FISHERIES MANAGEMENT AND EVALUATION PLAN

ODFW Resident Trout and Coho salmon Fisheries in the Grande Ronde, Imnaha, and Snake Rivers

Prepared by
Oregon Department of Fish and Wildlife

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Title. ODFW Resident Trout and Coho salmon Fisheries in the Grande Ronde, Imnaha, and Snake Rivers.

Responsible Management Agency.

Agency:	Oregon Department of Fish and Wildlife (ODFW)
Name of Primary Contact:	Bruce Eddy, East Region Manager
Staff Contact:	Jeff Yanke, District Fish Biologist
Address:	107 20th Street
City, State, Zip Code:	La Grande, Oregon 97850
Telephone Number:	(541) 426-3279
Fax Number:	(541) 426-3055
Email Address:	Bruce.R.Eddy@state.or.us Jeff.Yanke@state.or.us

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SECTION 1. FISHERIES MANAGEMENT

1.1 General objectives of the FMEP.

The objective of this FMEP is to allow catch and release and consumptive fisheries for resident trout, and consumptive fisheries for non-listed Coho salmon without jeopardizing the survival and recovery of the Snake River steelhead Distinct Population Segment (DPS), Snake River fall Chinook salmon Evolutionary Significant Unit (ESU), Snake River spring/summer Chinook salmon ESU, or other anadromous species listed under the Endangered Species Act (ESA). Due to a limited spatial distribution within the FMEP area, and limited angler effort, Snake River Sockeye are unlikely to be caught by Oregon anglers. Fisheries addressed in this FMEP include all Oregon tributaries within the Snake River Basin and the mainstem below Hells Canyon Dam (Figure 1).

ODFW submitted an FMEP in 2019 addressing impacts from recreational steelhead fisheries that occur within the same areas (ODFW 2019). That FMEP is currently under review and expected to be approved in July 2019. Additionally, a joint FMEP describing both direct and indirect take of fall Chinook salmon in recreational fisheries was submitted in 2019 (IDFG et al. 2019). The fisheries described in this FMEP will not result in additional take outlined in these two aforementioned FMEPs.

1.1.1 List of the "Performance Indicators" for the management objectives.

- Observed catch rates, and harvest in resident trout fisheries.
- Estimated effort, catch rates, and harvest in Coho salmon fisheries.
- Estimated total angler effort in overlapping steelhead and Coho salmon fisheries.
- Estimated encounter rates of Coho salmon in fisheries.

- Estimated encounters of fall Chinook salmon and captured steelhead.

1.1.2 Description of the relationship and consistency of harvest management with artificial propagation programs.

Hatchery programs within the FMEP area (see section 1.2.1) no longer release non-anadromous trout into streams with the purpose of contributing to fisheries. These stocking practices were discontinued in the 1990's to reduce interactions between stocked rainbow trout and native species and to eliminate areas of concentrated angler use. However, hatchery steelhead smolts that residualize provide some harvest opportunities within tributaries. Oregon sport fishing regulations focus harvest on these hatchery residuals for the 346 miles of the Wallowa, Grande Ronde, Imnaha, and Snake rivers, and Big Sheep Creek by only allowing harvest of adipose fin-clipped trout (Oregon Sport Fishing Regulations, 2019; Figure 1). These areas of mark selective trout harvest overlap geographically with recreational steelhead fisheries and hatchery steelhead releases.

The Lower Snake River Compensation Plan (LSRCP) was approved by the Water Resources Development Act of 1976 and produces fish to mitigate for lost harvest opportunity caused by construction and operation of four hydroelectric dams and navigation locks on the Lower Snake River (Public Law 94-587, Section 102, 94th Congress). The Idaho Power Company (IPC) produces fish to mitigate for salmon and steelhead habitat lost or destroyed after the construction and operation of the Hells Canyon Complex of hydroelectric dams along the Snake River (Hells Canyon Settlement Agreement 1980). Residual hatchery steelhead are a byproduct of artificial propagation programs that mitigate for fish losses resulting from the hydroelectric development of the Snake River. Both LSRCP and IPC hatchery programs utilize different stocks of steelhead to meet program and harvest mitigation objectives in the Snake, Grande Ronde, and Imnaha river basins. All of these programs result in residualized hatchery smolts that have potential to interact with ESA listed stocks. By removing residual hatchery steelhead smolts through harvest in these areas, the opportunity for residual steelhead smolts to interact with ESA-listed fishes is reduced.

Coho salmon within the Grande Ronde Basin are part of an ongoing reintroduction effort. In 2018, the first returns from this program were observed in the Lostine River. Broodstock for the reintroduction program will be collected at Bonneville Dam, but may occur within the Grande Ronde Basin in the future. Coho salmon harvest opportunities will be coordinated among co-managers and implemented when in-season projections indicate that the number of returning fish exceeds broodstock and reintroduction objectives.

1.1.3 General description of the relationship between the FMEP objectives and Federal tribal trust obligations.

ODFW routinely coordinates at a policy and technical level with affected Tribes in the management of Oregon fisheries. As it relates to Snake River fisheries, ODFW participates in *U.S. v. Oregon* proceedings, coordinates with leadership of affected Tribes, participates in in-season coordination meetings with Snake Basin co-managers, has informal phone conferences with tribal fisheries staff, and participates in LSRCP Annual Operating Plan (AOP) meetings regarding harvest sharing, ESA

take, and other management issues for hatchery and harvest programs. ODFW similarly coordinates with those Federal agencies with direct tribal trust obligations (US Fish and Wildlife Service, NOAA Fisheries) through such avenues as *U.S. v. Oregon*, ESA permitting, the USFWS' Lower Snake River Compensation Plan and other coordination activities.

1.2 Fishery management area(s).

1.2.1 Description of the geographic boundaries of the management area of this FMEP.

This FMEP applies to wild rainbow trout, residualized hatchery steelhead smolts, and Coho salmon fisheries managed by the State of Oregon in the Grande Ronde River and tributaries, the Imnaha River and tributaries, and the mainstem Snake River where it forms the border between the states of Oregon and Idaho. Within the geographic boundaries covered under this FMEP, reach-specific fisheries are conducted with the objective of: 1) harvesting residual hatchery steelhead to reduce interactions with ESA-listed salmonids, 2) providing opportunities for catch and release and harvest of wild trout in tributaries not synonymous with hatchery steelhead production, and 3) provide for harvest of surplus non-listed hatchery and wild Coho salmon resulting from reintroduction efforts.

