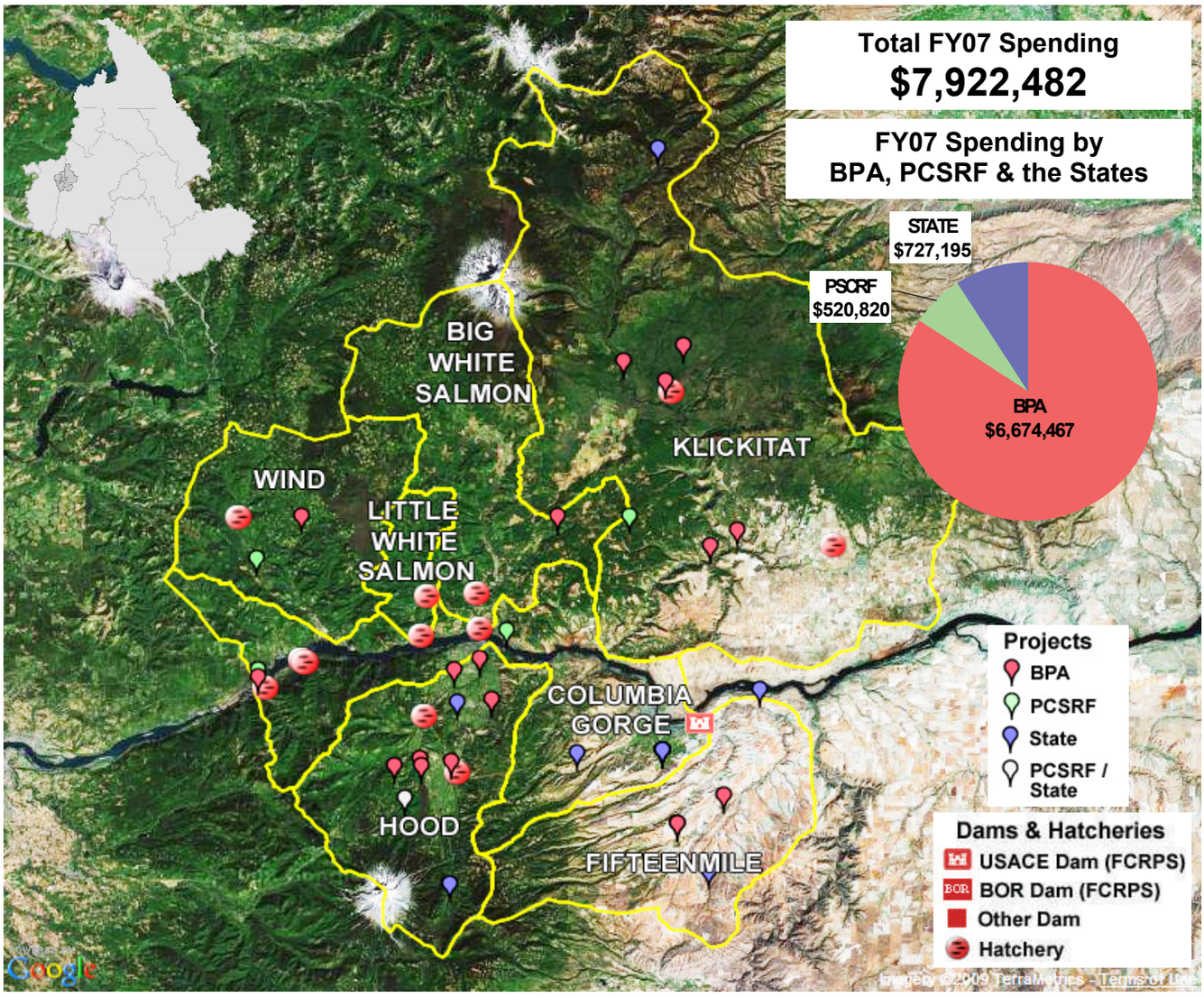
Columbia Gorge



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, 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.

BPA FY 2008 Habitat Project Accomplishments in the Columbia Gorge Province[8]			
Habitat Zone	**Project-type**	**Planned Value**	**FY 2008 Performance Indicator (Actual Value)**
Instream	Increase instream habitat complexity	54 structures	54 structures installed
	Install well, install pipeline, install sprinkler, acquire water instream	2.3 cfs water	2.3 cfs of water saved
	Install well, install pipeline, install sprinkler, acquire water instream	3.8 cfs water	3.8 cfs of water protected
	Install well, install pipeline, install sprinkler, acquire water instream	1,810 acre-feet	1,810 acre-feet water conserved
	Install well, install pipeline, install sprinkler, acquire water instream	906.1 acre-feet	906.1 acre-feet water protected
	Install well, install pipeline, install sprinkler, acquire water instream	63.3 miles	63.3 miles of primary stream reach improved
	Install well, install pipeline, install sprinkler, acquire water instream	67.6 miles	67.6 miles of total stream reach improvement
	Install fish passage structure	2.2 miles accessed	2.2 miles acessed
Riparian	Plant vegetation	0.75miles	0.5 miles planted
	Purchase land, lease land	1 mile	1.35 miles protected
Riparian-Upland	Land purchase, land lease	20 acres	14 acres protected
	Plant/remove vegetation	67.6 acres	65.3 acres treated
	Install fence	1.55 miles	2.15 miles of fence installed

Habitat Improvement Project — Fifteenmile Creek Habitat Restoration Project [1]

Before

Fifteenmile Creek supports the easternmost run of wild winter steelhead in the Columbia River Basin, a population that was federally-listed as threatened under the Endangered Species Act in 1999. The population, which is part of the Mid-Columbia Ecologically Significant Unit, has never been supplemented with hatchery-produced winter steelhead.

Working collaboratively, the Oregon Department of Fish and Wildlife, Confederated tribes of the warm Springs Reservation of Oregon, and the U.S. Forest Service (Mt Hood National Forest) identified the following six factors as affecting the quantity/quality of summer rearing habitat for winter steelhead in the Fifteenmile Creek Basin: 1) passage barriers, 2) lethal summer temperatures, 3) low summer flows, 4) lack of habitat diversity, 5) lack of channel stability, and 6) sediment loading. To address these limiting factors, biologists recommended that 80-90 mile of stream should be treated using: 1) structural improvements for adult and juvenile passage, 2) riparian fencing, 3) structural channel stabilization, and 4) structural rearing habitat improvements.

After

From 1986 — present, implementation of the Fifteenmile Creek Habitat Restoration Project has led to completion of 5 fishways, 203 leased and co-op miles of riparian corridor fence resulting in the protection of over 109 miles of stream, 30 off-site water developments, installation of 924 structures producing 20.6 miles with structure, and the addition of 90 irrigation screens.

Columbia Gorge

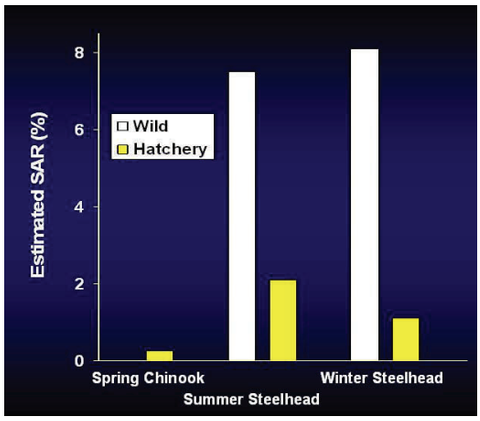
Focal Species in the Columbia Gorge Province[a]

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							

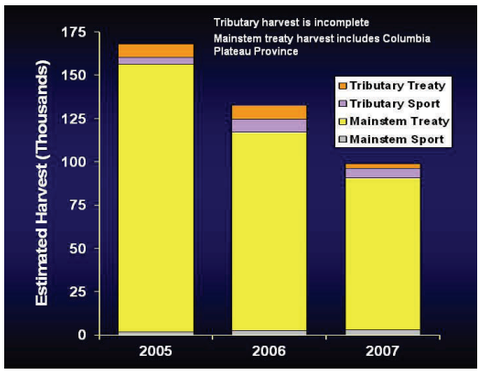
Not a focal species | Not listed | Species of Concern[b] | Threatened[c]

[a]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.
[b] USFWS Status
[c] ESA Status

Average Smolt-to-Adult Return (SAR) for Salmon and Steelhead Originating from the Hood River (1993-2002)[1]



Columbia Gorge Province Salmon and Steelhead Harvest[2,3]



2007 Hatchery Releases and Returns to Hatcheries in the Columbia Gorge Province[42-48]

Species	Release Goal/ Released	Return Goal/Return to Collection Facility
Spring Chinook	3,975,000/	/
Fall Chinook (Upriver River Bright)	8,500,000/	/
Fall Chinook (Tule)	15,100,000/	/
Summer Steelhead	30,000/	/
Winter Steelhead	50,000/	/
TOTAL	27,655,000/	/

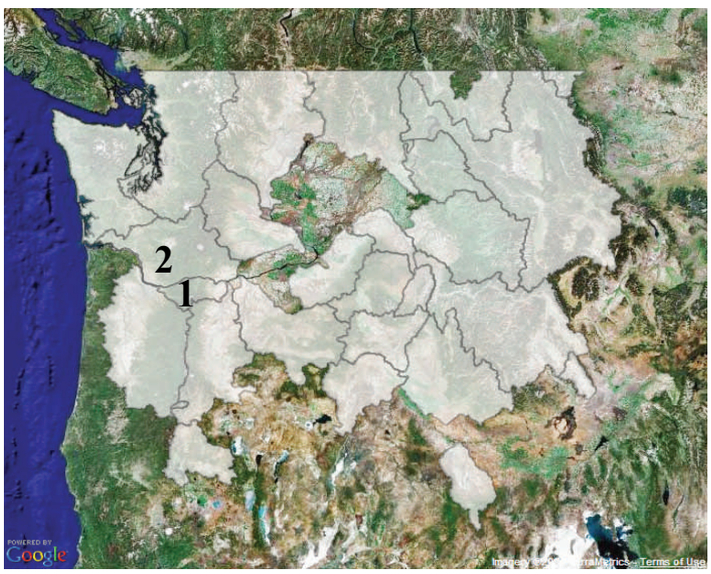
The release goals include values for national fish hatcheries that ensure the U.S. Fish and Wildlife Service meets mandated treaty and trust responsibilities. These release goals reflect values identified in the Columbia River Fish Management Plan developed as a result of the *U.S. v Oregon* agreement.

Species/ Race	Mainstem Harvest 2007		Tributary Harvest 2007	
	Sport	Treaty	Sport	Treaty
Spring Chinook	92	6,144	3,670	2,745
Summer Chinook	0	5,375	0	0
Fall Chinook	659	45,356	390	50
Coho	1,141	8,035	104	Unknown
Winter Steelhead	6	558	499	0
Summer Steelhead	871	1,362	935	Unknown

Status and Recovery Standards for ESA-Listed Salmon and Steelhead in the Columbia Gorge Province[4,5,6]

ESU or DPS	Major Population Group (MPG)	Populations and Viability			Number of Natural Spawners	
		No. of Populations	No. Meeting Viability Standards	Minimum No. Needed to Meet Standards	Minimum if MPG Viability Standards Met	Minimum if all Populations Meet Standards
Lower Columbia Chinook	Spring Run Gorge	2	0	1	1,729	Unknown
	Fall Run Gorge	4	0	1	2,387	>4,172
Lower Columbia Coho	Gorge	3	0	Unknown	Unknown	9,505
Columbia River Chum	Gorge	2	1	1	>2,000	Unknown
Lower Columbia Steelhead	Gorge Winter	3	0	2	3,059	3,644
	Gorge Summer	2	1	2	2,988	2,988
Mid Columbia Steelhead	Cascade Eastern Slope	6	2	4	4,000-4,500	5,000

Bull Trout Status in the Columbia Gorge Province[7]



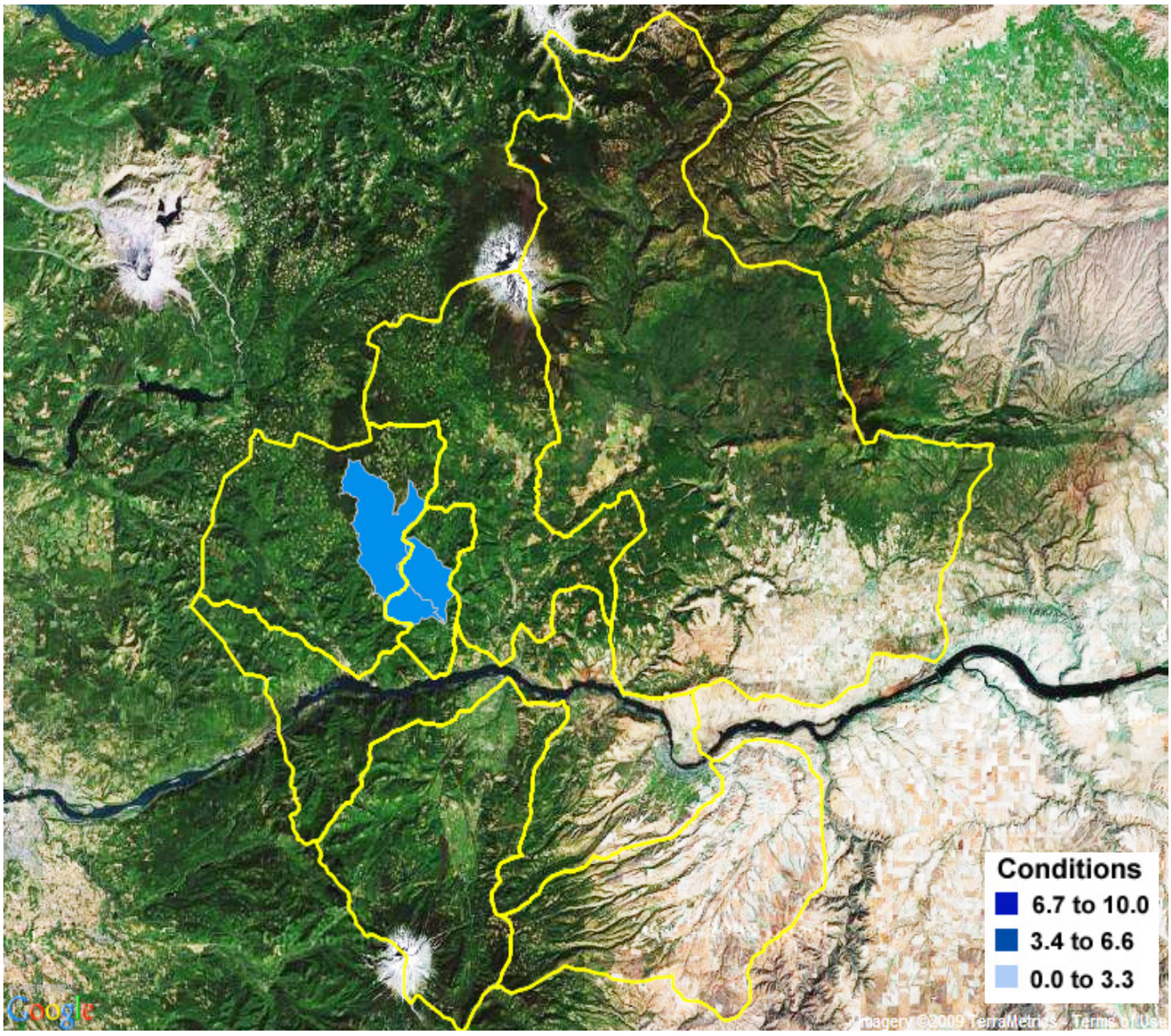
Recovery Unit	Number of cores	Abundance	Trend	Threat	Risk
Hood River (1)	1	50-250	Unknown	Moderate (imminent)	High
Lower Columbia River (2) Klickitat River = Gorge Core	2 (one in Gorge)	Unknown for Gorge core	Unknown for Gorge core	Moderate (imminent) for Gorge Core	At

Wildlife Habitat Losses by Hydroelectric Facility in the Columbia Gorge Province[8]

Dam	HU Lost	HU Credited in 2008	HU Credited (Gained)
Bonneville (OR)	6,159		1,335
Bonneville (WA)	6,159		1,335
The Dalles (OR)	1,165		289
The Dalles (WA)	1,165		289

Columbia Gorge

Watershed Conditions for National Forest and Bureau of Land Management Lands in the Columbia Gorge Province[9]



