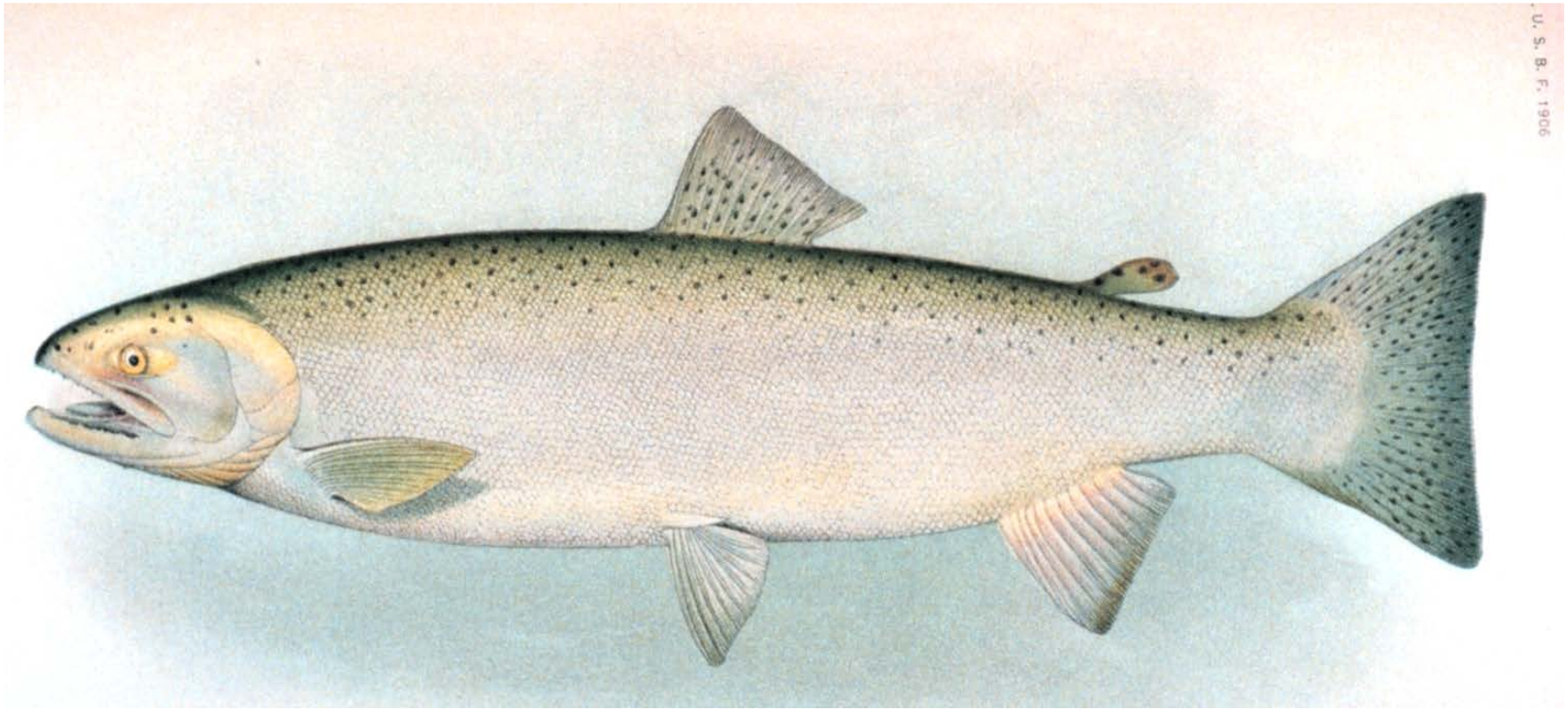
Washington State Steelhead Status Review



March 8, 2016

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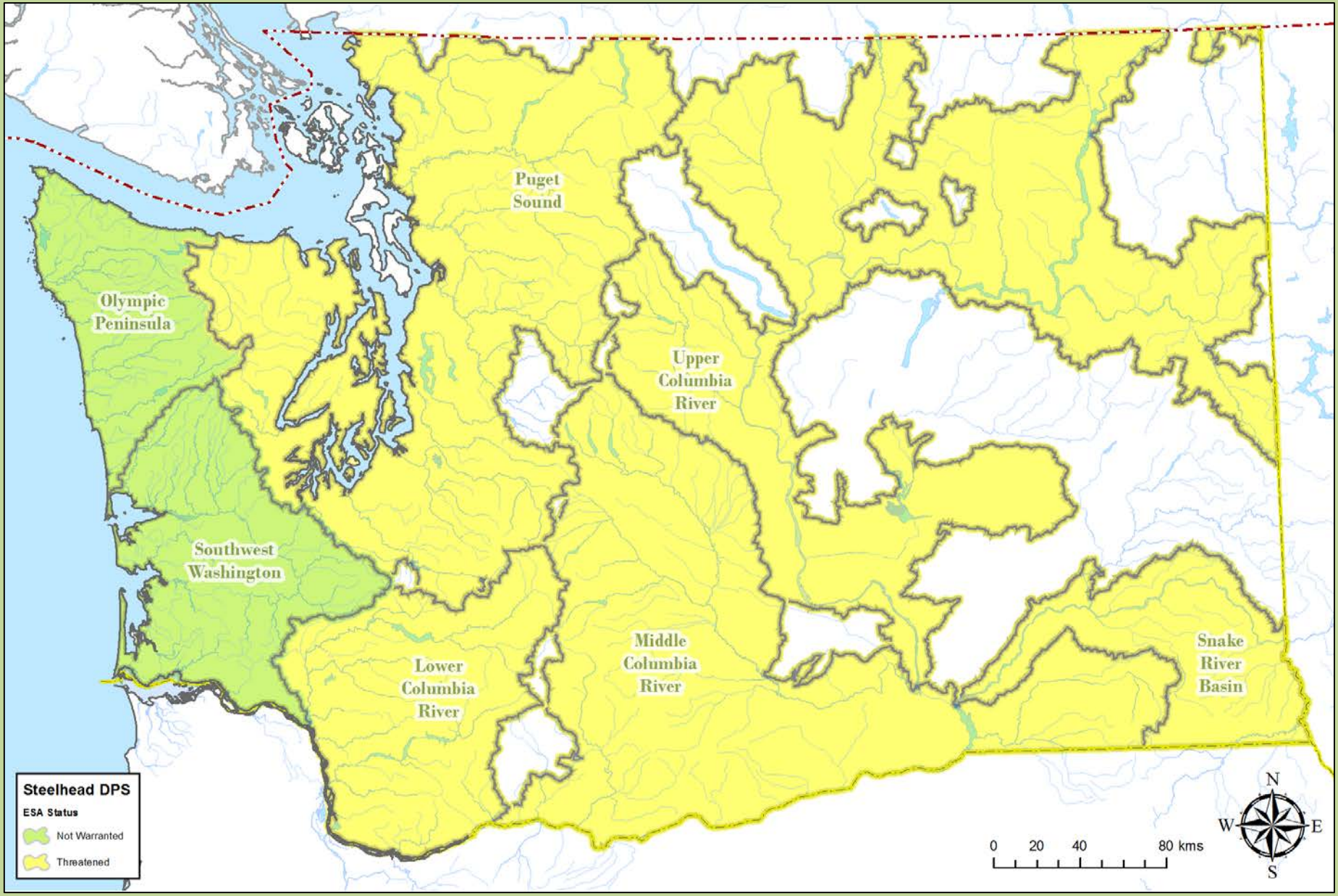
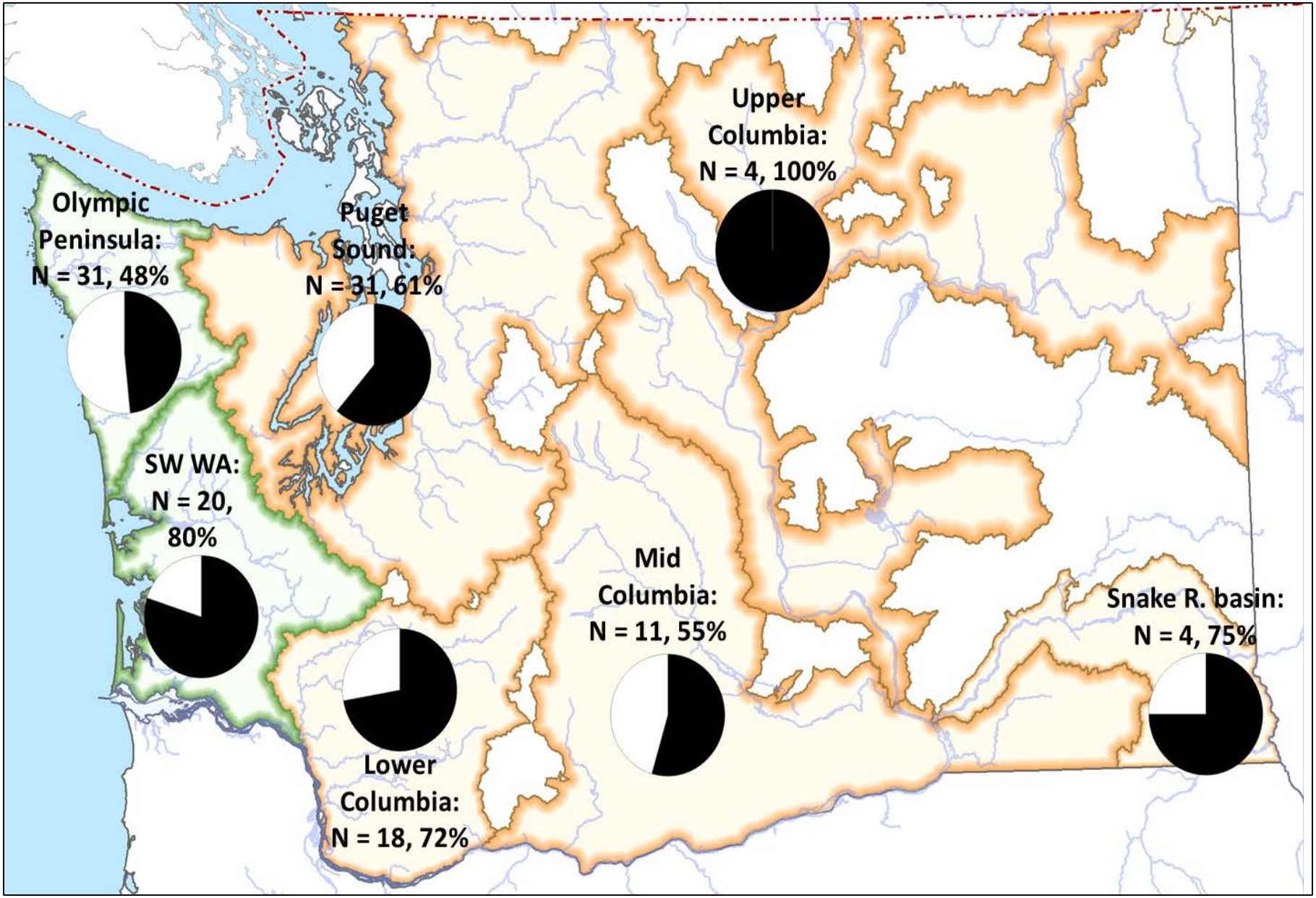
Evaluating Risks and Prioritizing Actions for Washington State Steelhead

