

19.0 Information on Listed Species

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19.0 Information on Listed Species

This chapter contains the following information:

- Listed species in Washington under USFWS and NMFS jurisdiction
- Working with listed salmonids—considerations and resources
- Wildlife sensitive periods calendar
- Identification window for threatened and endangered plants in Washington
- Recovery plans

19.1 Listed Species in Washington under Jurisdiction of USFWS and NMFS

Species lists can be obtained or generated for species within Washington State from the following websites:

- NMFS
<https://www.fisheries.noaa.gov/species-directory/threatened-endangered>
- USFWS Washington Fish and Wildlife Office
<http://www.fws.gov/wafwo/species_new.html>

Species lists and listing information can also be found on the WSDOT Biology website at:
<http://www.wsdot.wa.gov/environment/technical/fish-wildlife/policies-and-procedures/esa-ba> .

19.1 Working with Listed Salmonids—Considerations and Resources

Table 19-1. Generalized life history patterns of salmon, steelhead, and trout in the Pacific Northwest. ^a

	Adult Return	Spawning Location	Eggs in Gravel ^b	Young in Stream	Freshwater Habitat	Young Migrate Downstream	Time in Estuary	Time in Ocean	Adult Weight (Avg.)
COHO	Oct-Jan	Coastal streams, shallow tributaries	Oct-May	1+ yrs.	Tributaries, mainstem, slack water	Mar-Jul (2nd yr.)	Few days	2 yrs.	5-20 lbs. (8)
CHUM	Sep-Jan	Coastal rivers and streams lower reaches	Sep-Mar	Days-weeks	Little time in freshwater	Shortly after leaving gravel	4-14 days	2.5-3 yrs.	8-12 lbs. (10)
CHINOOK		Main stem of large and small rivers			Mainstem large and small rivers		Days-months	2-5 yrs.	
Spring	Jan-Jul		Jul-Jan	1+ yrs.		Mar-Jul (2nd yr.)			10-20 lbs. (15)
Summer	Jun-Aug		Sep-Nov	1+yrs.		Spring (2nd yr.)			10-30 lbs. (14)
Fall	Aug-Mar		Sep-Mar	3-7 months		Apr-Jun (2nd yr.)			10-40 lbs.
PINK	Jul-Oct	Main stem of large and small streams, tributaries, lower reaches	Aug-Jan	Days-weeks	Little time in freshwater	Dec-May	Few days	1.5 yrs.	3-10 lbs. (4)
SOCKEYE	Jul-Aug	Streams, usually near lakes	Aug-Apr	1-3 yrs.	Lakes	Apr-Jun (2nd-4th yr.)	Few days	1-4 yrs.	3-8 lbs. (6)
STEELHEAD ^c		Tributaries, streams, and rivers			Tributaries		Less than 1 month	1-4 yrs.	
Winter	Nov-Jun	Nov-Jun	Feb-Jul	1-3 yrs.		Mar-Jun (2nd-5th yr.)			5-28 lbs. (8)
Spring	Feb-Jun	Feb-Jun	Dec-May	1-2 yrs.		Spr & Sum (3rd-4th yr.)			5-20 lbs.
Summer (Col. R)	Jun-Oct	Jun-Oct	Feb-Jun	1-3 yrs.		Mar-Jun (of 3rd-5th yr.)			5-30 lbs. (8)
Summer (coastal)	Apr-Nov	Apr-Nov	Feb-Jul	1-2 yrs.		Mar-Jun (of 2nd-5th yr.)			5-30 lbs. (8)

^a There is much variation in life history patterns – each stream system having fish with their own unique timing and patterns of spawning, growth, and migration. Ask a local biologist about the specific patterns of the fish in your streams and update this chart for your area.

^b The eggs of most salmonids take 3-5 months to hatch at the preferred water temperature of 50-55 degrees F; steelhead eggs can hatch in 2 months.

^c Steelhead, unlike salmon, may not die after spawning. They can migrate back out to sea and return in later years to spawn again.

Adapted by Pacific States Marine Fisheries Commission. Sources: Ocean Ecology of North Pacific Salmonids, Bill Pearcy, University of Washington Press, 1992 Fisheries Handbook of Engineering Requirements and Biological Criteria, Milo Bell, U.S. Army Corps of Engineers, 1986; Adopting A Stream; A Northwest Handbook, Steve Yates, Adopt-A Stream Foundation, 1988.

Left intentionally blank for future updates.

