



Story-Boarding the
Oregon Coast Coho ESU
Assessment

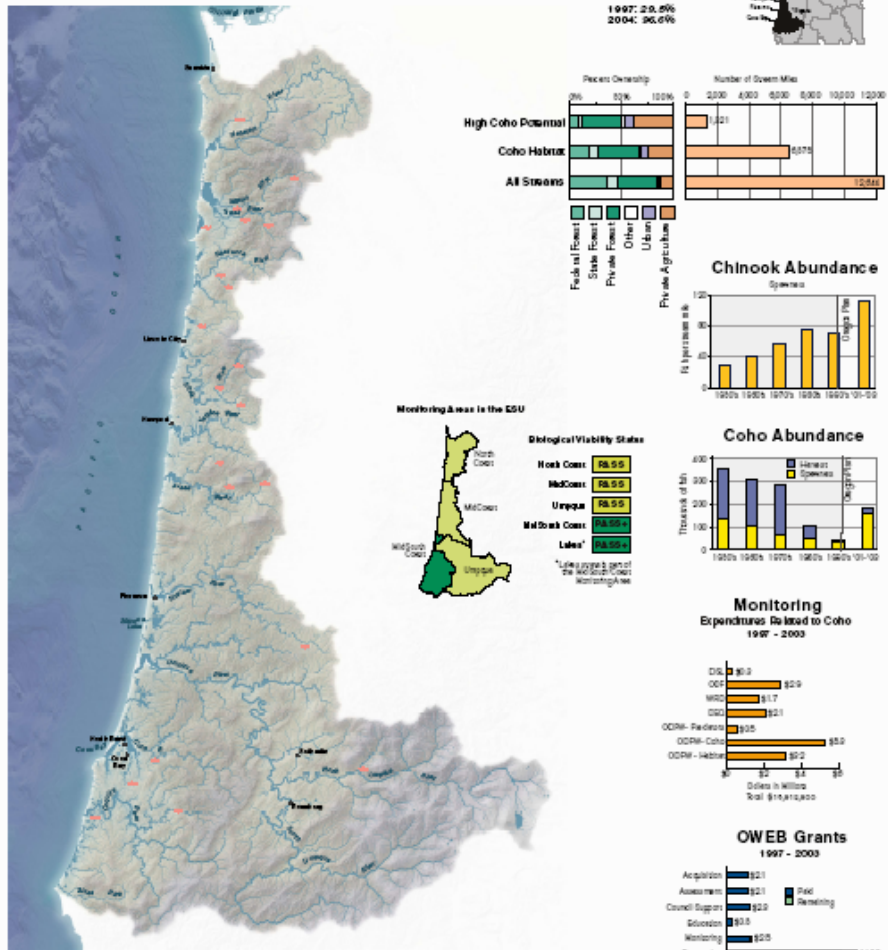
Assessment Outcomes

- Biological viability of ESU
- Status & trend of management programs & environment
- Risk factor analysis for populations
- Recommendation to NMFS re: ESA status

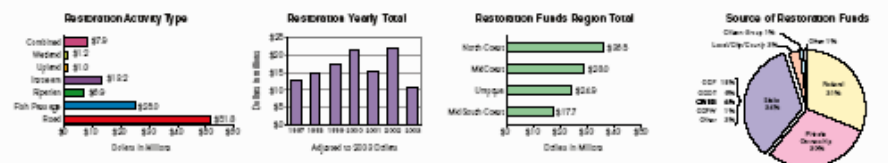
Story-Board

- High elevation overview
- Display key data & conclusions
- Show ESU, MA, population strata, & population scales

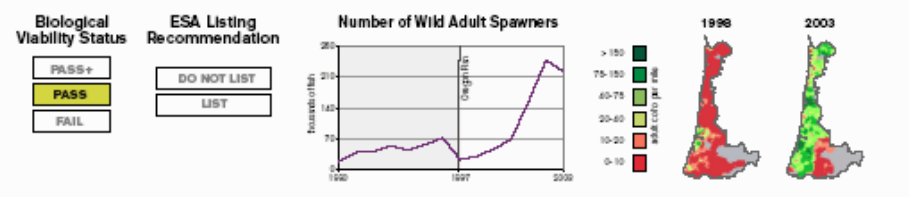
Oregon Coastal Coho ESU



Restoration Funding 1997-2003 - \$107 Million



Analysis of ESU

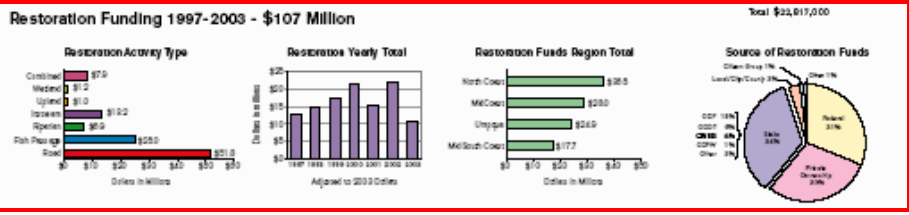
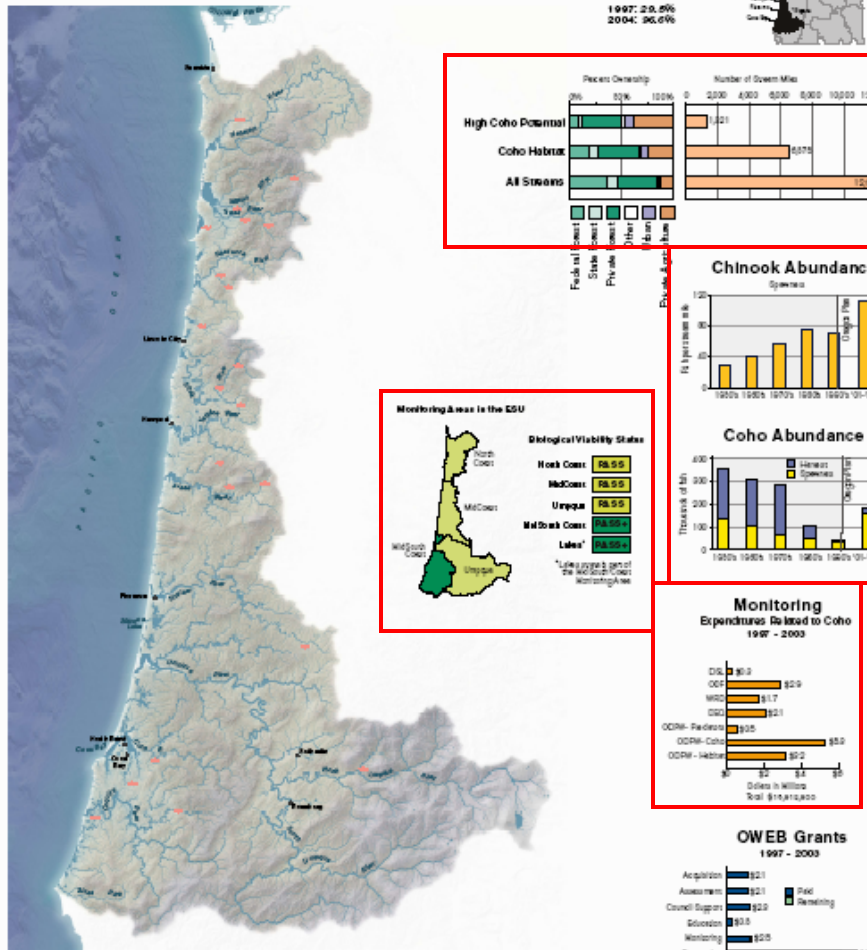


Risk Factor Analysis

FACTOR	OREGON PLAN ACTION	OBSERVATIONS	INTERPRETATION	RELATIVE RESTORATION OPPORTUNITY	NEED	
MARINE HABITAT 1007 Priority	Hatchery Coho survival monitored at all hatcheries. Wild Coho survival monitored at lifecycle monitoring sites.	HATCHERY WILD	Marine survival rate of both hatchery and wild Coho increased consistent with Oregon Plan implementation.	N/A	Adjust harvest levels consistent with marine survival, adult escapement and population needs.	
FISHERY HARVEST 1007 Priority	Harvest rates dictated by PFMIC Amendment 13 will constrain harvest of wild coho consistent with recovery needs.	OCEAN RIVER	High harvest rates on coho prior to Oregon Plan have been reduced by management action. Harvest rates are no longer limiting recovery.		Maintain PFMIC Amendment 13 to restrain harvest consistent with population productivity.	
HATCHERY IMPACTS 1007 Priority	Genetic Management Programs have been drafted for all hatcheries - awaiting approval by NOAA. Hatchery practices are managed consistently with local population status and recovery needs.	RELEASES STRAYS	Hatchery programs are not containing coho coxey. The percent of hatchery coho in natural spawning areas has declined because of management action and is now within policy guidelines.		Continue implementing Native Fish Conservation Policy and Hatchery Genetic Management Plans.	
STREAM COMPLEXITY 1007 Priority	Regulatory programs: Oregon Forest Practices, Fill and Removal, Federal Forest Plan, Goal 5. Conduct restoration to recruit wood and increase complexity. Instream mile treated... 504 Riparian miles planted... 350 Riparian miles fenced... 231	COHO WATER	Coho streams have less large wood, more fine sediment, and fewer streamside conifers than reference streams. No significant trend was detected in most habitat parameters over the last decade. Habitat conditions were generally better in the North Coast and MidSouth Coast areas of the ESU.	Availability of complex stream habitat probably limits coho production.		Focus habitat restoration investments in areas of high intrinsic coho potential.
FISH PASSAGE 1007 Priority	Fish Passage Law Improve fish passage at stream crossings. Counted... 4,413 Mapped... 3,292 Assessed... 2,146 Unknown... 1,247	ACCESS WATER	Improved access - result to date Non Coho Distribution... +16% Non HP Coho Distribution... +10% HP Coho Distribution... +6% Improved Access - remaining opportunity Non Coho... 15% impaired - 40% unknown Non HP Coho... 11% impaired - 52% unknown HP Coho... 10% impaired - 28% unknown	It is unknown if coho have access to roughly one third of their potential habitat. Access can be improved 10% by correcting documented problems. Impact of take gates has not been determined.		Opportunity to increase access to high quality habitat may exist in local areas. Focus passage inventory and restoration in these areas.
WATER QUALITY 1007 Priority	Federal Clean Water Act Conduct restoration to reduce sediment, moderate temp. SE-1010 Plans completed TMDL's are being developed Road miles upgraded... 1,557 Road miles miles... 521 Riparian miles planted... 350 Riparian miles fenced... 231	WATER QUALITY	The North Coast Monitoring Area had the best overall water quality; the Umpqua BIA had the poorest. Most water quality parameters show no significant difference from reference streams in the ESU. No large river monitoring sites had a decline trend in water quality during 1995 - 2002 (50% improving; 51% no trend). For large river monitoring sites, 42% had excellent to good, 35% fair, and 19% poor water quality.	Although not currently a significant constraint on coho recovery, water quality has the potential of limiting coho production at local spatial scales.		Take restoration action at local spatial scales as appropriate to maintain or improve carrying capacity.
WATER QUANTITY 1007 Priority	Oregon Water Law 3700 miles of streams are protected (instream right). Streamflow restoration focused in the MidSouth Coast and Umpqua MA's. At an 80% exceedance flow, water is not available for new water appropriations in August in 94% of the total ESU areas.	WATER QUANTITY	Approximately 800 in-stream water rights currently exist. August consumptive use was highest in the MidSouth Coast and Umpqua Monitoring Areas. 70% of the ESU had an August consumptive use of water less than 10% of the 30% natural exceedance flow. Over 90% of the ESU had no change in August consumptive use between 1997 and 2004.	Although not currently a significant constraint on coho recovery, water quantity has the potential of limiting coho production at local spatial scales.		Focus habitat restoration investments in areas of high intrinsic coho potential.
OTHER FACTORS	Assessed data, literature, and local observations.	OTHER	Assessed data, literature, and local observations. Data, analysis, and interpretation of these limiting factors are available at http://www.oregon-plan.org	Although not currently a significant constraint on coho recovery, each factor has the potential of limiting coho at local spatial scales.		Remain alert to detect future change in importance of these factors.

Note: Data, analyses, and interpretation that support the information presented here can be viewed at <http://www.oregon-plan.org>. Layers are working drafts with available data for design purposes.

