

Desired Status 2/23/06

General Description of Desired Status

- Coho utilizing all habitats.
- In numbers that provide benefits (fisheries, carcasses, viewing).
- Diversity of habitats and life-history strategies.
- Able to withstand low survival conditions and bounce back quickly to robust levels.
- Still need to define desire for dependent populations.

Criteria for Desired Status

- Persistence
- Distribution
- Diversity
- Productivity
- Abundance

Table 5. Results of an evaluation of 21 populations of Oregon coastal coho with respect to five biological criteria designed to assess conservation status. Cells that contain results that do not pass a particular criterion are shaded and the associated numbers presented in bold font type. The critical values for each criterion are noted in parenthesis in each column heading. The Criterion 3 results are stated in terms of the probability of effective extinction in 100 years. Criterion 4 results are the percentage of the 6th field HUCs within a basin that are occupied by spawners. Criterion 5 is the average harmonic mean of spawner abundance forecast for the next 100 years. For additional detail see text.

Population	Criterion 1 (Abundance) (+)	Criterion 2 (Productivity) (1.1)	Criterion 3 (Persistence) (0.050)	Criterion 4 (Distribution) (50%)	Criterion 5 (Diversity) (600)	Combined^c
Necanicum	+76	1.25	0.002	100%	777	Pass
Nehalem	+149	-- ^a	0.081	80%	2926	Fail
Tillamook	-61	1.03	0.156	100%	721	Fail
Nestucca	+259	1.59	0.001	100%	2850	Pass
Salmon	-130	0.80	1.000	0%	1	Fail
Siletz	-387	0.74	0.251	100%	401	Fail
Yaquina	+1589	5.59	0.005	100%	2591	Pass+
Beaver	+652	5.55 ^b	0.000	100%	1389	Pass+
Alsea	-209	0.61	0.028	100%	1505	Fail
Siuslaw	+1351	1.51 ^b	0.000	100%	10320	Pass+
Low Umpqua	+4013	12.91 ^b	0.000	100%	10219	Pass+
Mid Umpqua	+1820	-- ^a	0.000	100%	4477	Pass+
N. Umpqua	+726	-- ^a	0.137	n.a.	252	Fail
S. Umpqua	+1731	7.46 ^b	0.000	70%	3319	Pass+
Siltcoos	+2958	-- ^a	0.000	100%	5448	Pass+
Tahkenitch	+1859	-- ^a	0.000	100%	2786	Pass+
Tenmile	+5065	12.43 ^b	0.000	100%	14891	Pass+
Coos	+7774	-- ^a	0.000	100%	15241	Pass+
Coquille	+4687	1.17 ^b	0.000	83%	12439	Pass
Floras	+909	-- ^a	0.000	100%	1110	Pass
Sixes	-83	1.71	0.994	100%	2	Fail

^aAll spawner densities for the period were greater than the selection threshold for the productivity criterion of 10 fish per mile.

^bValue represents either a single data point or an average of only 2 data points because all other spawner densities were greater than the selection threshold for the productivity criterion of 10 fish per mile.

^cThe “Pass+” designation is a simple qualitatively notation that these populations met the viability criteria by a greater margin than those that were classified as only “Pass”

Persistence

- Persistence modeling shows a one percent or less chance of extinction in 100 years.
- We will use the most conservative of the models that the TRT used.

Distribution

- This will be expressed in terms of both spawner and juvenile distribution and will be measured using the existing Oregon Plan monitoring program for spawners and summer juveniles.
- More work is needed to define appropriate metrics for these.

Diversity

- This criterion seeks to ensure a diversity of life-history strategies that will result in a diverse gene pool.
- Being able to identify and quantify life-history strategies will be very difficult on a population-by-population basis.
- Quantifying reasonable-to-high abundances and distribution of coho in each population may be enough to suggest there is a reasonable-to-high level of diversity.

Productivity

- Propose a recruits per spawner value of 2.1 during low abundances.
- May not see low abundances if we meet desired status for abundance.
- Will look into other possible metrics.

Abundance

- This is where most of our time has been spent.
- Three proposals for adult abundance during the worst smolt survival conditions – 100,000; 200,000 & 250,000.
- State's proposal (100,000) based on recruitment modeling.
- TRT identified 125,000 as restoration criteria.
- Suggestion to look at smolt potential.

Smolt Potential

- Determine what the current habitat can produce.
- Identify High Intrinsic Potential (HIP) areas.
- Determine smolt potential of those areas.
- Use as basis for identifying desired status.

Current smolt potential for 21 independent coho populations and smolt potential from restoring all Wadeable HIP from poor to high quality. Total potential is also converted to adults at 1% and 3% smolt-to-adult survival (SAR). This is a modeling exercise and the estimates below do not represent a known level of smolt production. Use with care.

Population	Current smolt pot.	HIP smolt pot.	Total smolt pot.	Adults @ 1% SAR	Adults @ 3% SAR
Necanicum	12,844	37,622	50,466	505	1,514
Nehalem	168,134	290,892	459,026	4,590	13,771
Tillamook	37,448	117,487	154,935	1,549	4,648
Nestucca	14,209	54,828	69,037	690	2,071
Salmon	9,068	21,238	30,306	303	909
Siletz	64,454	68,211	132,665	1,327	3,980
Yaquina	168,049	153,671	321,720	3,217	9,652
Beaver	17,910	13,188	31,098	311	933
Alea	74,325	137,272	211,597	2,116	6,348
Siuslaw	215,856	412,501	628,357	6,284	18,851
Lower Umpqua	80,522	242,215	322,737	3,227	9,682
Middle Umpqua	77,865	225,676	303,541	3,035	9,106
North Umpqua	7,752	43,898	51,650	517	1,550
South Umpqua	43,988	291,002	334,990	3,350	10,050
Coos	384,647	139,098	523,745	5,237	15,712
Coquille	68,909	222,850	291,759	2,918	8,753
Floras	0	86,880	86,880	869	2,606
Sixes	0	13,372	13,372	134	401
Siltcoos	321,800	0	321,800	3,218	9,654
Tahkenitch	193,400	0	193,400	1,934	5,802
Tenmile	520,900	0	520,900	5,209	15,627
ESU Total	2,482,080	2,571,901	5,053,981	50,540	151,620