19.3 Online Resources for Species Information

Alaska Department of Fish and Game

<<http://www.adfg.state.ak.us/>>

American Fisheries Society

<<http://www.fisheries.org/>>

Background Soil Metals Concentrations for Washington State Publication #94-115

<<https://fortress.wa.gov/ecy/publications/documents/94115.pdf>>

Canada Department of Fisheries and Oceans

<<http://www.dfo-mpo.gc.ca/index.htm>>

Columbia River Websites

<<http://www.cbr.washington.edu/webgrp.html>>

Exempt Surface Waters List (table 3-5 in the WSDOT *Highway Runoff Manual*)

<<http://www.wsdot.wa.gov/Publications/Manuals/M31-16.htm>>

Joint Natural Resources Cabinet – Statewide Strategy to Recover Salmon

<<http://www.digitalarchives.wa.gov/governorlocke/gdro/strategy/strategy.htm>>

National Marine Fisheries Service, Anadromous Salmonid Passage Design

http://www.westcoast.fisheries.noaa.gov/publications/hydropower/fish_passage_design_criteria.pdf

National Oceanic and Atmospheric Administration, Fisheries Service–Northwest Fisheries Science Center

<<http://www.nwfsc.noaa.gov/>>

National Oceanic and Atmospheric Administration, Fisheries Service–West Coast Region

<<http://www.westcoast.fisheries.noaa.gov/index.html>>

National Oceanic and Atmospheric Administration, Fisheries Service–West Coast Region, Marine Mammals

http://www.westcoast.fisheries.noaa.gov/protected_species/marine_mammals/marine_mammals.html

NatureServe, Plant and Ecological Community Encyclopedia

<<http://www.natureserve.org/explorer>>

Northwest Indian Fisheries Commission

<<http://nwifc.org>>

Northwest Power and Conservation Council, Subbasin Recovery Planning

<<http://www.nwcouncil.org/fw/subbasinplanning/home/>>

ORCA Network, Marine Mammal Sightings

<<http://www.orcanetwork.org/>>

Oregon Department of Fish and Wildlife

<<http://www.dfw.state.or.us/>>

Pacific Fishery Management Council–EFH, Appendix A of Amendment 14

<http://www.psmfc.org/efh/salmon_efh.html>

Reef Environmental Education Foundation (REEF), Diver and Marine Survey Resource

<<http://www.reef.org/>>

Salmon Recovery Planning

<http://www.westcoast.fisheries.noaa.gov/protected_species/salmon_steelhead/recovery_planning_and_implementation/general_salmon_recovery_information.html>

Seattle Audubon Society, BirdWeb, Birds of Washington

<<http://www.birdweb.org/birdweb/index.aspx>>

Snohomish County – Surface Water On-line Data

<http://www.snoco.org/app2/spw/spw_swhydro/>

Streamnet – The northwest aquatic information network

<<http://www.streamnet.org/>>

U.S. Environmental Protection Agency, Water Quality Standards

< <https://www.epa.gov/wqs-tech/federal-water-quality-standards-requirements#federal1>>

U.S. Fish and Wildlife Service, Endangered Species Program

<<http://www.fws.gov/endangered/>>

U.S. Fish and Wildlife Service, home page

<<http://www.fws.gov/>>

U.S. Fish and Wildlife Service, Species Recovery Plans

<<http://www.fws.gov/endangered/species/recovery-plans.html>>

U.S. Fish and Wildlife Service and NOAA Fisheries Section 7 Consultation Handbook

<https://www.fws.gov/endangered/esa-library/pdf/esa_section7_handbook.pdf>

U.S. Geological Survey, National Water Quality Assessment Program – Data Warehouse
<http://cida.usgs.gov/nawqa_public/apex/f?p=nawqa:>

U.S. Geological Survey, Water Science Center
<<http://wa.water.usgs.gov/index.html>>

U.S. Army Corps of Engineers–Northwest Division
<<http://www.nwd.usace.army.mil/>>

Washington State Department of Ecology
<<http://www.ecy.wa.gov/>>

Washington State Department of Ecology, 303d List
< <https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-improvement/Assessment-of-state-waters-303d> >

Washington State Department of Ecology, Environmental Information Management
<<http://www.ecy.wa.gov/eim/>>

Washington State Department of Ecology, River and Stream Water Quality Monitoring
<http://www.ecy.wa.gov/programs/eap/fw_riv/rv_main.html>

