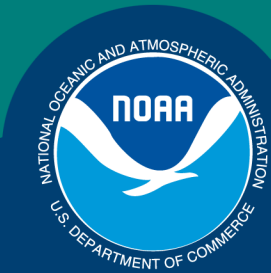


Science, Service, Stewardship



Marine Mammal Protection Act §120
Pinniped Removal Authority



**NOAA
FISHERIES
SERVICE**

November 25, 2020

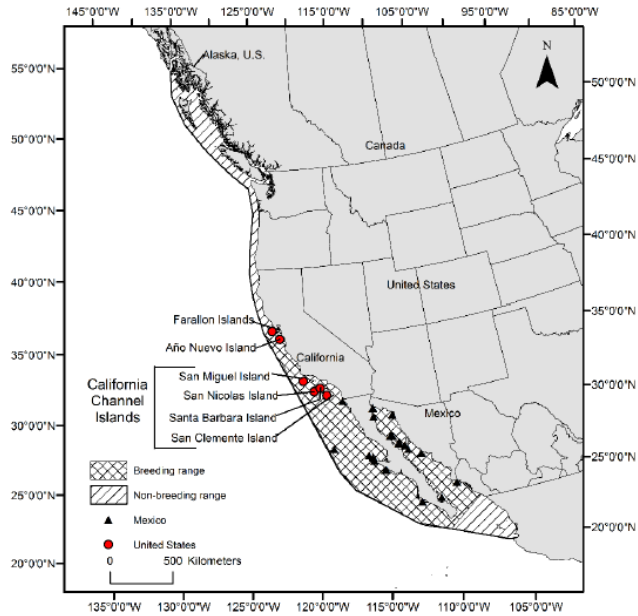
Robert Anderson
National Marine Fisheries Service

- **Status of Pinnipeds (California sea lions, Steller sea lions, Harbor seals)**
- **Status of ESA Listings and Recovery Efforts in the Columbia River Basin**
- **Marine Mammal Protection Act §120**
 - **MMPA §120 – Pinniped Removal Authority**
 - **MMPA §120(f) – Temporary Marine Mammal Removal Authority**
- **MMPA §120 Case Studies**
- **MMPA §120(f) Application – Permit**
- **Interrelated Management Actions**