Lower Grande Ronde River: Oregon-Washington state line upstream to the Wallowa River (Figure 1). The primary objective of this fishery area is to provide a recreational trout fishery and harvest of residualized hatchery steelhead where all wild trout must be released. Angler effort in this fishery predominately occurs during the late spring and summer months (May-July) and in the fall (September-November). Angler opportunity in the upper reach is limited due to access and the Wild and Scenic designation. This area may be opened to harvest of Coho salmon as reintroduction efforts progress. Coho salmon fisheries would be concurrent with open steelhead fisheries.

Wallowa River: Mouth upstream to Wallowa Lake Dam (Figure 1). The primary objective of this fishery area is to provide a recreational trout fishery and harvest of residualized hatchery steelhead. All wild trout must be released in this area. The Wallowa River consists of two primary fishing areas: the lower Wallowa fishery occurs from the confluence with the Grande Ronde River upstream to Minam State Park (RM 0-8.4, 8.4 mi). Angler effort in this reach predominately occurs during late spring and early summer (May-July) when river flows are conducive to access by boating. The second primary fishery on the Wallowa River is between the Minam State Park and Rock Creek (RM 8.4-19, 10.6 mi). This fishery is easily accessed along Oregon State Highway 82 and angler effort primarily occurs spring through fall. Upstream of Rock Creek to the Wallowa Lake Dam the Wallowa River is mostly bordered by private lands and access is limited.

The Wallowa River may be opened below the mouth of the Lostine River to harvest of Coho salmon as reintroduction efforts progress. Coho salmon fisheries would be concurrent with open steelhead fisheries from September 1 to December 31.

Imnaha River: Mouth upstream to the confluence of the North and South Forks (Figure 1). The primary objective of this fishery area is provide a recreational trout fishery and harvest of residualized hatchery steelhead. In this area all wild trout must be released. Angler effort in this

fishery predominately occurs during the late spring and summer months (May-July) and in the fall (September-November).

Big Sheep Creek: Mouth upstream to its headwaters (Figure 1). The primary objective of this fishery area is to provide a recreational trout fishery and harvest of residualized hatchery steelhead. Wild trout must be released. Angler effort is low because Big Sheep Creek is mostly bordered by private lands.

Upper Grande Ronde River: Wallowa River confluence upstream to the mouth of Meadow Creek (Figure 1). This section is open year round to provide a recreational trout fishery and to remove residualized hatchery steelhead that may stray and interact with natural steelhead within the upper Grande Ronde population unit. Angler effort in this area is present but at low levels.

Snake River in Hells Canyon: Oregon-Washington State line upstream to Hells Canyon Dam (Figure 1). This section is open year around to provide a recreational trout fishery. This section of the Snake River occurs entirely within federally protected wilderness and has limited access. Oregon anglers typically access this section: 1) by foot from the Imnaha River trail, 2) by vehicle below Hells Canyon Dam or Dug Bar, 3) by motorized or non-motorized boat from the state line to Hells Canyon Dam.

This section may be opened to harvest of Coho salmon as reintroduction efforts progress. Coho salmon fisheries would be concurrent with open steelhead fisheries from September 1 to December 31.

All remaining tributaries within the Grande Ronde Subbasin, Imnaha, and mainstem Snake River basins are open from May 22 to October 31 to angling for rainbow trout with bag limits restricted to two (2) fish per day greater than 8 inches.

