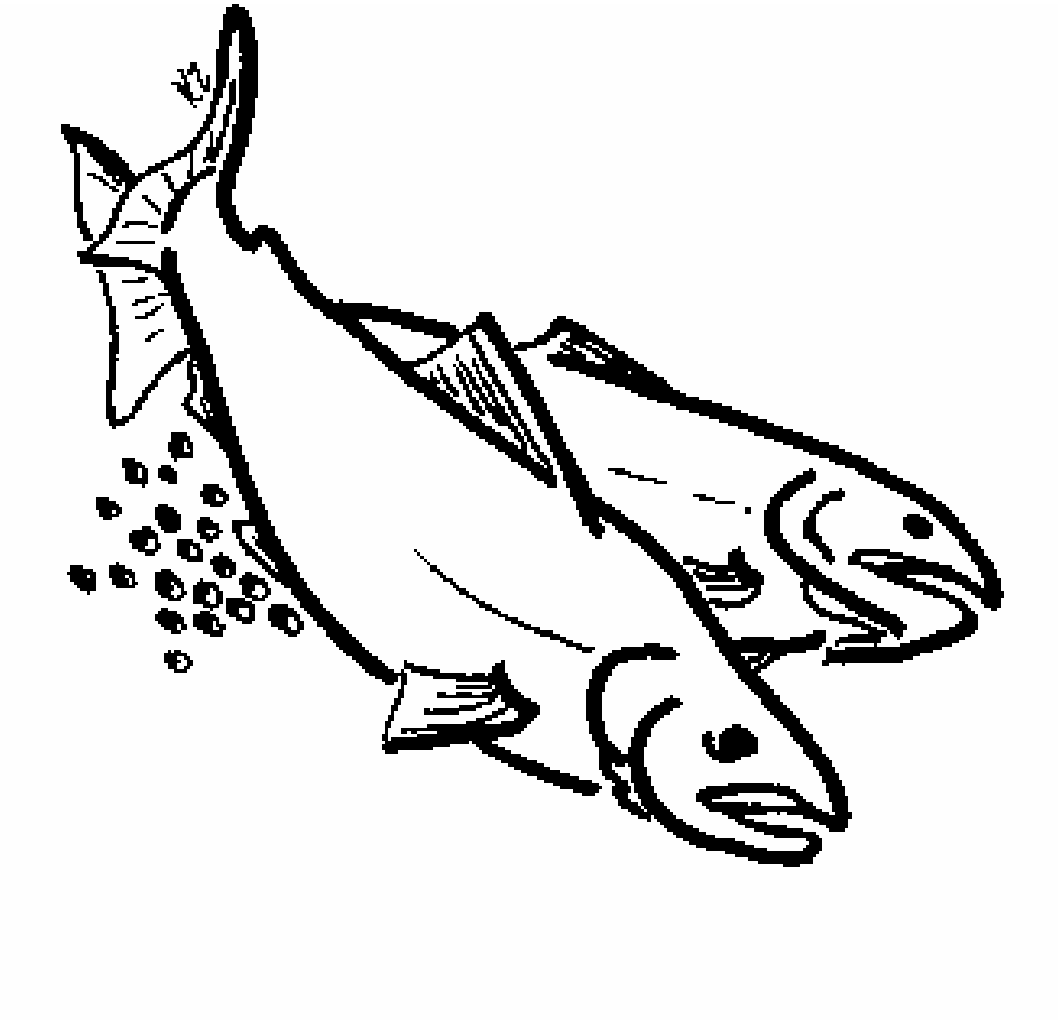
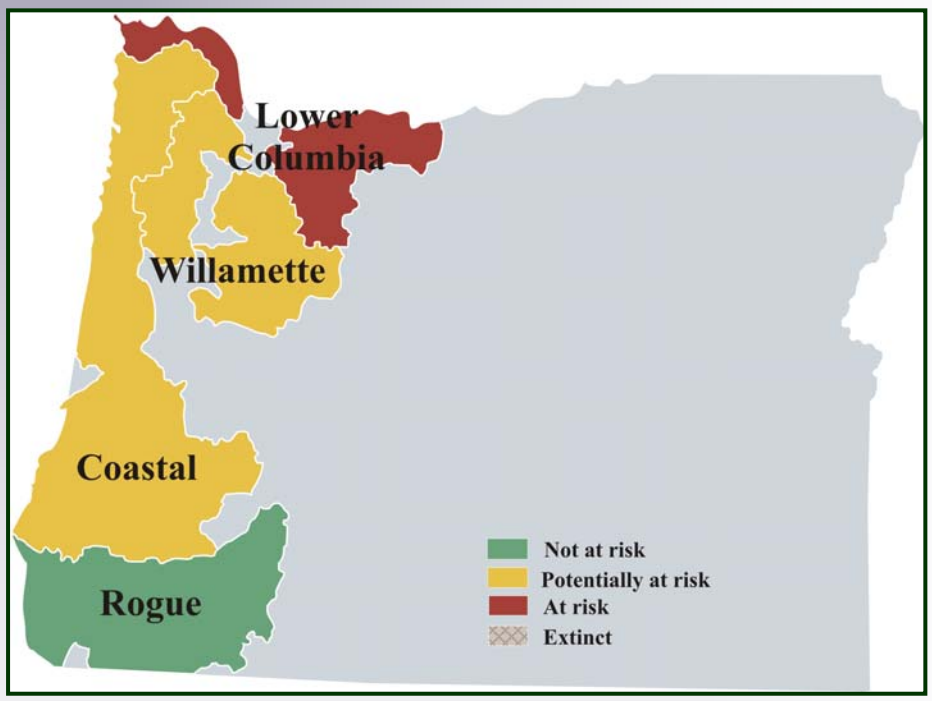


