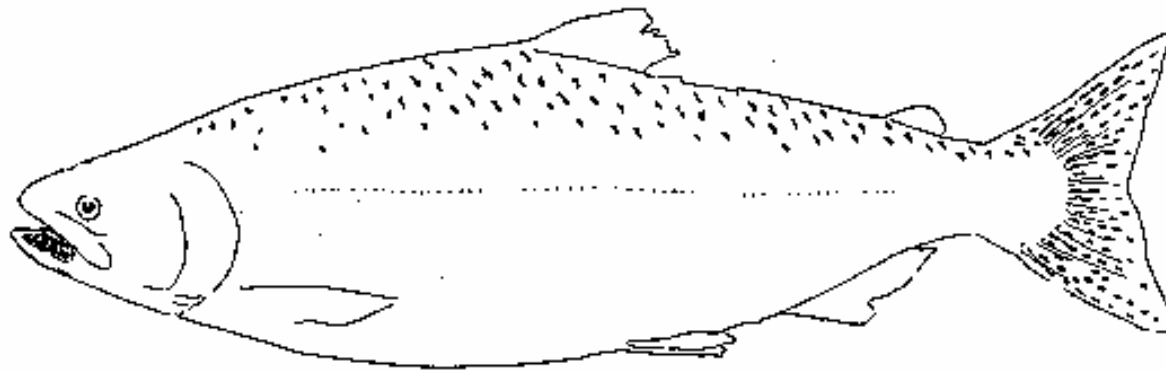




Planning For Fraser Chinook Stocks of Concern



SFAB Chinook Coho Working Group

April 23, 2010



Outline

- Status of Southern BC Chinook
- Management Actions
- Longer Term Planning
- 2010 Approach
- Discussion



Southern BC Chinook

- Common challenges facing a number of southern BC Chinook populations including:
 - WCVI wild populations
 - Fraser stream rearing populations (Spring 4₂, Spring 5₂ and Summer 5₂)
 - Lower Georgia Strait (Cowichan)
- These populations are facing:
 - depressed and/or declining spawner abundance,
 - reduced and variable marine (and freshwater) survival rates
 - high uncertainty about future marine production regimes
 - Other factors may include: pressures on freshwater habitat, increased predation, ecosystem effects from climate changes...
- As productivity declines, management measures to reduce exploitation rates are being discussed.



Chinook Management Actions

- Conservation concerns have resulted in a number of management actions
- Renegotiated Pacific Salmon Treaty chapters with specific focus on chinook:
 - Significant fishery reductions in the Southeast Alaska (15% reduction) and West coast of Vancouver Island (30% reduction) fishery areas
 - Guidelines for North Coast harvest reductions based on status of key stocks (also applies to Alaska), however, domestic conservation objectives (e.g. WCVI chinook) may constrain harvest
 - Effects of new Pacific Salmon Treaty harvest reductions implemented in 2009 season will not be assessed until April 2010.
- A range of *stock specific* management actions also implemented.

