200??

COLUMBIA BASIN FISH AND WILDLIFE AUTHORITY




Northwest Power and Conservation Council

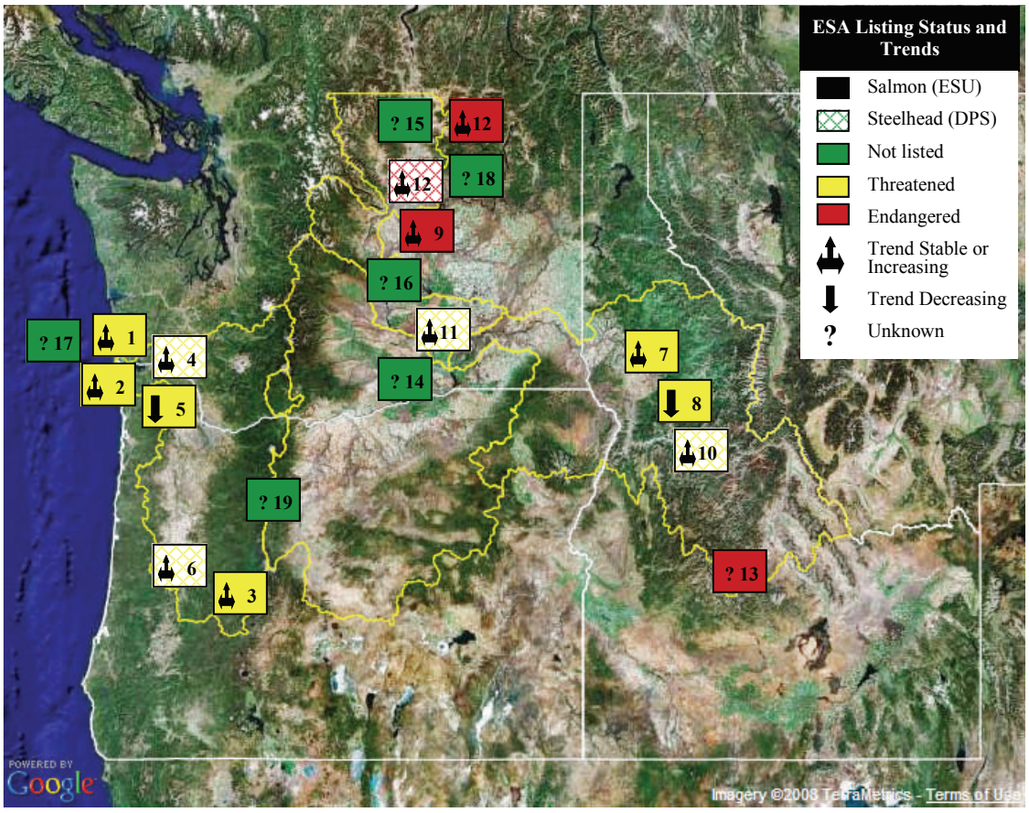
BONNEVILLE POWER ADMINISTRATION

Status of Fish and Wildlife Resources in the Columbia River Basin

DRAFT
(Many of the values in this template do not represent actual data)

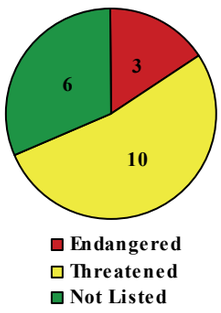
Columbia River Basin

Status and Trends of Salmon and Steelhead in the Columbia River Basin

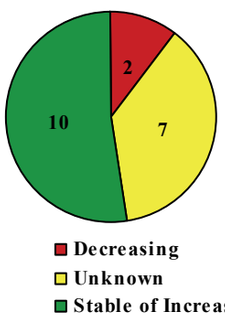


*Numbers correspond to the parenthetical numbers in the ESU/DPS column of the table.

Endangered Species Act Listing Status



Recent Trends of Salmon Steelhead ESU/DPS

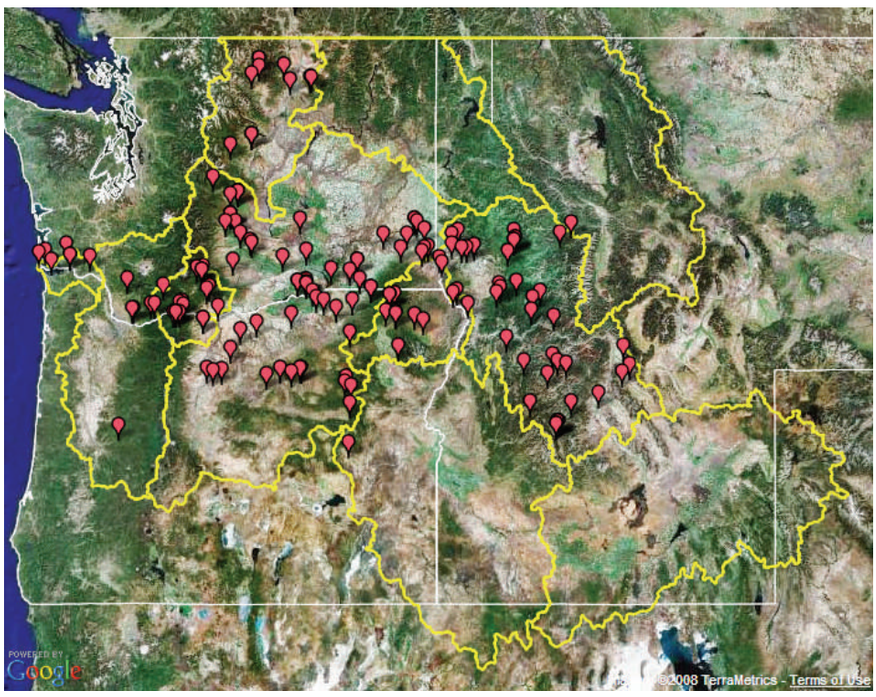


Recovery Domain	Species	ESU/DPS Name	Number of Populations*	Current ESA Listing Status (Year Listed)	Recent Trend
Willamette/Lower Columbia	Chum Salmon	Columbia River Chum (1)	16	Threatened (1999)	Stable or Increasing
	Chinook Salmon	Lower Columbia River Chinook (2)	31	Threatened (1999)	Stable or Increasing
	Chinook Salmon	Upper Willamette River Chinook (3)	7	Threatened (1999)	Stable or Increasing
	Steelhead	Lower Columbia River Steelhead (4)	23	Threatened (1999)	Stable or Increasing
	Coho Salmon	Lower Columbia River Coho (5)	25	Threatened (2005)	Decreasing
	Steelhead	Upper Willamette River Steelhead (6)	5	Threatened (1999)	Stable or Increasing
Interior Columbia	Chinook Salmon	Snake River Fall Chinook (7)	1	Threatened (1992)	Stable or Increasing
(Excludes Clearwater)	Chinook Salmon	Snake River Spring/Summer Chinook (8)	32	Threatened (1992)	Decreasing
	Chinook Salmon	Upper Columbia River Spring Chinook (9)	4	Endangered (1999)	Stable or Increasing
	Steelhead	Snake River Basin Steelhead (10)	25	Threatened (1997)	Stable or Increasing
	Steelhead	Middle Columbia River Steelhead (11)	18	Threatened (1999)	Stable or Increasing
	Steelhead	Upper Columbia River Steelhead (12)	5	Endangered (1997)	Stable or Increasing
	Sockeye Salmon	Snake River Sockeye (13)	1	Endangered (1991)	Not Available
No Recovery Domain	Chinook Salmon	Middle Columbia Spring Chinook (14)	4	Not Warranted	Not Available
	Sockeye Salmon	Okanogan River Sockeye (15)	1	Not Warranted	Not Available
	Sockeye Salmon	Lake Wenatchee Sockeye (16)	1	Not Warranted	Not Available
	Steelhead	Southwest Washington Steelhead (17)	3	Not Warranted	Not Available
	Chinook Salmon	Upper Columbia River Summer/Fall Chinook (18)	3	Not Warranted	Not Available
	Chinook Salmon	Deschutes River Summer/Fall Chinook (19)	1	Not Warranted	Not Available

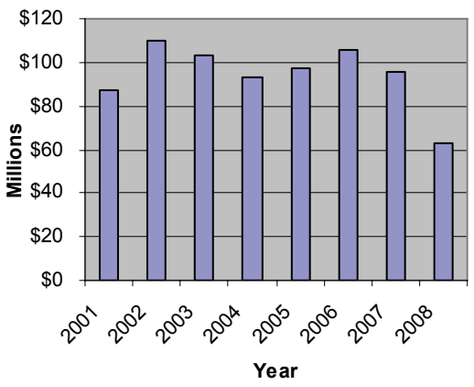
* Includes only populations considered extant by Technical Recovery Teams or Recovery Plans.

Anadromous Fish

Distribution of BPA –Funded Anadromous Fish Habitat Projects (FY 2008)



BPA-Funded Habitat Projects (FY 2008)



BPA-Funded Habitat Restoration by Activity Type (FY 2008)

Unspecified
Wetland
Upland
Instream
Riparian

BPA FY 2008 Habitat Project Accomplishments*

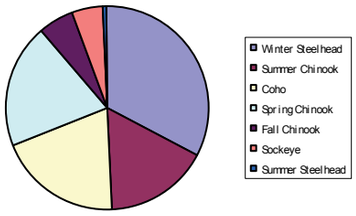
Habitat Zone	Project-type	FY 2008 Performance Indicator (Actual Value)	Planned Value
Wetland	Realign, connect, and/or create channel	57 acres affected	151 acres
Instream	Increase instream habitat complexity	60 stream miles treated	60 stream miles
	Removal/install diversion, remove/breach dam, install fish passage structure	276 habitat miles accessed	601 miles
	Install well, install pipeline, install sprinkler, acquire water instream	781 miles of primary stream reach improved	811 miles
	Install well, install pipeline, install sprinkler, acquire water instream	1,572 miles of total stream reach improvement	1,731 miles
	Realign connect and/or create channel	7 stream miles before treatment	1 mile
	Realign connect and/or create channel	6 stream miles after treatment	16 miles
	Remove/install diversion	5 screens addressed	9 screen
	Increase instream habitat complexity	648 structures installed	1,100 structures
	Install fish screen	195 cfs diversion flow	228 cfs
	Install well, install pipeline, install sprinkler, acquire water instream	20 cfs conserved	51 cfs
	Acquire water instream	261 acre-feet water protected	332 acre-feet
	Acquire water instream	41,684 acre-feet protected	60,941 acre-feet protected
	Install fish screen	1,200 acre-feet screened	5,998 acre-feet
	Install well, install pipeline, install sprinkler, acquire water instream	7,557 acre-feet conserved	16,153
Riparian	Plant vegetation	216 miles planted	277 miles
	Purchase land, lease land	174 miles protected	130 miles
Riparian-Upland	Land purchase, land lease	113,224 acres protected	115,086 acres
	Conduct controlled burn, plant vegetation, practice no-till and conservation tillage, remove vegetation, upland erosion and sedimentation control, enhance floodplain, create, restore, and enhance wetland	19,976 acres treated	34,295 acres
	Install fence	576 miles of fence installed	603 miles
	Decommission roads, relocate roads, improve roads	170 road miles treated	226 miles

* PISCES, Bonneville Power Administration

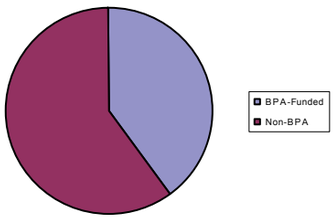
Columbia River Basin

Hatchery Production of Salmon and Steelhead in the Columbia River Basin (2007)

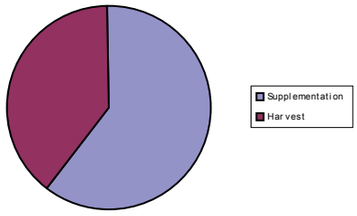
2007 Hatchery Releases
Total Release = ########



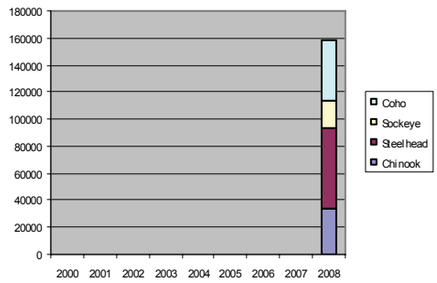
2007 Hatchery Releases by Program



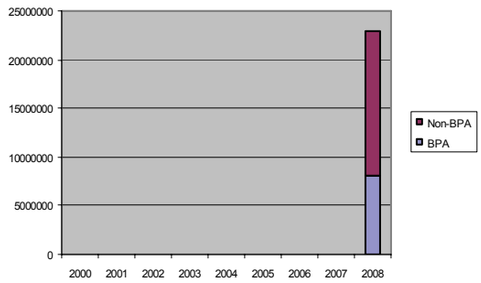
2007 Hatchery Releases by Production Type