Winter Steelhead

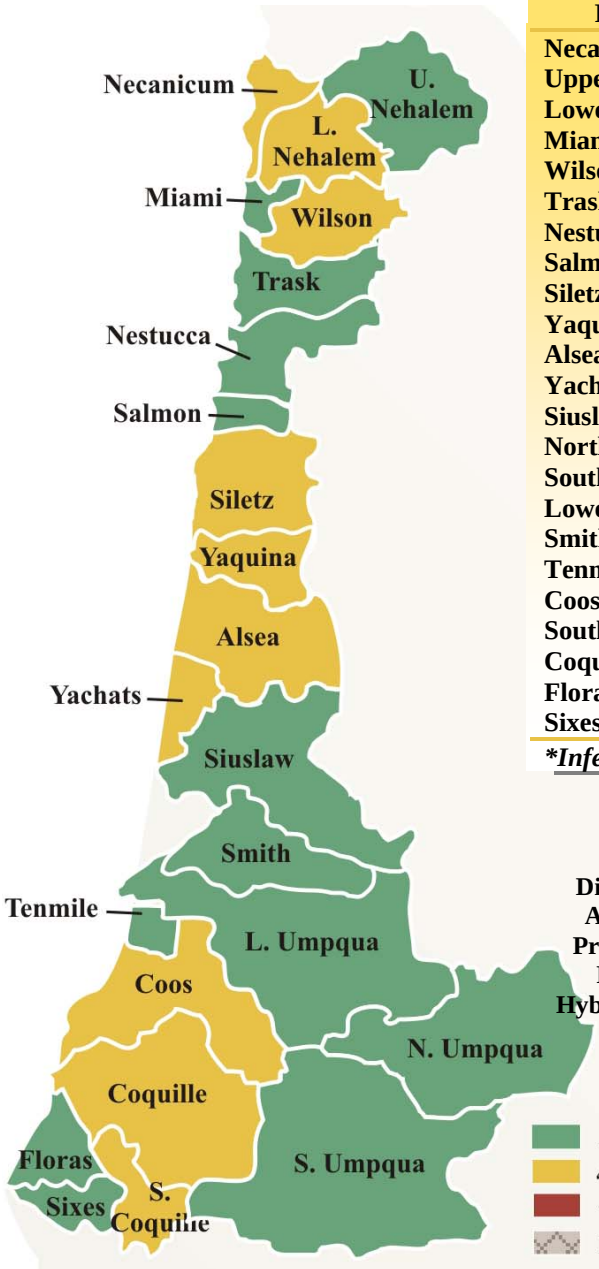


Winter steelhead are widely distributed in small to moderate-sized coastal, lower Willamette, and lower Columbia streams. They mature in the ocean, return in fall or winter, and spawn from December through March. Young steelhead rear for 1-4 years in freshwater and spend 1-3 years in the ocean. In some streams, anadromous steelhead and resident rainbow trout populations are interrelated. Unlike salmon, some steelhead survive spawning to return in later years. Winter steelhead typically average 6-12 pounds. In the ocean, steelhead migrate into far north offshore waters. Five winter steelhead SMUs include a total of 48 populations. The coastal SMU is potentially at risk because of hatchery fish influence in some basins. The Rogue SMU is not immediately at risk. Low returns and low productivity place the lower Columbia and Willamette SMUs at risk.

Coastal Winter Steelhead SMU

ESA Designation:	State Status:	Interim Assessment:
Candidate 1998	*Vulnerable*	*Potentially at Risk*

This SMU has more populations (23) than any other SMU and all historical populations are still present. Abundance is monitored at Winchester Dam on the North Umpqua, and the Salmonberry River in the Lower Nehalem. The SMU met five of six interim criteria. Failure of the reproductive independence criterion places the near-term sustainability of the SMU potentially at risk. Lack of data resulted in significant assumptions regarding abundance and productivity be made to make an assessment for this SMU. Limited data and inferences from other information for populations in this SMU provide a qualified level of confidence in the assessment of interim criteria.



Population	Exist	Dist.	Abund.	Prod.	Ind.	Hybrid
Necanicum	Pass	Pass*	Pass*	Pass*	***Fail****	Pass
Upper Nehalem	Pass	Pass*	Pass*	Pass*	Pass*	Pass
Lower Nehalem	Pass	Pass*	Pass	Pass	***Fail****	Pass
Miami	Pass	Pass*	Pass*	Pass*	Pass*	Pass
Wilson	Pass	Pass*	Pass*	Pass*	***Fail****	Pass
Trask	Pass	Pass*	Pass*	Pass*	Pass*	Pass
Nestucca	Pass	Pass*	Pass*	Pass*	Pass*	Pass
Salmon	Pass	Pass*	Pass*	Pass*	Pass*	Pass
Siletz	Pass	Pass*	Pass*	Pass*	***Fail***	Pass
Yaquina	Pass	Pass*	Pass*	Pass*	***Fail***	Pass
Alsea	Pass	Pass*	Pass*	Pass*	***Fail***	Pass
Yachats	Pass	Pass*	Pass*	Pass*	***Fail***	Pass
Siuslaw	Pass	Pass*	Pass*	Pass*	Pass	Pass
North Umpqua	Pass	Pass*	Pass	Pass	Pass	Pass
South Umpqua	Pass	Pass*	Pass*	Pass*	Pass	Pass
Lower Umpqua	Pass	Pass*	Pass*	Pass*	Pass*	Pass
Smith	Pass	Pass*	Pass*	Pass*	Pass	Pass
Tenmile	Pass	Pass*	Pass*	Pass*	Pass*	Pass
Coos	Pass	Pass*	Pass*	Pass*	***Fail****	Pass
South Coquille	Pass	Pass*	Pass*	Pass*	***Fail****	Pass
Coquille	Pass	Pass*	Pass*	Pass*	***Fail****	Pass
Floras	Pass	Pass*	Pass*	Pass*	Pass*	Pass
Sixes	Pass	Pass*	Pass*	Pass*	Pass*	Pass

