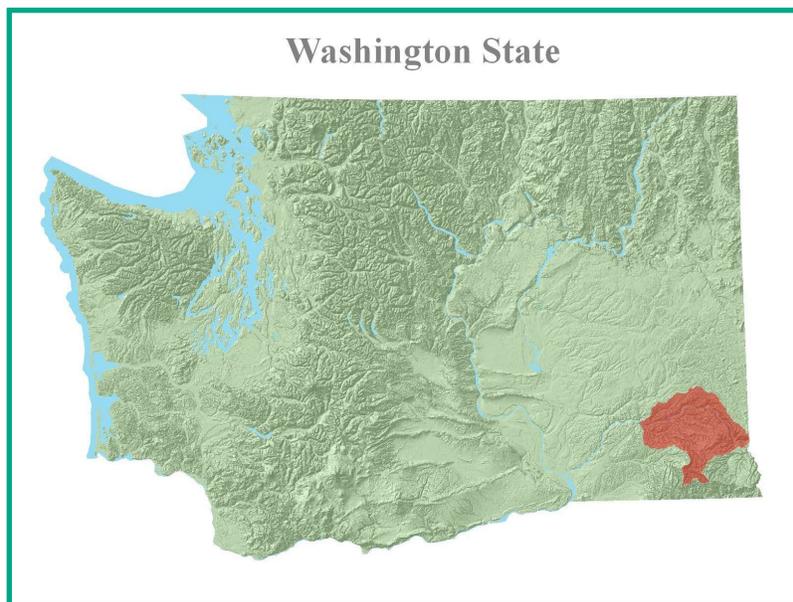


Lower Snake -Tucannon Watershed

HUC: 17060107

Rapid Watershed Assessment



This assessment involves the collection of quantitative and qualitative information to develop a watershed profile, sufficient analysis of that information to make qualitative statements as to resource concerns and conditions, and the generation of information with which to make decisions about conservation needs and recommendations. These assessments are conducted through the use of Geographic Information System (GIS) technology and by conservation planning teams working within the watershed, meeting with landowners and conservation groups, inventorying agricultural areas, assessing current levels of resource management, identifying conservation recommendations and, making qualitative estimates of the impacts of conservation on local resource concerns.

