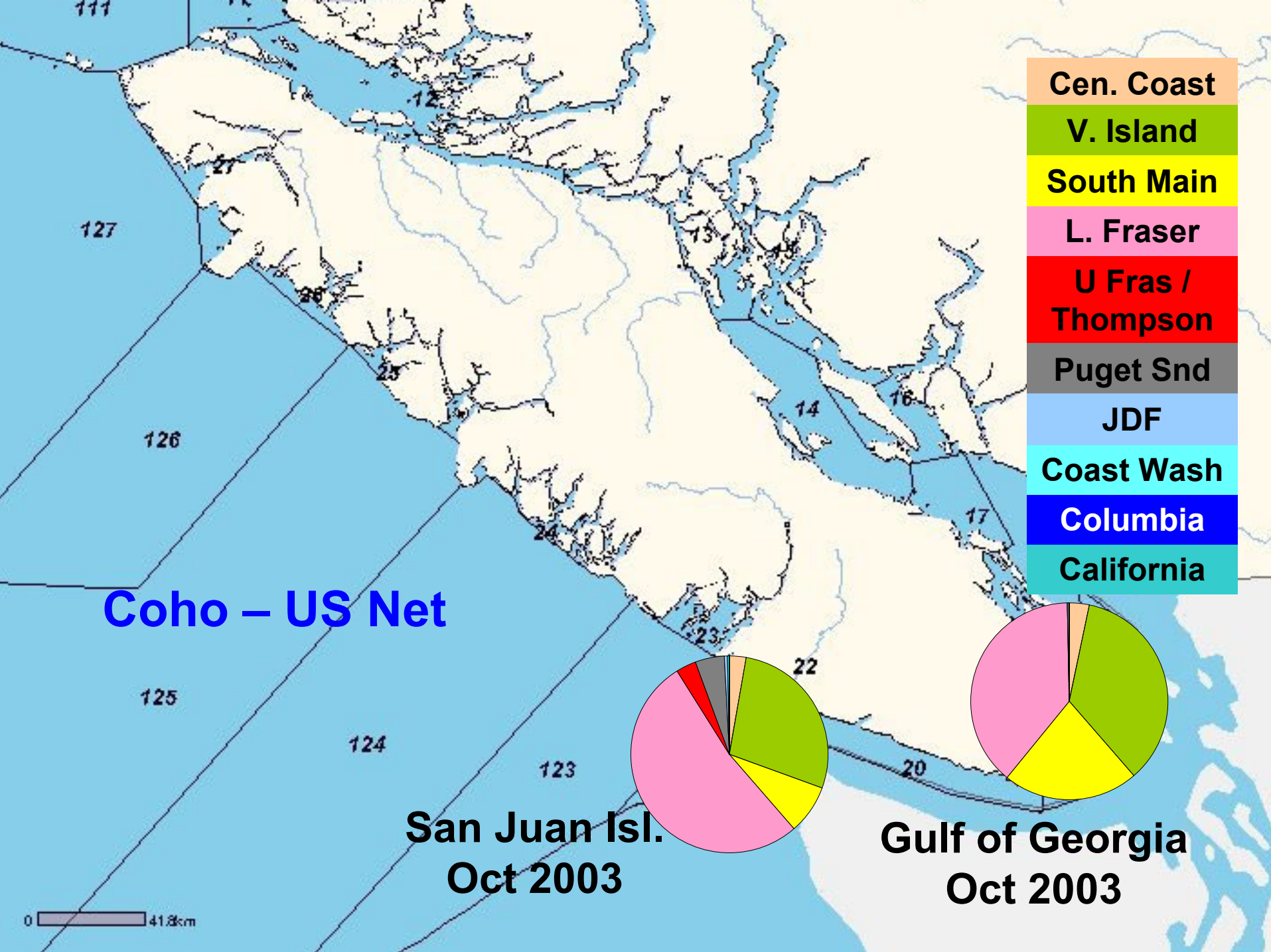


Jul 2003



Sep 2003





- Cen. Coast
- V. Island
- South Main
- L. Fraser
- U Fras / Thompson
- Puget Snd
- JDF
- Coast Wash
- Columbia
- California