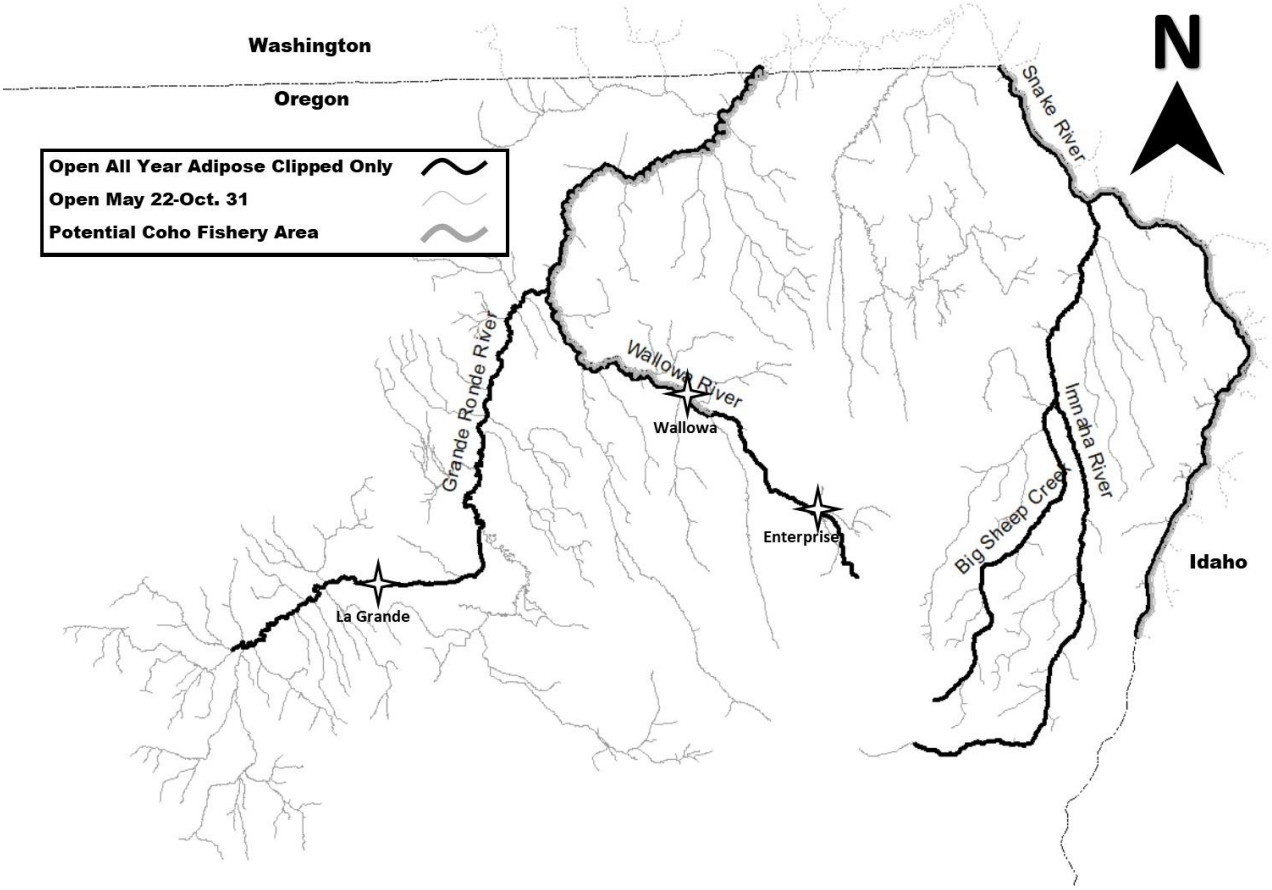

Figure 1. Fishery management area, including reaches that, 1) are open all year for harvest of adipose clipped trout, 2) open from May 22 to October 31 and 3) are potential areas for Coho salmon fisheries.

1.2.2 Description of the time period in which fisheries occur within the management area.

Oregon Sport Fishing Regulations provide direction for fisheries within the management area outlined in section 1.2.1. In both the Northeast Zone (Grande Ronde and Imnaha) and Snake River Zones, resident trout fisheries occur under two season structures: 1) open all year where fisheries are synonymous with steelhead angling and hatchery steelhead releases and, 2) May 22 to October 31 for all other streams. Regulations related to timing of fisheries for the Snake River, an interstate waterway, are set in concurrence with Idaho Department of Fish and Game (IDFG).

Although fisheries for Coho salmon have not occurred within the FMEP area, ODFW would propose to open fisheries in concurrence with steelhead fisheries within the lower Grande Ronde, Snake, and Wallowa Rivers. Those fisheries open on September 1 and continue through December 31 in accordance with Oregon Sport Fishing Regulations. Initially the Coho salmon fisheries would be opened by temporary regulation until consistent returns would allow for the adoption of permanent rules to be concurrent with steelhead seasons.

1.3 Listed salmon and steelhead affected within the Fishery Management Area specified in section 1.2.

The fishery management areas described in Section 1.2.1 affect, at the juvenile stage, natural steelhead populations within the Grande Ronde River and Imnaha River Major Population Groupings (MPG) (ICTRT 2005), which are part of the Snake River Basin Summer Steelhead DPS (Table 1). Steelhead spawn in several small tributaries to the Snake River in the Hells Canyon region. However, due to the small size of these tributaries, this area does not fit the definition of an independent population and impacts in this area will not be considered in this FMEP. Impacts resulting from recreational steelhead fisheries to the populations above are described in the recently submitted Snake River basin steelhead FMEP (ODFW 2019).

Resident trout fisheries in the Snake, Grande Ronde and Imnaha River basins occur when Snake River spring/summer Chinook, and Snake River fall Chinook salmon are present. Sockeye originating from the Salmon River will be present in the Snake River between the Oregon/Washington state line and the mouth of the Salmon River (12 miles). We anticipate the level of incidental encounters for adult salmon and steelhead by resident trout anglers within the FMEP area to be negligible as the areas of focus, equipment, and methods employed by resident trout anglers are ineffective for catching these species. In addition, these species do not overlap in run timing or location with expected Coho salmon fisheries. Spring/summer and fall Chinook salmon juveniles will also be present within the FMEP area during the addressed fisheries. However, due to their small size prior to emigration, incidental encounters are rare and juveniles are mostly precluded from capture by the size of terminal tackle. Therefore, these species will not be discussed in this FMEP when addressing resident trout fisheries.

Adult steelhead will be present in areas where resident trout seasons are open all year, however, these areas are concurrent in timing and location with open hatchery steelhead season and we anticipate no additional impact to adult steelhead above what is described in the Oregon Snake River basin steelhead FMEP (ODFW 2019).

Coho salmon fisheries will be concurrent in timing and location with open steelhead and fall Chinook salmon seasons (Table 1). We anticipate no additional impacts to steelhead and fall Chinook salmon will occur beyond what is described in the Oregon Snake River basin steelhead FMEP (ODFW 2019) and the Snake River Fall Chinook fall Chinook salmon FMEP (IDFG et al. 2019). While no recent Coho salmon fisheries have occurred within the FMEP area, we anticipate harvest of Coho salmon would be primarily incidental to angling for steelhead and fall Chinook salmon as documented in the Clearwater River in the IDFG Coho salmon FMEP (IDFG 2019, in draft).

Table 1. Population units of listed salmon and steelhead within the FMEP area that may be affected in fishery areas described in Section 1.2.1.

Fishery Area (see Section 1.2.1)	Population/MPG					
	Summer Steelhead					Fall Chinook
	Lower Grande Ronde R.	Joseph Cr.	Upper Grande Ronde R.	Wallowa R.	Imnaha R.	Snake R.
Open All Year Ad. Clip Only	✓	✓	✓	✓	✓	✓
Potential Coho Fishery Area	✓	✓	✓	✓		✓
Open May 22 to Oct. 31	✓	✓	✓	✓	✓	✓

1.3.1 Description of "critical" and "viable" thresholds for each population (or management unit) consistent with the concepts in the technical document "Viable Salmonid Populations and the Recovery of Evolutionarily Significant Units."

There are no "critical" or "viable" thresholds established for resident trout or Coho salmon within the FMEP area.

1.3.2 Description of the current status of each population (or management unit) relative to its "Viable Salmonid Population thresholds" described above. Include abundance and/or escapement estimates for as many years as possible.

