
Conservation and Recovery Plan for Oregon Steelhead Populations in the Middle Columbia River Steelhead Distinct Population Segment:

2010 – 2016 Implementation Progress Report



Photo: Shelley Tattam (ODFW)

September 2019

Oregon Department of Fish & Wildlife



Recommended Citation

ODFW (Oregon Department of Fish and Wildlife). 2019. Oregon Middle Columbia Steelhead Conservation and Recovery Plan Implementation Report for 2010 – 2016. Prepared by A.W. Averett. Oregon Department of Fish and Wildlife, East Region, La Grande, Oregon.

Electronic versions of this progress report and the *Conservation and Recovery Plan for Oregon Steelhead Populations in the Middle Columbia River Steelhead Distinct Population Segment* (Oregon Mid-C Recovery Plan) are available on the ODFW's Middle Columbia River conservation and recovery plan website: http://www.dfw.state.or.us/fish/CRP/mid_columbia_river_plan.asp.

Disclaimer

Data contained in this report was developed based on a variety of sources. Care was taken in the creation of these themes, but they are provided "as is". The Oregon Department of Fish and Wildlife shall not be held liable for improper or incorrect use of the data described and/or contained herein. Oregon Department of Fish and Wildlife shall be acknowledged as data contributors to any reports or other products derived from these data. The Oregon Department of Fish and Wildlife cannot accept any responsibility for errors, omissions, or positional accuracy in the digital data or underlying records. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying any of these products. Any omissions or errors are unintentional.

Please contact Adrienne Averett, ODFW East Region Implementation Coordinator (Adrienne.W.Averett [at] state.or.us) for questions about this report, including notification of omissions or errors.

Acknowledgements

This report reflects the cumulative effort of numerous individuals, organizations, and private landowners to monitor Oregon's Middle Columbia River summer steelhead populations, and implement protection and restoration actions to improve their viability and the habitats on which they depend. Steelhead population data, restoration project data, management action information, and/or review comments were provided by the following ODFW staff: Jamie Anthony, Kasey Bliesner, Stephan Charette, Lance Clarke, Bill Duke, Derrek Faber, Rod French, Kevin Goodson (retired), Josh Hanson, Mike Harrington, Brett Hodgson, Kirk Handley, Mike Jensen, Chris Lorion, Taylor McCroskey, Tom Nelson, Elizabeth Osier-Moats, Tim Porter, Russ Powell, Ian Tattam, Jim Ruzycski, Brent Smith, Tom Stahl, Kelly Stokes, Erik Van Dyke, Trevor Watson, and Tracy Wyllie. Additionally, the following individuals (entities) provided invaluable project information and/or review comments on the earlier versions of the tributary habitat project tables (Appendix B): Amy Charette (CTWSRO), Brett Golden (formerly with Deschutes River Conservancy), Sue Greer and Bobbi Riggers (OWEB), Spencer Sawaske (The Freshwater Trust), Bill Dowdy (USFS), Scott Peets (USFS), Kathy Ramsey (USFS), Dan Rife (USFS), Allen Taylor (USFS), and Brian Wolcott (Walla Walla Basin Watershed Council).