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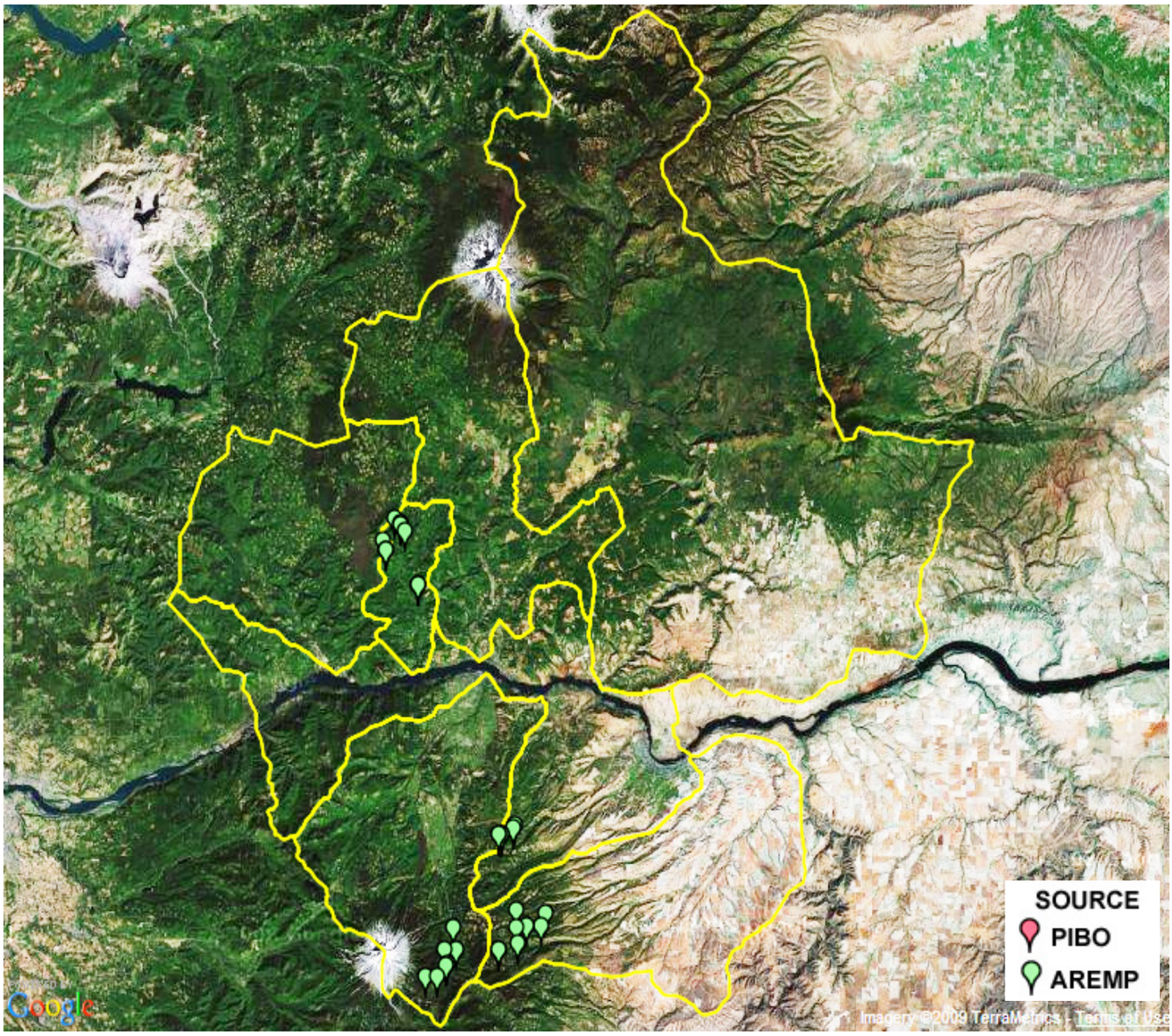
Stream Inventory Sites on National Forest and Bureau of Land Management Lands in the Columbia Gorge Province[10,11]



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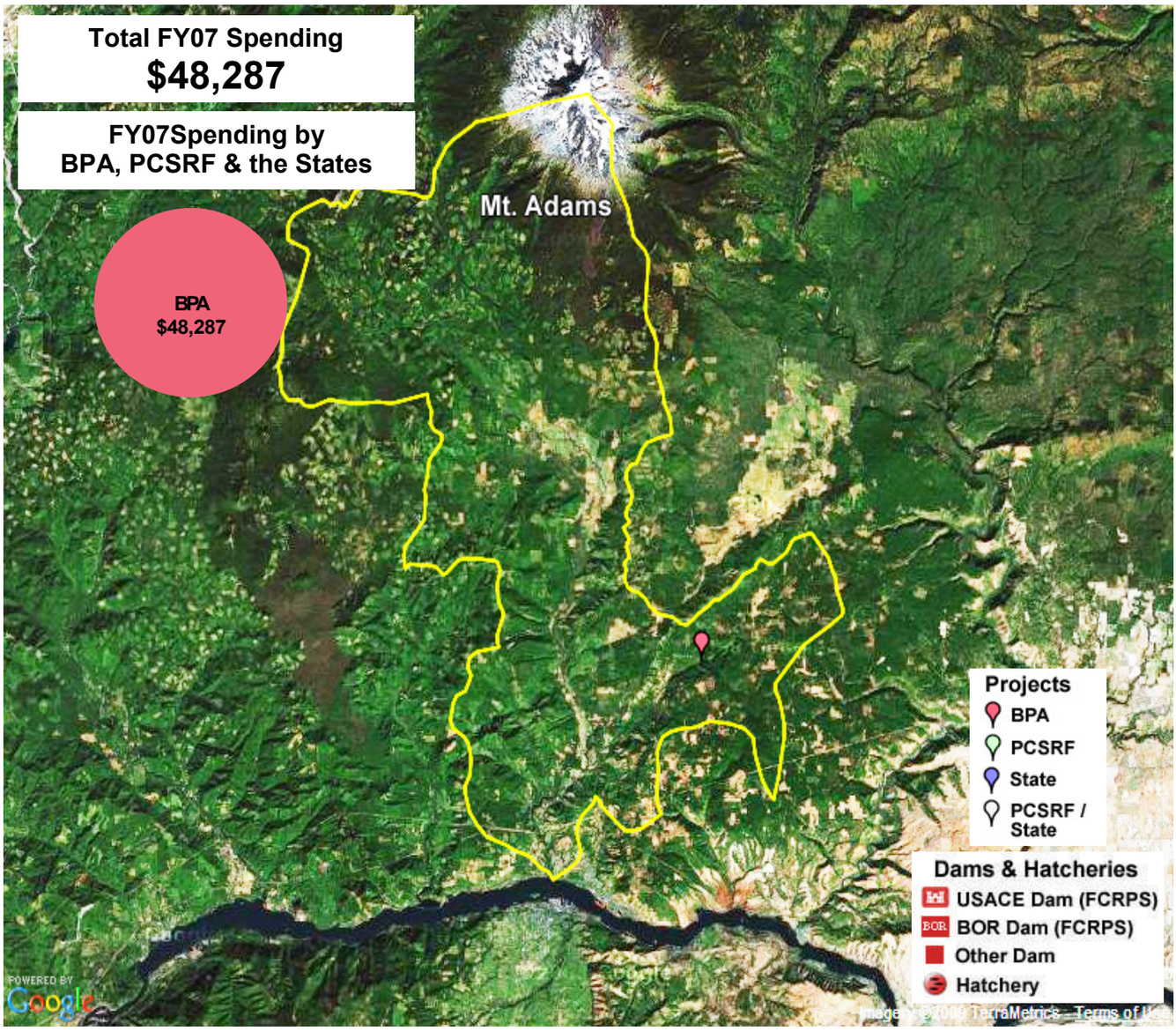
Columbia Gorge



In the Big White Salmon River Subbasin, Chinook salmon (both spring and fall runs), steelhead, coho salmon, and rainbow trout have been identified as focal species. Chinook salmon, steelhead, and coho salmon are also listed as threatened under the federal Endangered Species Act. Chinook and coho salmon in the subbasin are each part of the lower Columbia River Evolutionarily Significant Unit (ESU) for their species. Steelhead are part of the Mid-Columbia River Distinct Population Segment (DPS). Recovery criteria for a salmon ESU or a steelhead DPS do not necessarily require that all populations achieve viability prior to de-listing. At this time, recovery plan criteria do not require any Big White Salmon population to achieve viability. A higher standard of broad-sense recovery requires that each existing population becomes highly viable, and that extirpated populations such as Big White Salmon spring Chinook and steelhead become re-established. Little is known about the status of rainbow trout in the subbasin.

Subbasin: Big White Salmon

Key Factors Limiting Big White Salmon River Subbasin Focal Species[4, 12]						
Factors for Decline/Limiting Factors/ Threats		**Species/Race, and Life-Stage Most Affected**				
		Spring Chinook	**Fall Chinook**	**Coho**	**Steelhead**	**Rainbow Trout**
Habitat	Estuary and Nearshore Marine Habitat Degradation	Smolts	Smolts	Smolts	Smolts	
	Floodplain Connectivity and Function	All		All	All	
	Channel Structure and Complexity	Juveniles	Fry	Juveniles	Juveniles	Juveniles, adults
	Riparian Areas and LWD Recruitment	Juveniles		Juveniles	Juveniles	Juveniles, adults
	Stream Flow	All	Juveniles	All	All	Juveniles, adults
	Water Quality	All	Juveniles	All	All	All
	Fish Passage	Juveniles, adults		Juveniles, adults	Juveniles, adults	Juveniles, adults
Hydro	Mainstem Columbia River Hydropower-related Adverse Effects	Smolts	Smolts	Smolts	Smolts	
Harvest	Mortality from Targeted Fishery	Adults	Adults	Adults		

BPA FY 2008 Habitat Project Accomplishments in the Big White Salmon Subbasin[8]
There are no BPA-funded habitat improvement efforts in this subbasin.

Columbia Gorge

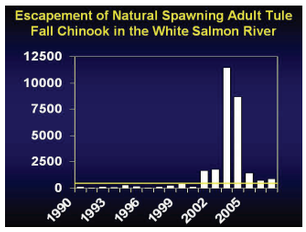
Steelhead

ESA Listing Status: Threatened
ESU: Mid Columbia
MPG: Cascades Eastern Slope Tributaries
Population: White Salmon
Recovery Plan Criteria: Re-establish population[4]
Status: Functionally extirpated[4]

Coho

ESA Listing Status: Threatened
ESU: Lower Columbia
MPG: Gorge
Population: Upper Gorge (WA)
Draft Recovery Plan Criteria: 1,900 natural adults (entire population)[6]
Status: Unknown

Chinook



Spring

ESA Listing Status: Threatened
ESU: Lower Columbia
MPG: Gorge Spring
Population: White Salmon
Draft Recovery Plan Criteria: 500 natural adults[6]
Status: Functionally extirpated[5]

Fall—Tule

ESA Listing Status: Threatened
ESU: Lower Columbia
MPG: Gorge Fall
Population: White Salmon
Draft Recovery Plan Criteria: 500 natural adults[6]
Status: 898 natural adults (2007)

Rainbow Trout

ESA Listing Status: Species of Concern
Biological Objective: None[12]
Status: Unknown

Recovery Status of ESA-Listed Steelhead and Salmon in the Big White Salmon River Subbasin[4,6]

Population	Abundance Threshold	Current Reference Abundance	Major Spawning Areas Occupied	Growth Rate	Recruits/Spawner	Current Viability
Steelhead						
White Salmon	500	Unknown	—	Unknown	Unknown	Functionally extirpated
Chinook Salmon						
White Salmon Spring	Unknown	Unknown	—	Unknown	Unknown	Functionally extirpated
White Salmon Fall	Unknown	<50	Unknown	Unknown	Unknown	Very Low
Coho Salmon						
Upper Gorge	1,120	Unknown	Unknown	Unknown	Unknown	Very Low

2007 Hatchery Releases and Returns to Hatcheries in the Big White Salmon Subbasin

There are no hatcheries in this subbasin.

BPA-Funded Wildlife Projects in the Big white Salmon Subbasin

There are no wildlife projects in this subbasin.

Subbasin: Big White Salmon

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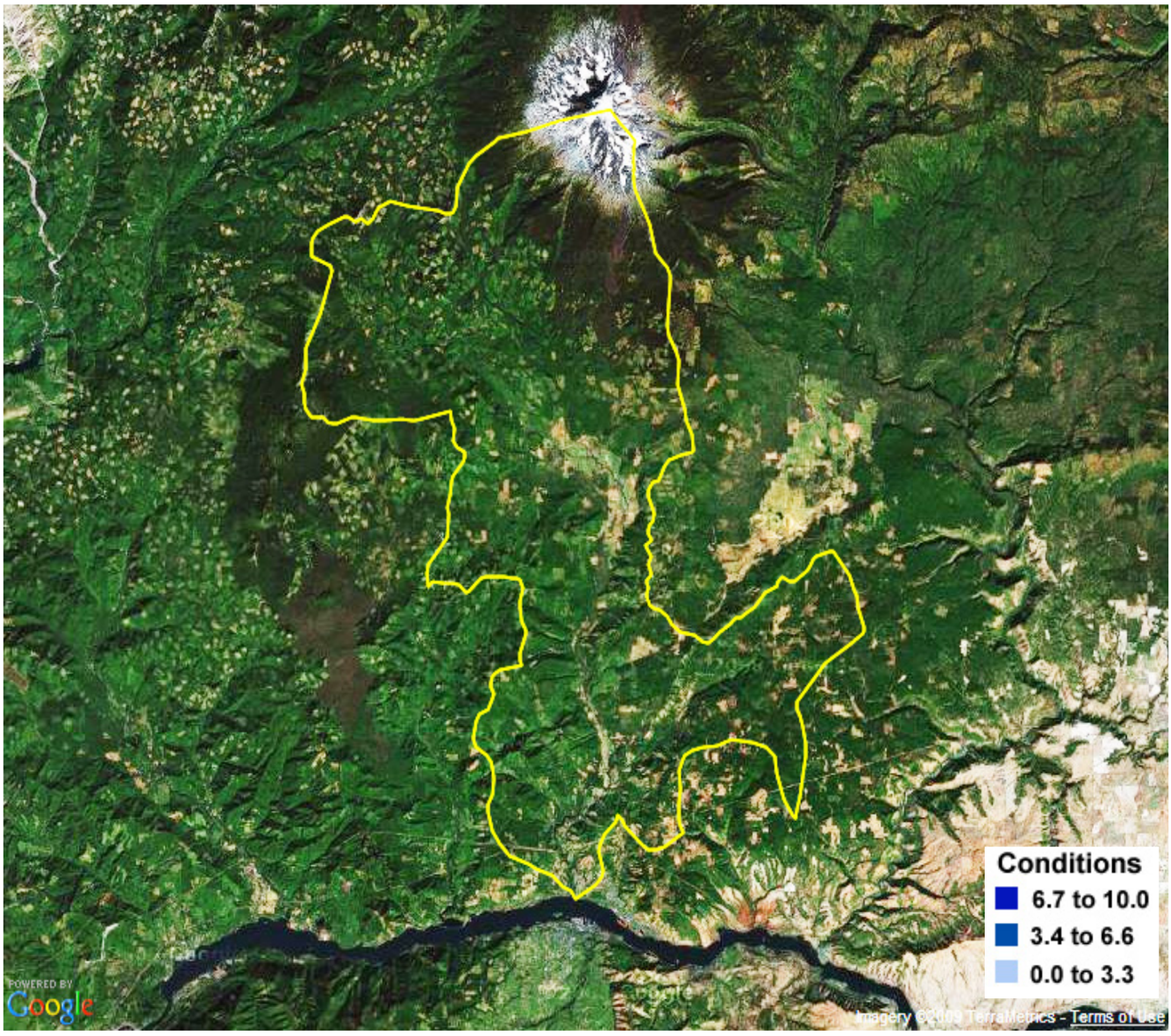
Columbia Gorge

Watershed Conditions for National Forest and Bureau of Land Management Lands in the Big White Salmon Subbasin



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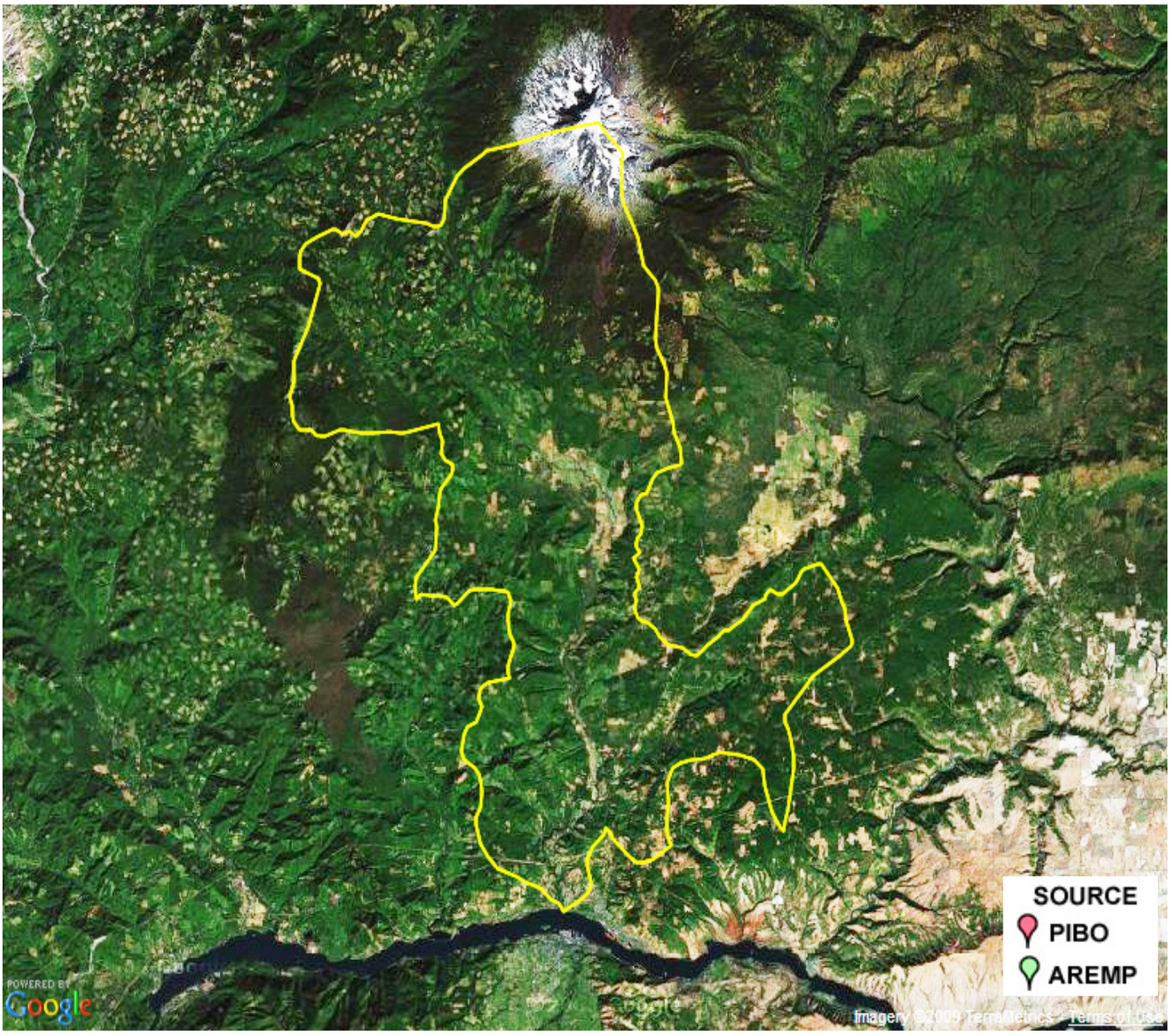
Subbasin: Big White Salmon

