

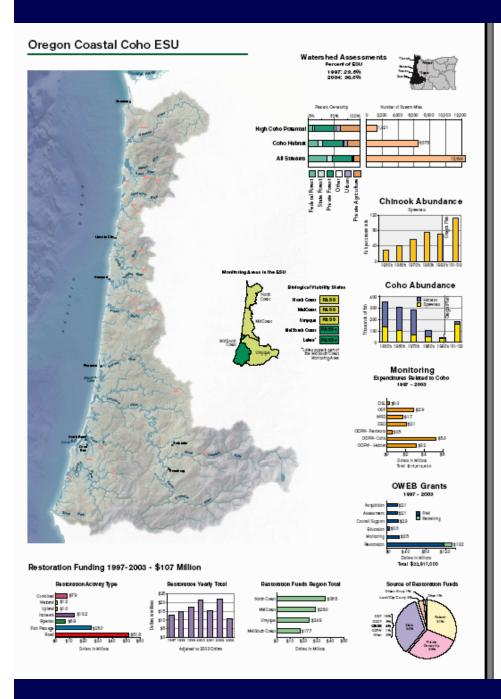
Story-Boarding the Oregon Coast Coho ESU Assessment

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



Density of Wild Adult Spawners

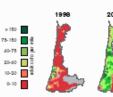
Biological Viability Status

ESA Listing Recommendation







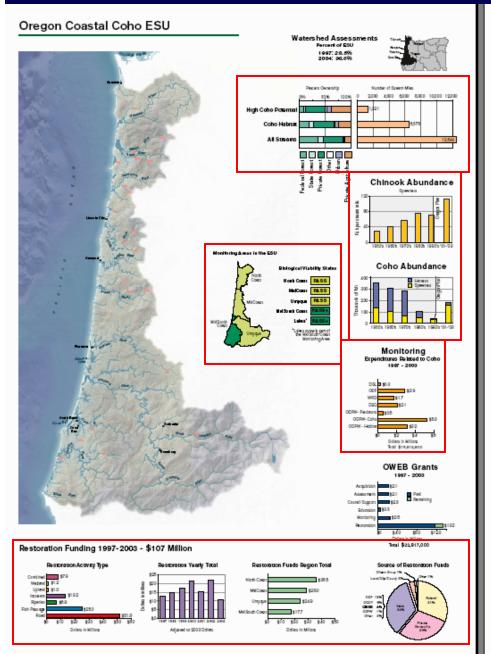


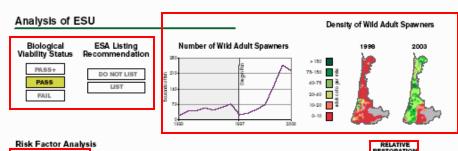
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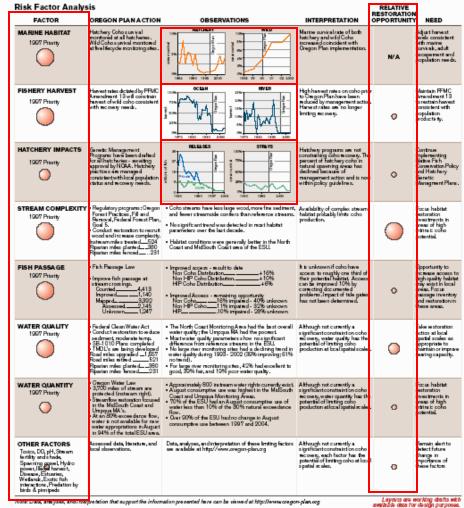
Risk Factor Analysis

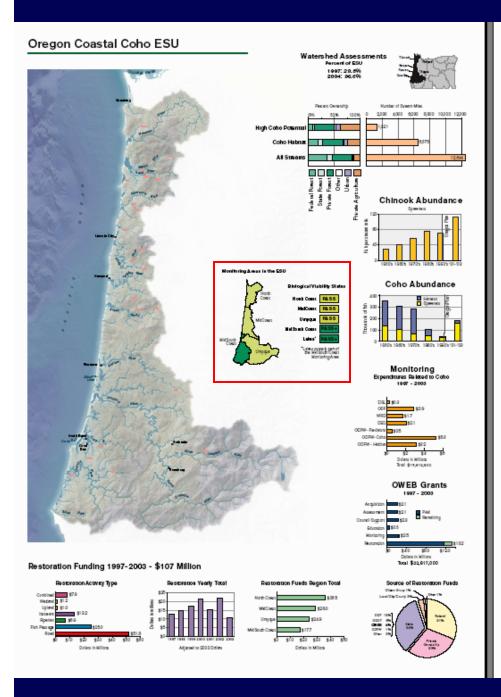
Risk Factor Analys Factor	SÍS OREGON PLANACTION	OBSERVATIONS		RELATIVE RESTORATION OPPORTUNIT	
MARINE HABITAT 1907 Phonty	History Cohos unival montored at all hatcheries , Wild Cohos unival monitored at the lifecycle monitoring after .	MATCHERY WAD	Marine survival rate of both hat hey and wild Coho increased coincident with Oregon Plan implementation.	N/A	Adjust have at levels consistent sets marine survivals, adult escape ment and population ree ds.
FISHERY HARVEST 1907 Phorty	Hervest sakes dictated by PFWC Americhes till 30 vill constitute harvest of vill dicabo consistent with secovery needs.	13:00 FRYER 13:00	High harvest rates on coho prior to Use gon Plan have been wideously by management action. Have at nates are no longer landing sections.		Maintain FFMC Amendment 13 to restrain hawast consistent with population productivity.
1907 Priority	Genetic Management Program have been district for all hatch rate. — a waiting approval by NGRA. Hatchery practice a ser managed consistent with local population at what and se covery needs.	SELECTOR STRAYS	Hatchey programs are not constraining colors covery. The percent of hatchery coho in returnal spewing areas has declined because in management action and is now within policy guidelines.	٥	Continue implementing Native Fish Corea vation Policy and Hatchery Genetic Managment Plane.
STREAM COMPLEXITY 1907 Priority	Regulatory programs: Owgon Forest Practices, Fill and Removal, Federat Plan, Goal S. Conduct restoeston to recruit record and in exast complexity. Instead on the conduct restoeston of programs are selected as the conduct restoeston of the conduct restoestory of	Coho steams have less large wood, more the section r, and tweer a treamside confers than reference a treams. No significant trend was detected in reach slotted parameters over the last decade. Habitat conditions were generally better in the North Coast and MidSouth Coast see of the ESU.	Availability of complex atwarm habitat probably limits ocho production.	0	Focus habitet reatoration investments in several of high intrinsit coho potential.
FISH PASSAGE 1907 Phority	Fish Passage Law Improve fish passage at site and comings. Counted	Improve discosim - wasti to date Mon Coho Distribution	It is unknown if cohe have access to roughly one third of their potential habitat. Access can be improved 1076 by core ching documented problems. Impact of tide gates has not been determined.	٥	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 a steation to a duce sediment necessite large. SB-1010 Plans completed TMD Plans completed TMD III are bring developed TMD III are bring developed. JMD III are bring developed. JMD III are bring developed. SMD III are bring developed.	• The North Coast Monitoring Awa had the last overall vester quality; the Unippes MA had the pocent. • Mactivate quality presented not been possible facilities. • Mactivated quality presented not been possible facilities. • All the present contenting sites had a describing found in water quality during 1993 – 2002 (30% improving; 51% not band). • For large river receipting sites, 42% had socie facilities good, 50% fair, and 10% poor vester quality.	Although not currently a algorithment constraint on cohe access, water quality has the potential of limiting cohe production at boal apartial scales.	•	Take sentoration action at local spettal scales as appetal scales as appetal are improve rearing capacity.
WATER QUANTITY 1907 Phority	Oracjon Water Law S/YOU miles of stream are prote cited (nate am right). Steamflow extension focused in the MetSouth Count and Uniques MA is. At an 20% exceed draw flow, water is not evaluable for new exter appropriations in August in 94% of the total ESU area.	 Approximately 800 instream water rights currently exist. August consumption use was highest in the McSouth Coast and Unpaya Monitoring Areas. 100% of the ESU had an August consumption use of water less than 10% of the 20% instantal exceedance of the ESU had an August consumption as of the water less than 10% of the 20% in natural exceedance in Central Coast (and in the Coast (and in t	Although not currently a algorithment constraint on color access, water quantity has the potential of limiting color production at local spatial scales.	o	Focus habitet restoration investments in areas of high intrins it consupotential.
OTHER FACTORS Toxics, DO, pH, Steam fartify and shade, Spearing guest, Hydro- power, Hisbert harvest, Disease, Estuaries, Wedands, Exotic fish interactions, Predaton by birds & pinnipeds	Amenied data, Herstaw, and local observations.	Duts, analyses, and interpretation of these limiting factors are an false at http://www.oregon-placurg	Athough not currently a significant constraint on one access, each factor has the potential of liniting cohe at local spatial at also.	0	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.cregor-plan.org