Washington State Department of Ecology, Stormwater Management
< <https://fortress.wa.gov/ecy/publications/documents/1210030.pdf> >

Washington State Department of Ecology, Water Quality Assessment
< <https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-improvement/Assessment-of-state-waters-303d> >

Washington State Department of Ecology, Water Quality Standards
< <https://ecology.wa.gov/Water-Shorelines/Water-quality/Freshwater/Surface-water-quality-standards> >

Washington State Department of Fish and Wildlife, Aquatic Habitat Guidelines
<<https://wdfw.wa.gov/publications/00046>>

Washington State Department of Fish and Wildlife, Fish Passage Technical Assistance
<<https://wdfw.wa.gov/licenses/environmental/hpa/application/assistance>>

Washington State Department of Fish and Wildlife, Fish and Shellfish Science
<<https://wdfw.wa.gov/publications>>

Washington State Department of Fish and Wildlife, Priority Habitats and Species
<<https://wdfw.wa.gov/species-habitats/at-risk/phs>>

Washington State Department of Fish and Wildlife, Salmonscape

<<https://apps.wdfw.wa.gov/salmonscape/>>

Washington State Department of Natural Resources, Natural Heritage Program homepage

< <https://www.dnr.wa.gov/natural-heritage-program> >

Washington State Department of Transportation, Local Programs, Environmental Policy

<<http://www.wsdot.wa.gov/LocalPrograms/Environment/>>

Washington State Department of Transportation, Highway Runoff Manual

<<http://www.wsdot.wa.gov/Publications/Manuals/M31-16.htm>>

Washington State Department of Transportation, NPDES Progress Reports

<<http://www.wsdot.wa.gov/environment/technical/permits-approvals/clean-water-act-section-402>>

Washington State Department of Transportation, Stormwater

<<http://www.wsdot.wa.gov/environment/technical/fish-wildlife/policies-and-procedures/esa-ba/preparation-manual>>

Washington State Recreation and Conservation Office

<http://www.rco.wa.gov/salmon_recovery/index.shtml>

Wild Whales, BC Cetaceans Sighting Network

<<http://wildwhales.org/>>

19.4 What Constitutes Harm to Endangered and Threatened Wildlife and Plants Under the ESA?

From NOAA Fisheries, NOAA, and Dept. of Commerce,
A final rule in the Federal Register, 8 November 1999 (Volume 64, Number 215)

Summary:

This final rule defines the term “harm”, which is contained in the definition of *take* in the Endangered Species Act. The purpose of this rulemaking is to clarify the type of harm that may result in a *take* of a listed species under the ESA. This is not a change in existing law. It provides clear notification to the public that habitat modification or degradation may harm listed species and, therefore, constitutes a *take* under the ESA as well as ensuring consistency between NMFS and USFWS. This rule defines the term “harm” to include any act, which actually kills or injures fish or wildlife. Such acts may include significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife.

Activities That May Constitute a *take*:

A principal purpose of this final rule is to provide clear notification to parties that habitat modification or degradation may harm listed species and, therefore, constitute a *take* under the ESA. The following list identifies several examples of habitat-modifying activities that may fall within the scope of this final rule when these or similar activities cause death or injury to fish or wildlife, including those activities that significantly impair essential behavioral patterns of listed species. In all instances, a causal link must be established between the habitat modification and the injury or death of listed species. This list is not exhaustive:

- Constructing or maintaining barriers that eliminate or impede a listed species’ access to habitat or ability to migrate.
- Discharging pollutants, oil, toxic chemicals, radioactivity, carcinogens, mutagens, teratogen, or organic nutrient-laden water including sewage water into a listed species’ habitat.
- Removing, poisoning, or contaminating plants, fish, wildlife, or other biota required by the listed species for feeding, sheltering, or other essential behavioral patterns.



Oregon spotted frog (WSDOT)

- Removing or altering rocks, soil, gravel, vegetation, or other physical structures that are essential to the integrity and function of a listed species' habitat.
- Removing water or otherwise altering streamflow when it significantly impairs spawning, migration, feeding, or other essential behavioral patterns.
- Releasing non-indigenous or artificially propagated species into a listed species' habitat or where they may access the habitat of a listed species.
- Constructing or operating dams or water diversion structures with inadequate fish screens or fish passage facilities at dams or water diversion structures in a listed species' habitat.
- Constructing, maintaining, or using inadequate bridges, roads, or trails on stream banks or unstable hill slopes adjacent or above a listed species' habitat.
- Conducting timber harvest, grazing, mining, earth moving or other operations, which result in substantially increased sediment input into streams.
- Conducting land-use activities in riparian areas and areas susceptible to mass wasting and surface erosion, which may disturb soil and increase sediment delivered to streams, such as logging, grazing, farming, and road construction.