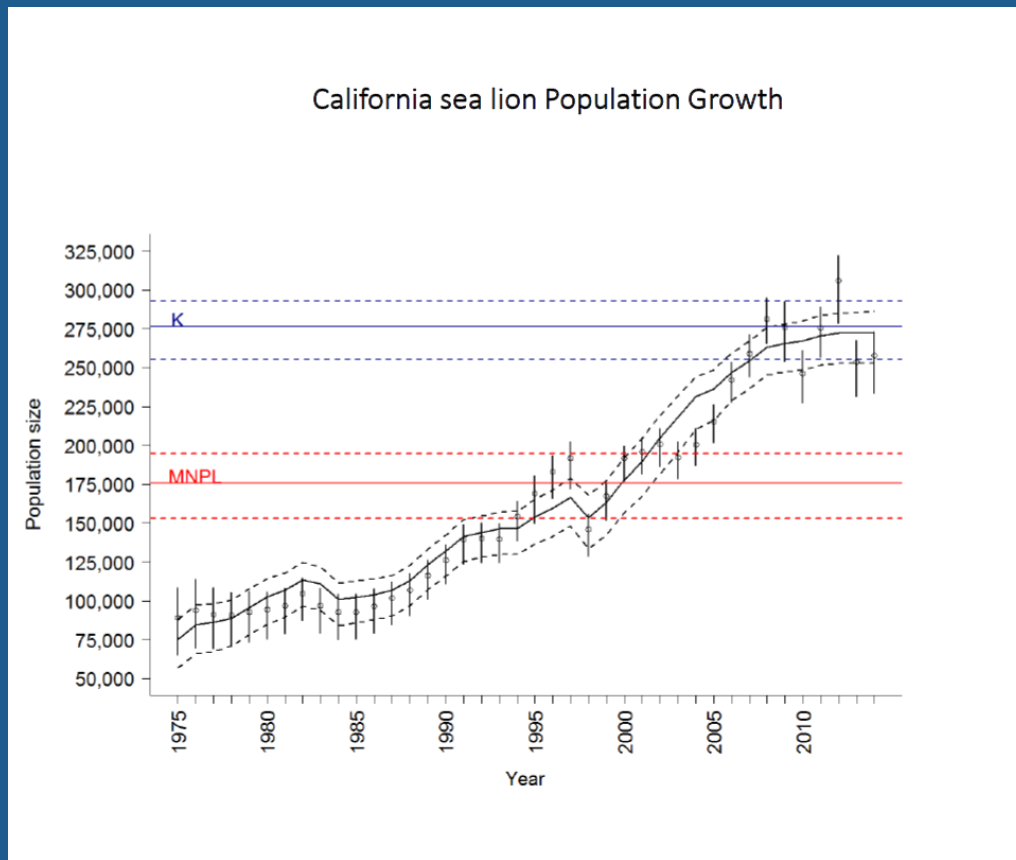
California Sea Lions

Distribution of California Sea Lion

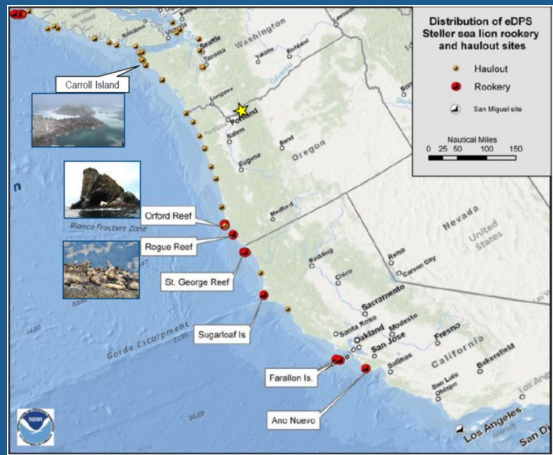
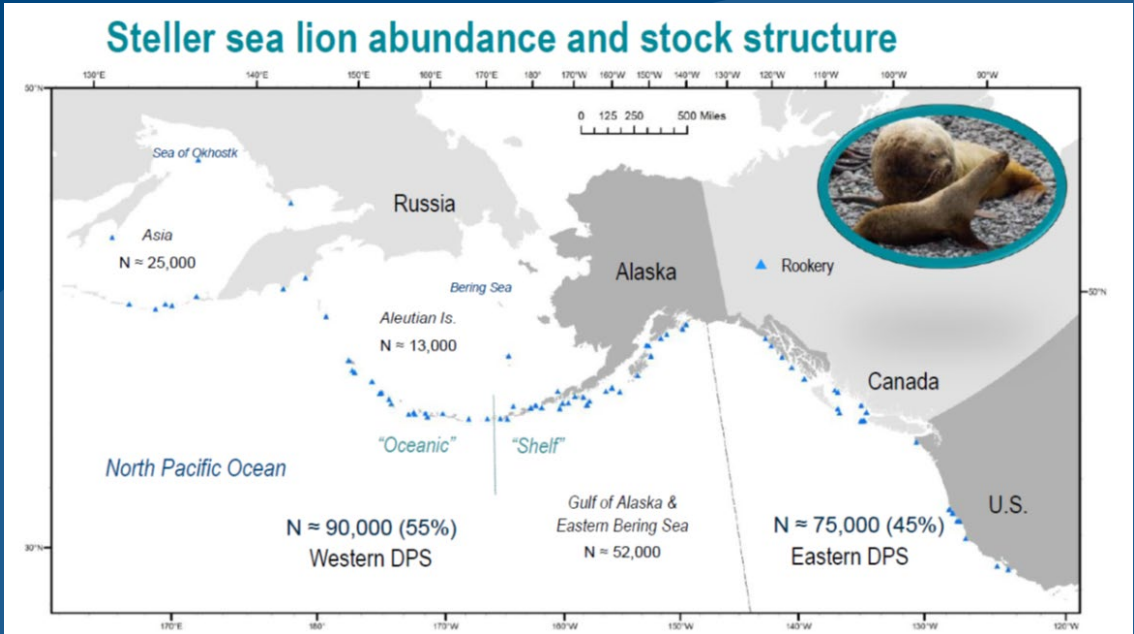


California Sea Lion (United States Stock)

The current population estimate for CSL is 257,606, and the stock is within its Optimal Sustainable Population (OSP) range (Carretta et al. 2019). For CSL, Potential Biological Removal (PBR) level is 14,011 animals annually (Carretta et al. 2019). This stock is not listed as "threatened" or "endangered" under the ESA, nor as "depleted" or "strategic" under the MMPA.



Steller Sea Lions



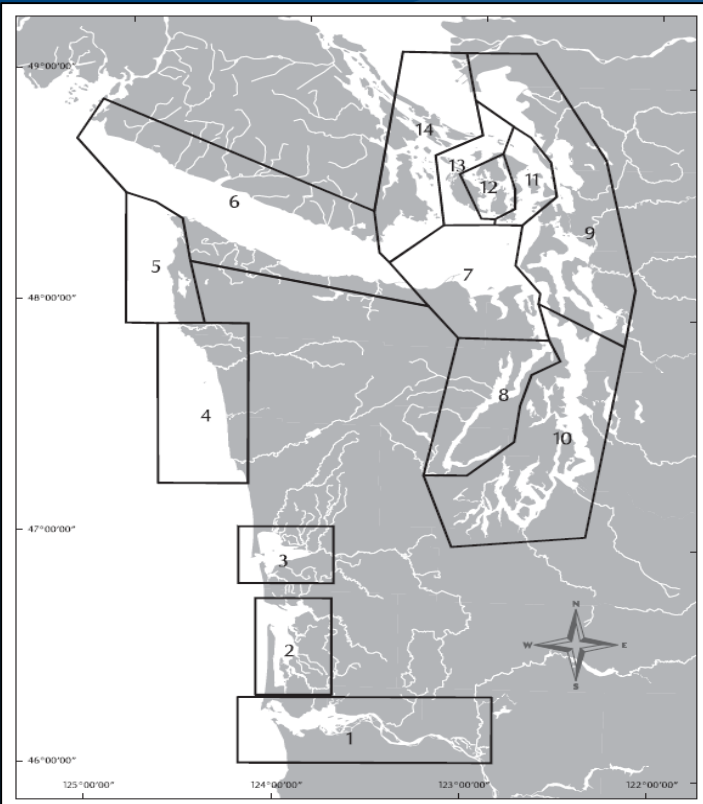
Steller Sea Lion (Eastern United States Stock)

The current population estimate for SSL is 52,139 non-pups and 19,423 pups (Muto et al. 2019). Muto et al. (2017) conclude that the Eastern stock of SSL is likely within its OSP range; however, no determination of its status relative to OSP has been made. For SSL, PBR is 2,498 animals annually (Muto et al. 2019). Muto et al. 2019. This stock is not listed as “threatened” or “endangered” under the ESA (delisted in 2013), nor as “depleted” or “strategic” under the MMPA.

Non-pups		Pups
Region	Year - 2015	Year - 2015
California, U.S.	3,120	936
Oregon, U.S.	5,634	1,946
Washington, U.S.	1,407	100
British Columbia, Canada	20,689	8,630
Southeast Alaska, U.S.	20,756	7,838
Total Eastern Stock	52,139	19,423
Total U.S. Eastern Stock	30,917	10,821

Trends in estimated counts of eastern Steller sea lion non-pups (adults and juveniles) and pups, by region and total population, for the period 1989-2015 (Muto et al. 2019).

Harbor Seals



Pinniped haulout regions in Washington State and nearby waters.

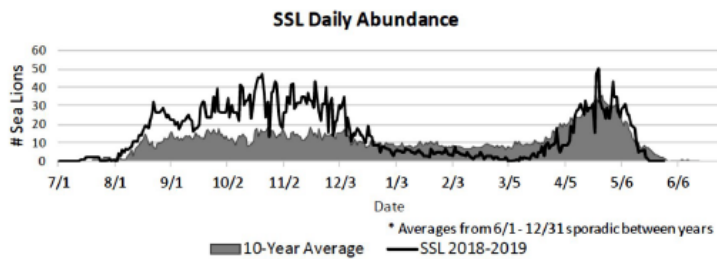
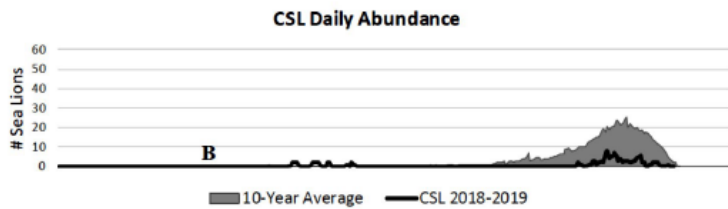


Harbor Seals (Oregon/Washington Coast Stock)