Risk Factor Analysis

Density of Wild Adult Spawners

RELATIVE



Risk Factor Analys	SIS			RELATIVE RESTORATION	N
FACTOR	OREGON PLAN ACTION	OBSERVATIONS		OPPORTUNIT	
MARINE HABITAT 1907 Phority	Histohery Cohols unvival monitored at all hatcheries. Wild Cohols unvival monitored at the lifecycle monitoring stees.	MATCHERY WAD	Marine survival rate of both hatchey and wild Coho increased coholder twith Oregon Plan implementation.	N/A	Adjust harvest levels consistent with marine survivals, adult escapement and population resids.
1997 Priority	Hereat intendictated by PFMC Amendment 13 will constitute harvest of wild coho consistent with secovery needs.	13:00 SCEAM 130 SPEED 130	High harvest rate sion coho prior to Design Plan have been educed by management action. Have strates are no longer limiting raciosely.	0	Meintain FFMC Arrendment 18 to restain havest consistent with population productivity.
1997 Phority	Genetic Management Programs have been district in all histories—a waiting approval by NGRA. Historiey practice a are managed coresistent with local population status and wicoway needs.	5 TRAYS	Hatchey programs are not constraining cohors covery. The percent of facthery cohor in returnal spawning areas has declined because of management action and is now within policy guidelines.	٥	Continue implementing Native Fish Conservation Policy and Hatchery Genetic Managreent Plans.
STREAM COMPLEXITY 1997 Priority	Regulatory programs: Owgon Forest Practices, Fill and Removal, Fe deral Forest Plan, Goal 5. Conduct wateration to recruit record and in masse complexity, butte annuface testing 4.000 figurater misse famile 4.000 Riparter misse famile 4.000 Ripa	Coto site area have less large wood, more the section it, and tweer a treamside confers than reference a treams. No significant than division detected in reach habitat parameters over the last decade. Habitat conditions were generally better in the North Coast and MidSouth Coast area of the ESU.	Availability of complex atteam habitat probably limits ocho production.	0	Focus habitati reatoration investiments in areas of high intrinsic cohe potential.
FISH PASSAGE 1907 Phorty	Fish Plurage Law Improve this parage at stream crossings. 4.413 improved. 1,140 Mapps 4. 3,392 Automotical 2,145 Unknown. 1,047	Improved access m - mouth to date Non-Ceho Distribution	It is unknown if cohe have access to roughly one third of their potential helitat. Access can be improved 10% by core ching documented problems. Impact of tide gates has not been determined.	٥	Opportunity to increase access to high quality habitat may exist in local areas. Focus passage inventory and restoration in these areas.
WATER QUALITY 1997 Phorty	Federal Clean Water Act Conduct seatestim to educe as demant received to educe as demant received to educe as demant received to the complete of TMDCs are being developed a Read risks upgraded — 1,557 Road risks at the d — 521 Reparter miss during dark d — 528 Reparter miss during d — 231 Reparter miss during d — 231	• The North Coast Monitoring Awa had the best overall water quality; the Umpose MA had the poonest. • Montewater quality permeters have no significant difference from reference afters in the ESU. • No large their conditions; site had a declaring found in water quality during 1904 – 2002 (39% improving; 61% no tend). • For large their nontrions ates, 24% had soon lend to good, 39% had, and 19% poor water quality.	Although not currently a alignificant constraint on ocho- accosty, water quality has the potential of initing coho- production at boal apartial scales.	0	Take sentoration action at local apartial scales as appropriate to maintain or improve rearing capacity.
WATER QUANTITY 1907 Priority	Onegon Water Lave SY/D miles of stream are protected (miste am right). Site arritor extension focused in the MeSouth Count and Uniques MA is. At an 20% soone dance flow, water is not available for new water appropriations in August in 94% of the total ESU area.	Appead makely 800 in the win water rights currently exist. August consumption use was highest in the McSouth Coast and Uniques Montroling Areas. 10th of the ESU had an August consumption use of water less than 10th of the SSO freatural exceedance Over 90% of the ESU had no change in August computing the state of the SSO freature and the state Over 90% of the ESU had no change in August computing the state of the SSO freature	Although not currently a algoriticant constraint on cohe access, we also guestly has the potential of limiting cohe production at local apatiel at also.	o	Focus habitat reatoration investments in seese of high intrinsic coho potential.
OTHER FACTORS Toolca, DO, pH, Stewarn fortility and shade, Spewinting gavet, Hydro power, I lie of harvest, Disease, Estheries, Wedands, Exotic flash interactions, Fredation by band & physicale	Amenied data therature, and local observations.	Duta, analyses, and interpretation of these limiting factors are available at https://www.oregon-plan.org	Athough not currently a significant constant for concentration code access, each factor has the potential of limiting code at local a patial at alea.	0	Remain alert to detect future change in importance of these factors

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Biological Viability Analysis

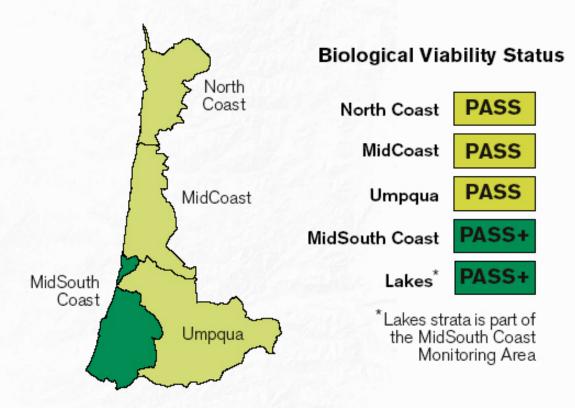
Biological Viability Status

PASS+

PASS

FAIL

Monitoring Areas in the ESU



Oregon Coastal Coho ESU Watershed Assessments Percent of ESU 1997: 29.5% 2004: 96.6% Pecers Owneship Number of Gyeen Miss. Chinook Abundance Coho Abundance Hosta Count RASS HedCourt F8.55 Ureque FASS *Life Logical panel the Molandi Court Monitoring Expenditures Related to Coho 1997 - 2003 Dollers in Williams Real \$10,010,000 OWEB Grants Total \$22,917,000 Restoration Funding 1997-2003 - \$107 Million Restoration Funds Region Total Source of Restoration Funds \$10 \$50 \$50 \$40 \$50 Dales in Allica Adjaced to 2009 Odles Odles in Millors