Given that impacts to steelhead and fall Chinook salmon occurring from resident trout and Coho salmon fisheries is anticipated to be negligible, information on adult steelhead and fall Chinook salmon status and abundance can be found in the recently submitted FMEPs for steelhead (ODFW 2019) and fall Chinook salmon (IDFG et al. 2019).

Resident trout abundance is difficult to quantify due to their widespread distribution and abundance throughout the FMEP area. No current or recent research or monitoring programs that document abundance or densities of resident trout are available. However, this widespread distribution and in particular, the occupation of smaller tributaries with limited access, results in a high proportion of their range that does not receive substantial angling effort. Many of these locations, particularly those in wilderness areas, can act as areas of refuge from potential fishery impacts and allow for all stages of the life history to be fulfilled.

Coho salmon were extirpated from the FMEP area in the 1970's (Cramer & Witty 1998). Recent reintroduction efforts in the Lostine River began in 2017 with the first returns of adults in 2018 with 134 handled at the Lostine River Weir. The reintroduction effort aims to return an average of 540 adults to the Lostine River Weir during a 5-year pilot phase per U.S. v. Oregon agreements.

1.4 Harvest Regime

1.4.1 Provide escapement objectives and/or maximum exploitation rates for each population (or management unit) based on its status.

In the recently submitted Oregon Snake River steelhead FMEP, ODFW proposed to manage fisheries on a fixed anadromous adult impact rate for steelhead and resident trout fisheries within each Major Population Group (MPG). This approach is consistent with in the signed biological opinion for Snake River steelhead (NMFS 2019; Table 2). Impacts from resident trout fisheries outlined in this FMEP would be considered in combination with impacts from steelhead fisheries outlined in the Oregon Snake River steelhead FMEP (ODFW 2019).

In areas where hatchery steelhead are released, harvest is restricted to residualized hatchery fish only (adipose clipped). Current production agreements require marking of 100% of hatchery steelhead with an adipose clip within the FMEP area (U.S. vs. Oregon 2018). ODFW requires the immediate, unharmed, release of natural unmarked trout in areas where hatchery steelhead releases occur (ODFW 2018). Harvest of residualized hatchery steelhead is encouraged to reduce interactions with wild trout and steelhead (ODFW 2011).

Only resident trout greater than 8 inches may be harvested under permanent rule in the Oregon Sport Fishing Regulations (2018). This length restriction reduces the harvest impact of steelhead smolts, of which 95% are less than 8 inches and nearly 100% are less than 9 inches when they begin emigration (ODFW unpublished data). In areas where harvest of wild trout is allowed, bag limits are restricted to two fish per day. In areas below hatchery steelhead release sites, harvest of resident trout is mark selective, where only adipose-clipped fish (residual hatchery steelhead) may be harvested and requires the release of all adipose-intact (wild) trout.

Table 2. Major Population Group impact rates and low-abundance triggers for ESA-listed natural steelhead from fisheries in the Snake River Basin in terms of adult passage above Ice Harbor Dam.

MPG	Critical Abundance Threshold (CAT)[1]	Minimum Abundance Threshold (MAT)	Proposed natural impact rate (%)[2]
Grande Ronde	1,200	4,000	10
Imnaha	300	1,000	5

[1] When abundance at Ice Harbor Dam is predicted to be below this threshold for a specific MPG, fishery managers will discuss with NMFS any fishery modifications to limit impacts for the MPG.

2 Collective impacts on steelhead adults from all other tribal treaty and recreational fisheries.

Coho salmon fisheries have not recently occurred within the FMEP area. With recent reintroduction efforts, we expect future sport fisheries will be implemented in the areas described in section 1.2.1. It is anticipated that harvest rates will be determined by local co-managers based on in-season forecasts developed from PIT tag detections at dams on the lower Snake River.

2.1.1 Description of how the fisheries will be managed to conserve the weakest population or management unit.

Fisheries in the management area defined in section 1.2.1 specifically target wild resident trout or residual hatchery smolts. To meet those objectives while minimizing impacts to natural steelhead populations, ODFW utilizes several management tools, categorized below and as outlined in the Northeast and Snake River Zones within the Oregon Sport Fishing Regulations (ODFW 2018):

Mark-selective harvest – Within fishery management areas downstream of steelhead smolt release sites (sections of the Grande Ronde, Wallowa, Imnaha Rivers, and Big Sheep Creek), ODFW requires the release of wild trout. This regulation intends to encourage harvest of residual hatchery steelhead, thus reducing direct impacts to wild juvenile steelhead through harvest and indirect impacts from competition with residualized hatchery smolts. Angler compliance reported by Knox (2000) was high with 97% of anglers releasing wild trout.

Bag Limits & Size Restrictions – Harvest of resident trout is restricted to fish greater than 8 inches in length in the Oregon Sport Fishing Regulations (2018). Current ODFW life history monitoring within the Grande Ronde basin documented that 95% of emigrating steelhead smolts are less than 8 inches (ODFW unpublished data). By restricting harvest to fish greater than 8 inches, 95% of smolts are excluded from legal harvest. Additionally, streams within the FMEP area where harvest of wild resident trout is allowed, bag limits are restricted to two fish instead of five.

Gear restrictions – In select tributaries and waterbodies, gear restrictions limit incidental fishery-related mortality. The Oregon Sport Fishing Regulations (2018) specify a suite of gear restrictions that include, but are not limited to:

- Use of artificial flies and lures in streams. Exceptions apply to most stream sections where annual hatchery steelhead seasons occur. Investigations into hooking mortality studies indicates that trout caught with bait have a significantly higher associated mortality rate (Taylor & White 1992). By limiting the use of bait in tributaries where resident trout and juvenile steelhead rear, angling associated mortality is reduced.

- Harvest allowed by angling only; prohibiting landing gamefish with gaff, spear, or club. Using methods to land gamefish that inflict severe trauma or instantaneous mortality, such as gaffing, spearing, or clubbing, is not legal in Oregon trout fisheries. By precluding these landing methods, anglers can selectively release fish not legal for harvest with a high likelihood of survival.

