

# FISHERY MANAGEMENT FOR COHO

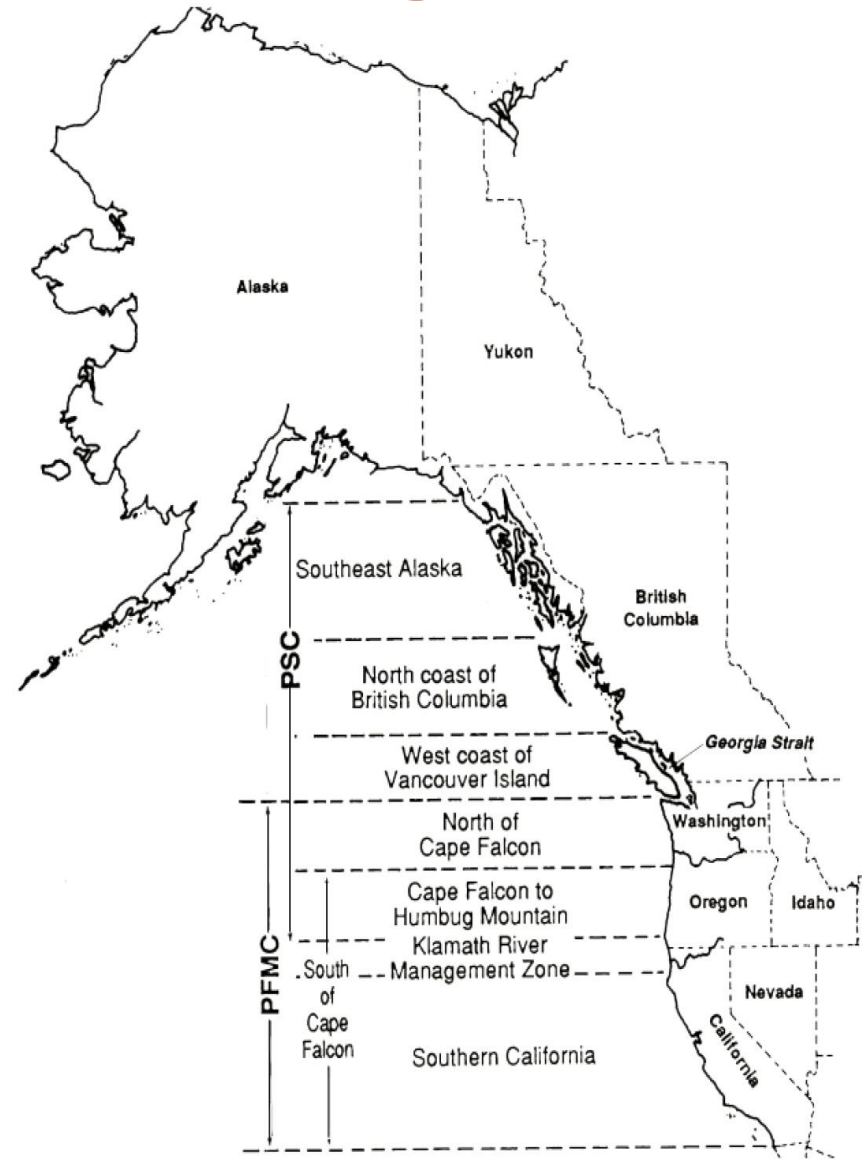
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# Topics

- Management Forums and Management Agreements
- Fisheries and assessing impacts
- Forecasts and other issues

# Tribal Salmon Fishery Co-Management

- Tribes are co-managers in fishery management in all areas where upriver salmon are harvested.
- Ocean Fishery Management
  - PSC fishery management in Alaska and Canada
  - PFMC fishery management in west coast fisheries
- In-river fishery management
  - U.S. v. Oregon mainstem fisheries



# PACIFIC SALMON COMMISSION

- 1985 salmon treaty between the U.S. and Canada for management of Pacific salmon.
- Four commissioners and four alternates from each country.
- There are four panels (Northern, Southern, Fraser and TBR).
- Several technical committees including a Coho Technical Committee (CoTC).