Analysis of ESU

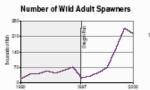
Density of Wild Adult Spawners

Biological Viability Status

ESA Listing Recommendation











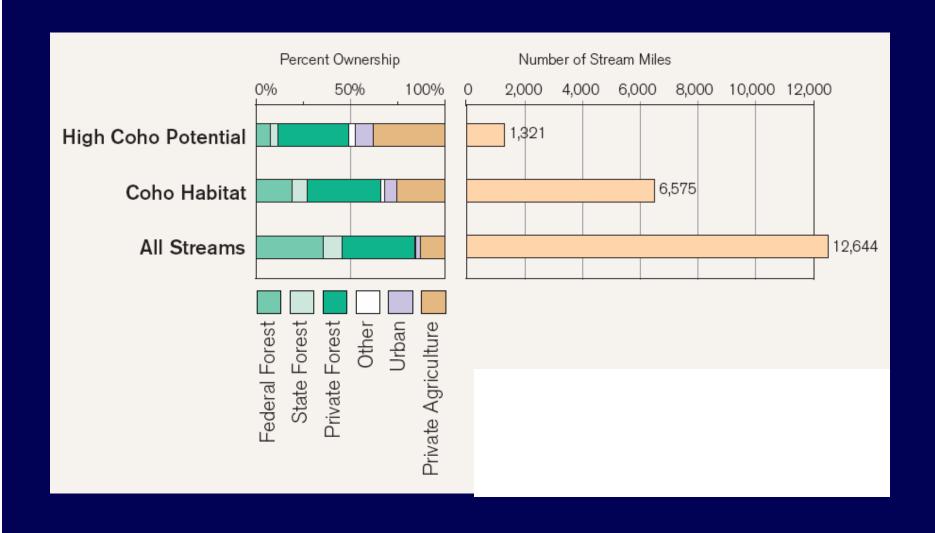
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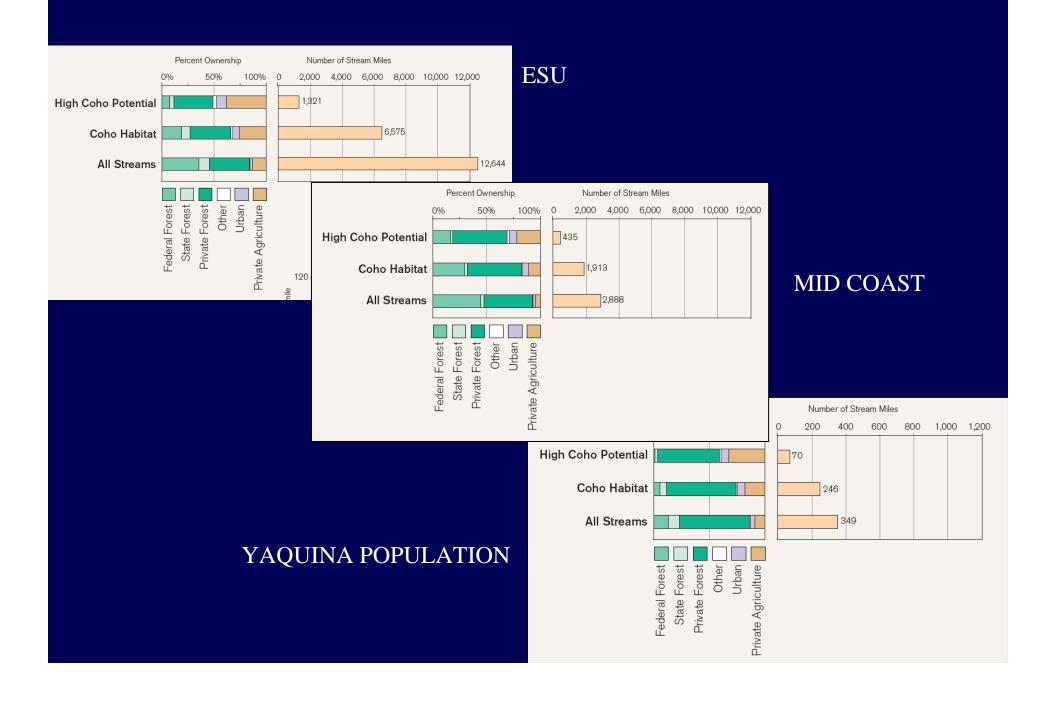
Risk Factor Analys Factor	SÍS OREGON PLANACTION	OBSERVATIONS	INTERPRETATION	RELATIVE RESTORATION OPPORTUNIT	
MARINE HABITAT 1907 Phonty	Histohery Cohols unwind monitored at all histoheries , Wild Cohols unwind monitored at the lifecycle monitoring after .	MATCHERY WAD	Marine survival rate of both hat hey and wild Coho increased coincident with Oregon Plan implementation.	N/A	Adjust have at levels consistent with marine survivals, adult escape ment and population ree ds.
FISHERY HARVEST 1907 Phority	Hervest sates dictated by PFWC Amendment 15 will constrain havest of wild coho consistent with accovery needs.	13:00 FRYER 13:00	High harvest rates on coho prior to Uwgon Planhave been weduced by management action. Harvest rates are no longer limiting secorety.	0	Maintain FFMC Amendment 18 to restrain hawast constituted with population productivity.
1907 Priority	Genetic Management Programs have been distribed for all hatch rates—a weating approval by NGRA. Hatchery practice a ser managed constituting the local population attatus and recovery needs.	SELECTOR STRAYS	Hatchey programs are not constraining colors covery. The percent of hatchery coho in returnal spewing areas has declined because in management action and is now within policy guidelines.	٥	Continue implementing Native Fish Cores witten Policy and Hatchery Genetic Managment Plans
STREAM COMPLEXITY 1907 Priority	Regulatory programs: Owgon Forest Practices, Fill and Bernord, Fielders Flowst Plan, Goal 5. Conclust restoeston to recruit record and in exaste complexity. Instead on the control of the contr	Coho steams have less large wood, more the section r, and tweer a treamside confers than reference a treams. No significant trend was detected in reach slotted parameters over the last decade. Habitat conditions were generally better in the North Coast and MidSouth Coast see of the ESU.	Availability of complex atwarm habitat probably limits ocho production.	0	Focus habitet reatoration investments in serious of high intrinsic coho potential.
FISH PASSAGE 1907 Phority	Fish Parange Law Improve fish parange at attention crossings. Counted	Improve discosim - wasti to date Mon Coho Distribution	It is unknown if cohe have access to roughly one third of their potential habitat. Access can be improved 1076 by core ching documented problems. Impact of tide gates has not been determined.	٥	Opportunity to increase access to high quality habitat may exist in local areas. Focus passage inventory and restoration in these areas.
WATER QUALITY 1997 Priority	Federal Clean Water Act Conduct extestion to widue sedment recleants temp. SB-1010 Plans completed TMDL's see bring developed Acud reles upgraded — 1557 Road reles upgraded — 521 Riparter mises planted — 380 Riparter mises famile — 231	 The North Coast Monitoring Awa had the last ownall water quality; the Umpose MA had the pocess: Mactivather quality personnels not no significant difference from relia more attents in the ESU. No large their connotating site had a de-dring found in water quality during 1993 – 2002 (2006 improving: 51 fe no test of). For large their constituting a test, 42% had socialized to good, 50% fell, and 10% poor vaster quality. 	Although not currently a algorithment constraint on cohe access, water quality has the potential of limiting cohe production at boal apartial scales.	•	Take restoration action at local spetial scales as appeted scales as appeted for a special scale and appeted scale and a
WATER QUANTITY 1907 Phority	Oracjon Water Law S/00 order of atteam are prote cled further an right). See aerflow extension focused in the MESouth Count and Unique MA is. A an OSO soons done flow, water a not available for new water a propriation in August in 94% of the total ESU area.	 Approximately 800 instream water rights currently exist. August consumptive use was highest in the MdSouth Coast and Uniques Monitoring Areas. 10% of the ESU had an August consumptive use of water less that no 10% of the 20% instantal exceedence 10%. 10% of the ESU had no change in August Coast 20% of the ESU had no change in August consumptive use between 1997 and 2004. 	Although not currently a algorithment constraint on color access, water quantity has the potential of limiting color production at local spatial scales.	o	Focus habitet restoration investments in service of high interest coho potential.
OTHER FACTORS Toxics, DO, pH, Steam fartility and shade, Spearing guest, Hydropover, Illedel harvest, Deseave, Estatuster, Wedands, Exotic flah interactions, Predaton by binds & pinnipeds	Amenied data, Heratum, and local observations.	Duts, analyses, and interpretation of these limiting factors are an fable at http://www.oregon-placurg	Athough not currently a significant constraint on only access, each factor has the potential of limiting coho at local a patial at ales.	0	Remain alert to detect future change in importance of these factors

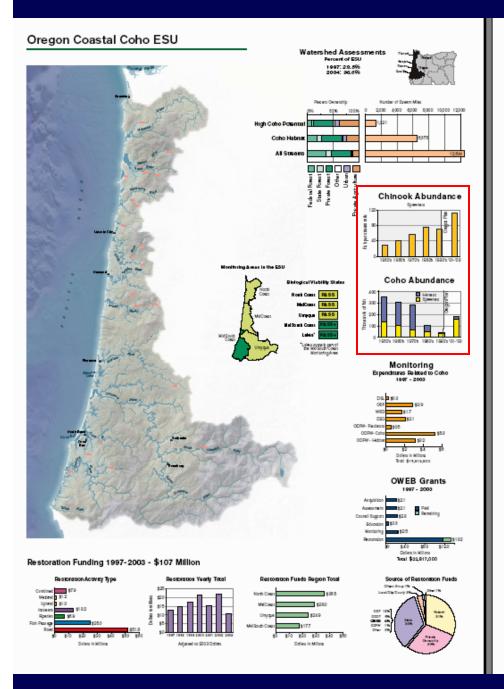
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Land Ownership and Stream Miles - 1:100K



Land Ownership and Stream Miles - 1:100K





Density of Wild Adult Spawners

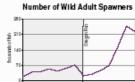
Biological Viability Status

PASS

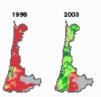
FAIL











RELATIVE RESTORATION

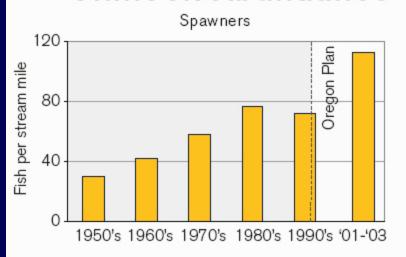
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Risk Factor Analysis