Temporal Closures – Steams within the FMEP area where harvest of wild resident trout is allowed are closed from Jan. 1 to May 22 and Oct. 31 to Dec. 31. These closures protect juvenile steelhead and resident trout during winter rearing and maintains closures in primary areas through the majority of the steelhead spawning period.

Limited Angler Effort – Angler effort in the Wallowa River is considered moderate but is one of the more popular trout fisheries in the FMEP areas (Knox 2000). Resident trout and steelhead occupy over 2,000 miles of stream throughout the FMEP area, of which many are difficult to access and are rarely frequented by anglers. Given the low angler effort in many streams, resident trout and juvenile steelhead have large areas of refuge outside the areas of primary angler effort. If biologists observe a change in angler behavior and increased effort, they may institute changes to angling rules in these areas.

Coho salmon were extirpated from the FMEP area and are not an ESA-listed species. Reintroduction efforts are currently in a pilot phase to determine the feasibility of continued reintroduction efforts. All harvest rules will be consistent with broodstock and escapement goals to be determined by the local co-managers. As outlined in section 1.3, it is expected that harvest of Coho salmon will be incidental to targeted harvest of steelhead and fall Chinook salmon (IDFG 2019) and will incur no additional impacts for steelhead or fall Chinook salmon above what is described in the submitted steelhead (ODFW 2019) and fall Chinook salmon FMEPs (IDFG et al. 2019). Rules for angling for Coho salmon are consistent with steelhead fisheries (ODFW 2019) and are outlined in the Oregon Sport Fishing Regulations.

2.1.2 Demonstrate that the harvest regime is consistent with the conservation and recovery of commingled natural-origin populations in areas where artificially propagated fish predominate.

Wild adult steelhead impacts were estimated for resident trout fisheries by determining the number of angler hours required to incur impacts equivalent to one adult steelhead (Figure 2) and referring to previous angler effort estimates (Knox 2000). Estimates of angler effort required to incur impacts were calculated by expanding impacts equivalent to one adult steelhead by smolt to adult returns (.0212, McCann et al. 2017), emigration and survival estimates (.062, Sedell et al. 2018), angling mortality rate (.1, Knox 2000), and angler catch rates (.40 fish/hour, Table 3; Figure 2). Using these rates, we estimate that resident trout fisheries require 19,020 hours of angler effort to result in an equivalent impact of one adult steelhead (Figure 2). It is understood that this estimate is developed from a series of estimates that are annually variable and the actual amount of effort required to incur impacts may be much higher or lower, but does not likely approach levels that would be significant when evaluating impacts under the allowed combine impact rates (Table 4).

For example, creel surveys conducted for resident trout fisheries in 1995 and 1998 on the "Canyon Section" (~10.25 miles) of the Wallowa River from July to October resulted in a mean angler hour estimate of 580 angler hours/mile (Knox 2000). This is the most popular resident trout fishery within the FMEP area. Additionally, a creel study in 1996 on the upper Grande Ronde (~24.9 miles) and Catherine Creek (~9.3 miles) from late May through October resulted in estimates of 79 and 137

angler hours/mile, respectively (Walters & Buckman 2002). By applying a mean of these of these effort rates to the entire FMEP area we would estimate approximately 530,000 total angler hours in resident trout fisheries. However, we expect this estimate to experience a significant positive bias as the above reaches are popular among resident trout anglers and, information is lacking and not considered, for areas of resident trout and steelhead distribution that experience little or no angler effort. Even with this significant positive bias, angler hours do not approach even a conservative estimate of angler hours required to exceed allowed impacts (Table 4). While more information on areas of little effort would be beneficial, this analysis demonstrates resident trout fishery impacts are insignificant when considering combined impacts with steelhead fisheries described in the FMEP for steelhead (ODFW 2019; Table 4).

Table 3. Catch rates reported in during creel survey of resident trout anglers within the FMEP area.

Catch Rates	(Anderson 1984)	ODFW Creel	(Knox 2000)
1981	0.23		
1995			0.47
1998			0.36
1999		0.66	
2010		0.35	
2001-2017		0.34	
	Total Mean	**0.40**	

ODFW conducts angler creel surveys annually in the Grande Ronde and Imnaha River steelhead fisheries with funding support from the LSRCP. Surveys are structured both spatially and temporally to sample fisheries during periods of high angler use and steelhead presence. Since steelhead and Coho salmon fisheries will be concurrent, these creel surveys will also be used to estimate angler effort and harvest of Coho salmon.

Figure 2. Estimates of angler effort required to incur adult equivalent impacts were calculated by expanding these impacts based on smolt to adult returns (.0212, McCann et al. 2017), emigration and survival estimates (.062, Sedell et al. 2018), angling mortality rate (.1, Knox 2000), and angler catch rates (.40 fish/hour).