- Assess current status of steelhead populations
- Identify populations at highest risk of extinction
- Identify statewide, DPS-, and population-specific threats
- Recommend management actions and prioritize data needs

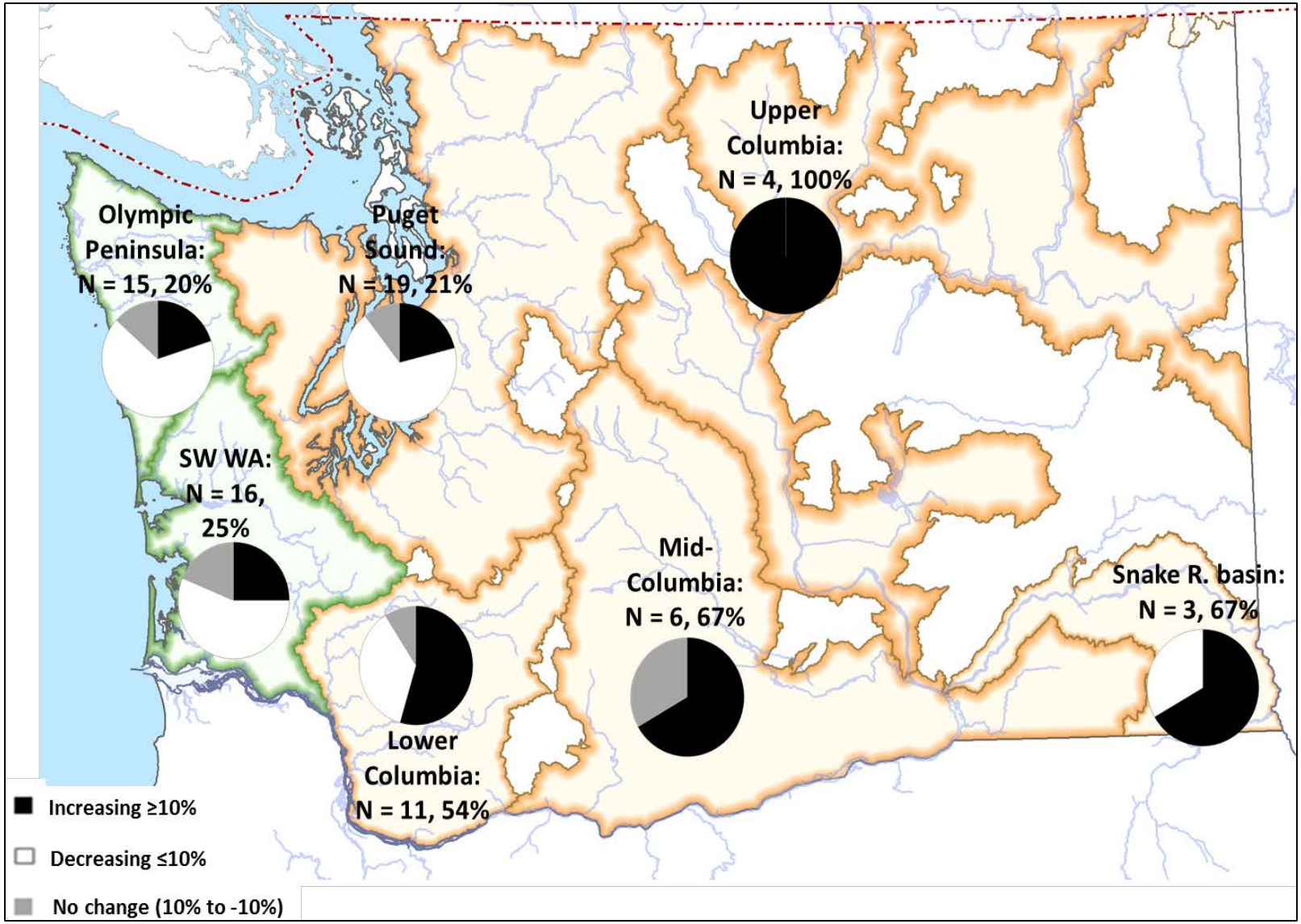