Table of Contents

Abbreviations & Acronyms.....	iii
Executive Summary.....	1
Introduction.....	4
Oregon Middle Columbia River Steelhead Population & Major Population Group (MPG) Fact Sheets.....	5
<i>Fifteenmile Creek Summer Steelhead Population.....</i>	6
<i>Deschutes River Eastside Summer Steelhead Population.....</i>	8
<i>Deschutes River Westside Summer Steelhead Population.....</i>	10
<i>Crooked River Experimental (ESA 10(j)) Summer Steelhead Population.....</i>	12
<i>Cascade Eastern Slope Tributaries MPG Viability Summary & Near-Term Recommendations.....</i>	14
<i>Lower Mainstem John Day River Summer Steelhead Population.....</i>	17
<i>North Fork John Day River Summer Steelhead Population.....</i>	19
<i>Middle Fork John Day River Summer Steelhead Population.....</i>	21
<i>South Fork John Day River Summer Steelhead Population.....</i>	23
<i>Upper Mainstem John Day River Summer Steelhead Population.....</i>	25
<i>John Day River MPG Viability Summary & Near-Term Recommendations.....</i>	27
<i>Umatilla River Summer Steelhead Population.....</i>	30
<i>Walla Walla River Summer Steelhead Population.....</i>	32
<i>Umatilla/Walla Walla Rivers MPG Viability Summary & Near-Term Recommendations.....</i>	34
Key Statewide Initiatives & Regulatory Measures: 2010–2016.....	36
Viability Summary, Emerging Issues, & Adaptive Management Recommendations.....	38
References and Endnotes.....	43
Appendix A: Research, Monitoring, & Evaluation Recovery Action Status Tables	
Appendix B: 2010–2016 Tributary Habitat Completed Projects Tables	

Abbreviations & Acronyms

~	Approximately	MPG	Major population group
BPA	Bonneville Power Administration	n.b.	Nota bene; note well
CFS	Cubic feet per second	NC	Non-consensus
CHaMP	Columbia Habitat Monitoring Program	NFCP	Oregon’s Native Fish Conservation Policy
CREP	Conservation Reserve Enhancement Program	NMFS	National Marine Fisheries Service
CRITFC	Columbia River Inter-Tribal Fish Commission	N-O	Natural-origin
CTUIR	Confederated Tribes of the Umatilla Indian Reservation	NOAA	National Oceanic and Atmospheric Administration
CTWSRO	Confederated Tribes of the Warm Springs Reservation of Oregon	NRCS	Natural Resources Conservation Service
DPS	Distinct population segment	ODEQ	Oregon Department of Environmental Quality
e.g.	exempli grati; for example	ODFW	Oregon Department of Fish & Wildlife
EPA	United States Environmental Protection Agency	OWEB	Oregon Watershed Enhancement Board
ESA	United States Endangered Species Act	OWRD	Oregon Water Resources Department
et al.	et alia; and others	PGE	Portland General Electric
etc.	etcetera; and the rest	PHOS	Proportion of hatchery origin spawners
°F	Fahrenheit degrees	PIT-tag	Passive integrated transponder tag
FAST	Fifteenmile Creek Action Plan for Stream Temperature	PRBC	Pelton-Round Butte Complex
FCRPS	Federal Columbia River Power System	PRB SWW/FTF	Pelton-Round Butte Surface Water Withdrawal & Fish Transfer Facility
FERC	U.S. Federal Energy Regulatory Commission	RM	River mile
GRTS	Generalized random-tessellation stratified sampling design	RM&E	Research, monitoring & evaluation
H-O	Hatchery-origin	RPAs	Reasonable and prudent alternatives
HSRG	Hatchery Scientific Review Group	SIP	Strategic Investment Partnership
HUC	Hydrologic Unit Code	SWCD	Soil & Water Conservation District
ICTRT	Interior Columbia Technical Recovery Team	TNC	The Nature Conservancy
i.e.	id est; in other words	USACE	United States Army Corps of Engineers
IMW	Intensively monitored watershed	USFS	United States Forest Service
LFTs	Limiting factors and threats	USGS	United States Geological Survey
LWD	Large woody debris	VSP	Viable salmonid population
mi	miles	WDFW	Washington Department of Fish & Wildlife

Executive Summary

This report summarizes progress during the first seven years, 2010–2016, of implementing the Conservation and Recovery Plan for Oregon Steelhead Populations in the Middle Columbia River Steelhead Distinct Population Segment¹ (Oregon Mid-C Plan; Mid-C Steelhead DPS).