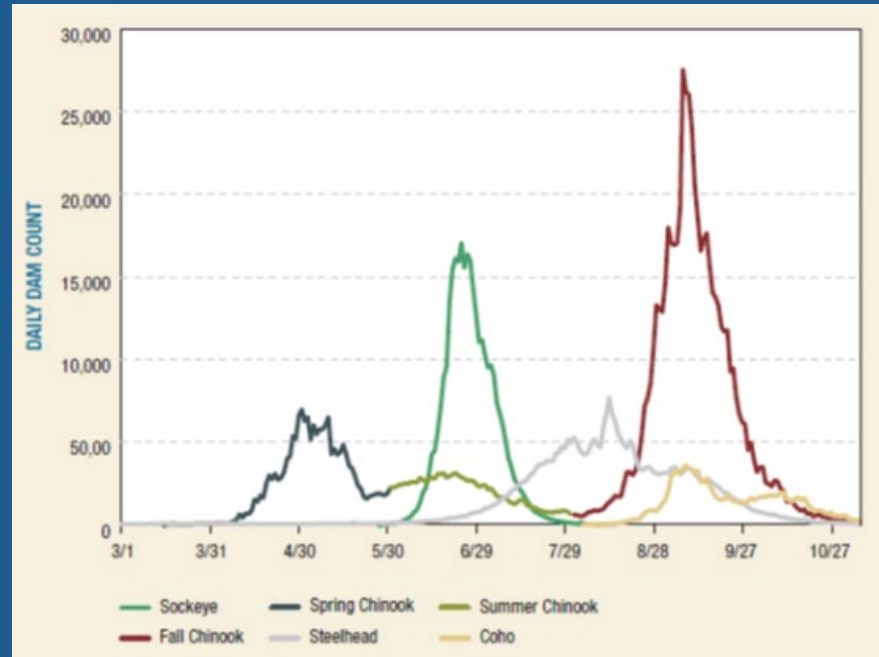
The most recent population estimates of 216 sites surveyed in 2013 and 272 sites surveyed in 2014 resulted in 13,140 and 20,722 seals counted in 2013 and 2014, respectively, using site averages for sites surveyed > 1/pupping season (Pearson and Jeffries 2018).

Region	2013 Population estimate	2014 Population estimate	2016 Population estimate
Washington Coast		15,092 (12,289-17,896)	
Columbia River		441 (359-523)	
Hood Canal	579 (472-687)	399 (325-473)	
Puget Sound	1,939 (1,579-2,299)		1,151 (938-1,365)
San Juan Islands	8,982 (7,313-10,650)		
Eastern Bays	3,409 (2,776-4,042)	4,228 (3,442-5,013)	
Strait of Juan de Fuca	4,121 (3,355-4,886)	4,123 (3,357-4,889)	
Inland stock	19,030 (15,495-22,565)		

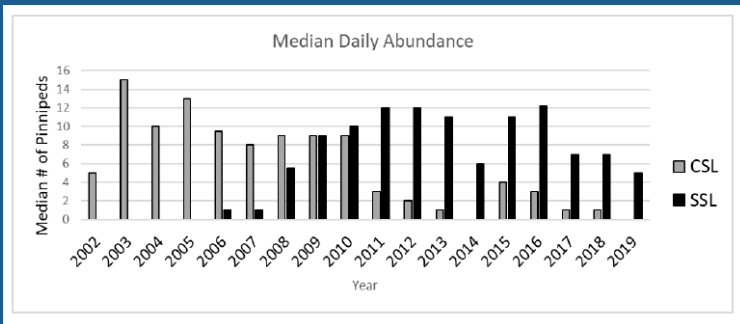
Estimated Harbor seal abundance for the Columbia River, Washington Coast, and inland stocks (2013-2016).



Maximum daily count of pinnipeds (SSL and CSL) at Bonneville Dam from 1 July 2018 through 30 June 2019 compared to the 10-year maximum daily average (Tidwell et al. 2020).



Average run timing of Columbia Basin salmon and steelhead at Bonneville Dam, 2007–2016.



Annual median daily abundance of Steller sea lions (SSL) and California sea lions (CSL) at Bonneville Dam during the spring sampling period from 2002 to 2019 (Tidwell et al. 2020).

Status of ESA Listings and Recovery Efforts in the Columbia River Basin

ESA-Listed Species	Status
Lower Columbia River Chinook salmon	Threatened
Upper Willamette River Chinook salmon	Threatened
Upper Columbia River Spring-Run Chinook salmon	Endangered
Snake River Spring/Summer Run Chinook salmon	Threatened
Snake River Fall-Run Chinook salmon	Threatened
Columbia River Chum salmon	Threatened
Lower Columbia River coho salmon	Threatened
Snake River Sockeye salmon	Endangered
Lower Columbia River steelhead	Threatened
Upper Willamette River steelhead	Threatened
Middle Columbia River steelhead	Threatened
Upper Columbia River steelhead	Threatened
Snake River Basin steelhead	Threatened
Southern DPS of Eulachon	Threatened

Threats

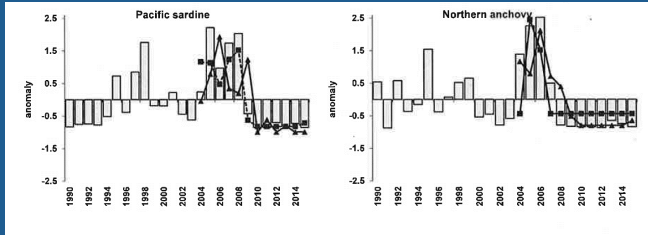
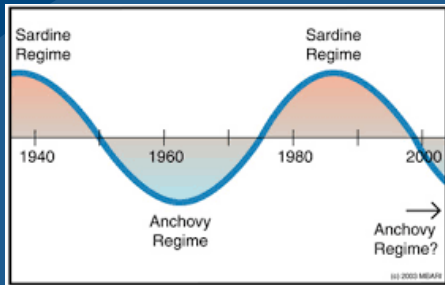
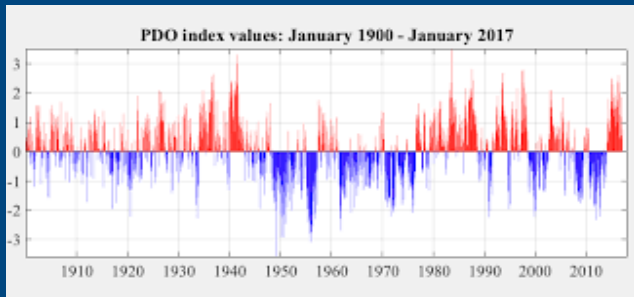
- Effects related to the hydropower system in the Columbia River
- Degraded freshwater habitat
- Degraded estuarine and nearshore marine habitat
- Hatchery-related effects
- Harvest-related effects
- Predation
- Logging
- Agriculture
- Mining
- Changes in ocean conditions

Recovery Efforts

Federal and state agencies, tribes, landowners, watershed councils, and private organizations have undertaken a large number of actions aimed at reducing the losses of ESA-listed salmonids from a number of sources. These combined actions represent an extraordinary and unprecedented cooperative effort in the Columbia River basin to protect and recover salmon and steelhead. ESA-guided recovery plans have been developed and implemented in every watershed, including actions to: restore important habitat; improve dam passage survival; re-tool hatchery programs to assist production in wild populations; and close, reduce or reshape fisheries to limit fishery-related mortality of listed stocks and focus on selectively harvesting healthy stocks. These efforts equate to hundreds of millions of dollars invested annually and billions over the past decades.

