

Grande Ronde and Imnaha River Basin Summer Steelhead Fishery Management

Fishery Overview

Recreational steelhead fisheries in the Grande Ronde and Imnaha basins are managed with the purpose of providing hatchery steelhead harvest opportunities consistent with the goals of the Lower Snake River Compensation Plan (LSRCP, see below), while ensuring that resulting incidental mortality of wild steelhead has minimal risk to future abundance. Wild steelhead populations in both basins are listed under the Endangered Species Act (ESA), therefore fisheries are guided by a Fishery Management and Evaluation Plan (FMEP) approved by the National Marine Fisheries Service (NOAA Fisheries) in 2019. The FMEP ensures that ODFW's fisheries management approach limits impacts to native steelhead in a manner that supports recovery goals for the population.

Steelhead Populations

Wild steelhead populations in Snake River tributaries are all part of the larger Snake River summer steelhead Distinct Population Segment (DPS). Within the DPS, there are two Major Population Groups (MPG) in Oregon; the Grande Ronde River and Imnaha River. The Grande Ronde MPG includes four major spawning areas: 1) The Lower Grande Ronde River (includes the Wenaha River), 2) Joseph Creek, 3) the Wallowa River, and 4) the Upper Grande Ronde River. The Imnaha River MPG is made up of a single major spawning area (Figure 1). Genetic information recently collected from Lower Granite Dam on the Snake River suggests that the Grande Ronde and Imnaha Rivers account for 27.2% and 7.3%, respectively, of all wild steelhead returning to the Snake River.

Two abundance-based thresholds guide management for each wild population. The Minimum Abundance Threshold (MAT), or viability threshold, represents the abundance at which the population has a high probability of long-term persistence. MAT levels for the Grande Ronde and Imnaha populations are 4,000 and 1,000 returning adults, respectively. The Critical Abundance Threshold (CAT) describes the level of abundance at which a population is at high risk of extinction over a short period of time. For the Grande Ronde and Imnaha MPGs, CAT levels are 1,200 and 300 returning adults, respectively. The FMEP directs ODFW to limit recreational fisheries when abundances drop below the CAT level.

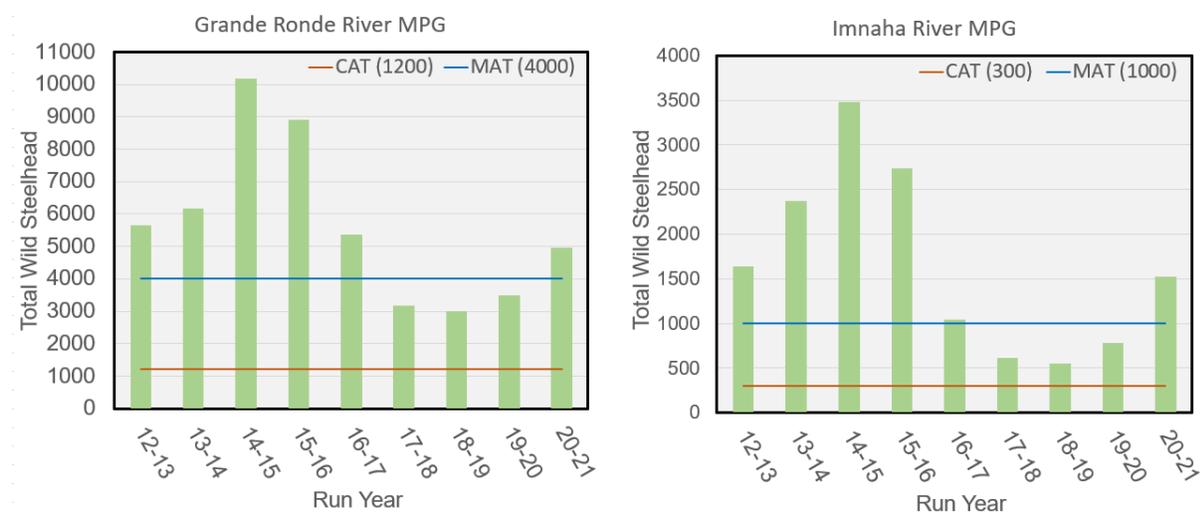


Figure 1. Estimated wild steelhead abundance from run years 2012-13 to 2020-21 for the Grande Ronde and Imnaha MPGs. CAT and MAT are represented by horizontal orange and blue lines, respectively.