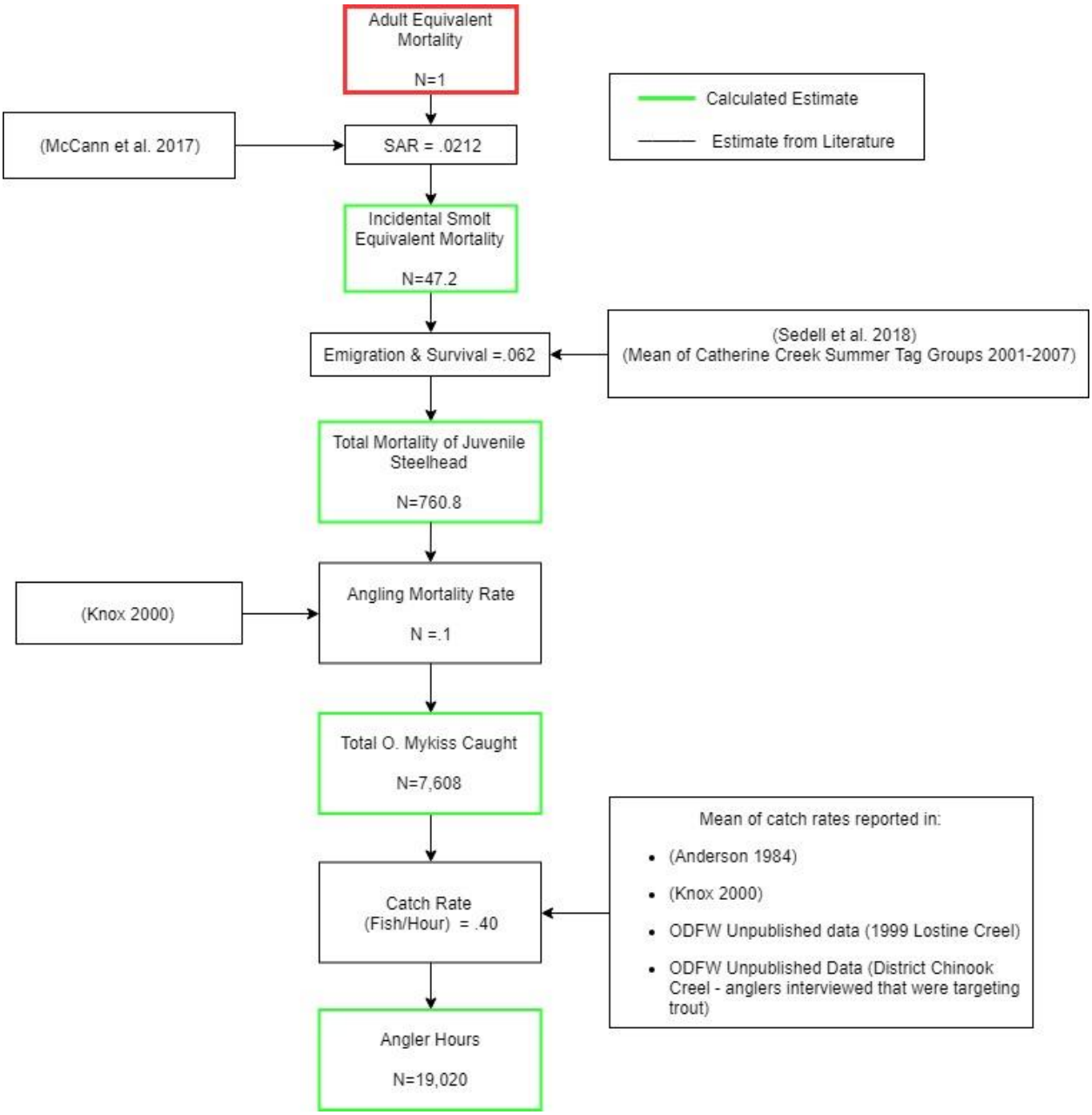

Table 4. Estimated impacts, remaining impacts, and estimated angler hours in resident trout fisheries that would exceed combined adult steelhead equivalent impacts for run years 2006-07 to 2015-16 when evaluated using the fishery framework established during the 2018-19 run year.

	Est. Natural Impact Rate[a]		Est. Remaining Impacts[a]		Est. Trout Angler Hours to Exceed Allowable Impacts	
Run Year	Grande Ronde (10% allowed)	Imnaha (5% allowed)	Grande Ronde	Imnaha	Grande Ronde	Imnaha
06-07[b]	3.2%	3.0%	146	15	2,780,272	289,963
07-08[b]	2.3%	6.9%	248	-21	4,718,255	-
08-09[b]	2.1%	1.7%	387	64	7,365,495	1,215,378
09-10[b]	2.7%	6.1%	615	-39	11,691,594	-
10-11[b]	1.7%	2.3%	786	91	14,952,573	1,728,918
11-12[b]	1.9%	0.3%	757	163	14,398,140	3,091,701
12-13	1.6%	0.6%	475	72	9,037,353	1,361,832
13-14	1.0%	0.6%	557	105	10,585,581	1,987,590
14-15	1.3%	0.6%	888	152	16,892,613	2,890,089
15-16	0.8%	0.2%	783	125	14,883,150	2,375,598
Mean	**1.9%**	**2.2%**	**564**	**72**	**13,845,872**	**1,779,022**

[a] The "Total Natural Est. (LGD)" for run years 06-07 and 07-08 are based on the average percentage of the estimated escapement of natural Grande Ronde River Steelhead to the overall estimated wild escapement at LGD from 2009-2016 reported in Camacho 2016. *LGD=Lower Granite Dam*.

[b] Within the Imnaha River "Released, Unmarked" fish includes hatchery steelhead with unclipped adipose fins. These fish were included in calculations of natural impacts that results in a positive bias.

Substantial portions of the Grande Ronde and Imnaha basins are currently managed with no hatchery steelhead nor trout programs (e.g., Joseph Creek, upper and lower Grande Ronde, mainstem Imnaha, and Big Sheep Creek).

As described in section 1.4.2, Coho salmon fisheries will be consistent with agreements among local co-managers and reintroduction efforts. It is anticipated that harvest of Coho salmon will be incidental to steelhead and fall Chinook salmon fisheries and will not incur additional impacts above what is described in recently submitted FMEPs (ODFW 2019; IDFG et al. 2019).

2.2 Annual Implementation of the Fisheries

The Oregon Fish and Wildlife Commission adopts the Oregon Sportfish Regulations by permanent rule on an annual basis (ODFW 2018). This includes the angling regulations pertaining to the resident trout

fisheries described in Section 1.2.1. Additionally, the Oregon Fish and Wildlife Commission may adopt temporary or emergency rules that supersede permanent rules to provide additional opportunity or protection of fishery resources. Coho salmon fisheries will be opened by temporary rule and coordination will take place in a co-management forum including NOAA Fisheries, Tribal co-managers, and fishery managers from the States of Oregon, Idaho and Washington. The Oregon Fish and Wildlife Commission, as reintroduction efforts progress, may establish permanent Coho salmon fisheries.

SECTION 2. EFFECTS ON ESA-LISTED SALMONIDS

3.1 Description of the biologically-based rationale demonstrating that the fisheries management strategies will not appreciably reduce the likelihood of survival and recovery of the affected ESU(s) in the wild.

3.1.1 Description of which fisheries affect each population (or management unit).

See Table 1, Section 1.3.

3.1.2 Assessment of how the harvest regime will not likely result in changes to the biological characteristics of the affected ESUs.