Stock	Current	Historical	Low goal	Med goal	High goal	High as % of historical
L Col R Spring Chinook	2,240	101,700	9,800	21,550	33,300	33%
L Col R Fall (tule) Chinook	12,329	169,700	28,050	54,100	82,000	48%
L Col R Late Fall (bright) Chinook	10,800	33,000	11,100	16,700	22,200	67%
L Col R Fall (bright) Chinook	11,000	0	11,000	11,000	11,000	--
L Col R Coho	31,524	301,900	67,925	129,550	191,400	63%
Col R Chum	11,762	461,300	16,500	33,000	49,500	11%
SW WA Winter Steelhead	3,252	19,100	4,650	5,850	6,950	36%
L Col R Winter Steelhead	5,989	41,900	19,000	27,900	36,400	87%
L Col R Summer Steelhead	10,594	61,200	21,100	29,800	38,100	62%
M Col R Spring Chinook	11,600	246,500	17,750	40,425	114,500	46%
M Col R Summer/Fall Chinook	11,500	17,000	4,000	13,000	16,000	94%
M Col R Coho	6,324	75,000	5,300	11,600	19,900	27%
M Col Sockeye	1,036	230,000	7,500	45,000	107,500	47%
M Col R Summer Steelhead	18,155	132,800	21,500	43,850	69,150	52%
U Col R Spring Chinook	1,430	259,450	11,500	19,840	30,135	12%
U Col R Summer Chinook	16,920	733,500	9,000	78,350	131,300	18%
U Col R Fall Chinook	92,400	680,000	9,200	62,215	87,835	13%
U Col R Coho	392	44,500	7,500	15,000	26,000	58%
U Col R Sockeye	40,850	1,800,000	31,500	580,000	1,235,000	69%
U Col R Summer Steelhead	1,480	1,121,400	7,500	31,000	47,000	4%
Snake R Spring/Summer Chinook	6,988	1,000,000	33,500	98,750	159,500	16%
Snake R Fall Chinook	8,360	500,000	4,200	10,780	23,360	5%
Snake R Coho	100	200,000	8,900	26,600	44,100	22%
Snake R Sockeye	100	84,000	5,500	15,750	26,000	31%
Snake R Summer Steelhead	28,000	600,000	22,500	75,000	131,500	22%
U Will R Spring Chinook	4,278	312,170	28,900	47,850	66,800	21%
U Will R Winter Steelhead	2,816	220,000	16,290	27,805	39,320	18%
Totals	352,119	9,446,120	441,165	1,572,265	2,845,750	30%

Environmental Drivers

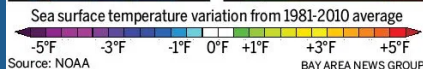
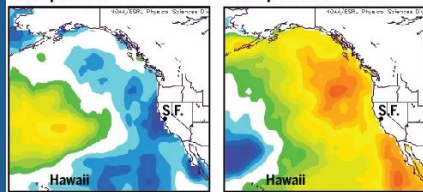


In hot water

For the second year in a row, a mass of warmer-than-usual water is heating things up off the West Coast. Researchers have linked the mass, dubbed "the blob," to die-offs in some marine species and record-high temperatures on land.

Feb.-April 2013

Feb.-April 2015



Source: NOAA

BAY AREA NEWS GROUP

Year	Key Observations
2013	Upwelling of cool water near the coast keeps temperature lower.
2014	With little wind to cool ocean, blob develops in winter. Very low snowpack in 2014/2015.
2015	Blob heat wave envelops West Coast. Elevated temperatures ashore. El Niño develops.
2016	West Coast waters cool but Gulf of Alaska remains warm.
2017	Cooling continues, ocean trends back. Arctic remains warm.

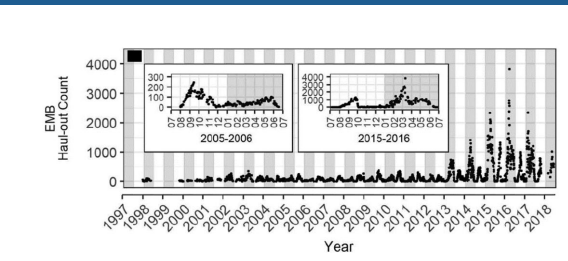
OCEAN CONDITIONS

Category	2013-2014	2015	2016-2017
ECOLOGICAL CHANGES	<ul style="list-style-type: none"> Krill and forage fish decline. Harmful algal bloom spreads in shellfish from SE Alaska to Southern California. Fish species move northward hundreds of miles. Salmon migration routes shift. Sardine spawning farther offshore. 	<ul style="list-style-type: none"> Shift in food web from crustaceans to gelatinous organisms with less value to fish. Juvenile salmon going to ocean find poorer quality food. Pyrosomes appear farther north than ever recorded before. 	<ul style="list-style-type: none"> Return to cooler conditions. Snowpack increases.
IMPACTS	<ul style="list-style-type: none"> Warmer water species such as skipjack tuna found in Alaska. Elevated sea lion strandings in Southern California, as sardines farther away. Some 4,000 stranded California sea lions. Seabird die-offs. Reduced size and survival of salmon going to the ocean. About 95 percent of endangered winter-run Chinook salmon eggs are lost to drought. 	<ul style="list-style-type: none"> Clamming shut down, Dungeness crab season delayed by algal toxins. Large whale unusual mortality event (JME) in Alaska. Some fish smaller, poorer body condition. Reduced salmon survival leads to reduced returns. Cod in Alaska skinnier than usual. 	<ul style="list-style-type: none"> Lacking krill, humpback whales feed on anchovy closer to shore, where crab traps are. Pyrosomes multiply to extent never seen before. Fishing nets clogged with pyrosomes. Dungeness crab season opens. Increase in whale entanglements. Sea lion strandings continue. Pacific cod decline in Alaska.
FISHERIES DISASTERS	<ul style="list-style-type: none"> Fraser River sockeye 	<ul style="list-style-type: none"> Washington: coho, pink salmon, Dungeness crab California: sardine, red sea urchin, Dungeness crab 	<ul style="list-style-type: none"> Alaska, Washington: salmon California: salmon, Dungeness crab Cod collapse off Alaska.