# PACIFIC FISHERY MANAGEMENT COUNCIL

- Magnuson Fishery Conservation and Management Act of 1976 established PFMC
- Manages the conservation and ocean harvest of fish from the U.S.-Canada border south to Mexico.
- Thirteen voting members.
- PFMC technical committees collaborate to reach consensus on scientific data.

# PACIFIC FISHERY MANAGEMENT COUNCIL

- PFMC technical committees coordinate with CTC and TAC.
- PFMC recommended ocean seasons are promulgated by the Secretary of Commerce.
- States adopt ocean regulations in state waters.

# Ocean Fisheries off Washington, Oregon and California

- Managed under the Pacific Fishery Management Council (PFMC) forum
- PFMC - representatives from states, NMFS, and fishing constituencies, one tribal representative.
- Joint technical group models and assesses impacts on managed stock groups
- Upriver coho are not a managed stock group but are part of the overall Columbia River stock group. ESA-listed Lower Columbia River wild coho are also a managed group.

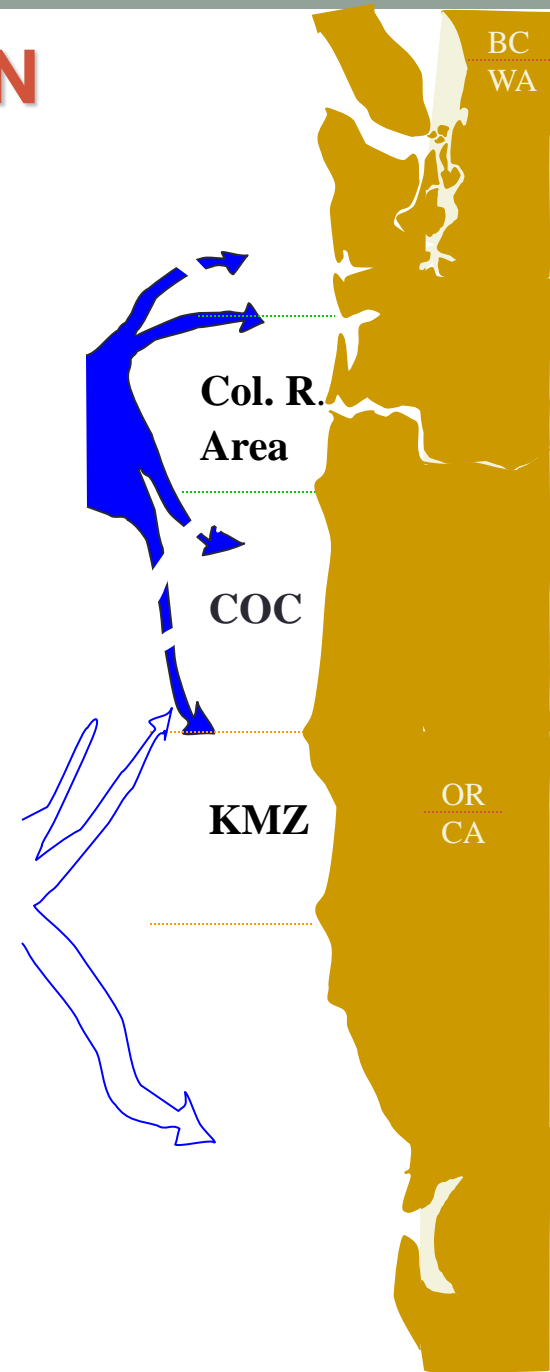
# KEY PFMC MANAGED SALMON

- PFMC

- Columbia River stocks-fall Chinook and coho
  - Contribute significantly to ocean fisheries
- Run forecasts provided to ocean managers
- Modeling of ocean/Col.R fisheries and discussions