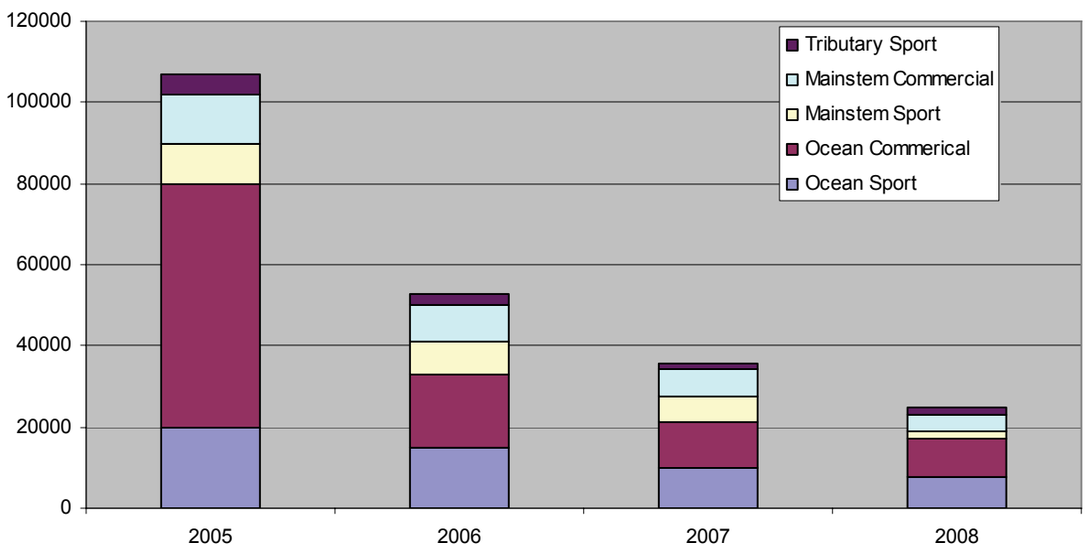
2007 Returns by Species to Hatcheries



Hatchery Funding by Entity (FY 2007)



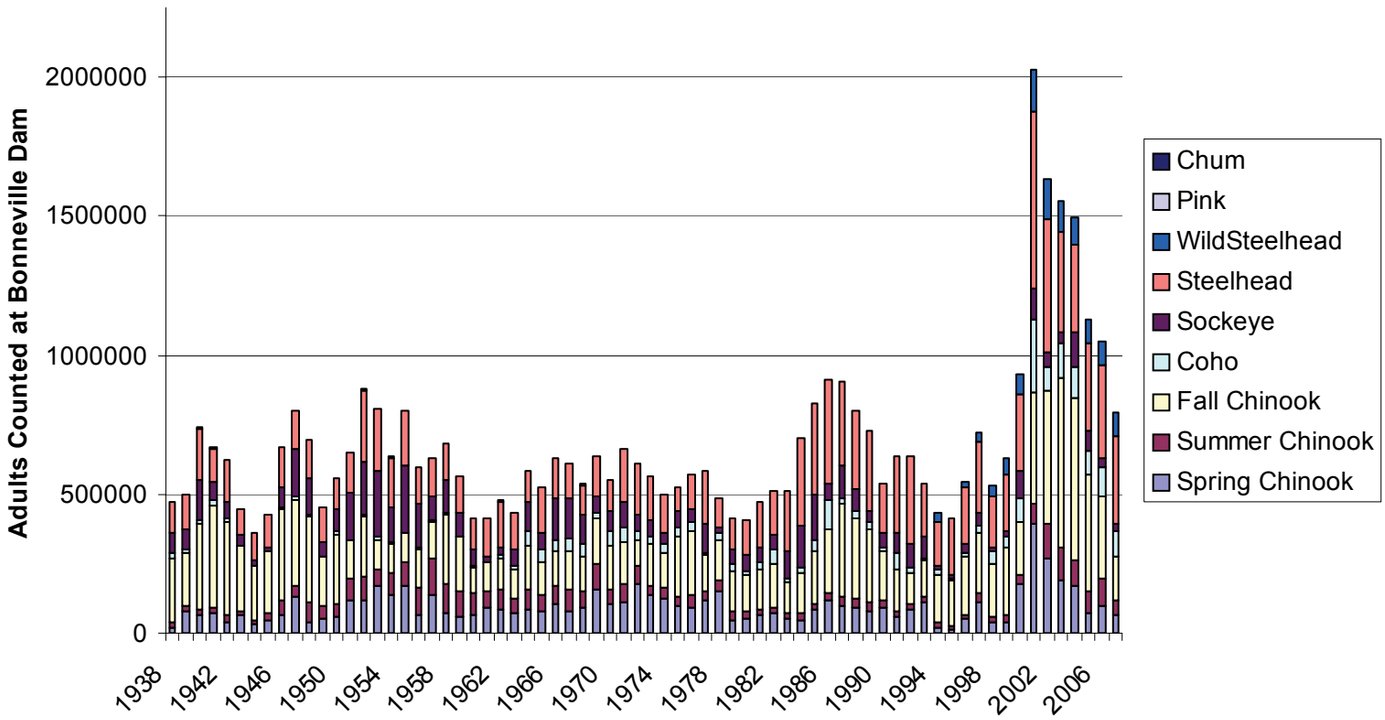
Columbia River Basin Salmon and Steelhead Harvest



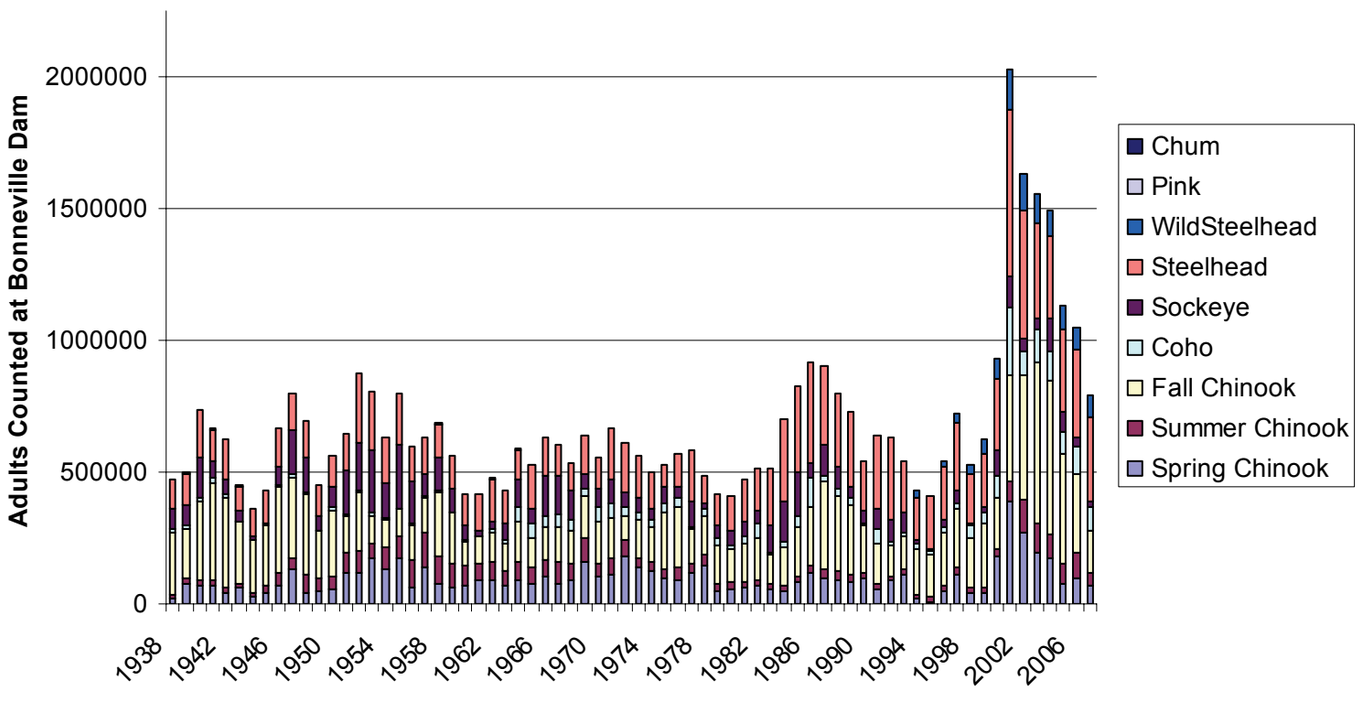
Species/Race	Ocean Harvest		Mainstem Harvest		Tributary Harvest		Program Hatchery Fish Harvested	Non-Program Hatchery Fish Harvested
	Hatchery	Natural	Hatchery	Natural	Hatchery	Natural		
Chum								
Fall Chinook								
Spring Chinook								
Spring/Summer Chinook								
Winter Steelhead								
Summer Steelhead								
Coho								
Sockeye								

Anadromous Fish

Total Adult Salmon and Steelhead Counts at the Columbia River Mouth (1938-2007)

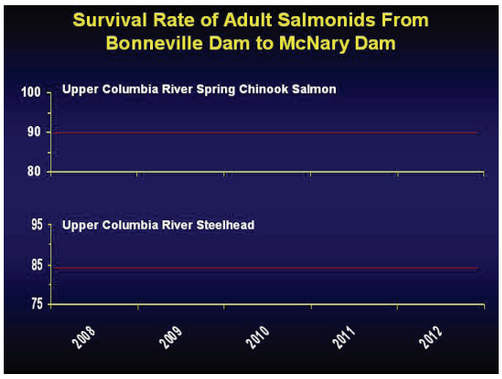


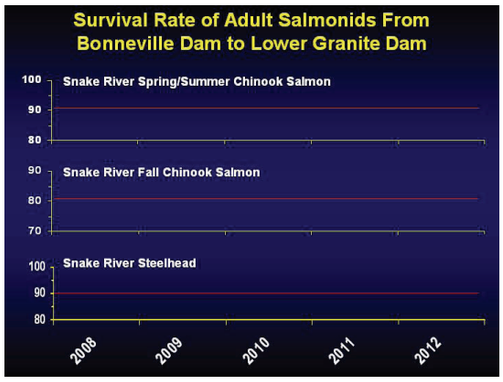
Total Adult Salmon and Steelhead Counts at Bonneville Dam (1938-2007)