NOAA FISHERIES

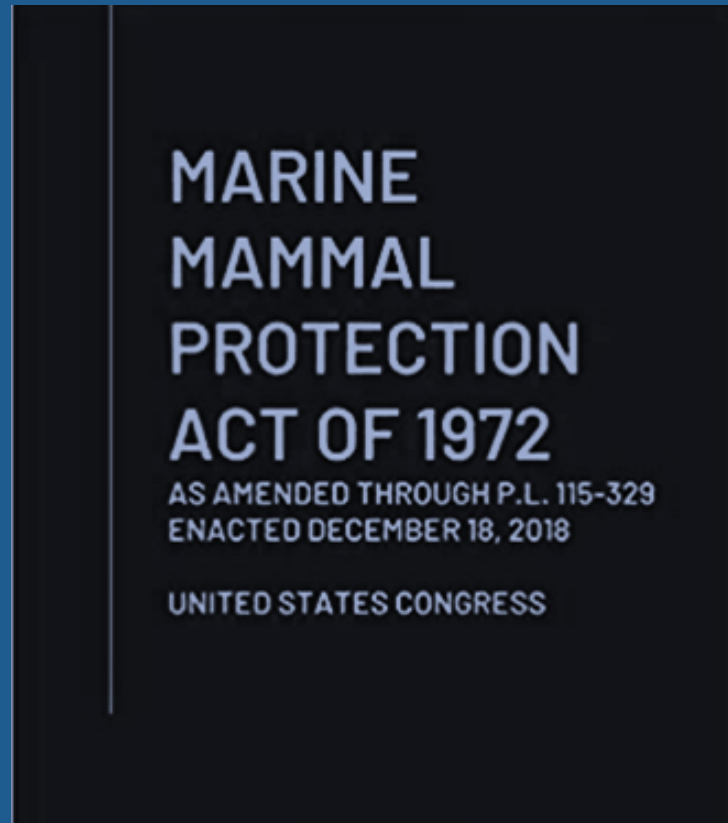
The Rise and Fall of "The Blob"

* Sea surface temperature anomaly maps from NOAA National Centers for Environmental Information. The darker the red, the farther temperatures are above average. The darkest reds indicate about 3 degrees Celsius above average.



Time Series of California Sea Lion Counts
EMB, Astoria, OR

Marine Mammal Protection Act §120 Overview and Context



MMPA §120–Pinniped Removal Authority

The United States Congress created §120 of the Marine Mammal Protection Act (MMPA) as part of its 1994 amendments to the Act.

This section provides an exception to the MMPA “take” moratorium and authorizes the Secretary of Commerce, acting through the Assistant Administrator for Fisheries, acting through the West Coast Regional Administrator, National Marine Fisheries Service (NMFS), to authorize the intentional lethal taking of individually identifiable pinnipeds (seals and sea lions) that are having a significant negative impact on the decline or recovery of salmonids listed under the Endangered Species Act (ESA) or approaching threatened or endangered status.

MMPA §120(f)–Temporary Marine Mammal Removal Authority on the Waters of the Columbia River or its Tributaries

Public Law 115-329, the Endangered Salmon Predation Prevention Act of 2018 (December 18, 2018), amended Public Law 103-238, the MMPA Amendments of 1994, by replacing §120(f) of the MMPA with a new subsection (f): Temporary Marine Mammal Removal Authority on the Waters of the Columbia River or its Tributaries.

Section 120(f) of the MMPA authorizes the intentional lethal taking of sea lions, for the purpose of protecting species of salmon, steelhead, or eulachon that are listed as endangered species or threatened species under the ESA, and for species of lamprey or sturgeon that are not listed as endangered or threatened but are listed as a species of concern; in the mainstem of the Columbia River from river mile 112 to river mile 292 (McNary Dam); and any tributary within the state of Washington and Oregon that includes spawning habitat for species of salmon or steelhead listed as threatened or endangered under the ESA.

Key changes to the 2018 amendments - specifies that any sea lion in the mainstem of the Columbia River from river mile 112 to river mile 292; or in any tributary within the state of Washington and Oregon that includes spawning habitat for species of salmon or steelhead is deemed to be individually identifiable and having a significant negative impact.

MMPA §120 Case Studies



Hershel, Grant Haller, Post-Intelligencer



MMPA §120 Case Studies

Ballard Locks, Seattle, Washington

Bonneville Dam, Columbia River, Washington and Oregon

Willamette Falls, Oregon



MMPA §120 Case Studies

Ballard Locks, Seattle, Washington



Run year	Run Estimate		Steelhead escapement	Escapement goal	Percent of goal	Steelhead consumed	Percent of escapement
	Pre-season	Post-season					
1982-83			2,575	1,600	161		
1983-84		2,166	1,250	1,600	78		
1984-85		2,527	474	1,600	30	(1500)	59*
1985-86		2,261	1,816	1,600	114	329	15
1986-87	2,965	2,997	1,172	1,600	73	1,254	42
1987-88	2,635	2,274	858	1,600	54	1,178	52
1988-89	1,655	1,973	686	1,600	43	1,287	65
1989-90	2,093	1,806	714	1,600	45	1,065	59
1990-91	2,355	1,520	621	1,600	39	899	59
1991-92	1,442		599	1,600	37		
1992-93	1,611		184	1,600	12		
1993-94	1,159	76	70	1,600	4	6	8
1994-95	60371	137	126	1,600	8	11	8

Lake Washington Winter Steelhead Escapement and Consumption by CSL (NMFS 1995).

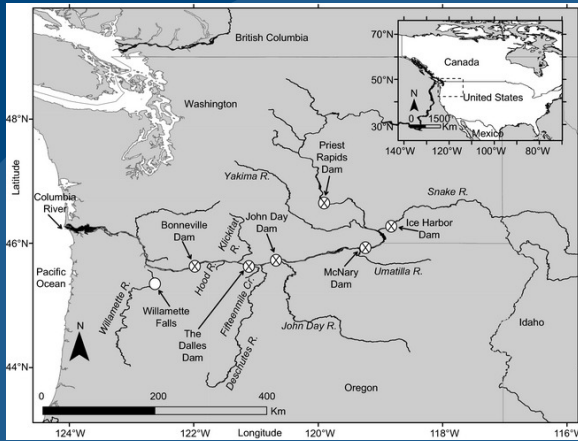
Authorizations: 1995, 1996, 1997, 2001

In 1996, 4 CSL were trapped and sent via FedEx to Sea World in Orlando, Florida. In 1999, 6 CSL were trapped and trucked to California. Despite lethal removal authority, the Washington Department of Fish and Wildlife did not euthanize any CSL.