Summer Steelhead Population Viability Status and Primary Threats

- As of December 2016, 40% of Oregon’s 10 extant Mid-C summer steelhead populations were meeting or exceeding viable (low extinction risk) status.
- Viable populations include the Deschutes River Eastside, Middle Fork John Day, and South Fork John Day; the North Fork John Day River summer steelhead population is the only highly viable (very low extinction risk) population within the Mid-C Steelhead DPS³ (**Figure ES-1**).
- The John Day River major population group (MPG), the only MPG entirely in Oregon and wholly wild MPG in the DPS, is not meeting viable status.

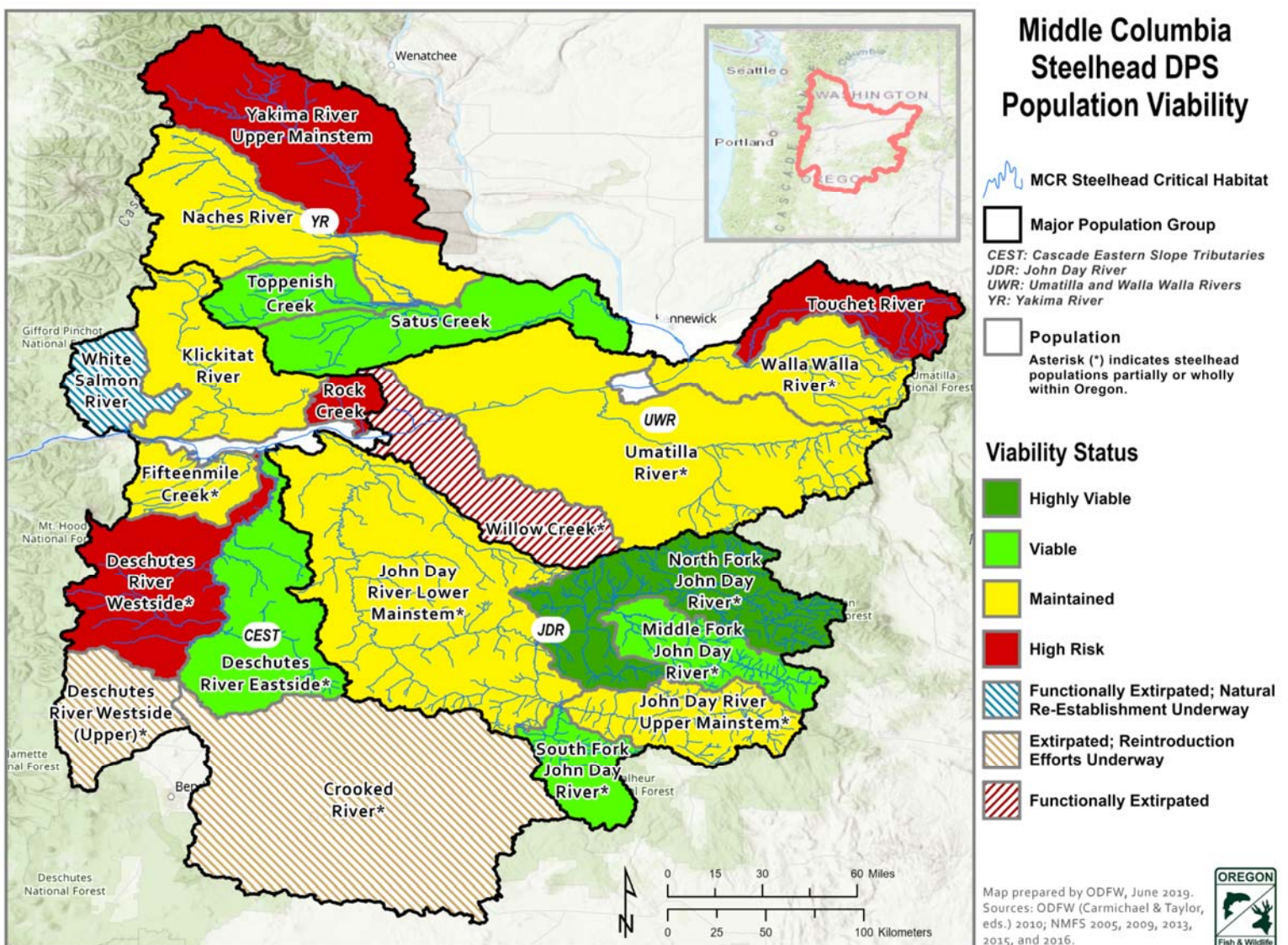
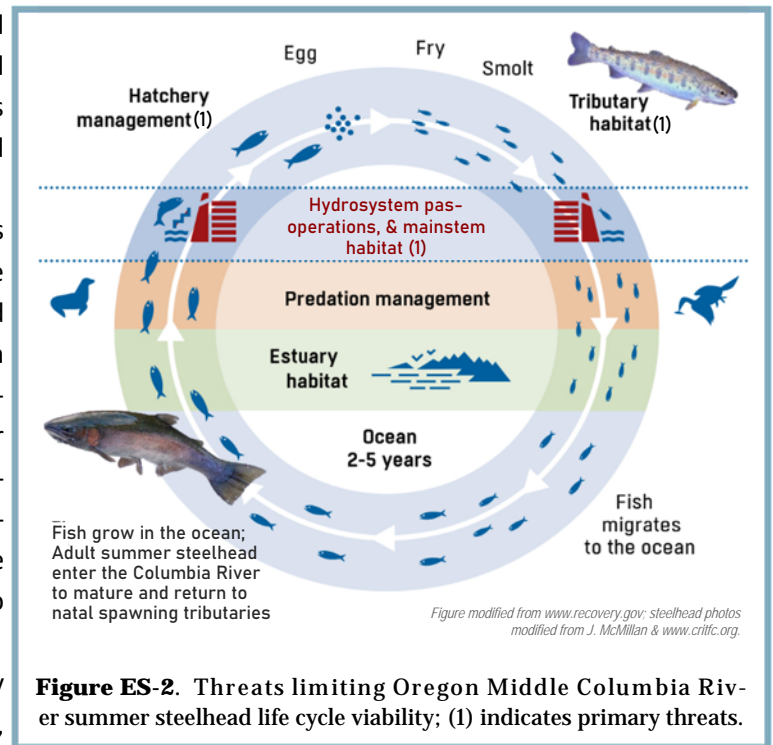