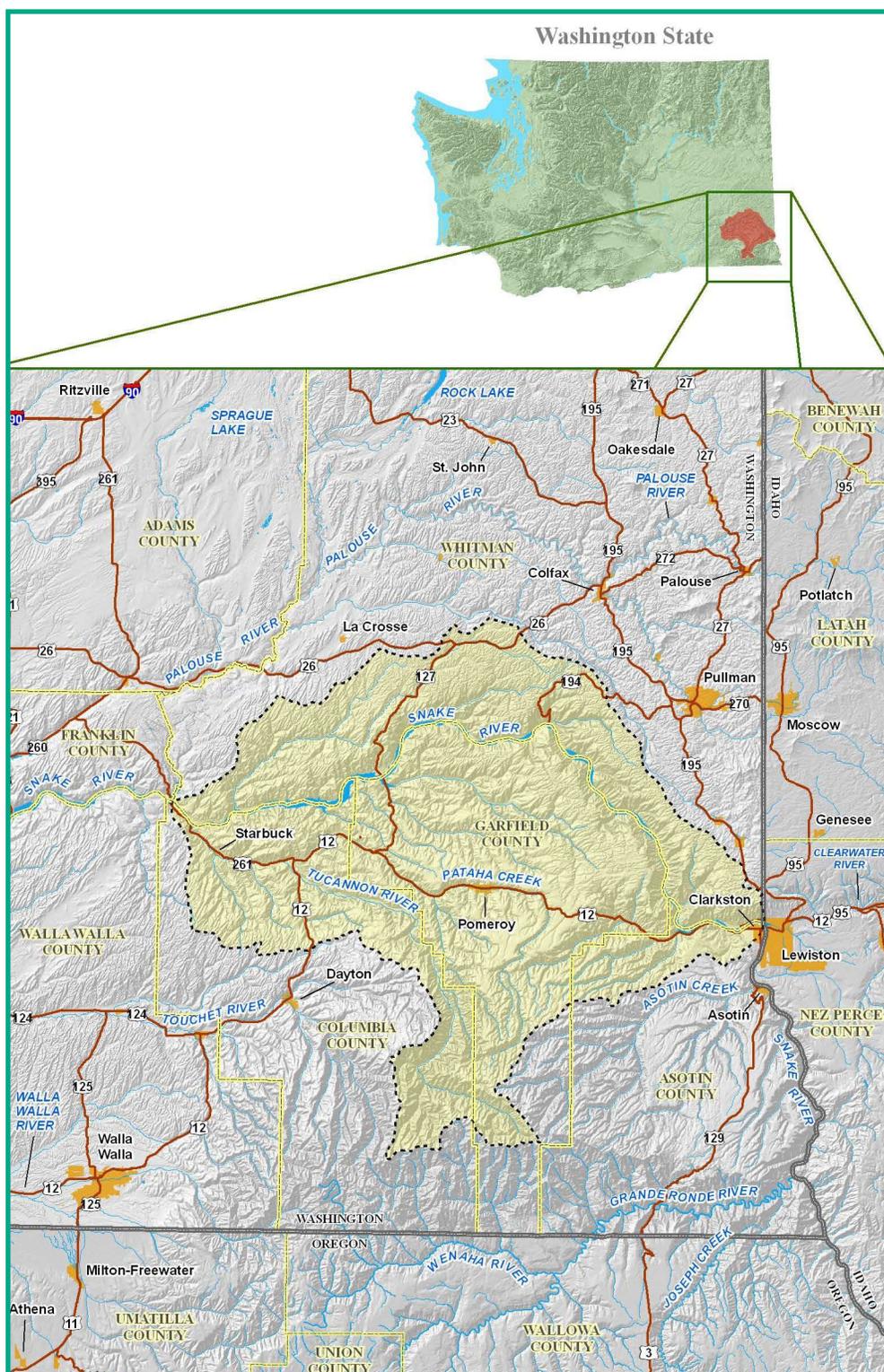
October 13, 2006

The Lower Snake Tucannon Watershed is located in the southeast corner of Washington State. The Lower Snake Tucannon 8-Digit Hydrologic Unit Code (HUC) subbasin is approximately 944,438 acres in size. The watershed is 84% privately owned and 16% publicly owned. The majority of the watershed is forest, rangeland and cropland. Cropland is located mostly in the lower elevations. Agricultural enterprises include hay, grain, and grass seed.

The city of Pomeroy makes up the largest urban area in the watershed. The majority of the watershed is located in Columbia and Garfield Counties.

Major resource concerns are soil erosion on cropland and forest roads, streambank erosion, impaired water quality, forest health issues, invasive weeds, poor pasture condition.

Primary natural resource technical assistance is provided by the Pomeroy and Dayton NRCS Field Offices, Columbia Conservation District and Pomeroy Conservation District and the Blue Mountain Resource Conservation and Development Area, Whitman Conservation District, Palouse Conservation District, the NRCS Colfax field office and the Upper Columbia Resource Conservation and Development Area.



The profile content for the Rapid Watershed Assessments in Washington is outlined in the following five categories:

	Page
Introduction	5

Physical Descriptions of the Watershed 6

- General Soils
 - Relief
 - Precipitation
 - Land Use / Land Cover
 - Common Resource Areas
 - Wind Erosion
 - Stream Fish Use and Barriers
 - Sole Source Aquifers
 - Ownership
 - Farmland Classification
 - 303d Listed Surface Water
 - Particulate Matter Maintenance Area
 - Riparian Land Use/ Cover
 - Irrigated Cropland, Hayland and Pastureland
 - Cultural and Historic Sites
-
-

Resource Concerns 20

Concerns
Threatened, Endangered and Proposed Species
AFO/CAFO
Compliance Issues

Farm Bill Programs 22

Acres Enrolled in Farm Bill Programs
NRCS - Protracts Progress and Status Summary

Reports 23

Census Data
2002 Ag Census Data
Population, Ethnicity, Income
Special Projects
Watershed Projects, Studies and Monitoring

Footnotes and Bibliography 28

The soils in this watershed are dominantly formed in very deep loess deposits and loess deposits over varying depths of basalt bedrock. The surface textures of these soils are silt loams and very fine sandy loams. The majority of the area is in cropland with native rangeland found on the steeper drainageway and canyons sideslopes and some of the steeper hillslopes units. The southern part of the watershed has forested areas with soils formed in volcanic ash over loess and colluvium from basalt. The surface textures of these soils are ashy silt loams or stony ashy silt loams. The climate pattern in this watershed provides a low risk of wind erosion but water erosion can be a concern on steeper slopes and when surface residue is removed by intensive crop/forest management practices or wildfire in the lower precipitation areas.

B1 – Dry, stony, very shallow to deep rangeland soils.