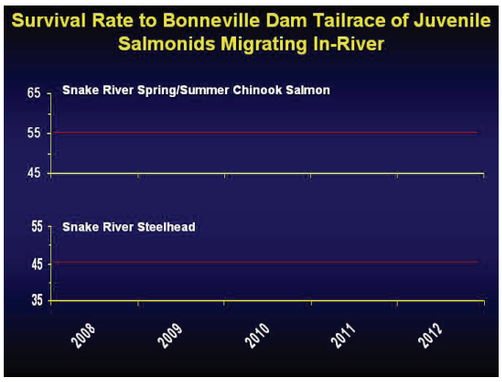


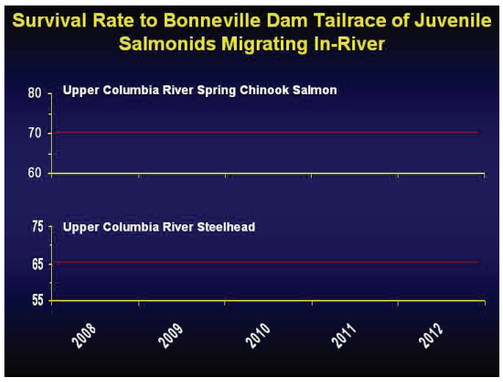
Columbia River Basin

System Survival

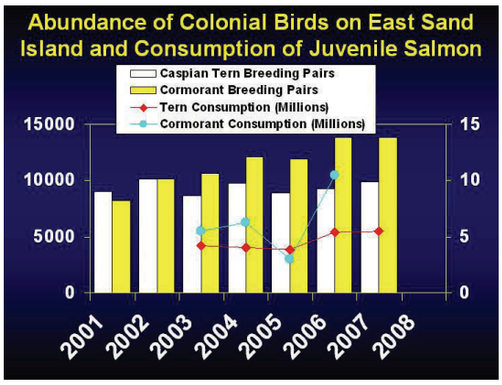


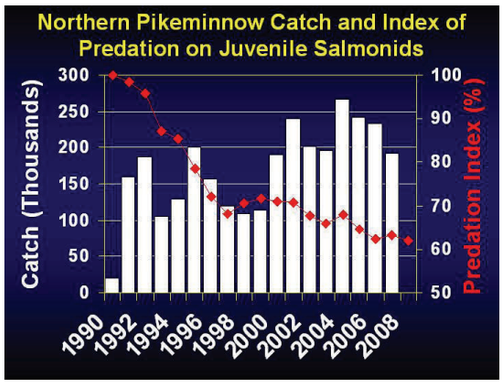






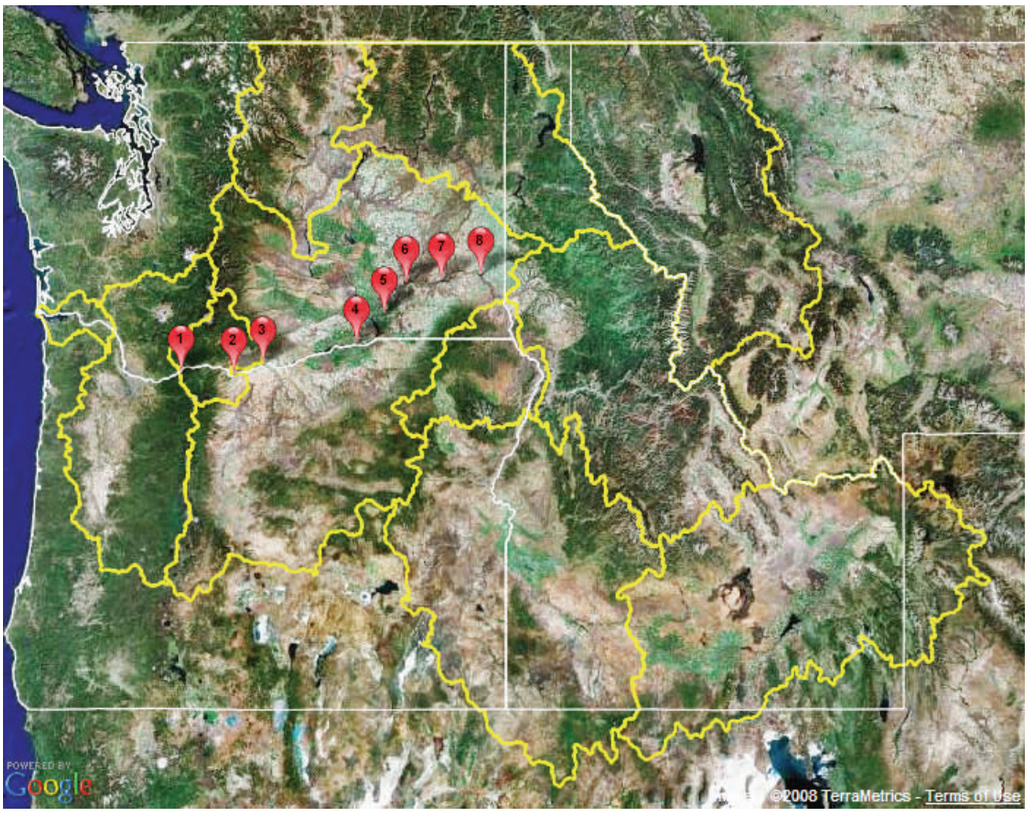
Predation





Anadromous Fish

Spill and Juvenile Passage Survival in 2008



Spill

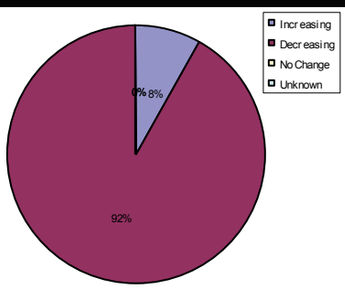
Juvenile Passage Survival

	Spring Spill		Summer Spill		Juvenile Passage Survival		
Dam*	**Target Kcfs**	**Actual Kcfs**	**Target Kcfs**	**Actual Kcfs**	**Chinook (Spring)**	**Chinook (Fall)**	**Steelhead**
Bonneville (1)							
The Dalles (2)							
John Day (3)							
McNary (4)							
Ice Harbor (5)							
Lower Monumental (6)							
Little Goose (7)							
Lower Granite (8)							

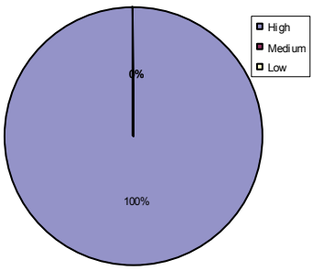
*Parenthetical numbers correspond to the parenthetical numbers in the above map.

Columbia River Basin

Status of Adult Pacific Lamprey Returns at Columbia River Hydroelectric Facilities (2007)



Risk Level of Pacific Lamprey



BPA-Funded Accomplishments

2007

- Estimated adult Pacific lamprey escapement over Sherars Falls in the Deschutes River basin
- Documented Pacific lamprey movements throughout the Deschutes River basin

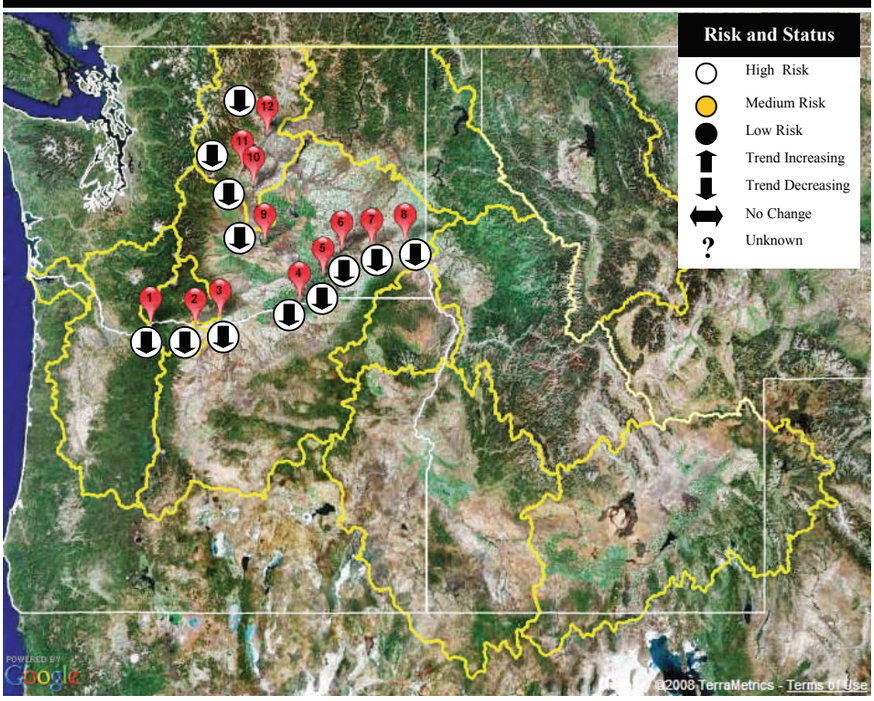
2006

- Determined Pacific lamprey distribution, life history strategies, habitat requirements, and population abundance in the Clearwater and Salmon drainages
- Identified Pacific lamprey ammocoete habitat preference in the Deschutes River basin
- Determined outmigration timing of Pacific lamprey macropthalmia and ammocoetes in the Deschutes River basin
- Estimated adult Pacific lamprey escapement over Sherars Falls in the Deschutes River basin

2005

- Conducted Pacific lamprey ammocoete habitat preference surveys in the Deschutes River basin
- Determined outmigration timing of Pacific lamprey macropthalmia and ammocoetes in the Deschutes River basin
- Estimated Pacific lamprey escapement in the lower Deschutes River
- Conducted surveys to determine Pacific lamprey distribution, life history strategies, habitat requirements, and population abundance in the Clearwater and Salmon drainages
- Outplanted sexually mature Pacific lamprey in the Umatilla River
- Determined low elevation structures combined with low flows impact ability of Pacific lamprey to migrate upstream in the Umatilla River

Status and Trends of Adult Pacific Lamprey at Columbia River Hydroelectric Facilities (2007)



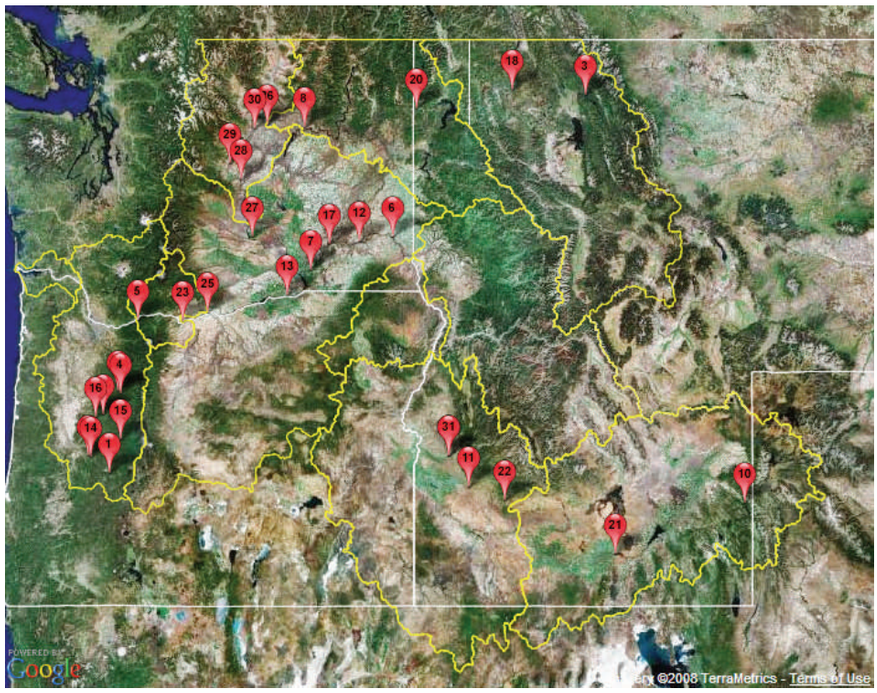
Genetic population structure for Pacific lamprey is currently unknown in the Columbia River Basin thus, specific populations or management groups cannot be displayed at this time. In addition, little is known about adult returns to specific waters. Subsequently, adult returns at hydroelectric facilities is the best metric, currently available, to chronicle adult returns throughout the basin.

Dam*	2007 Adult Count	Average 1994-2007 (range)	Risk Level
Bonneville (1)	19,313	46,077 (19,313-117,029)	High
The Dalles (2)	6,085	12,422 (6,066-28,995)	High
John Day (3)	5,731	10,614 (4,005-26,821)	High
McNary (4)	1,281	5,547 (1,281-13,325)	High
Ice Harbor (5)	290	731 (203-1,702)	High
Lower Monumental (6)	59	205 (59-476)	High
Little Goose (7)	72	223 (4-660)	High
Lower Granite (8)	34	230 (27-1,122)	High
Priest Rapid (9)	6,593	2,306 (392-6,593)	High
Rock Island (10)	1,300	1,802 (5-4,878)	High
Rocky Reach (11)	696	1,056 (370-2,521)	High
Wells (12)	35	366 (21-1,408)	High

*Parenthetical numbers correspond to the parenthetical numbers in the above map.

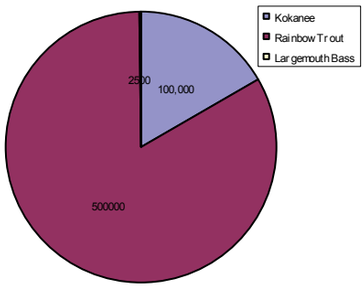
Anadromous Fish

Resident Fish Substitution for Lost Anadromous Fish Opportunities

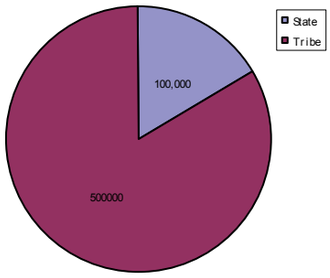


Hatchery Production of Resident Fish for Substitution (2007-2008)

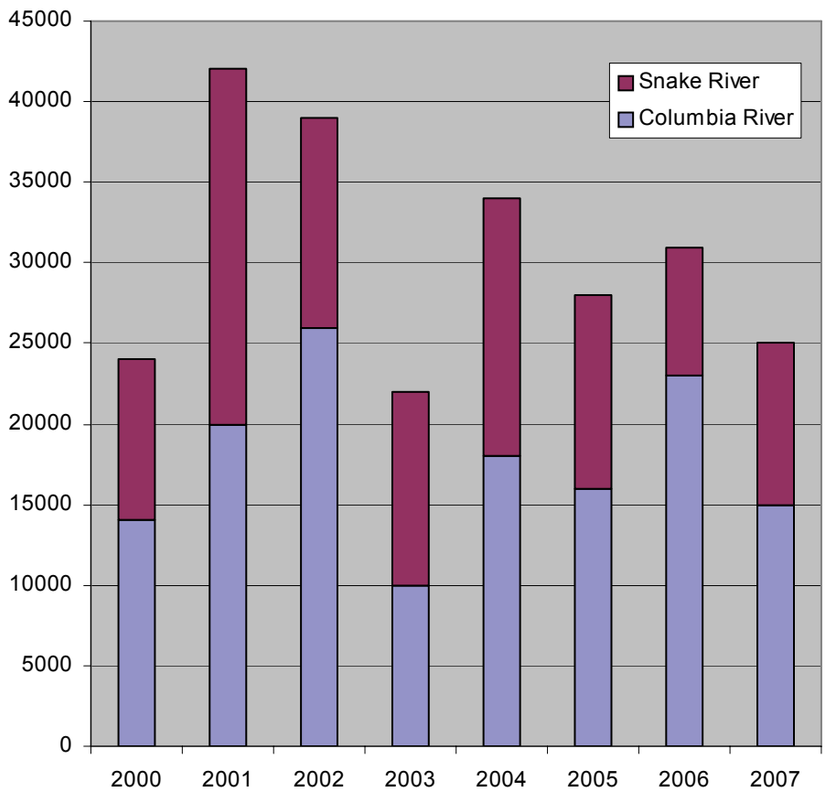
Hatchery Releases
Total Release = ########