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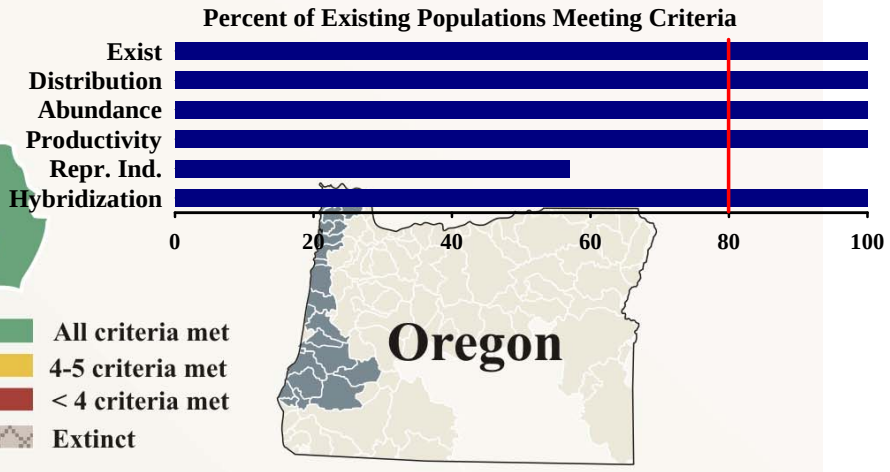
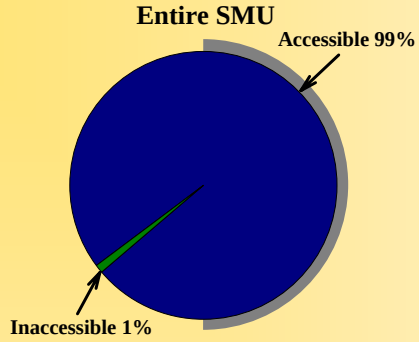
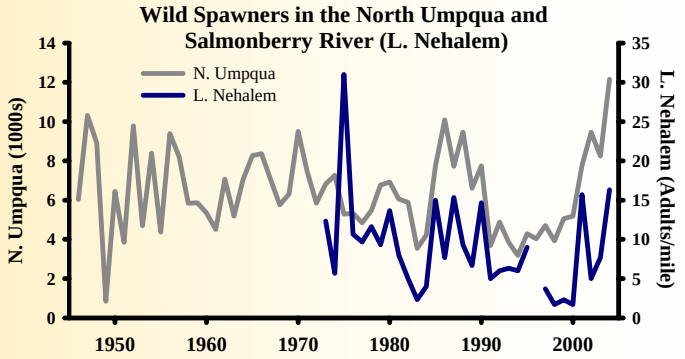


Distribution – Pass



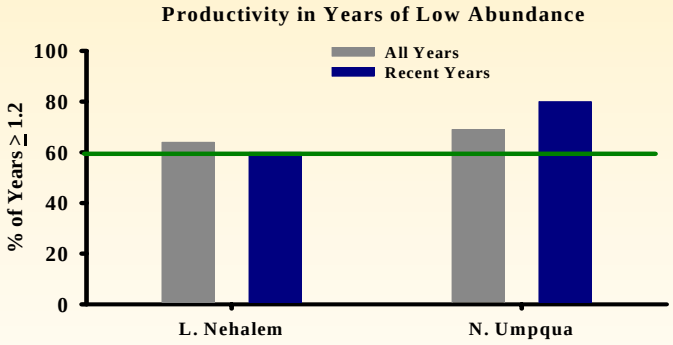
- Nearly all of the historically-available habitat (99%) of this species management unit is still available today.
- The South Umpqua has lost access to the most habitat of any population and still maintains 94% of historic availability.

Abundance - Pass



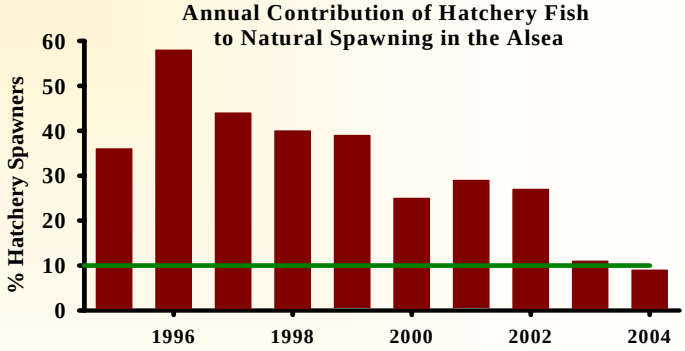
- Both populations with long-term data passed.
- Numbers in the North Umpqua have been at or above the interim criterion in most years since 1974. Abundance in the Lower Nehalem was above the criterion in four of the last five years.
- Few indices of abundance are available in other populations within the SMU. Trends in the North Umpqua and Lower Nehalem were assumed to be representative of the SMU.
- Trapping of adults in mid-coast basins, and spawning surveys in coastal basins in the last two years support the assumption that the North Umpqua and Lower Nehalem are representative of other populations.

Productivity - Pass



- Both the North Umpqua and Lower Nehalem passed the criterion.
- These results were assumed to be representative of the SMU.

Independence - Fail



- 13 of 23 populations passed this criterion based on trap and hatchery release data.
- Adult traps in the mid-coast suggest that natural spawning by hatchery fish is above 10% in the Siletz, Alsea, and Yaquina. Similar data showed that Siuslaw hatchery fractions are low.
- Adult trapping and counts at Winchester Dam adjusted for harvest show that hatchery ratios in the Umpqua are low.
- Creel survey data suggest that hatchery fractions in the Yachats are above the criterion threshold.
- Assessments in other populations of the North and South Coast were based on the presence (or absence) of hatchery releases.

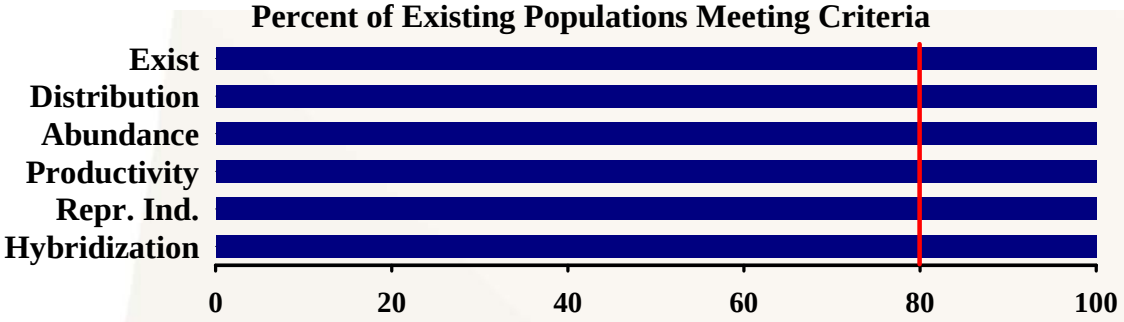
Additional Information

- In 2003, ODFW initiated an annual coast-wide monitoring program to estimate steelhead spawner numbers and hatchery-to-wild ratios. In the future, these data will allow a more comprehensive assessment of the coastal winter steelhead SMU.