## Coho

- Col./Coast Hatchery
- Oregon Coast Natural
- Lower Col. Natural





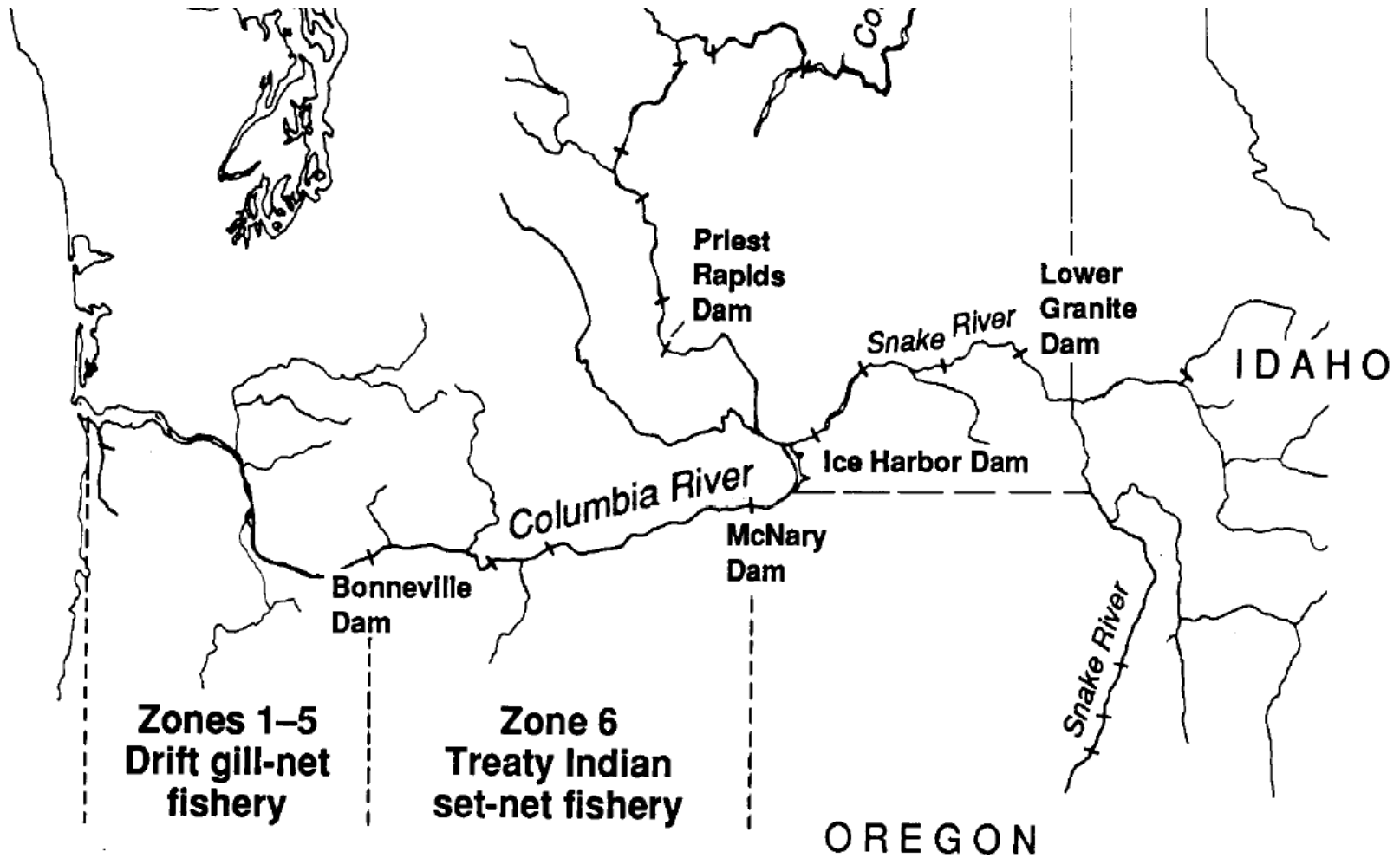
# Ocean/In River Coordination

- North Of Falcon Process
  - Planning of freshwater fisheries concurrent with ocean season setting.
  - Provides assurance that Columbia River fisheries are reconciled with ocean fisheries.
  - Escapement goals and management objectives achieved.

# *U.S. v. OREGON*

- 1968 Federal court ruled equitable harvest for Columbia River Tribes.
- Columbia River Fish Management Plan adopted (CRFMP) as court order in 1988.
- Plan aimed at rebuilding weak salmon and steelhead runs.

# *U.S. v. OREGON*



## Production Disputes

- In February 1997, the tribes successfully challenged the 1995 broodyear coho release program.
- Subsequently, the parties negotiated a coho release management plans for the 1996 and 1997 broodyears.
- A key provision of these agreements is the states' requirement to pass at least 50% of upriver coho to Bonneville Dam.