Stream Inventory Sites on National Forest and Bureau of Land Management Lands in the Big White Salmon Subbasin



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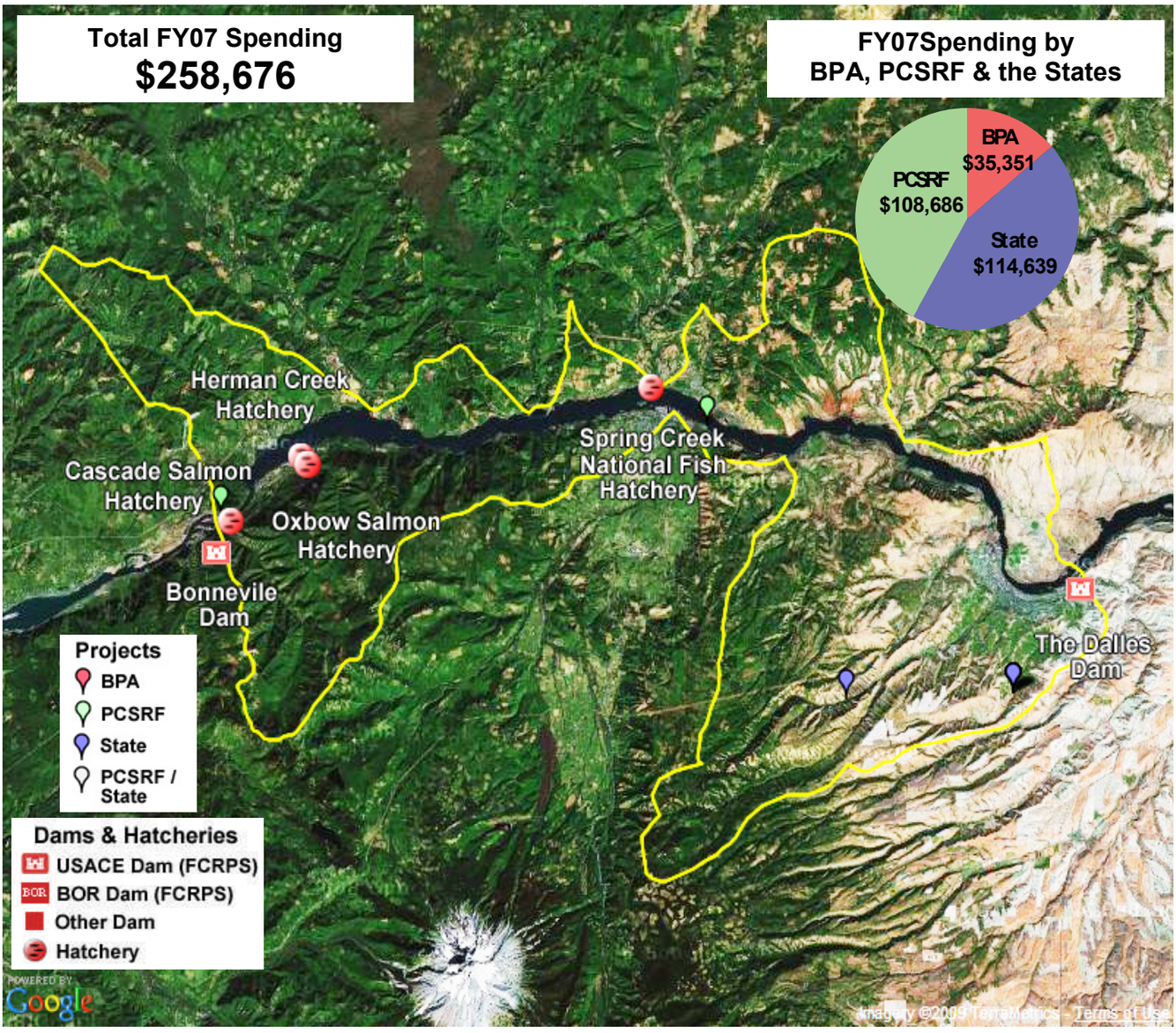
Columbia Gorge



In the Columbia Gorge Subbasin, chum salmon, Pacific lamprey, and white sturgeon have been identified as focal species. Chum salmon are also listed as threatened under the federal Endangered Species Act as part of the Columbia River Evolutionarily Significant Unit (ESU). Recovery criteria for a salmon ESU do not necessarily require that all populations achieve viability prior to de-listing. At this time, recovery plan criteria do not require Columbia Gorge chum salmon (part of the Upper Gorge population) to achieve viability. White sturgeon objectives have been developed jointly by the co-managers, but no specific objectives have been developed for Pacific lamprey.

Subbasin: Columbia Gorge

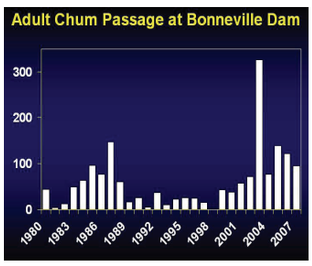
Key Factors Limiting Columbia Gorge Subbasin Focal Species
Factors limiting Columbia Gorge Subbasin focal species are described in the Mainstem section.

BPA FY 2008 Habitat Project Accomplishments in the Columbia Gorge Subbasin[8]
There are no BPA-funded habitat improvement efforts in this subbasin.

Columbia Gorge

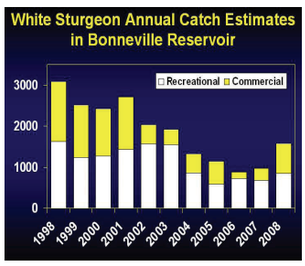
Chum

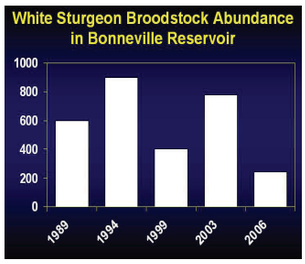
ESA Listing Status: Threatened
ESU: Mid Columbia
MPG: Gorge
Population: Upper Gorge
Draft Recovery Plan Criteria: No numeric objective[5]
Status: 95 adults passed Bonneville Dam (2007)[15]



White Sturgeon

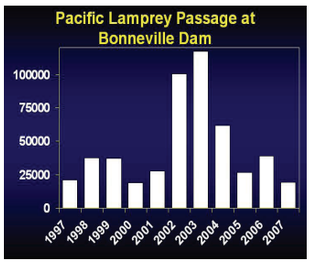
ESA Listing Status: None
Biological Objective: Harvest of 5kg/ha, target exploitation rates equal 21% of fish 42-60" in sport fisheries and 25% of fish 45-60" in commercial fisheries, increase broodstock by 10% every three years[16]
Status: Harvest = 1,585 fish (2008)[17];
Broodstock abundance = 243 fish (2006)[18]





Pacific Lamprey

ESA Listing Status: Species of Concern
Biological Objective: None
Status: 19,313 adults passed Bonneville Dam (2007)[15]



Recovery Status of ESA-Listed Chum Salmon in the Columbia Gorge Subbasin[6]						
Population	**Abundance Threshold**	**Current Reference Abundance**	**Major Spawning Areas Occupied**	**Growth Rate**	**Recruits/Spawner**	**Current Viability**
Upper Gorge (primarily Wind River)	Unknown	<50	Unknown	Unknown	Unknown	Very Low

2007 Hatchery Releases and Returns to Hatcheries in the Columbia Gorge SubbasinPastor/ Streamnet)			
Hatchery	**Species**	**Release Goal/Released**	**Return Goal/Actual Return**
Spring Creek Hatchery			
	Fall Chinook (Tule)		10,000/14,202
Total			

BPA-Funded Wildlife Projects in the Columbia River Gorge				
Project	**Sponsor**	**Acres**	**HU**	**Habitat Type**
Western Pond Turtle Recovery	WDFW	<50	84	Unknown

Subbasin: Columbia Gorge

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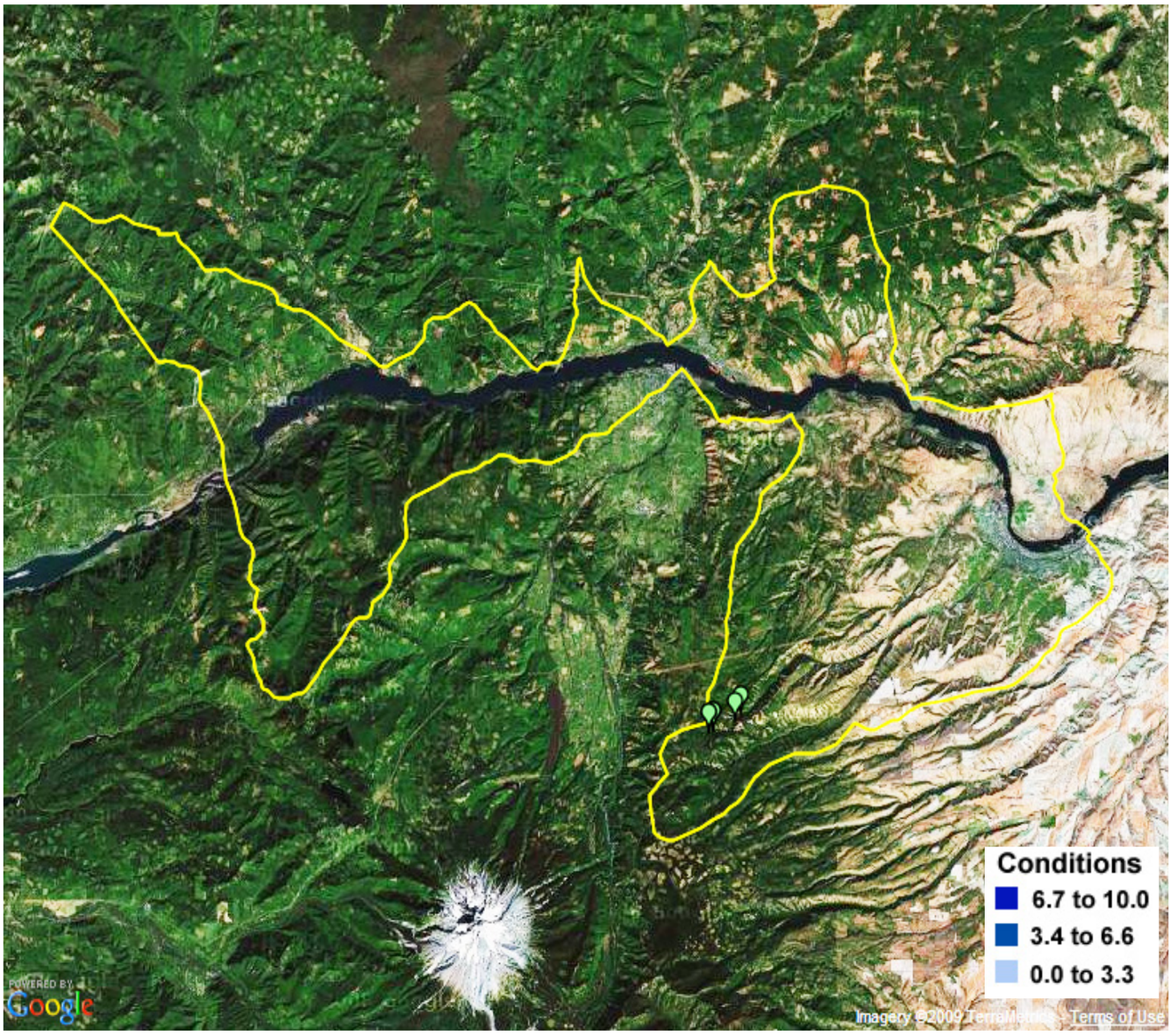
Columbia Gorge

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



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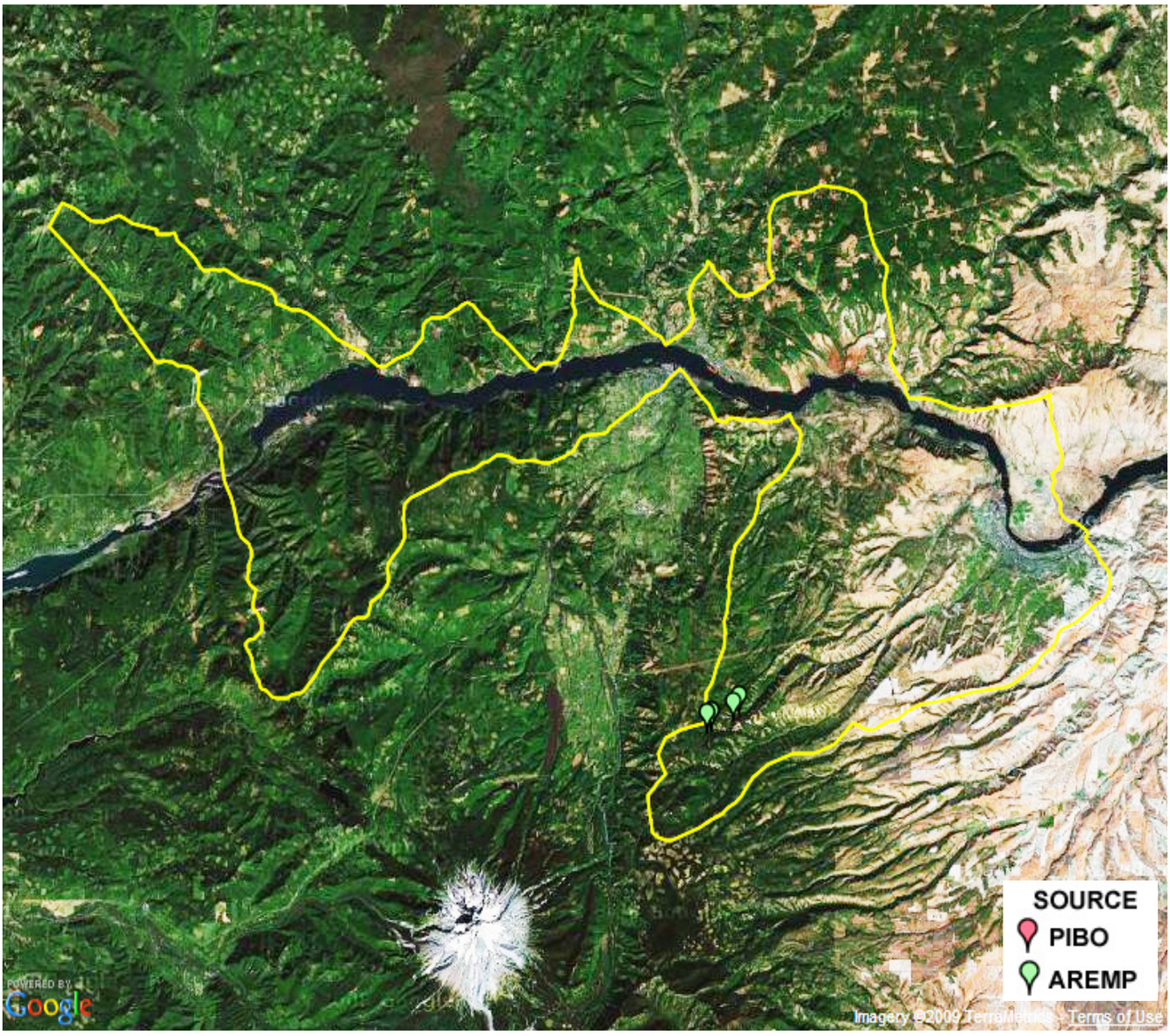
Subbasin: Columbia Gorge