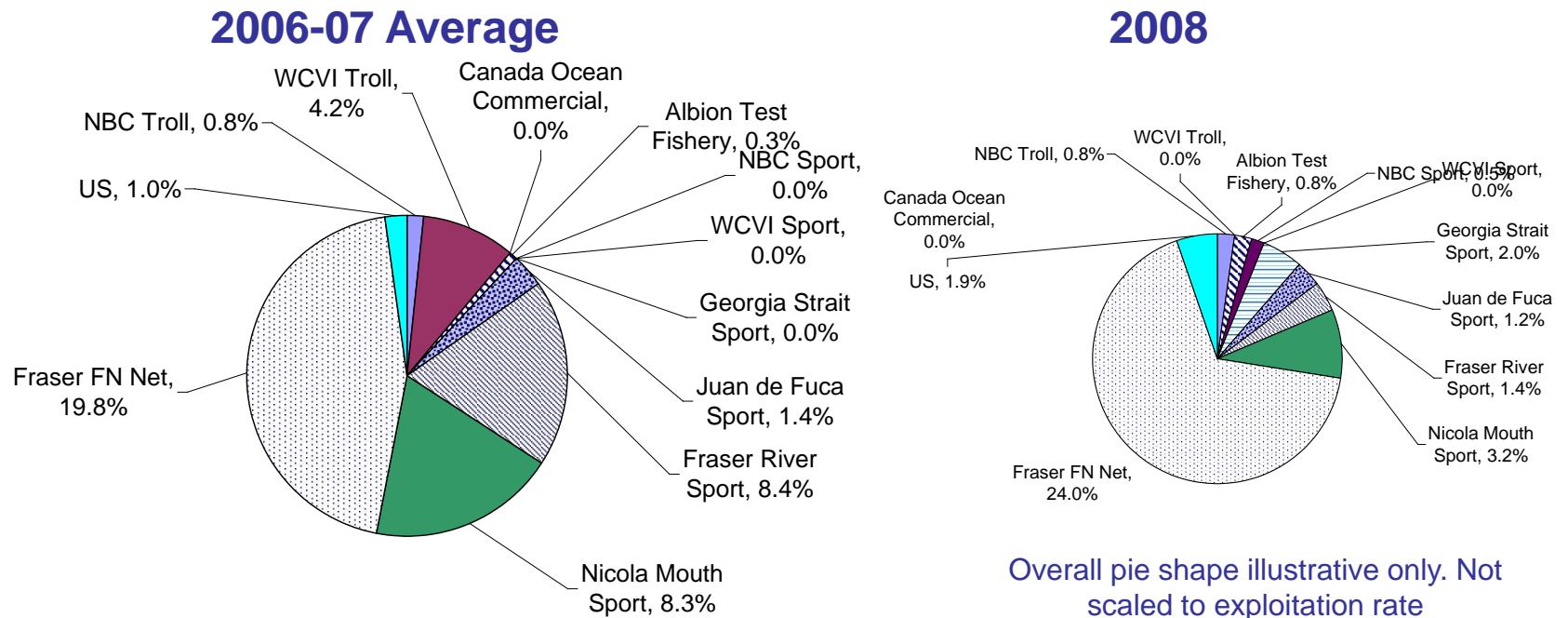


Fraser Chinook Management Actions

- In 2008 and 2009 measures were taken to try and reduce exploitation rates on Early timed Chinook by 50%
 - **First Nation:** opportunity for FSC harvest at reduced levels, delayed start to the season and voluntary closures in some areas.
 - **Recreational:** size restrictions and partial mark-selective fishery (e.g. hatchery) in Juan de Fuca, non-retention of Chinook off the mouth and inside the Fraser.
 - **Area G troll:** two month closure in south-west Vancouver Island (area 123/124) and cap on overall catch/effort levels in SWVI and NWVI. No Spring 4₂ CWT's encountered in 2008 and 2009.
- In season abundance assessment of Spring 5₂ and Summer 5₂ chinook with management actions to maintain spawner abundance above 30,000
 - Methodology has been reviewed and approved by PSARC.
 - Actions in 2008 but not in 2009 (populations were above 30,000).