19.5 Considerations for Projects That May Have Fisheries Impacts

- Projects that have *no effect* or are *not likely to adversely affect* listed or proposed go through the agency review process much faster and smoother than projects that will result in an adverse effect. Projects that restrict in-water work within the appropriate work window will minimize impacts on fish species, and will be more likely to have a "not likely to adversely affect" call. Work in systems that have listed resident fish species such as bull trout or steelhead may not have an impact-free window.
- Minimize the impacts from the project by obtaining a hydraulic project approval (HPA) permit from the Washington Department of Fish and Wildlife (WDFW), and include the conditions of the HPA in the BA impact minimization measures.

- Projects requiring new culverts or other fish-friendly engineering should use WDFW guidelines. WDFW Habitat and Lands Program, Environmental Engineering Division is a good source for engineering information. *Water Crossing Design Guidelines* can be obtained on the WDFW website: <<https://wdfw.wa.gov/publications/01501>>.
- Projects that include in-water work, such as slope stabilization in stream or river systems, should follow the *Integrated Streambank Protection Guidelines*, which is published by WDFW and can be obtained on the WDFW website: <<https://wdfw.wa.gov/publications/00046>>.
- Projects that require the placement of riprap within the ordinary high water mark minimize impacts by covering an equal or larger area of riprap and restoring the stream channel in close proximity to the new riprap. Replacement of existing riprap with new riprap should include design criteria from the *Integrated Streambank Protection Guidelines* (WDFW).
- Stormwater impacts must be considered in the BA. Projects should follow the guidance of an approved stormwater manual. Items which require special consideration include treatment to remove contaminants and release rates. The stormwater guidance provided in the WSDOT Instructional Letter (Section 5.6) should be followed when possible.
- Best management practices (BMPs) for erosion and sedimentation control, spill cleanup plans, etc., for the project should come from a Department of Ecology approved plan for erosion control, spill prevention, stormwater, or the WSDOT *Highway Runoff Manual*. The need to follow these manuals can be listed as a recommendation in the BA. In many cases, these manuals are already being used.

Example:

A temporary erosion and sedimentation control (TESC) plan in accordance with the WSDOT *Highway Runoff Manual* will be developed and implemented for all projects requiring grading, ditching, filling, embankment compaction, or excavation. The best management practices in the plan will be used to control sediments from all vegetation or ground disturbing activities.

19.6 Wildlife Sensitive Periods Calendar

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Grizzly Bear Hibernation/Denning	–	–	–	30th							15th	–
Marbled Murrelet Pre-alternate molt (retain flight)		15th	–	-	15th							
Marbled Murrelet Pre-basic molt (flightless)*							15th	-	–	–	–	30th
Marbled Murrelet Nesting				1st	–	–	–	-	23rd			
N. Spotted Owl Nesting – Early			1st	–	–	–	15th					
N. Spotted Owl Nesting – Late							16th	–	30th			
W. Snowy Plover Breeding				1st	–	–	–	31st				
W. Snowy Plover Migrating				15th	15th				15th	15th		
Streaked Horned Lark - Breeding				-	-	-	-	-				
Yellow-billed Cuckoo - Breeding					-	-	-	-				
Oregon Spotted Frog egg-larval stages			-	-	-	-	-	-				

* During this period, individuals are flightless for approximately 2 months. Some indication that the pre-basic molt stage occurs from mid-July through the end of August in Washington State.

19.7 Identification Window for Threatened and Endangered Plants in Washington

Dates provided are approximate and vary by locale.

