

**Desired Status**

# Desired Status Scenario

Intent of scenario:

1. Provide greater conservation “cushion” for populations and the ESU.
2. Provide adequate societal benefits.

# Greater Conservation “Cushion”

All populations, except Salmon and Sixes, at “Pass +” viability levels.

- “Pass +” criteria defined as double the viability criteria (for 3 of 5).
  - Abundance = 7 year avg. of 10 spawners/mile during “90’s-type” ocean.
  - Productivity = 2.1 R/S when spawner density less than 10 fish/mile.
  - Persistence = Probability of extinction in 100 years less than 1%.

# “Pass +” Criteria Continued

- Distribution – uncertain how to forecast.
- Diversity = 100-year harmonic mean of spawner abundance greater than 1200.

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

# Viability Modeling Results

	Population	Relative	Survival Rate	Modifier
	<b>KG River</b>	0.50	0.55	0.60
	Persistence	0.670	0.495	0.296
	Abundance	104	136	171
	Productivity 1	0.534	0.62	0.721
	Diversity	6	21	53

pop thresholds	
pass	pass+
0.050	0.010
<b>253</b>	<b>505</b>
1.1	2.1
600	1200

# An Example – KG River

	Population	Relative Survival Rate Modifier																							
	KG River	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00	1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	pass	pass+	
Persistence	0.670	0.495	0.296	0.157	0.077	0.033	0.010	0.001	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.050	0.010
Abundance	104	136	171	206	242	279	311	351	382	418	456	488	523	554	594	623	661	693	728	761	795	253	505		
Productivity 1	0.534	0.62	0.721	0.817	0.914	1.01	1.085	1.171	1.248	1.331	1.426	1.488	1.555	1.636	1.746	1.786	1.867	1.95	2.017	2.062	2.18	1.1	2.1		
Diversity	6	21	53	114	203	310	433	541	645	757	858	947	1033	1121	1206	1277	1362	1430	1503	1565	1641	600	1200		

	Population	Relative Survival Rate Modifier											
	KG River	1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	pass	pass+
	Persistence	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.050	0.010
	Abundance	488	523	554	594	623	661	693	728	761	795	<b>253</b>	<b>505</b>
	Productivity 1	1.488	1.555	1.636	1.746	1.786	1.867	1.95	2.017	2.062	2.18	1.1	2.1
	Diversity	947	1033	1121	1206	1277	1362	1430	1503	1565	1641	600	1200



# Providing Societal Benefits

Societal benefits include:

- Fish for fisheries
  - ocean/inland
  - recreational/commercial
- Carcasses for nutrient enhancement
- Abundant coho for cultural needs

# Societal Benefits

- Maintaining coho abundance at the “high spawner status” level of Amendment 13 regardless of ocean survival conditions will provide significant societal benefits.

Parent Spawner Status <sup>1/</sup>	Marine Survival Index (based on return of jacks per hatchery smolt)			
	Extremely Low (<0.0008 )	Low (0.0008 to 0.0014 )	Medium (>0.0014 to 0.0040)	High (>0.0040 )
<b>High</b> Parent Spawners > 75% of full seeding	<b>E</b> ≤ 8%	<b>J</b> ≤ 15%	<b>O</b> ≤ 30%	<b>T</b> ≤ 45%
<b>Medium</b> Parent Spawners > 50% & ≤ 75% of full seeding	<b>D</b> ≤ 8%	<b>I</b> ≤ 15%	<b>N</b> ≤ 20%	<b>S</b> ≤ 38%
<b>Low</b> Parent Spawners > 19% & ≤ 50% of full seeding	<b>C</b> ≤ 8%	<b>H</b> ≤ 15%	<b>M</b> ≤ 15%	<b>R</b> ≤ 25%
<b>Very Low</b> Parent Spawners > 4 fish per mile & < 19% of full seeding	<b>B</b> ≤ 8%	<b>G</b> ≤ 11%	<b>L</b> ≤ 11%	<b>Q</b> ≤ 11%
<b>Critical</b> <sup>2/</sup> Parental Spawners ≤ 4 fish per mile	<b>A</b> 0 - 8%	<b>F</b> 0 - 8%	<b>K</b> 0 - 8%	<b>P</b> 0 - 8%

### Sub-aggregate and Basin Specific Spawner Criteria Data

Sub-aggregate	Miles of Available Spawning Habitat	100% of Full Seeding	"Critical"		Very Low, Low, Medium & High		
			4 Fish per Mile	12% of Full Seeding	19% of Full Seeding	50% of Full Seeding	75% of full Seeding
Northern	899	21,700	3,596	NA	4,123	10,850	16,275
North - Central	1,163	55,000	4,652	NA	10,450	27,500	41,250
South - Central	1,685	50,000	6,740	NA	9,500	25,000	37,500
Southern	450	5,400	NA	648	1,026	2,700	4,050
Coastwide Total	4,197	132,100	15,636		25,099	66,050	99,075