The Lake Washington winter steelhead run is now considered functionally extinct.

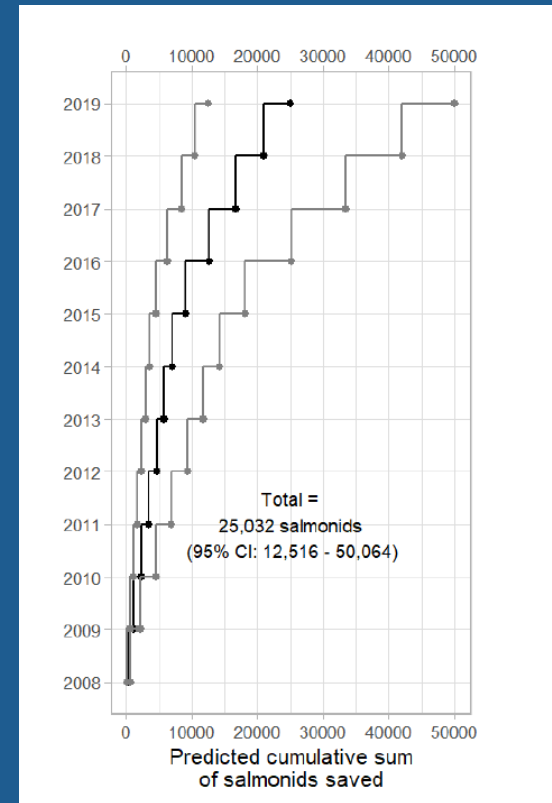
MMPA §120 Case Studies

Bonneville Dam, Columbia River, Washington and Oregon



Authorizations: 2008, 2011, 2012, 2016

Program Summary: 238 CLS Removed 2008-2020



Steingass et al. 2019

MMPA §120 Case Studies

Bonneville Dam, Columbia River, Washington and Oregon

Year	California Sea Lions			Steller Sea Lions		All pinnipeds	
	Bonneville Dam Salmonid Passage	Adjusted Salmonid Consumption Estimates	% Run	Adjusted Salmonid Consumption Estimates	% Run	Adjusted Salmonid Consumption Estimates	% Run
2002	284,732	1,010	0.4%	0	0.0%	1,010	0.4%
2003	217,934	2,329	1.1%	0	0.0%	2,329	1.1%
2004	186,771	3,516	1.9%	7	0.0%	3,533	1.9%
2005	81,252	2,904	3.5%	16	0.0%	2,920	3.4%
2006	105,063	3,312	3.1%	85	0.1%	3,401	3.1%
2007	88,474	4,340	4.7%	15	0.0%	4,355	4.7%
2008	147,558	4,735	3.1%	192	0.1%	4,927	3.2%
2009	186,056	4,353	2.3%	607	0.3%	4,960	2.7%
2010	267,167	5,296	1.9%	1,025	0.4%	6,321	2.4%
2011	223,380	2,689	1.2%	1,282	0.6%	3,970	1.8%
2012	171,665	1,067	0.6%	1,293	0.7%	2,360	1.4%
2013	120,619	1,497	1.2%	1,431	1.2%	2,928	2.4%
2014	219,929	2,747	1.2%	1,874	0.8%	4,621	2.1%
2015	239,326	8,324	3.3%	2,535	1.0%	10,859	4.3%
2016	154,074	6,676	4.1%	2,849	1.7%	9,525	5.8%
2017	109,040	2,142	1.9%	3,242	2.8%	5,384	4.7%
2018	100,887	746	0.7%	2,368	2.3%	3,112	3.0%
2019	63,591	176	0.3%	2,022	3.1%	2,201	3.3%

Estimated consumption of adult salmonids (including adults and jacks) by CSL and SSL at Bonneville Dam during the Jan-Jun sampling period from 2002 to 2019 (Tidwell et al. 2020)

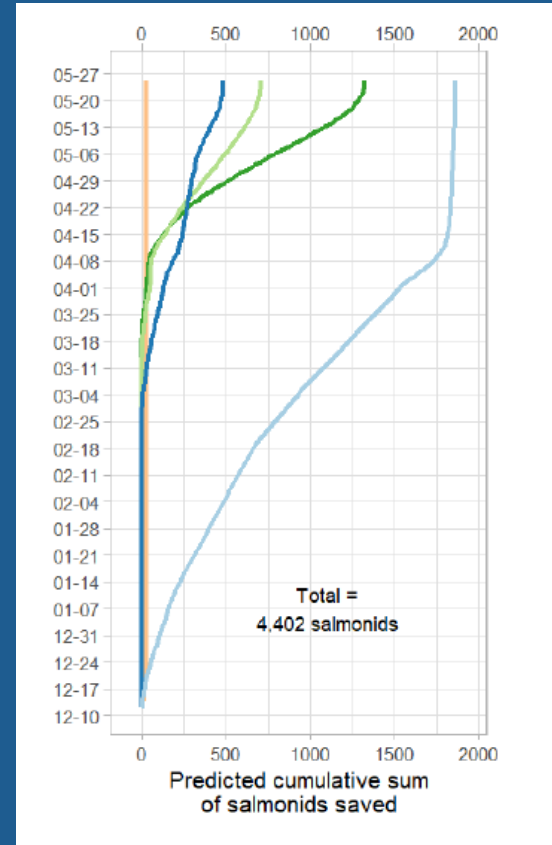
MMPA §120 Case Studies

Willamette Falls, Oregon



Authorization: 2018

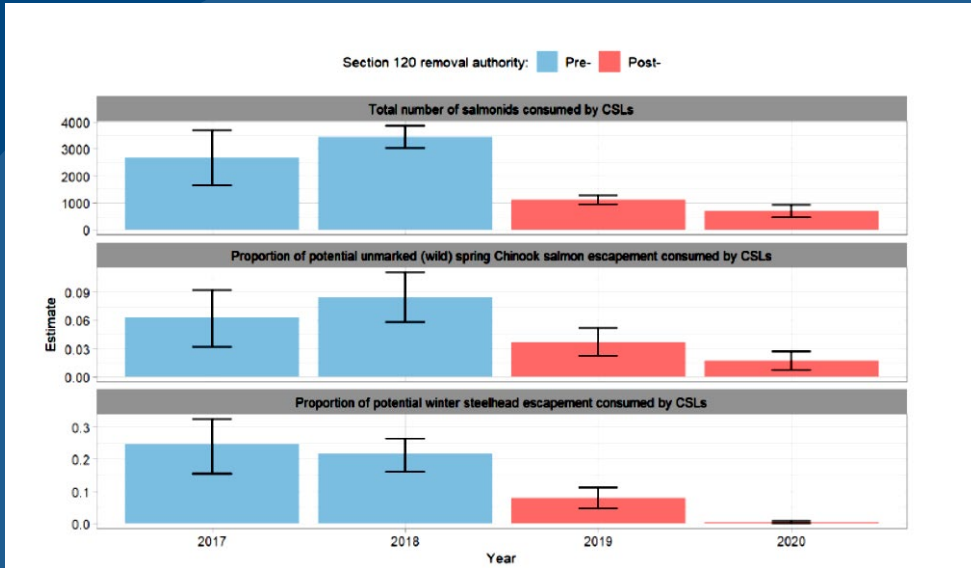
Program Summary: 33 CSL Removed 2018-2020