Rogue Winter Steelhead SMU

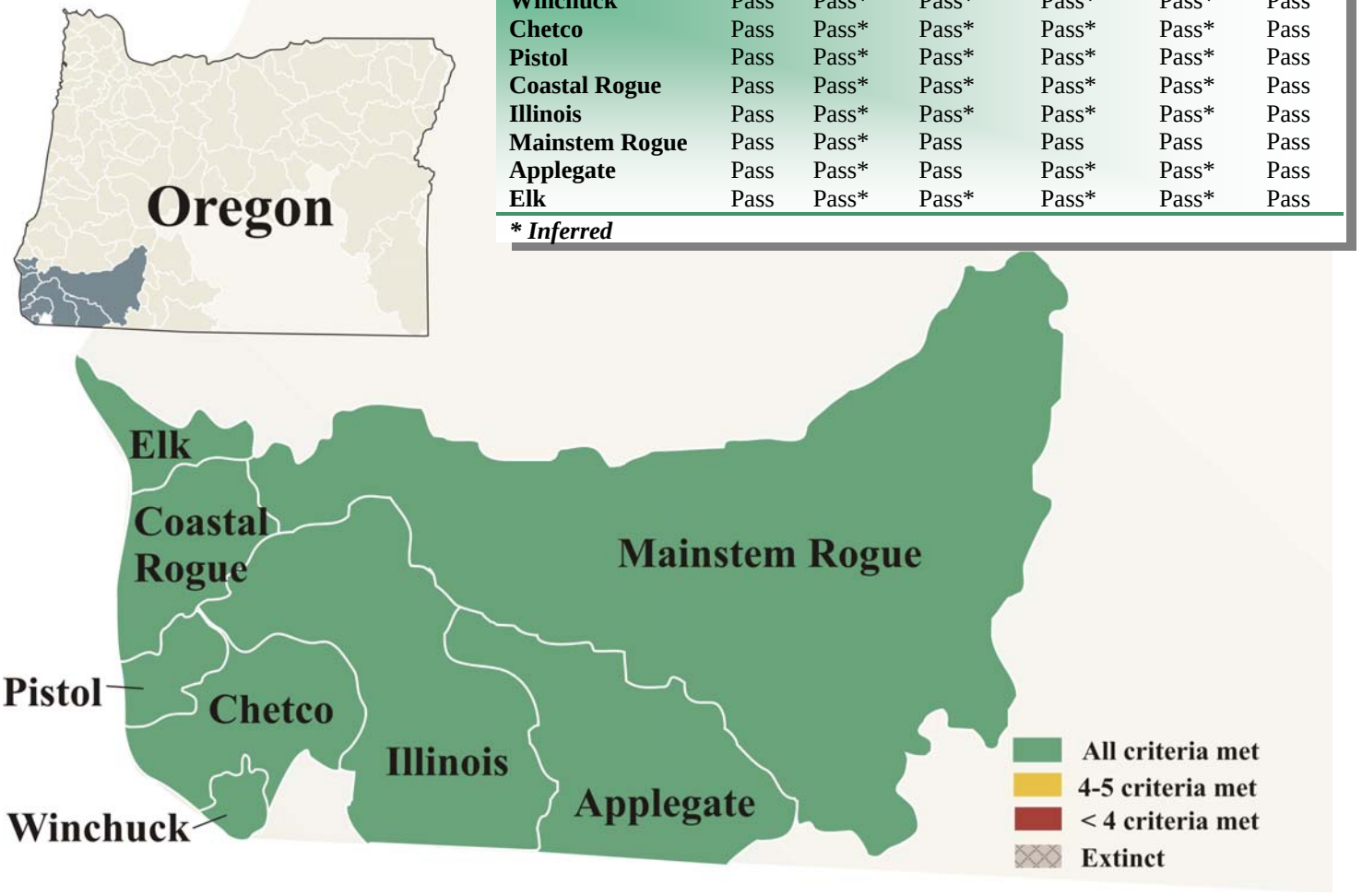
ESA Designation:	State Status:	NFCP Interim Assessment:
Not Warranted 2001	*Vulnerable*	*Not at Risk*

This SMU includes eight populations within coastal basins of the Klamath Mountains Province in southwestern Oregon. Each of the interim criteria was passed so the near-term sustainability of the SMU is not at risk. Suitable data and other information on populations in this SMU provide a moderate level of confidence in the assessment of the interim criteria. Limited data and inferences from other information for populations in this SMU provide a qualified level of confidence in the assessment of interim criteria.

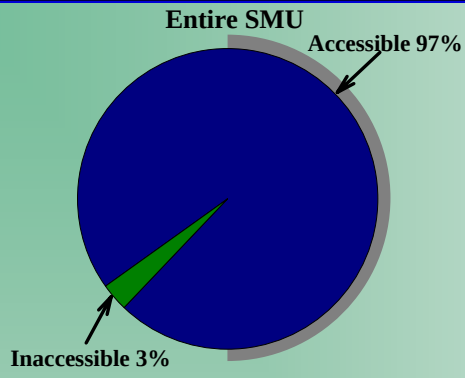


Population	Exist	Dist.	Abund.	Prod.	Ind.	Hybrid
Winchuck	Pass	Pass*	Pass*	Pass*	Pass*	Pass
Chetco	Pass	Pass*	Pass*	Pass*	Pass*	Pass
Pistol	Pass	Pass*	Pass*	Pass*	Pass*	Pass
Coastal Rogue	Pass	Pass*	Pass*	Pass*	Pass*	Pass
Illinois	Pass	Pass*	Pass*	Pass*	Pass*	Pass
Mainstem Rogue	Pass	Pass*	Pass	Pass	Pass	Pass
Applegate	Pass	Pass*	Pass	Pass*	Pass*	Pass
Elk	Pass	Pass*	Pass*	Pass*	Pass*	Pass

