

Habitat Tracking Metrics for Federal Fish Recovery Efforts in the Columbia Basin

February 4, 2003

	Federal Actions Supporting Habitat Improvements	Examples	Reporting Metric	Costs and Partners	ESU/ DPU	Subbasin USGS HUC #	Watershed USGS HUC #	GPS Coordinates (if available)
Planning								
	Recovery Plans	NOAA Fisheries/USFWS Recovery Plans	Plans underway, Number completed, Percent completed					
	Subbasin Plans and Assessments	NPPC Subbasin Plans, USFS/BLM Subbasin Plans	Plans underway, Number completed, Percent completed					
	Watershed Plans and Assessments	Identify actions to achieve Subbasin Plan goals	Plans underway, Number completed, Percent completed					
	Other Plans and Assessments	Basinwide Salmon Recovery Strategy, FCRPS BiOp, Federal LRMP/RMP Aquatic Conservation Strategy, NFMA, NEPA, RM&E	Plans underway, Number completed, Percent completed					
Strategies/ Programs/ Initiatives								
	Improve Water Quantity	Implement programs improving transactional approaches, FERC Licensing, Complete subbasin/watershed fish-flow assessment programs	Number underway, Percent completed					
	Improve Water Quality	Participate with states/tribes in TMDL development and implementation, and coordinate with EPA / State 319 nonpoint source projects. Water quality management plans implemented (states); COE Regional Sediment Management plans, COE Section 1135 and 206 Ecosystem Restoration programs	Number underway, Number developed, Number approved, Percent completed					
	Improve Passage Diversions	FS Region 6 culvert removal, prioritization strategy. OR, ID, WA Fish Screening programs, COE Section 1135 and 206 Ecosystem Restoration programs	Number culvert removal, prioritization strategies underway, Number completed					
	Improve Watershed Health	Implementation of salmon beneficial components of the National Fire Plan, Healthy Forest Initiative, COE Section 536 Columbia River Estuary Ecosystem Restoration Program	Number of salmon beneficial program components developed, Number completed					

	Federal Actions Supporting Habitat Improvements (Bold actions indicate core measurable habitat actions derived from FCRPS BiOp Tier 3 effectiveness monitoring categories) ¹	Primary Benefit	Reporting Metrics (per action)	Costs and Partners	ESU/ DPU	Subbasin USGS HUC #	Watershed USGS HUC #	GPS Coordinates (if available)
Actions								
1. Instream-structural								
	Improve stream structure/reconfigure stream morphology	Stream complexity restoration	Number of stream miles treated (to 0.1 miles)					
2. Instream-passage								
	Upgrade or eliminate culverts	Barrier removal	Number of miles habitat accessed/action (to 0.1 miles)					
	Upgrade or eliminate fords or low water crossings	Barrier removal	Number completed					
	Eliminate barriers (remove diversions, dams, mine tailings, install fish ladders)	Barrier removal	Size of diversion and number of miles access (to 0.1 miles)					
3. Fish screens								
	Install/retrofit fish screens to NMFS/USFWS standards	Screen irrigation diversions	Size of each diversion screened					
4. Riparian conservation								
	Riparian habitat improvement/restoration treatments	Riparian function restoration	Riparian miles (to 0.1 miles) and acres treated, thinned, fenced					
	Secure long-term riparian protection/conservation easements	Riparian function restoration	Number of stream miles (to 0.1 miles) and total acres					
	Acquire productive fish habitat	Riparian function restoration	Number of miles (to 0.1 miles) and acres/action					
	Streambank stabilization treatments	Riparian function restoration	Number of miles (to 0.1 miles)					
5. Water quantity								
	Lease or purchase instream flows (wet water)	Instream flow restoration	Amount of water (cfs), stream reach improvement (miles), timing (season) of effect; miles meeting ESA needs					
	Water measurement	Assess flows and consumptive use	Number of gauging or demand measurement devices installed, stream reach measured (miles), amount of water (cfs)					

	Federal Actions Supporting Habitat Improvements (Bold actions indicate core measurable habitat actions derived from FCRPS BiOp Tier 3 effectiveness monitoring categories) ¹	Primary Benefit	Reporting Metrics (per action)	Costs and	Partners	ESU/ DPU	Subbasin USGS HUC #	Watershed USGS HUC #	GPS Coordinates (if available)
	Water conservation projects, Special use permits (actual water conserved through modified irrigation application, delivery, change in point of diversion, well, etc) [*]	Instream flow restoration	Amount of water returned to instream use (cfs), stream reach (miles) affected, timing (season) of effect; miles meeting ESA flow needs						
	Water right adjudication	Identify water resource allocations, risk	Percent of rights adjudicated						
6. Water Quality									
	Tributary and Mainstem Wetlands restored/created	Water quality improvement	Number of acres						
	Apply EPA BMPs, federal Standards and Guidelines, to agricultural areas, sivicultural activities, abandoned mine sites, construction sites, and from dams and other hydrologic modifications that generate nonpoint source pollutants	Water quality improvement	Number and size (acres) where BMPs, S&Gs applied; detected water quality improvements; Reaches removed from 303(d) list.						
	TMDL implementation	Water quality improvement	Miles improved, Number and Percent of reaches removed from 303(d) list						
7. Roads									
	Improve roads hydrologically connected to streams	Sediment reduction	Miles of road decommissioned or upgraded						
	Decommission roads hydrologically connected to streams	Sediment reduction	Miles of road decommissioned or upgraded						
8. Estuary									
	Protection/acquisition	Protect habitat	Number of acres wetlands and key habitats protected						
	Restoration	Riparian function restoration	Number of acres wetlands and key habitats restored						
	Passage	Barrier removal	Number of acres/miles habitats opened						
	Predator treatments	Reduce mortality by altering predator abundance/distribution	Number of actions completed						

	Federal Actions Supporting Habitat Improvements (Bold actions indicate core measurable habitat actions derived from FCRPS BiOp Tier 3 effectiveness monitoring categories) ¹	Primary Benefit	Reporting Metrics (per action)	Costs and	Partners	ESU/ DPU	Subbasin USGS HUC #	Watershed USGS HUC #	GPS Coordinates (if available)
9. Upland risk reduction									
	Planting	Reduce sedimentation, improve water quality, improve annual hydrologic runoff cycle	Acres treated						
	Erosion control	Reduce sedimentation, improve water quality	Number of acres treated						
	Stand management	Reduce sedimentation, improve water quality, improve annual hydrologic runoff cycle	Number of acres treated						
	Alternate livestock water supply development	Reduce risk to streams and fish by keeping livestock out	Number of actions completed						
	Slope stabilization	Reduce risk to streams and fish by reducing sediment	Number of acres treated						
10. Research, Monitoring and Evaluation									
	Population status monitoring, environmental status monitoring, effectiveness monitoring, database monitoring, and compliance monitoring as it relates to habitat	Provide information to judge satisfaction of performance standards and ecosystem based benefits from habitat actions	Miles of stream inventory/monitoring/ 5 th field watershed; Resources obligated; Summarize results of implementation and effectiveness monitoring						

¹ These are core measurable habitat actions derived from categories currently proposed for Tier 3 Effectiveness monitoring under the Comprehensive Research, Monitoring and Evaluation Program called for under the 2000 FCRPS Biological Opinion. These categories are 1) screen irrigation diversions, 2) barrier removal, 3) sediment reduction, 4) water quality improvement, 5) nutrient enhancement, 6) restoration of instream flows, 7) restoration of riparian function, and 8) stream complexity restoration. Nutrient enhancement (#5) is included in this table under Research Monitoring and Evaluation.