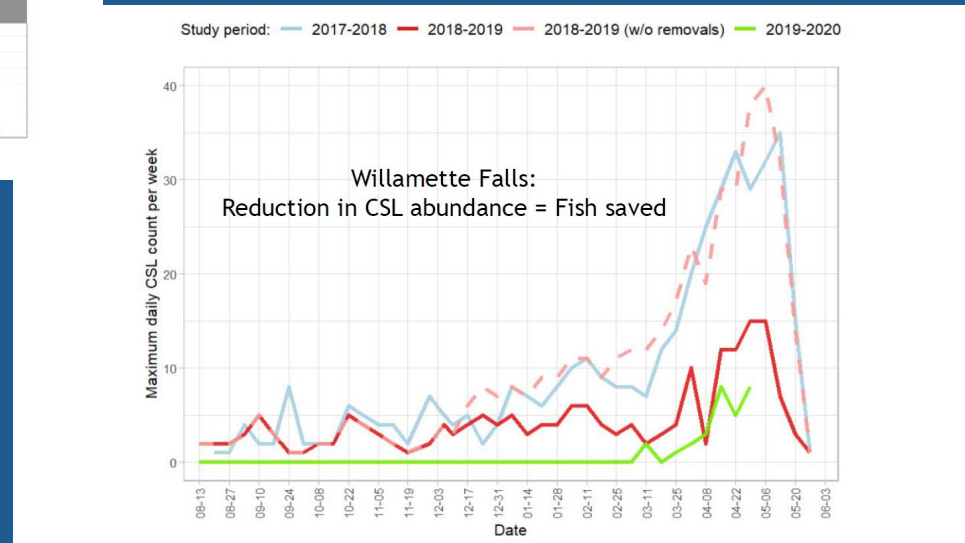
Steingass et al. 2019

MMPA §120 Case Studies

Willamette Falls, Oregon



Run - Year	2016	2017	2018	2019	2020
Winter Steelhead	5,778	822	1,829	3,202	5,510



MMPA §120(f) Application



June 13, 2019

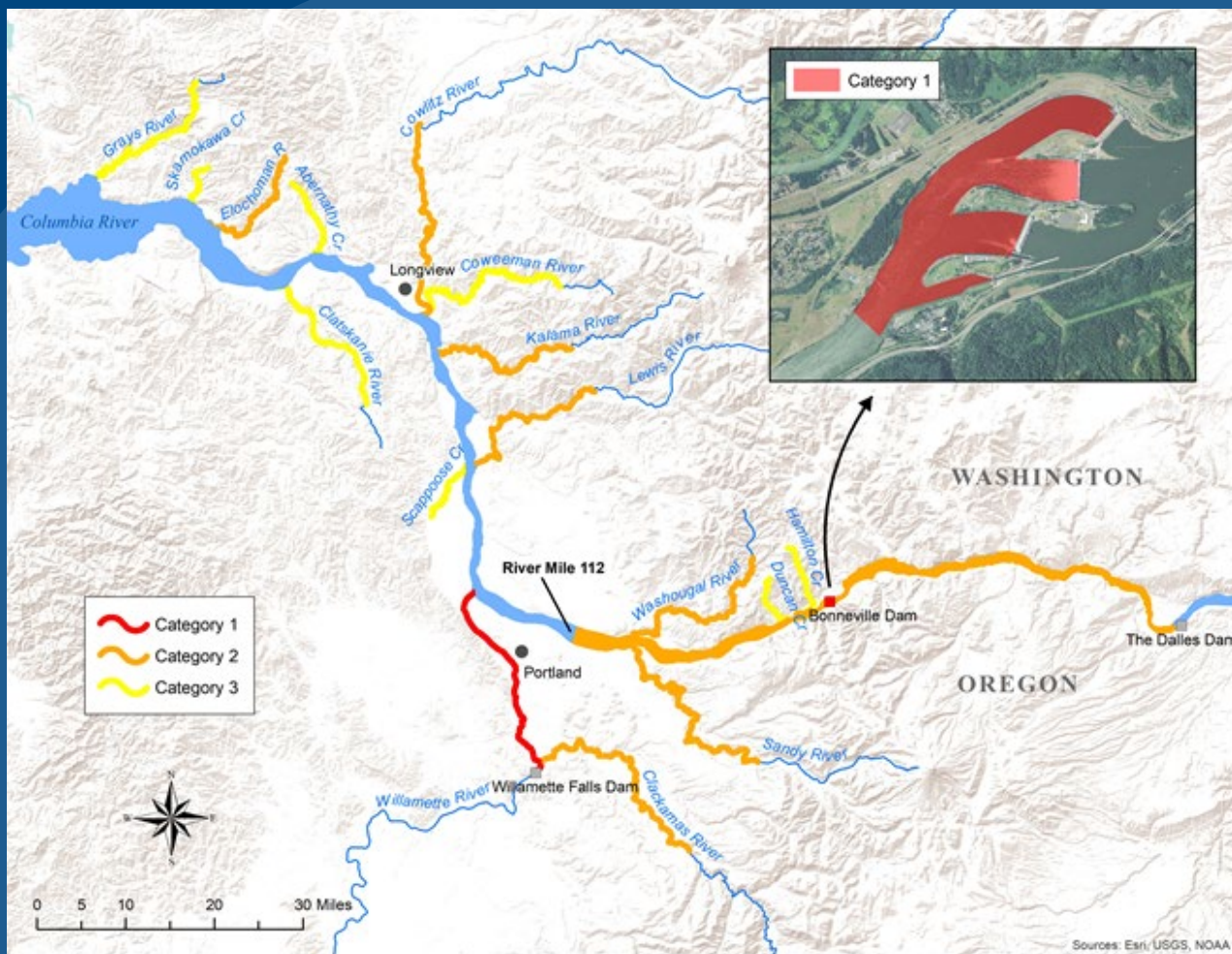
Mr. Barry Thom
West Coast Regional Administrator
NOAA Fisheries
7600 Sand Point Way NE
Seattle, WA 09115