Aridic/Mesic; Kiona-Bakeoven-Starbuck.

B2 – Dry, stony; very shallow to moderately deep rangeland soils;

these soils have slightly dark topsoils. Aridic/Mesic; Clerf-Bakeoven-Vantage.

B3 – Stony rangeland soils of shallow to moderate depth;

these soils have slightly dark, humus-rich topsoils. Aridic to Xeric/Mesic; Kuhl-Rock Creek-Badge-Lickskillet.

B4 – Stony rangeland and cropland soils;

shallow to deep; these soils have dark-colored, humus-rich topsoils. Xeric/Mesic; Goldendale-Laufer-Clint.

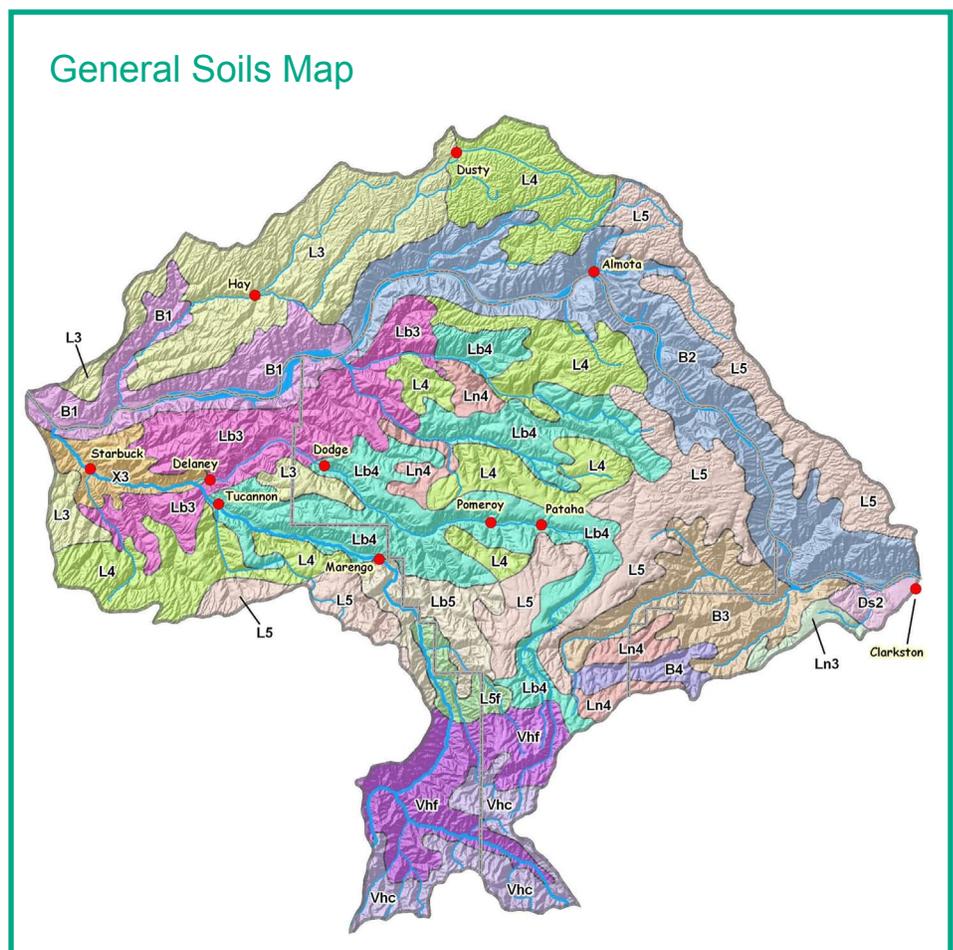
Ds2 – Dry, silty and loamy soils

that formed in glaciolacustrine deposits from cataclysmic outburst floods in the lower part and loess in the upper part. Aridic/Mesic; Ellisforde-Adkins-Farrell.

L3 – Coarse-silty loessial soils

that formed under steppe or shrub-steppe vegetation and have lime at a depth of 44-70 inches; these soils have moderately-dark, humus-enriched topsoils except where severely eroded. Xeric/Mesic; Walla Walla-Bagdad-Endicott.

(General Soils descriptions continued on next page.)



L4 – Fine-silty loessial soils; many have exceptionally thick, dark-colored, humus-rich topsoils except where severely eroded; some have subsoil accumulations of lime and/or clay; these soils have formed under meadow-steppe or steppe vegetation. Xeric/Mesic; Athena-Broadax.