Hatchery Releases by Entity

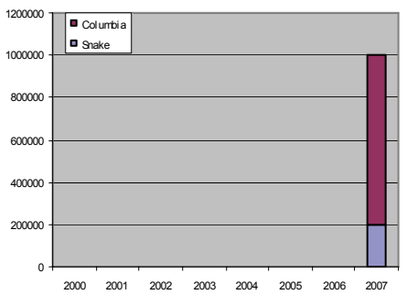


Columbia River Basin Resident Fish Substitution Harvest in Blocked Areas (2000-2008)



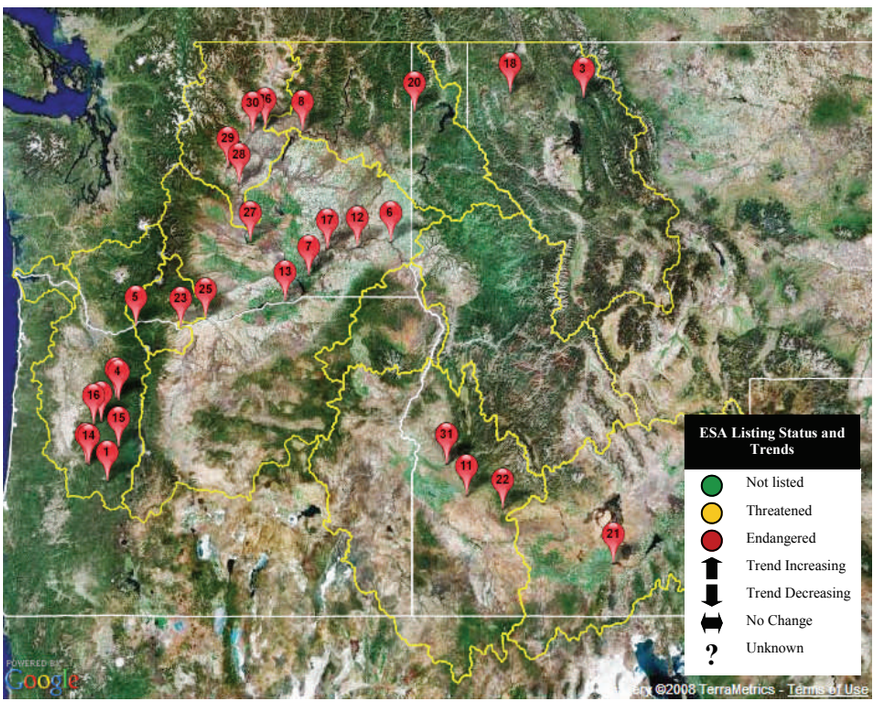
Hatchery Funding for Resident Fish Substitution (2007-2008)

Funding Per Blocked Area

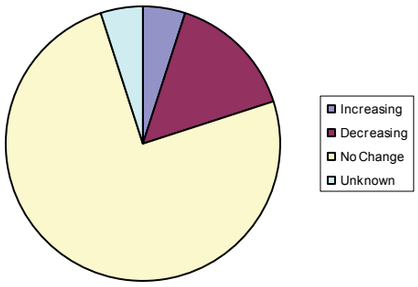


Columbia River Basin

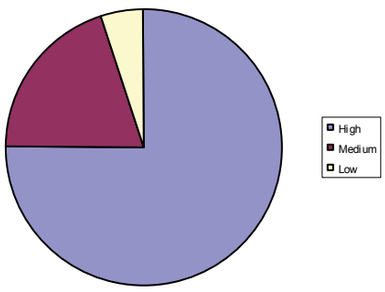
Status and Trends of White Sturgeon in the Columbia River Basin



Status of White Sturgeon Poplations



Risk Level of White Sturgeon



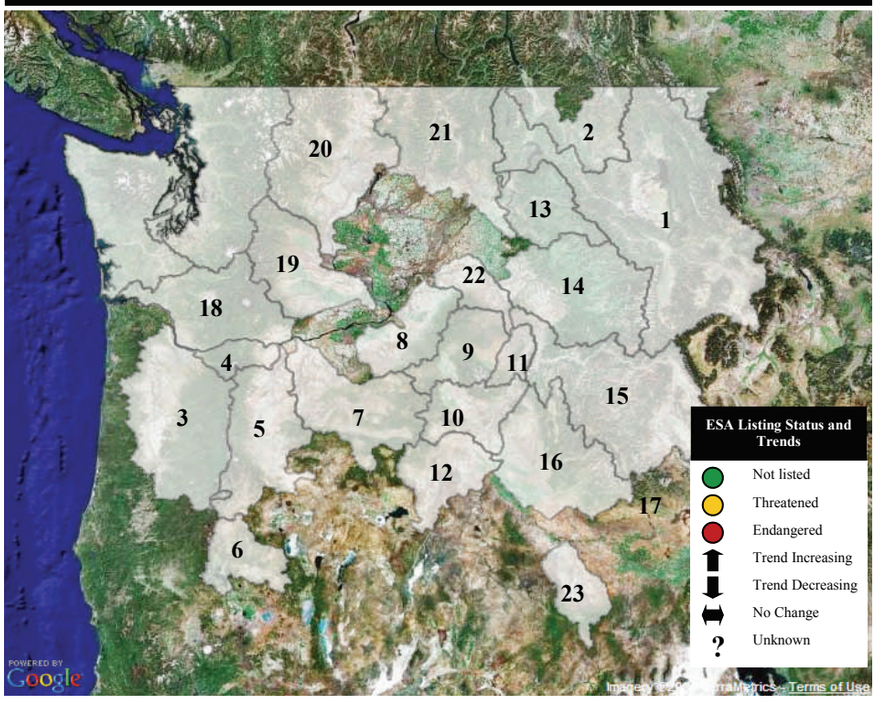
Population	ESA Listing Status (year listed)	Adult Abundance	Number Harvested	Sport Harvest (% of Harvest)	Commercial Harvest (% of Harvest)
Lower Columbia (below Bonneville Dam)	None				
Bonneville	None				
The Dalles	None				
John Day	None				
Hells Canyon	None				
Mid-Columbia	None				
Upper Columbia (Lake Roosevelt)	None				
Kootenai	Endangered				

*Parenthetical numbers correspond to the parenthetical numbers in the above map.

BPA-Funded Accomplishments

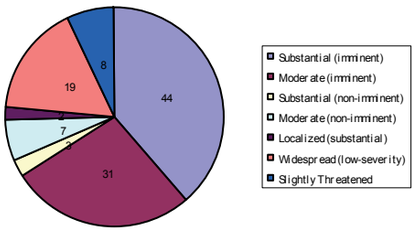
Resident Fish

Status of Bull Trout Recovery Units in the Columbia River Basin

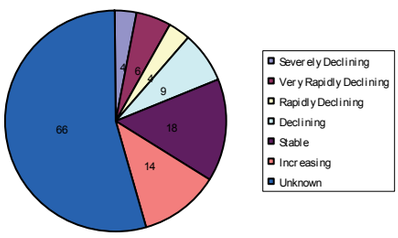


Recovery Unit	Recovery	Population Abundance
Clark Fork River (1)		
Kootenai River (2)		
Willamette River (3)		50-250
Hood River (4)		25-125
Lower Deschutes River (5)		1,000-2,500
Odell Lake (6)		1-50
John Day River (7)		Unknown for Middle and North Fork, 1-50 for Upper
Umatilla-Walla Walla River (8)		
Grande Ronde River (9)		
Imnaha-Snake River (10)		
Hells Canyon Complex (11)		
Malheur River (12)		
Coeur d'Alene Lake Basin (13)		
Clearwater River (14)		
Salmon River (15)		
Southwest Idaho (16)		
Little Lost River (17)		
Lower Columbia River (18)		
Middle Columbia River (19)		
Upper Columbia River (20)		
Northeast Washington (21)		
Snake River Washington (22)		
Jarbidge River (23)		

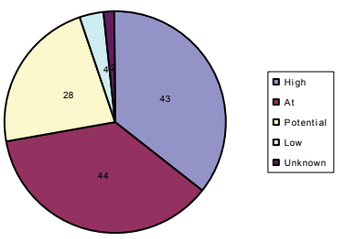
Bull Trout Core Area Threats



Bull Trout Core Area Trends



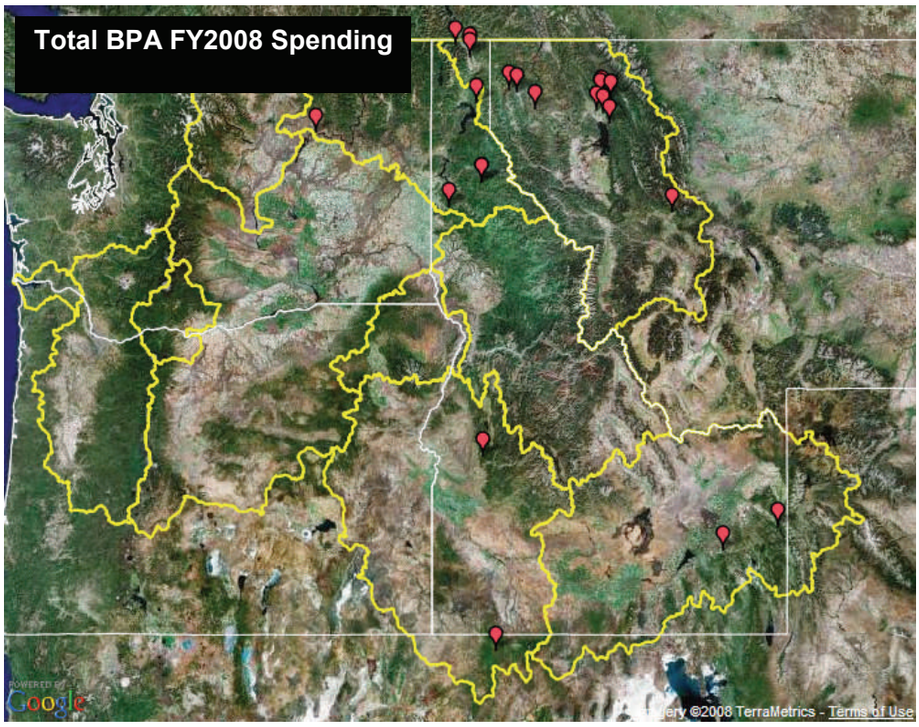
Bull Trout Core Area Risks



Accomplishments

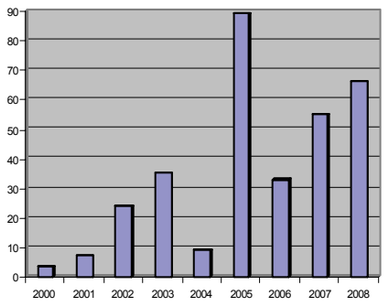
Columbia River Basin

FY 2008 BPA –Funded Resident Fish Habitat Projects (Blocked Area)

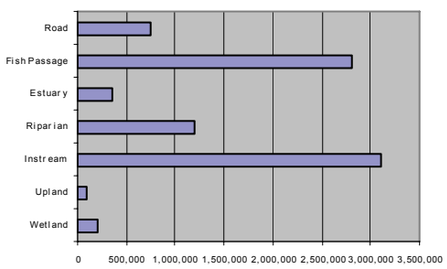


BPA FY 2008 Funding for Region-wide Habitat Project Types

BPA FY 2008 Funding for Habitat Restoration by Year (in millions)



BPA FY 2008 Funding for Habitat Restoration by Activity Type



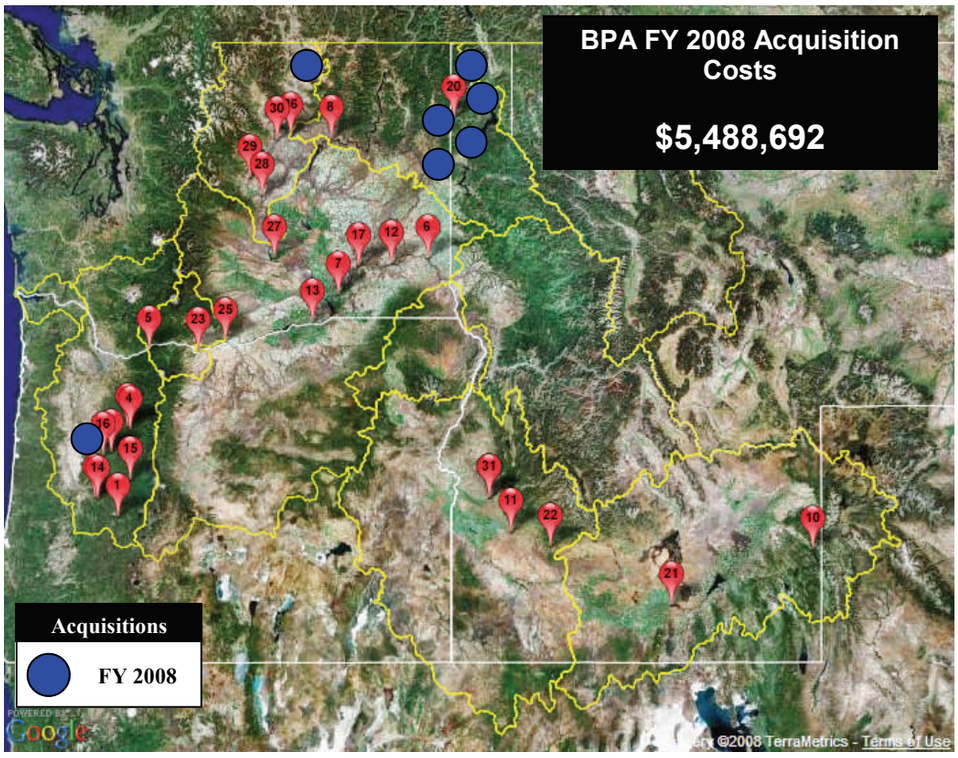
BPA FY 2008 Resident Fish Habitat Project Accomplishments (Blocked Area)*