Distribution of Spring 4₂ (Nicola) Fishing Mortality

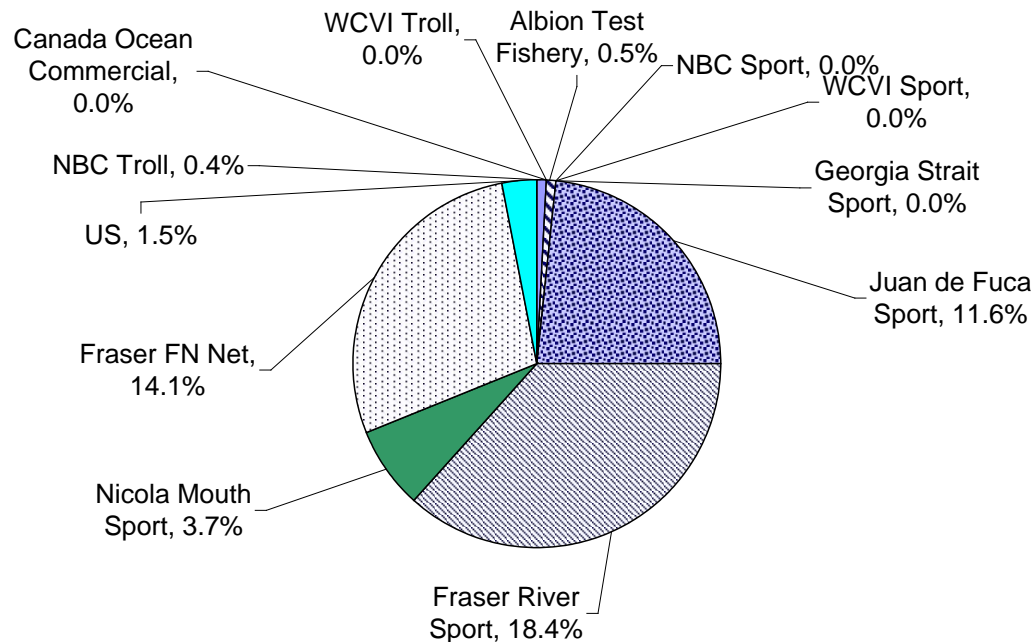


- Overall reduction in exploitation rate by approximately 20% in 2008. Reduced from average of 44.2% (2006-07) to 35.8% (2008).
- No current CWT indicator stocks for Spring 5₂ and Summer 5₂ MU's. However, substantial timing overlaps with Spring 4₂ chinook.



Distribution of Spring 4₂ (Nicola) Fishing Mortality

2009



- Increased exploitation rate in 2009 to 48.7% in Canada.
- But, 2009 management actions were designed to protect Early timed chinook and no additional actions taken for Spring 5₂ and Summer 5₂ chinook based on in season abundance at Albion.



Southern BC Chinook Planning

- A range of management measures have been taken in recent years to reduce exploitation rates.
- Additional measures, in addition to harvest reductions, necessary if poor survival persists.
- Department developing comprehensive, longer term management framework for depressed southern BC chinook populations.
- Planning will need to address:
 - Harvest measures
 - Habitat status and threats (including water use)
 - Enhancement activities including hatchery production
 - Assessment and research
- Department will consult with First Nations and others on development of plan.



2010 Fishery Planning

- Department is committed to providing priority for First Nations fishing for FSC purposes.
- Last year's IFMP (2009/10) identified continued management actions for Fraser chinook likely required in 2010 for commercial and recreational fisheries; additional consultations with First Nations on 2010 fishing plans.
- Discussion of approaches for further exploitation rate reductions and potential additional management actions required to address low chinook returns:
 - Options for Spring 4₂ chinook required beginning March 2010.
 - Options for other Fraser and South Coast chinook to be included in draft Integrated Fisheries Management Plans (IFMPs)



2010/11 *draft* IFMP Chinook Objectives

- Fraser River Chinook:
 - Spring 4₂
 - Spring 5₂/Summer 5₂
 - Summer 4₁
 - Fraser Fall 4₁



Fraser Spring 4₂ Chinook

- *Draft IFMP objective*
 - The objective for Fraser Spring 4₂ chinook in 2010 is to rebuild these populations by continuing to minimize incidental harvests in Canadian ocean fisheries. For directed fisheries in the Fraser River, the objective is to minimize directed harvests of Spring 4₂ chinook until July 15th.
 - Fisheries beginning July 15th will be managed consistent with the management zone identified for Spring 5₂ and Summer 5₂ Fraser Chinook (see section 4.1.9) given timing overlaps between these populations for much of the adult migration period.
- Proposed changes for 2010
 - 2009 IFMP indicated revisions to the management approach in April 2010 may be considered based on the 2009 post-season review
 - Additional management actions to minimize exploitation rates.
- First Nations request for fishery closures, including food, social and ceremonial fisheries, to improve spawner abundances.



Spring 4₂ Management Actions proposed

Marine areas:

- **North Coast Troll**: Fishery currently closed with planned opening June 15th. Southern fishing area (Areas 6-10 and 106-110) planned closed in 2010
- **WCVI Troll**: Fishery closed until April 19th. Open in NWVI and inside areas. Open in SWVI planned May 1. April 19 to June 15th monthly effort limits in place.
- **Juan de Fuca Strait**: March 1 to May 21, 2 chinook per day between 45-67cm and hatchery marked >67cm. Additional management actions after May 21 being discussed.
- **Strait of Georgia (off Fraser mouth)**: Proposed chinook non-retention or no fishing for salmon May 1 to July 15th.



Spring 4₂ Management Actions proposed

Fraser River:

- Fraser River (tidal and freshwater): currently closed to May 1. May 1 to July 15th proposed chinook non-retention or no fishing for salmon. Thompson River at mouth of Nicola River proposed closed when Spring 4₂ present.
- First Nations: Discussions ongoing on reductions for 2010 fishing plans.