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



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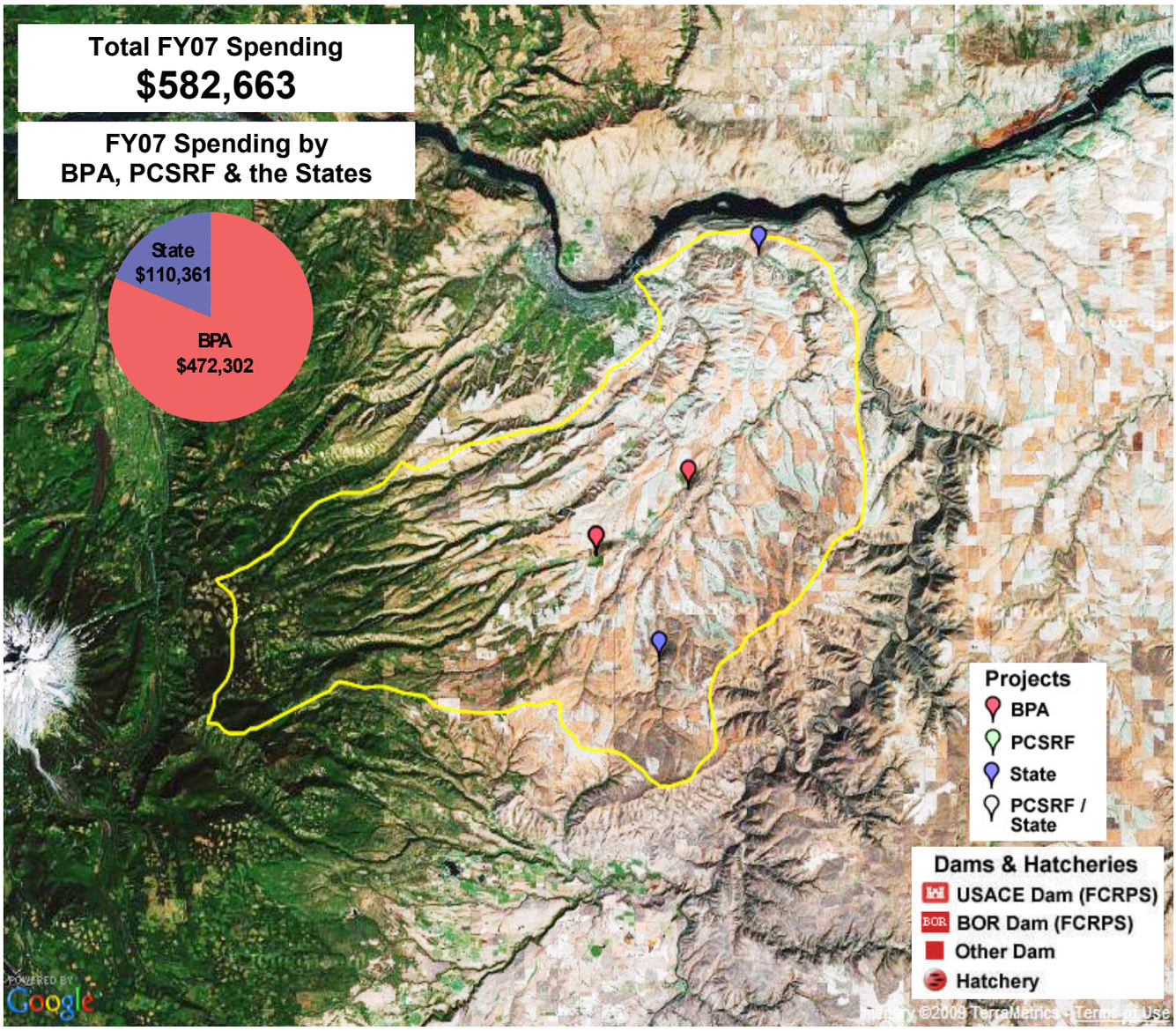
Columbia Gorge



In the Fifteenmile Creek Subbasin, winter steelhead, Pacific lamprey, coastal cutthroat trout, and rainbow trout have been identified as focal species. Steelhead are also listed as threatened under the federal Endangered Species Act (ESA). Steelhead in the subbasin are part of the Mid-Columbia River Distinct Population Segment (DPS). Recovery criteria for a steelhead DPS do not necessarily require that all populations achieve viability prior to de-listing; however, recovery plan criteria for Mid-Columbia River steelhead specify that the Fifteenmile Creek population must remain viable. A higher standard of broad-sense recovery requires that the population becomes highly viable. Little is known about the status of Pacific lamprey, cutthroat trout or rainbow trout in the subbasin.

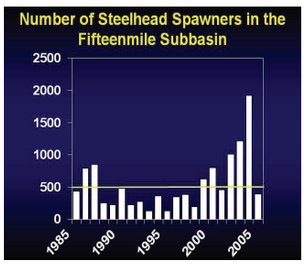
Subbasin: Fifteenmile

Key Factors Limiting Fifteenmile Subbasin Focal Species[4]					
Factors for Decline/Limiting Factors/ Threats		**Species/Race, and Life-Stage Most Affected**			
		Winter Steelhead	**Pacific Lamprey**	**Rainbow Trout**	**Cutthroat Trout**
Habitat	Channel Structure and Complexity	Fry, summer parr, winter parr		Juveniles, adults	Juveniles, adults
	Riparian Areas and LWD Recruitment	Fry, summer parr, winter parr		Juveniles, adults	Juveniles, adults
	Stream Flow	Fry, summer parr, winter parr	Juveniles, adults	Juveniles, adults	Juveniles, adults
	Water Quality	Fry, summer parr, winter parr	All	All	All
	Fish Passage		Juveniles, adults	Juveniles, adults	Juveniles, adults
Hydro	Mainstem Columbia River Hydropower-related Adverse Effects	Smolts			

BPA FY 2008 Habitat Project Accomplishments in the Fifteenmile Subbasin[8]			
Habitat Zone	**Project-type**	**Planned Value**	**FY 2008 Accomplishment (Actual Value)**
Instream	Install well, install pipeline, install sprinkler, acquire water instream	58.3 miles	58.3 miles of primary stream reach improved
	Install well, install pipeline, install sprinkler, acquire water instream	60.6 miles	60.6 miles of total stream reach improvement
	Install well, install pipeline, install sprinkler, acquire water instream	3.8 cfs	3.8 cfs of water conserved
	Install well, install pipeline, install sprinkler, acquire water instream	906.1 acre-feet	906.1 acre-feet of water conserved
Riparian; Upland	Lease land	20.0 acres	14.0 acres protected
	Install fence	1.55 miles	2.15 miles fence installed
Riparian	Lease land	1.0 mile	1.35 miles protected

Columbia Gorge

Steelhead



Winter

ESA Listing Status: Threatened
ESU: Mid Columbia
MPG: Cascades Eastern Slope Tributaries
Population: Fifteenmile
Recovery Plan Criteria: 500 natural adults[4]
Status: 388 natural adults (2005)[4]

Coastal Cutthroat Trout

ESA Listing Status: Species of Concern
Biological Objective: None[19]
Status: Unknown

Rainbow Trout

ESA Listing Status: Species of Concern
Biological Objective: None[19]
Status: Unknown

Pacific Lamprey

ESA Listing Status: Species of Concern
Biological Objective: None[19]
Status: Unknown

Recovery Status of ESA-Listed Steelhead in the Fifteenmile Creek Subbasin[4]

Population	Abundance Threshold	Mean Abundance (1996-2005)	Major Spawning Areas Occupied	Growth Rate (1985-2005)	Recruits/Spawner (1985-1999)	Current Viability
Fifteenmile Creek	500	703	3 of 3	1.03	1.82	Low

2007 Hatchery Releases and Returns to Hatcheries in the Fifteenmile Subbasin

There are no hatcheries located in this subbasin.

BPA-Funded Wildlife Projects in the Fiftenmile Subbasin

There are no wildlife projects in this subbasin.

Subbasin: Fifteenmile

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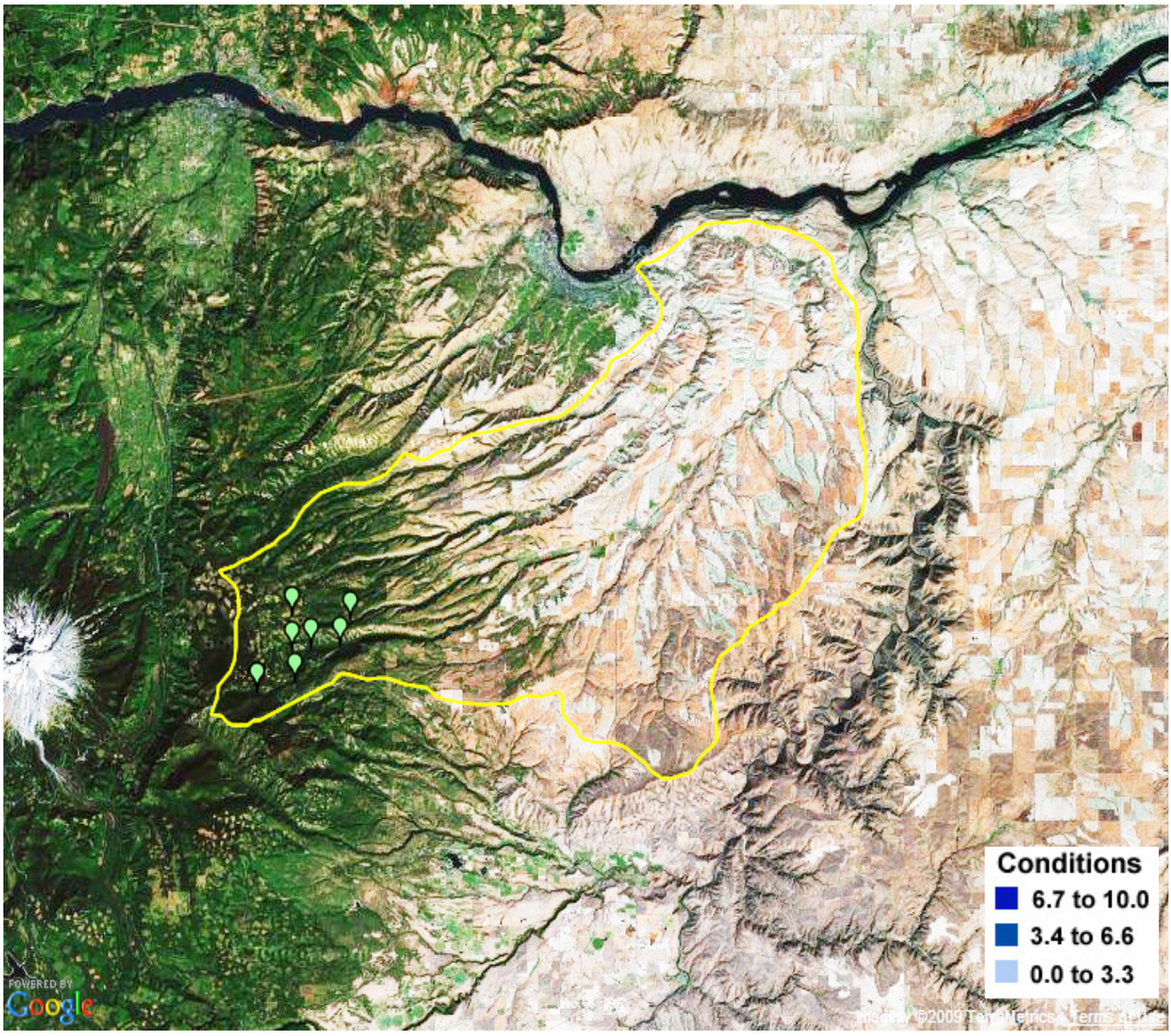
Columbia Gorge

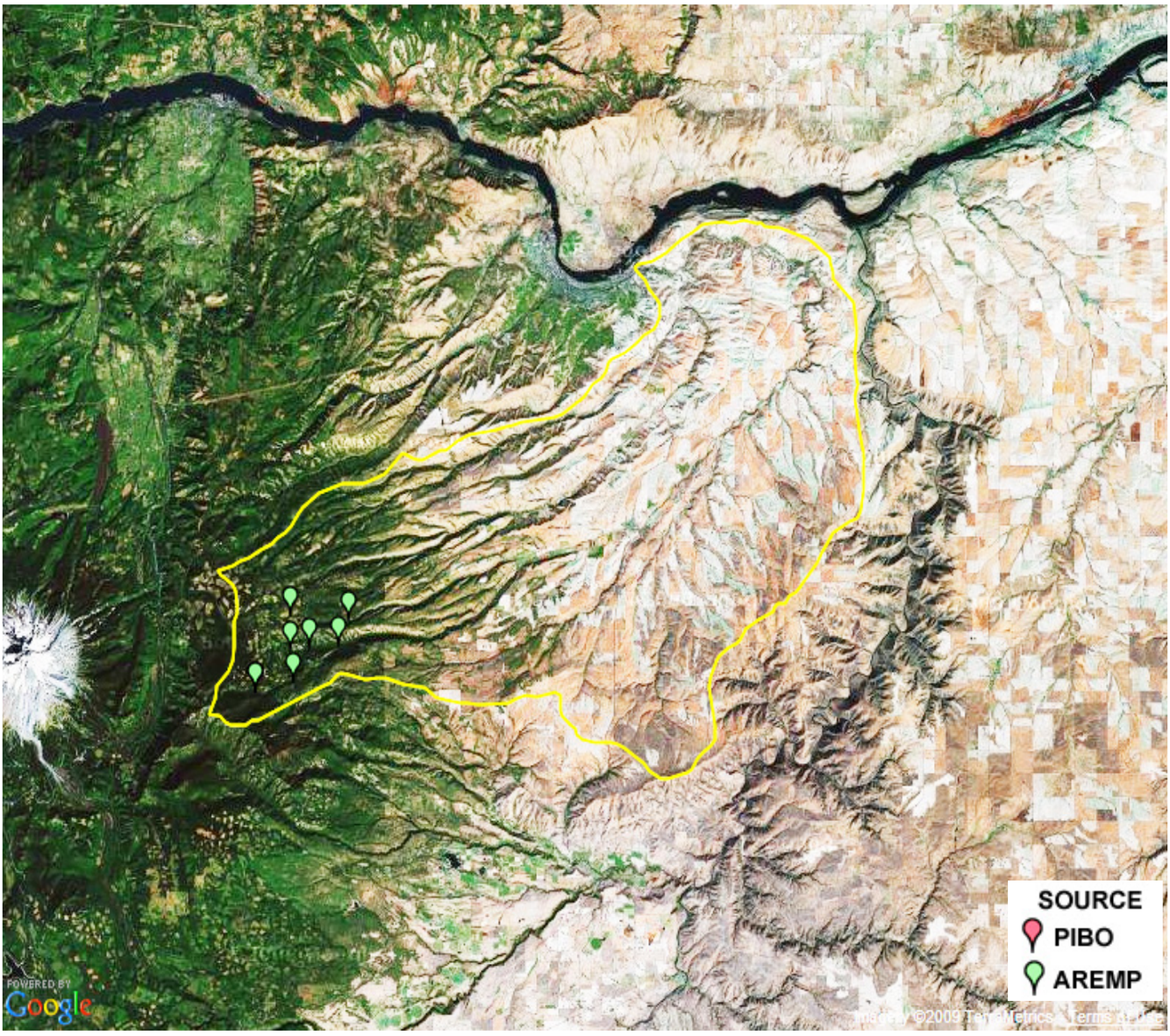
Watershed Conditions for National Forest and Bureau of Land Management Lands in the Fifteenmile Subbasin



Watershed condition is based upon work completed by the USDA Forest Service (FS) and USDI Bureau of Land Management (BLM) Aquatic and Riparian Effectiveness Monitoring Program (AREMP). AREMP personnel evaluate the status and trend of watershed condition on FS, BLM, and National Park Service administered lands within the range of the Northern Spotted Owl. Watershed condition scores are determined for all watersheds that contain a minimum of 25 percent federal ownership. AREMP applies a decision support model to evaluate the premise that watersheds are in good condition. Watersheds are judged to be in good condition where the physical processes, such as wood and sediment delivery, and habitat attributes are adequate to maintain or improve the diversity and abundance of native or desired non-native aquatic species.[7] A score of 10 indicates full support for the premise that a watershed is in good condition and a score of 0 indicates no support for the premise. A fifteen-year assessment of watersheds is being done in 2009, with an expected publication date of early 2010.