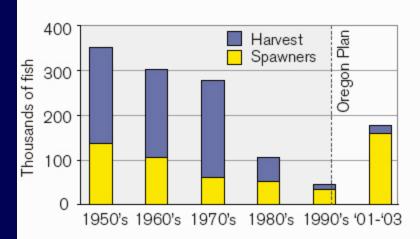
FACTOR	OREGON PLAN ACTION	OBSERVATIONS	INTERPRETATION	OPPORTUNITY	' NEED
MARINE HABITAT 1967 Priority	Histohery Coholouvival monitored at all histoheries. Wild Coholouvival monitored at the lifecycle monitoring after.	MATCHERY WILD	Marine survival rate of both hatchery and wild Coho increased coholide in with Oregon Plan implementation.	N/A	Adjust have at levels consistent with marine survivals, adult escape ment and population ree ds.
1997 Priority	Hereat is ten dictated by PFMC Americhent 13 will constitute harvest of wild coho consistent with secovery needs.	13 00 OC EAM 110 110 110 110 110 110 110 110 110 11	High harvest rate sion coho prior to Deigon Plan have been educed by management action. Have strates are no longer limiting raciosely.	•	Maintain FFMC Arrendment 18 to restain havest consistent with population productivity.
1997 Priority	Genetic Management Programs have been district in all high ratios—awaiting approval by NGRA. Hatchery practice a ser managed constituting this constitution will be consequent to the consequence of the co	SILLA 95.5 9TR V5	Hatchey programs are not constraining cohors covery. The percent of facts hay coho in returnal spawning areas has declined because of management action and is now within policy guidelines.	٥	Continue implementing Native Fish Conservation Policy and Hatchery Genetic Managreent Plans.
STREAM COMPLEXITY 1997 Priority	Regulatory programs: Owgon Forest Practices, Fill and Fernoval, Fe deral Forest Plan, Goal 5. Conduct surfocation to recruit record and increase complexity, butte annufers branch d_504 Figurian miles banced	Coto streams have less large wood, more the sections, and lever a treamside confers than reference a treams. Not agrift earl tread was detacled in recent habitat parameters over the last decade. Hibbitat conditions were generally better in the North Coast and MidSouth Coast and of the ESU.	Availability of complex atwarn habitat probably limits echo production.		Focus habitati restoration investments in areas of high intrins blocks potential.
FISH PASSAGE 1997 Priority	Fish Planage Law Improve fish passage at stream crossings. 4.413 improved. 1,140 Mapps 4. 83902 America 2,145 Unknown. 1,047	Improve discosim - wasti to date Mon Coho Distribution	It is unknown if cohe have access to roughly one third of their potential habitat. Access can be improved 10% by core ching documented problems. Impact of tide gates has not been determined.	٥	Opportunity to increase access to high quality habitat may exter in local areas. Focus passage inventory and restoration in these areas.
WATER QUALITY 1997 Priority	Federal Clean Water Act Conduct is steet from to e duce as diment, noderate temp. SB-1010 Plans completed TMD/s are bring diveloped Road ritles upgraded — 1557 Road ritles stilled — 521 Road ritles at the d — 521 Road ritles 2 Jane 6 — 380 Riparter miles 2 Jane 6 — 231	 The North Coast Monitoring Awa had the best overall water quilty; the Unique MA had the possest. Mactivater quality parameters to be no significant difference from reference shears in the ESU. No large their monotoring site had a darking found in water quality during 1993 - 2002 (30% improvings 61% no tend). For large their monitoring also, 42% had socialent to good, 50% had, and 10% poor water quality. 	Although not currently a algrificant constraint on only access, water quality has the potential of initing other production at boal apetral scales.	<u> </u>	Take sentoration action at local spetial scales as appeopriate to maintain or improve rearing capacity.
WATER QUANTITY 1997 Priority	One-gon Water Lave S/YOU miles of stream are prote cited further an right). Site armitive restoration focused in the MESCourt Count and Unipops MA is. At an ODF soone done flow, water a not available for new water appropriations in August in 94% of the sotal ESU area.	 Approximately SOD in them water rights currently exist. Aligant consimption we was highwait in the MeSouth Coast and Unpaper Monitoring Area. 10% of the ESU had an August consumption use of water less than 10% of the 25% in natural exceedance water less than 10% of the 25% in natural exceedance. Over 90% of the ESU had no change in August consumptive use between 1997 and 2004. 	Athough not currently a algoriticant constraint on cohe access, we also questly has the potential of limiting cohe production at local spatial scales.	o	Focus habitat restoration investinents in areas of high intrins blocks potential.
OTHER FACTORS Toxics, DO, pH, Steams in tilty and shads, Spanning gravel, Hydro power, likeful harvest, Disease, Estables, Wedands, Exotic fish interactions, Prediction by binds & phringeds	Amenied data, Herstaw, and local observations.	Data, analyses, and interpretation of these limiting factors are an lable at http://www.oregon-placung	Although not currently a algorithment constraint on cohe accoser, each factor has the potential of limiting cohe at local a patial or ales.	0	Remain eletto detect future change in importance of these factors

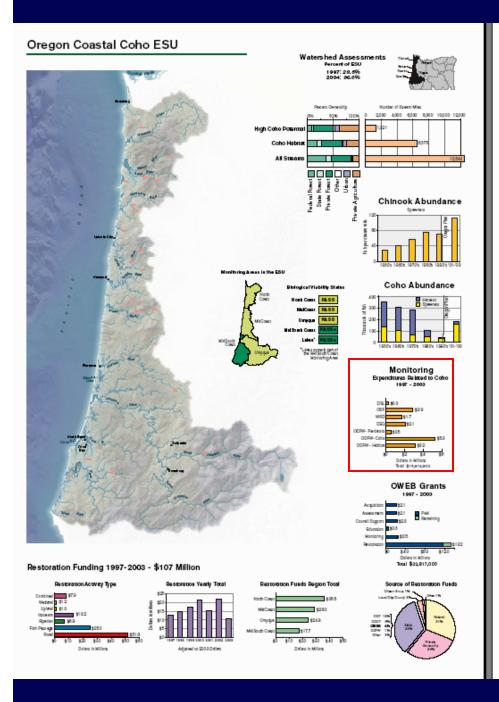
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Chinook Abundance