Fraser Spring 5₂ and Summer 5₂ Chinook

- *Draft* IFMP Objective
 - The objective for Spring and Summer (age 5₂) Fraser chinook is to continue rebuilding these populations consistent with a 3 zone management approach
- Prediction of terminal return of these stocks to the Fraser will be based on an in season catch per unit effort at the Albion chinook test fishery; prediction on June 15, 2010.
- Management to start based on zone 1 unless Albion test fishery indicates larger return inseason.



Fraser Spring 5₂ and Summer 5₂ Chinook

Zone	Predicted Return	Rationale
3	Greater than 60K	Populations rebuilding towards maximum sustained yield (MSY) levels <ul style="list-style-type: none">•First Nations directed fisheries; directed recreational and commercial fisheries consistent with Allocation Policy
2	Less than equal 60K	Caution required to avoid population declines. Populations well below MSY levels. <ul style="list-style-type: none">•Limited directed fisheries; First Nations directed fisheries subject to abundance•By-catch retention/limited directed Fraser recreational fisheries may be initiated
1	Less than equal 30K	Significant conservation concerns. Very high risk of extremely low spawning populations. <ul style="list-style-type: none">•Directed fisheries minimized.



Fraser Summer 4₁ and Fraser Fall (Harrison) Chinook

- New decision guidelines outlined in section 5.3.3

Fraser Summer 4₁

- 2010 outlook is near target/abundant
- Management objective has not been established; management objective for the PST process which requires escapement objective to be consistent with maximum sustained yield (MSY) or other agreed biologically-based escapement goals.
- Directed fishing opportunities may occur on this stock group, provided that fisheries can be designed to limit impacts on co-migrating stocks of concern

Fraser Fall (Harrison)

- PST approved escapement goal is range of 75,100 to 98,500 spawners
- Outlook is low; given existing fisheries escapement will likely be below lower end of escapement goal range; quantitative forecast of abundance expected in April 2010.
- Proposed non-retention in commercial net fisheries in September to November period



IFMP Timelines:

- 1st Draft released: March 17th, 2010
- Comments requested by: April 26, 2010
- 2nd Draft released: April 30, 2010
- IHPC Meeting: May 6-7, 2010