# *U.S. v. Oregon Agreement*

- **Management Principles** – rebuild upper CR coho (include both north and south migrating stocks) while providing harvests for both treaty and non-treaty fisheries (include both north and south migrating stocks)
- **Harvest Sharing Principle** – opportunity for each harvest 50% of upriver coho available for harvest south of U.S./CAN border
- **Escapement Objectives** – because no agreed to escapement goals, the harvestable number of coho can not be computed

# U.S. v. Oregon Agreement

			Difference - negative means less fish in new agreement			Difference - negative means less unmarked fish in new agreement
Species	05-07 Smolts	08-17 Smolts		05-07 Unmarked	08-17 Unmarked	
<b>Coho</b>						
Upper Columbia - above McNary	2,400,000	2,500,000	100,000	1,400,000	1,300,000	(100,000)
Snake Basin	1,100,000	1,330,000	230,000	1,040,000	1,020,000	(20,000)
Lower Columbia - BON to MCN	5,000,000	4,500,000	(500,000)	3,925,000	100,000	(3,825,000)
<b>TOTAL</b>	<b>8,500,000</b>	<b>8,330,000</b>	<b>(170,000)</b>	<b>6,365,000</b>	<b>2,420,000</b>	<b>(3,945,000)</b>

# Canadian Fisheries

- Fisheries in Canada impacting U.S. stocks are managed according to the terms of agreements under the Pacific Salmon Treaty.
- In general, these agreements are designed so each country can receive the benefits of its salmon production and not excessively impact the stocks of the other country

# Canadian Fisheries

- Pacific Salmon Commission addresses policy issues between the two countries and has joint technical staff to model fisheries and estimate fishery impacts on managed stock groups.
- Columbia upriver coho are not explicitly managed for within the PSC forum



## More fisheries

- Oregon ocean fisheries from Cape Falcon south to Humbug Mountain are sometimes mark selective and sometimes full retention.
- Fisheries south of Humbug Mountain generally do not allow the retention of coho
- In-river sport fisheries in all areas downstream of the Hood River bridge are full retention, upstream they are full retention
- In-river commercial fisheries are full retention, but beginning this year some will be mark selective.
- Tribal fisheries are full retention

# Mainstem Columbia River Fisheries

- Treaty and Non-Treaty Mainstem Columbia River Fisheries are managed under the terms of the 2008-2017 *U.S. v Oregon* Management Agreement
- Agreement includes provisions for coho fisheries
  - Tributary fisheries are managed separately by agreement of the affected states and tribes.

# Fisheries

- Mixture of mark selective and full retention fisheries
- Canadian fisheries include both mark selective and full retention sport and commercial fisheries
- U.S. ocean fisheries north of Cape Falcon include mark selective sport and commercial fisheries and full retention tribal commercial troll fisheries

# Assessing Fishery Impacts

- Challenging due to mix of mark selective and full retention fisheries
- Models and CWT analysis are used
  - Hard to say how precise our estimates of fishery impacts on upriver stocks are
- Assessing impacts on upriver coho depends on assumptions about the proportion of the entire Columbia River run comprised of upriver fish
  - Upriver production was very limited when fishery models were built and some programs had yet initiated
  - Assumed mark rate has been done simply by using hatchery release clip rates – assumes no natural production

# Forecasts

- At one time Columbia River and Oregon Coastal coho runs were forecast as one group and Columbia River fish were primarily assumed to be lower river hatchery fish
- Now Columbia River coho are forecast as a group and average upriver proportions are used to estimate the upriver run size
  - Not a very precise way of estimating upriver abundance