Hatchery Programs

Hatchery steelhead production in the Grande Ronde and Imnaha basins is funded by the Lower Snake River Compensation Plan (LSRCP) to mitigate for lost harvest opportunity resulting from the hydroelectric development of the Snake River. Hatchery steelhead in the Grande Ronde basin are not listed under the ESA and only provide harvest opportunity. The hatchery stock, commonly known as the 'Wallowa' stock, was sourced in the late 1970's from adult Snake River origin steelhead collected at mainstem dams (ODFW 2011a). The hatchery program in the Imnaha basin was sourced from wild Imnaha steelhead and is designed to provide harvest opportunities in addition to supplementing the natural spawning population of steelhead in Little Sheep Creek, an Imnaha River tributary (Figure 1, ODFW 2011b).

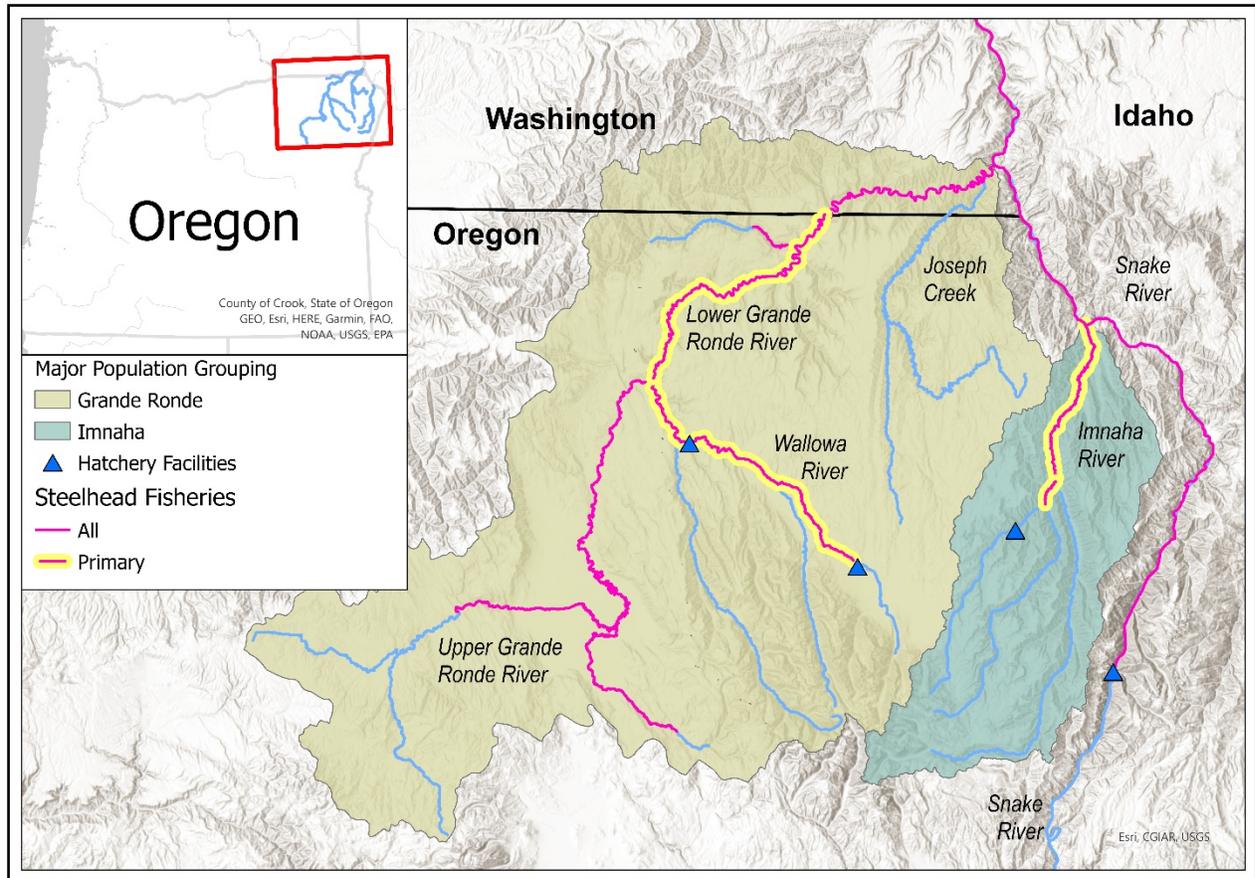


Figure 2. Map of the Grande Ronde River and Imnaha River wild summer steelhead major population groupings (MPGs), primary steelhead fishery reaches, and hatchery facilities.

