



# ESA Coverage of Listed Steelhead (*Oncorhynchus mykiss*) in Puget Sound Salmon and Steelhead Fisheries

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## Abstract

The Puget Sound Steelhead Distinct Population Segment (DPS) was listed as "threatened" under the Endangered Species Act (ESA) on May 11, 2007. NMFS issued protective regulations for Puget Sound steelhead on September 25, 2008. Under the 4(d) Rule in 2008 and 2010, the Washington Department of Fish and Wildlife (WDFW) and Puget Sound Indian Tribes (PSIT) through the Northwest Indian Fisheries Commission (NWIFC) submitted a joint resource management plan (JRMP) for steelhead harvest in Puget Sound. In 2010 and 2011 under ESA Section 7, co-managers worked with NOAA Fisheries to obtain authorization for steelhead harvest under the Puget Sound Chinook Harvest Biological Opinion. Puget Sound steelhead fisheries are restrictive and incidental mortality is minimal. Steelhead mortality occurs mainly in terminal recreational fisheries using mark-release regulations or tribal net fisheries to target hatchery steelhead; and incidentally in state recreational and tribal commercial net fisheries targeting more abundant species of salmon. Limited tribal steelhead harvest, reported through fish tickets, also occurs for ceremonial and subsistence purposes. Recreational catch is reported through the WDFW catch record card system; retention of Puget Sound wild steelhead in recreational fisheries is prohibited. Harvest is currently approved at no more than 4.2 percent for ESA-listed winter steelhead in the Skagit, Snohomish, Green, Puyallup and Nisqually rivers. This harvest rate is comparable with rates previously approved for steelhead in the Columbia River basin. For other Puget Sound basins where data are limited, steelhead fisheries must remain within harvest limits observed during the time period reflective of the 2000/2001 through 2006/2007 steelhead seasons.



## Introduction and Status

- Puget Sound steelhead were proposed for listing in March of 2006. The final federal listing decision as a "threatened" species occurred on May 11, 2007 (Figure 1).
- The principal factor for steelhead decline is the destruction or modification of habitat.
- The elimination of the directed harvest of wild steelhead in the mid-1990s has largely addressed the threat of historical harvest management practices (72 Fed Reg. 26722, May 11, 2007).
- The Puget Sound Technical Review Team (TRT) has identified three draft major population groups (MPGs) and 32 draft demographically independent populations (DIPs) for Puget Sound steelhead (Figure 2).



- Steelhead populations are showing declining trends (Hard *et al.* 2007 and Ford *et al.* 2010) and concern exists regarding lack of data for steelhead populations in Puget Sound. Additional steelhead monitoring is needed.