**** Inferred***

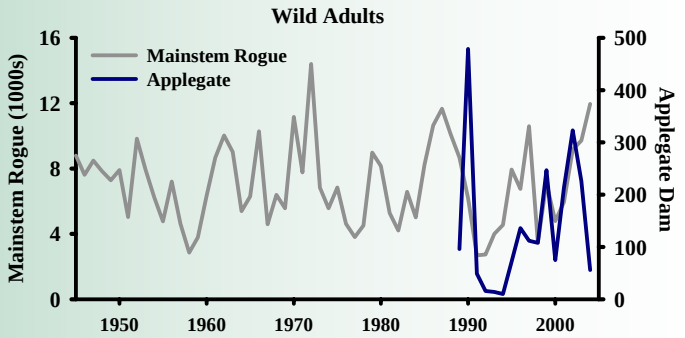


Distribution – Pass



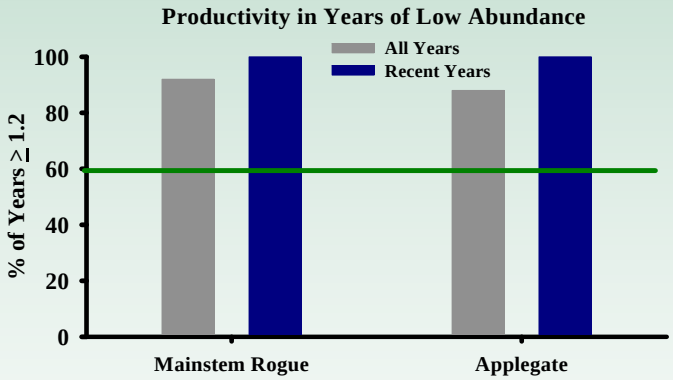
- Each population in the SMU is able to access at least 50% of their historical habitat.
- Construction of Applegate Dam blocked roughly 32 miles of habitat in the Applegate River leaving 87% of the historic habitat accessible.
- Construction of Lost Creek Dam in the mainstem Rogue eliminated access to roughly 4% of winter steelhead habitat for the mainstem Rogue population.

Abundance - Pass



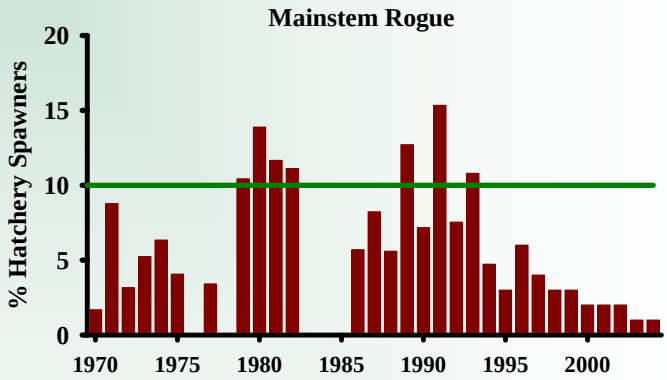
- Both of the populations with abundance data passed the criterion. These populations were assumed to be representative of the SMU. Spawning surveys in 2003 and 2004 in the other populations, and juvenile abundance data from the SMU support this assumption.
- Returns to the Mainstem Rogue have rebounded from record low numbers in the early 1990s. Recent numbers are among the highest since the 1940s.
- Applegate numbers have been above average in three of the last four years.

Productivity - Pass



- Recruit per spawner estimates were available for the mainstem Rogue and Applegate, and both of these populations passed.
- Data were not available for other populations, so the Rogue and Applegate were assumed to be representative of the SMU.
- Low spawner numbers in the late 1980s and early 1990s produced high rates of return.

Independence - Pass

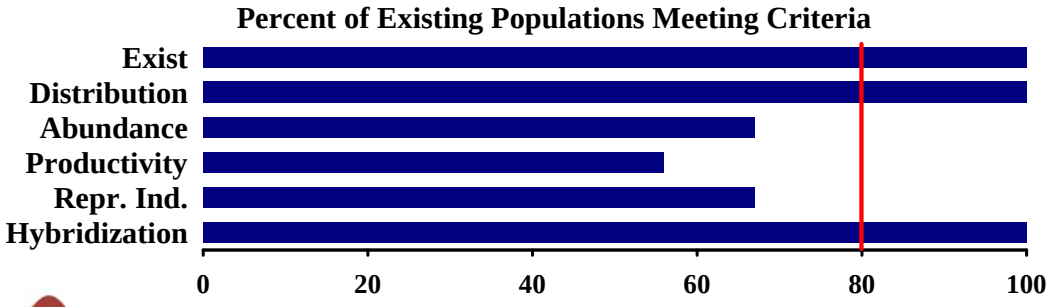


- Monitoring at Elk Creek since 1995 has shown that hatchery fractions in the mainstem Rogue are below 10%.
- Recent data from the Applegate indicated that the presence of naturally spawning hatchery fish was below 10%.
- No hatchery fish are released in the Winchuck, Pistol, Illinois, or Elk rivers and out-of-basin straying is uncommon.
- Hatchery spawners in the Chetco are likely below 10% based on spawning surveys in 2004.

Lower Columbia Winter Steelhead SMU

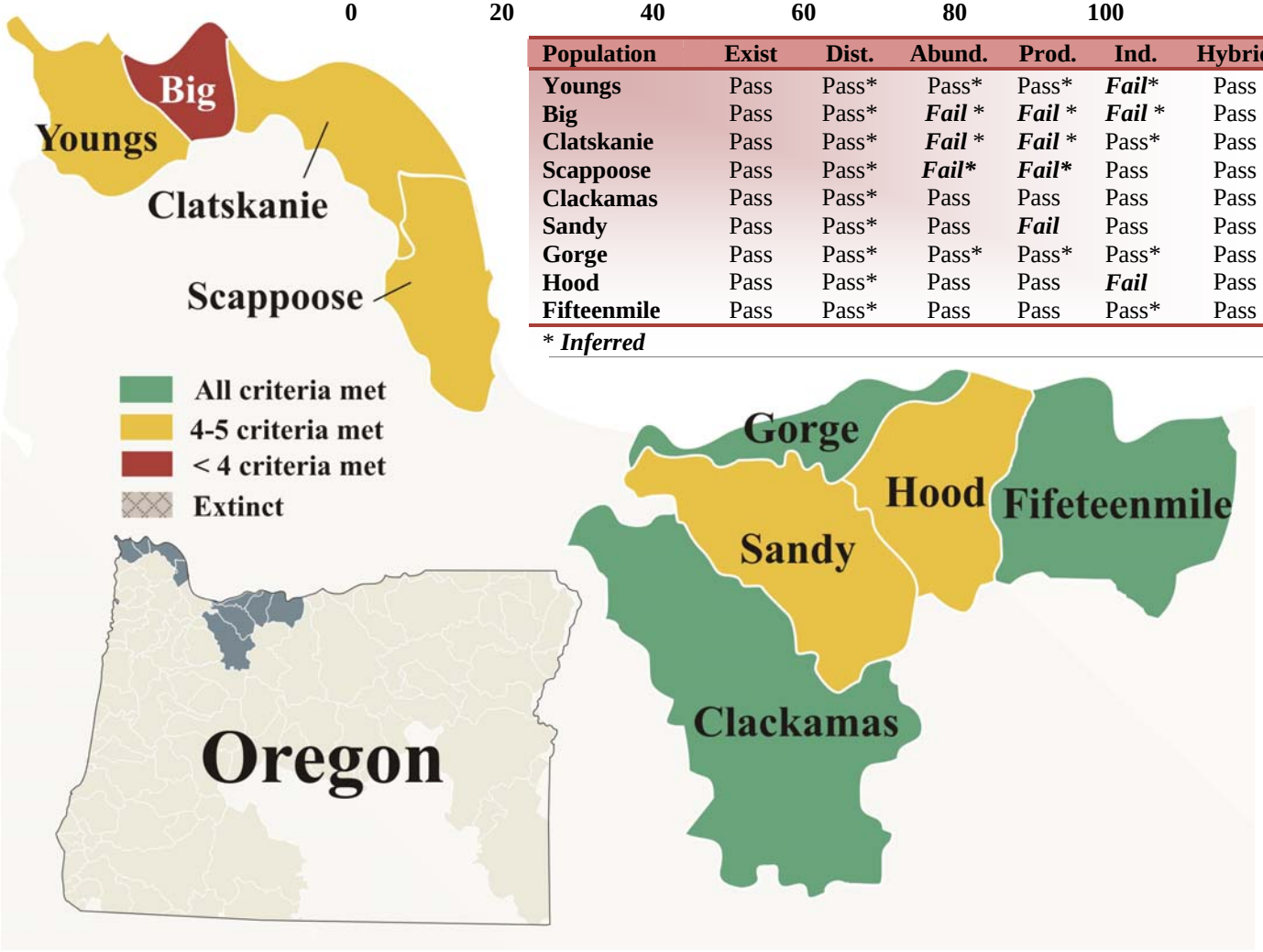
ESA Designation:	State Status:	Interim Assessment:
Threatened 1998	*Critical*	*At Risk*