# Issues

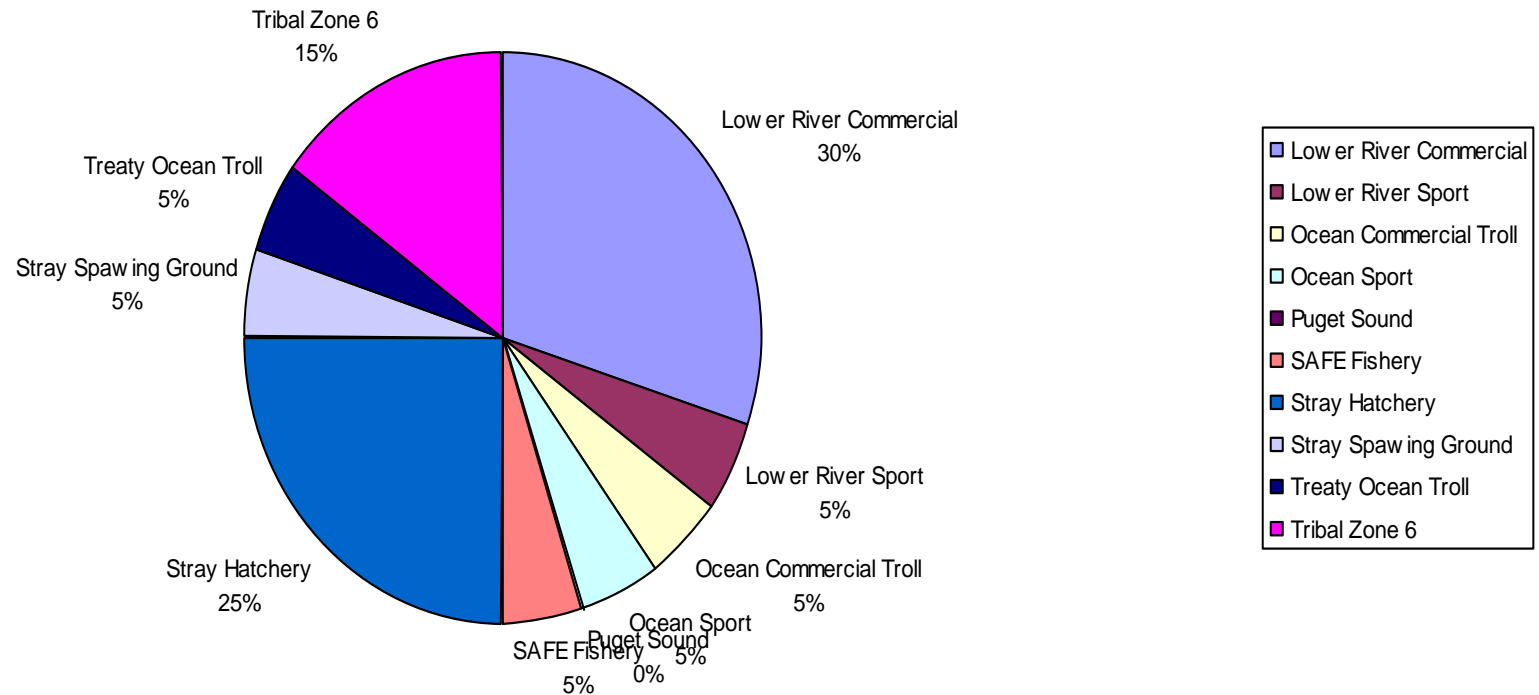
- The tribes want to ensure that non-treaty fisheries do not harvest more than their share and that high levels of mark selective fisheries do not adversely affect upriver rebuilding goals
- Without escapement goals and direct upriver forecasts including forecasts of natural origin coho, this is very hard to do

# Improvements

- Defined escapement objectives for natural and hatchery origin groups that can be agreed to by states and tribes
- Independent upriver forecasts of both hatchery and natural origin upriver groups
- Representative CWT for managed groups to assess ocean fishery impacts

# Snake River Coho CWT Recoveries

NPT BY 2004 Coho Recoveries (unclipped)