Subbasin: Fifteenmile

Stream Inventory Sites on National Forest and Bureau of Land Management Lands in the Fifteenmile Subbasin



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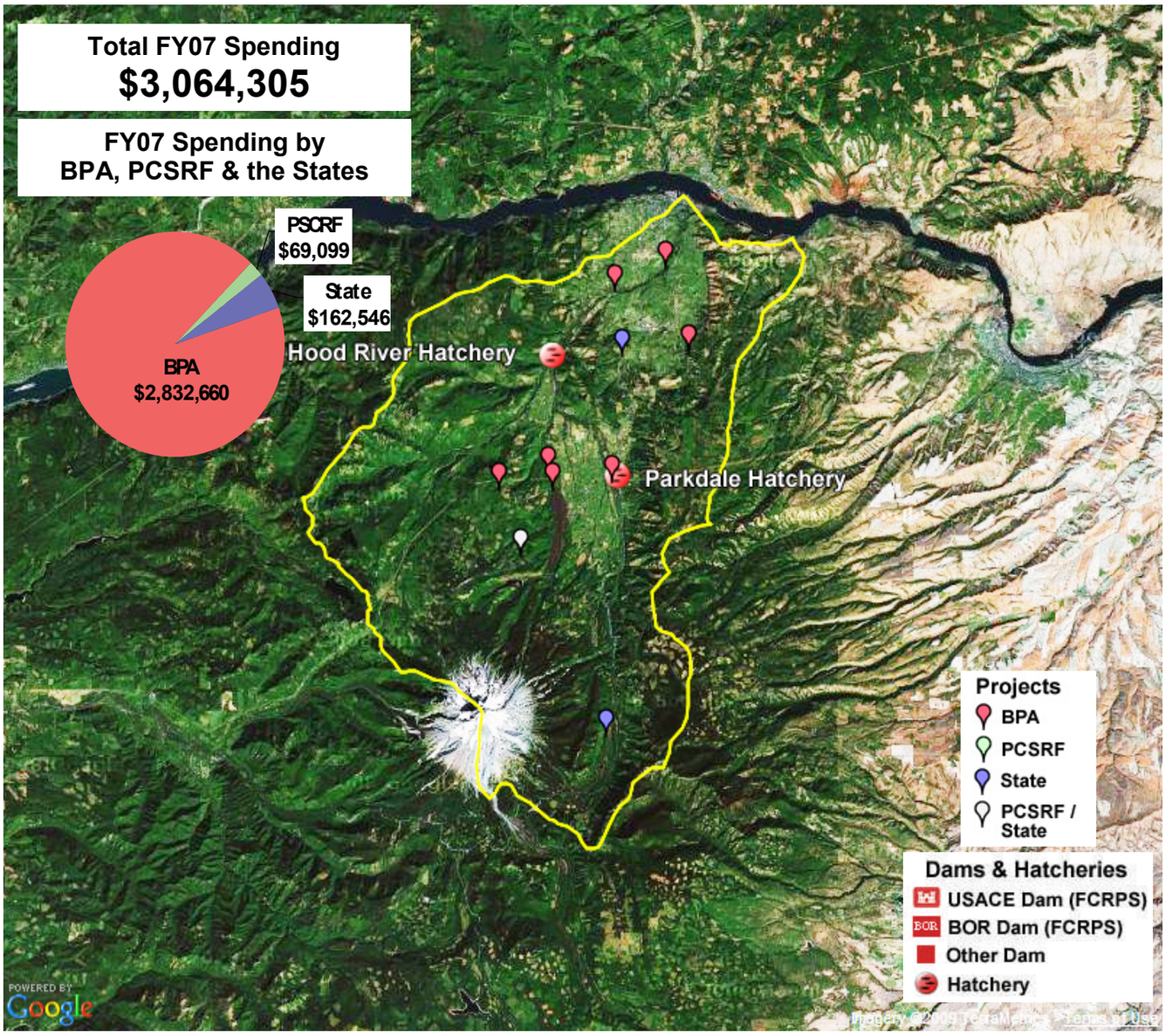
Columbia Gorge



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.

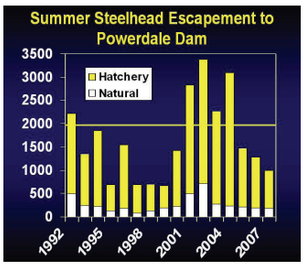
Subbasin: Hood

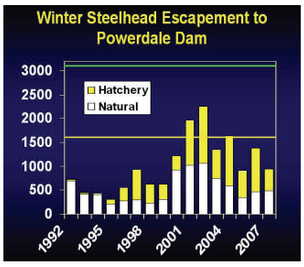
Key Factors Limiting Hood River Subbasin Focal Species[20,21,22]									
Factors for Decline/Limiting Factors/Threats		**Species/Race, and Life-Stage Most Affected**							
		Spring Chinook	**Fall Chinook**	**Coho**	**Summer Steelhead**	**Winter Steelhead**	**Pacific Lamprey**	**Bull Trout**	**Cutthroat Trout**
Habitat	Estuary and Nearshore Marine Habitat Degradation	Smolts	Smolts	Smolts	Smolts	Smolts			
	Floodplain Connectivity and Function		Juveniles	Juveniles	Fry, summer parr, winter parr	Fry, summer parr, winter parr			
	Channel Structure and Complexity		Fry	Juveniles	Fry, summer parr, winter parr	Fry, summer parr, winter parr		Juveniles, adults	Juveniles, adults
	Riparian Areas and LWD Recruitment		Juveniles	Juveniles	Fry, summer parr, winter parr	Fry, summer parr, winter parr		Juveniles, adults	Juveniles, adults
	Stream Flow	Juveniles	Juveniles	Juveniles	Fry, summer parr, winter parr	Fry, summer parr, winter parr	Juveniles, adults	Juveniles, adults	Juveniles, adults
	Water Quality	Juveniles	Juveniles	Juveniles	Fry, summer parr, winter parr	Fry, summer parr, winter parr	All	All	All
	Fish Passage						Juveniles, adults	Juveniles, adults	Juveniles, adults
Hydro	Mainstem Columbia River Hydropower-related Adverse Effects	Smolts	Smolts	Smolts	Smolts	Smolts			
Hatchery	Hatchery Fish Interbreeding With Wild Fish	Adult spawners	Adult spawners	Adult spawners					
Harvest	Mortality from Targeted Fishery	Adults	Adults	Adults					

BPA FY 2008 Habitat Project Accomplishments in the Hood Subbasin[8]			
Habitat Zone	**Project-type**	**Planned Value**	**FY 2008 Accomplishment (Actual Value)**
Instream	Install well, install pipeline, install sprinkler, acquire water instream	5.0 miles	5.0 miles of primary stream reach improved
	Install well, install pipeline, install sprinkler, acquire water instream	7.0 miles	7.0 miles of total stream reach improvement
	Install well, install pipeline, install sprinkler, acquire water instream	2.3 cfs	2.3 cfs of water conserved
	Install well, install pipeline, install sprinkler, acquire water instream	1,810.0 acre-feet	1,180.0 acre-feet of water conserved
	Increase instream habitat complexity	54 structures	54 structures installed

Columbia Gorge

Steelhead





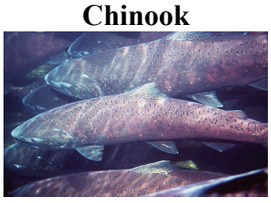
Summer

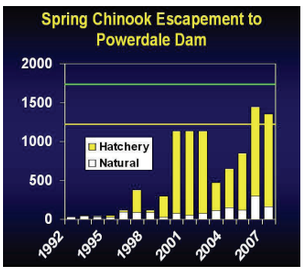
ESA Listing Status: Threatened
ESU: Lower Columbia
MPG: Gorge Summer
Population: Hood River
***Draft Recovery Plan Criteria*:** 1,988 natural adults[5]
Status: 176 natural and 816 hatchery adults (2007)[13b]
Wild Juvenile Production: 3,921 (1993-2002 average)[1]

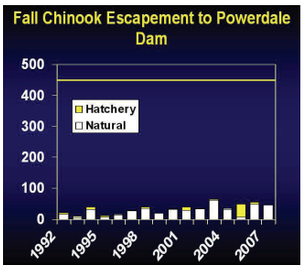
Winter

ESA Listing Status: Threatened
ESU: Lower Columbia
MPG: Gorge Winter
Population: Hood River
***Draft Recovery Plan Criteria*:** 1,633 natural adults[5]
Draft Broad Sense Recovery Objective: 3,129 natural adults[5]
Status: 476 natural and 473 hatchery adults (2007)[13c]
Wild Juvenile Production: 8,718 (1993-2002 average)[1]

Chinook







Spring

ESA Listing Status: Threatened
ESU: Lower Columbia
MPG: Gorge Spring
Population: Hood River
Draft Recovery Plan Criteria: 1,229 natural adults[5]
Draft Broad Sense Recovery Objective: 1,784 natural adults[5]
Status: 158 natural and 1,200 hatchery adults and jacks (2007)[13d]

Fall

ESA Listing Status: Threatened
ESU: Lower Columbia
MPG: Gorge Fall
Population: Hood River
Draft Recovery Plan Criteria: 454 natural adults[5]
Status: 45 natural and 0 hatchery adults and jacks (2007)[13e]

Coho

ESA Listing Status: Threatened
ESU: Lower Columbia
MPG: Gorge
Population: Hood/Upper Gorge (OR)
Draft Recovery Plan Criteria: 5,149 natural adults[5]
Status: Unknown

Pacific Lamprey

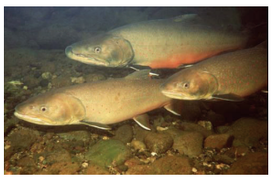
ESA Listing Status: Species of Concern
Biological Objective: None[22]
Status: Unknown

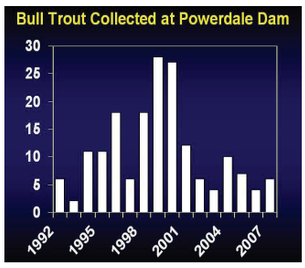
Recovery Status of ESA-Listed Steelhead and Salmon in the Hood River Subbasin[5]

Population	Abundance Threshold	Mean Abundance	Major Spawning Areas Occupied	Growth Rate	Recruits/Spawner	Current Viability
Steelhead						
Hood River Summer	1,988	195 (1993-2005)	Unknown	Unknown	Unknown	Very Low
Hood River Winter	1,633	395 (1992-2004)	Unknown	Unknown	1.30 (1992-2004)	Moderate
Chinook Salmon						
Hood River Spring	1,229	Unknown	Unknown	Unknown	Unknown	Very Low
Hood River Fall	1,240	36 (2000-2004)	Unknown	Unknown	Unknown	Very Low
Coho Salmon						
Hood River	5,149	12 (1992-2004)	Unknown	Unknown	Unknown	Very Low

Subbasin: Hood

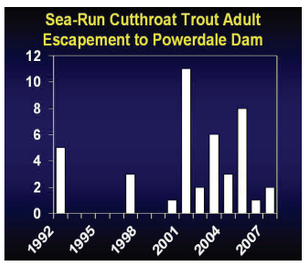
Bull Trout





ESA Listing Status: Threatened
Core Area: Hood River (Within Hood River Recovery Unit)
Local Populations: Clear Branch, Hood River
Draft Recovery Plan Criteria: ≥500 adults, distributed among three or more local populations[21]
Status: 6 adults passed Powerdale Dam (2007)[13f]; total abundance estimated at ≤ 300 adults[21]
Abundance, Trend, Threat, and Risk Ranks (Hood River Core):
Abundance = 50-250
Short-term Trend = Unknown
Threat = Moderate, imminent
Risk = High

Coastal Cutthroat Trout



Resident

ESA Listing Status: Species of Concern
Biological Objective: None[22]
Status: Unknown

Sea-Run

ESA Listing Status: Species of Concern
Biological Objective: None[22]
Status: 2 adults passed Powerdale Dam (2007)[13g]

2007 Hatchery Releases and Returns to Hatcheries in the Hood Subbasin[23,24]

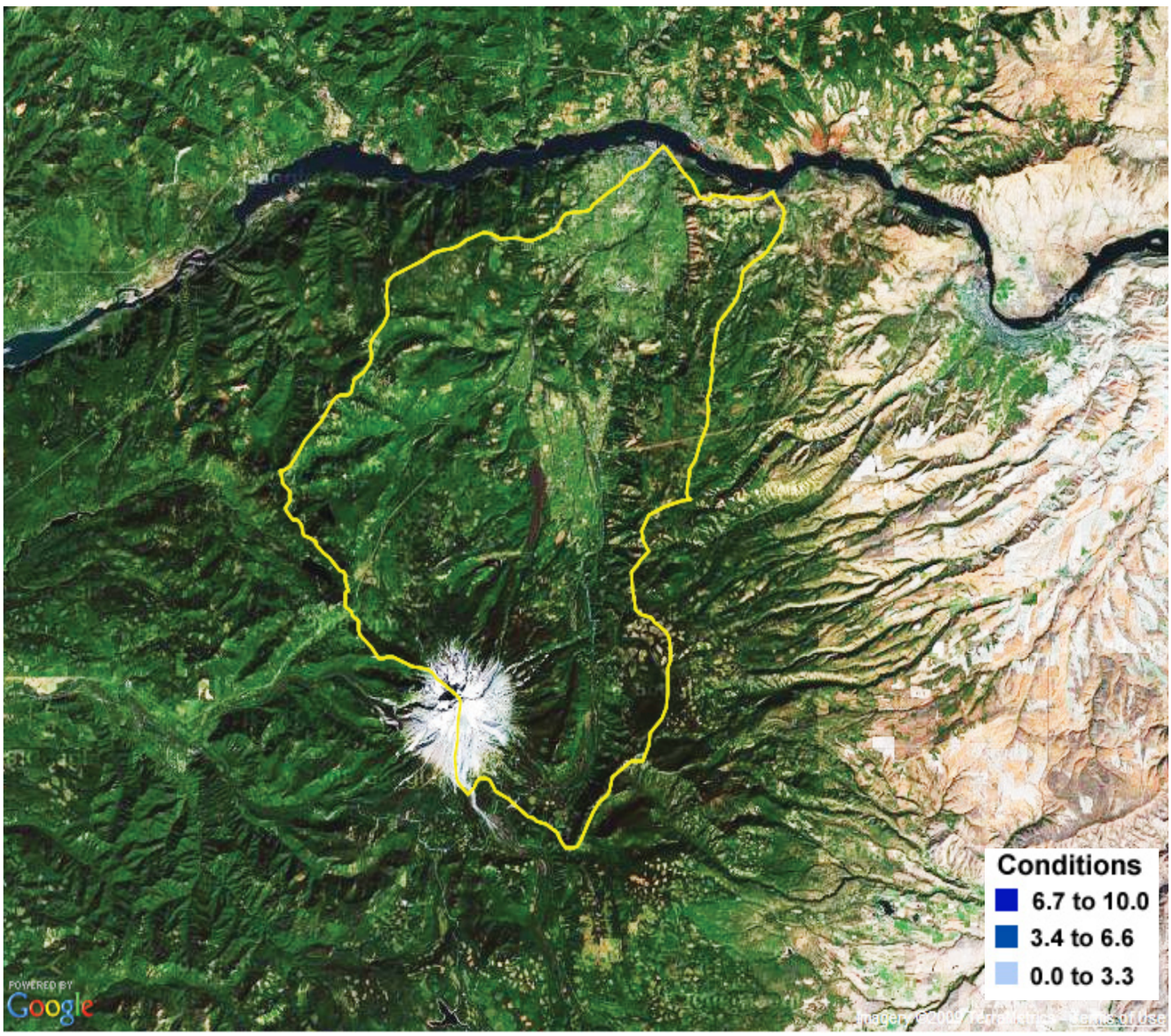
Hatchery	Species	Release Goal/Released (By life stage)	Return Goal to Powerdale Dam/ Actual Return
Pelton Ladder and Round Butte	Spring Chinook	125,000/127,829	1,300/302
	Summer Steelhead	30,000/0	
Oak Springs	Winter Steelhead	50,000/36,523	
Total		205,000/164,352	

BPA-Funded Wildlife Projects in the Hood Subbasin

There are no wildlife projects in this subbasin

Columbia Gorge

Watershed Conditions for National Forest and Bureau of Land Management Lands in the Hood Subbasin[9]



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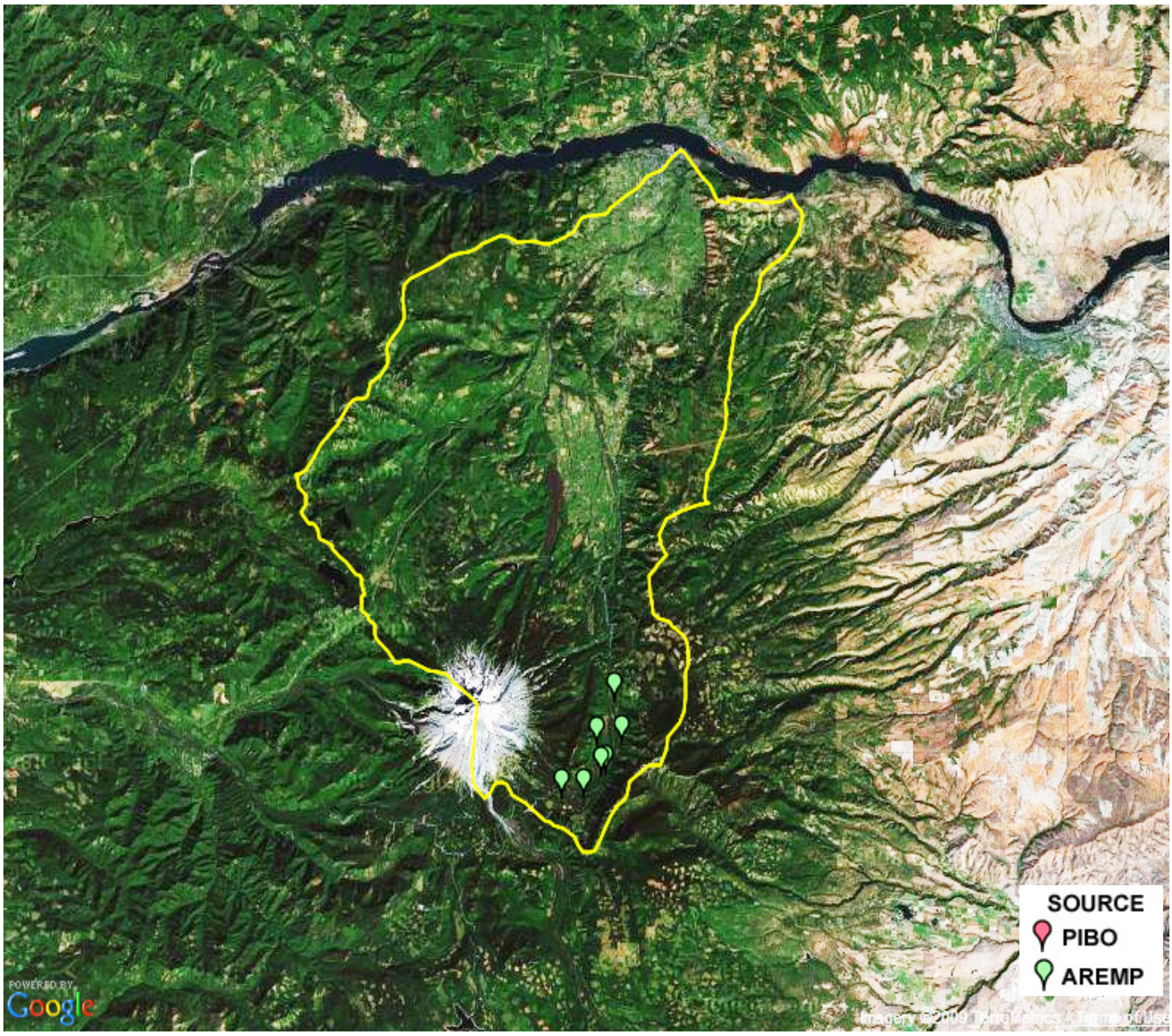
Subbasin: Hood