Common Name	Scientific Name	Federal Status*	Apr	May	June	July	Aug	Sept	Oct
Golden paintbrush	<i>Castilleja levisecta</i>	T	20X	X	X	X10			
Kincaid's lupine	<i>Lupinus sulphureus</i> var. <i>kincaidii</i>	T	X	X	X	X			
Marsh sandwort	<i>Arenaria paludicola</i>	E		X	X	X	X		
Nelson's checker mallow	<i>Sidalcea nelsoniana</i>	T		15 X	X	X	X		
Northern wormwood	<i>Artemisia campestris</i> ssp. <i>borealis</i> var. <i>wormskioldii</i>	C	X						
Spalding's catchfly	<i>Silene spaldingii</i>	T					X		
Showy stickseed	<i>Hackelia venusta</i>	E		X	X	X			
Umtanum desert buckwheat	<i>Eriogonum codium</i>	C		X	X	X	X		
Ute ladies' tresses	<i>Spiranthes diluvialis</i>	T				X	X	X	?
Wenatchee Mountains checker-mallow	<i>Sidalcea oregana</i> var. <i>calva</i>	E			X	X			
White Bluffs bladder-pod	<i>Physaria tuplashensis</i>	C			X	X			

* Abbreviated as follows:

- E Endangered
- C Candidate species for listing
- P Proposed species for listing
- T Threatened

19.8 Recovery Plans

USFWS Recovery Plans

The following website is an invaluable resource for locating and downloading several existing USFWS recovery plans: < <http://www.fws.gov/endangered/species/recovery-plans.html> > The plans available at this online source (from the years 1983 through 2018) that are most applicable to projects located in Washington State are as follows:

- U.S. Fish and Wildlife Service. 2015. Revised draft recovery plan for the coterminous United States population of bull trout (*Salvelinus confluentus*). Portland, Oregon. xiii + 151 pp.
- U.S. Fish and Wildlife Service. 2012. Recovery Plan for the Columbia Basin Distinct Population Segment of the Pygmy Rabbit (*Brachylagus idahoensis*). Portland, Oregon. ix + 109 pp.
- U.S. Fish and Wildlife Service. 2011 Revised Recovery Plan for the Northern Spotted Owl (*Strix occidentalis caurina*). U.S. Fish and Wildlife Service, Portland, Oregon. xvi+258 pp.
- U.S. Fish and Wildlife Service. 2010. Final Recovery Plan for the Prairie Species of Western Oregon and Southwestern Washington. Fender's blue butterfly (*Icaricia icarioides fenderi*), *Erigeron decumbens* var. *decumbens* (Willamette daisy), *Lomatium bradshawii* (Bradshaw's lomatium), *Lupinus sulphureus* ssp. *kincaidii* (Kincaid's lupine), *Sidalcea nelsoniana* (Nelson's checker-mallow).
- U.S. Fish and Wildlife Service. 2009. Short-tailed albatross (*Phoebastria albatrus*) Final Recovery Plan. Anchorage, Alaska.
- U.S. Fish and Wildlife Service. 2007. Recovery plan for *Hackelia venusta* (Showy Stickseed). Portland, Oregon. xii + 60 pp.
- U.S. Fish and Wildlife Service. 2007. Recovery plan for *Silene spaldingii* (Spaulding's catchfly). Portland, Oregon. + 187 pp.
- U.S. Fish and Wildlife Service. 2007. Recovery Plan for the Pacific Coast Population of the Western Snowy Plover (*Charadrius alexandrinus nivosus*). Sacramento, California. In two volumes. xiv + 751 pp.
- U.S. Fish and Wildlife Service. 2006. Revised Grizzly Bear Recovery Plan. 204 pp.

- U.S. Fish and Wildlife Service. 2005. Recovery Outline for the Contiguous U.S. Distinct Population Segment of the Canada Lynx. 21 pp
- U.S. Fish and Wildlife Service. 2004. Recovery Plan for Wenatchee Mountains Checker-mallow. Portland, Oregon. 64 pp.
- U.S. Fish and Wildlife Service. 2001. Oregon Silverspot Butterfly Revised Recovery Plan. Portland, Oregon. 121 pp.
- U.S. Fish and Wildlife Service. 2000. Recovery Plan for the Golden Paintbrush (*Castilleja levisecta*). U.S. Fish and Wildlife Service, Portland, Oregon. 51 pp.
- U.S. Fish and Wildlife Service. 1998. Recovery Plan for Marsh Sandwort (*Arenaria paludicola*) and Gambel's Watercress (*Rorippa gambelii*). U.S. Fish and Wildlife Service, Portland, Oregon. 50 pp. + appendices.
- U.S. Fish and Wildlife Service. 1997. Recovery Plan for the Threatened Marbled Murrelet (*Brachyramphus marmoratus*) in Washington, Oregon, and California. Portland, Oregon. 203 pp.
- U.S. Fish and Wildlife Service. 1997. Grizzly Bear Recovery Plan Supplement: North Cascades Ecosystem Recovery Plan Chapter. Missoula, Montana. 35 pp.
- U.S. Fish and Wildlife Service. 1994. Recovery Plan for Woodland Caribou in the Selkirk Mountains. Portland, Oregon. 79 pp.
- U.S. Fish and Wildlife Service. 1993. Grizzly Bear Recovery Plan. Missoula, Montana. 181 pp.
- U.S. National Marine Fisheries Service and U.S. Fish and Wildlife Service. 1991. Recovery Plan for U.S. Population of Loggerhead Turtle. National Marine Fisheries Service, Washington, D.C. 64 pp.
- U.S. Fish and Wildlife Service. 1983. Columbia White-tailed Deer Recovery Plan. Portland, Oregon. 86 pp.