Habitat Zone	Project-type	FY 2008 Performance Indicator (Actual Value)	Planned Value
Wetland	Realign, connect, and/or create channel	acres created/treated	acres
Instream	Increase instream habitat complexity	stream miles treated	stream miles
	Removal/install diversion, remove/breach dam, install fish passage structure	habitat miles accessed	miles
	Install well, install pipeline, install sprinkler, acquire water instream	miles of primary stream reach improved	miles
	Install well, install pipeline, install sprinkler, acquire water instream	miles of total stream reach improvement	miles
	Realign connect and/or create channel	stream miles before treatment	mile
	Realign connect and/or create channel	stream miles after treatment	miles
	Remove/install diversion	screens addressed	screen
Riparian	Plant vegetation	miles planted	miles
	Purchase land, lease land	miles protected	miles
Riparian-Upland	Land purchase, land lease	acres protected	acres
	Conduct controlled burn, plant vegetation, practice no-till and conservation tillage, remove vegetation, upland erosion and sedimentation control, enhance floodplain, create, restore, and enhance wetland	acres treated	acres
	Install fence	miles of fence installed	
	Decommission roads, relocate roads, improve roads	road miles treated	miles

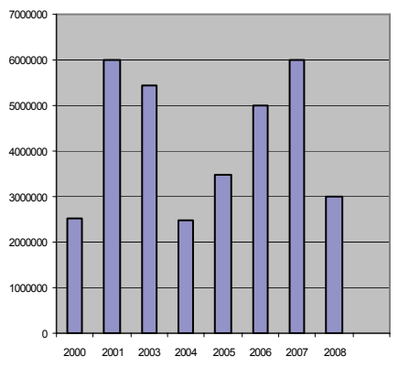
* PISCES, Bonneville Power Administration

Wildlife

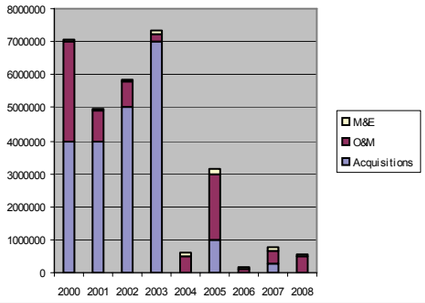
BPA FY 2008 Funded Land Acquisitions



BPA FY 2008 Funding for Wildlife



BPA Wildlife Funding by Category (FY 2002-2008)



Wildlife Habitat Losses by Hydroelectric Facilities in the Columbia River Basin

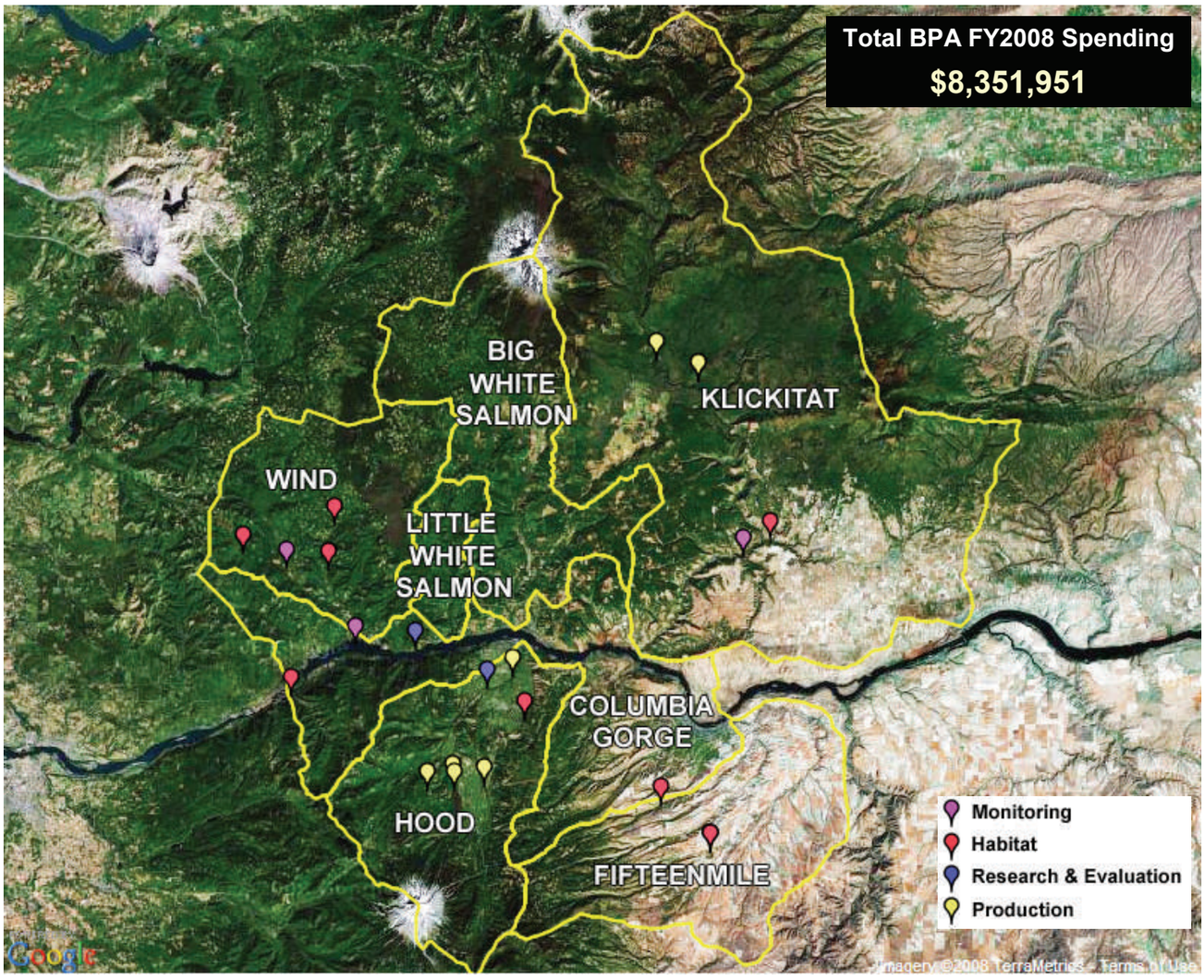
Dam	Habitat Units Lost Due to Construction	Habitat Units Credited in 2008	Total Habitat Units Credited	% of Projects with Long-term Management Funds Agreement
Bonneville (OR) (1)	6,159		590	
Bonneville (WA) (1)	6,159		871	
The Dalles (OR) (2)	1,165		0	
The Dalles (WA) (2)	1,165		329	
John Day (OR) (3)	18,280		14,057	
John Day (WA) (3)	18,280		11,019	
McNary (OR) (4)	4,710		8,406	
McNary (WA) (5)	18,834		32,810	
Albeni Falls (9)	28,658		9,872	
Chief Joseph (7)	8,833		567	
Grand Coulee (8)	111,785		107,842	
Big Cliff (22)	413		32	
Cougar (26)	11,124		511	
Detroit (23)	11,298		0	
Dexter (27)	6,648		196	
Foster (24)	3,544		96	
Hills Creek (29)	19,489		1,565	
Lookout Point (28)	25,454		1,296	
Anderson Ranch (19)	9,619		1,063	
Black Canyon (17)	2,170		57	
Minidoka (20)	10,503		1,744	
Palisades (21)	37,070		16,093	
Deadwood				

The Bonneville Power Administration (BPA) is responsible for mitigating the impacts to wildlife caused by the development of the dams of the Federal Columbia River Power System. These impacts have been quantified by the Northwest Power and Conservation Council through the completion of "impact assessments" for each dam. Through the use of the habitat Evaluation Procedure (HEP), impact assessments, which are also referred to as loss assessments, identify the "habitat units" (HU) that were lost due to construction and inundation behind the dams.

As BPA funds wildlife mitigation activities, it takes credit for its efforts. Wildlife mitigation activities include land acquisition and management, habitat restoration and improvement, weed control, fencing, and other wildlife conservation efforts. The HUs associated with the mitigation activity are measured or estimated and then counted against the impact assessment for the dam being mitigated. For each wildlife property acquisition, a baseline HEP survey is completed after the acquisition to determine the number of HUs associated with the acquisition.

Dams where BPA's wildlife mitigation obligations have been settled, such as Libby, Hungry Horse, and Dworshak, are not listed in the table.

Columbia Gorge



Land Ownership
Federal……...27%
Private…….56%
Tribal……...17%

The Columbia Gorge Province is bounded by Bonneville Lock and Dam at river mile 145 and The Dalles Dam at river mile 191 on the Columbia River, and encompasses an area of 3,293 square miles. Subbasins in the Columbia Gorge Province include the Big White Salmon River, Columbia Gorge Mainstem (i.e., Bonneville Reservoir), Hood, Fifteenmile, Klickitat, Little White Salmon, and Wind. Chinook (spring and fall), chum, steelhead (summer and winter), and bull trout populations throughout the province are listed under the federal Endangered Species Act. This province is characterized by a complex geologic structure and vegetation pattern. Fed by glaciers in the Oregon and Washington Cascades, the rivers in the province flow from high elevation coniferous forests and transition through fruit orchards and other irrigated agriculture in the lowlands before entering the Columbia River. Forestry, ranching, agriculture, orchards, and tourism are significant factors in the economy of communities in the province.

Major Habitat Factors Limiting Recovery in Columbia Gorge Province Subbasins							
Major Limiting Factors	**BigWhite Salmon**	**Columbia Gorge**	**Fifteenmile**	**Hood**	**Klickitat**	**Little White Salmon**	**Wind**
Degraded Habitat– Estuarine and Nearshore Marine	X	X		X			X
Degraded Habitat-Floodplain Connectivity and Function	X	X		X			X
Degraded Habitat-Channel Structure and Complexity	X	X		X			X
Degraded Habitat– Riparian Areas and LWD Recruitment	X	X	X	X	X	X	X
Degraded Habitat-Stream Substrate	X	X		X		X	
Degraded Habitat– Stream Flow	X	X	X	X	X	X	X
Degraded Habitat– Water Quality							
Degraded Habitat– Fish Passage			X		X	X	
Mainstem Columbia River Hydro-power-related Adverse Effects			X		X	X	
Hatchery-related Adverse Effects	X	X	X	X	X	X	X
Harvest-related Adverse Effects	X	X		X			X
Predation/Competition/Disease			X		X	X	
Number of BPA-funded projects addressing major habitat limiting factors in 2008							

BPA FY 2008 Habitat Project Accomplishments in the Columbia Gorge Province			
Habitat Zone	**Project-type**	**FY 2008 Performance Indicator (Actual Value)**	**Planned Value**
Instream	Increase instream habitat complexity	0 stream miles treated	1 stream miles
	Increase instream habitat complexity	54 structures installed	64 structures
	Install well, install pipeline, install sprinkler, acquire water instream	2.3 cfs of water saved	2.3 cfs water
	Install well, install pipeline, install sprinkler, acquire water instream	3.8 cfs of water protected	3.8 cfs water
	Install well, install pipeline, install sprinkler, acquire water instream	1,810 acre-feet water conserved	1,810 acre-feet
	Install well, install pipeline, install sprinkler, acquire water instream	906 acre-feet water protected	906 acre-feet
	Install well, install pipeline, install sprinkler, acquire water instream	63 miles of primary stream reach improved	63 miles
	Install well, install pipeline, install sprinkler, acquire water instream	67 miles of total stream reach improvement	67 miles
	Remove/install diversion	screens addressed	screen
Riparian	Plant vegetation	.5 miles planted	2 miles
	Purchase land, lease land	1 miles protected	1 miles
Riparian-Upland	Land purchase, land lease	14 acres protected	20 acres
	Conduct controlled burn, plant vegetation, practice no-till and conservation tillage, remove vegetation, upland erosion and sedimentation control, enhance floodplain, create, restore, and enhance wetland	57 acres treated	102 acres
	Install fence	2 miles of fence installed	1 mile

Columbia Gorge

Focal Species[1]

Focal Species	Big White Salmon	Columbia Gorge	Fifteen-mile	Hood	Klickitat	Little White Salmon	Wind
Bull Trout							
Chinook-Spring							
Chinook-Fall							
Chum							
Coastal Cutthroat Trout							
Coho							
Pacific Lamprey							
Rainbow Trout							
Steelhead – Winter							
Steelhead—Summer							
White Sturgeon							

Not a focal species | Not listed | Species of Concern[2] | Threatened[3]

[1]Focal species were identified by subbasin planners during the Northwest Power and Conservation Council's subbasin planning process. Since the completion of subbasin planning, the list of focal species has been amended through the Fish and Wildlife Program Amendment process. This list represents the most current suite of focal species.