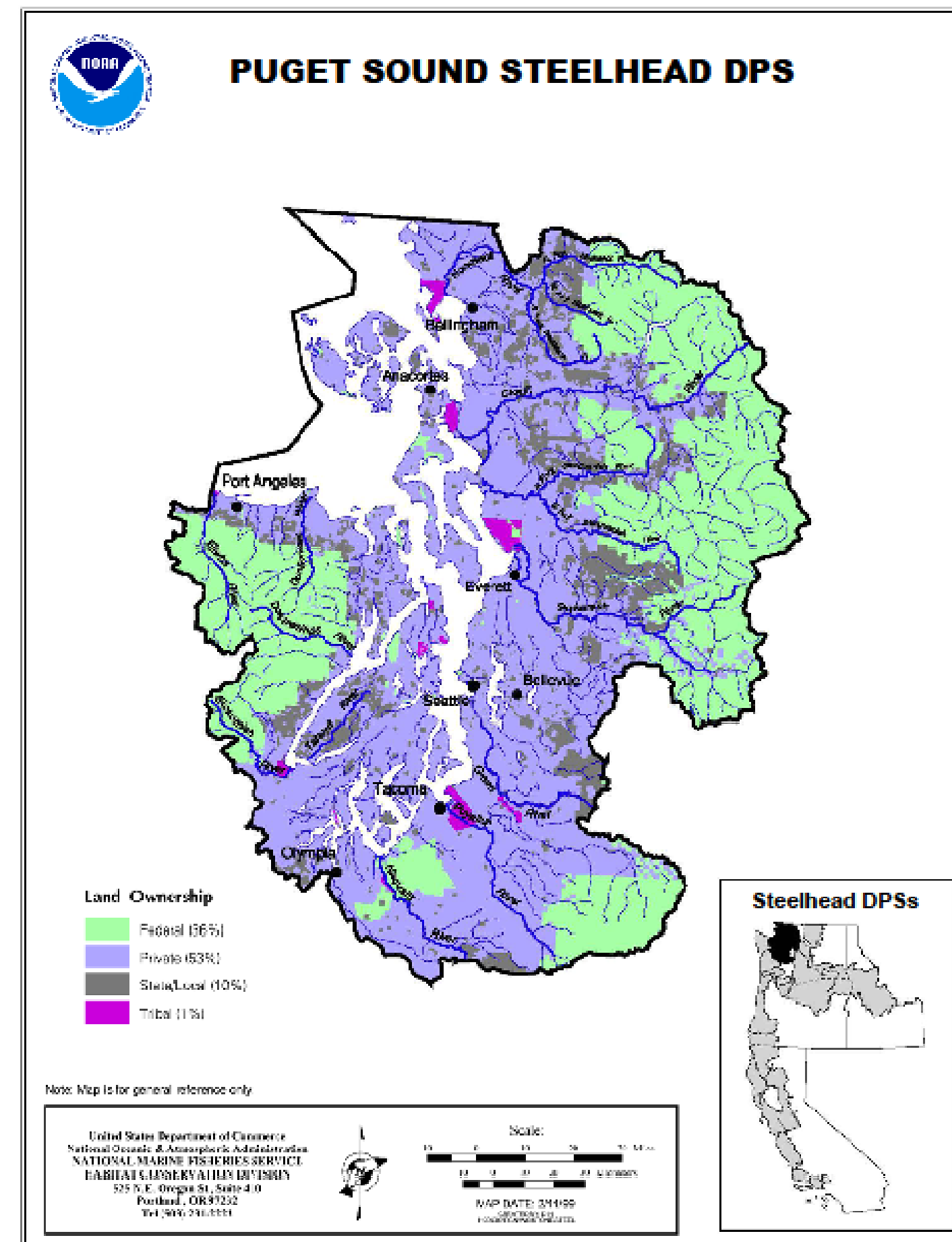


Figure 1. Puget Sound Steelhead DPS for ESA-listed steelhead.