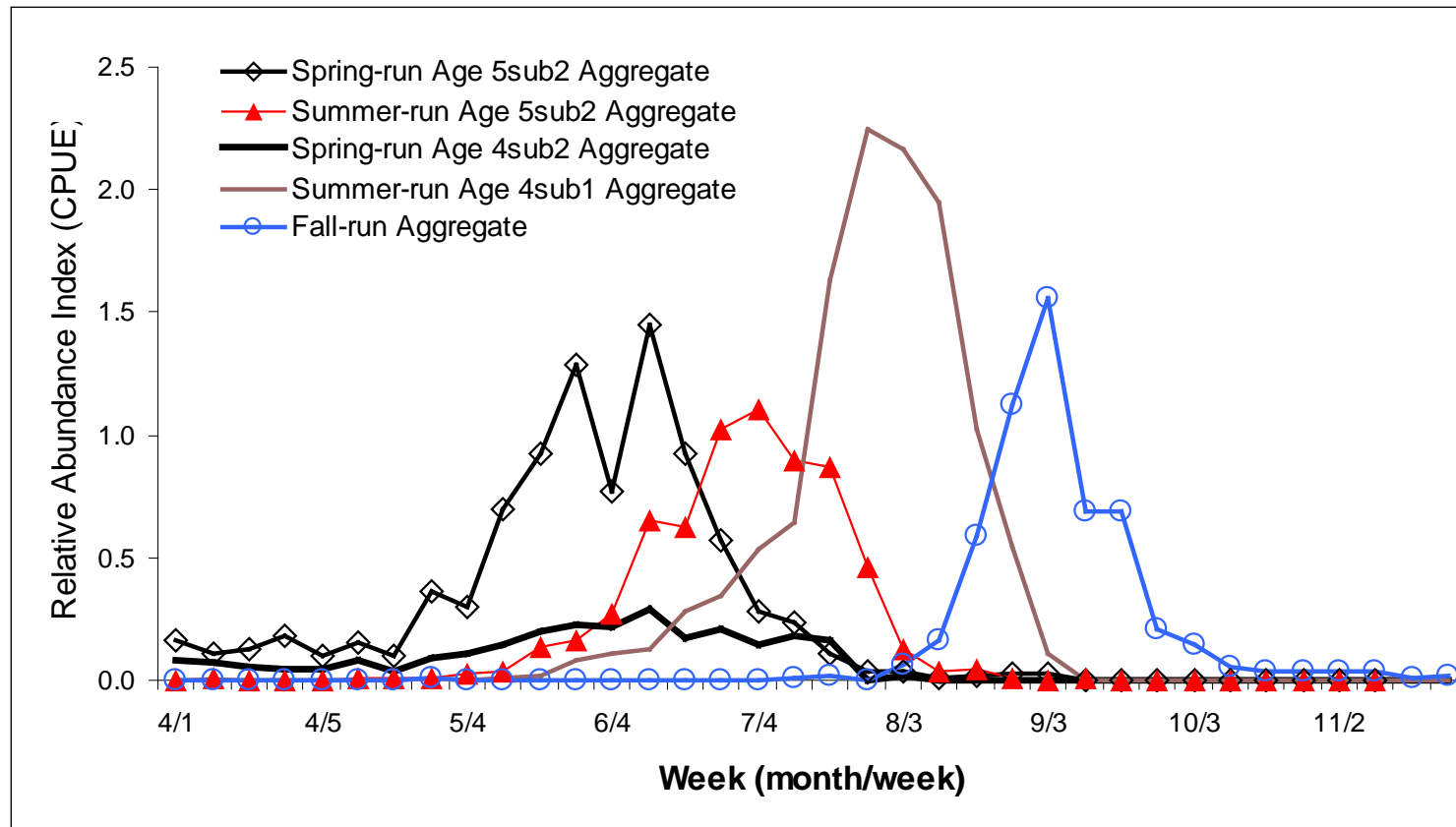
Discussion



Additional Slides

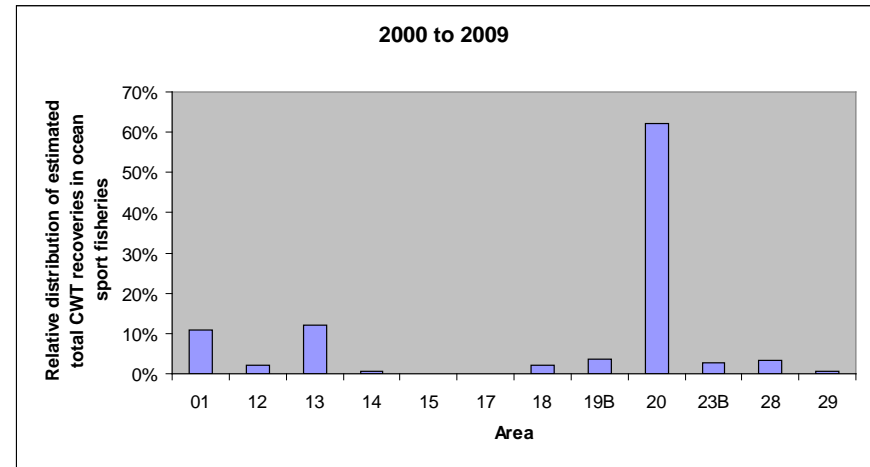
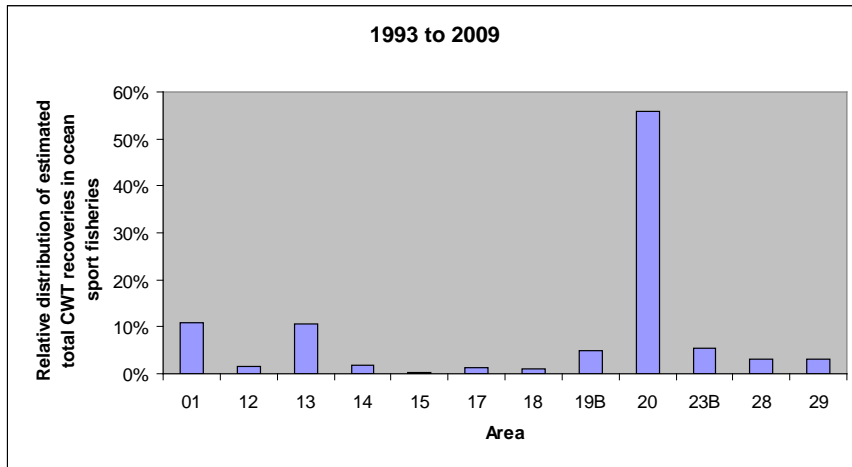