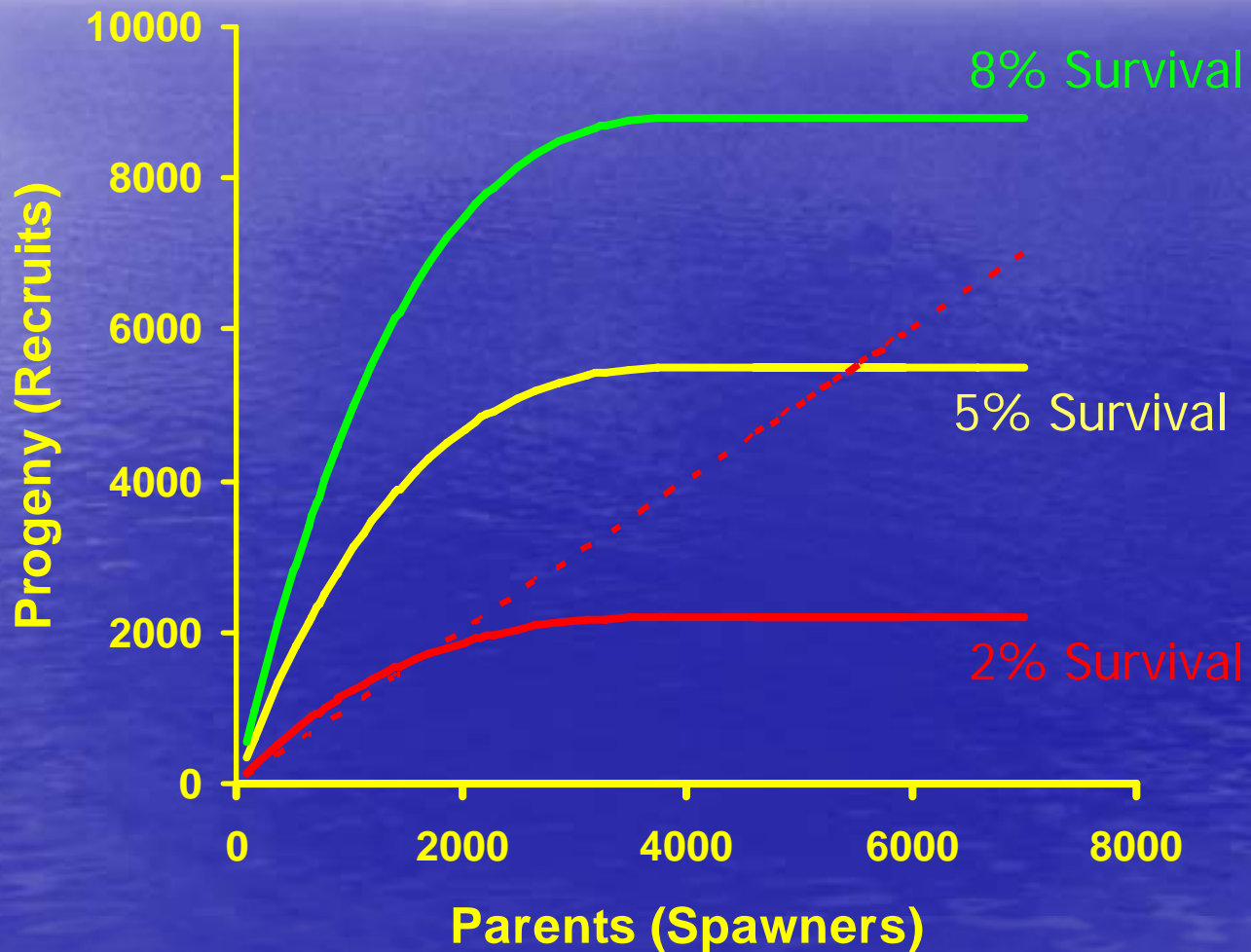
# Maintaining High Spawner Status

To ensure spawner abundance stays  $>75\%$  of full seeding, desired status is to have each sub-aggregate's equilibrium level equal to  $75\%$  of full seeding under poor ocean survival conditions.

# Background Concepts

## Impact of Marine Survival

Average, Good, and Bad Conditions



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# What Will It Take?



We hope to have an answer by the next meeting.