Since impacts to steelhead incurred in resident trout fisheries are anticipated to be negligible, this section is addressed for steelhead in the recently submitted Oregon Snake River basin FMEP (ODFW 2019).

For resident trout fisheries, primary areas of angler effort coincides with areas of easy access and mark-selective harvest of residual hatchery steelhead. For areas where residual hatchery steelhead are not present, and harvest of wild trout is allowed, angling seasons are restricted to between May 22 and October 1 with harvest of only two fish greater than 8 inches. A high proportion of the approximately 2,000 stream miles occupied by resident trout are difficult to access and receive very little angler effort. Listed harvest restrictions paired with the widespread distribution and limited overall angler effort results in a large portion of the FMEP area that experiences low exploitation and high resistance to change in population characteristics.

Coho salmon within the Grande Ronde Basin are part of a reintroduction program that first returned adults in 2018. During the pilot phase broodstock are being collected at Bonneville Dam, which excludes broodstock from being affected by selectivity in FMEP area fisheries. Should broodstock be collected locally, Coho salmon fisheries will only be implemented when in-season projections indicate availability above broodstock needs and reintroduction objectives. Fisheries would not target any particular life stage and therefore would not result in and selectivity that would affect broodstock or natural spawning.

For the Hells Canyon portion of the FMEP area, Coho salmon have not been reintroduced or colonized this area and open fisheries would likely target stray hatchery fish.

It is expected that harvest of Coho salmon will be incidental to fisheries outlined in recently submitted FMEPs for steelhead (ODFW 2019) and fall Chinook salmon (IDFG et al. 2019) and no additional impacts will be incurred.

3.1.3 Comparison of harvest impacts in previous years and the harvest impacts anticipated to occur under the harvest regime in this FMEP.

For resident trout fisheries, see Figure 2, section 2.1.2.

Coho salmon fisheries have not yet been implemented within the FMEP area. Fisheries will be consistent with hatchery needs as outlined in 1.1.2. Additionally, as described in section 1.3, it is expected that harvest of Coho salmon will be incidental to targeted harvest of steelhead and fall Chinook salmon and will incur no additional impacts for steelhead or fall Chinook salmon above what is described in the submitted steelhead (ODFW 2019) and fall Chinook salmon FMEPs (IDFG et al. 2019).

3.1.4 Description of additional fishery impacts not addressed within this FMEP for the listed ESUs specified in section 1.3. Account for harvest impacts in previous year and the impacts expected in the future.

We do not anticipate any additional fishery impacts beyond what is outlined in this FMEP for resident trout.

Snake River steelhead are harvested or subject to incidental mortality in fisheries outside Oregon, primarily in the main stem Columbia River, and Snake River below the Oregon state line. Snake River steelhead are rarely caught in ocean fisheries, and are therefore not subject to management by the Pacific Fisheries Management Council (PFMC 2003). Whatever small amount of ocean harvest occurred in the past is incorporated into the ICTRT (2007) base productivity through use of observed escapements and recruits. Harvest impacts in the main stem Columbia River during 1980-2007 are incorporated into the ICTRT (2007) base abundance and productivity through use of observed escapements and recruits. Under the 2018-2027 Management Agreement, total allowable harvest impacts on natural B-index Snake River steelhead will range from 15% to 22%, depending on run sizes of (wild and hatchery) B-index steelhead and upriver bright fall Chinook salmon (*U.S. v. Oregon* 2018).

Snake River fall Chinook salmon experience substantial harvest in ocean and Columbia River fisheries. These fisheries are coordinated through the Pacific Salmon Commission and the U.S. regional fisheries management councils and regulated through a Pacific Salmon Treaty, *U.S. v. Oregon* negotiations and/or NOAA Fisheries authorization processes. Total harvest of Snake River fall Chinook salmon was reduced substantially after they were first listed under the ESA in 1992 (NMFS 2008; p. 7-8). Since 1992 the total exploitation rate for all fisheries averaged 48%. NMFS (2008; p. 7-13) states that NOAA Fisheries has managed ocean fisheries to a single ESA Section 7 consultation standard since 1996. The standard requires all ocean fisheries contained in the SE Alaskan, Canadian, and PFMC fisheries collectively achieve a 30% reduction in the age-3 and age-4 adult equivalent total exploitation rate relative to the 1988 to 1993 base period. NMFS (2008) concluded with certainty that ocean fisheries will be managed pre-season to meet or exceed the 30% reduction requirement.

Currently, about 10% of the take occurs in the Southeast Alaska fishery, 22% in the Canadian fishery, 26% in the coastal fishery and 42% in the Columbia River fishery.

Harvest impacts of adult Snake River fall Chinook salmon in the mainstem Columbia River are managed under the framework of the *U.S. v. Oregon* 2018-2027 Management Agreement (*U.S. v. Oregon* 2018), using an abundance based sliding scale. Under the 2018-2027 Management Agreement, total allowable harvest impacts on natural Snake River fall Chinook salmon range from 20% to 45% depending on run sizes of Upriver Bright and natural-origin fall Chinook salmon. Upriver brights are defined as all fall Chinook salmon originating upstream of McNary Dam but also includes the Deschutes River. The Snake River wild harvest rate is assumed to be the same as the upriver bright harvest rate in the main stem. The Snake River fall-run Chinook salmon run size has increased from an average of 14,821 salmon returning to the mouth of the Columbia River from 2008-2012 to 23,684 salmon from 2013-2016 (TAC 2017). The total harvest rate has ranged from 17.5 to 32.0% since 2008. In most years, the actual harvest rates are less than the maximum allowable harvest rates; the average harvest rate on natural-origin fall Chinook salmon has averaged 11.4% and 21.6% since 2008 for non-tribal and tribal fisheries, respectively (TAC 2017).

SECTION 3. MONITORING AND EVALUATION

4.1 Description of the specific monitoring of the "Performance Indicators" listed in section 1.1.1.

Tributary fishery performance indicators for resident trout fisheries including fishing effort and harvest will be monitored with opportunistic creel and enforcement checks. In specified steelhead fishery areas as described in Flesher and Clarke (2018), incidental encounters of resident trout will be documented. If significant increases in effort or harvest is observed, statistical creel studies may be implemented to assess potential effects.