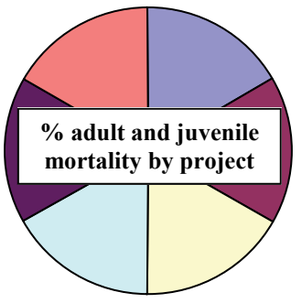
[2] USFWS Status

[3] ESA Status

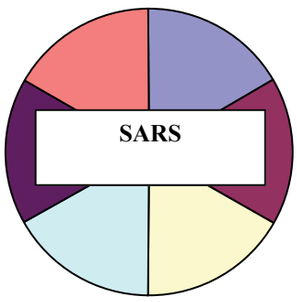
2007 Hatchery Releases and Returns to Hatcheries in the Columbia Gorge Province

Species	Released	Return to Hatchery
Spring Chinook		
Spring Chinook		
Spring Chinook		
Fall Chinook (Upriver)		
Coho		
Spring Chinook		
Fall Chinook		
Summer Steelhead		
Winter Steelhead		
Coho		
Fall Chinook (Tule)		

Hydrosystem Performance

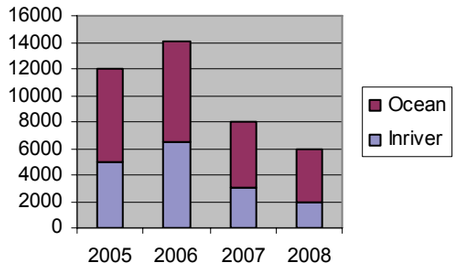


System Survival

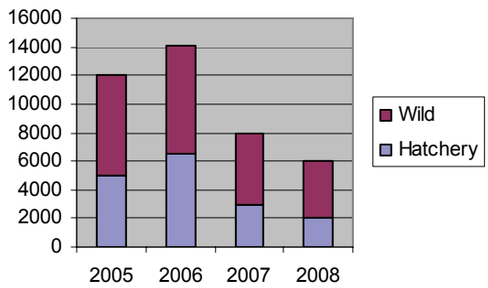


Salmon and Steelhead Harvest (2007)

Total Harvest
#######



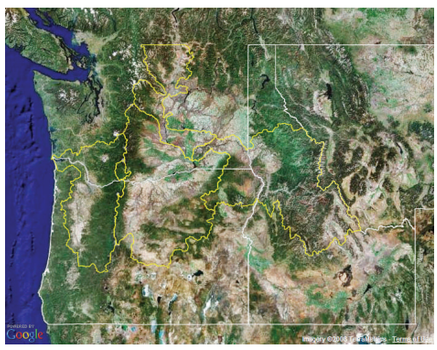
Hatchery vs Wild

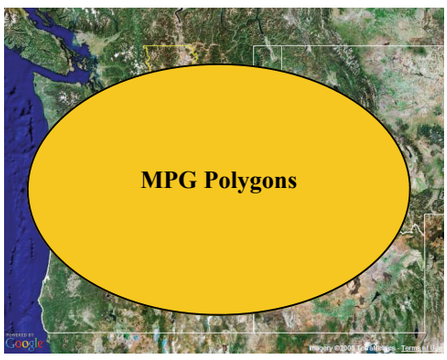


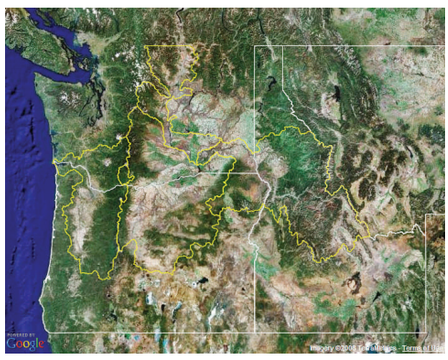
Status and Recovery of ESA-Listed Salmon and Steelhead in the Columbia Gorge Province

Major Population Groups

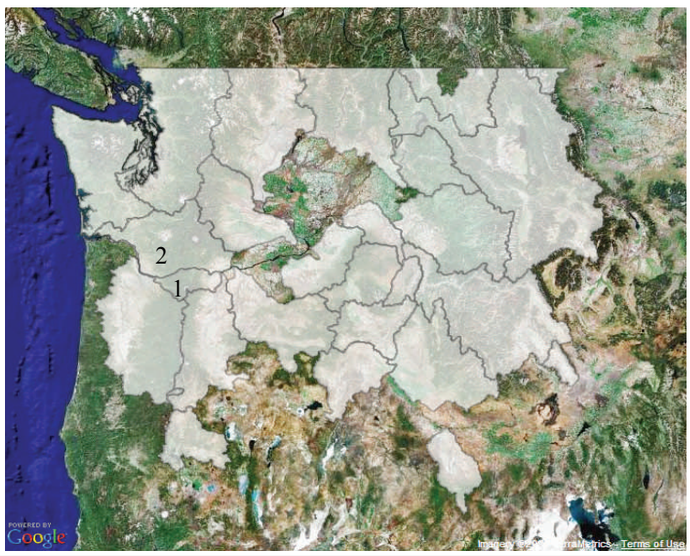
Major Population Group	Recovery Goal	Goal Met	Trend	Total Spawners	NOR	SAR
Chinook—Fall Run Gorge						
Chinook—Spring Run Gorge						
Chum—Gorge						
Steelhead— Cascade Eastern Slope						
Steelhead—Gorge Winter						
Steelhead—Gorge Summer						
Coho—Gorge						







Bull Trout Status in the Columbia Gorge Province*



Recovery Unit	Number of cores	Abundance	Trend	Threat	Risk
Hood River (1)	1	50-250	Unknown	Moderate (imminent)	High
Lower Columbia River (2) Klickitat River = Gorge Core	2 (one in Gorge)	Unknown for Gorge core	Unknown for Gorge core	Moderate (imminent) for Gorge Core	At

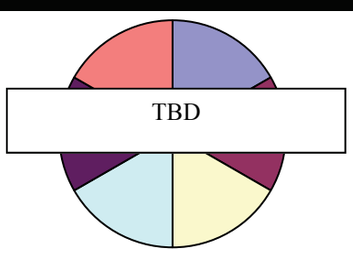
*U.S. Fish and Wildlife Service. 2008. Bull Trout 5-Year Review: Summary and Evaluation. U.S. Fish and Wildlife Service. Portland, OR.

Wildlife Habitat Losses Hydroelectric Facilities in the Columbia Gorge Province*

Dam	HU Lost*	HU Credited in 2008	HU Credited (Gained)*	% of Projects with Long-term Management Funds Agreement
Bonneville (OR)	6,159		1,335	
Bonneville (WA)	6,159		1,335	
The Dalles (OR)	1,165		289	
The Dalles (WA)	1,165		289	

*BPA. 2007. Wildlife Crediting for BPA's Fish and Wildlife Program. Bonneville Power Administration, Portland, OR.

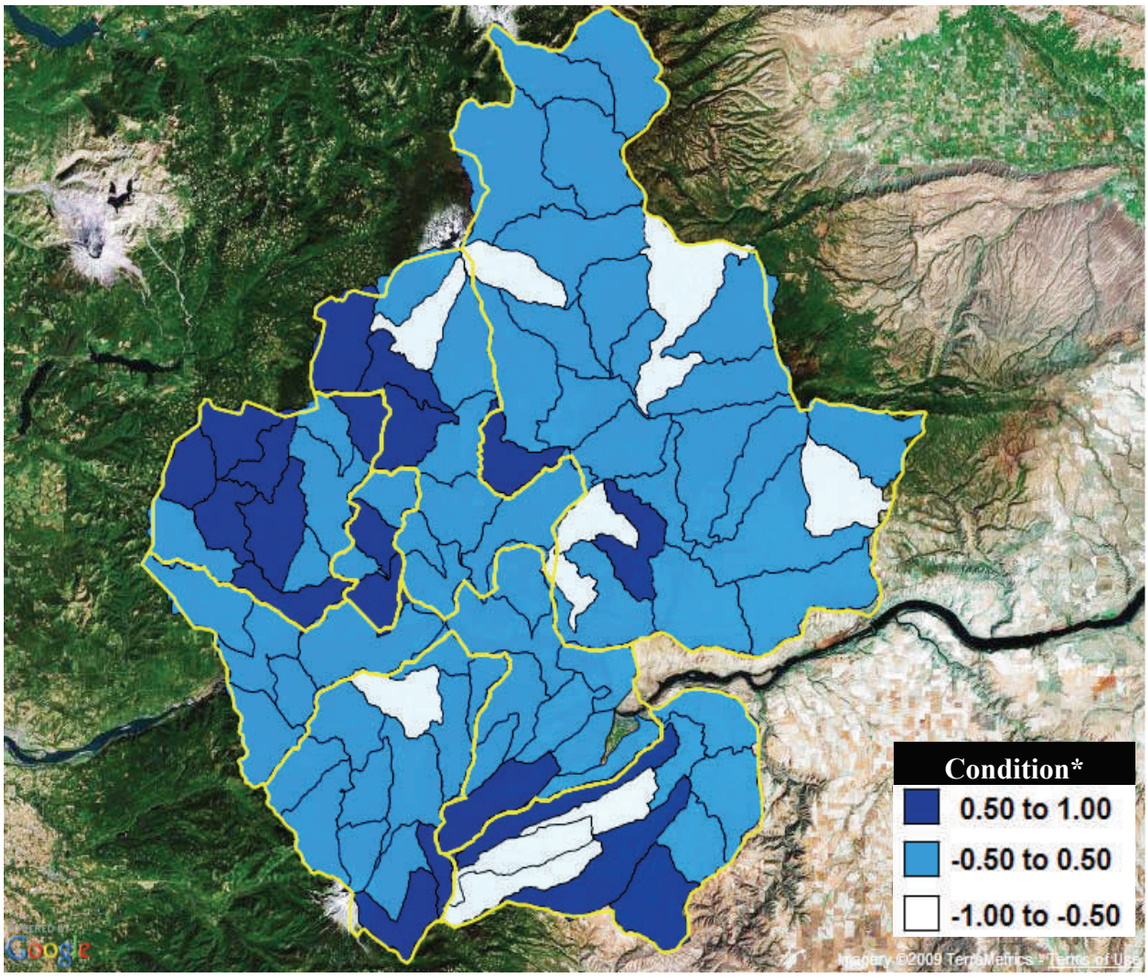
Acres Meeting Objectives



Pie chart represents six subbasins sampled in the Columbia Gorge Province during 2007-2008.

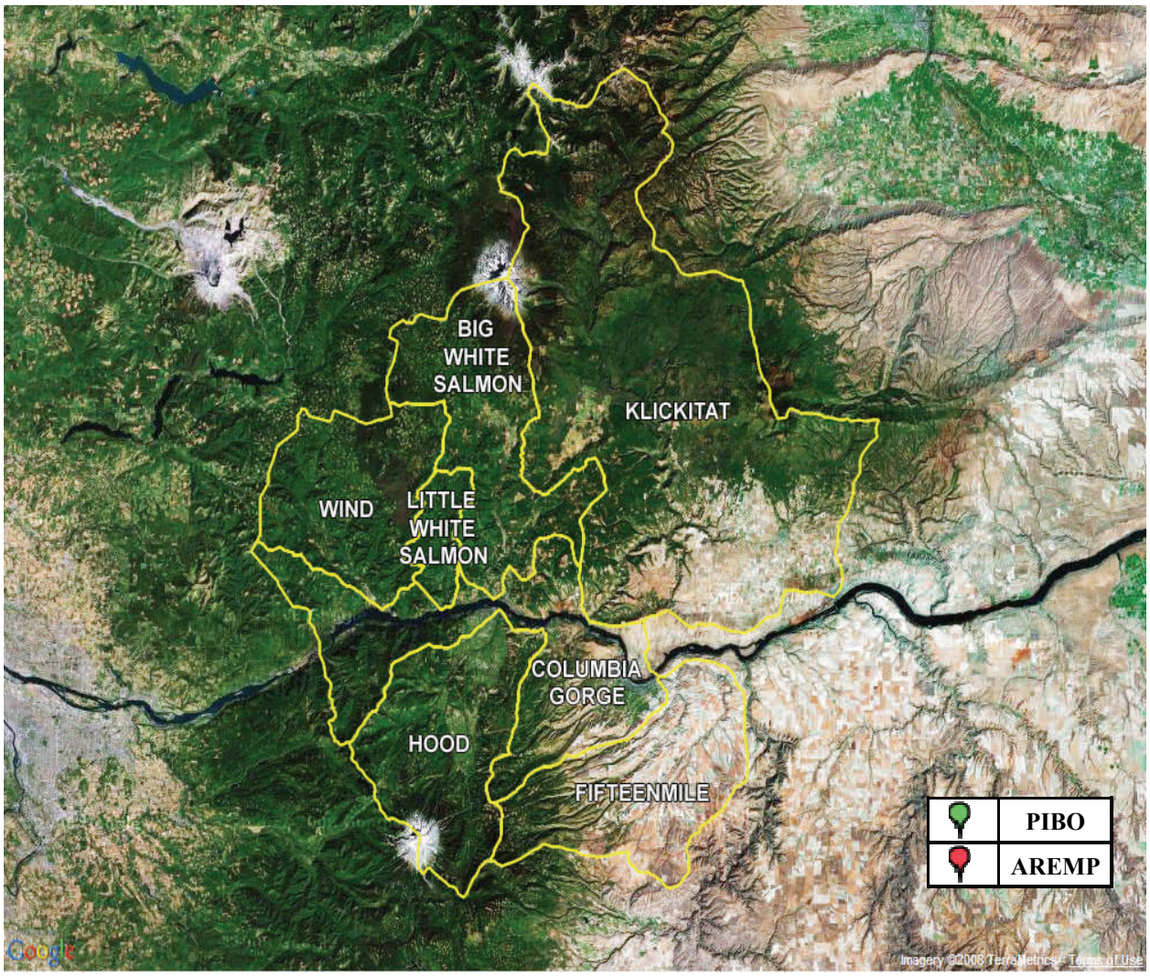
Columbia Gorge

Watershed Conditions for National Forest and Bureau of Land Management Lands in the Columbia Gorge Province