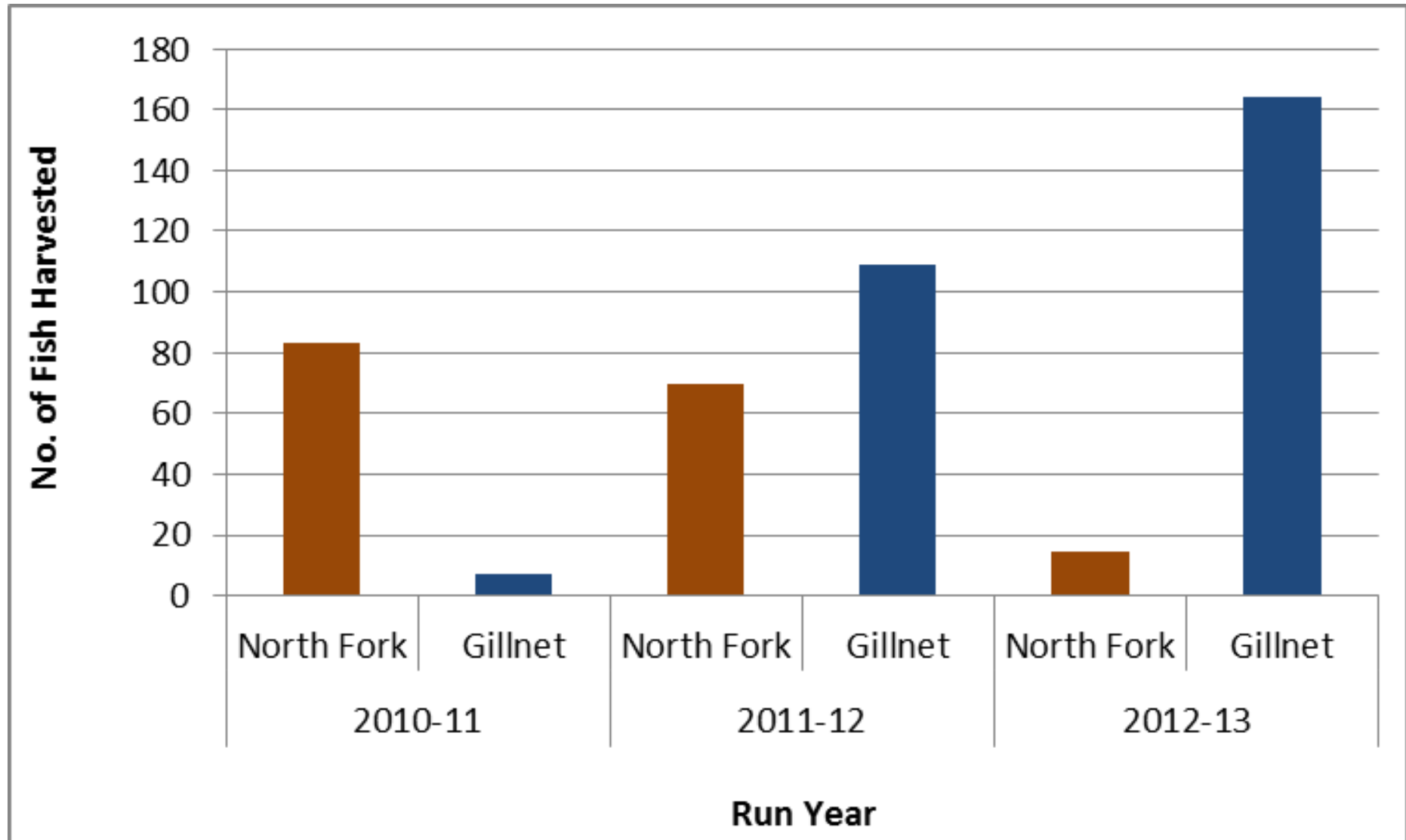




# Treaty Harvest

Year	Numbers Landed <sup>1</sup>			
	Chinook Adults	Coho	Steelhead <sup>4</sup>	White Sturgeon <sup>5</sup>
80-84 ave <sup>6</sup>	41,760	1,640	19,720	260
1985 <sup>7</sup>	68,300	5,300	72,600	1,800
1986 <sup>8</sup>	102,300	40,300	62,500	4,300
1987 <sup>9</sup>	138,600	2,400	66,300	4,400
1988 <sup>10</sup>	145,700	2,700	59,500 <sup>13</sup>	2,000
1989 <sup>11</sup>	128,200	8,700	55,400	--
1990 <sup>12</sup>	79,300	2,900	30,700	1,700
1991 <sup>13</sup>	51,100	12,800	41,100	--
1992	28,100	1,000	52,400	100
1993	30,400	1,000	28,800	100
1994 <sup>14</sup>	33,700	1,300	15,500	500
1995	41,400	400	20,400	400
1996	63,200	700	19,000	300
1997	65,000	600	22,700	<100
1998	44,700	1,500	12,600	<100
1999	77,200	2,300	17,300	0
2000	52,100	6,300	15,500	0
2001 <sup>15</sup>	103,900	5,400	29,200	806
2002	129,700	1,600	13,800	300
2003 <sup>16</sup>	123,600	5,800	14,900	200
2004	127,600	10,300	14,600	64
2005	113,500	5,400	13,700	138
2006	76,290	7,577	21,130	78
2007 <sup>17</sup>	36,782	8,030	19,457	90
2008 <sup>17</sup>	106,626	21,625	26,339	94
2009 <sup>17</sup>	98,622	15,675	36,755	34
2010 <sup>17</sup>	132,642	11,485	26,733	150
2011 <sup>17,18</sup>	114,247	22,941	15,034	853
2012 <sup>17</sup>	82,879	7,070	15,211	109