L5 – Fine-silty loessial soils, many have exceptionally thick, dark-colored, humus-rich topsoils; soils on hilltops have thin topsoils and clay subsoils near the surface due to erosion; concave north slopes have thick topsoils underlain by white, leached horizon. Xeric/Mesic; Palouse-Thatuna.

L5f – Fine-silty, somewhat cool loessial soils that have clay-enriched subsoils; these soils in old, deeply-weathered loess; those formed under conifers have light-colored topsoils; those formed under steppe vegetation have dark-colored, humus-rich topsoils. Xeric/Mesic to Frigid; Freeman-Larkin-Naff-Dearyton-Cloverland-Teaway.

Lb3 – Soils on highly-dissected plateaus and eroded land surfaces; the landscape pattern is complex and includes loessial soils 20 to 40 inches to basalt that are cropped and shallow-stony soils that are used for range. Xeric/Mesic; Van Nostern-Morrow-Bakeoven-Asotin.

Lb4 – Soils on highly-dissected plateaus and eroded land surfaces; the landscape pattern is complex and includes loessial soils 20 to 40 inches to basalt that are cropped and shallow-stony soils that are used for range. Xeric/Mesic; Thiessen-Matheny.

Lb5 – Soils on highly-dissected plateaus and eroded land surfaces; the landscape pattern is complex and includes loessial soils 20 to 40 inches to basalt that are cropped and shallow-stony soils that are used for range. Xeric/Mesic; Mallory-Lawyer.

Ln3 – Similar to Lb, but a mound/intermound microtopography has sodium-affected soils with clay-enriched subsoils in intermounds. Xeric/Mesic; Nims-Weissenfels.

Ln4 – Similar to Lb, but a mound/intermound microtopography has sodium-affected soils with clay-enriched subsoils in intermounds. Xeric/Mesic; Pataha-Neissenberg.

Vhc – Cool and cold, deep forest soils that formed in volcanic ash over clay enriched loess-derived or basalt-derived ancient soils. Udic/Cryic; Helter.