Stream Inventory Sites on National Forest and Bureau of Land Management Lands in the Hood Subbasin[14]



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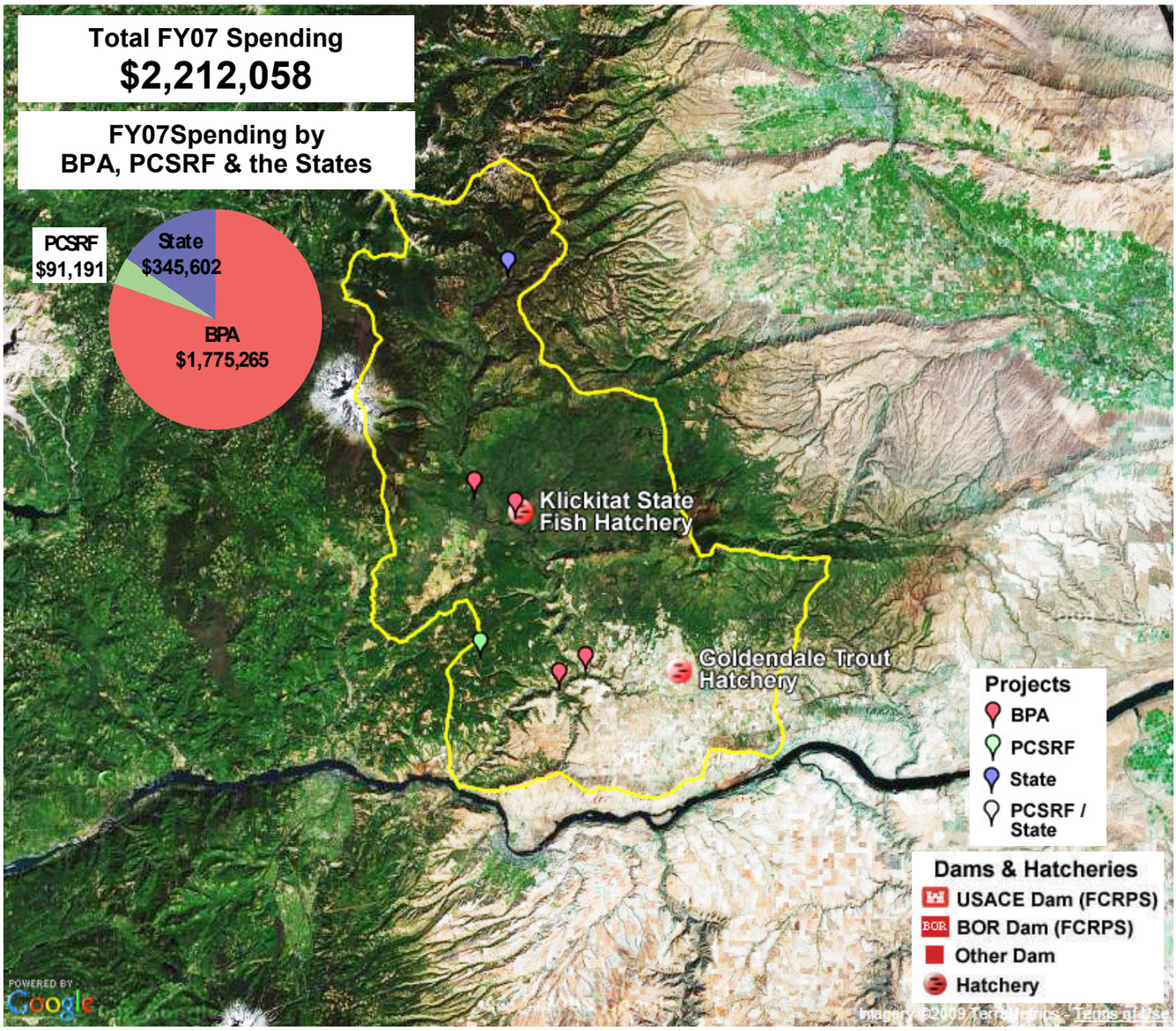
Columbia Gorge



In the Klickitat River Subbasin, steelhead (both summer and winter runs), Chinook salmon (both spring and fall runs), coho salmon, and bull trout have been identified as focal species. Steelhead and bull trout are also listed as threatened under the federal Endangered Species Act. Steelhead in the subbasin are part of the Mid Columbia River Distinct Population Segment (DPS), and bull trout are within the Lower Columbia River Recovery Unit. Recovery criteria for a steelhead DPS do not necessarily require that all populations achieve viability prior to de-listing; however, the recovery plan for Mid-Columbia River steelhead has specified that the Klickitat River population must achieve viability. Recovery criteria for bull trout vary among recovery units. Objectives for Chinook and coho salmon have been developed through the Klickitat Subbasin Anadromous Fishery Master Plan.

Subbasin: Klickitat

Key Factors Limiting Klickitat River Subbasin Focal Species[4, 25]						
Factors for Decline/Limiting Factors/ Threats		**Species/Race, and Life-Stage Most Affected**				
		Spring Chinook	**Fall Chinook**	**Coho**	**Steelhead**	**Bull Trout**
Habitat	Estuary and Nearshore Marine Habitat Degradation	Smolts	Smolts	Smolts	Smolts	
	Floodplain Connectivity and Function	All		All	All	
	Channel Structure and Complexity	Juveniles	Fry	Juveniles	Juveniles	Juveniles, adults
	Riparian Areas and LWD Recruitment	Juveniles		Juveniles	Juveniles	Juveniles, adults
	Stream Flow	All	Fry through subyearling	All	All	Juveniles, adults
	Water Quality	All	Fry through subyearling	All	All	All
	Fish Passage	Juveniles, adults		Juveniles, adults	Juveniles, adults	Juveniles, adults
Hydro	Mainstem Columbia River Hydropower-related Adverse Effects	Smolts	Smolts	Smolts	Smolts	
Hatchery	Competition with Hatchery Fish from Same and Other Species				Juveniles	
Harvest	Mortality from Targeted Fishery	Adults	Adults	Adults		

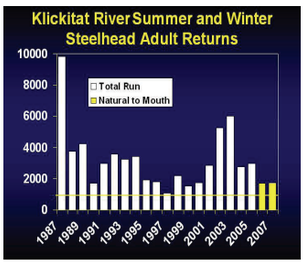
BPA FY 2008 Habitat Project Accomplishments in the Klickitat Subbasin[8]			
Habitat Zone	**Project-type**	**Planned Value**	**FY 2008 Accomplishment (Actual Value)**
Instream	Install fish passage structure	2.2 miles	2.2 miles accessed
Riparian: Upland	Plant/remove vegetation	10.6 acres	8.3 acres treated
Riparian	Plant/remove vegetation	.25 miles	0 miles planted

Columbia Gorge

Steelhead

Summer and Winter

ESA Listing Status: Threatened
ESU: Mid Columbia
MPG: Cascade Eastern Slope Tributaries
Population: Klickitat
Recovery Plan Criteria: 1,000 natural adults[4]
Status: 1,730 natural adults to the Klickitat River mouth (2007)[4]
Wild Juvenile Production: 1,818 (2008—no data for May)[25.5]



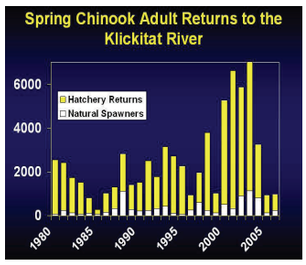
Coho

ESA Listing Status: None
ESU: None
Biological Objective: Combined average annual harvest (ocean, Columbia River, and Klickitat Basin) of 14,000[26]
Status: No information since 2002

Chinook

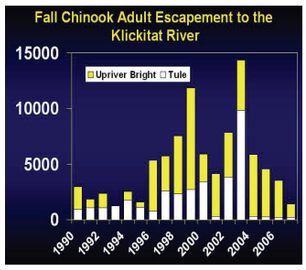
Spring

ESA Listing Status: None
ESU: None
Biological Objectives: return of 5,000-10,000, harvest = 35-40% annually, >50% available for escapement[26]
Status: 242 natural and 746 hatchery adults (2006)[13h]

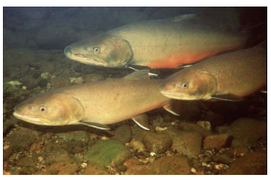


Fall-Upriver Bright and Tule

ESA Listing Status: None
ESU: None
Biological Objective: Combined annual harvest = 14,000[26]
Status: Tule—216 natural adults (2007)[13i]; Upriver Bright—1,396 natural adults (2007)[13i]



Bull Trout



ESA Listing Status: Threatened
Core Area: Klickitat River (Within the Lower Columbia River Recovery Unit)
Local Population: West Fork Klickitat River
Draft Recovery Plan Criteria: Maintain population (minimum need); determine recovery criteria[27]
Status: Unknown, presumed very low[25,27]
Abundance, Trend, Threat, and Risk Ranks (Klickitat River Core):
Abundance = Unknown
Short-term Trend = Unknown
Threat = Moderate, imminent
Risk = At

Recovery Status of ESA-Listed Steelhead in the Klickitat River Subbasin[4]

Population	Abundance Threshold	Mean Abundance (2006-2007)	Major Spawning Areas Occupied	Growth Rate	Recruits/Spawner	Current Viability
Klickitat River Summer and Winter	1,000	1,702	6 of 6	Unknown	Unknown	Moderate

2007 Hatchery Releases and Returns to Hatcheries in the Klickitat Subbasin

Hatchery	Species	Release Goal/Released	Return Goal/Actual Return
Klickitat	Spring Chinook	600,000/	/579
Total			

BPA-Funded Wildlife Projects in the Klickitat Subbasin

There are no wildlife projects in this subbasin.

Subbasin: Klickitat

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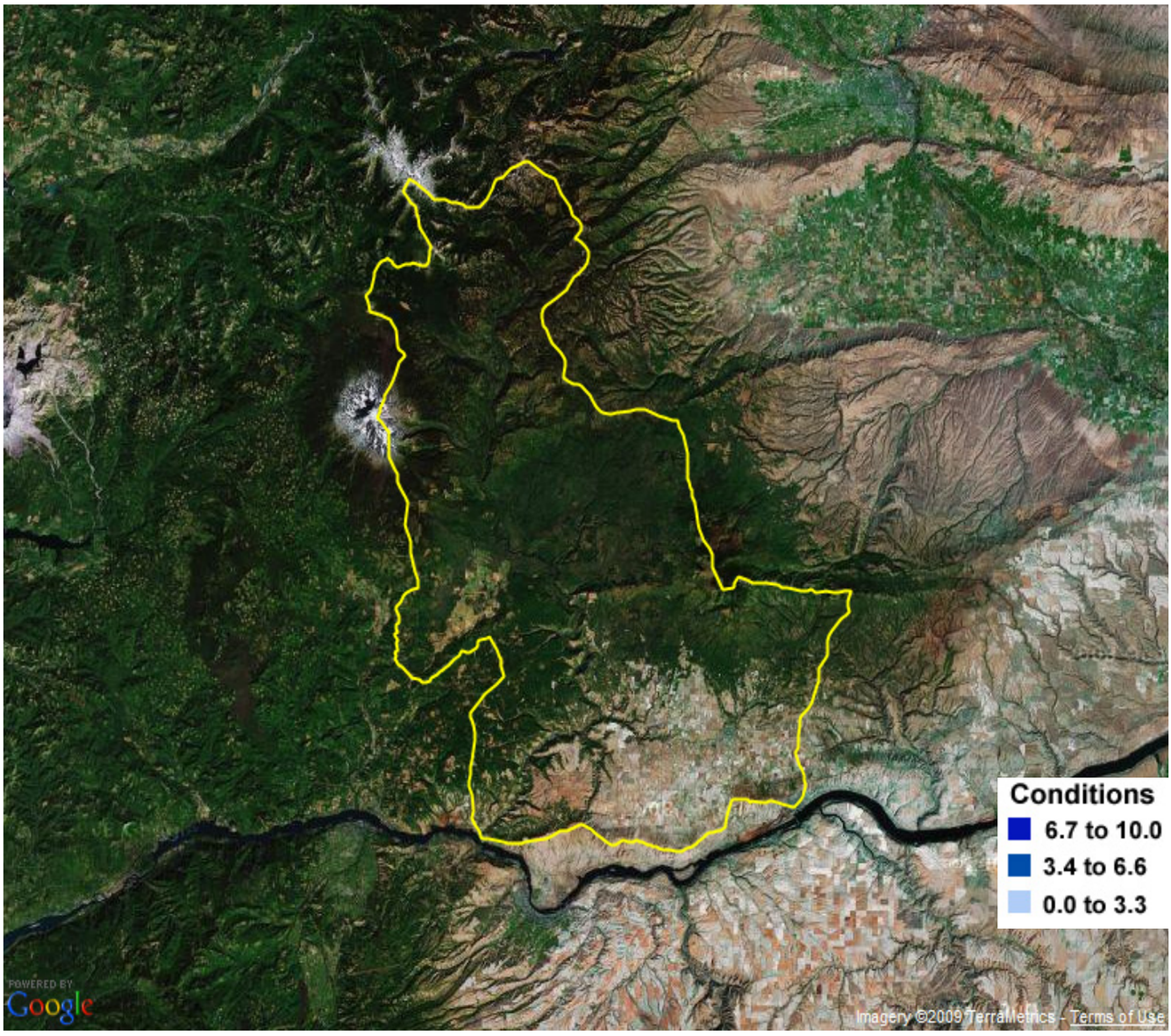
Columbia Gorge

Watershed Conditions for National Forest and Bureau of Land Management Lands in the Klickitat Subbasin



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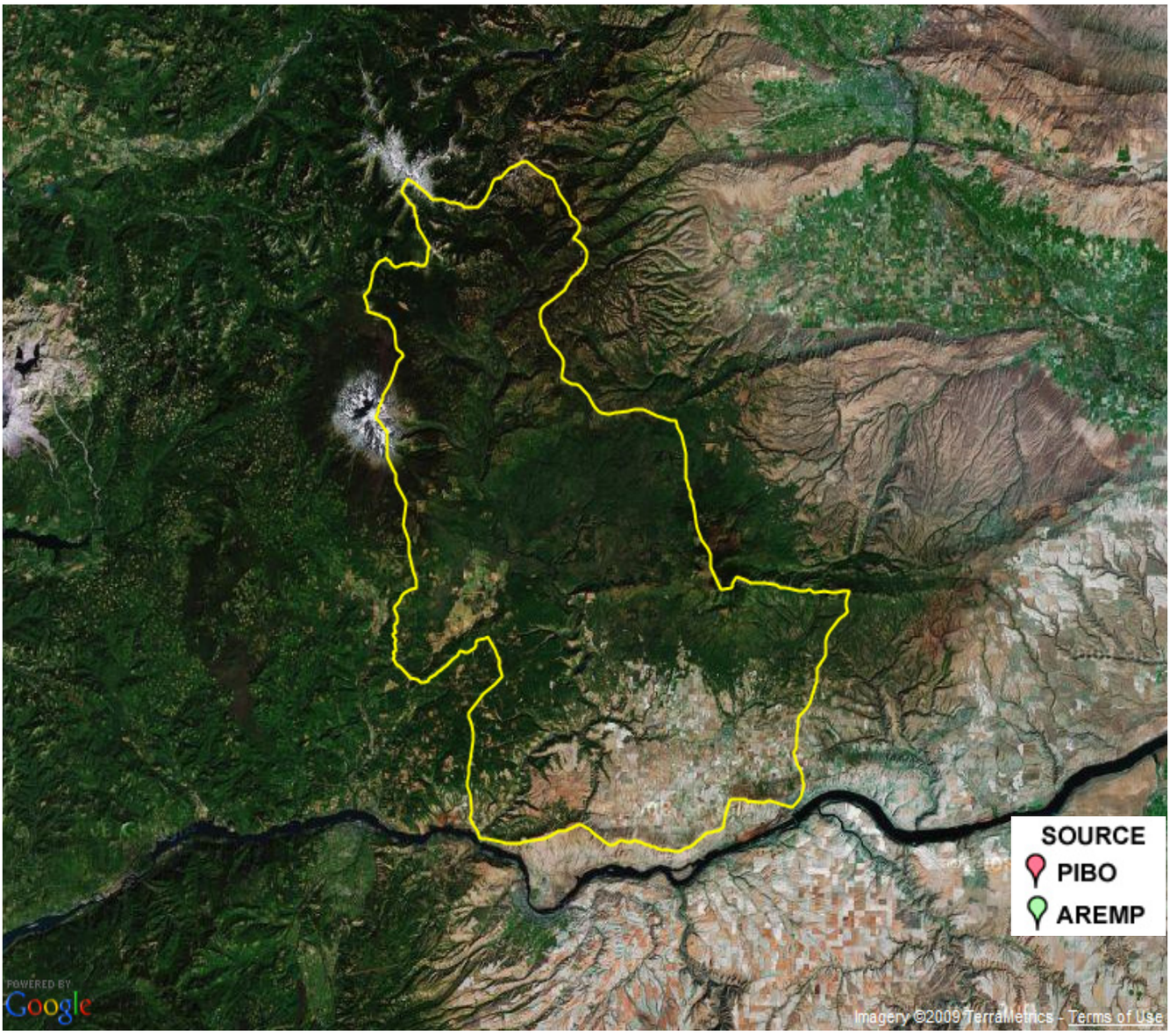
Subbasin: Klickitat