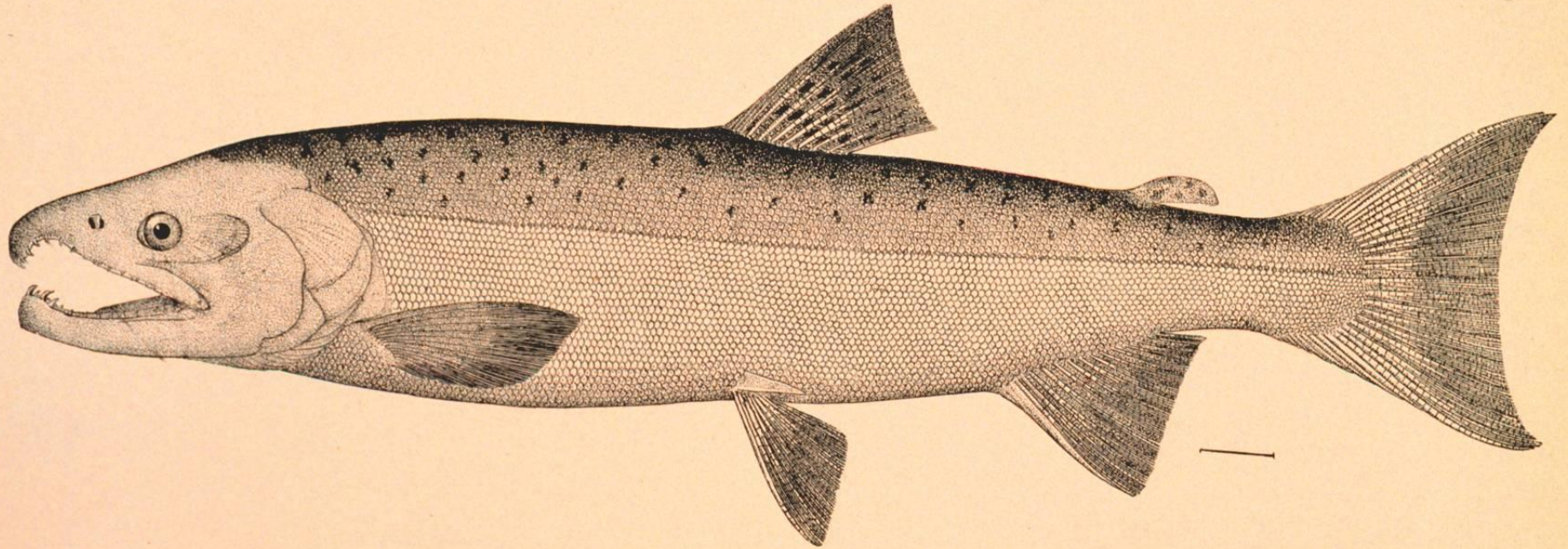
# Recent Coho Harvest in Snake River



# 2013 Forecast

	2012	2012	2013	
Species, stock	Forecast	Return	Forecast	Comments
Coho	240,800	135,300	433,600	Similar to 10-year ave.
Early stock	184,600	96,200	288,500	
Late stock	56,200	39,100	145,100	

# Thank You



## THE KISUTCH OR SILVER SALMON.

*Oncorhynchus kisutch* (Walb.), J. & G. (p. 477.)

Drawing by H. L. Todd, from No. 27712, U. S. National Museum, collected at Iliuliuk, Unalashka, October 12, 1880, by Dr. T. H. Bean.