Steelhead DPS structure



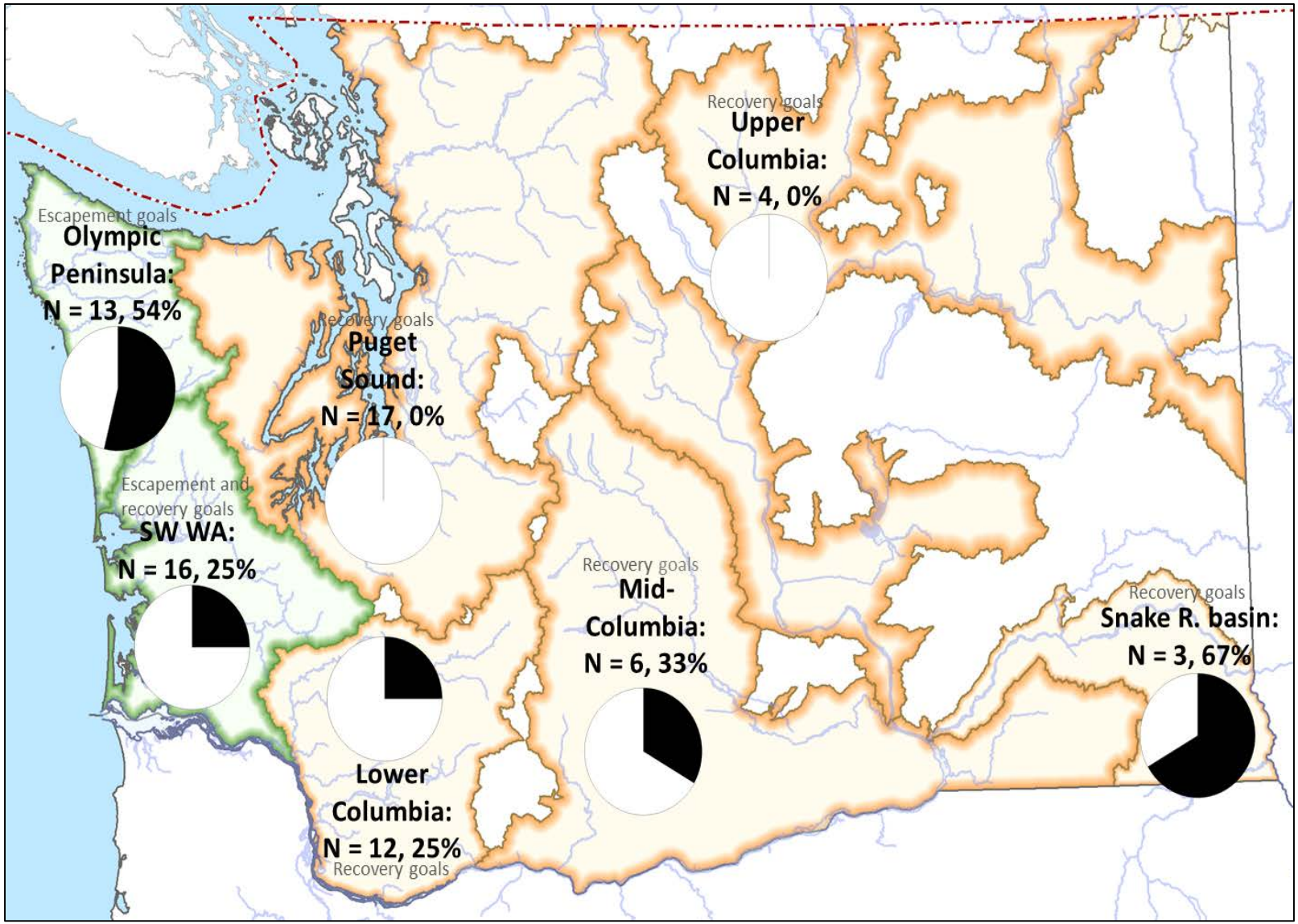
Abundance data availability



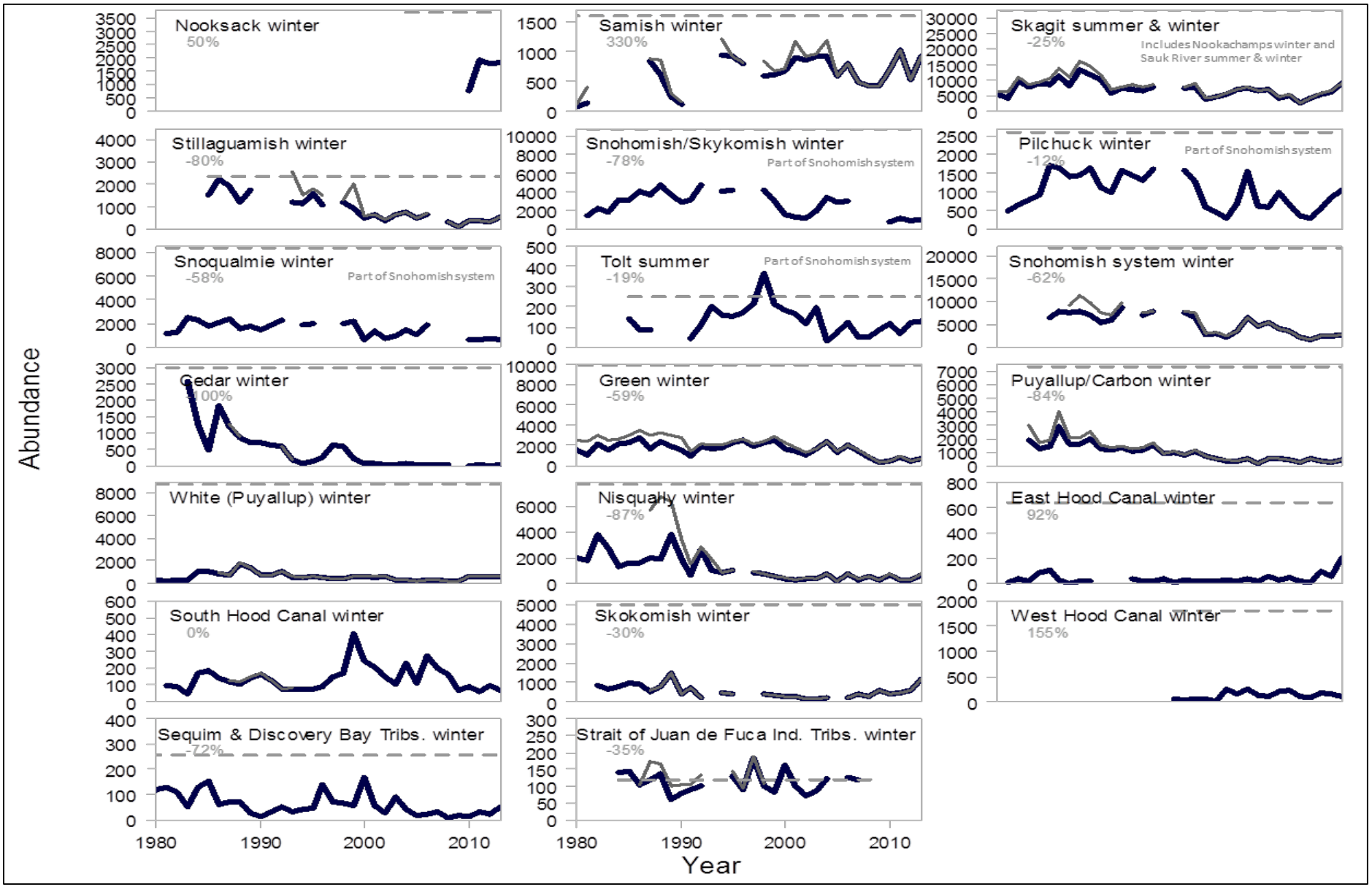
Population trajectories by DPS



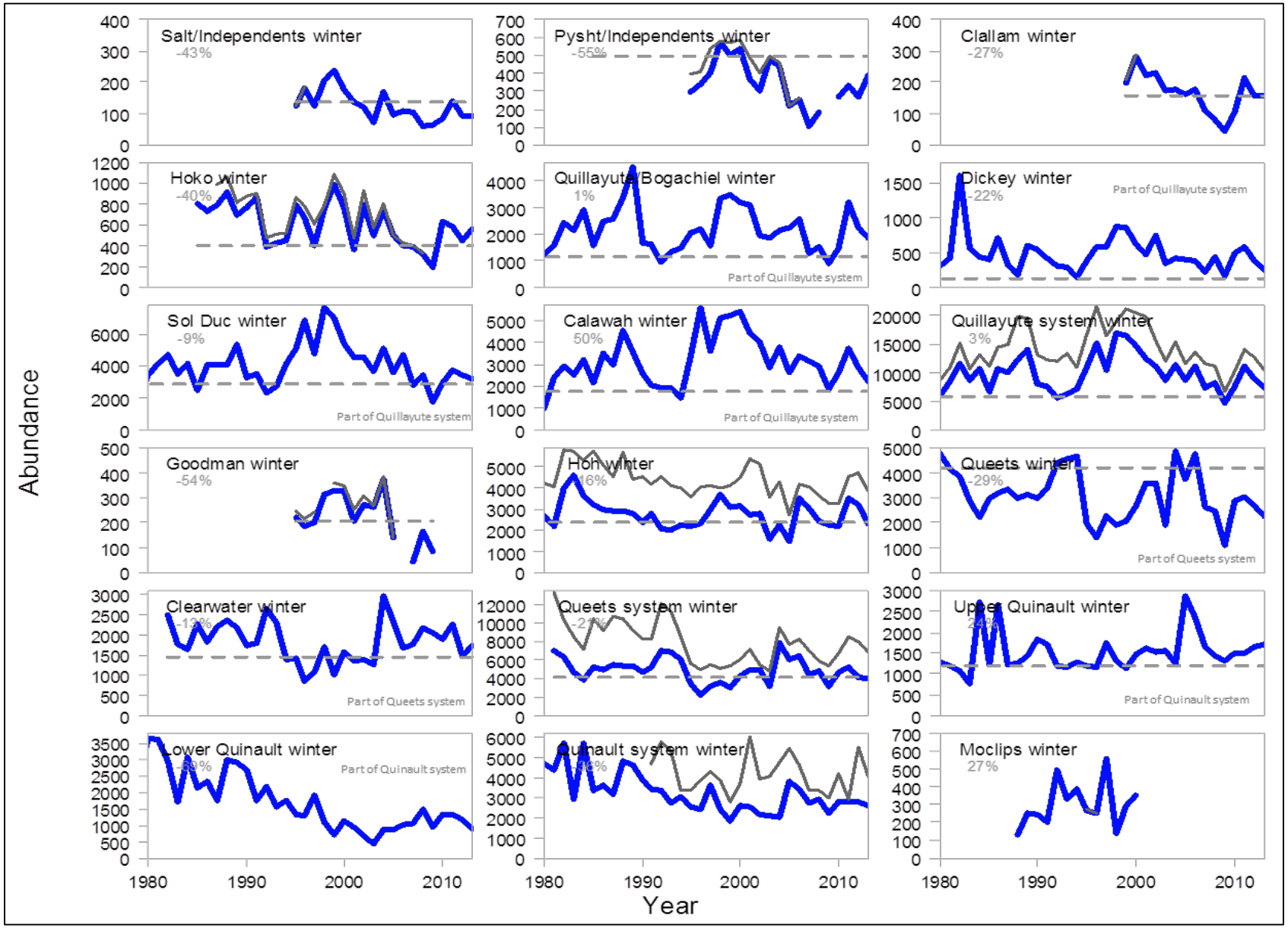
Populations meeting escapement or recovery goals by DPS