Oregon Coastal Coho ESU



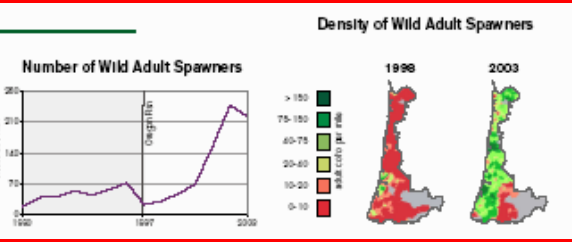
Analysis of ESU

Biological Viability Status

PASS+
PASS
FAIL

ESA Listing Recommendation

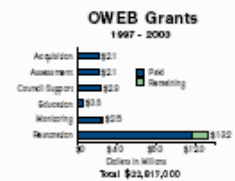
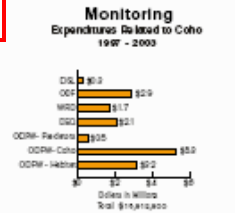
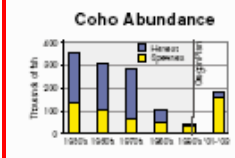
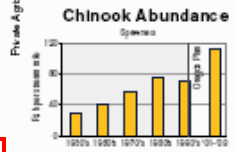
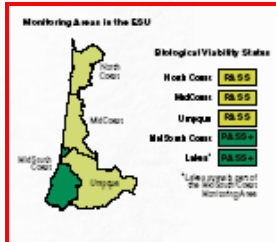
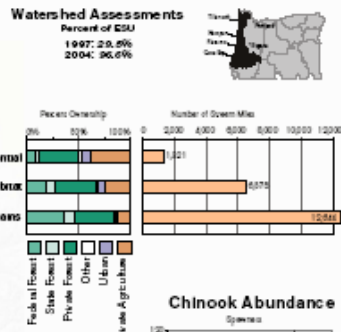
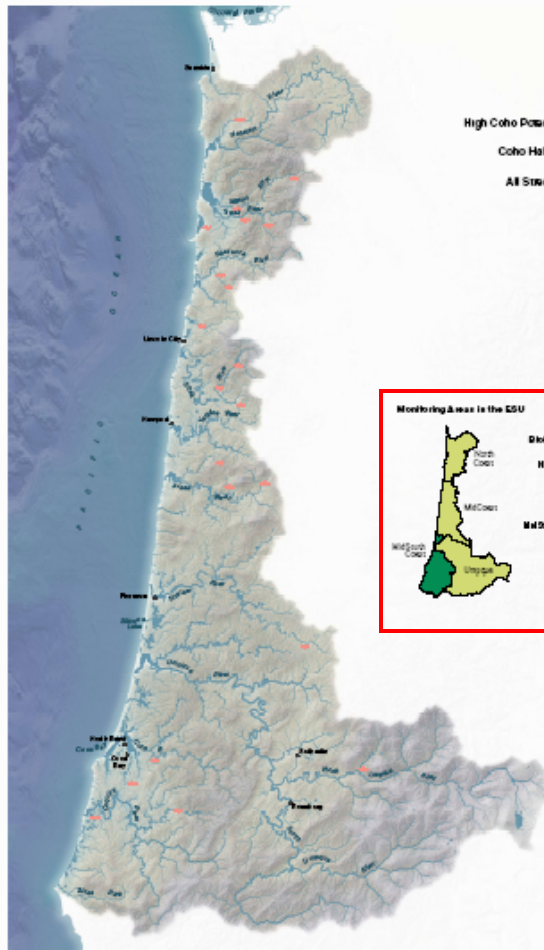
DO NOT LIST
LIST



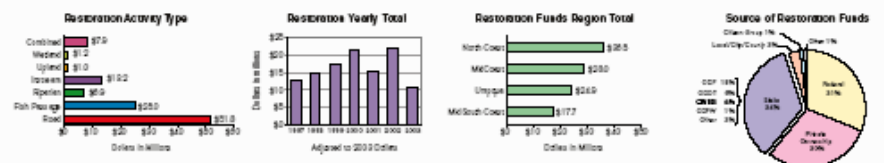
FACTOR	OREGON PLAN ACTION	OBSERVATIONS	INTERPRETATION	RELATIVE RESTORATION OPPORTUNITY	NEED	
MARINE HABITAT 1007 Priority	Hatchery Coho survival monitored at all hatcheries. Wild Coho survival monitored at five lifecycle monitoring sites.	HATCHERY Line graph showing survival rate (1997-2003). WILD Line graph showing survival rate (1997-2003).	Marine survival rate of both hatchery and wild Coho increased coincident with Oregon Plan implementation.	N/A	Adjust harvest levels consistent with marine survival, adult escapement and population needs.	
FISHERY HARVEST 1007 Priority	Harvest rates dictated by FPMC Amendment 13 will constrain harvest of wild coho consistent with recovery needs.	OCEAN Line graph showing harvest rate (1997-2003). RIVER Line graph showing harvest rate (1997-2003).	High harvest rates on coho prior to Oregon Plan have been reduced by management actions. Harvest rates are no longer limiting recovery.		Maintain FPMC Amendment 13 restriction harvest consistent with population productivity.	
HATCHERY IMPACTS 1007 Priority	Genetic Management Programs have been drafted for all hatcheries - awaiting approval by NOAA. Hatchery broodstock are managed consistently with local population status and recovery needs.	RELEASES Line graph showing release rate (1997-2003). STRAYS Line graph showing stray rate (1997-2003).	Hatchery programs are not constraining coho recovery. The percent of hatchery coho in natural spawning areas has declined because of management action and is not within policy guidelines.		Continue implementing Active Fish Conservation Policy and Hatchery Genetic Management Plans.	
STREAM COMPLEXITY 1007 Priority	Regulatory programs: Oregon Forest Practices, Fill and Removal, Federal Forest Plan, Goal 5. Conduct restoration to recruit wood and increase complexity. Stream miles treated... 524. Riparian miles planted... 350. Riparian miles fenced... 231.	COHO Line graph showing stream complexity (1997-2003). HABITAT Line graph showing habitat conditions (1997-2003).	Coho streams have less large wood, more fine sediment, and fewer streamside conifers than reference streams. No significant trend was detected in most habitat parameters over the last decade. Habitat conditions were generally better in the North Coast and MidSouth Coast areas of the ESU.		Focus habitat restoration investments in areas of high thimble coho density.	
FISH PASSAGE 1007 Priority	Fish Passage Law. Improve fish passage at stream crossings. Counted... 4,413. Improved... 1,140. Mapped... 3,292. Assessed... 2,146. Unknown... 1,247.	ACCESS Line graph showing fish passage (1997-2003). HP COHO Line graph showing HP coho distribution (1997-2003).	Improved access - result to date: Non Coho Distribution... +16% Non HP Coho Distribution... +10% HP Coho Distribution... +6% Improved Access - remaining opportunity: Non Coho... 18% impaired - 40% unknown Non HP Coho... 1% impaired - 52% unknown HP... 10% impaired - 28% unknown		It is unknown if coho have access to roughly one third of their potential habitat. Access can be improved 10% by correcting documented problems. Impact of tide gates has not been determined.	opportunity to increase access to high quality habitat by action in local areas. Focus access inventory and restoration in these areas.
WATER QUALITY 1007 Priority	Federal Clean Water Act. Conduct restoration to reduce sediment, moderate temp. SE-1010 Plans completed. Road miles upgraded... 1,527. Road miles miles... 521. Riparian miles planted... 350. Riparian miles fenced... 231.	WATER QUALITY Line graph showing water quality (1997-2003).	The North Coast Monitoring Area had the best overall water quality; the Umpqua BIA had the poorest. Most water quality parameters show no significant difference from reference streams in the ESU. No large river monitoring sites had a decline trend in water quality during 1997 - 2002 (30% improving; 51% no trend). For large river monitoring sites, 42% had excellent to good, 35% fair, and 19% poor water quality.		Although not currently a significant constraint on coho recovery, water quality has the potential of limiting coho production at local spatial scales.	Take restoration action at local spatial scales as appropriate to maintain or improve carrying capacity.
WATER QUANTITY 1007 Priority	Oregon Water Law. 3,000 miles of streams are protected (in stream right). Streamflow restoration focused in the MidSouth Coast and Umpqua MA's. At an 80% exceedance flow, water is not available for new water appropriations in August in 94% of the total ESU areas.	WATER QUANTITY Line graph showing water quantity (1997-2003).	Approximately 800 in-stream water rights currently exist. August consumptive use was highest in the MidSouth Coast and Umpqua Monitoring Areas. 70% of the ESU had an August consumptive use of water less than 10% of the 30% natural exceedance flow. Over 90% of the ESU had no change in August consumptive use between 1997 and 2004.		Although not currently a significant constraint on coho recovery, water quantity has the potential of limiting coho production at local spatial scales.	Focus habitat restoration investments in areas of high thimble coho density.
OTHER FACTORS	Assessed data, literature, and local observations.	OTHER FACTORS Line graph showing other factors (1997-2003).	Data, analysis, and interpretation of these limiting factors are available at http://www.oregon-plan.org .		Remain alert to detect future change in importance of these factors.	

Notes: Charts, graphs, and interpretation that support the information presented here can be viewed at <http://www.oregon-plan.org>. Layers are working drafts with available data for design purposes.

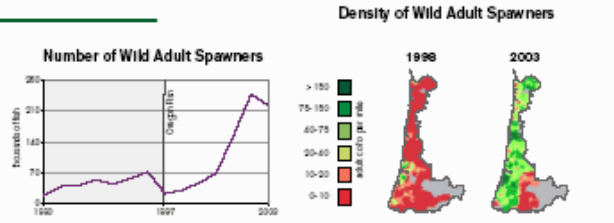
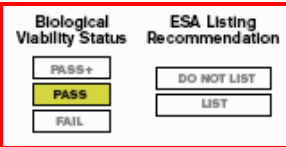
Oregon Coastal Coho ESU



Restoration Funding 1997-2003 - \$107 Million



Analysis of ESU



Risk Factor Analysis

FACTOR	OREGON PLAN ACTION	OBSERVATIONS	INTERPRETATION	RELATIVE RESTORATION OPPORTUNITY	NEED
MARINE HABITAT 1007 Priority	Hatchery Coho survival monitored at all hatcheries. Wild Coho survival monitored at five lifecycle monitoring sites.	HATCHERY Wild Coho survival rate increased from 1997 to 2003.	Marine survival rate of both hatchery and wild Coho increased consistent with Oregon Plan implementation.	N/A	Adjust harvest levels consistent with marine survival, adult escapement and population needs.
FISHERY HARVEST 1007 Priority	Harvest rates dictated by FPMC Amendment 13 will constrain harvest of wild coho consistent with recovery needs.	OCEAN Harvest rates decreased from 1997 to 2003. RIVER Harvest rates decreased from 1997 to 2003.	High harvest rates on coho prior to Oregon Plan have been reduced by management action. Harvest rates are no longer limiting recovery.		Maintain FPMC Amendment 13 to restrain harvest consistent with population productivity.
HATCHERY IMPACTS 1007 Priority	Genetic Management Programs have been drafted for all hatcheries - awaiting approval by NCGA. Hatchery programs are managed consistently with local population status and recovery needs.	RELEASES Percent of hatchery coho in natural spawning areas has declined because of management action and is now within policy guidelines. STRAYS Percent of hatchery coho in natural spawning areas has declined because of management action and is now within policy guidelines.	Hatchery programs are not containing coho recovery. The percent of hatchery coho in natural spawning areas has declined because of management action and is now within policy guidelines.		Continue implementing Native Fish Conservation Policy and Hatchery Genetic Management Plans.
STREAM COMPLEXITY 1007 Priority	Regulatory programs: Oregon Forest Practices, Fill and Removal, Federal Forest Plan, Goal 5. Conduct restoration to recruit wood and increase complexity. Instream mile treated... 524 Riparian miles planted... 350 Riparian miles fenced... 231	Coho streams have less large wood, more fine sediment, and fewer streamside conifers than reference streams. No significant trend was detected in most habitat parameters over the last decade. Habitat conditions were generally better in the North Coast and MidSouth Coast areas of the ESU.	Availability of complex stream habitat probably limits coho production.		Focus habitat restoration investments in areas of high intrinsic coho potential.
FISH PASSAGE 1007 Priority	Fish Passage Law Improve fish passage at stream crossings. Counted... 4,413 Mapped... 3,292 Assessed... 2,145 Unknown... 1,247	Improved access - result to date: Non Coho Distribution... +16% Non HP Coho Distribution... +10% HP Coho Distribution... +6% Improved Access - remaining opportunity: Non Coho... 15% impaired - 40% unknown Non HP Coho... 11% impaired - 52% unknown HP Coho... 10% impaired - 28% unknown	It is unknown if coho have access to roughly one third of their potential habitat. Access can be improved 10% by correcting documented problems. Impact of take gates has not been determined.		Opportunity to increase access to high quality habitat may exist in local areas. Focus passage inventory and restoration in these areas.
WATER QUALITY 1007 Priority	Federal Clean Water Act Conduct restoration to reduce sediment, moderate temp. SE-1010 Plans completed TMDL's are being developed Road miles upgraded... 1,557 Road miles in need... 521 Riparian miles planted... 350 Riparian miles fenced... 231	The North Coast Monitoring Area had the best overall water quality; the Umpqua BIA had the poorest. Most water quality parameters show no significant difference from reference streams in the ESU. No large river monitoring sites had a decline trend in water quality during 1997 - 2002 (30% improving; 51% no trend). For large river monitoring sites, 42% had excellent to good, 35% fair, and 19% poor water quality.	Although not currently a significant constraint on coho recovery, water quality has the potential of limiting coho production at local spatial scales.		Take restoration action at local spatial scales as appropriate to maintain or improve carrying capacity.
WATER QUANTITY 1007 Priority	Oregon Water Law 3700 miles of streams are protected (instream right). Streamflow restoration focused in the MidSouth Coast and Umpqua MA's. At an 80% exceedance flow, water is not available for new water appropriations in August in 94% of the total ESU areas.	Approximately 800 in-stream water rights currently exist. August consumptive use was highest in the MidSouth Coast and Umpqua Monitoring Areas. 70% of the ESU had an August consumptive use of water less than 10% of the 30% natural exceedance flow. Over 90% of the ESU had no change in August consumptive use between 1997 and 2004.	Although not currently a significant constraint on coho recovery, water quantity has the potential of limiting coho production at local spatial scales.		Focus habitat restoration investments in areas of high intrinsic coho potential.
OTHER FACTORS	Assessed data, literature, and local observations.	Data, analyses, and interpretation of these limiting factors are available at http://www.oregon-plan.org	Although not currently a significant constraint on coho recovery, each factor has the potential of limiting coho at local spatial scales.		Remain alert to detect future change in importance of these factors.