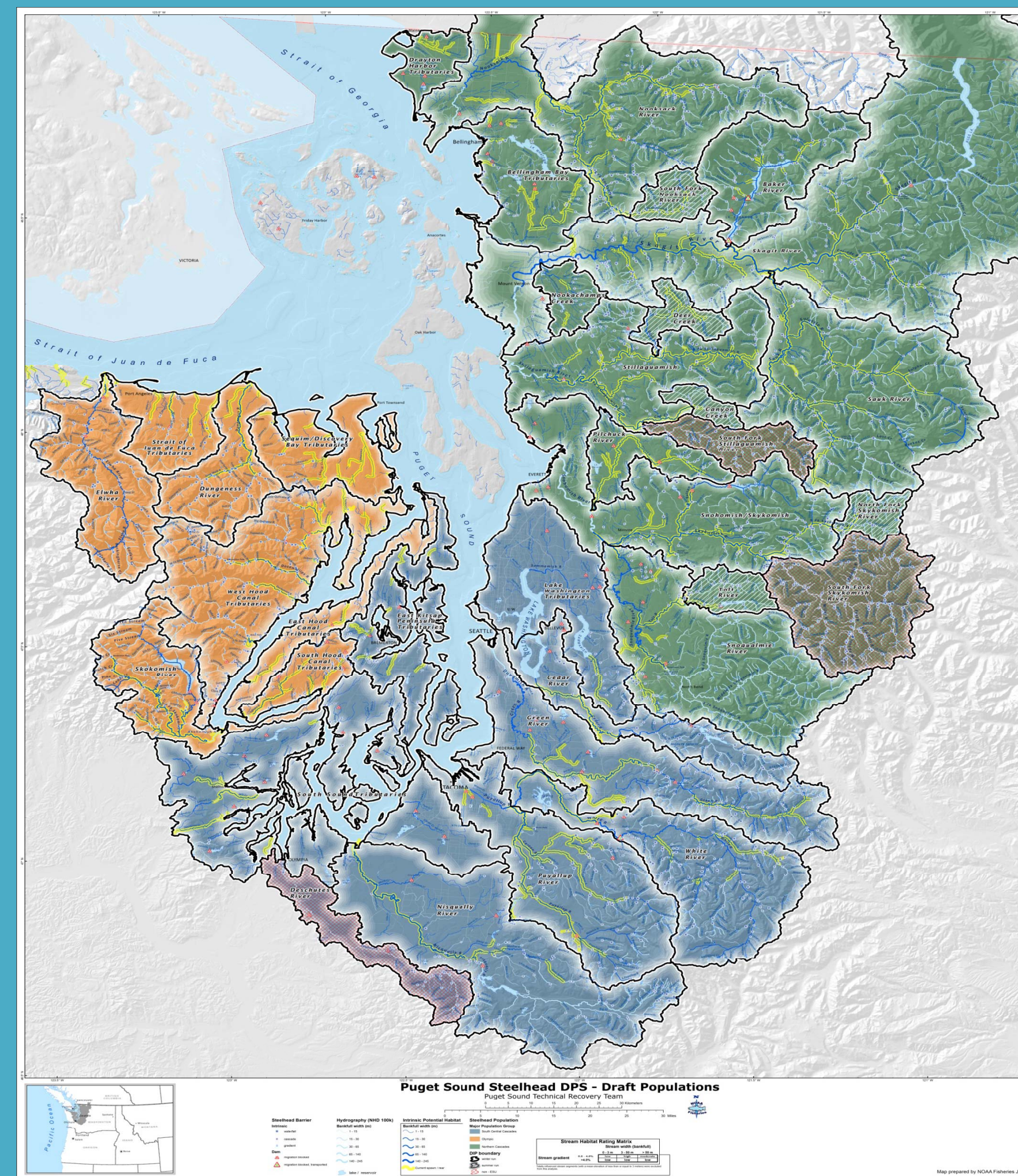


Figure 2. Puget Sound Steelhead Draft Major Population Groups (MPGs) and Distinct Population Segments (DIPs).

## Harvest Effects

- Steelhead harvest is restrictive (i.e., non-directed fisheries) and incidental mortality is minimal.
- Native steelhead have shown little or weak response to reduced harvest throughout the DPS based on escapement and total run size estimates for five populations (Figure 3).

### Harvest impacts occur in

- ✓ Recreational and commercial fisheries
- ✓ Tribal ceremonial, subsistence and commercial fisheries

targeting healthy populations of unlisted salmon and hatchery steelhead



## Harvest authorization and rates

- Combined average harvest rate for native steelhead is 4.2 percent for five steelhead populations (e.g., Skagit summer/winter; Snohomish; Green, Puyallup and Nisqually winter).
- Marine impacts are limited less than 400 native steelhead per year.
- For those populations where steelhead data are lacking, harvest management must remain within impacts observed during 2000/01 through the 2006/07 seasons.
- Incidental harvest rates for Puget Sound are within the range authorized for Columbia River steelhead populations.



## Conclusions

- The vast majority steelhead fisheries are restricted to non-directed fisheries and incidental mortality is minimal.
- NMFS concluded previous harvest management practices likely contributed to the historical decline of Puget Sound steelhead, but that the elimination of the directed harvest of native steelhead in the mid-1990s has largely addressed this threat (72 Fed Reg. 26722, May 11, 2007).
- Native steelhead have shown little or weak response to reduced harvest throughout the DPS based on escapement and total run size estimates for five populations (Figure 3).
- There is concern regarding the lack of data available for the majority of steelhead populations in the Puget Sound DPS. More detailed information on population abundance and productivity can be found in the *NMFS Status review update for Pacific salmon and steelhead listed under the Endangered Species Act* (Ford *et al.* 2011).

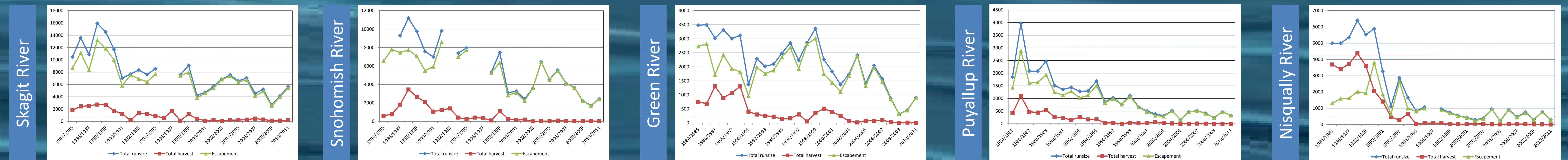


Figure 3. Effects of reduced harvest on escapement and total run size estimates for natural-origin steelhead from 1984/85 to 2006/07 for the Skagit, Snohomish, Green, Puyallup, and Nisqually river basins. Total harvest includes both tribal and non-tribal catch; all Puget Sound salmon and steelhead fisheries. Total estimates are represented by numbers of native steelhead.