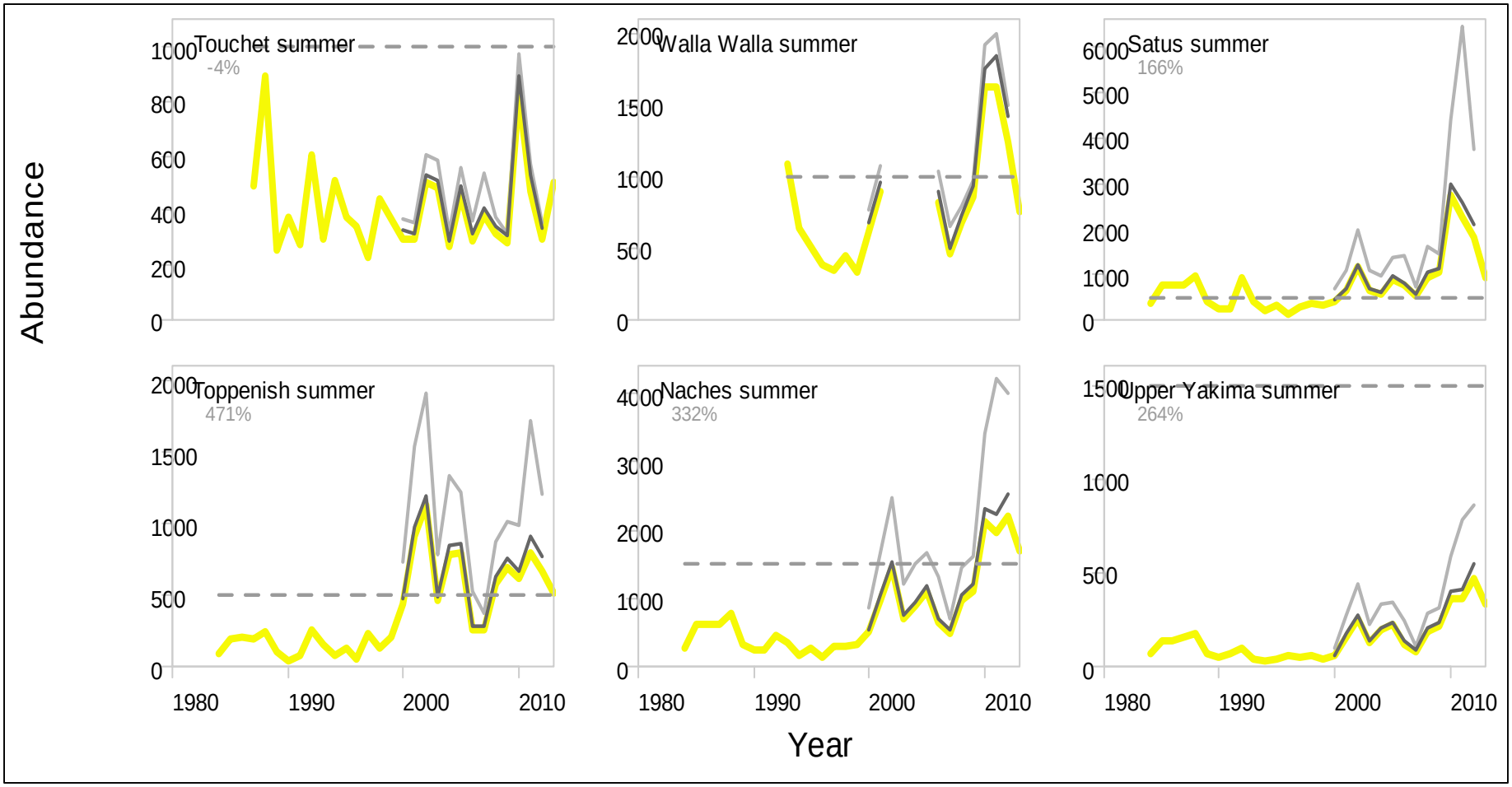
Puget Sound DPS



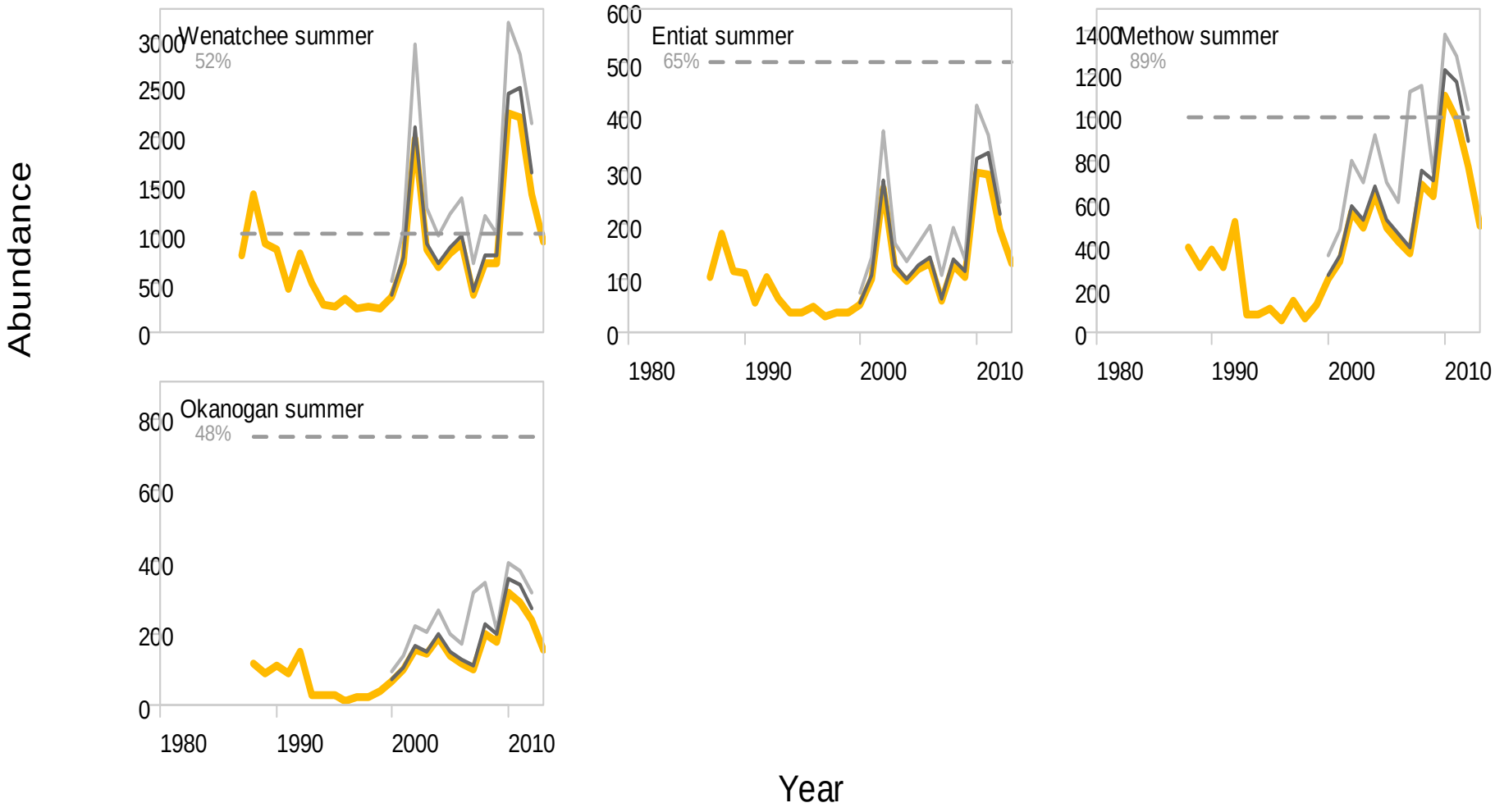
Olympic Peninsula DPS