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Biological Viability Analysis

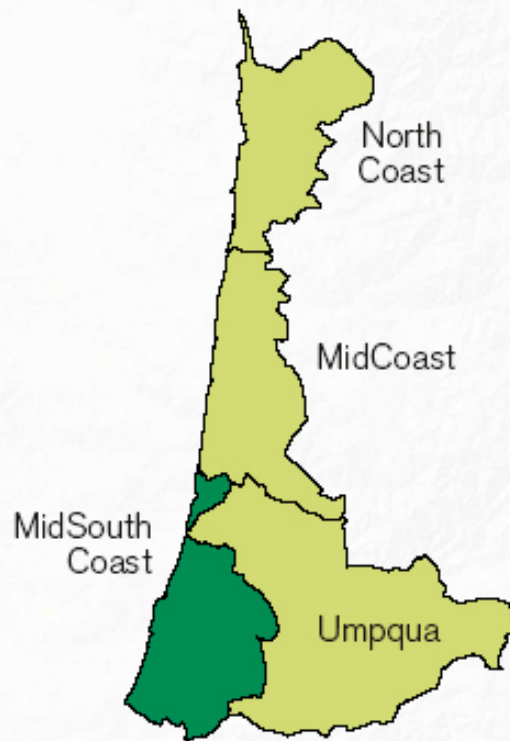
Biological Viability Status

PASS+

PASS

FAIL

Monitoring Areas in the ESU



Biological Viability Status

North Coast

PASS

MidCoast

PASS

Umpqua

PASS

MidSouth Coast

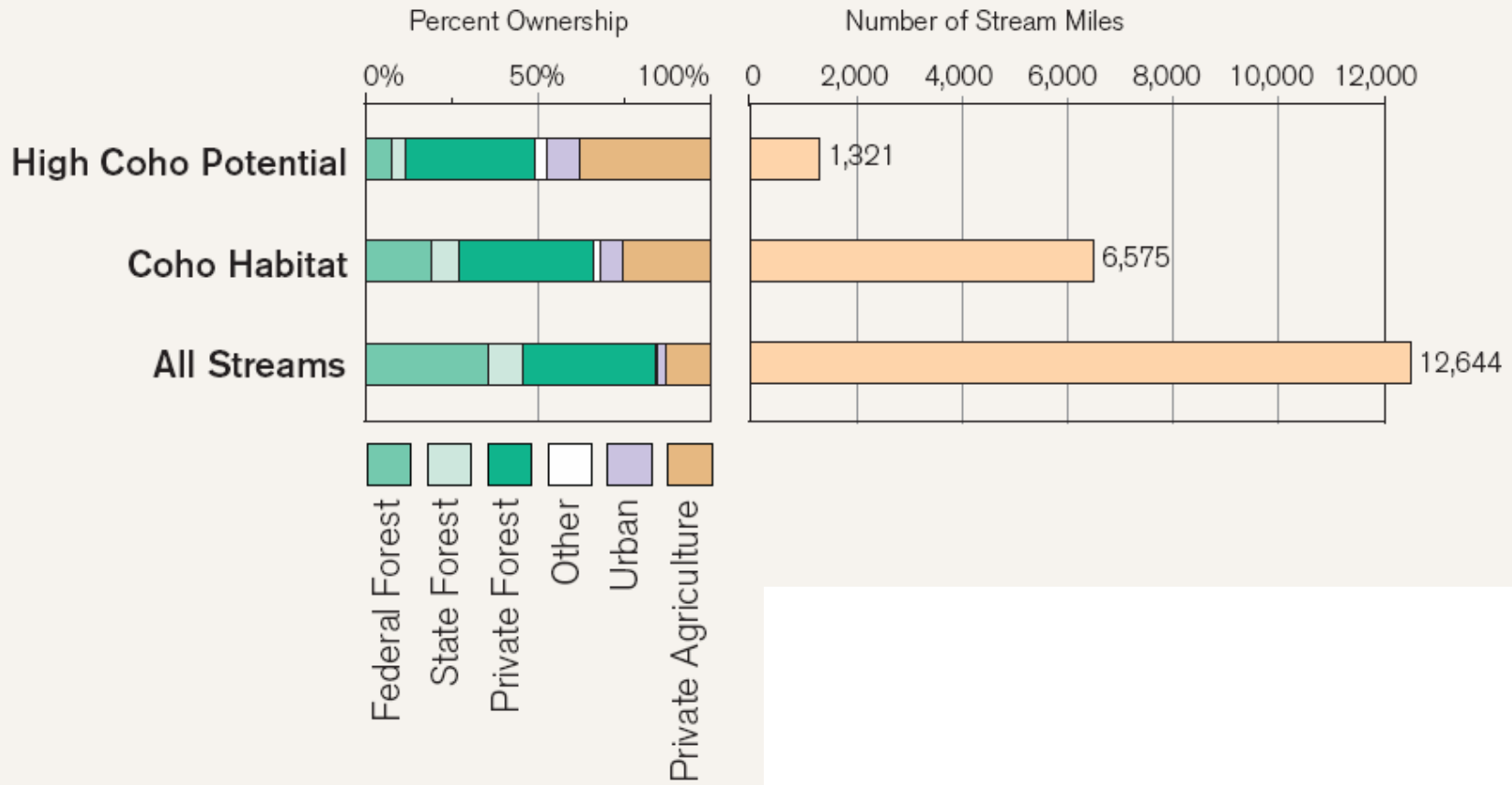
PASS+

Lakes*

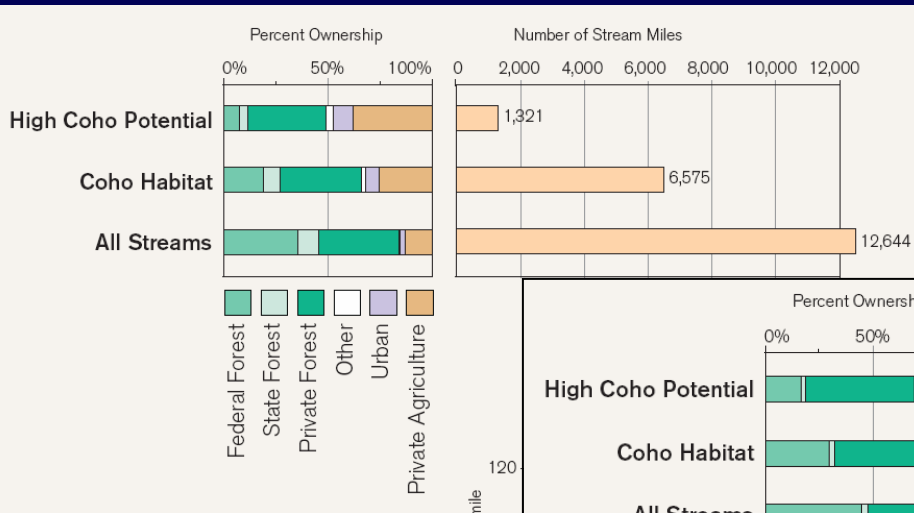
PASS+

*Lakes strata is part of the MidSouth Coast Monitoring Area

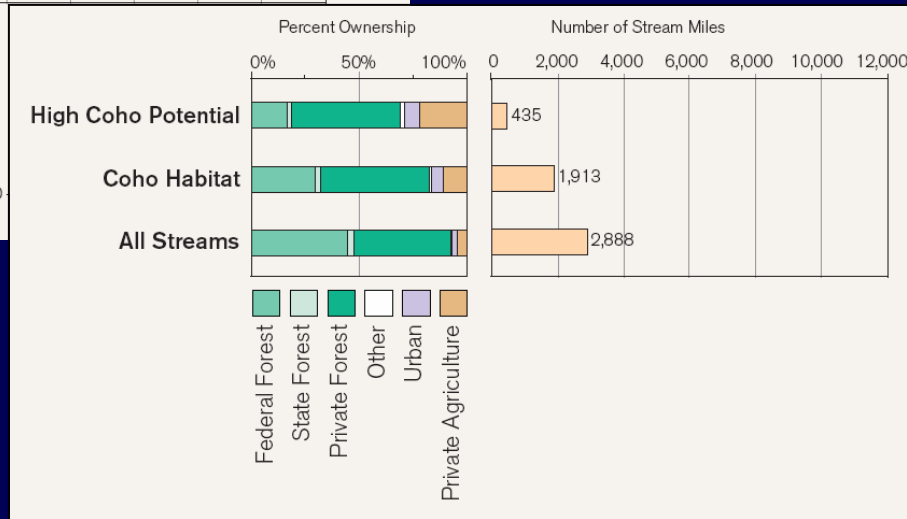
Land Ownership and Stream Miles - 1:100K



Land Ownership and Stream Miles - 1:100K

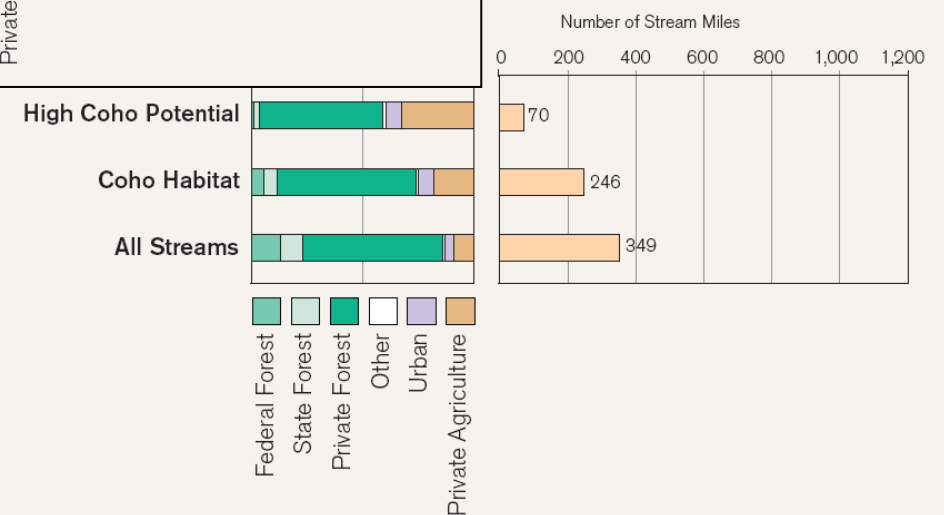


ESU

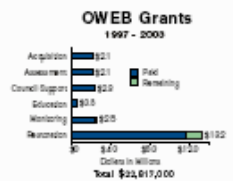
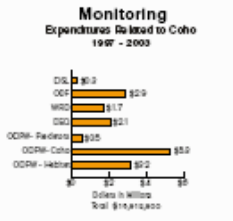
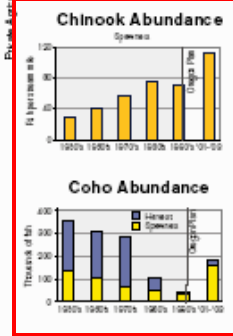
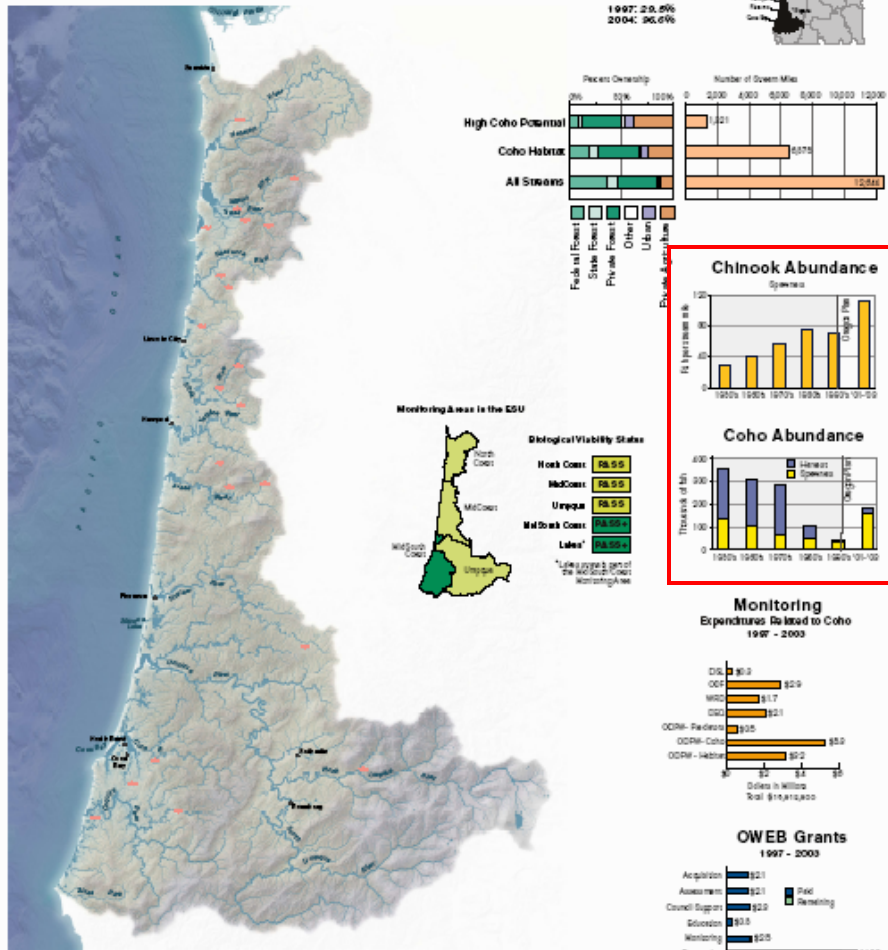