Figure ES-1. Middle Columbia River Steelhead Distinct Population Segment (DPS) population viability status per the 2016 Endangered Species Act 5-Year Status Review³. Steelhead populations wholly or partially in Oregon are denoted by an asterisk (*).

Executive Summary, *continued*

Primary Threats to Population Viability

- Mainstem Columbia River hydrosystem operations and facilities, mainstem and tributary habitat alteration, and effects of stray hatchery fish on natural-origin spawners remain primary threats for the majority of Oregon's Mid-C steelhead populations³ (**Figure ES-2**).
- Tributary overshoot in the mainstem Columbia River is a significant emerging limiting factor for the Fifteenmile Creek, John Day River (five populations), Umatilla, and Walla Walla River populations. A large proportion (>50%) of returning adult natural-origin Mid-C steelhead from these populations are overshooting their natal tributaries and ascending upstream Federal Columbia River Power System (FCRPS) dams (e.g., The Dalles, McNary, Ice Harbor), with only a subset of these adults successfully returning to their home streams to spawn.
- Insufficient tributary habitat water quality and quantity continues to limit juvenile steelhead rearing, migration, and freshwater survival.



Recovery Plan Action Implementation

Numerous recovery activities have proceeded within Oregon's Mid-C steelhead population areas since 2010. Several highlights include:

- Development and implementation of the Fifteenmile Creek Action Plan to Stabilize [Stream] Temperatures;
- Pelton-Round Butte Complex (PRBC) fish passage and reintroduction efforts with the first adult steelhead returning to PRBC in October 2011;
- Continuation of the Deschutes Partnership's fish habitat protection and restoration actions in the Crooked River, Metolius Creek, and Whychus Creek;
- NMFS classification of the Upper Deschutes-Crooked River as an experimental population under the ESA Section 10 (j);
- Formation of the John Day Basin Partnership (OWEB Focused Investment Partnership) to accelerate the pace and scale of native fish habitat restoration;
- Birch Creek irrigation dam removals and Meacham Creek floodplain-channel reconnection in the Umatilla River basin; and
- Irrigation efficiency improvements, instream water protection, and surface and groundwater monitoring in the Walla Walla River basin.