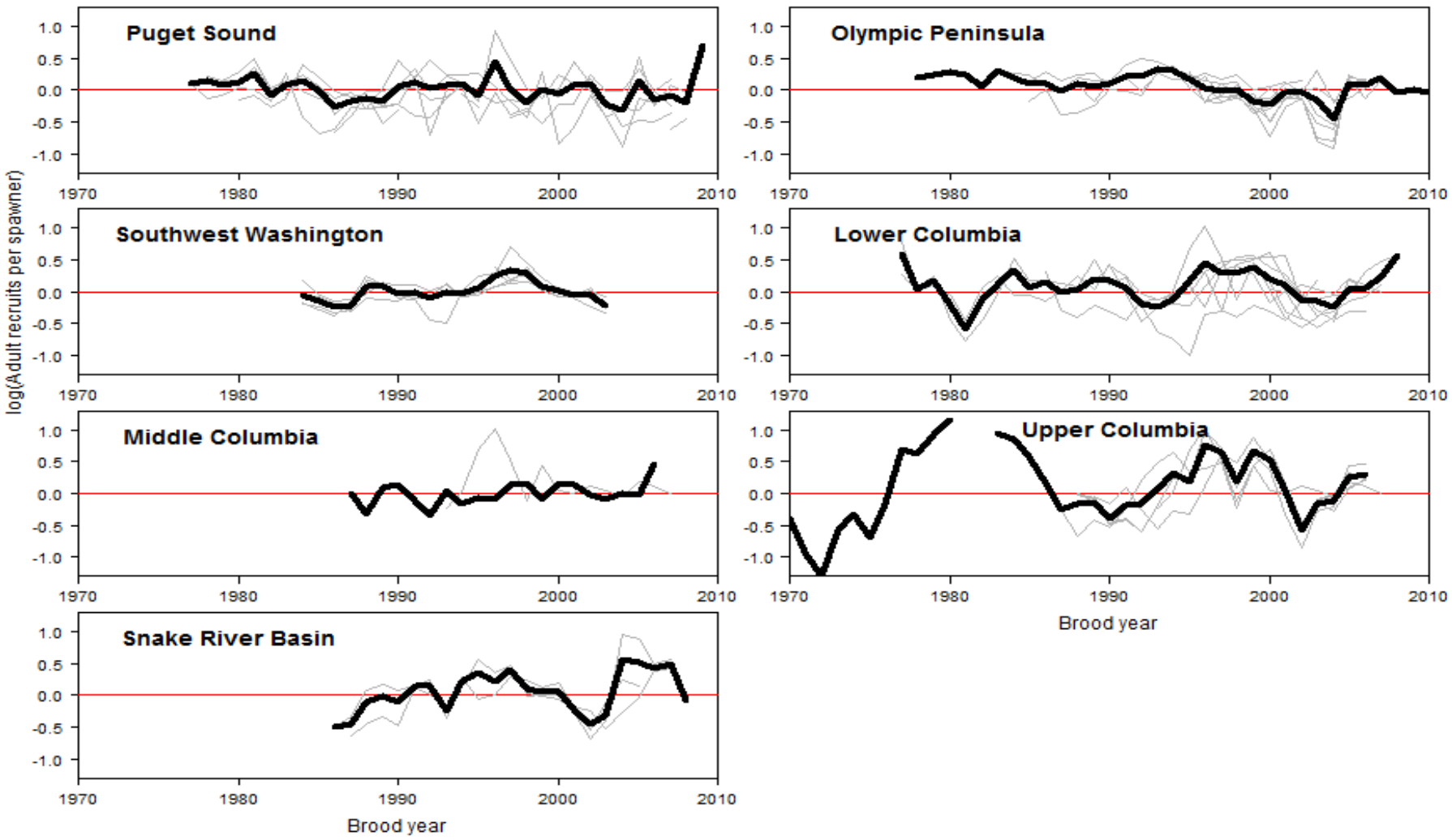
Middle Columbia River DPS



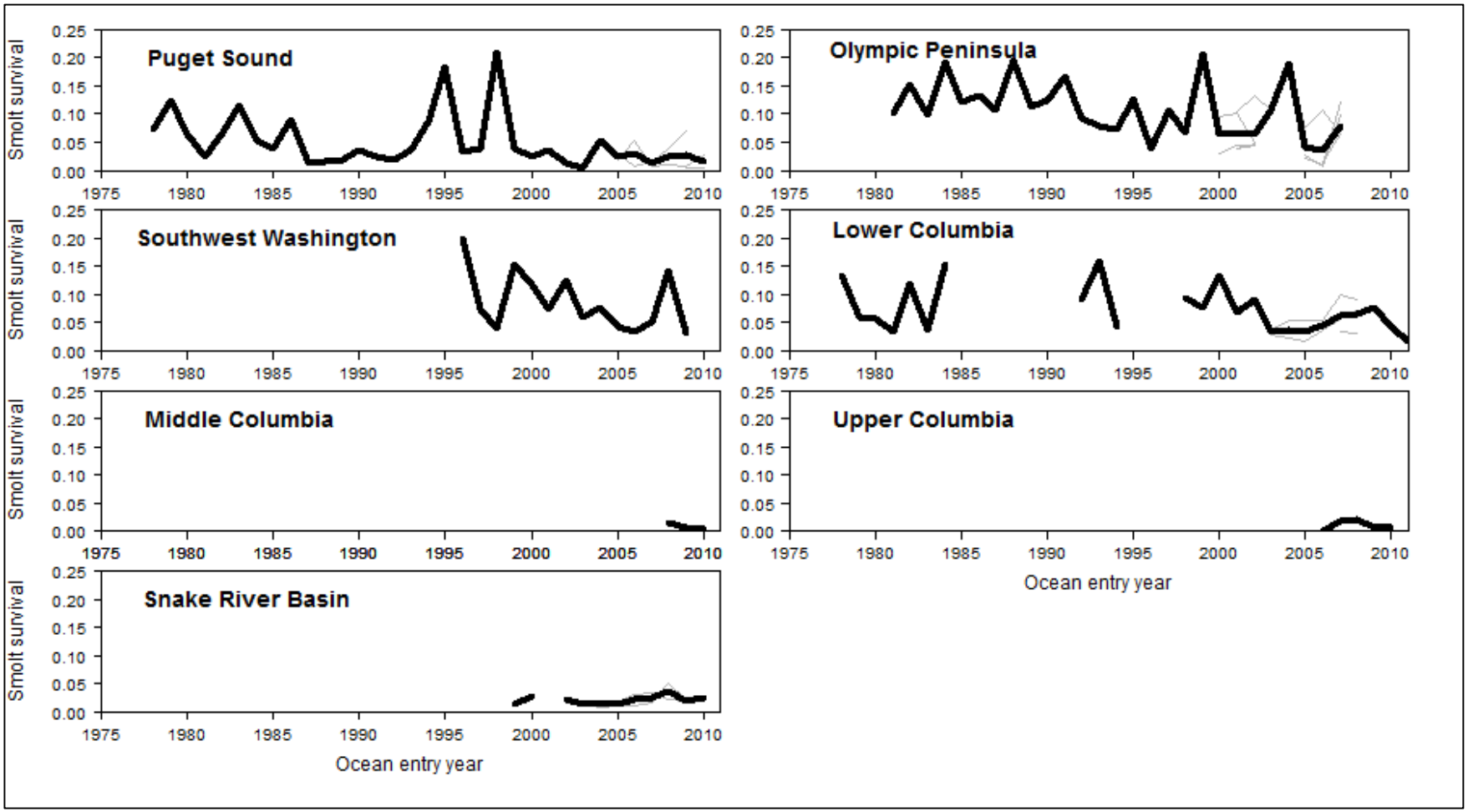
Upper Columbia River DPS