Stream Inventory Sites on National Forest and Bureau of Land Management Lands in the Klickitat Subbasin



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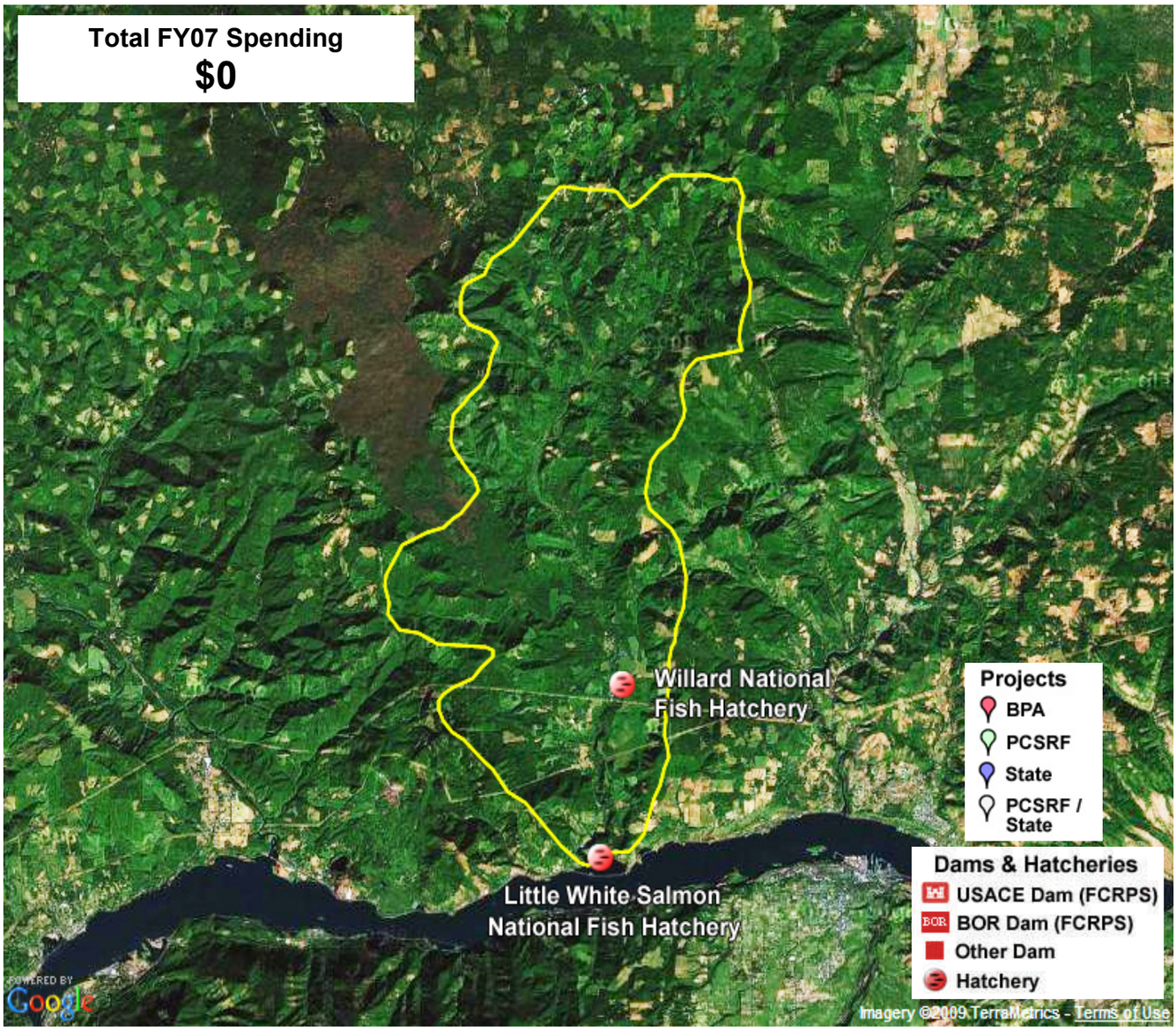
Columbia Gorge



In the Little White Salmon River Subbasin, fall Chinook salmon and chum salmon have been identified as focal species. Both are listed as threatened under the federal Endangered Species Act. Chinook salmon in the sub-basin are part of the lower Columbia River Evolutionarily Significant Unit (ESU), and chum salmon are part of the Columbia River ESU. Recovery criteria for a salmon ESU do not necessarily require that all populations achieve viability prior to de-listing. At this time, recovery plan criteria require do not require any Little White Salmon River population (as part of Upper Gorge populations) to achieve viability.

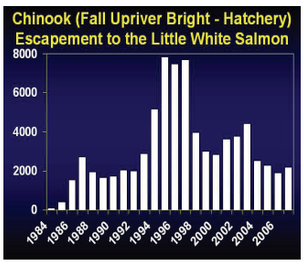
Subbasin: Little White Salmon

Key Factors Limiting Little White Salmon River Subbasin Focal Species[28]			
Factors for Decline/Limiting Factors/Threats		**Species/Race, and Life-Stage Most Affected**	
		Fall Chinook	**Chum**
Habitat	Estuary and Nearshore Marine Habitat Degradation	Smolts	Smolts
	Channel Structure and Complexity	Fry	Fry
	Stream Flow	Juveniles	
	Water Quality	Juveniles	Fry
	Fish Passage	Adults	
Hydro	Mainstem Columbia River Hydropower-related Adverse Effects	Juveniles	Juveniles
Harvest	Mortality from Targeted Fishery	Adults	

BPA FY 2008 Habitat Project Accomplishments in the Little White Salmon Subbasin[8]
There are no BPA-funded habitat improvement efforts in this subbasin.

Columbia Gorge

Chinook



Fall—Upriver Bright (Hatchery)

ESA Listing Status: Threatened
ESU: Lower Columbia
MPG: Gorge Fall
Draft Recovery Plan Criteria: 1,200 natural adults (entire Upper Gorge population, primarily the Wind River)[6]
Status: 2,183 hatchery adults (2007)[13j]

Fall—Tule (Hatchery)

ESA Listing Status: Threatened
ESU: Lower Columbia
MPG: Gorge Fall
Draft Recovery Plan Criteria: 1,200 natural adults (entire Upper Gorge population, primarily the Wind River)[6]
Status: No longer released

Chum

ESA Listing Status: Threatened
ESU: Columbia River
MPG: Gorge
Population: Upper Gorge
Draft Recovery Plan Criteria: No numeric objective (entire Upper Gorge population)[6]
Status: Unknown

Recovery Status of ESA-Listed Chinook and Chum Salmon in the Little White Salmon River Subbasin[6]

Population	Abundance Threshold	Mean Abundance	Major Spawning Areas Occupied	Growth Rate	Recruits/Spawner	Current Viability
Chinook Salmon						
Upper Gorge Fall (primarily Wind River)	Unknown	Unknown		Unknown	Unknown	Very Low
Chum Salmon						
Upper Gorge Chum (includesWind River)	Unknown	Unknown		Unknown	Unknown	Very Low

2007 Hatchery Releases and Returns to Hatcheries in the Little White Subbasin

Hatchery	Species	Release Goal/Released	Return Goal/Actual Return
Little White Salmon	Spring Chinook	1,150,000/	967/2,739
	Fall Chinook (Upriver Bright)	4,500,000/	3,862/2,310
Willard	Spring Chinook	400,000/	
Total			

BPA-Funded Wildlife Projects in the Little White Subbasin

There are no wildlife projects in this subbasin.

Subbasin: Little White Salmon

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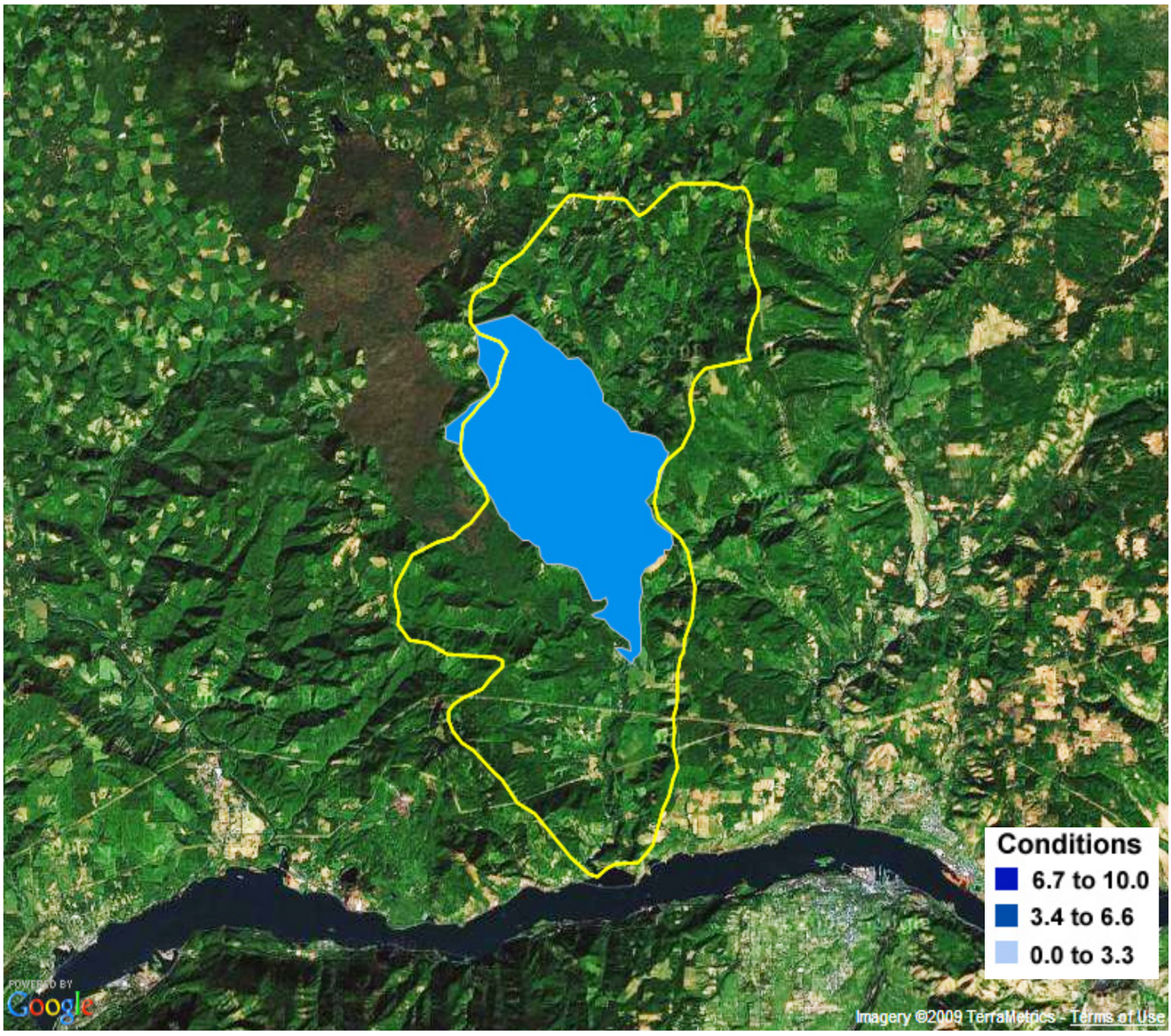
Columbia Gorge

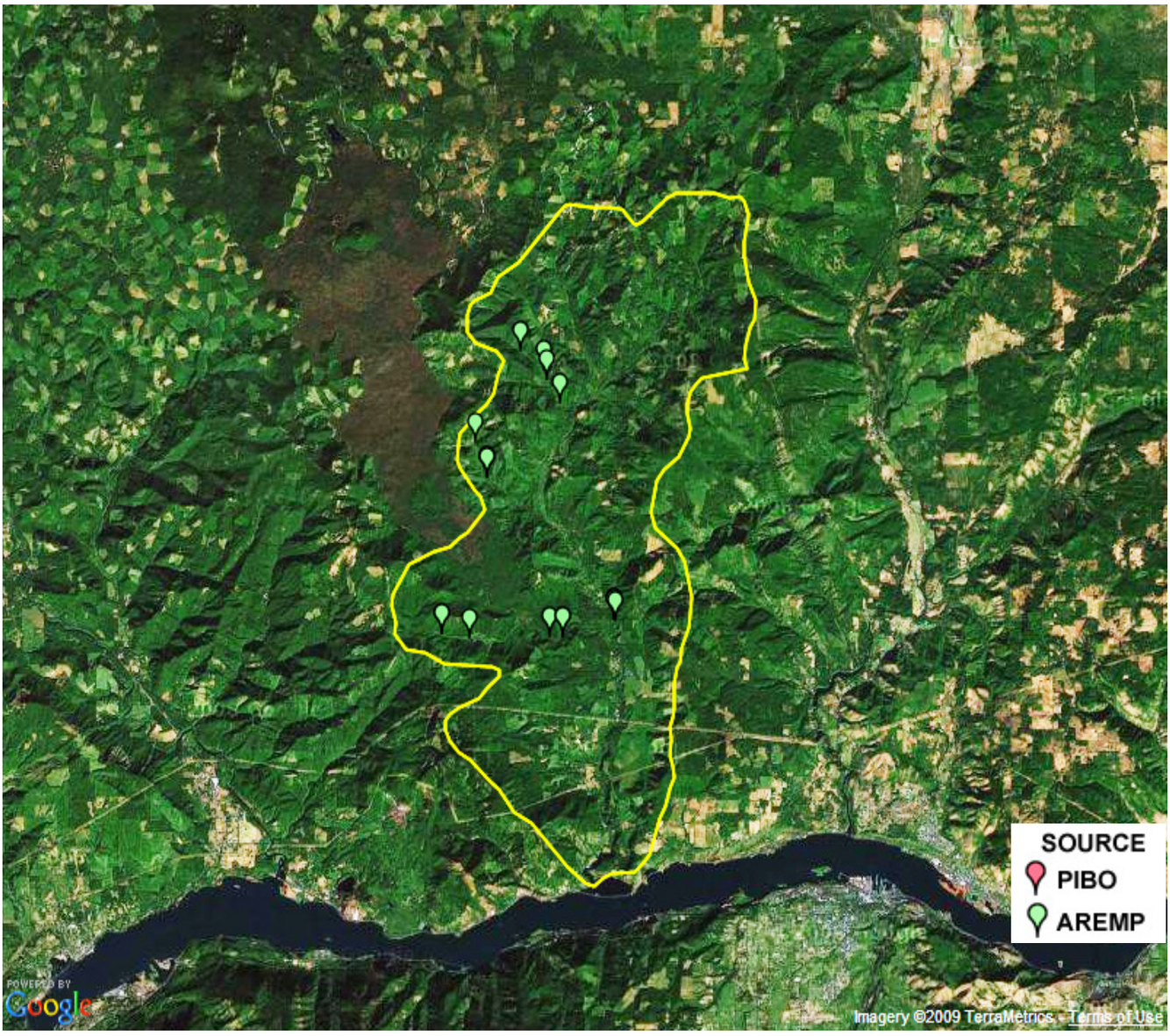
Watershed Conditions for National Forest and Bureau of Land Management Lands in the Little White Salmon Subbasin



Watershed condition is based upon work completed by the USDA Forest Service (FS) and USDI Bureau of Land Management (BLM) Aquatic and Riparian Effectiveness Monitoring Program (AREMP). AREMP personnel evaluate the status and trend of watershed condition on FS, BLM, and National Park Service administered lands within the range of the Northern Spotted Owl. Watershed condition scores are determined for all watersheds that contain a minimum of 25 percent federal ownership. AREMP applies a decision support model to evaluate the premise that watersheds are in good condition. Watersheds are judged to be in good condition where the physical processes, such as wood and sediment delivery, and habitat attributes are adequate to maintain or improve the diversity and abundance of native or desired non-native aquatic species.[7] A score of 10 indicates full support for the premise that a watershed is in good condition and a score of 0 indicates no support for the premise. A fifteen-year assessment of watersheds is being done in 2009, with an expected publication date of early 2010.