This SMU consists of nine populations in tributaries to the Columbia River from the mouth up to Fifteenmile Creek near The Dalles. The Clackamas population is also included within this SMU. Data are limited for the Youngs, Big, Clatskanie, and Gorge populations and the status of these populations is unknown. Precautionary application of interim criteria treats inconclusive or insufficient data as failure in the assessment of risks to the SMU. The SMU only met three of the six interim criteria indicating its near-term sustainability is at risk. Suitable data and other information on populations in this SMU provide a moderate level of confidence in the assessment of the interim criteria.

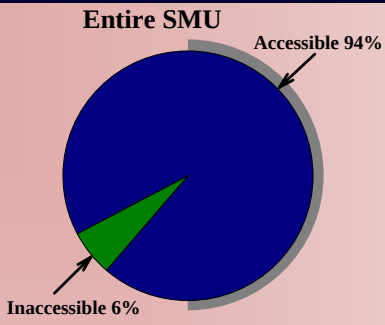


Population	Exist	Dist.	Abund.	Prod.	Ind.	Hybrid
Youngs	Pass	Pass*	Pass*	Pass*	***Fail****	Pass
Big	Pass	Pass*	***Fail** **	***Fail** **	***Fail** **	Pass
Clatskanie	Pass	Pass*	***Fail** **	***Fail** **	Pass*	Pass
Scappoose	Pass	Pass*	***Fail****	***Fail****	Pass	Pass
Clackamas	Pass	Pass*	Pass	Pass	Pass	Pass
Sandy	Pass	Pass*	Pass	***Fail***	Pass	Pass
Gorge	Pass	Pass*	Pass*	Pass*	Pass*	Pass
Hood	Pass	Pass*	Pass	Pass	***Fail***	Pass
Fifteenmile	Pass	Pass*	Pass	Pass	Pass*	Pass

* *Inferred*

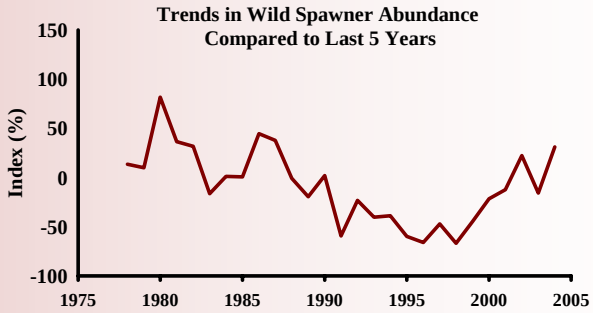


Distribution - Pass



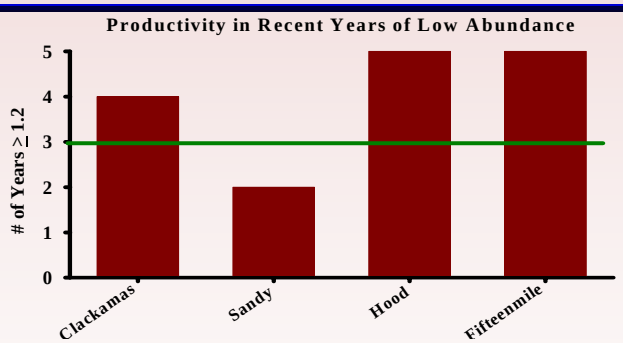
- All nine populations passed the distribution criterion.
- 94% of the historically-available habitat of this species management unit is still available today.
- Seven of the nine populations have lost access to 5% or less of their historic habitat.
- Dams in the Sandy have blocked 23% of the historic habitat.
- Starting in 2000, naturally-produced fish were allowed access to habitat above hatchery barriers in the Youngs and Big basins. A hatchery barrier on Gnat Creek (Big population) blocks access to four miles of habitat.

Abundance - Fail



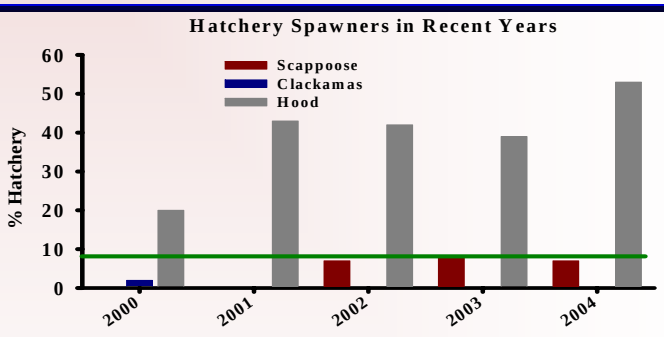
- Each of the four populations with abundance estimates passed. The graph above includes data from the Clackamas, Sandy, Hood, and Fifteenmile populations and reflects changes in abundance relative to the last five years.
- Wild numbers in the Sandy declined steadily through the mid 1980s and early 1990s, but remained above the criterion level in all but one year.
- Wild returns to the Clackamas in 2002 and 2003 were the highest in 15 years. The 2004 return was the largest since 1971.
- The Youngs population was assumed to have passed because redd densities in 2003 and 2004 were higher than in most coastal basins which are relatively healthy. In the same years, redd densities were low in the Big and Clatskanie causing those populations to fail.