Adult-to-adult productivity

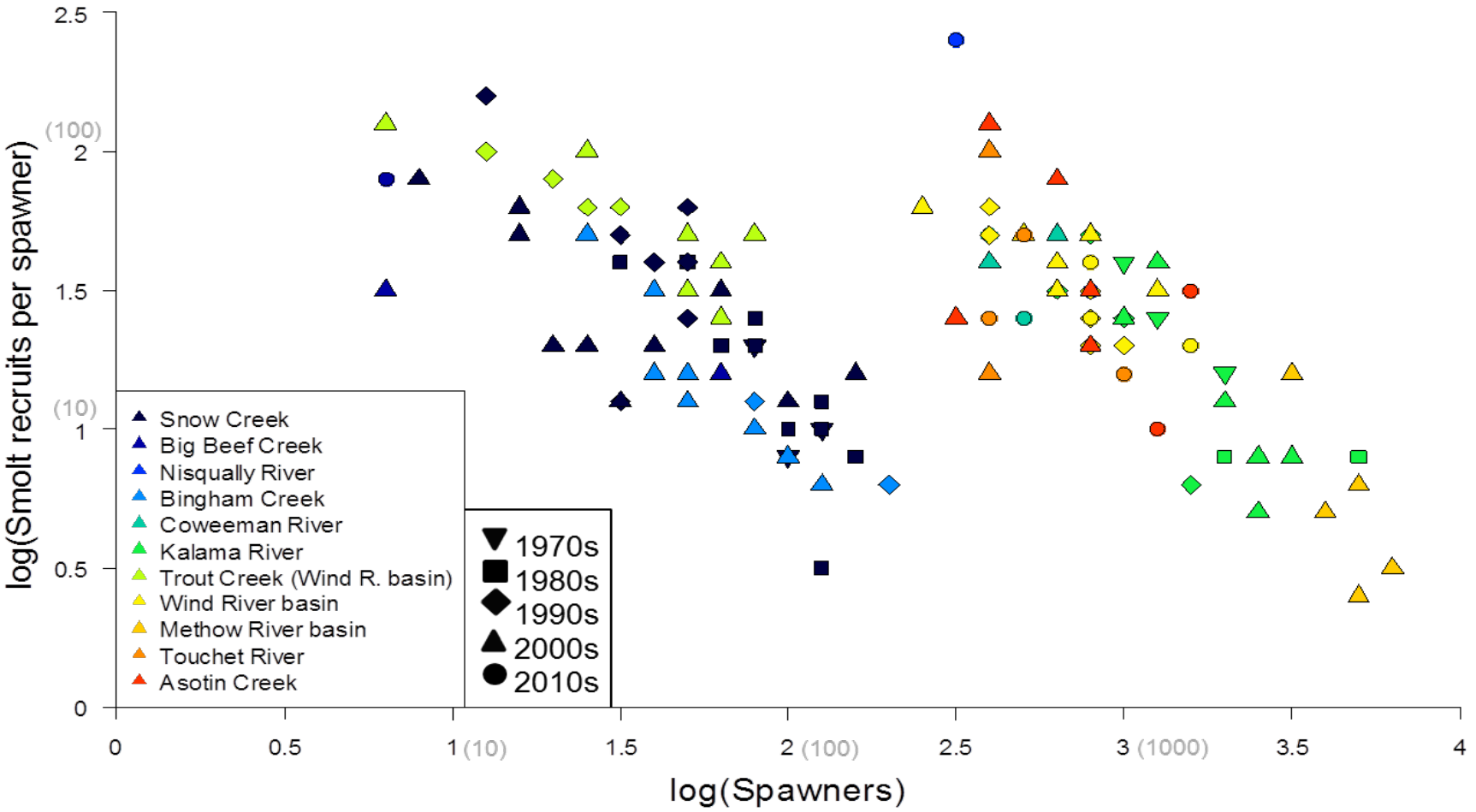


Smolt-to-adult productivity

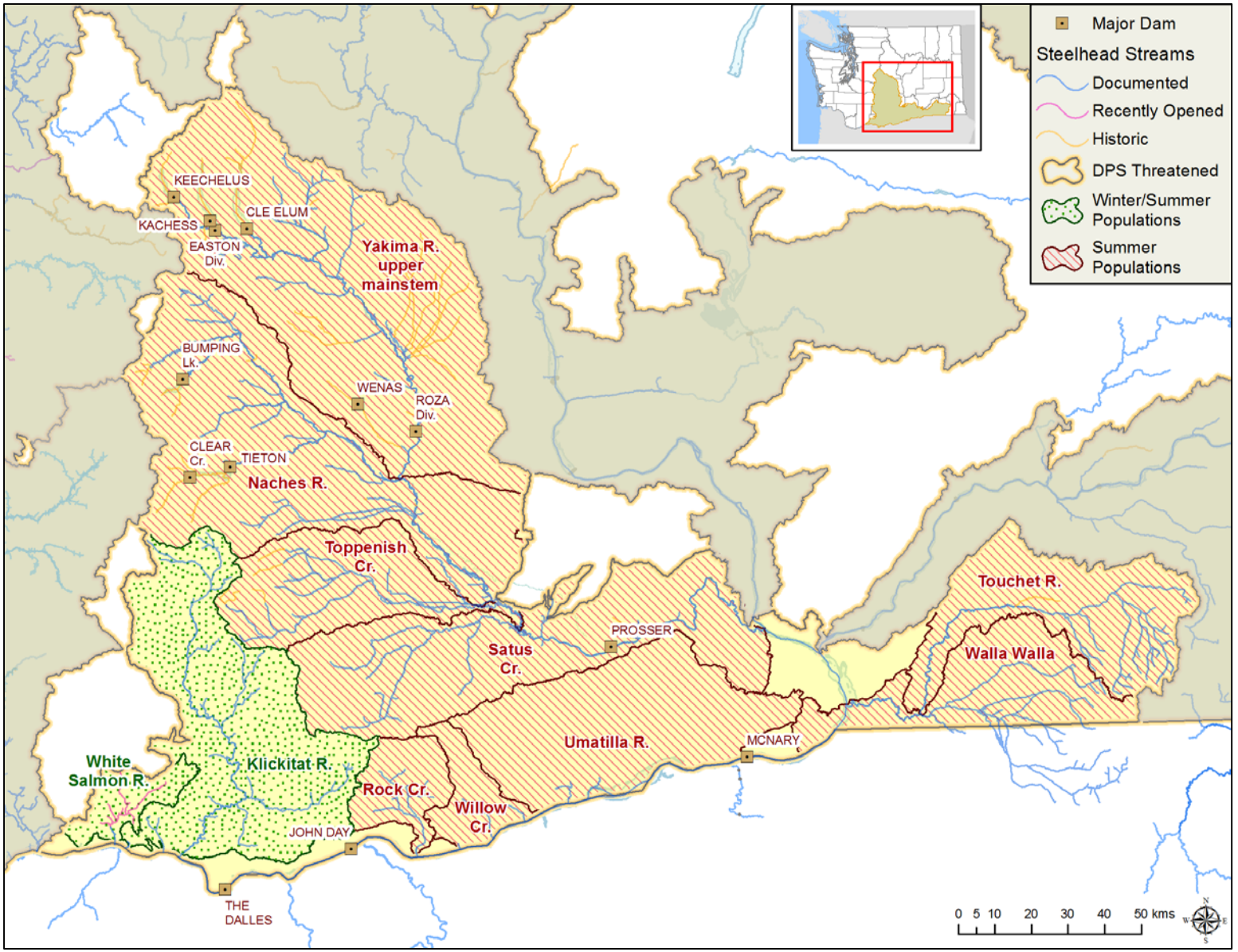