Coho Abundance





Density of Wild Adult Spawners

Biological Viability Status

PASS

FAIL











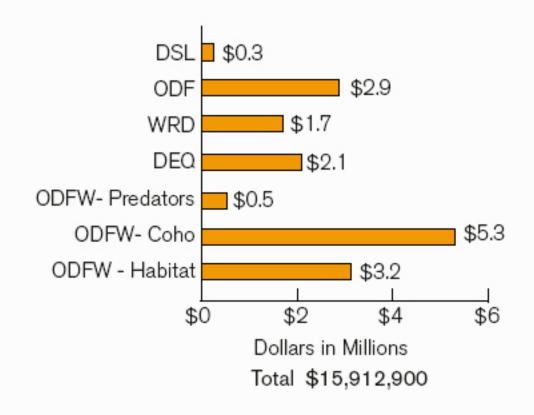


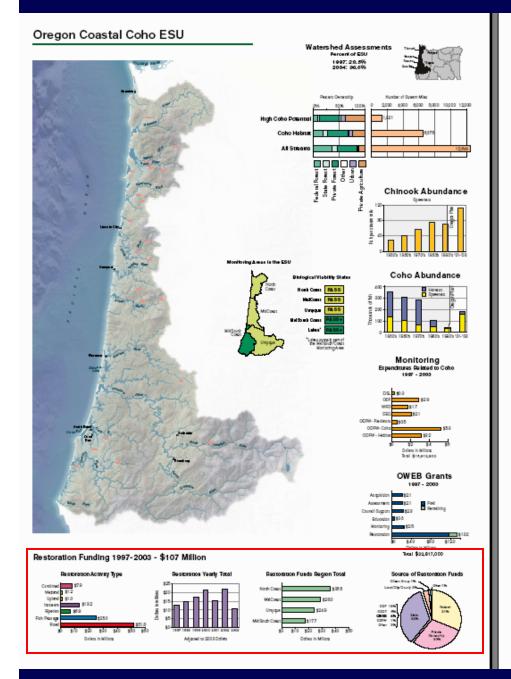
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FACTOR	OREGON PLAN ACTION	OBSERVATIONS	INTERPRETATION	OPPORTUNITY	NEED
MARINE HABITAT 1997 Phority	Histohery Cohols united monitored at all histoheries. Wild Cohols untrail monitored at the lifecycle monitoring after.	MATCHERY WAD	Marine survival rate of both hat hey and wild Coho increased controller twith Oregon Plan implementation.	N/A	Adjust harvest levels consistent with marine survivals, adult escapement and population need
1907 Priority	Hereat trian dictate dby PFWC Americhent 15 will constrain havest of wild coho consistent with so owny needs.	13:00 PRED 13:00	High harvest rate sion coho prior to Design Plan have been in address by management action. Here at rates are no longer limiting secreesy.		Maintain FFMC Amendment 13 to restain haves consistent with population productivity.
1997 Priority	Ganetic Management Programs have been dealted for plants have been dealted for all hatcheries—are string an approval by MCAA. His toke in practice a see managed consistent with local population at what and we covery needs.	STR VS	Hatchery programs are not constraining only a coney. The percent of hatchery cohe in natural preventing areas has declined because of management action and is now within policy guidelines.	٥	Continue implementing Native Fish Conservation Pol and Hatchery Genetic Managreent Plan
STREAM COMPLEXITY 1907 Priority	Regulatory programs: Owgon Forest Practices, Fill and Fernoval, Federal Flowst Plan, Goal 5. Conduct restoeston to recruit record and in tesses complexity. Instead on the conduct restoeston to recruit record and in tesses complexity. Instead on the conduct restoeston o	Coto steams have less large wood, more the sections and lever a treamside confers than reference steams. No significant trend was detected in reach habitat parameters over the last decade. Habitat conditions were generally better in the North Coast and MidSouth Coast see of the ESU.	Availability of complex atwarm habitat probably limits ocho production.	0	Focus habitat restoration investments in areas of high intrins trooks potential.
FISH PASSAGE 1907 Priority	Fish Parange Law Improve fish parange at stream crossings. Counted 4,413 haproved 1,140 Mapps 4. 8,3902 American 4,2145 Unknown 1,047	Improved access — wash to date Non Coho Distribution	It is unknown if coho have access to roughly one third of their potential habitat. Access can be improved 10% by core-ching documented problems. Impact of tide gates has not been determined.	٥	Opportunity to increase access high quality habit may exist in loss areas. Focus passage inventoral these areas.
WATER QUALITY 1997 Priority	Federal Clean Water Act Conduct a steel tim to widue sedment reclaims temp. SE-1010 Plans completed TMDL's are bring diveloped TMDL's suppraid	 The North Coast Monitoring Awa had the best overall water quality; the Umppas MA had the pocess: Mactive the quality personnels rather no significant difference from reference shears in the ESU. No large their connotings size had a declaring found in water quality during 1993 – 2002 (30% insproving; 61% no text of). For large their nontinoing also, 42% had soon lend to good, 50% fail, and 10% poor water quality. 	Although not currently a algorithment constraint on cohe access, water quality has the potential of initing cohe production at boal apartial scales.	•	Take sentoration action at local appetral acases as appropriate to maintain or impr rearing capacity
WATER QUANTITY 1997 Priority	Osegon Water Law S/Y00 miles of atteam are protected of units anninghit. Site armitow sectors for course in the MelSouth Count and Unique Miles. At an 30% second dance flow, water is not available for new water appropriations in August in 94% of the total ESU area.	 Approximately 800 instream water rights currently exist. August consumptive use was highest in the McSouth Coast and Uniques Monitoring Fraze. 10% of the ESU had an August consumptive use of water less that no 10% of the 20% instantal exceedance flow. 10% of 50% of the ESU had no change in August consumptive use between 1997 and 2004. 	Although not currently a algorithmeticonstraint on cohe access, water quantity has the potential of limiting cohe production at local apartial scales.	o	Focus habitat restoration investments in areas of high intrins to coho potential.
OTHER FACTORS Toxics, DO, pH, Steam fortifity and shade, Speaming guesel, Hydro power, lifeful harvest t, Disease, Estauries, Wedande, Exotic flat interactions, Predation by birds & pinnipeds	Amenined data, iterature, and local observations.	Data, analyses, and interpretation of these limiting factors see as stable at http://www.zmgun-plex.org	Although not currently a significant constraint on cohe secosety, each factor has the potential of limiting cohe at local spatial scales.	0	Remain alert to detect future change in importance of these factors

Monitoring

Expenditures Related to Coho 1997 - 2003





Density of Wild Adult Spawners

Biological Viability Status

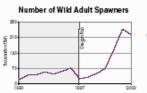
PASS

FAIL











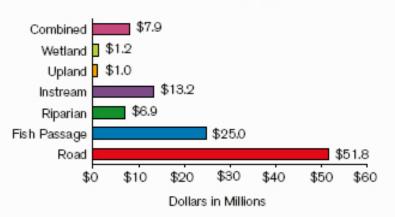


Risk	Factor	Analysis
	FACTOR	0

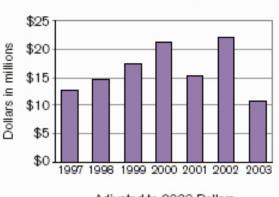
FACTOR	OREGON PLAN ACTION	OBSERVATIONS	INTERPRETATION	OPPORTUNITY	NEED
MARINE HABITAT 1907 Priority	Hatchery Cohonus kall montored at all hatcheries. Wild Cohonus what monitoed at the lifecycle monitoring after.	MATCHERY WILD	Marine survival rate of both hatchery and wild Coho increased coincide it with Oregon Plan implementation.	N/A	Adjust have at levels consistent with marine survivals, adult escape trent and population ree da
1907 Priority	Hervest takes dictated by PFIVC Amendment 15 will constrain hervest of wild coholographies with recovery needs.	13:00 FRVER 13:00	High harvest rates on coho prior to Ungon Plan have been actuced by management action. Harvest rates are no longer lamiting sections.	0	Maintain FFMC Arrendment 13 to restain havest consistent with population productivity.
HATCHERY IMPACTS 1997 Priority	Garneto Managament Programs have been distribed for all hatcheries—averating approval by IVGA. Histories practice is an managed consistently this local population status and recovery needs.	STEATS STEATS	Haldhey programs are not constraining cohe a covery. The percent of haldhey cohe in returnal spewing areas has declined because of management action and is now within policy guidelines.	٥	Continue Implementing Native Fish Conservation Poli and Hatchery Genetic Managment Plan
STREAM COMPLEXITY 1997 Priority	Regulatory programs: Owgon Forest Practices, Fill and Renoval, Federal Flowst Plan, Goal S. Corollact serioeston to recruit wood and in: wase complexity, feathwarmfale sheated — 504 Figester miles banked — 380 Figester miles banked — 231	Coho atte and have less large wood, more the section ri, and fewer at tearnable confers than reference streams. No significant the rid was detected in reach habitat parameters over the last decade. Habitat conditions were generally better in the North Coast and MidSouth Coast area of the ESU.	Availability of complex attents habitat probably limits odno production.	0	Focus habitat restoration investments in areas of high intrins blooks potential.
FISH PASSAGE 1997 Priority	Fish Planage Law Improve fish passage at attenuar comings. Counted 4,413 improved 1,140 Maps 4 3,392 August 4,2145 Unknown 1,047	Improved access — wast to date Non Coho Distribution	It is unknown if coho have access to roughly one third of their potents instant. Access can be improved 10% by correcting documented problems. Insect of tide gates has not been determined.	٥	Opportunity to increase access high quality habit may exter in loca areas. Focus passage invento and restoration i these areas.
WATER QUALITY 1907 Priority	Federal Clean Water Act Conduct is steed from the sidues as determent moderant series. SB-1010 Plans completed TMD Lines being developed TMD Lines being developed. JST Road miles retired. SS1 Road miles retired	 The North Coast Monitoring Awa had the last ownall water quality; the Unique MA had the pocess: Monitorine quality premineters have no significant difference from reference attents in the ESU. No large their constrainty sites had a de-dring found in water quality during 1993 – 2002 (30% improving; 61% no test of). For large their continting a test, 42% had socie fant to good, 50% fat, and 10% poor vater quality. 	Although not currently a algorithment constant from one access, water quality has the potential of limiting cohe production at boal apatial scales.	•	Take wateration action at local appetial scales as appropriate to maintain or improvementing capacity.
WATER QUANTITY 1997 Priority	Osegon Water Law S/YOU miles of atteam are protected (justeem night). Site arribov sectorator focused in the MelSouth Count and Unipipes MA's. At an 80% soone dance flow, water is not available for new water appropriations in August in 94% of the total ESU area.	 Approximately 500 instream water rights currently exist. August consumptive use was highest in the MidSouth Coast and Unpose Monitoring Areas. 10% of the ESU had an August consumptive use of water less that 10% of the S0% instantal exceedance flow. 10% of 50% of the ESU had no change in August consumptive use between 1997 and 2004. 	Although not currently a algrificant constraint on cohe access, water quartity has the potential of initing cohe production at local apatial scales.	o	Focus habitat restoration investments in areas of high intrinsib coho potential.
OTHER FACTORS Toxics, DO, pH, Steam fertility and inteds, Spearing gavel, Hydro power, liested harvest, Disease, Estuaries, Wedards, Exotic fish interactors, Predator by birds & pinnipeds	Amenined data, iterature, and local observations.	Data, analyses, and interpretation of these limiting factors are available at http://www.zregon-plectorg	Athough not currently a algorithment constraint on one second, each factor has the second, each factor has the potential of hinting cohe at local a patial scales.	0	Remain alert to detect future change in importance of these factors