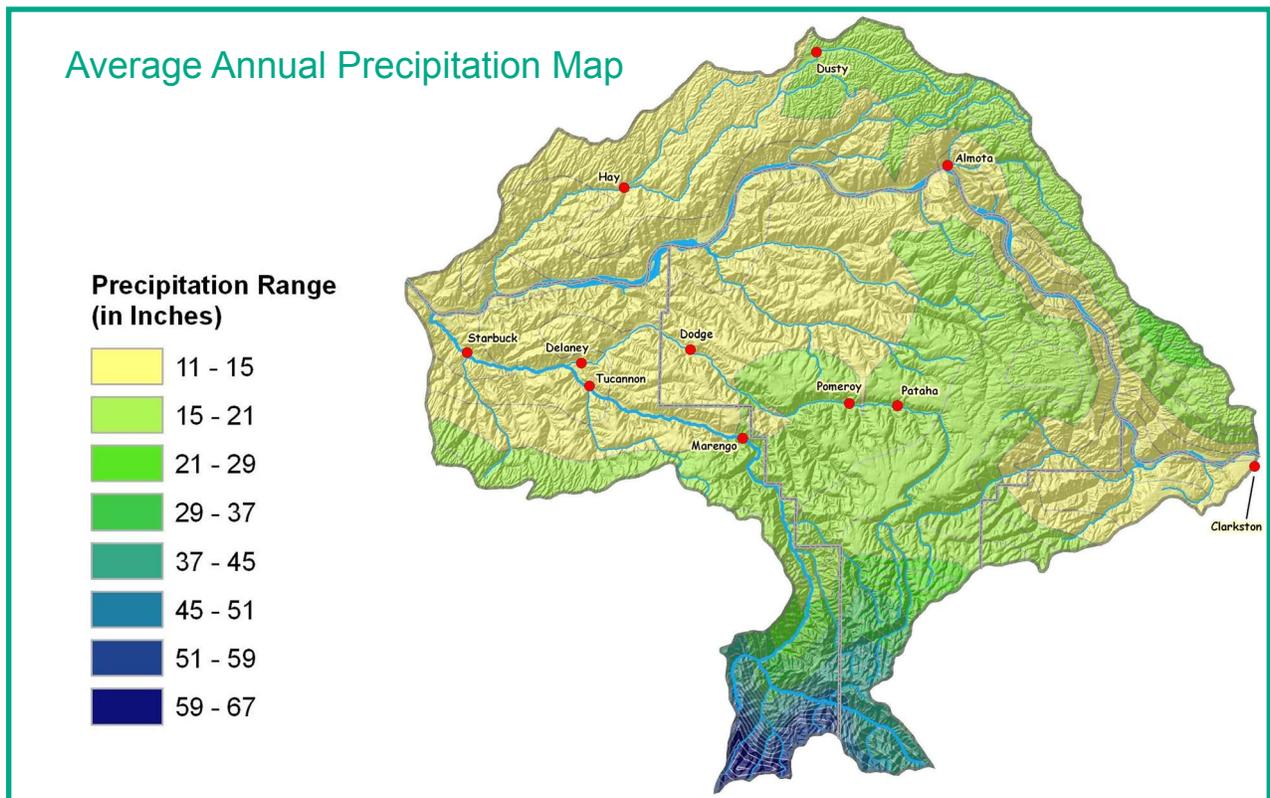
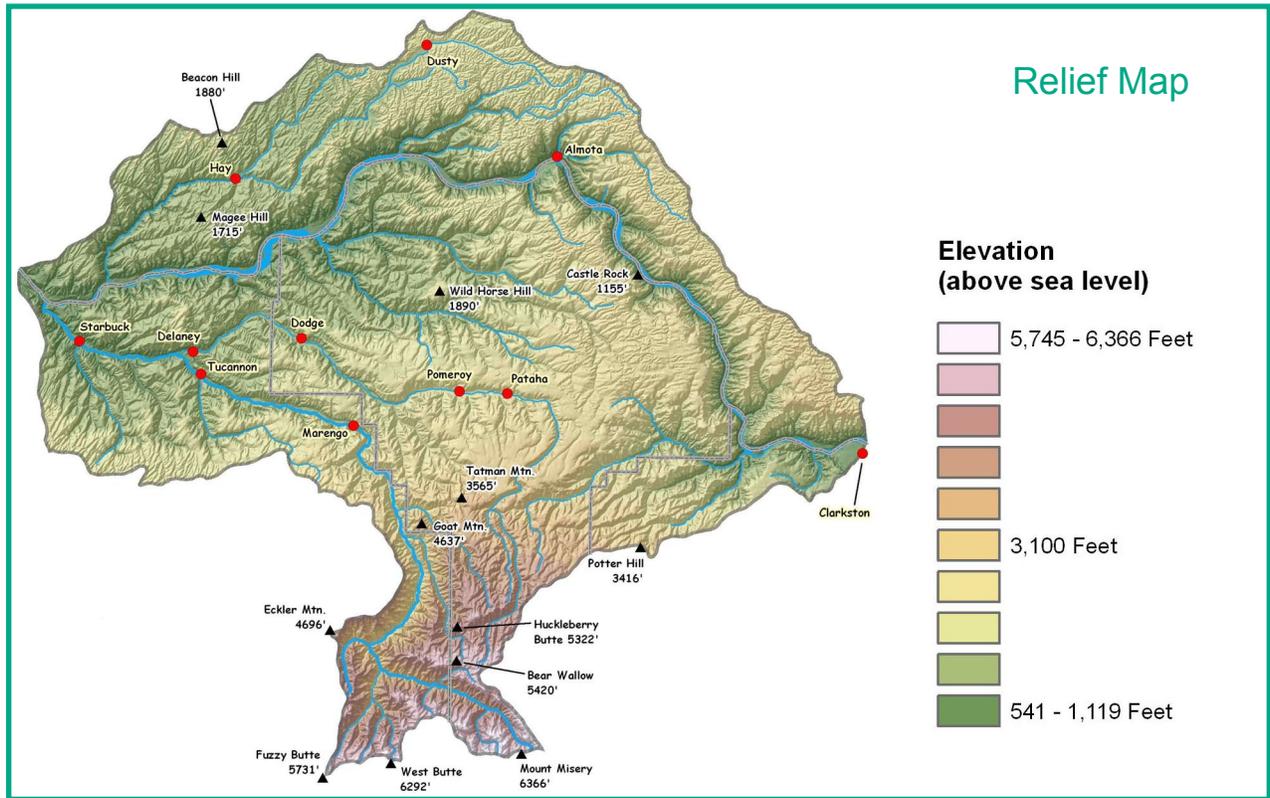
Vhf – Cool and cold, deep forest soils that formed in volcanic ash over clay enriched loess-derived or basalt-derived ancient soils. Xeric/Frigid; Tolo-Olot-Cracker creek.