Freshwater productivity

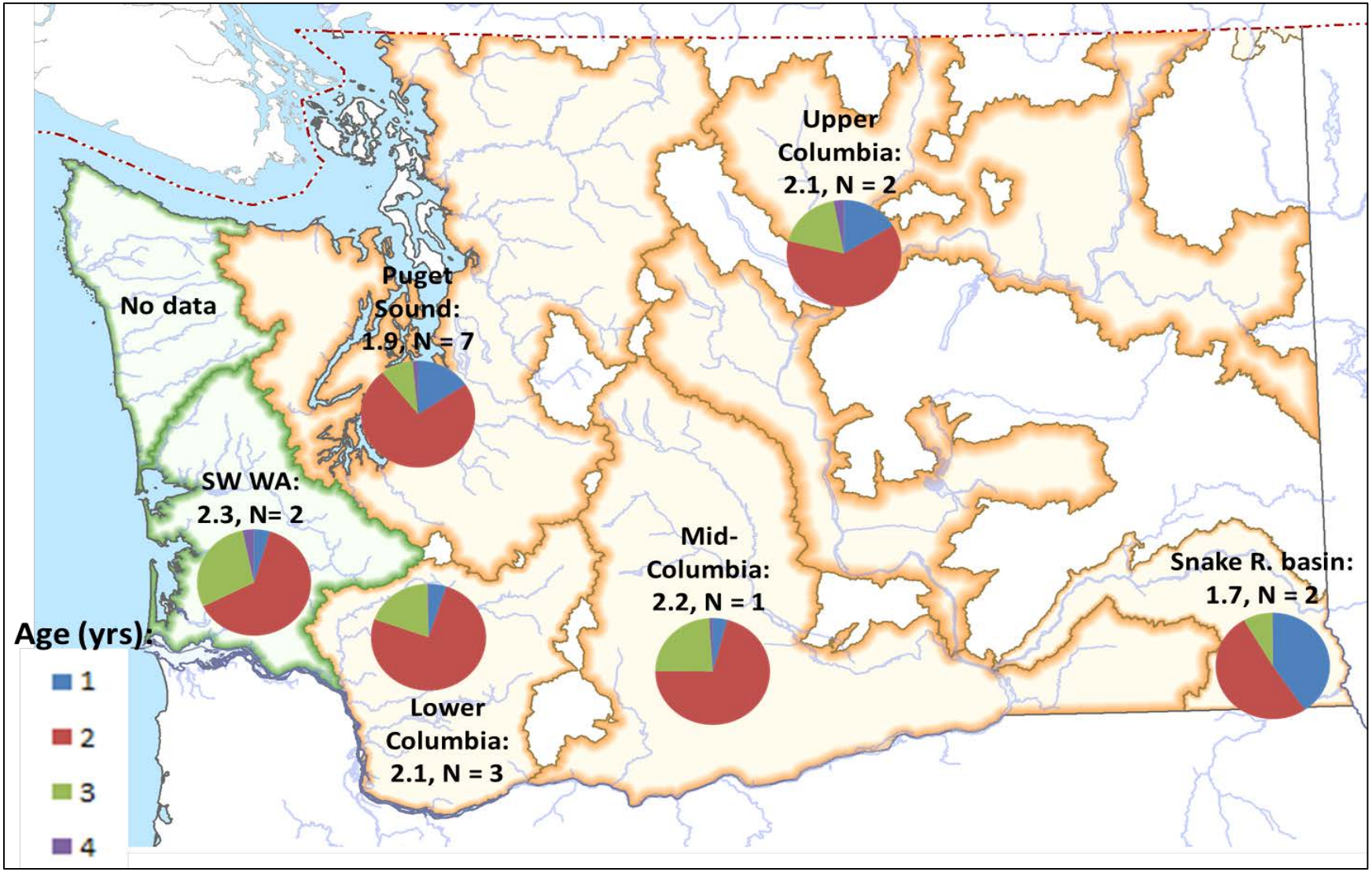
Smolts per spawner across populations and time