Run Timing

Both wild and hatchery steelhead populations make one of the longest migrations in the state of Oregon, travelling over 650 miles from the ocean. Snake River steelhead pass Bonneville Dam in the lower Columbia River from July through September. Grande Ronde and Imnaha steelhead enter the Snake River from July through October. Over 50% of the steelhead run, on average, passes Ice Harbor Dam (the first on the Snake River) by September 24. Some steelhead migrate into tributaries during autumn and others overwinter in the mainstem Snake River until spring, where they move upstream to natural spawning areas and hatchery facilities.

Fishery Characteristics

Recreational steelhead fisheries for the Grande Ronde and Imnaha rivers begin on September 1 and continue through April 30 of the following year. Permanent regulations limit harvest to three (3) hatchery steelhead per day and specify that *all wild steelhead must be released unharmed*. Hatchery steelhead are marked with an adipose fin clip to differentiate from wild steelhead. While the recreational steelhead fishery opens on September 1, more than 98% of reported wild steelhead encounters occur after October 1 (Figure 3). Fishing opportunity in the Grande Ronde River follows hatchery run timing, occurring in the lower Grande Ronde River during autumn months, moves upstream near the confluence of the Wallowa River mid-winter, and farther upstream in the Wallowa River in early spring (Figure 2). Additional reaches provide opportunity for anglers to remove stray hatchery fish in Catherine Creek, the Upper Grande Ronde, and Wenaha Rivers, but receive negligible angler effort. In the Imnaha River, fishing typically occurs in early spring as steelhead move upstream from the Snake River towards hatchery facilities though some catch is known to occur during autumn.

Angler effort averages 30,675 hours per year for the Grande Ronde Basin and 2,209 hours per year for the Imnaha River, using data from the 2014-15 to 2018-2019 run years. We estimate that 15.1% of the Grande Ronde MPG and 11.5% of the Imnaha MPG were caught-and-released (or encountered) in recreational steelhead fisheries during the 2016-17 to 2020-21 run years. Considering an incidental mortality rate of 5.0% per the FMEP during the same period, we estimate that incidental mortality rates from the recreational steelhead fisheries in Oregon tributaries are, on average, 0.7% of the Grande Ronde MPG and 0.6% of the Imnaha MPG.

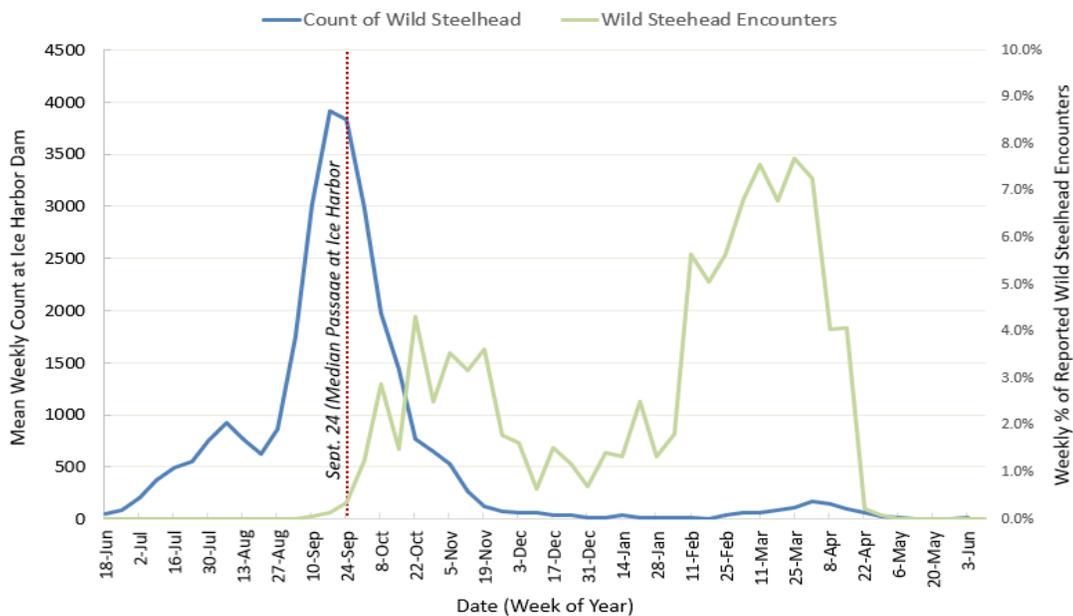


Figure 3. Mean weekly counts of wild steelhead passing Ice Harbor Dam Weekly percentage of incidental wild steelhead encounters reported during creel survey in the Grande Ronde Basin from the 2011-2012 to 2020-2021 run years. The vertical dashed, red line is the date of the 10-year median wild steelhead count at Ice Harbor Dam. Creel surveys are not conducted during autumn on the Imnaha but catch timing is similar to fisheries in the Grande Ronde Basin.