Since steelhead fisheries described in the recently submitted FMEP (ODFW 2019) will overlap Coho salmon fisheries, annual creel surveys in the FMEP area described in Flesher and Clarke (2018) will also be used to monitor effort, catch rates, and harvest for Coho salmon.

Return estimates based on dam counts and returns to the Lostine River Weir in addition to creel surveys will be used to estimate total encounter rates of Coho salmon during fisheries within the FMEP area.

Encounter rates of fall Chinook salmon and steelhead during Coho salmon fisheries will be monitored by roving-roving and roving-access creel surveys, and will continue to be reported under the FMEPs guiding these fisheries (IDFG 2018, IDFG et al. 2019, ODFW 2019).

4.2 Description of other monitoring and evaluation not included in the Performance Indicators (Section 3.1) which provides additional information useful for fisheries management.

PIT tag monitoring: PIT (Passive Integrated Transponder) tag monitoring occurs annually as anadromous fish migrate through the Columbia and Snake River systems, where they are detected at passage routes through mainstem dams and with antenna arrays placed in tributaries. PIT tag monitoring is used to estimate abundance and monitor run timing, which allows for in season modifications to fisheries.

Dam counts and sampling: Annual counts of anadromous fish at mainstem Columbia and Snake River dams provides estimates of abundance as fish migrate through the system. Sampling at the dams provides opportunities for PIT-tagging, genetic sampling, and collection of biological data that informs additional monitoring efforts.

Life history monitoring: Juvenile anadromous fish emigrating from FMEP streams are enumerated and PIT-tagged at smolt traps to estimate abundance, evaluate migration timing, and monitor survival through the Columbia and Snake River systems (see, Sedell et al. 2018). These efforts also evaluate smolt to adult survival that is informative when assessing status and developing management plans.

Monitoring coordination: Anadromous fish management in the Snake River Basin is a highly coordinated process involving a large group of co-managers (see Sections 1.5 and 3.5.1). Through these efforts, co-managers develop, conduct, and share results of monitoring projects.

4.3 Public Outreach

Oregon Sport Fishing Regulations provide information on fisheries timing and location, bag limits and tackle restrictions; in addition to other pertinent information such as species identification and proper fish release techniques (ODFW 2018). Information regarding in-season regulation changes and other fishery related issues is communicated to the public via press releases, on ODFW's website at www.myodfw.com, weekly recreation reports released by ODFW, social media updates, creel surveyor contacts, and signage posted at access points within the fishery area. Oregon State Police (OSP) and creel surveyors also contact the public during the angling seasons each year, providing both public education and enforcement presence.

4.4 Enforcement

Oregon State Police routinely enforce steelhead fisheries in Oregon through roving patrols. Main objectives of enforcement patrols are ensuring compliance with angling regulations, gauging compliance rates, and informing anglers. In addition, OSP conducts targeted enforcement actions when non-compliance is suspected. ODFW coordinates enforcement priorities, as determined on biological concerns for listed and/or sensitive species, with OSP on an annual basis through the Coordinated Enforcement Program (CEP). In addition, creel surveyors communicate any enforcement issues and potential violations with OSP that result from contacting anglers during surveys. Illegal harvest of natural steelhead remain at very low levels, but if this changes ODFW and OSP will ensure protection of listed stocks through additional enforcement actions, modification of regulations, and increased public outreach.

4.5 Schedule and process for reviewing and modifying fisheries management.

4.5.1 Description of the process and schedule that will be used on a regular basis (e.g. annually) to evaluate the fisheries, and revise management assumptions and targets if necessary.

ODFW will monitor environmental and/or anthropogenic conditions that may impact or compound effects leading to increased mortality of resident trout during the fishery. When environmental conditions, such as flow and temperature, are observed to merit action, ODFW will take action through incremental modifications of regulations. Anthropogenic impacts such as fishing pressure may also be monitored through creel and angler surveys. If it is determined there are potential impacts, special regulations may be imposed.

General observation of resident trout fisheries within the FMEP area will occur annually and be evaluated for significant or unexpected changes by ODFW's Wallowa and La Grande District office staff.

Fishing for salmon in areas covered by this FMEP are closed year around unless opened through temporary regulations. While there is currently not a fishery for Coho salmon, recent reintroduction efforts make this a possibility in the future. ODFW's fisheries for Coho salmon will be determined annually by returning run size. ODFW will monitor Coho salmon returns through dams and PIT tag arrays in coordination with IDFG, WDFW, Tribes, NOAA Fisheries and others. If it is determined that there are enough fish returning for a fishery, ODFW will provide the annual preseason fishery plans and consult with NOAA Fisheries with any substantive new rule proposals. Proposals will be developed consistent with FMEP objectives. ODFW will coordinate in-season with IDFG, WDFW, Tribes, NOAA Fisheries and other entities on status of run size, harvest and escapements. ODFW will monitor fisheries through creel and angler surveys. ODFW will provide NOAA Fisheries with annual post season reports in the year and a half following the fishery. This period will allow harvest data and incidental take to be analyzed. All incidental take will be included in the steelhead and Fall Chinook salmon impact reports.

4.5.2 Description of the process and schedule that will occur every X years to evaluate whether the FMEP is accomplishing the stated objectives. The conditions under which revisions to the FMEP will be made and how the revisions will likely be accomplished should be included.

ODFW proposes a five-year review schedule to evaluate whether the FMEP is accomplishing the stated objectives. The FMEP may be revised or modified accordingly to accommodate recommendations from recovery plans, harvest management plans, hatchery production and management plans, biological opinions, or other appropriate mechanisms. ODFW expects written notification by NOAA Fisheries of new information or policies related to the FMEP, and ODFW in consultation with NOAA Fisheries will propose appropriate modifications to this FMEP.

SECTION 4. CONSISTENCY OF FMEP WITH PLANS AND CONDITIONS SET WITHIN ANY FEDERAL COURT PROCEEDINGS

Fisheries outlined in this plan are ongoing and consistent with applicable *United States v. Oregon* court decisions and related agreements.

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