Productivity – Fail



- Of the four populations for which productivity could be estimated, three passed the criterion. The Youngs population passed based on its abundance assessment. The Big and Clatskanie populations because of the abundance outcome, and Scappoose failed based on inconclusive data.
- Productivity in the Clackamas exceeded the criterion in four of the last five years of low abundance.
- Productivity in the Sandy has exceeded 1.2 for only two of the past 22 broods.
- Productivity for the Hood exceeded 1.2 in five of eight broods. Hood River estimates were assumed to be representative of the Gorge.

Independence – Fail

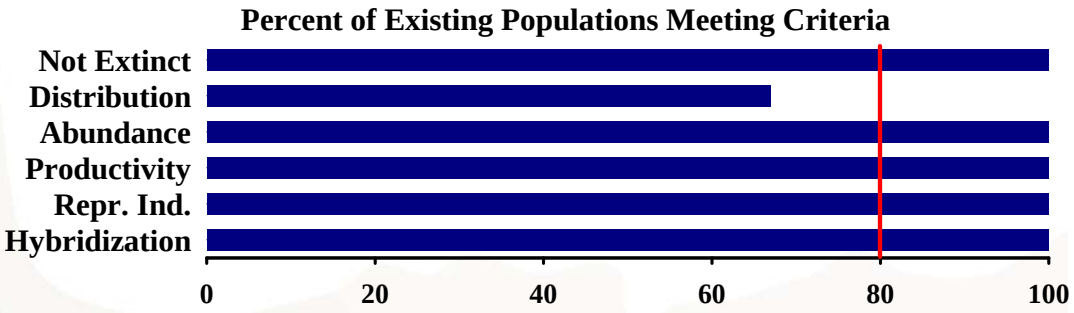


- Three of nine populations failed this criterion.
- Significant releases occur in the Youngs and Big populations.
- Hood River stock hatchery steelhead are passed above Powerdale Dam to supplement natural spawning.
- No hatchery releases occur in the Clatskanie or Gorge populations and strays are rare.
- Less than 10% of fish observed at Bonnie Falls in the Scappoose in the last five years were hatchery origin.
- Since 2001, only wild fish are allowed to pass above North Fork Dam in the Clackamas.
- In the Sandy, passage of hatchery fish above Marmot Dam was terminated in 1999.

Willamette Winter Steelhead SMU

ESA Designation:	State Status:	Interim Assessment:
Threatened 1999	*Critical*	*Potentially at Risk*

This SMU includes nine populations in tributaries to the Willamette River above Willamette Falls. None of the populations are extinct, but the status of four populations (Tualatin, Yamhill, Rickreall, and Luckiamute) is unclear because data are scarce. Each of the populations met five or six criteria, and the SMU as a whole met five of six criteria indicating the near-term sustainability of the SMU is potentially at risk. Suitable data and other information on populations in this SMU provide a moderate level of confidence in the assessment of the interim criteria.



Population	Exist	Dist.	Abund.	Prod.	Ind.	Hybrid
Tualatin	Pass	Pass*	Pass*	Pass*	Pass*	Pass
Yamhill	Pass	Pass*	Pass*	Pass*	Pass*	Pass
Rickreall	Pass	***Fail****	Pass*	Pass*	Pass*	Pass
Luckiamute	Pass	Pass*	Pass*	Pass*	Pass*	Pass
Calapooia	Pass	Pass*	Pass	Pass	Pass*	Pass
Upper South Santiam	Pass	***Fail***	Pass	Pass	Pass	Pass
Lower South Santiam	Pass	Pass*	Pass	Pass	Pass	Pass
North Santiam	Pass	*Fail* *	Pass	Pass	Pass	Pass
Molalla	Pass	Pass*	Pass	Pass	Pass	Pass