Fraser Chinook Migration Timing



- Broad timing overlaps for Spring 4₂ and Spring 5₂; also large portion summer 5₂ MU's.
- Data based on DNA samples from the Albion test fishery in 2000-2001

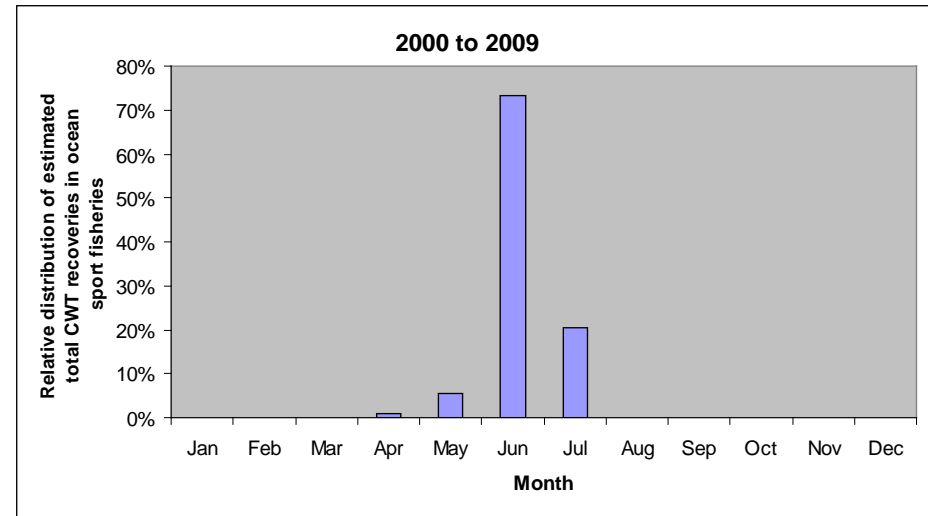
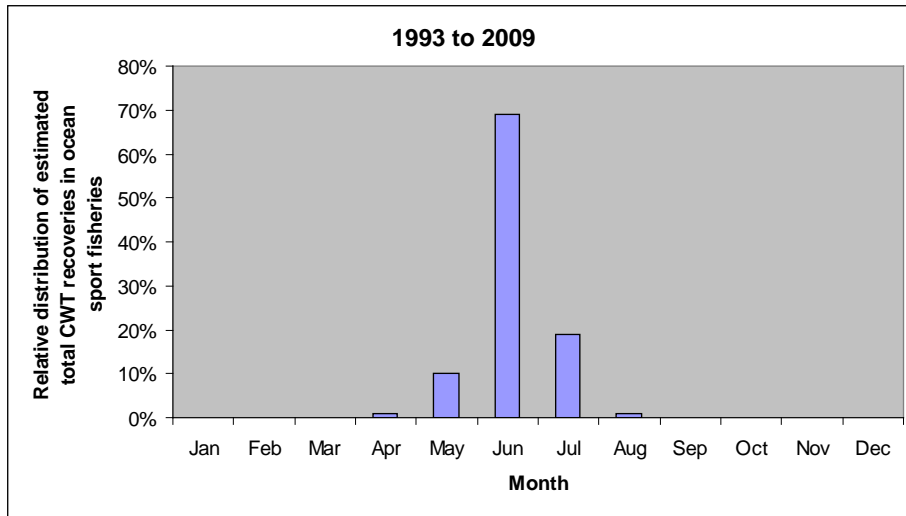
Marine Recreational Fishery CWT Information



- From 1993 to 2009, majority of CWT recoveries of Spring 4₂ (Nicola) chinook in areas 19B and 20

- Similar pattern from 2000 to 2009

Marine Recreational Fishery CWT Information



- From 1993 to 2009, majority of CWT recoveries of Spring 4₂ (Nicola) chinook occur in June for 1993-2009

- Similar pattern from 2000 to 2009