Subbasin: Little White Salmon

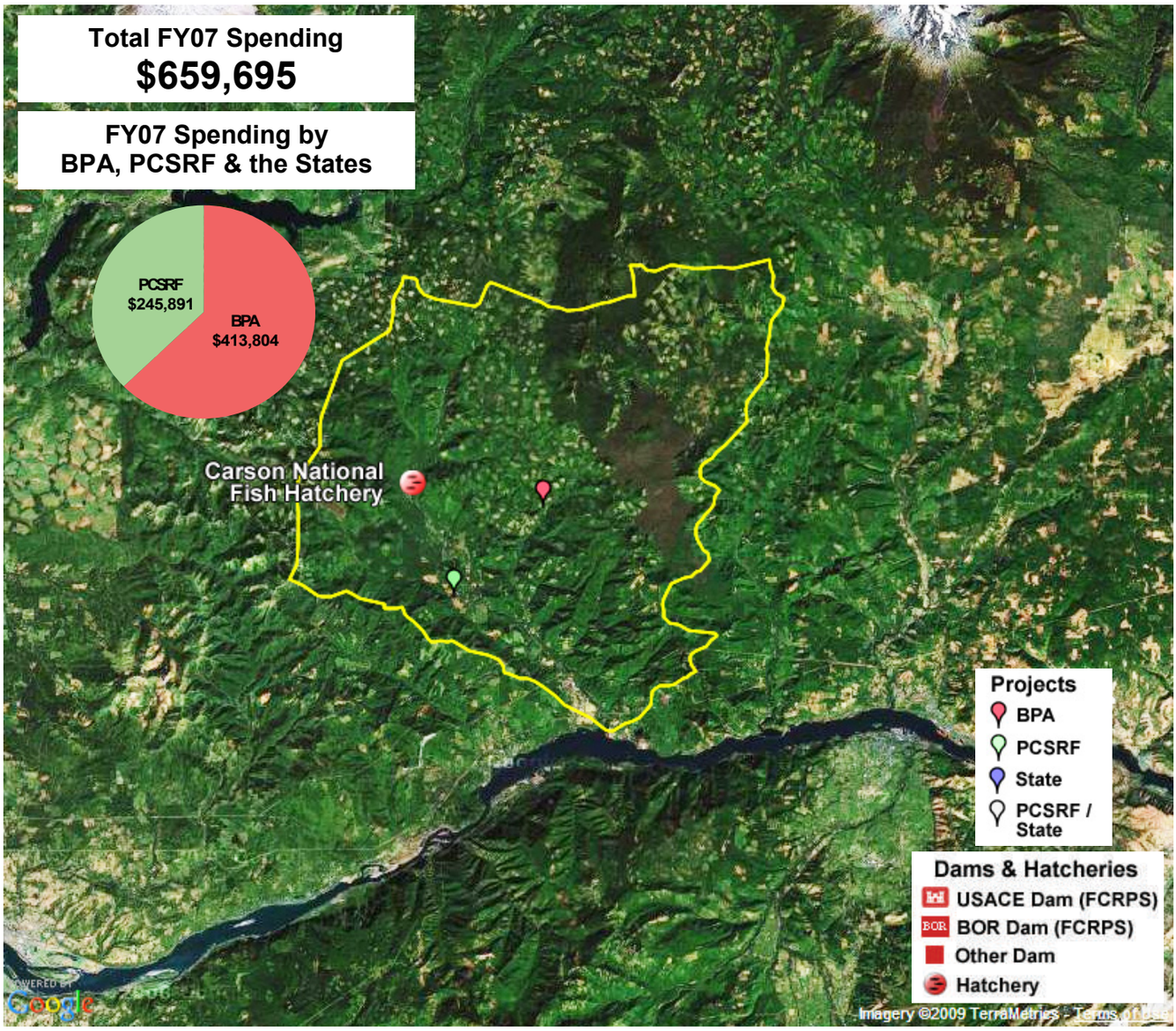
Stream Inventory Sites on National Forest and Bureau of Land Management Lands in the Little White Salmon Subbasin



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). The locations and information reported are for the sentinel and integrator sites used to track habitat status and trend within the PIBO area over time.[8]

Columbia Gorge



In the Wind River Subbasin, fall Chinook salmon, steelhead (both summer and winter runs), coho salmon, and chum salmon have been identified as focal species. All are also listed as threatened under the federal Endangered Species Act. Chinook and coho salmon in the subbasin are each part of the lower Columbia River Evolutionarily Significant Unit (ESU) for their species. Chum salmon are part of the Columbia River ESU. Steelhead are part of the lower Columbia River Distinct Population Segment (DPS). Recovery criteria for a salmon ESU or a steelhead DPS do not necessarily require that all populations achieve viability prior to de-listing. At this time, recovery plan criteria require Wind River coho salmon (part of the Upper Gorge population) to achieve viability, and Wind River summer steelhead to become highly viable. A higher standard of broad-sense recovery requires that each existing population becomes highly viable.

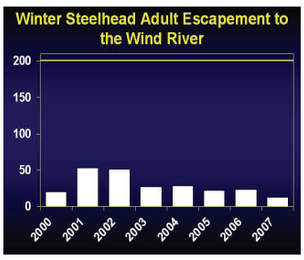
Subbasin: Wind

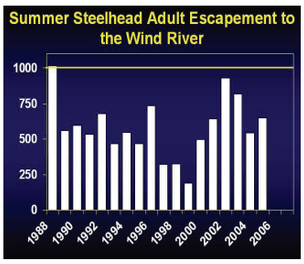
Key Factors Limiting Wind River Subbasin Focal Species[28]						
Factors for Decline/Limiting Factors/Threats		**Species/Race, and Life-Stage Most Affected**				
		Fall Chinook	**Coho**	**Chum**	**Winter Steelhead**	**Summer Steelhead**
Habitat	Estuary and Nearshore Marine Habitat Degradation	Smolts	Smolts	Smolts	Smolts	Smolts
	Floodplain Connectivity and Function	Juveniles	Juveniles		Fry, summer parr	Fry, summer parr
	Channel Structure and Complexity	Fry, adults	Juveniles	Adults	Fry, summer parr	Fry, summer parr
	Riparian Areas and LWD Recruitment				Fry, summer parr	Fry, summer parr
	Stream Flow		All		Juveniles	Juveniles
	Water Quality	All	All	All	All	All
	Fish Passage	Adults			Adults	Adults
Hydro	Mainstem Columbia River Hydropower-related Adverse Effects	Smolts	Smolts	Smolts	Smolts	Smolts
Harvest	Mortality from Targeted Fishery	Adults	Adults			

BPA FY 2008 Habitat Project Accomplishments in the Wind Subbasin[8]
There are no BPA-funded habitat improvement efforts in this subbasin.

Columbia Gorge

Steelhead





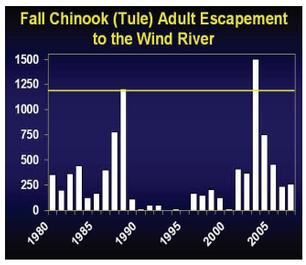
Winter

ESA Listing Status: Threatened
ESU: Lower Columbia
MPG: Gorge Winter
Population: Upper Gorge
Draft Recovery Plan Criteria: 200 natural adults[6]
Status: 13 natural adults (2007)[13k]
Wild Juvenile Production: 19,291 (2007)[29]

Summer

ESA Listing Status: Threatened
ESU: Lower Columbia
MPG: Gorge Summer
Population: Wind
Draft Recovery Plan Criteria: 1,000 natural adults[6]
Status: 648 natural adults (2005)

Chinook



Fall—Tule

ESA Listing Status: Threatened
ESU: Lower Columbia
MPG: Gorge Fall
Population: Upper Gorge
Draft Recovery Plan Criteria: 1,200 natural adults (includes Oregon)[6]
Status: 263 natural adults (2007) [13m]

Chum

ESA Listing Status: Threatened
ESU: Columbia River
MPG: Gorge
Population: Upper Gorge
Draft Recovery Plan Criteria: No numeric objective[6]
Status: Unknown

Coho

ESA Listing Status: Threatened
ESU: Lower Columbia
MPG: Gorge
Population: Upper Gorge
Draft Recovery Plan Criteria: 1,900 natural adults[6]
Status: Unknown

Recovery Status of ESA-Listed Steelhead and Salmon in the Wind River Subbasin[6]

Population	Abundance Threshold	Reference Abundance	Major Spawning Areas Occupied	Growth Rate	Recruits/Spawner	Current Viability
Steelhead						
Wind River Summer	500	1,040		Unknown	4.50	High
Upper Gorge Winter	260	170		Unknown	Unknown	Low
Chinook Salmon						
Upper Gorge Fall	Unknown	<50		Unknown	Unknown	Very Low
Coho Salmon						
Upper Gorge	1,120	<50		Unknown	Unknown	Very Low
Chum Salmon						
Upper Gorge	1,100	<50		Unknown	Unknown	Very Low

2007 Hatchery Releases and Returns to Hatcheries in the Wind Subbasin

Hatchery	Species	Release Goal/Released	Return Goal/Actual Return
Carson	Spring Chinook	1,170,000/	1,200/
Total			

BPA-Funded Wildlife Projects in the Wind Subbasin

There are no wildlife projects in this subbasin.

Subbasin: Wind

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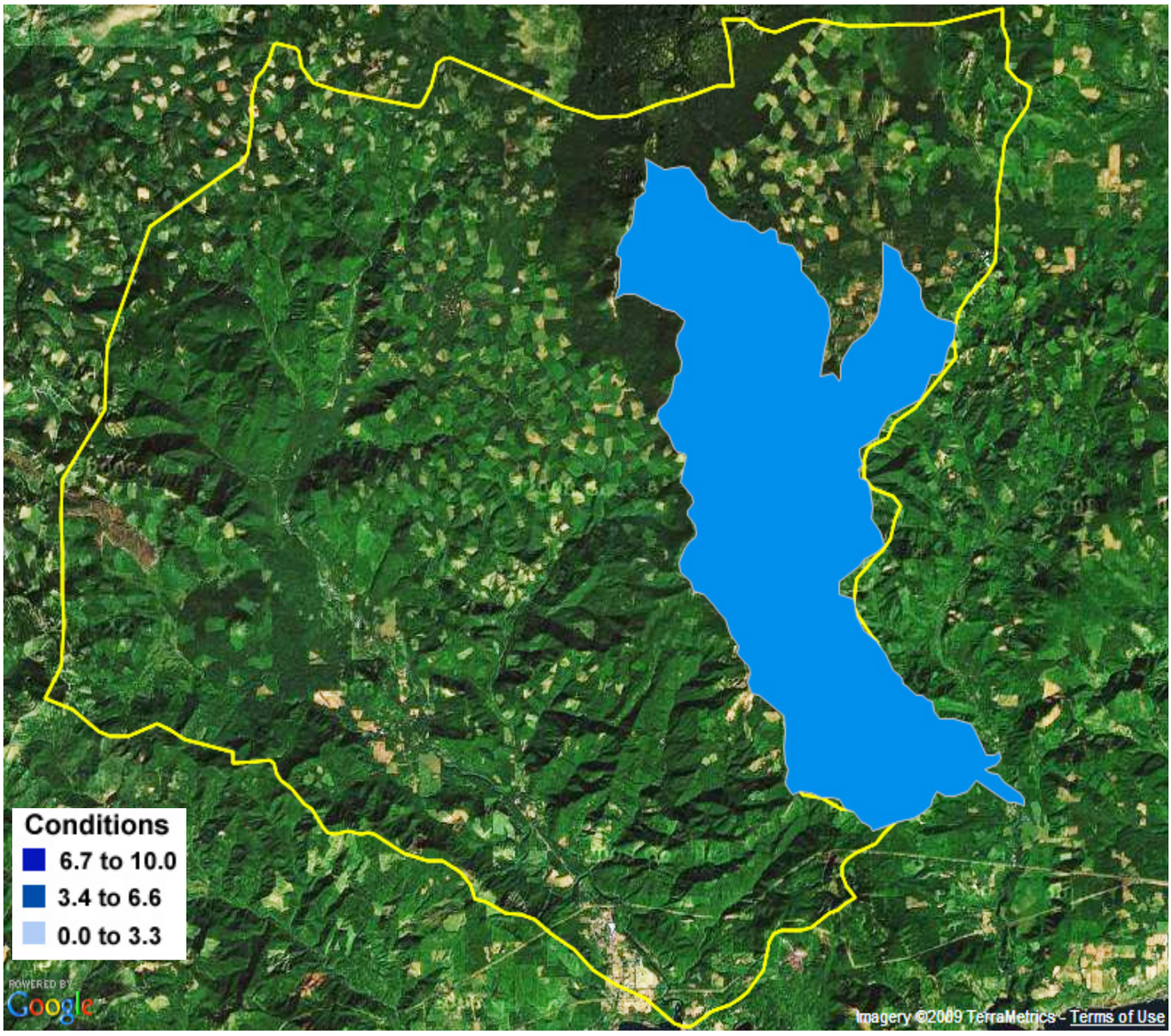
Columbia Gorge

Watershed Conditions for National Forest and Bureau of Land Management Lands in the Wind Subbasin



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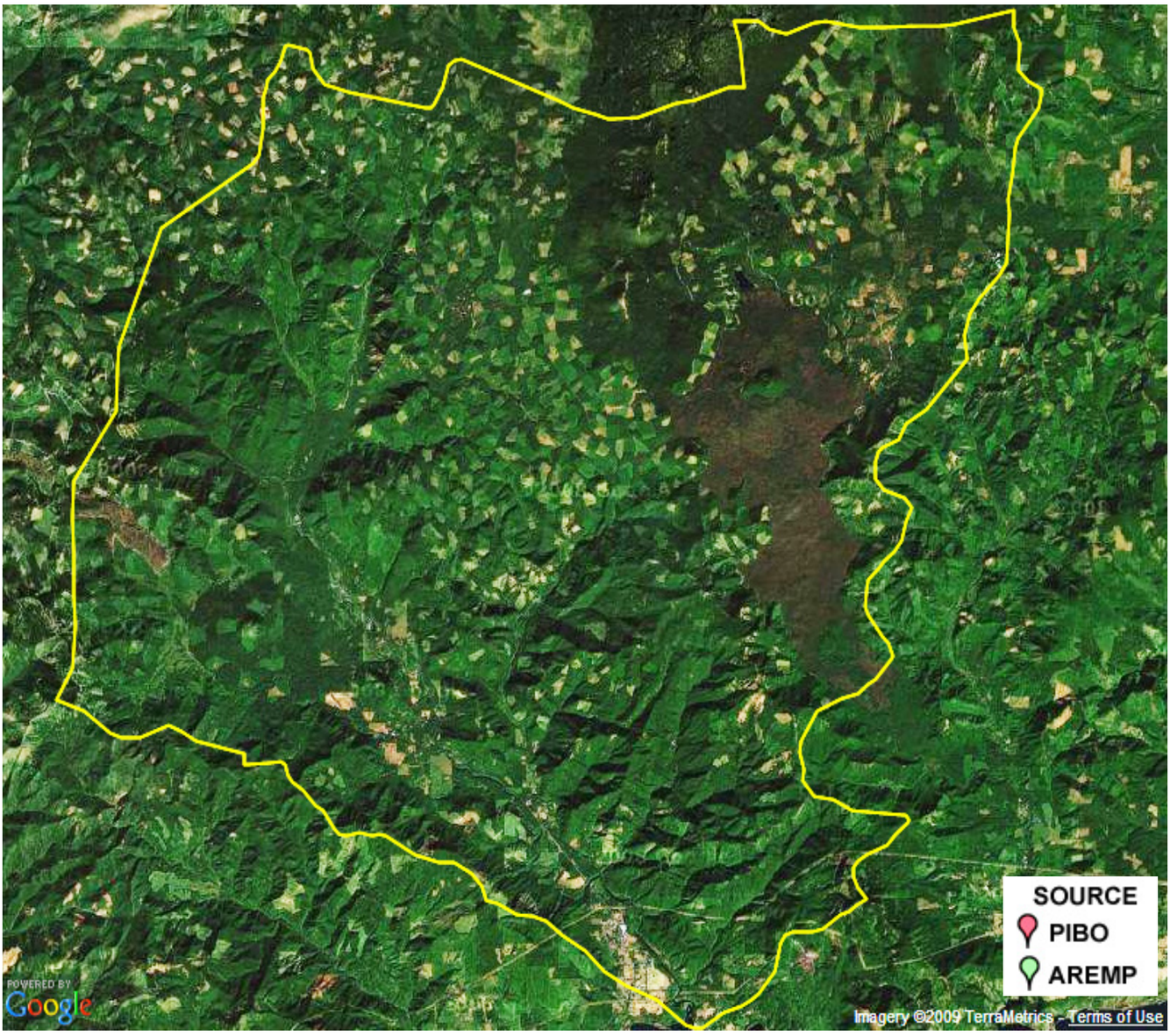
Subbasin: Wind

Stream Inventory Sites on National Forest and Bureau of Land Management Lands in the Wind Subbasin



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