Dr. Scott Rumsey
West Coast Deputy Regional Administrator
NOAA Fisheries
7600 Sand Point Way NE
Seattle, WA 09115

Dear Mr. Thom and Dr. Rumsey:

The Oregon Department of Fish and Wildlife (ODFW), Washington Department of Fish and Wildlife (WDFW), and Idaho Department of Fish and Game (IDFG), on behalf of their respective states ("the States") and the Nez Perce Tribe, the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), the Confederated Tribes of the Warm Springs Reservation of Oregon (CTWSR), the Confederated Tribes and Bands of the Yakama Nation (CTBYN), and the 3.6.D Committee submit this application to the National Marine Fisheries Service (NMFS) under subsection 120(f) of the Marine Mammal Protection Act of 1972 (MMPA; 16 U.S.C. §1389 et seq.; section 120 of the MMPA) for the intentional lethal removal of individually identifiable California sea lions (CSL) and Steller sea lions (SSL) that are located in the mainstem of the Columbia River between river mile 112 and McNary Dam, or in any tributary to the Columbia River that includes spawning habitat of salmon or steelhead that are listed as threatened or endangered under the Endangered Species Act of 1973 (ESA; 17 U.S.C. §1531 et seq.). For the purposes of this application, we propose that a California or Steller sea lion present within this geographic area is deemed to be individually identifiable and to be having a significant negative impact within the meaning of Section 120(b)(1) as defined by Section 120(f)(7) & (8) (MMPA; 16 U.S.C. 1389(f)(7) and (8)).

MMPA § 120(f) Application



Category 1 includes areas that currently have high numbers of CSL and/or SSL (e.g., >20) that are often present for the majority of the year. This high occupancy constitutes an immediate and ongoing conservation risk for fish stocks.

Category 2 includes areas that currently have low to moderate numbers of CSL and/or SSL (e.g., <10) that are present only periodically. This level of occupancy constitutes a conservation concern for fish stocks if left unmanaged.

Category 3 includes areas where CSL or SSL have not been officially documented but contain spawning habitat for ESA listed salmonids, or have documented presence that managers are monitoring but do not deem a conservation risk at present.

MMPA §120(f) Permit



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
1201 NE Lloyd Boulevard, Suite 1100
PORTLAND, OREGON 97232

August 14, 2020

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Wildlife
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Robert A. Brunoe
Natural Resources General Manager and Tribal
Historic Preservation Officer, Confederated
Tribes of the Warm Springs Reservation of
Oregon
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Warm Springs, OR 97761

Phillip Rigdon
Superintendent, Department of Natural
Resources, Confederated Tribes and Bands of
the Yakama Nation
401 Fort Road
PO Box 151
Toppenish, WA 98948

**RE: Permit Authorizing the Intentional Taking on the Waters of the Columbia River
and its Tributaries of California Sea Lions and Steller Sea Lions**

Dear Mr. Melcher, Mr. Susewind, Mr. Schriever, Mr. Johnson, Mr. Scheeler, Mr. Brunoe, and
Mr. Rigdon:

After consideration of your June 13, 2019, application requesting a permit for the lethal removal
of California sea lions and eastern stock of Steller sea lions (sea lions) to reduce or eliminate sea
lion predation on certain at-risk fish species in the Columbia River Basin, the National Marine
Fisheries Service (NMFS) hereby issues you a permit under Marine Mammal Protection Act¹
(MMPA) section 120(f) to carry out lethal removal activities consistent with the terms and
conditions set forth below. The purpose of the permit is to protect from sea lion predation the
following species listed as threatened or endangered under the Endangered Species Act (ESA):

¹ 16 U.S.C. Section 1389 et seq.



August 14, 2020, Permit - Recommendations

The following recommendations listed herein are a subset of the recommendations received from the Task Force. NMFS did not adopt these recommendations as mandatory terms and conditions, but we determined that this subset of Task Force recommendations warrant consideration by the Eligible Entities as they will help achieve the goal of reducing/eliminating sea lion predation on at-risk fish species in the Columbia River Basin. Therefore, NMFS requests that the Eligible Entities, to the maximum extent practicable, implement the following recommendations to minimize sea lion predation on at-risk fish species in the Columbia River Basin and-or to help evaluate the effectiveness of the authorized lethal removals or alternative actions. **By December 1, 2023**, the Eligible Entities shall submit a report to NMFS that identifies which recommendations the Eligible Entities have implemented, will implement in the future, or did not implement and any supporting information or data. The report will help inform the program evaluation by NMFS and the Task Force of the authorized lethal removal or alternative actions implemented, pursuant to section 120(c)(5) of the MMPA.

1. Consistent with the intent of the Endangered Salmon Predation Prevention Act, NMFS requests that the Eligible Entities develop a long-term management strategy to prevent the future recruitment of sea lions into the 120(f) geographic area.

2. As recommended by the Task Force, NMFS requests that the Eligible Entities continue to pursue non-lethal methods to reduce sea lion predation on at-risk fish stocks.

3. As recommended by the Task Force, NMFS requests that the Eligible Entities conduct necropsies on euthanized sea lions to monitor sea lion age, disease, diet, and health trends in sea lion populations.

4. As recommended by the Task Force, NMFS requests that the Eligible Entities explore opportunities to displace and-or minimize the use of manmade haul outs by sea lions in the Columbia River.

5. As recommended by the Task Force, NMFS requests that the Eligible Entities look at the rate of sea lion recruits after habituated animals are removed to understand the effectiveness of the lethal removal program.

6. As recommended by the Task Force, NMFS requests that the Eligible Entities, in coordination with the Alaska Fisheries Science Center, monitor Steller sea lion rookeries in northern California (Saint George Reef and Sugarloaf Island), Oregon (Three Arch Rocks, Orford Reef and Rouge Reef), and Washington (Carroll Island and Sea Lion Rock) to assess the population status of Steller sea lions at these rookeries.

7. As recommended by the Task Force, NMFS requests that the Eligible Entities consider creating a way to collect public input and observations on the problem interactions in areas identified as Categories 2 and Category 3.

8. As recommended by the Task Force, NMFS requests that the Eligible Entities consider setting up a program, in coordination with NMFS, which would support or help secure the funds needed for monitoring to evaluate success of the lethal removal program.

9. As recommended by the Task Force, NMFS requests that the Eligible Entities conduct a management strategy evaluation on the performance of the bioenergetics model used to estimate the expected benefits of the MMPA section 120 program.

Questions - Discussion



California sea lions at East Mooring Basin, Astoria, 2/11/2015 Photo credit: S. Jeffries, WDFW