MID COAST

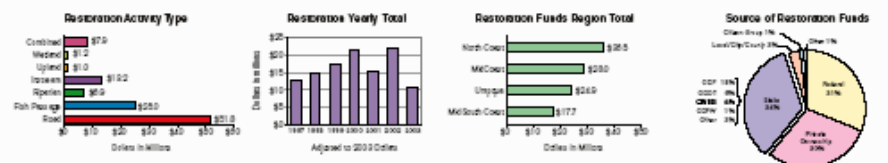
YAQUINA POPULATION



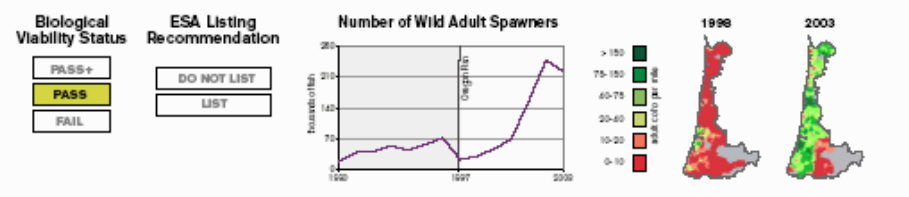
Oregon Coastal Coho ESU



Restoration Funding 1997-2003 - \$107 Million



Analysis of ESU

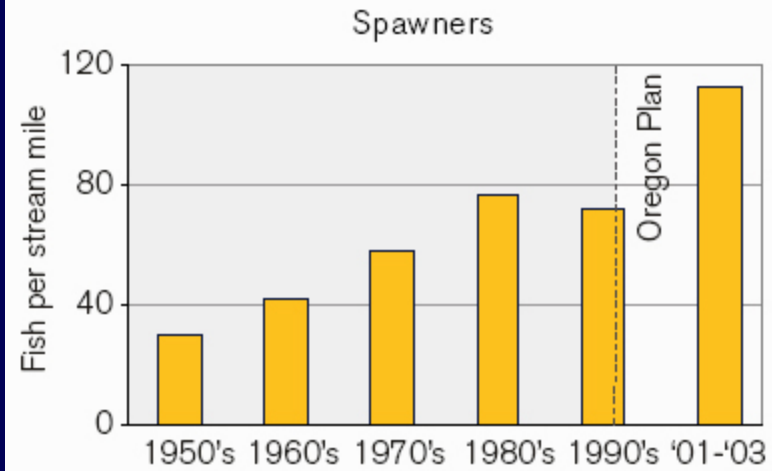


Risk Factor Analysis

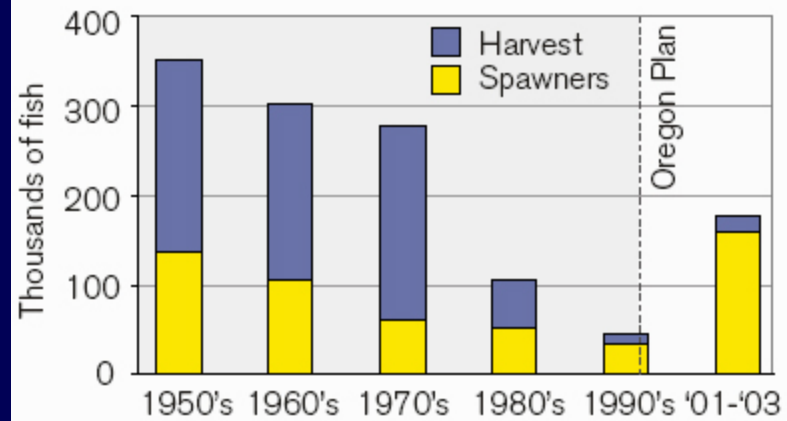
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STREAM COMPLEXITY 1907 Priority	Regulatory programs: Oregon Forest Practices, Fill and Removal, Federal Forest Plan, Goal 5. Conduct restoration to recruit wood and increase complexity. Instream mile treated... 524 Riparian miles planted... 350 Riparian miles fenced... 231	RELEASES STRAYS	Coho streams have less large wood, more fine sediment, and fewer streamside conifers than reference streams. No significant trend was detected in most habitat parameters over the last decade. Habitat conditions were generally better in the North Coast and MidSouth Coast areas of the ESU.		Focus habitat restoration investments in areas of high intrinsic coho potential.
FISH PASSAGE 1907 Priority	Fish Passage Law Improve fish passage at stream crossings. Counted... 4,413 Mapped... 3,292 Assessed... 2,146 Unknown... 1,247	RELEASES STRAYS	Improved access - result to date Non Coho Distribution... +16% Non HP Coho Distribution... +10% HP Coho Distribution... +6% Improved Access - remaining opportunity Non Coho... 15% impaired - 40% unknown Non HP Coho... 11% impaired - 52% unknown HP Coho... 10% impaired - 28% unknown		Opportunity to increase access to high quality habitat may exist in local areas. Focus passage inventory and restoration in these areas.
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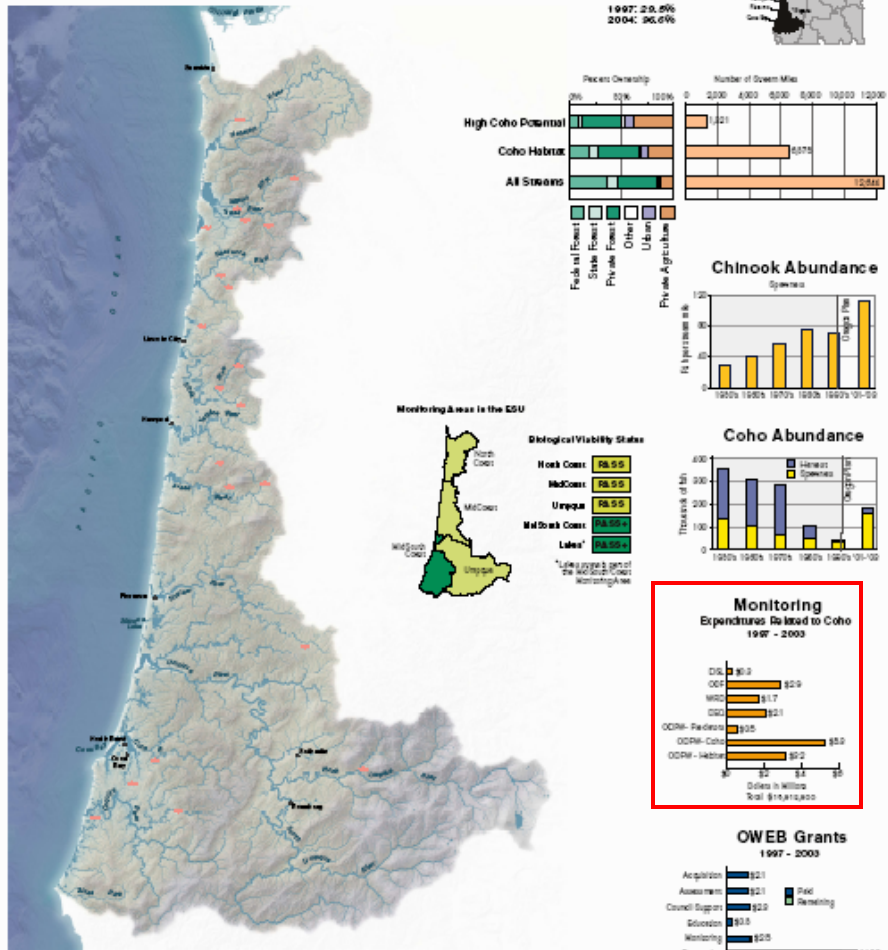
Chinook Abundance



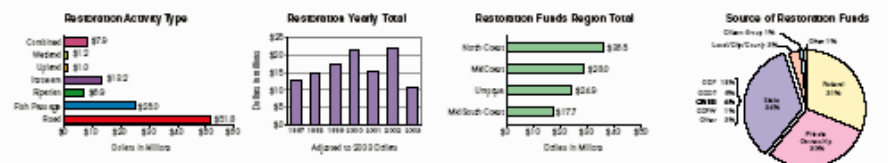
Coho Abundance



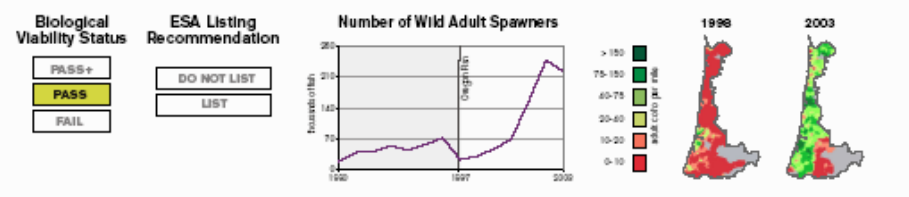
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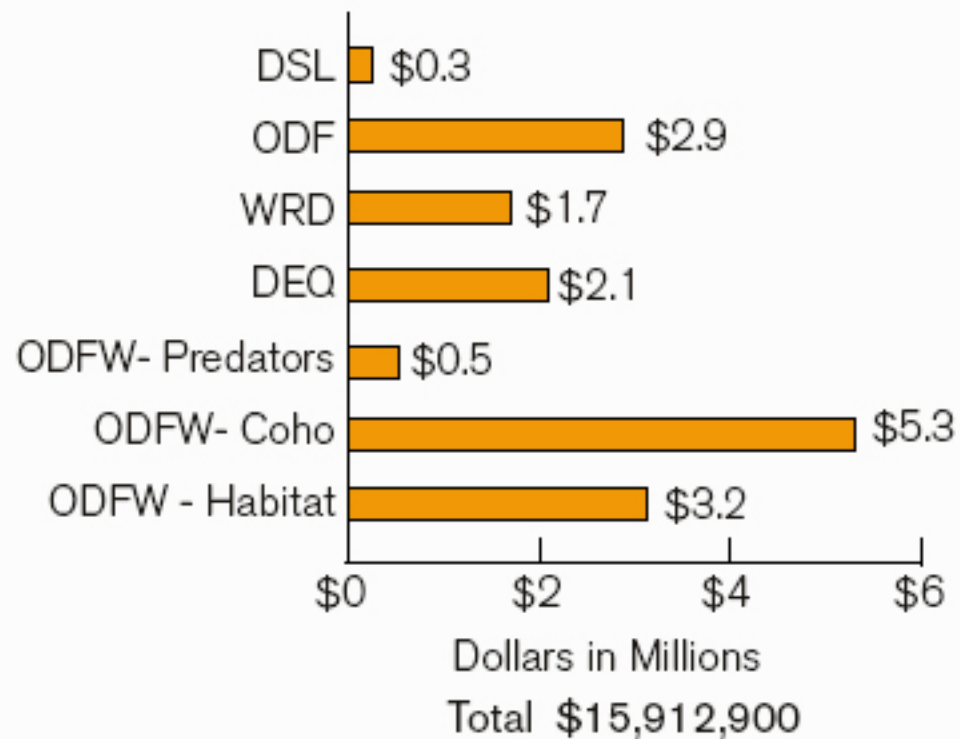