Spatial structure



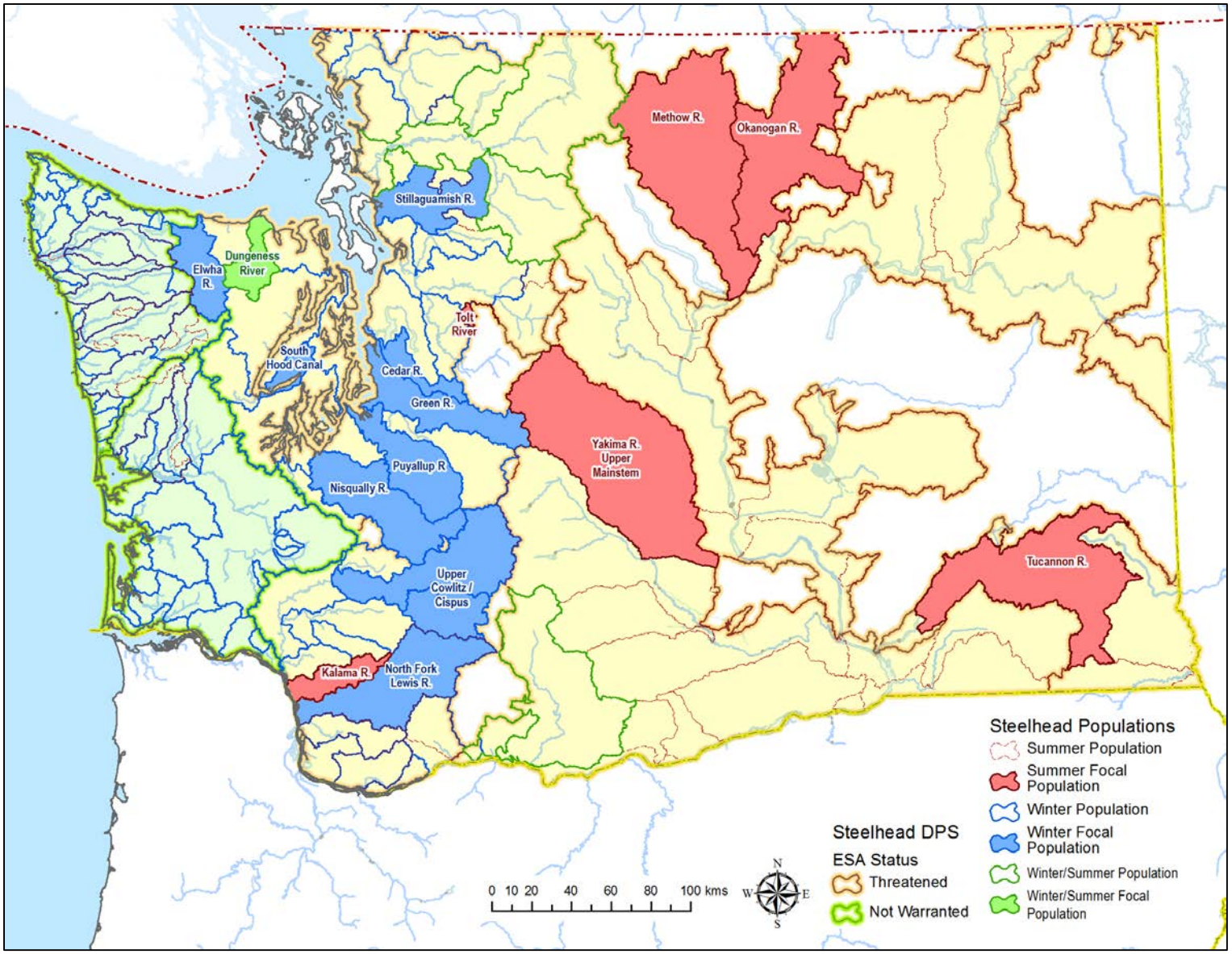
Freshwater age composition among DPSs



Focal populations

Population			SARR Risk Criteria					SARR Risk Score		
DPS	Population	Run	Long Term Abundance Trend	Short Term Decline	Extinction Risk	Status relative to abundance goal	NOAA 2010 or TRT Risk Score [1]	SARR risk score	Population Risk Score	Focal Population
PS	Cedar	W	-100%	No	100%	0%	High	4.0	High	Yes
PS	Nisqually	W	-86%	No	2%	0%	High	3.0	High	Yes
PS	Puyallup/Carbon	W	-84%	No	8%	0%	High	3.0	High	Yes
PS	Stillaguamish	W	-81%	No	0%	0%	High	3.0	High	Yes
PS	Green	W	-61%	No	12%	0%	High	3.0	High	Yes
PS	South Hood Canal	W	-61%	No	100%	0%	High	4.0	High	Yes
LC	Kalama	S	-57%	No	25%	40%	Moderate	2.0	High	Yes
PS	Tolt	S	-19%	No	25%	0%	High	3.0	High	Yes
Snake	Tucannon	S	8%	No	54%	0%	High?	3.0	High	Yes
UC	Methow	S	279%	No	20%	20%	High	3.0	High	Yes
UC	Okanogan	S	290%	No	56%	0%	High	3.0	High	Yes
MC	Upper Yakima	S	292%	No	23%	0%	High	3.0	High	Yes
LC	Upper Cowlitz/Cispus	W	648%	No	27%	0%	High	3.0	High	Yes
LC	North Fork Lewis	W	insuf. data	insuf. data	insuf. data	insuf. data	High	TRT only	High	Yes
PS	Dungeness	W	insuf. data	insuf. data	insuf. data	insuf. data	High	TRT only	High	Yes
PS	Elwha	W	insuf. data	insuf. data	insuf. data	insuf. data	High	TRT only	High	Yes
PS	Sequim & Discovery Bays tribs.	W	-74%	No	79%	0%	High	4.0	High	No
OP	Goodman Creek	W	-53%	Yes	91%	20%	N/A	3.0	High	No
UC	Entiat	S	110%	No	58%	10%	High	3.0	High	No
LC	Lower Gorge	W	insuf. data	insuf. data	insuf. data	insuf. data	High	TRT only	High	No
LC	Salmon Creek	W	insuf. data	insuf. data	insuf. data	insuf. data	High	TRT only	High	No
MC	Rock Creek	S	insuf. data	insuf. data	insuf. data	insuf. data	High	TRT only	High	No
OP	Lower Quinault	W	-69%	No	0%	goal undefined	N/A	1.0	Moderate	No
LC	South Fork Toutle	W	-68%	No	8%	30%	Low	2.0	Moderate	No

Focal populations



Statewide management actions

Hatchery reform

- **Implement HSRG recommendations**
- **Externally mark all hatchery-origin steelhead, except when part of active preservation program**
- **Release only volitional migrants, non-migrants may benefit fisheries in non-anadromous waters**

Habitat

- **Focus on pump-exchange irrigation projects that reduce overall water extraction and move point of diversion from cold tributaries to warmer mainstem rivers**

Barriers

- **improve downstream passage of pre-spawn adult steelhead, kelts, and juveniles at all dams and irrigation diversions**

Harvest

- **Consistently estimate and report harvest statewide**
- **Continue and expand catch-and-release mortality studies and link to reproductive success**

DPS- and population-scale actions

Puget Sound

- Continue early marine survival research
- Designate at least one population per MPG as wild steelhead management zones
- Develop and fund robust abundance estimation

Lower Columbia

- Improve fish passage at dams in Upper Cowlitz, North Fork Lewis, and North Fork Toutle rivers
- Address unnaturally high predation by terns and cormorants
- Ensure the Columbia River hydrosystem is managed in ways that promote the recovery of steelhead populations

Tucannon River

- Improve downstream passage at Snake River dams to allow successful homing
- Implement recommended hatchery reform and fishery management actions that will reduce pHOS

Thanks!