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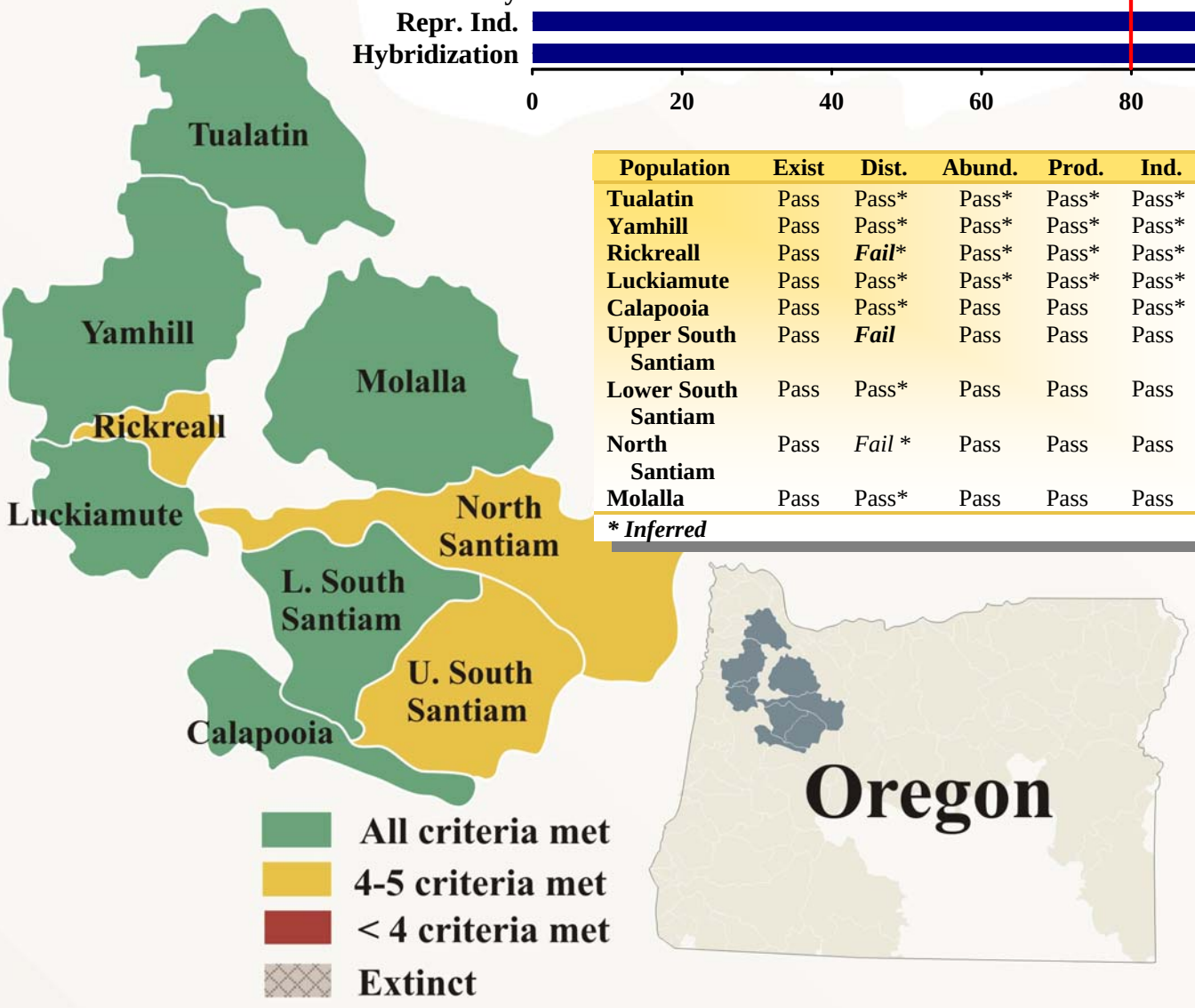
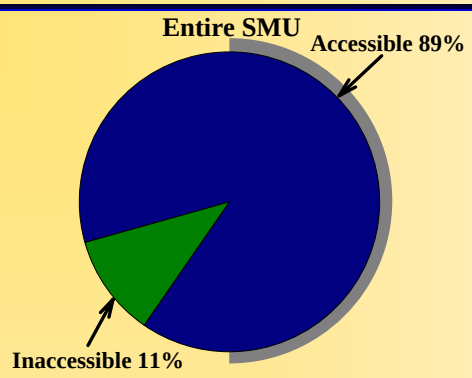
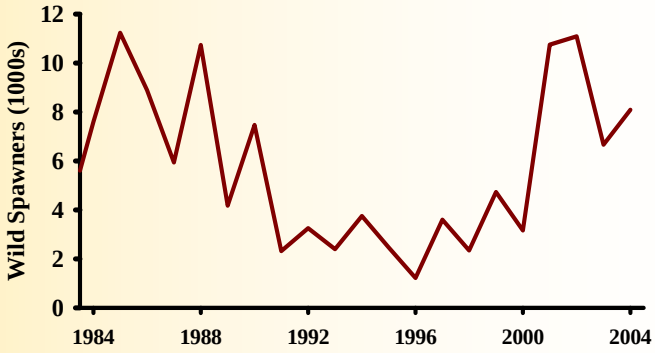


Distribution - Fail



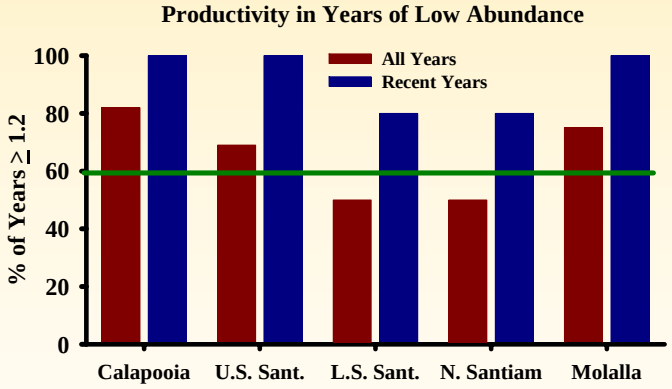
- Six of nine population passed the criterion.
- 87% of the habitat remains accessible today.
- Detroit Dam in the North Santiam, Foster Dam in the Upper South Santiam, and Mercer Dam in Rickreall Creek have blocked passage to part of these basins, and have reduced downstream habitat quality to the point that usage of historical habitat is likely less than 50%.

Abundance - Pass



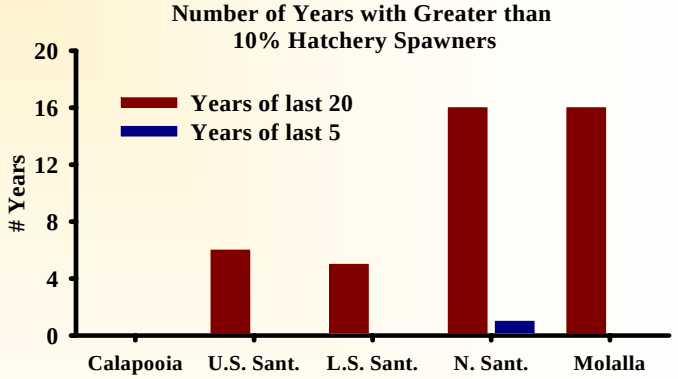
- Abundance trends were available for the East-side populations (Santiam, Calapooia and Molalla) but not for the west-side populations (Tualatin, Yamhill, Rickreall and Luckiamute).
- The abundance trend above is based on wild returns to the east-side basins. Returns have been improving since 1996.
- All of the East-side populations exceeded the criterion in each of the last five years.
- The West-side tributaries each passed based on observations of moderate juvenile and adult abundance levels during occasional surveys.

Productivity – Pass



- Each of the five populations with data, passed the criterion.
- Productivity in all years of low abundance has not been as high as in the recent five years.
- Productivity in each of the populations with monitoring data tends to be greater than 1.2 in years of low abundance. Of all years when abundance was below the 30-year average, productivity was higher than 1.2 in at least 50% of those years.
- The Tualatin, Yamhill, Rickreall, and Luckiamute passed based on increasing returns seen in limited spawner survey data, and reports that juvenile densities are at moderate levels across these populations.

Independence - Pass



- Each of the populations passed the criterion.
- Until recently, hatchery winter steelhead made up a significant portion of spawners in the Santiam and Molalla basins.
- Data were not available for the West-side tributaries, but no hatchery fish are released there.
- Termination of hatchery winter steelhead releases in the late 1990s has virtually eliminated hatchery numbers passing Willamette Falls.
- Hatchery summer steelhead return to some Willamette tributaries but winter run and summer-run spawn timing is largely segregated.