FACTOR	OREGON PLAN ACTION	OBSERVATIONS	INTERPRETATION	RELATIVE RESTORATION OPPORTUNITY	NEED
MARINE HABITAT 1907 Priority	Hatchery Coho survival monitored at all hatcheries. Wild Coho survival monitored at lifecycle monitoring sites.	HATCHERY Line graph showing hatchery survival from 1960 to 2000. WILD Line graph showing wild survival from 1960 to 2000.	Marine survival rate of both hatchery and wild Coho increased consistent with Oregon Plan implementation.	N/A	Adjust harvest levels consistent with marine survival, adult escapement and population needs.
FISHERY HARVEST 1907 Priority	Harvest rates dictated by FPMC Amendment 13 will constrain harvest of wild coho consistent with recovery needs.	OCEAN Line graph showing ocean harvest from 1970 to 2000. RIVER Line graph showing river harvest from 1970 to 2000.	High harvest rates on coho prior to Oregon Plan have been reduced by management action. Harvest rates are no longer limiting recovery.		Maintain FPMC Amendment 13 to restrain harvest consistent with population productivity.
HATCHERY IMPACTS 1907 Priority	Genetic Management Programs have been drafted for all hatcheries - awaiting approval by NOAA. Hatchery programs are managed consistently with local population status and recovery needs.	RELEASES Line graph showing releases from 1960 to 2000. STRAYS Line graph showing strays from 1960 to 2000.	Hatchery programs are not containing coho cohesy. The percent of hatchery coho in natural spawning areas has declined because of management action and is now within policy guidelines.		Continue implementing Native Fish Conservation Policy and Hatchery Genetic Management Plans.
STREAM COMPLEXITY 1907 Priority	Regulatory programs: Oregon Forest Practices, Fill and Removal, Federal Forest Plan, Goal 5. Conduct restoration to recruit wood and increase complexity. Instream mile treated... 524 Riparian miles planted... 350 Riparian miles fenced... 231	• Coho streams have less large wood, more fine sediment, and fewer streamside conifers than reference streams. • No significant trend was detected in most habitat parameters over the last decade. • Habitat conditions were generally better in the North Coast and MidSouth Coast areas of the ESU.	Availability of complex stream habitat probably limits coho production.		Focus habitat restoration investments in areas of high intrinsic coho potential.
FISH PASSAGE 1907 Priority	• Fish Passage Law • Improve fish passage at stream crossings. Counted... 4,413 Improved... 1,140 Mapped... 3,292 Assessed... 2,146 Unknown... 1,247	• Improved access - result to date Non Coho Distribution... +16% Non HP Coho Distribution... +10% HP Coho Distribution... +6% • Improved Access - remaining opportunity Non Coho... 15% impaired - 40% unknown Non HP Coho... 11% impaired - 52% unknown HP... 10% impaired - 28% unknown	It is unknown if coho have access to roughly one third of their potential habitat. Access can be improved 10% by correcting documented problems. Impact of take gates has not been determined.		Opportunity to increase access to high quality habitat may exist in local areas. Focus passage inventory and restoration in these areas.
WATER QUALITY 1907 Priority	• Federal Clean Water Act • Conduct restoration to reduce sediment, moderate temp. • SE-1010 Plans completed • TMDL's are being developed Road miles upgraded... 1,557 Road miles miles... 521 Riparian miles planted... 350 Riparian miles fenced... 231	• The North Coast Monitoring Area had the best overall water quality; the Uppuq BIA had the poorest. • Most water quality parameters show no significant difference from reference streams in the ESU. • No large river monitoring sites had a decline trend in water quality during 1965 - 2002 (30% improving; 51% no trend). • For large river monitoring sites, 42% had excellent to good, 35% fair, and 10% poor water quality.	Although not currently a significant constraint on coho recovery, water quality has the potential of limiting coho production at local spatial scales.		Take restoration action at local spatial scales as appropriate to maintain or improve carrying capacity.
WATER QUANTITY 1907 Priority	• Oregon Water Law • 3700 miles of streams are protected (instream right). • Streamflow restoration focused in the MidSouth Coast and Uppuq MA's. • At an 80% exceedance flow, water is not available for new water appropriations in August in 94% of the total ESU areas.	• Approximately 800 in-stream water rights currently exist. • August consumptive use was highest in the MidSouth Coast and Uppuq Monitoring Areas. • 70% of the ESU had an August consumptive use of water less than 10% of the 30% natural exceedance flow. • Over 90% of the ESU had no change in August consumptive use between 1997 and 2004.	Although not currently a significant constraint on coho recovery, water quantity has the potential of limiting coho production at local spatial scales.		Focus habitat restoration investments in areas of high intrinsic coho potential.
OTHER FACTORS	Assessed data, literature, and local observations.	Data, analysis, and interpretation of these limiting factors are available at http://www.oregon-plan.org	Although not currently a significant constraint on coho recovery, each factor has the potential of limiting coho at local spatial scales.		Remain alert to detect future change in importance of these factors.

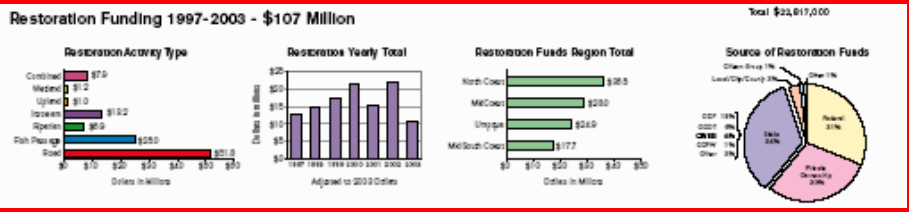
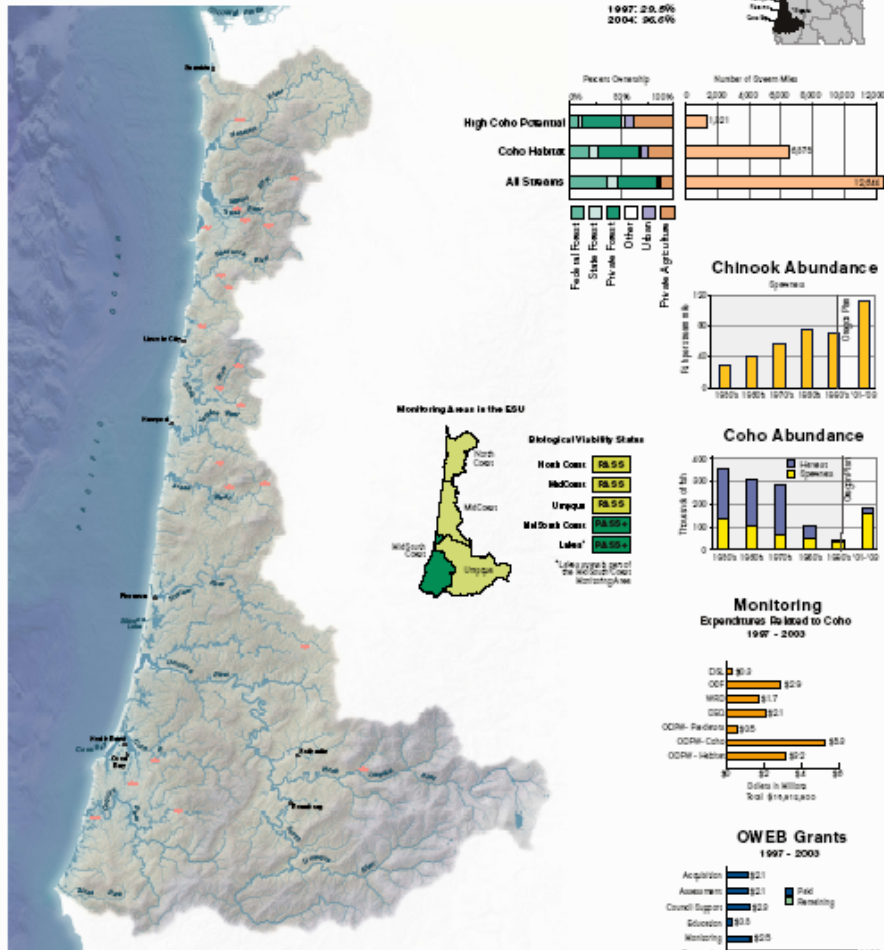
Note: Data, analyses, and interpretation that support the information presented here can be viewed at <http://www.oregon-plan.org>. Layers are working drafts with available data for design purposes.

Monitoring

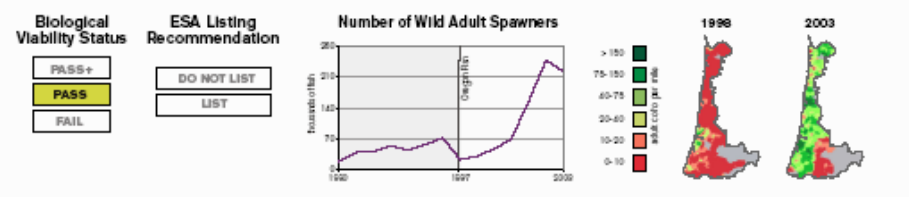
Expenditures Related to Coho 1997 - 2003



Oregon Coastal Coho ESU



Analysis of ESU

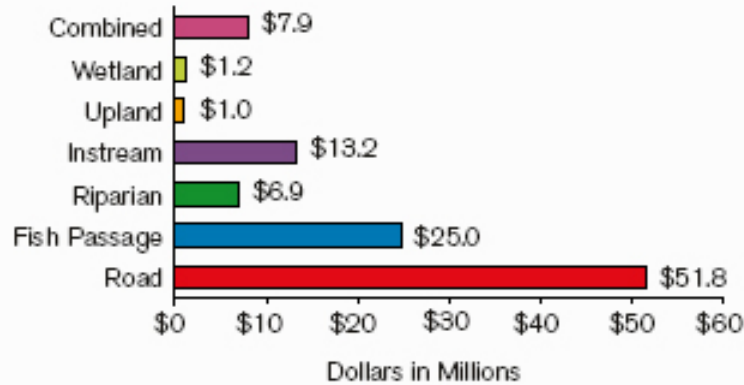


FACTOR	OREGON PLAN ACTION	OBSERVATIONS	INTERPRETATION	RELATIVE RESTORATION OPPORTUNITY	NEED	
MARINE HABITAT 1907 Priority	Hatchery Coho survival monitored at all hatcheries. Wild Coho survival monitored at lifecycle monitoring sites.	HATCHERY WILD	Marine survival rate of both hatchery and wild Coho increased consistent with Oregon Plan implementation.	N/A	Adjust harvest levels consistent with marine survival, adult escapement and population needs.	
FISHERY HARVEST 1907 Priority	Harvest rates dictated by PFRIC Amendment 13 will constrain harvest of wild coho consistent with recovery needs.	OCEAN RIVER	High harvest rates on coho prior to Oregon Plan have been reduced by management action. Harvest rates are no longer limiting recovery.		Maintain PFRIC Amendment 13 to restrain harvest consistent with population productivity.	
HATCHERY IMPACTS 1907 Priority	Genetic Management Programs have been drafted for all hatcheries - awaiting approval by NOAA. Hatchery practices are managed consistently with local population status and recovery needs.	RELEASES STRAYS	Hatchery programs are not containing coho to coho. The percent of hatchery coho in natural spawning areas has declined because of management action and is now within policy guidelines.		Continue implementing Native Fish Conservation Policy and Hatchery Genetic Management Plans.	
STREAM COMPLEXITY 1907 Priority	Regulatory programs: Oregon Forest Practices, Fill and Removal, Federal Forest Plan, Goal 5. Conduct restoration to recruit wood and increase complexity. Instream mile treated... 504 Riparian miles planted... 350 Riparian miles fenced... 231	COHO WATER	Coho streams have less large wood, more fine sediment, and fewer streamside conifers than reference streams. No significant trend was detected in most habitat parameters over the last decade. Habitat conditions were generally better in the North Coast and MidSouth Coast areas of the ESU.	Availability of complex stream habitat probably limits coho production.		Focus habitat restoration investments in areas of high intrinsic coho potential.
FISH PASSAGE 1907 Priority	Fish Passage Law Improve fish passage at stream crossings. Counted... 4,413 Mapped... 3,292 Assessed... 2,146 Unknown... 1,247	ACCESS HP	Improved access - result to date Non Coho Distribution... +16% Non HP Coho Distribution... +10% HP Coho Distribution... +6% Improved Access - remaining opportunity Non Coho... 15% impaired - 40% unknown Non HP Coho... 11% impaired - 52% unknown HP... 10% impaired - 28% unknown	It is unknown if coho have access to roughly one third of their potential habitat. Access can be improved 10% by correcting documented problems. Impact of take gates has not been determined.		Opportunity to increase access to high quality habitat may exist in local areas. Focus passage inventory and restoration in these areas.
WATER QUALITY 1907 Priority	Federal Clean Water Act Conduct restoration to reduce sediment, moderate temp. SE-1010 Plans completed TMDL's are being developed Road miles upgraded... 1,557 Road miles miles... 521 Riparian miles planted... 350 Riparian miles fenced... 231	WATER QUALITY	The North Coast Monitoring Area had the best overall water quality; the Umpqua BIA had the poorest. Most water quality parameters show no significant difference from reference streams in the ESU. No large river monitoring sites had a decline trend in water quality during 1995 - 2002 (50% improving; 51% no trend). For large river monitoring sites, 42% had excellent to good, 35% fair, and 19% poor water quality.	Although not currently a significant constraint on coho recovery, water quality has the potential of limiting coho production at local spatial scales.		Take restoration action at local spatial scales as appropriate to maintain or improve carrying capacity.
WATER QUANTITY 1907 Priority	Oregon Water Law 3,700 miles of streams are protected (instream right). Streamflow restoration focused in the MidSouth Coast and Umpqua MAs. At an 80% exceedance flow, water is not available for new water appropriations in August in 94% of the total ESU areas.	WATER QUANTITY	Approximately 800 instream water rights currently exist. August consumptive use was highest in the MidSouth Coast and Umpqua Monitoring Areas. 70% of the ESU had an August consumptive use of water less than 10% of the 30% natural exceedance flow. Over 90% of the ESU had no change in August consumptive use between 1997 and 2004.	Although not currently a significant constraint on coho recovery, water quantity has the potential of limiting coho production at local spatial scales.		Focus habitat restoration investments in areas of high intrinsic coho potential.
OTHER FACTORS	Assessed data, literature, and local observations.	OTHER	Data, analysis, and interpretation of these limiting factors are available at http://www.oregon-plan.org .	Although not currently a significant constraint on coho recovery, each factor has the potential of limiting coho at local spatial scales.		Remain alert to detect future change in importance of these factors.