Restoration Funding 1997-2003 - \$107 Million



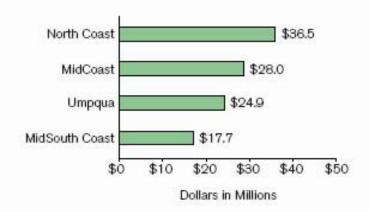


Restoration Yearly Total

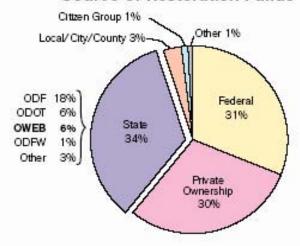


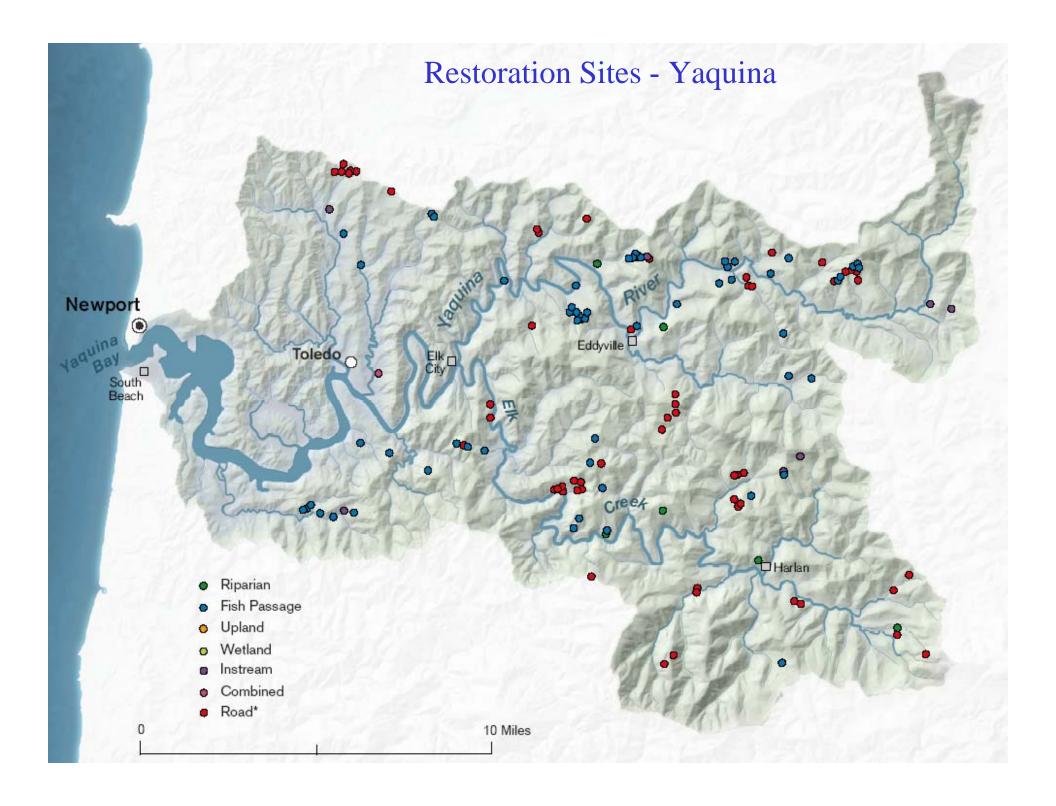
Adjusted to 2003 Dollars

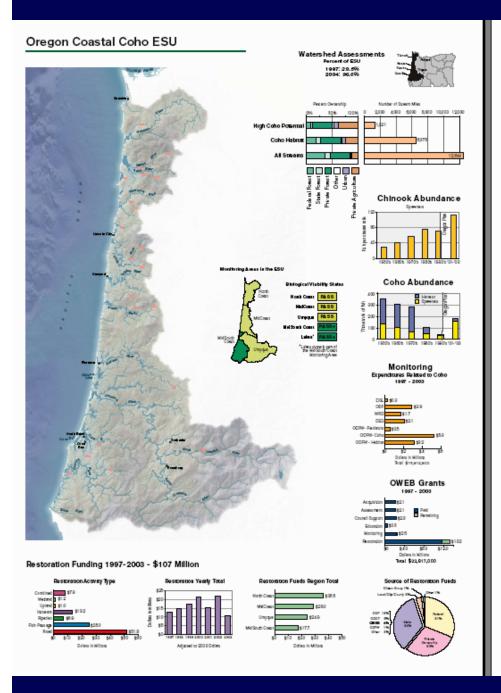
Restoration Funds Region Total



Source of Restoration Funds







Density of Wild Adult Spawners

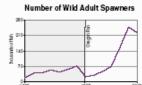
Biological Viability Status

PASS

FAIL







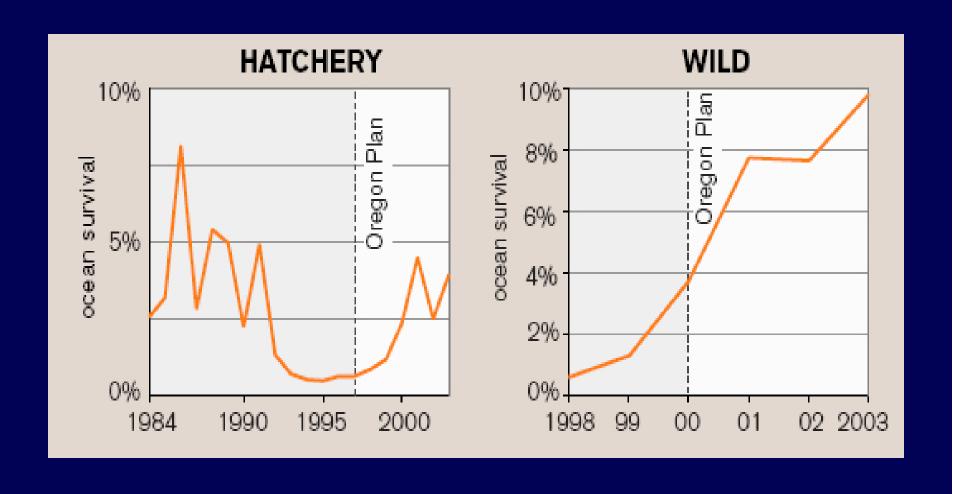




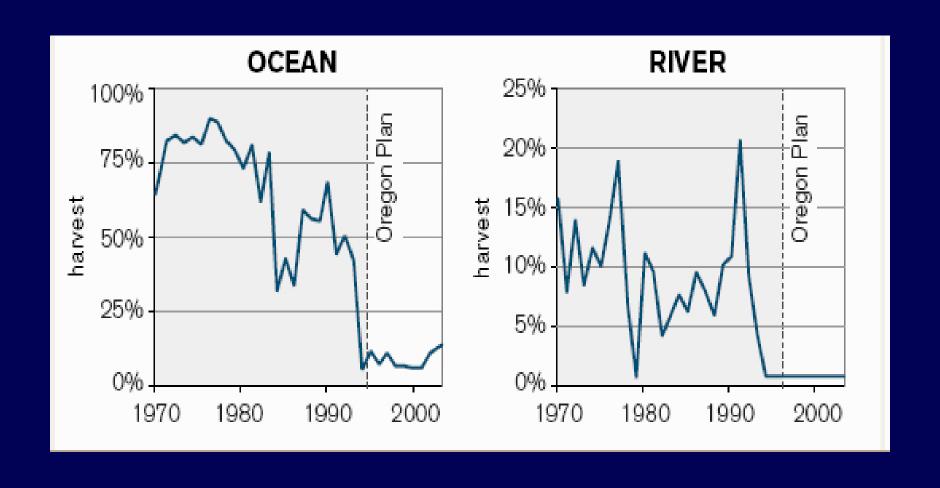
Risk Factor Analysis FACTOR

FACTOR	OREGON PLAN ACTION	OBSERVATIONS		OPPORTUNITY	
MA FUNE HABITAT 1907 Priority	Hatchery Coholouviral monitored at all hatcheries. Wild Coholouviral monitored at the lifecycle monitoring steel.		Marine survival rate of both hatchery and wild Coho increased coincide it with Oregon Plan implementation.	N/A	Adjust have at levels consistent està marine survivals, adult escape ment and population ree di
1907 Priority	Harvest rates dictated by PFIVC Amendment 13 will constrain harvest of wild coho consistent with according reads.	13:00 OCEAN 199 ED 100 100 100 100 100 100 100 100 100 10	High harvest rates on coho prior to Desgon Plan have been suchased by manager sent action. Here at rates are no longer limiting seconery.	0	Maintain FFMC Arrendment 13 to reatisin harvest consistent with population productivity.
1907 Priority	Genetic Management Programs have been district for all histohetics — swetting approval by NGA. Histohetic pactics as an managed constituting with local population status and recovery needs.	STRYS 100 100 100 100 100 100 100 1	Haldhery programs are not constraining only a covery. The percent of haldhery coho in returnal preventing areas has declined because of management action and is now within policy guidelines.	⋄	Continue implementing Native Fish Conservation Pole and Hatchery Genetic Managment Plan
STREAM COMPLEXITY 1997 Priority	Regulatory programs: Owgon Forest Practices, Fill and Removal, Federal Forest Plan, Goal 5. Conclude testination for recruit wood and increase complexity, instead and remains charged — 524 Piperten miles planted — 380 Piperten miles famoud — 3251	Coto steams have less large wood, more the sed trent, and there is the mission of the financies recent steams. No significant trend was detected in reach slotted parameters over the last decade. Habitat conditions were generally better in the North Coast and MidSouth Coast see of the ESU.	Availability of complex atteam habitat probably limits ocho production.	<u> </u>	Focus habitat restoration investments in areas of high intrins to colo potential.
FISH PASSAGE 1907 Phority	Fish Passage Lave Improve fish passage at attentionings. Counted 4,413 improved 1,140 Mapps 4 33902 Assessed 2,145 Unknown 1,047	Improve diacos m - wash to date Mon Coho Distribution	It is unknown if cohe have access to roughly one third of their potential habitat. Access can be improved 10% by core-ching documented problems. Inject of tide gates has not been determined.	٥	Opportunity to increase access high quality habit may extert in loca areas. Focus passage invento and restoration it these areas.
WATER QUALITY 1997 Priority	Federal Clean Water Act Conduct waterstein to widue self-mark receives the rep. SB-1010 Plans completed TMDL's are being developed TMDL's are being developed Post miles wided SD1 Post miles wided SD2 Post miles wided SD3 Post miles wided SD3 Post miles wided SD3	 The North Coast Monitoring Awa had the last ownall water quality; the Umpose MA had the pocess: Mactivather quality personnels not no significant difference from relia more attents in the ESU. No large their connotating site had a de-dring found in water quality during 1993 – 2002 (2006 improving: 51 fe no test of). For large their constituting a test, 42% had socialized to good, 50% fell, and 10% poor vaster quality. 	Although not currently a algoriteant constraint on one accoracy, water quality has the potential of limiting cohe production at boal apetial scales.	0	Take seatoration action at local appetal scales as appropriate to maintain or impresenting capacity
WATER QUANTITY 1997 Phority	Osegon Water Law Sy/Ob miles of steam are protected further am right). Site arritors reconside in the MildSouth Count and Unipose MA is. At an SDM excessed area flow, water is not available for new water is not available for new water in 1944 of the total ESU area.	 Approximately 800 instream water rights currently exist. August consumptive use was highest in the MdSouth Coast and Uniques Monitoring Areas. 10% of the ESU had an August consumptive use of water less that no 10% of the 20% instantal exceedence 10%. 10% of the ESU had no change in August Coast 20% of the ESU had no change in August consumptive use between 1997 and 2004. 	Although not currently a algorithment constraint on cohe sections y, water quantity has the potential of limiting cohe production at local apartial scales.	o	Focus habitat restoration investments in areas of high intrinsit consi- potential.
OTHER FACTORS Toxics, DO, pH, Steam for thitly and shade, Spear Integrated, Hydropower, Bessel harvest, Disease, Estanter, Wedanck, Exotic flush interactions, Predation by birds & pinnipeds.	Ameuned data iterature, and local observations.	Data, analyses, and interpretation of these lenting factors are a slable at http://www.aregon-plactorg	Although not currently a algrificant constraint on cohe secows, each factor has the potential of initing cohe at local a partial or also.	0	Remain alert to detect future change in importance of these factors