Management Approach

Steelhead management in the Snake River basin is closely coordinated with the states of Washington and Idaho, tribal co-managers, and federal agencies. Mainstem dams on the Columbia and Snake rivers, combined with a robust monitoring program, provides the ability to closely monitor abundance of wild and hatchery steelhead prior to their arrival into fishery areas. When 50% of the Grande Ronde and Imnaha River steelhead runs reach the Snake River, ODFW can estimate wild steelhead escapement with relatively high accuracy using the relationships established in Figure 4 below.

By September 24, the estimated abundance (escapement to spawning grounds) for the Grande Ronde and Imnaha MPG's is highly correlated with counts at Ice Harbor Dam (Figure 4). When counts exceed 2,800 and 2,200 wild steelhead, respectively, there is a strong likelihood that abundance will exceed CAT. In addition, abundance is expected to reach MAT for each population when counts are 9,000 and 7,200, respectively. ODFW will use pre-season estimates and will monitor runs through the Columbia River to determine preliminary fishery structure. Final fishery structure will be determined by late September after considering projections based on counts at Ice Harbor Dam (Figure 4). Emergency management actions will be implemented if projected escapement into one or both MPG's fails to exceed CAT. These potential emergency changes will require emergency rule making procedures and approval of the ODFW Commission. The above management approach is consistent with the FMEP approved by the National Marine Fisheries Service (NOAA Fisheries) in 2019.

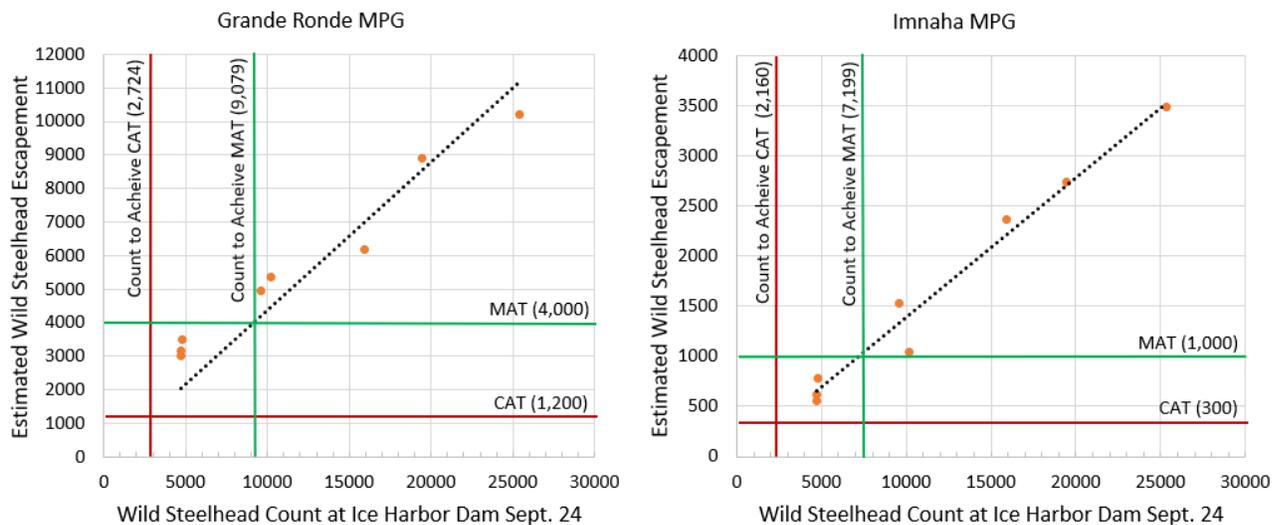


Figure 4: The relationship between counts of wild steelhead at Ice Harbor Dam on September 24 and the estimated return of wild steelhead to the Grande Ronde and Imnaha basins for 2011-12 –to 2020-21 run years.

Communication

ODFW submits a preseason fishery proposal to National Marine Fisheries Service and co-managers that outlines potential fishery management structures prior to September 1st. Additionally, ODFW will provide regular updates to stakeholders as steelhead pass dams on the mainstem Columbia and Snake rivers, and as fisheries are ongoing. Updates are provided via email, webpage, and occasional news release. These updates provide information that includes updated run estimates for hatchery and wild steelhead, potential management actions based on those estimates, and updated recreational fishery statistics including encounters of wild steelhead, harvest of hatchery steelhead, and angler effort.