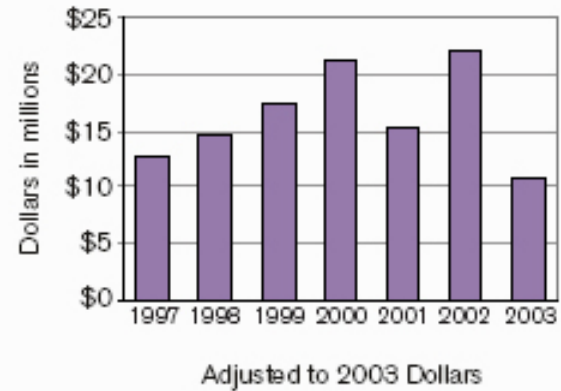
Note: Data, analyses, and interpretation that support the information presented here can be viewed at <http://www.oregon-plan.org>. Layers are working drafts with available data for design purposes.

Restoration Funding 1997-2003 - \$107 Million

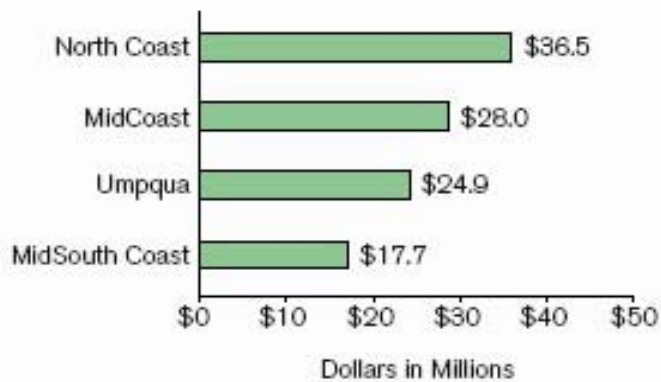
Restoration Activity Type



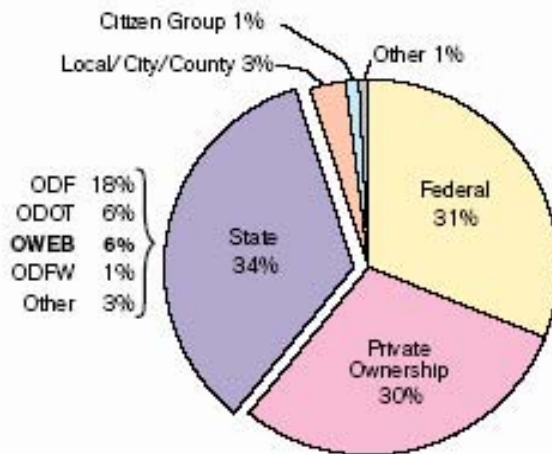
Restoration Yearly Total



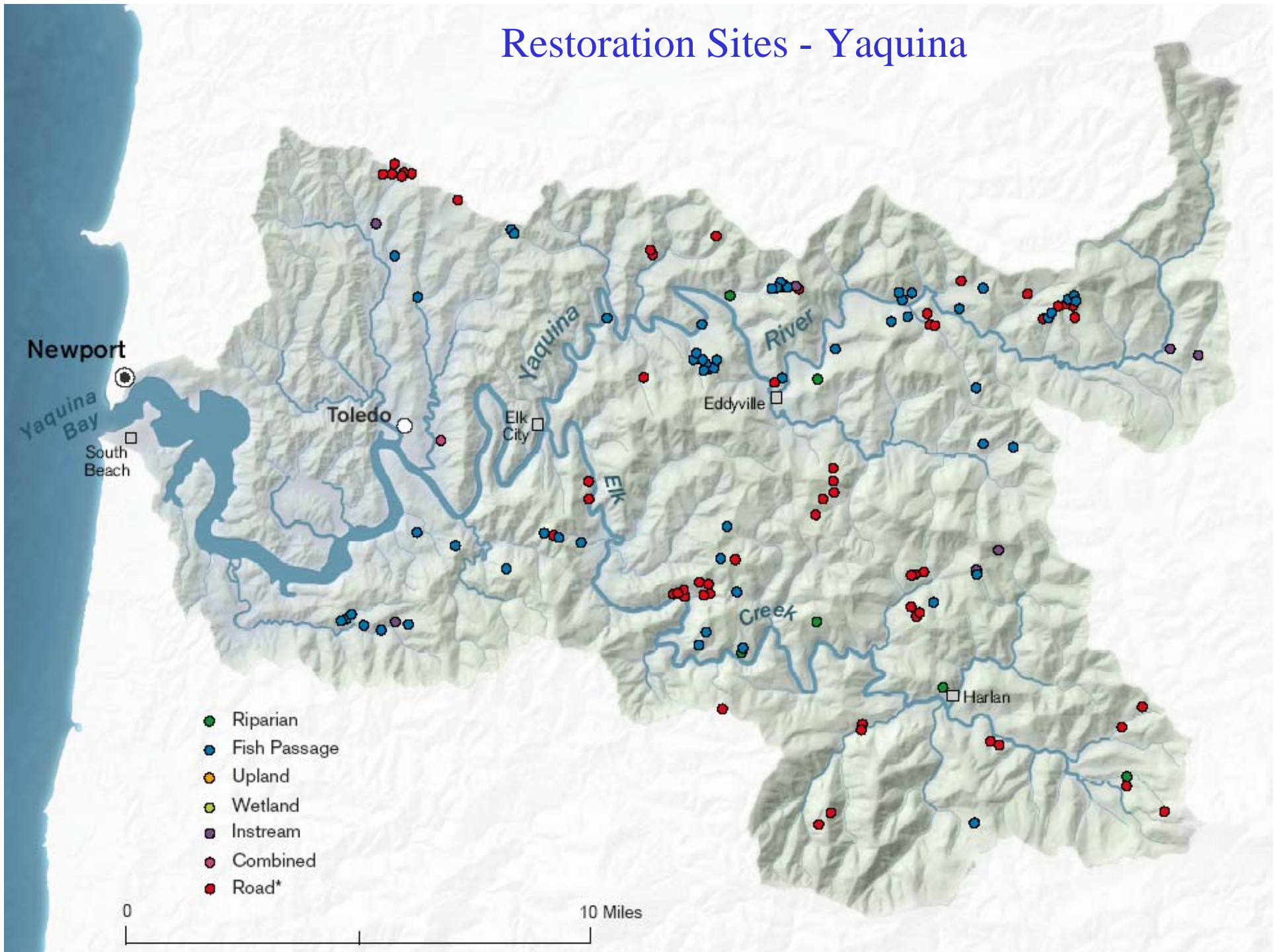
Restoration Funds Region Total



Source of Restoration Funds

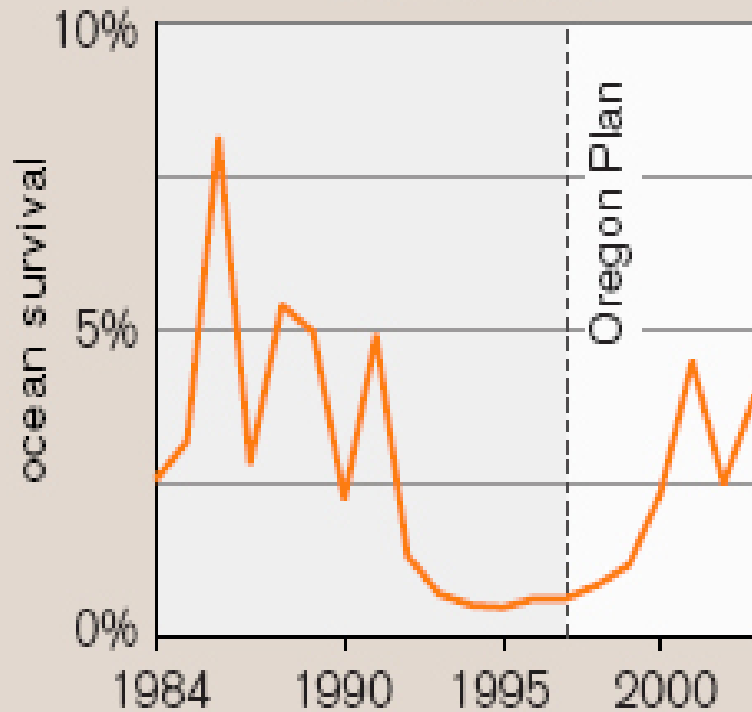


Restoration Sites - Yaquina

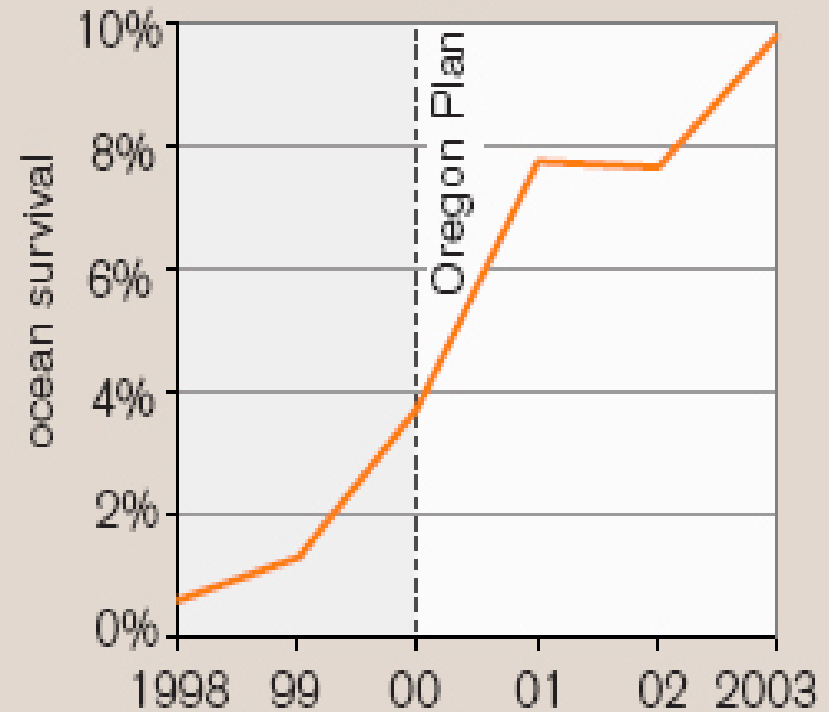


Marine Survival Rates

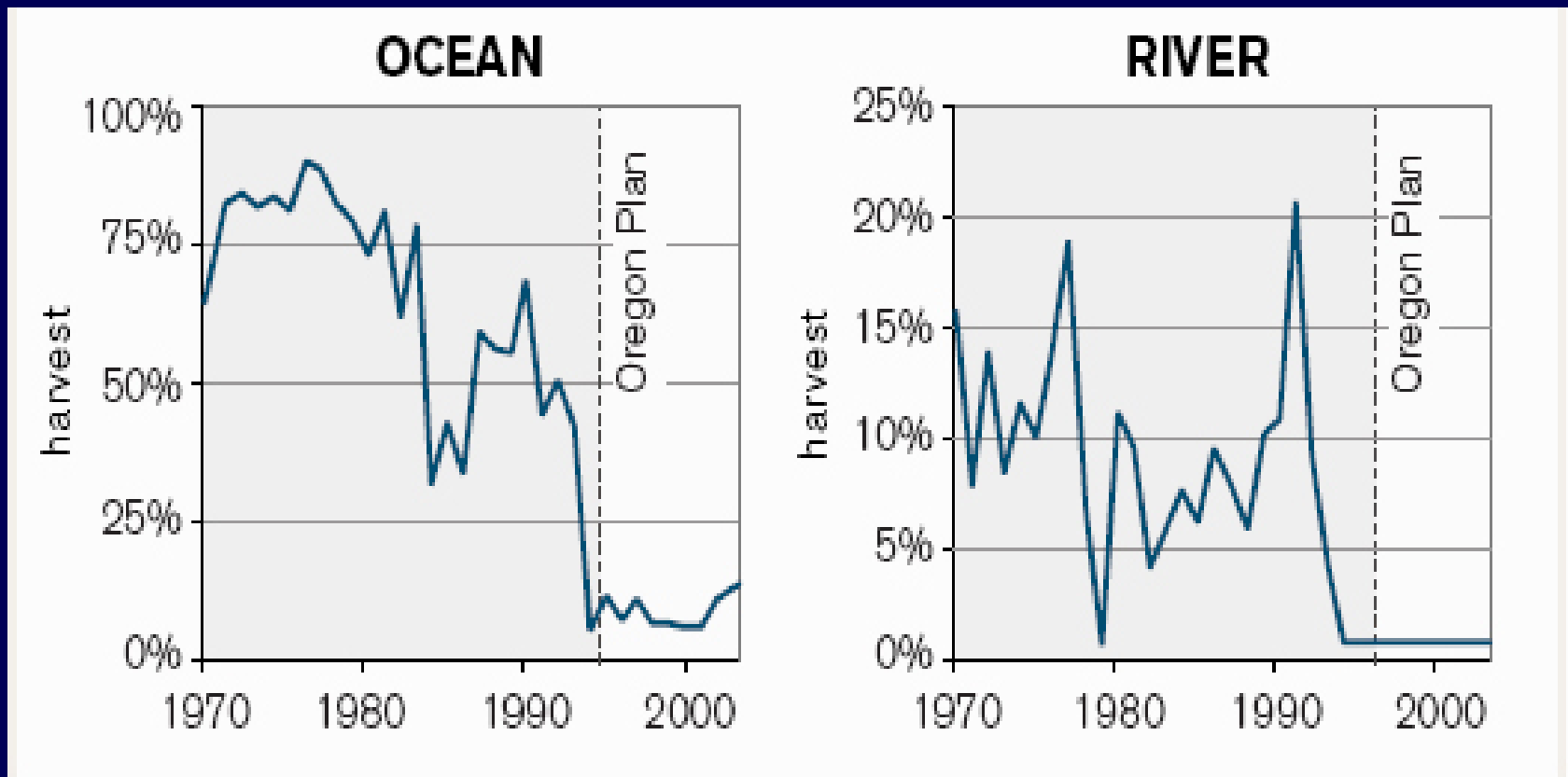
HATCHERY



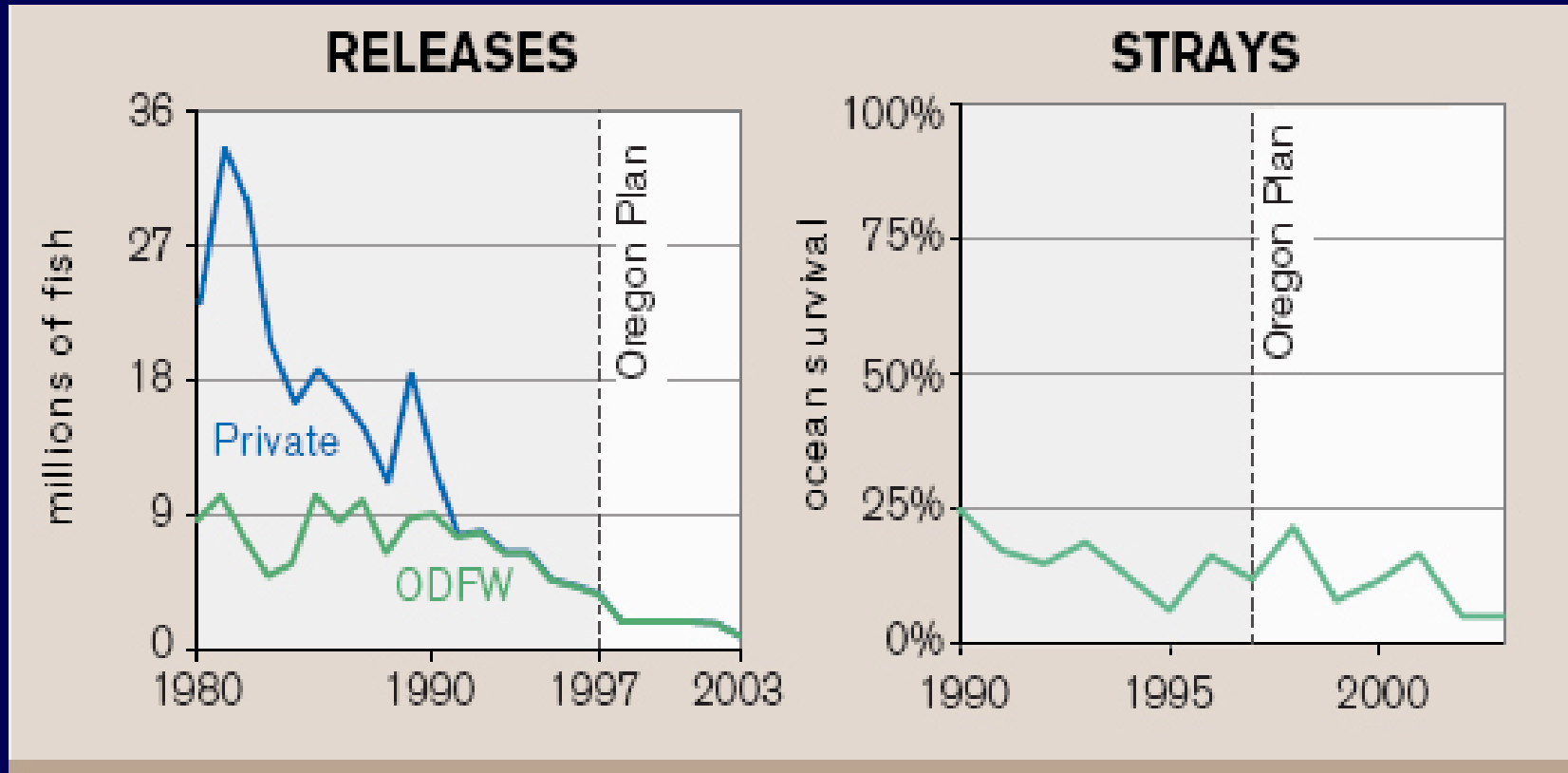
WILD

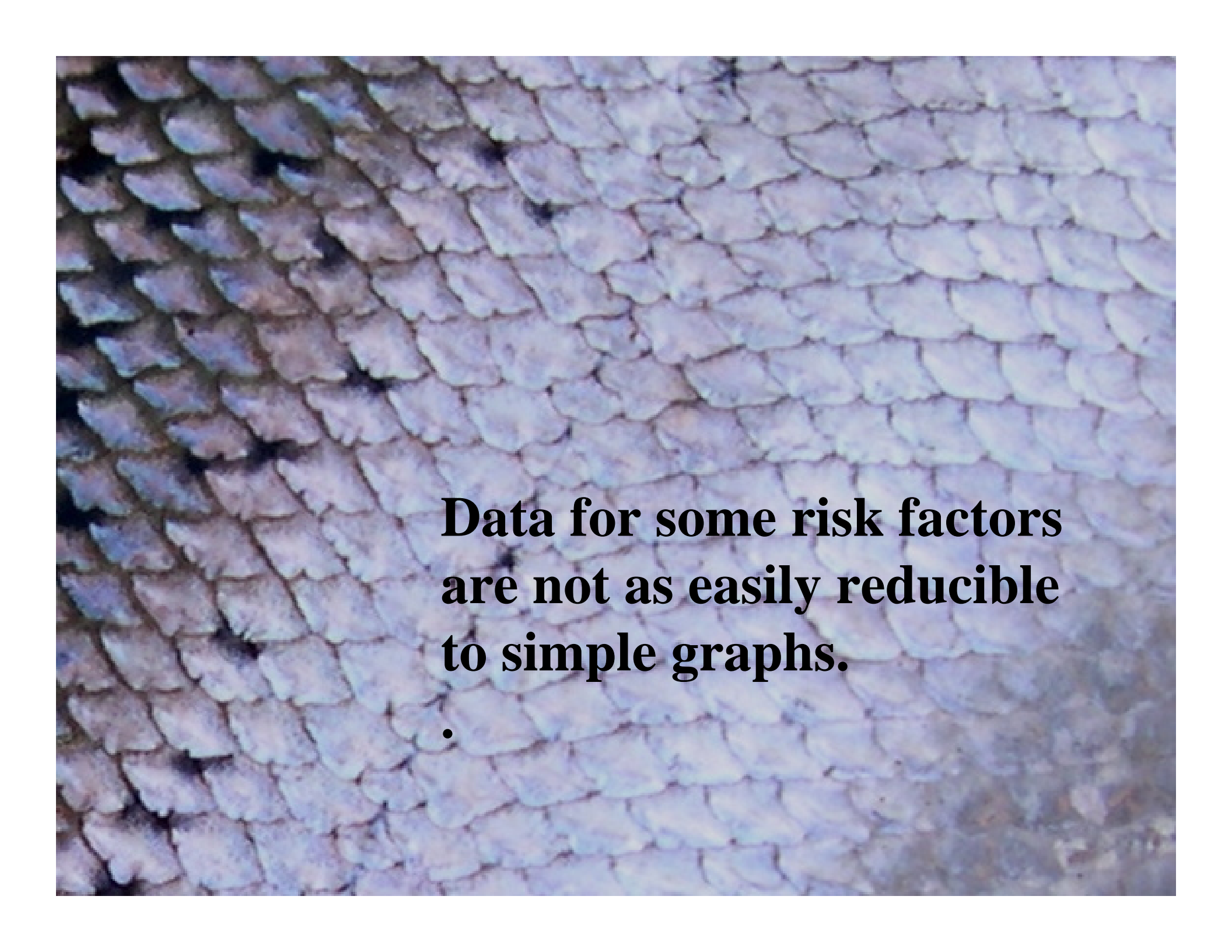


Fishery Harvest Rate



Hatchery Impacts





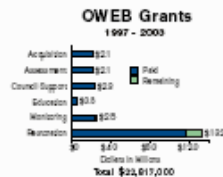
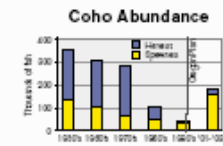
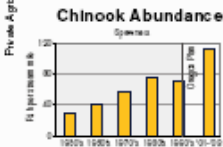
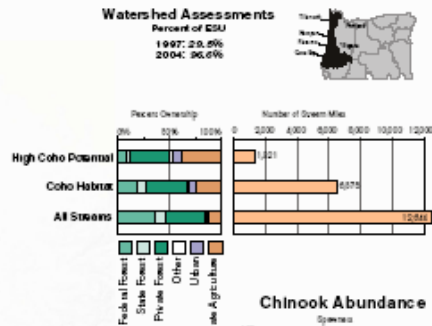
**Data for some risk factors
are not as easily reducible
to simple graphs.**

-

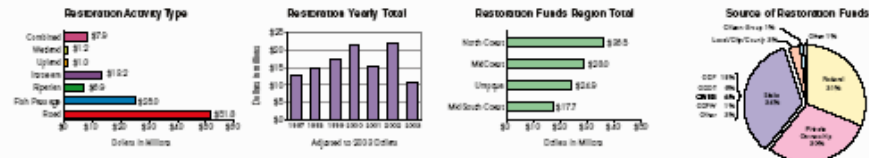
HABITAT COMPLEXITY

- Coho streams have less large wood, more fine sediment, and fewer riparian conifers than reference streams
- No significant trend detected in most habitat parameters over the last decade
- Power to detect change will increase greatly as more years of data are assessed

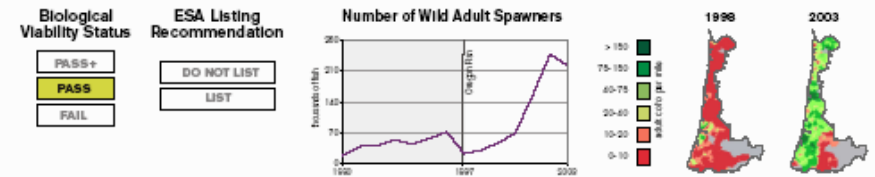
Oregon Coastal Coho ESU



Restoration Funding 1997-2003 - \$107 Million



Analysis of ESU



Risk Factor Analysis

FACTOR	OREGON PLAN ACTION	OBSERVATIONS	INTERPRETATION	RELATIVE RESTORATION OPPORTUNITY	NEED
MARINE HABITAT 1007 Priority	Hatchery Coho survival monitored at all hatcheries. Wild Coho survival monitored at lifecycle monitoring sites.	HATCHERY WILD	Marine survival rate of both hatchery and wild Coho increased consistent with Oregon Plan implementation.	N/A	Adjust harvest consistent with marine survival, adult escapement and population needs.
FISHERY HARVEST 1007 Priority	Harvest rates dictated by PFMC Amendment 13 will constrain harvest of wild Coho consistent with recovery needs.	OCEAN RIVER	High harvest rates on Coho prior to Oregon Plan have been reduced by management actions. Harvest rates are no longer limiting recovery.		Maintain PFMC Amendment 13 constraint harvest consistent with population productivity.
HATCHERY IMPACTS 1007 Priority	Genetic Management Programs have been drafted for all hatcheries - awaiting approval by NOAA. Hatchery broodstock are managed consistently with local population status and recovery needs.	RELEASES STRAYS	Hatchery programs are not containing Coho recovery. The percent of hatchery Coho in natural spawning areas has declined because of management action and is not within policy guidelines.		Continue implementing Active Fish Conservation Policy and Hatchery Genetic Management Plans.