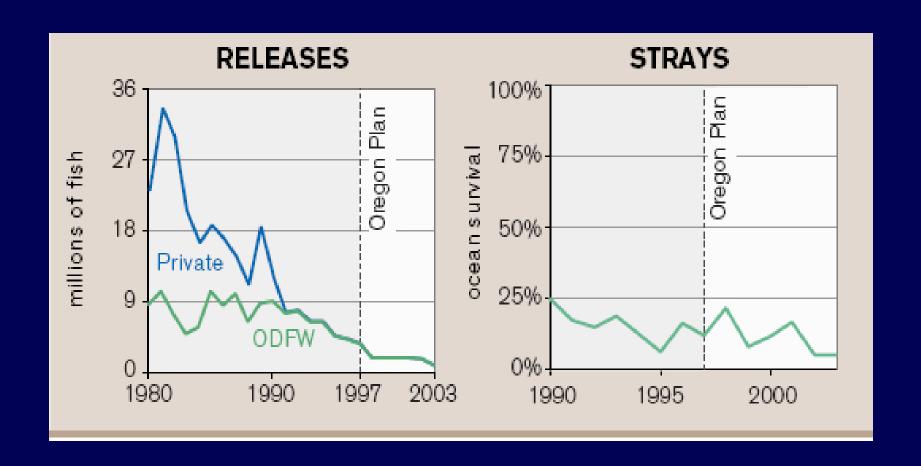
Marine Survival Rates

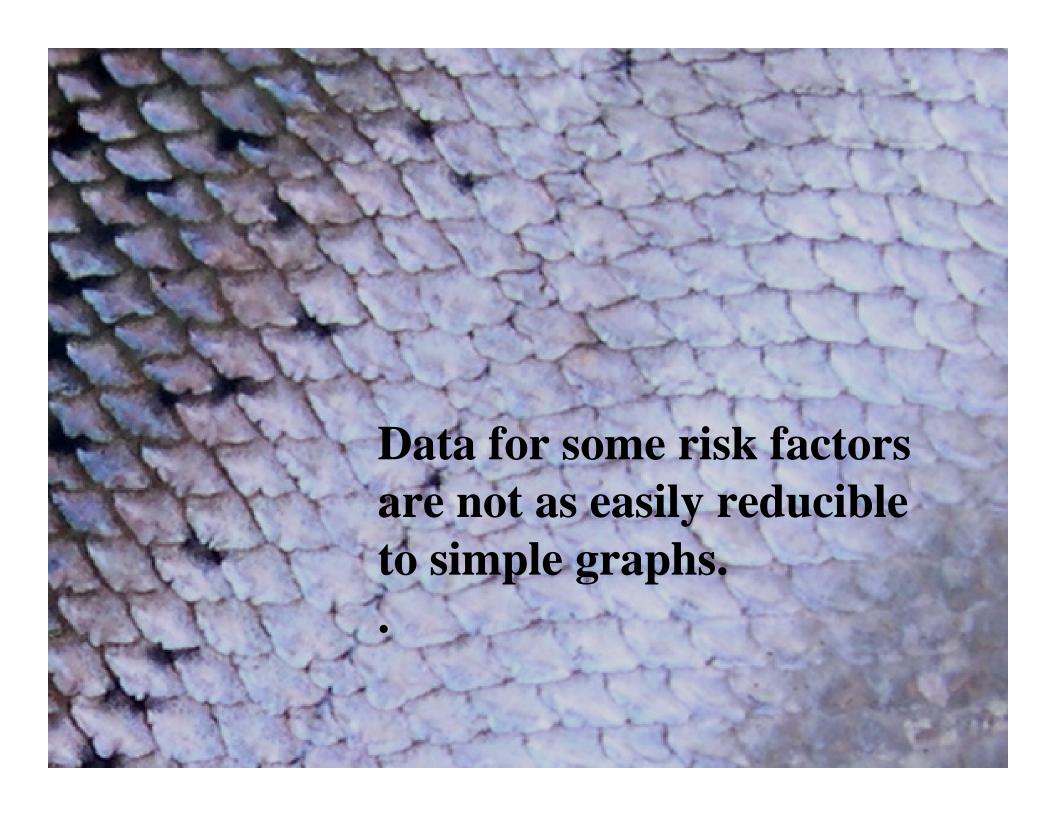


Fishery Harvest Rate



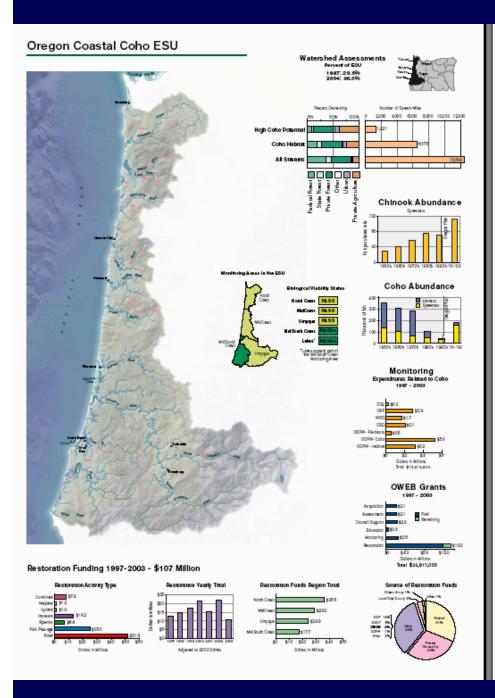
Hatchery Impacts





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



Density of Wild Adult Spawners

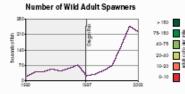
Biological Viability Status

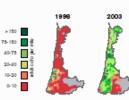


ESA Listing Recommendation









RELATIVE

Risk Factor Analysis

FACTOR	OREGON PLANACTION	OBSERVATIONS	INTERPRETATION	RESTORATION OPPORTUNITY	NEED
MARINE HABITAT 1907 Phority	Hatchery Coho survival montrored at all hatcheries. Wild Coho survival moretreed at twelfecycle montaring stess.	MATCHERY WALD	Marine survival rate of both hatchery and wild Coho increased coincident with Oregon Plan implementation.	N/A	kdjust harvest evels consisten eth marine unvirsis, adult scape ment an opulation need
FISHERY HARVEST 1907 Phority	Hervest rates dictated by PFMC Amendment 13 will constrain havest of wild color consistent with secreeny needs.	13:00 OC GAM 1310 1900 1900 1900 1900 1900 1900 1900	High harvest rates on cohopris to Desgon Plan have been seduced by management action Harvest rates are no longer limiting secreey.	ø	Maintain FFMC kne nd ment 18 o restain have consistent with copulation roductivity.
HATCHERY IMPACTS 1907 Phority	Genetic Management Program have been deathed for all hatchesian - averabing approval by NGAA. Hatchesy practice a se-managed consistent with local population status and secondly needs.	STRAYS	Hatchery programs are not to constraining only as covery. The percent of hatchery cohe in natural spawning areas has declined because of management action and is now within policy guids lines.	. •	continue replante nating lative Fish conservation Po red Hatchery senatic flanagment Pla
STREAM COMPLEXITY 1907 Priority	Regulatory programs: Ow gon Forest Practices, Fill and Famous!, Federal Forest Plan, Goal 5. Get all Forest Plan, Conduct maticsation to recruit wood and increase complexity. Instrumental of the second of Poparties miles I fame d380. Riparties miles le moed	 Coho atte area have less large wood, more the sed trent, and fewer a treamside confers than reference a tream. No laggiff can therefore and elected in coach habitat parameters over the last decade. Habitat conditions were generally better in the North Coact and MidSouth Coact area of the ESU. 	Availability of complex stream habitat probably limits ocho production.	<u> </u>	iccus habitat estonation eventre rits in reas of high ratinatic coho cotential.
FISH PASSA GE 1907 Priority	Fish Parange Law Improve fish parange at stream crossings. 4,413 Improved	Improved access m - mail to date Mon Coho Distribution	It is unknown if coho have access to roughly one third of their potential habitat. Access can be improved 10% to core ching documented problems, impact of tide gates has not been determined.	٥	Opportunity to school access tigh quality had may extent in loc reas. Focus assumpe Invent and reasteration here areas.