*The condition of the watershed is defined as "good" if the physical attributes are adequate to maintain or improve biological integrity, including diversity and abundance of species, particularly native or desired species. A decision support model is used to evaluate the premise that watersheds are in good condition where a score of +1 indicated full support for the premise and –1 indicates no support for the premise (Gallo et al. 2005). Watershed condition scores apply only to National Forest and Bureau of Land Management lands.

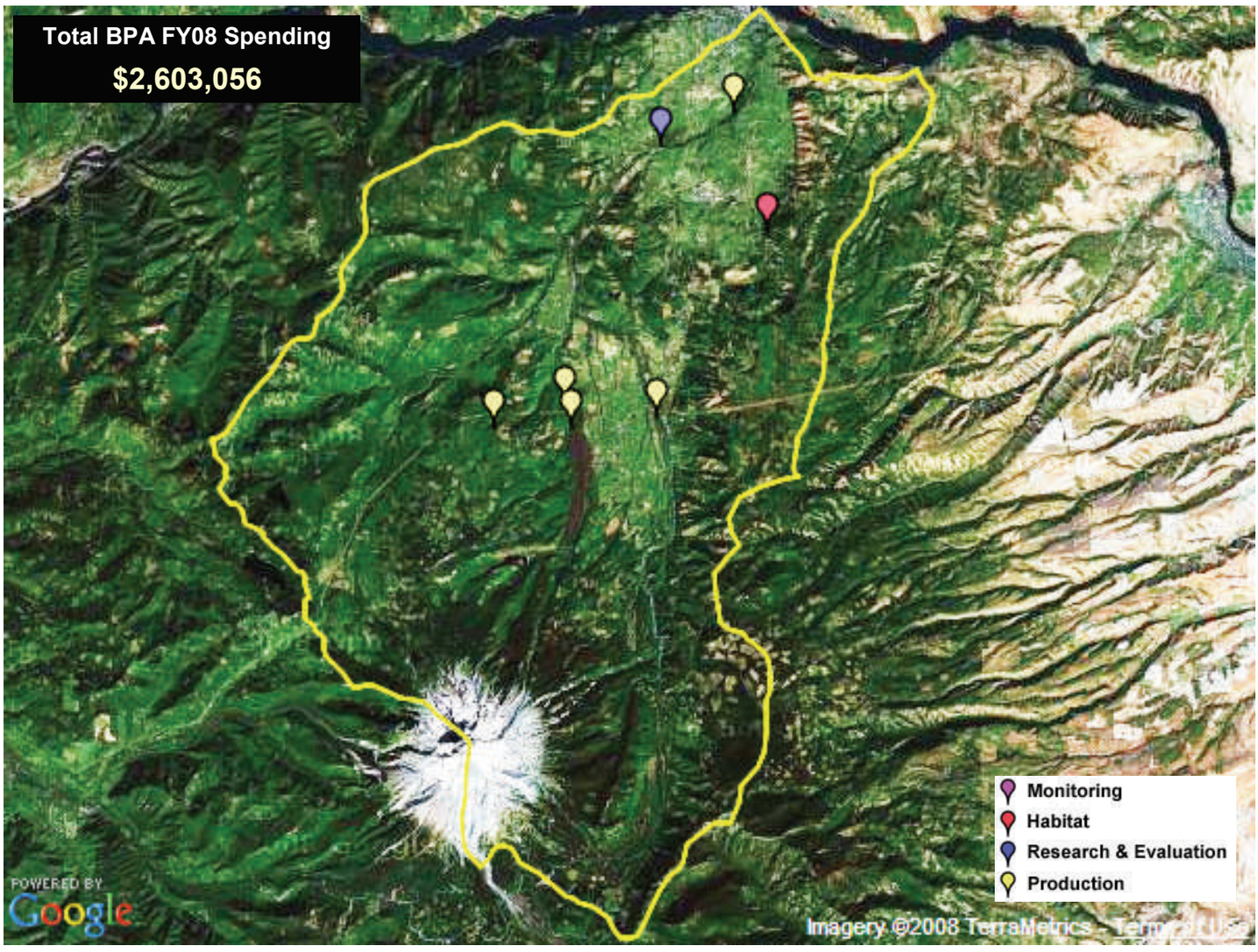
Stream Inventory Sites on National Forest and Bureau of Land Management Lands in the Columbia Gorge Province



Green Symbol—Indicates locations where stream information is collected by the USDA Forest Service and USDI Bureau and Land Management through the Aquatic and Riparian Effectiveness Monitoring Program (AREMP).

Red Symbol—Indicates locations where stream inventory information is collected by the USDA Forest Service and USDI Bureau and land management through the PacFish/InFish Biological Opinion Monitoring Program (PIBO).

Columbia Gorge



In the Hood River Subbasin, steelhead (both summer and winter runs), Chinook salmon (both spring and fall runs), Pacific lamprey, bull trout, and coastal cutthroat trout (both resident and sea-run forms) have been identified as focal species. Steelhead, Chinook salmon and bull trout are also listed as threatened under the federal Endangered Species Act. Steelhead in the subbasin are part of the Lower Columbia River Distinct Population Segment (DPS), Chinook salmon are part of the Lower Columbia River Evolutionarily Significant Unit (ESU), and bull trout are within the Hood River Recovery Unit. Recovery criteria for a steelhead DPS or a salmon ESU do not necessarily require that all populations achieve viability prior to de-listing; however, the draft recovery plan for Lower Columbia River steelhead and salmon has specified that all Hood River populations must achieve viability. Recovery criteria for bull trout vary among recovery units. Very little is known about the status of Pacific lamprey and cutthroat trout in the subbasin.

Subbasin: Hood

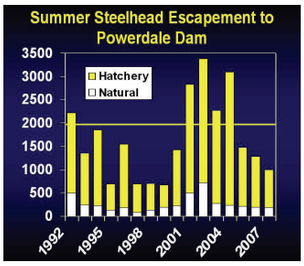
Major Habitat Factors Limiting Recovery in Columbia Gorge Province Subbasins							
Major Limiting Factors	**Summer Steelhead**	**Winter Steelhead**	**Spring Chinook**	**Fall Chinook**	**Bull Trout**	**Coastal Cutthroat Trout**	**Pacific Lamprey**
Degraded Habitat– Estuarine and Nearshore Marine				X			
Degraded Habitat-Floodplain Connectivity and Function	X	X	X	X			
Degraded Habitat-Channel Structure and Complexity	X	X	X	X			
Degraded Habitat– Riparian Areas and LWD Recruitment	X	X	X	X			
Degraded Habitat-Stream Substrate		X					
Degraded Habitat– Stream Flow	X	X					
Degraded Habitat– Water Quality							
Degraded Habitat– Fish Passage							
Mainstem Columbia River Hydro-power-related Adverse Effects							
Hatchery-related Adverse Effects				X			
Harvest-related Adverse Effects				X			
Predation/Competition/Disease		X					
Number of BPA-funded projects addressing major habitat limiting factors in 2008							

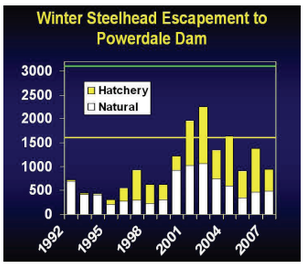
BPA FY 2008 Habitat Project Accomplishments*			
Habitat Zone	**Project-type**	**FY 2007 Performance Indicator (Actual Value)**	**Planned Value**
Instream	Increase instream habitat complexity	1.68 stream miles treated	1.68 stream miles
	Install well, install pipeline, install sprinkler, acquire water instream	0 miles of primary stream reach improved	5 miles
	Install well, install pipeline, install sprinkler, acquire water instream	0 miles of total stream reach improvement	7 miles
	Install well, install pipeline, install sprinkler, acquire water instream	0 cfs of water conserved	2.5 cfs
	Install well, install pipeline, install sprinkler, acquire water instream	0 acre-feet of water conserved	1809 acre-feet
	Increase instream habitat complexity	400 structures installed	400 structures

* PISCES, Bonneville Power Administration

Columbia Gorge

Steelhead





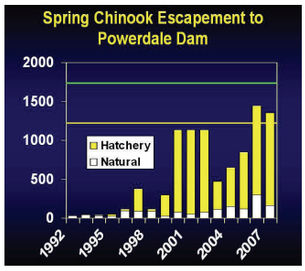
Summer

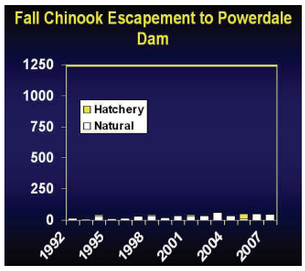
ESA Listing Status: Threatened
ESU: Lower Columbia
MPG: Gorge Summer
***Draft Broad Sense Recovery Objective*:** None[1]
Status: 176 natural and 816 hatchery adults (2007)[2]
Wild Juvenile Production:

Winter

ESA Listing Status: Threatened
ESU: Lower Columbia
MPG: Gorge Winter
Draft Broad Sense Recovery Objective: 3,129 natural adults; extinction risk = very low[1]
Status: 476 natural and 473 hatchery adults (2007)[2]
Wild Juvenile Production:

Chinook





Spring

ESA Listing Status: Threatened
ESU: Lower Columbia
MPG: Gorge Spring
Draft Broad Sense Recovery Objective: 1,784 natural adults; extinction risk < very low[1]
Status: 158 natural and 1,200

Fall

ESA Listing Status: Threatened
ESU: Lower Columbia
MPG: Gorge Fall
Draft Broad Sense Recovery Objective: None[1]
Status: 45 natural and 0 hatchery adults and jacks

Pacific Lamprey

ESA Listing Status: Species of Concern
Biological Objective: None[3]
Status: Unknown

Recovery Status of ESA-Listed Populations of Steelhead and Chinook Salmon in the Hood River Subbasin[1]

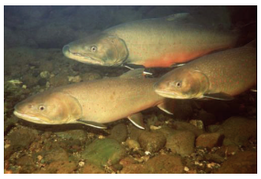
Population	Abundance Threshold	Mean Abundance (1996-2007)[2]	Major Spawning Areas Occupied	Growth Rate	Recruits/Spawner	Extinction Risk
Summer Steelhead	1,988	219		Unknown	Unknown	Very High
Winter Steelhead	1,633	488		Unknown	1.30 (1992-2004)	Moderate
Spring Chinook Salmon	1,229	93		Unknown	Unknown	Very High
Fall Chinook Salmon	1,240	29		Unknown	Unknown	Very High

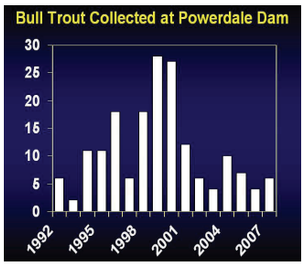
2007-2008 Hatchery Releases and Returns to Hatcheries in the Hood Subbasin

Hatchery	Species	Program Type	Release Goal/ Released (By life stage)	Return Goal to Hatchery/Actual Return	Harvest	Harvest Fraction	PNI
	Spring Chinook						
	Summer Steelhead						
	Winter Steelhead						
	Fall Chinook						
Total							