STREAM COMPLEXITY 1007 Priority	Regulatory programs: Oregon Forest Practices, Fill and Removal, Federal Forest Plan, Goal 5. Conduct restoration to recruit wood and increase complexity. Stream miles treated... 524 Stream miles planted... 350 Stream miles fenced... 231		Coho streams have less large wood, more fine sediment, and fewer streamside conifers than reference streams. No significant trend was detected in most habitat parameters over the last decade. Habitat conditions were generally better in the North Coast and MidSouth Coast areas of the ESU.		Focus habitat restoration investments in areas of high thimble Coho density.
FISH PASSAGE 1007 Priority	Fish Passage Law. Improve fish passage at stream crossings. Counted... 4,413 Improved... 1,140 Maps... 2,146 Unimproved... 1,247		Improved access - result to date: Non Coho Distribution... +16% Non HP Coho Distribution... +10% HP Coho Distribution... +6%. Improved Access - remaining opportunity: Non Coho... 15% impaired - 40% unknown Non HP Coho... 11% impaired - 52% unknown HP... 10% impaired - 28% unknown		Opportunity to increase access to high quality habitat by action in local areas. Focus on inventory and restoration in these areas.
WATER QUALITY 1007 Priority	Federal Clean Water Act. Conduct restoration to reduce sediment, moderate temp. SE-1010 Plans completed. Road miles upgraded... 1,527 Road miles miles... 521 Stream miles planted... 350 Stream miles fenced... 231		The North Coast Monitoring Area had the best overall water quality; the Umpqua BIA had the poorest. Most water quality parameters show no significant difference from reference streams in the ESU. No large river monitoring sites had a decline trend in water quality during 1997 - 2002 (30% improving, 51% no trend). For large river monitoring sites, 42% had excellent to good, 25% fair, and 10% poor water quality.		Take restoration action at local spatial scales as appropriate to maintain or improve water quality.
WATER QUANTITY 1007 Priority	Oregon Water Law. 5700 miles of streams are protected (instream right). Streamflow restoration focused in the MidSouth Coast and Umpqua MA's. At an 80% exceedance flow, water is not available for new water appropriations in August in 94% of the total ESU areas.		Approximately 800 in-stream water rights currently exist. August consumptive use was highest in the MidSouth Coast and Umpqua Monitoring Areas. 70% of the ESU had an August consumptive use of water less than 10% of the 30% natural exceedance flow. Over 90% of the ESU had no change in August consumptive use between 1997 and 2004.		Focus habitat restoration investments in areas of high thimble Coho density.
OTHER FACTORS	Assessed data, literature, and local observations.		Data, analysis, and interpretation of these limiting factors are available at http://www.oregon-plan.org		Remain alert to detect future change in importance of these factors.