WATER QUALITY 1907 Phorty	Federal Clean Water Act Conduct is attestion to a duce as dimerent necessaria temp. SSE-1010 Plans completed TMDL's as being diveloped FMDL's separate 1,557 Road miles retired 521 Rigarian miles glante 4,380 Riparter miles Perce 4,380 Riparter miles Perce 4,231	 The North Coust Monitoring Awa had the last ownall water quality; the Umpose MA had the pocenet. Martwister quality presented to be not significant difference from reference afterware in the ESU. No large their monotoning sites had a de-dring found in water quality during 1993 – 2002 (2006 improving: 61% no text). For large their recentancy ates, 42% had socialized to good, 50% fair, and 10% poor vaster quality. 	Although not currently a algoriticant constraint on cohe scower, water quality has the potential of initing cohe production at boal apartial scale to the production at boal apartial scale and the production at boal apartial scale to the production at boal apartial scale to the production at boal apartial scale and the production at boal apartial scale to the production at the p	. 🔘	alse settoratio ction at local partal acales a ppeopriate to reintain or imp earing capacit
WATER QUANTITY 1907 Phorty	Osegon Water Law 3,000 roles of atteam are prote cled further an right). See armflow extension focused in the MESouth Count and Unippus MA's. As an 200% excess drove, water is not available for new water a proprietion in August in 94% of the total ESU area.	Appead makely 800 in the ear water rights currently exist: August consumptive use was highest in the MdSouth Coast and Uniques Monitoring Areas, Wife of the ESU had an August consumptive use of variety less than 10% of the SOV instantal exceeded and Our 90% of the ESU had no change in August consumptive use between 1997 and 2004.	Although not currently a algorithment constraint on cohe sections, where quantity has to protential of its tring cohe production at local inputial at alle	a	iccus habitat estoration westerns in reas of high ritins b coho rotential
OTHER FACTORS Toxics, DO, pH, Stevens for tilly and a hade, Spewint or gowel, Hydro- power, Illedel harvest, Deseave, Estuaries, Wedands, Exotic fish interactions, Predation by binds & pinningels	Amenied data, Heratuw, and local observations.	Data, analyses, and interpretation of these limiting factors are available at http://www.zmagon-plan.org	Although not currently a algrificant constraint on cohe access, each factor has the potential of liniting cohe at loss a partial or ales.	0	Semain alert to letect future thange in inportance of hese factors

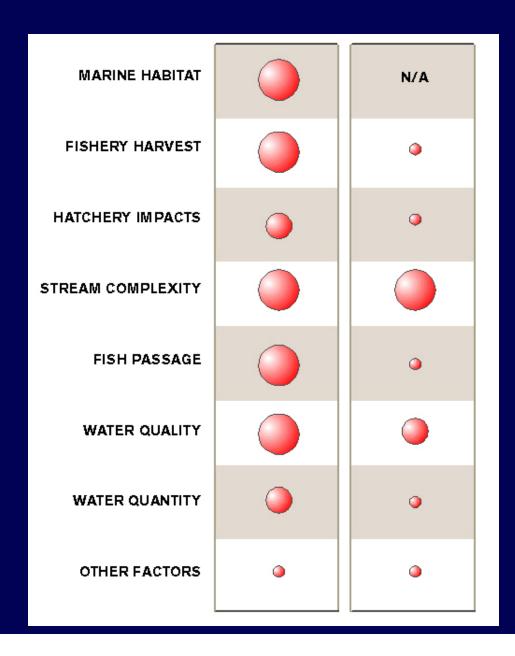
1997 -- 2005

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	Alsea	Upper-Umpqua
MARINE HABITAT	N/A	N/A	N/A	N/A	N/A
FISHERY HARVEST	•	٥	٠	•	٠
HATCHERY IMPACTS	•		•	•	
STREAM COMPLEXITY					
FISH PASSAGE	•	٥	•	•	٠
WATER QUALITY		•	•		
WATER QUANTITY	•	٥	٠	•	
OTHER FACTORS	•	•	٠	•	٠

PERCEIVED THREAT TO ESU VIABILITY 1997 - 2005

Risk Factor	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

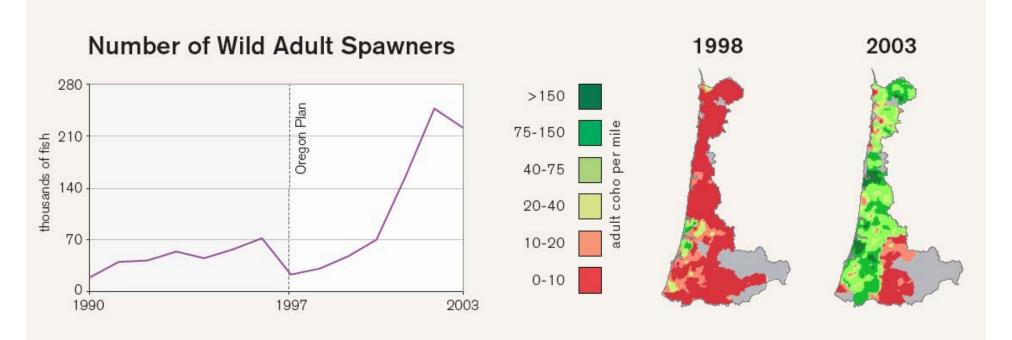
- ESU is viable (not likely to become endangered in foreseeable future)
- Factors for decline have been effectively addressed
- Moderate risk remains from 2 risk factors: ocean conditions and stream complexity
- Current management should preclude serious deterioration of fish or their supporting habitat
- 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 and graphics: University of Oregon InfoGraphics Lab

Density of Wild Adult Spawners



OWEB Grants

1997 - 2003



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.