Subbasin: Hood

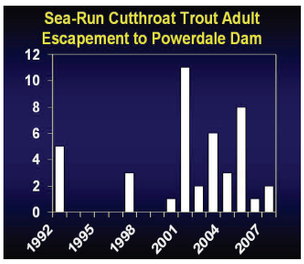
Bull Trout





ESA Listing Status: Threatened
Core Area: Hood River (Within Hood River Recovery Unit)
Local Populations: Clear Branch, Hood River
Draft Recovery Plan Objective: ≥500 adults, distributed among three or more local populations[4]
Status: 6 adults passed Powerdale Dam (2007)[2]; total abundance estimated at ≤ 300 adults[4]
Threat or Risk Categories:
Distribution = increased risk;
Abundance = risk from genetic drift;
Productivity = intermediate risk;
Connectivity = intermediate risk

Coastal Cutthroat Trout

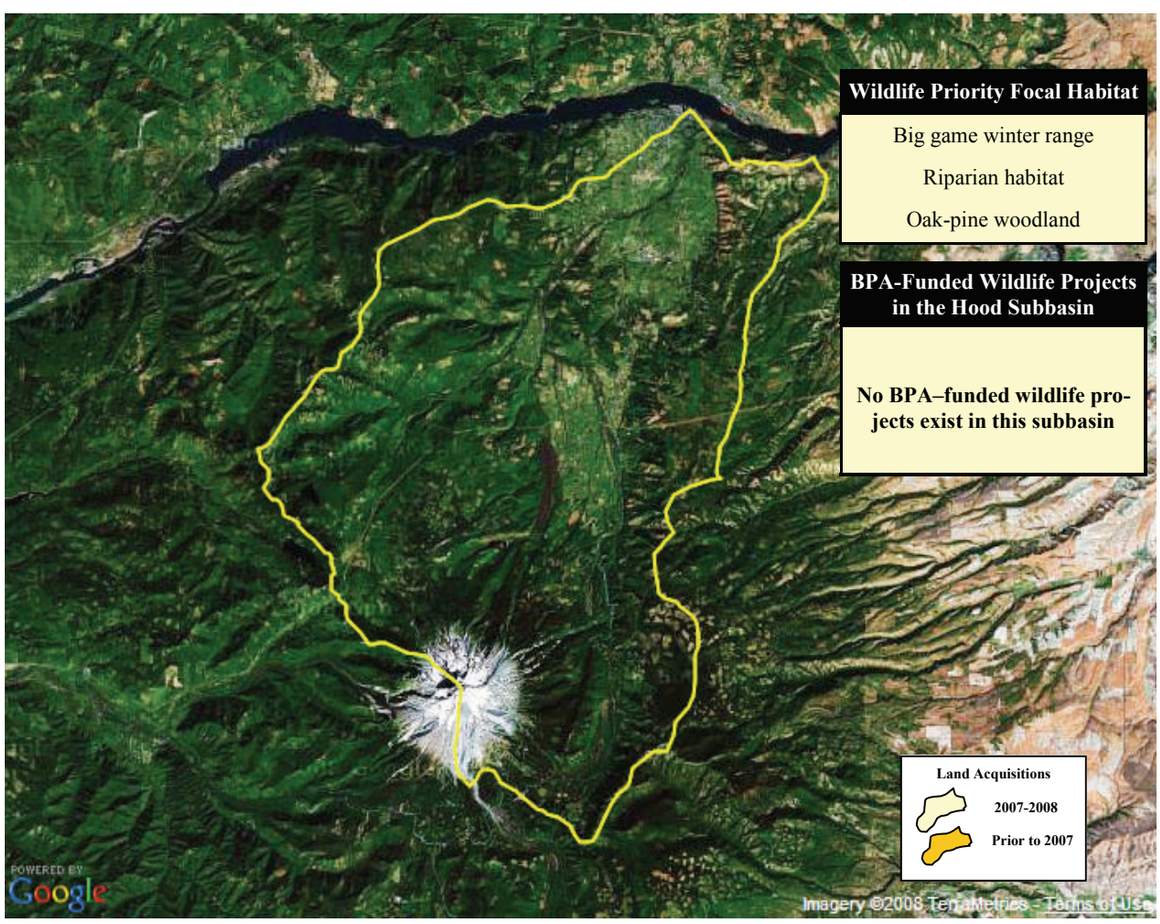


Resident

ESA Listing Status: Species of Concern
Biological Objective: None[3]
Status: Unknown

Sea-Run

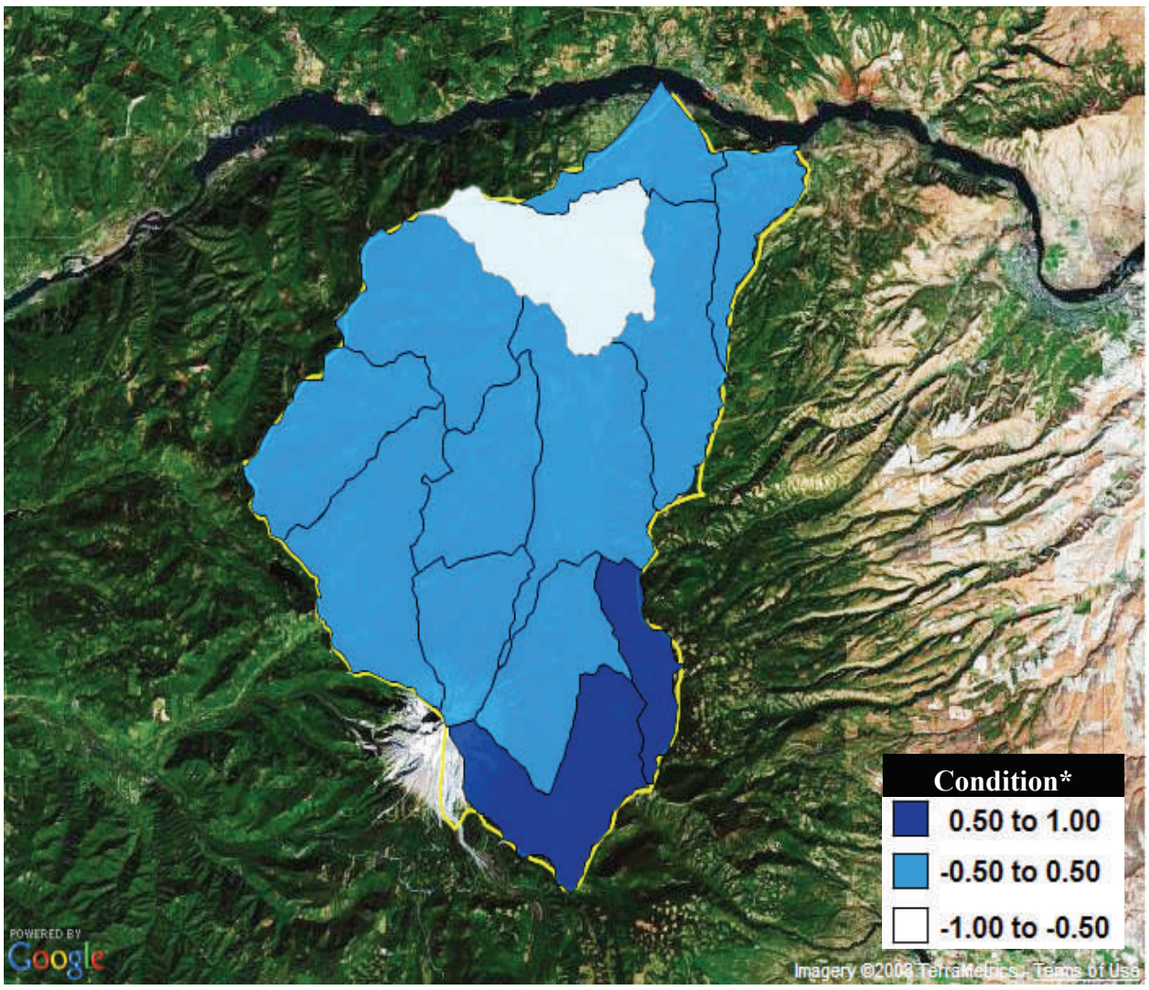
ESA Listing Status: Species of Concern
Biological Objective: None[3]
Status: 2 adults passed Powerdale Dam (2007)[2]



[1] Oregon Department of Fish and Wildlife. 2008. Oregon Lower Columbia Recovery Plan, September 2008 draft. Salem, Oregon.
[2] StreamNet, www.streamnet.org
[3] Coccoli, H. and 9 coauthors. 2004. Hood River Subbasin Plan including Lower Columbia Gorge Tributaries. A report Prepared for the Northwest Power and Conservation Council. Portland, Oregon.
[4] U.S. Fish and Wildlife Service. 2002. Chapter 6, Hood River Recovery Unit, Oregon. *In:* U.S. Fish and Wildlife Service. Bull Trout (*Salvelinus confluentus*) Draft Recovery Plan. Portland. Oregon.

Columbia Gorge

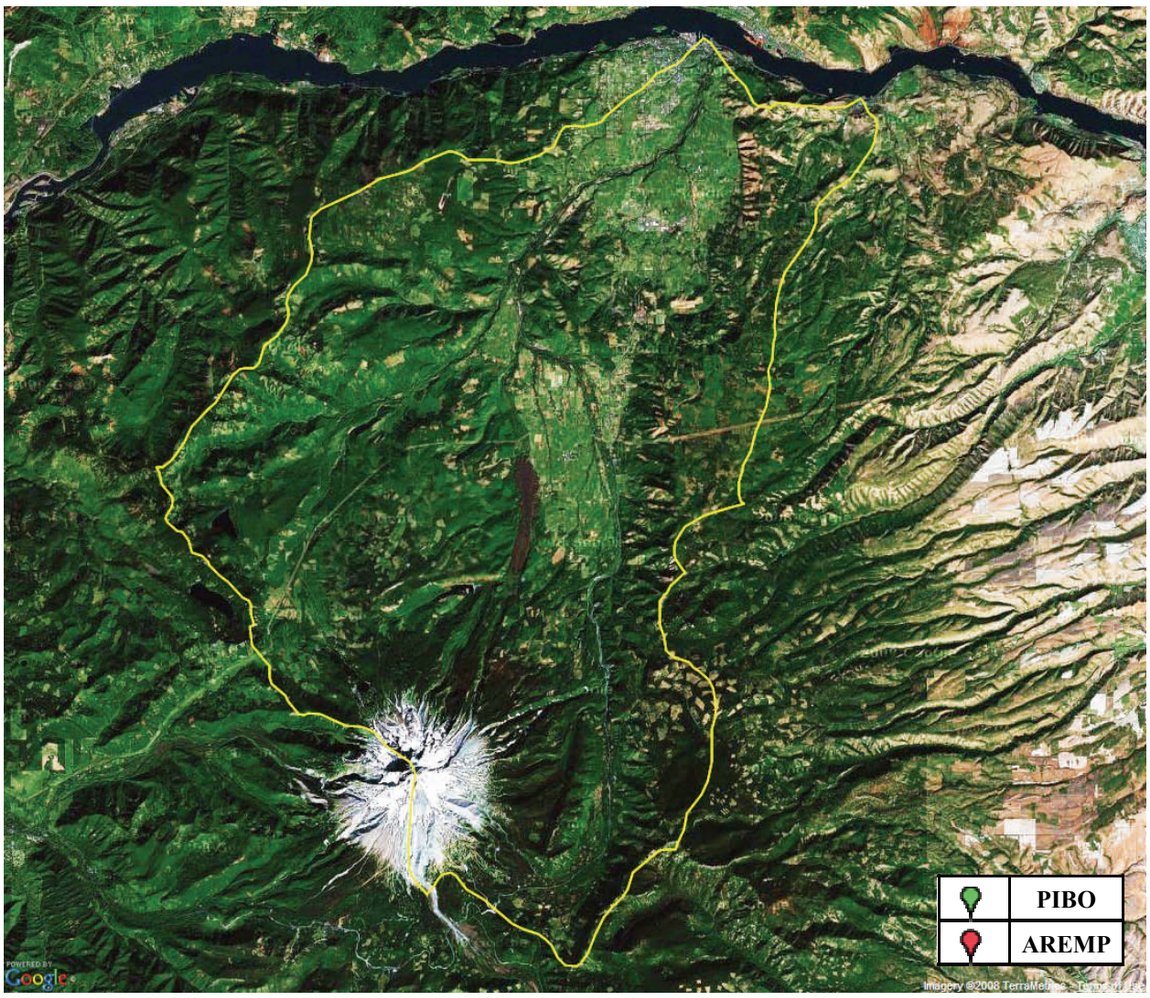
Watershed Conditions for National Forest and Bureau of Land Management Lands in the Columbia Gorge Province



The condition of the watershed is defined as "good" if the physical attributes are adequate to maintain or improve biological integrity, including diversity and abundance of species, particularly native or desired species. A decision support model is used to evaluate the premise that watersheds are in good condition where a score of +1 indicated full support for the premise and –1 indicates no support for the premise (Gallo et al. 2005). Watershed condition scores apply only to National Forest and Bureau of Land Management lands.

Subbasin: Hood

Stream Inventory Sites on National Forest and Bureau of Land Management Lands in the Columbia Gorge Province



Stream Data

Year	Location	PoolDp	PoolPCT	PlFn6	LWFreq	LWD>3m	BNKAngle	AMT_15p5	Rich