Approximately 1,715 restoration partners, including private landowners, implemented 1,559 tributary habitat protection and/or restoration projects during 2010-2016. The majority of projects addressed one or more Oregon Mid-C Steelhead Plan recovery actions. 75% of the plan-nexus projects addressed high/highest priority recovery actions and 44% were located in high restoration and/or protection benefit areas for steelhead recovery. Predominant tributary habitat recovery strategies applied were: improving fish passage and screening, and protecting/restoring riparian vegetative communities (**Table ES-1**).

The plan's research, monitoring, and evaluation (RM&E) actions provide the adaptive management foundation for assessing viability status, implementation effectiveness, and strategically guiding future recovery efforts. Few high priority

Executive Summary, *continued*

recovery plan monitoring actions have been fully funded and implemented to date. Consequently, trends in primary threat amelioration, and status of habitat connectivity (quantity & quality), fish-habitat use relationships, and management action effectiveness remain uncertain at the population-scale. Future funding will likely be insufficient for full RM&E implementation using traditional monitoring approaches as identified in the plan. Thus, the Oregon Department of Fish and Wildlife (ODFW) is evaluating and developing analytical tools (e.g., steelhead life-cycle models) to optimize science-driven, Mid-C steelhead recovery decision-making. See pages 4-35, and Appendices A and B for detailed population status, management action, and monitoring information.

Table ES-1. 2010–2016 Tributary Habitat Accomplishments

1,715 Partners

1,559 Projects completed

62% (n=960) of projects addressed ≥ 1 Oregon Mid-C Steelhead Plan actions. Of these, **75%** (n=717) addressed high/highest priority actions & **44%** (n=314) were located in high protection/restoration benefit areas.

Top Recovery Strategies Implemented:

22% Fish Passage & Screening (n=214 projects)

19% Riparian Protection/Restoration (n=184)

Near-Term Oregon Management Unit Mid-C Steelhead Recovery Recommendations

Improving the viability of Oregon's Mid-C steelhead populations is essential for achieving both ESA delisting and broad-sense recovery goals for the species. Near-term (through 2022), highest priority recovery recommendations at the Oregon Management Unit scale include:

- Increased monitoring of population-specific tributary overshoot trends, causal mechanisms, viability impacts, and fate of overshoot adults in the mainstem Columbia River;
- Increased monitoring power to: (1) improve the certainty of viability and threats status and trends; (2) detect effectiveness of recovery management actions at the population-scale; and (3) successfully guide adaptive management at the Oregon population, MPG, and management unit scales;
- Implementing additional hydrosystem actions, beyond the 2014 Federal Columbia River Power System Biological Opinion (FCRPS BiOp) actions, to improve: juvenile and adult Mid-C steelhead downstream and upstream migration, habitat quantity and quality, and survival within the mainstem Columbia River;
- Applying additional hatchery management actions to reduce the effects of hatchery strays spawning naturally; and
- Implementing tributary habitat recovery actions that: (1) protect high quality habitats and ecological processes; (2) address physical barriers (e.g., unscreened diversions, Opal Springs Dam on the Crooked River, McKay Dam on the Umatilla River); (3) demonstrably increase instream flows and decrease summer instream water temperatures; and (4) increase habitat connectivity (instream-riparian-floodplain). Tributary actions that measurably increase juvenile steelhead rearing and migration habitat (quality and quantity) are needed to improve freshwater productivity.



Wild steelhead parr. Photo: John McMillan

(source <https://www.flickr.com/photos/oregonstateuniversity/24082364120/in/photostream/>)