NMFS Recovery Plans

Recovery plans are also available on the NMFS website at <https://www.fisheries.noaa.gov/national/endangered-species-conservation/recovery-species-under-endangered-species-act>.

Non-salmonids

The plans available on this website that are most applicable to projects occurring in Washington State are as follows:

- National Marine Fisheries Service. 2018. Recovery Plan for the Southern Distinct Population Segment of North American Green Sturgeon (*Acipenser medirostris*). National Marine Fisheries Service, Sacramento, CA.
- National Marine Fisheries Service. October 2017. Rockfish Recovery Plan: Puget Sound/Georgia Basin yelloweye rockfish (*Sebastes ruberrimus*) and bocaccio (*Sebastes paucispinis*). National Marine Fisheries Service. Seattle, WA.
- National Marine Fisheries Service. September 2017. Recovery Plan for the Southern Distinct Population Segment of Eulachon (*Thaleichthys pacificus*). National Marine Fisheries Service, West Coast Region, Protected Resources Division, Portland, OR, 97232.
- National Marine Fisheries Service. 2008. Recovery Plan for Southern Resident Killer Whales (*Orcinus orca*). National Marine Fisheries Service, Northwest Region, Seattle, Washington. January 2008.
- Final Recovery Plan for the Humpback Whale, November 1991

Salmonids

In addition, several recovery plans have been finalized or are in development for Pacific Northwest Salmonids. Information on these plans is available on the NMFS website: <<https://www.fisheries.noaa.gov/national/endangered-species-conservation/recovery-species-under-endangered-species-act>>

- National Marine Fisheries Service. 2019. ESA Recovery Plan for the Puget Sound Steelhead Distinct Population Segment (*Oncorhynchus mykiss*). National Marine Fisheries Service. Seattle, WA.
- National Marine Fisheries Service. 2016. Proposed ESA Recovery Plan for Snake River Spring/Summer Chinook Salmon (*Oncorhynchus*

tshawytscha) and Snake River Steelhead (*Oncorhynchus mykiss*). NMFS West Coast Region, Seattle, Washington. October 2016.

- National Marine Fisheries Service. 2015. ESA Recovery Plan for Snake River Sockeye Salmon. NMFS West Coast Region, Portland, Oregon. June 2015.
- National Marine Fisheries Service. 2013. ESA Recovery Plan for Lower Columbia River Coho Salmon, Lower Columbia River Chinook Salmon, Lower Columbia River Chum Salmon, and Lower Columbia River Steelhead. National Marine Fisheries Service, Northwest Region, Seattle Washington. June 2013.
- National Marine Fisheries Service. 2011. Columbia River Estuary ESA Recovery Plan Module for Salmon and Steelhead. Adopted by NMFS.
- Upper Willamette River Conservation and Recovery Plan for Chinook Salmon and Steelhead. 2011. Adopted by NMFS.
- National Marine Fisheries Service. 2009. Final Recovery Plan for Lake Ozette Sockeye Salmon adopted by NMFS.
- National Marine Fisheries Service. 2009. Final Middle Columbia River Steelhead Distinct Population Segment ESA Recovery Plan adopted by NMFS.
- National Marine Fisheries Service. 2007. Final Upper Columbia River Spring Chinook Salmon and Steelhead Recovery Plan adopted by NMFS.
- National Marine Fisheries Service. 2007. Final Hood Canal and Eastern Strait of Juan de Fuca Summer Chum Salmon Recovery Plan adopted by NMFS.
- National Marine Fisheries Service. 2007. Final Puget Sound Chinook Salmon Recovery Plan. Shared Strategy Development Committee, Seattle Washington. Volumes 1 and 2. Adopted by NMFS.