Notes: Charts, maps, and other information that support the information presented here can be viewed at <http://www.oregon-plan.org>

Layers are working drafts with available data for design purposes.

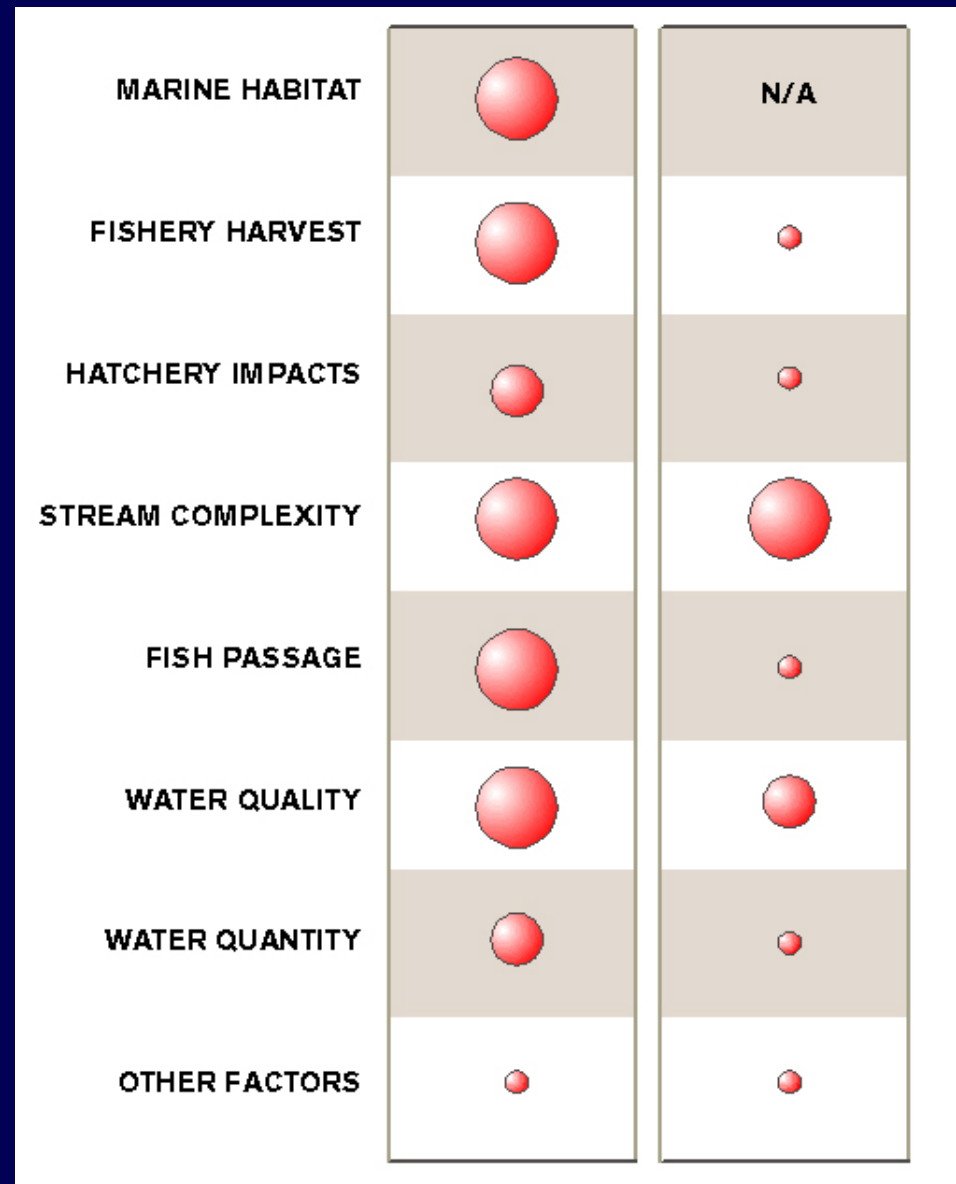
1997 -- 2005

ESU Scale

Relative Importance of
Factors for decline
In 1997




































And

Restoration Priorities
In 2005



Risk Factors Limiting Weak Populations

Larger button-size shows risk factors that must *first* be addressed in order to improve population viability

	Tillamook	Salmon	Siletz	Alesea	Upper-Umpqua
MARINE HABITAT	N/A	N/A	N/A	N/A	N/A
FISHERY HARVEST					
HATCHERY IMPACTS					
STREAM COMPLEXITY					
FISH PASSAGE					
WATER QUALITY					
WATER QUANTITY					
OTHER FACTORS					

PERCEIVED THREAT TO ESU VIABILITY 1997 - 2005

<i>Risk Factor</i>	1997 Risk	2003 Risk	2005 Risk
Ocean	H	M	M
Harvest	H	L	L
Hatchery	H	L	L
Stream hab.	H	H	M
Passage	H	L	L
H2O qual.	H	L	L
Streamflow	M	L	L
Other	L	L	L

ESA Listing Recommendation

DO NOT LIST

LIST

???

Oregon's Recommendation Regarding
Federal ESA Determination is Currently
under consideration

Conclusions

- ESU is viable (not likely to become endangered in foreseeable future)
- Factors for decline have been effectively addressed
- Moderate risk remains from 2 risk factors: ocean conditions and stream complexity
- Current management should preclude serious deterioration of fish or their supporting habitat
- Monitoring will promptly detect any serious deterioration, providing opportunity for state or federal protective action

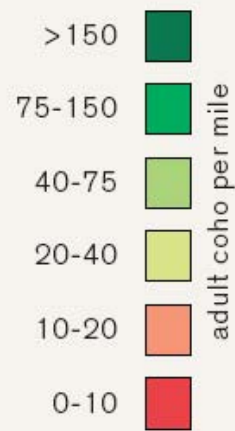
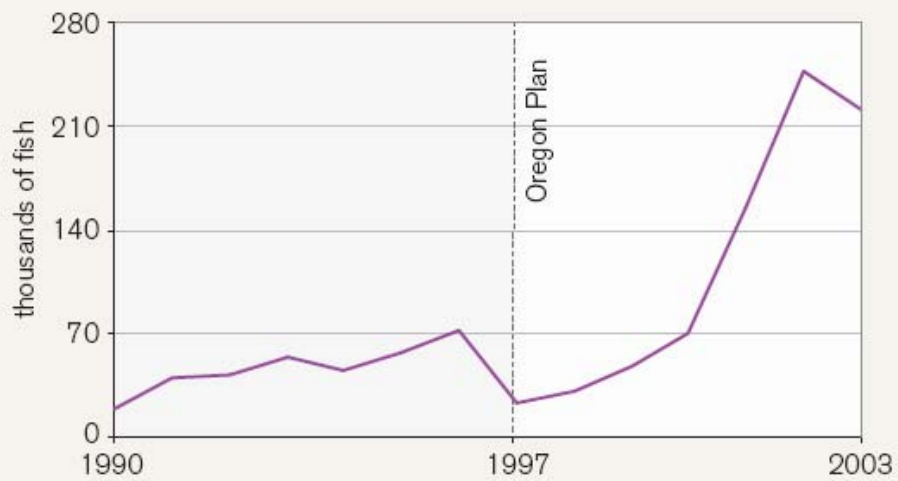


Story-Boards may be viewed at:
<http://mtjune.uoregon.edu/website/OWEB/Assessment/>

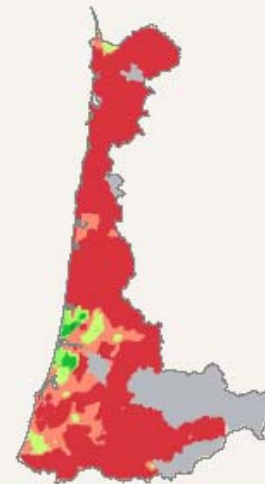
Cartography, GIS, and graphics:
University of Oregon InfoGraphics Lab

Density of Wild Adult Spawners

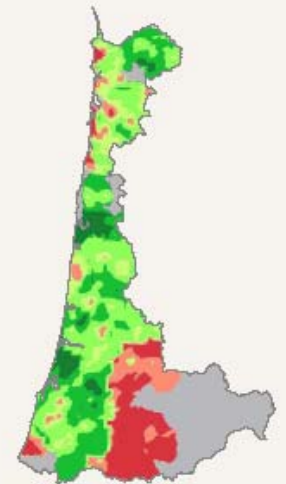
Number of Wild Adult Spawners



1998

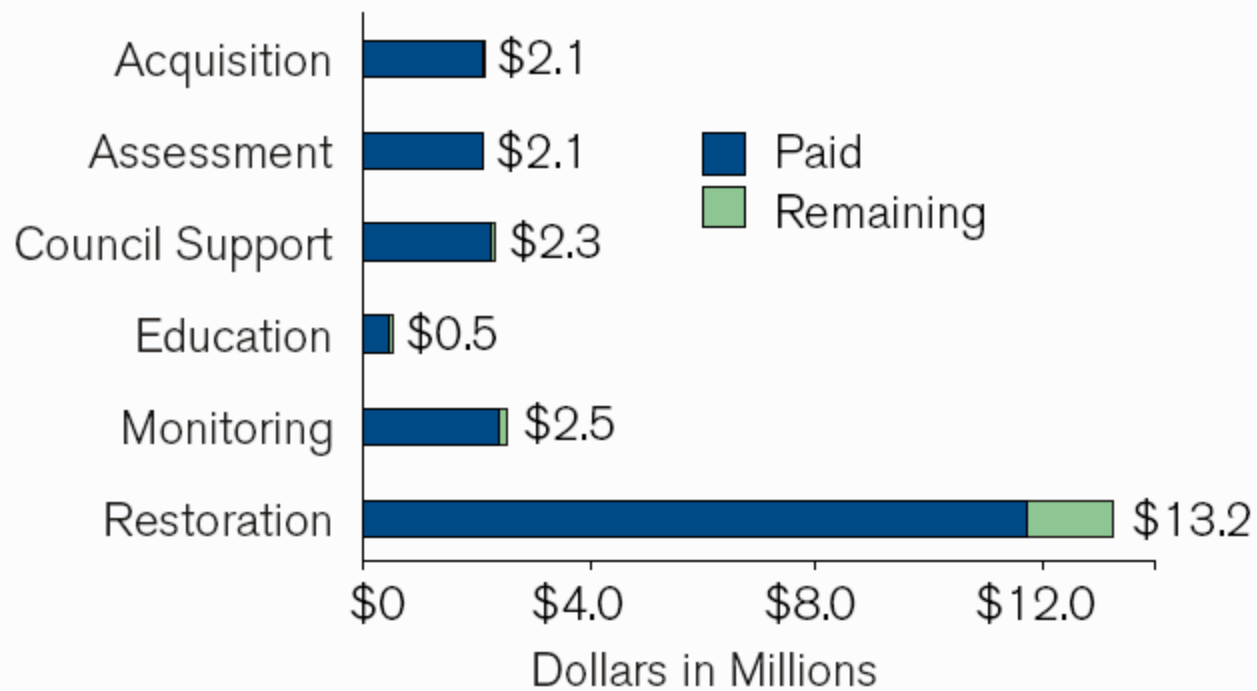


2003



OWEB Grants

1997 - 2003



Total \$22,817,000

Fish Passage

- Work in 1997-2003 produced improved access in 16% of non-coho, 10% in non-HIP coho, & 6% in HIP coho distribution
- Access to ~10% of coho distribution is impaired - access to ~30% of coho distribution is not documented

Water Quality

- Water quality in coho streams did not differ significantly from coho reference streams
- Significant proportion of coho streams exceed temperature standards
- ~40% of large river monitoring sites had improving water quality and ~60% had no trend in water quality in last decade

Water Quantity

- ~3,700 miles of streams in ESU protected by instream rights (800 instream rights)
- No water available for new appropriations in August in 94% of ESU
- ~90% of ESU had no change in august consumptive use between 1997 & 2004

Other Risk Factors

- Toxics, DO, pH, stream fertility, riparian shade, spawning gravel, hydro power, illegal harvest, disease, estuaries, wetlands, exotic fishes, predation by birds & pinnipeds, etc.