X3 – Soils of the Channeled Scablands: shallow, stony soils formed in loess over cataclysmic glacial outburst flood-scoured basalt occur in complex landscape patterns with moderately deep soils formed in loess over silty, sandy, or cobbly flood sediment; includes small areas of very deep loessial soils and poorly drained salt-affected alluvial soils. Aridic/Mesic; Anders-Bakeoven-Benge-Lickskillet.

Physical Descriptions

Relief ³ and Precipitation ⁴

Lower Snake - Tucannon
 944,438 Total Acres
 HUC# 17060107

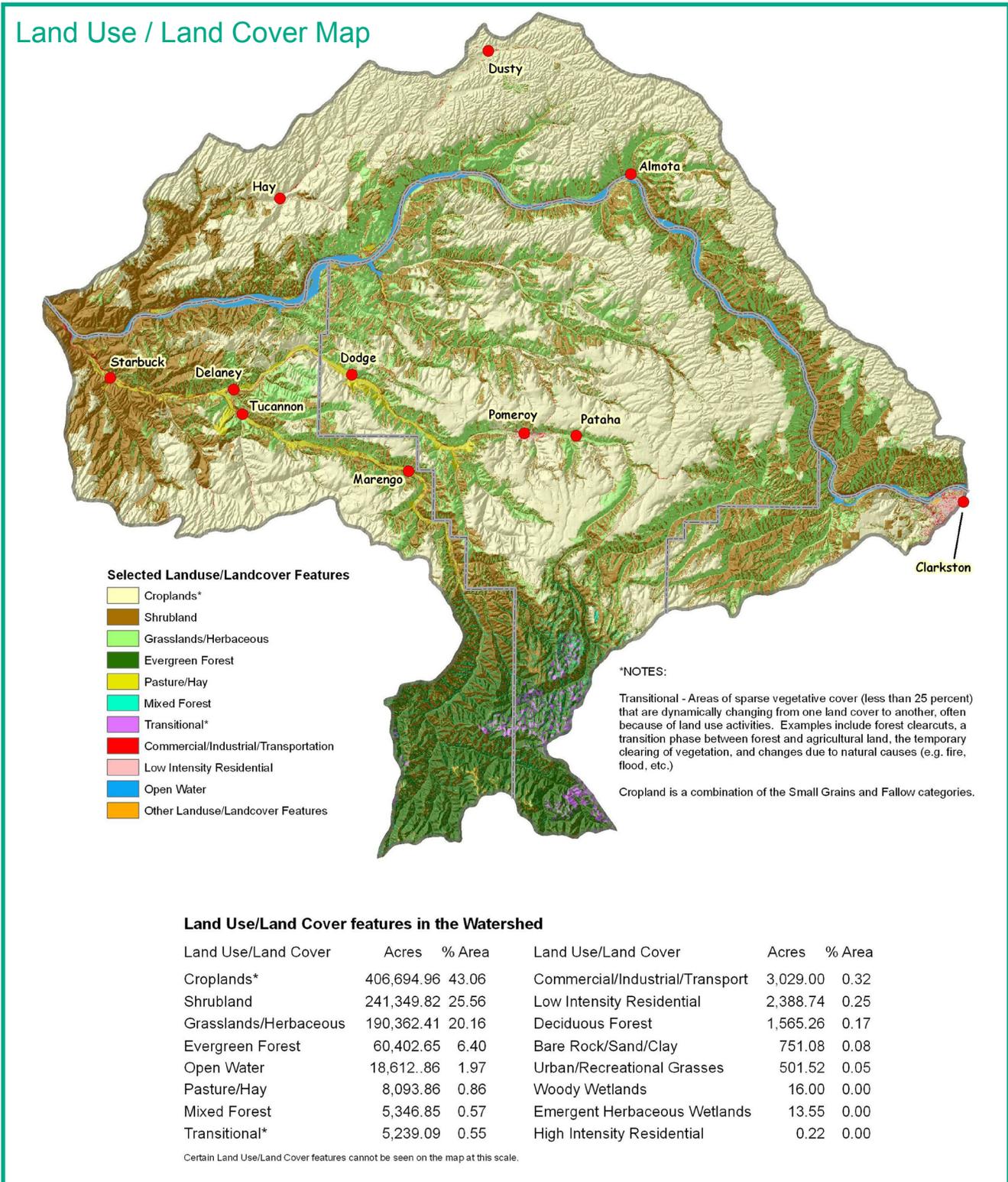


Physical Descriptions

Land Use / Land Cover ⁵

Lower Snake - Tucannon
 944,438 Total Acres
 HUC# 17060107

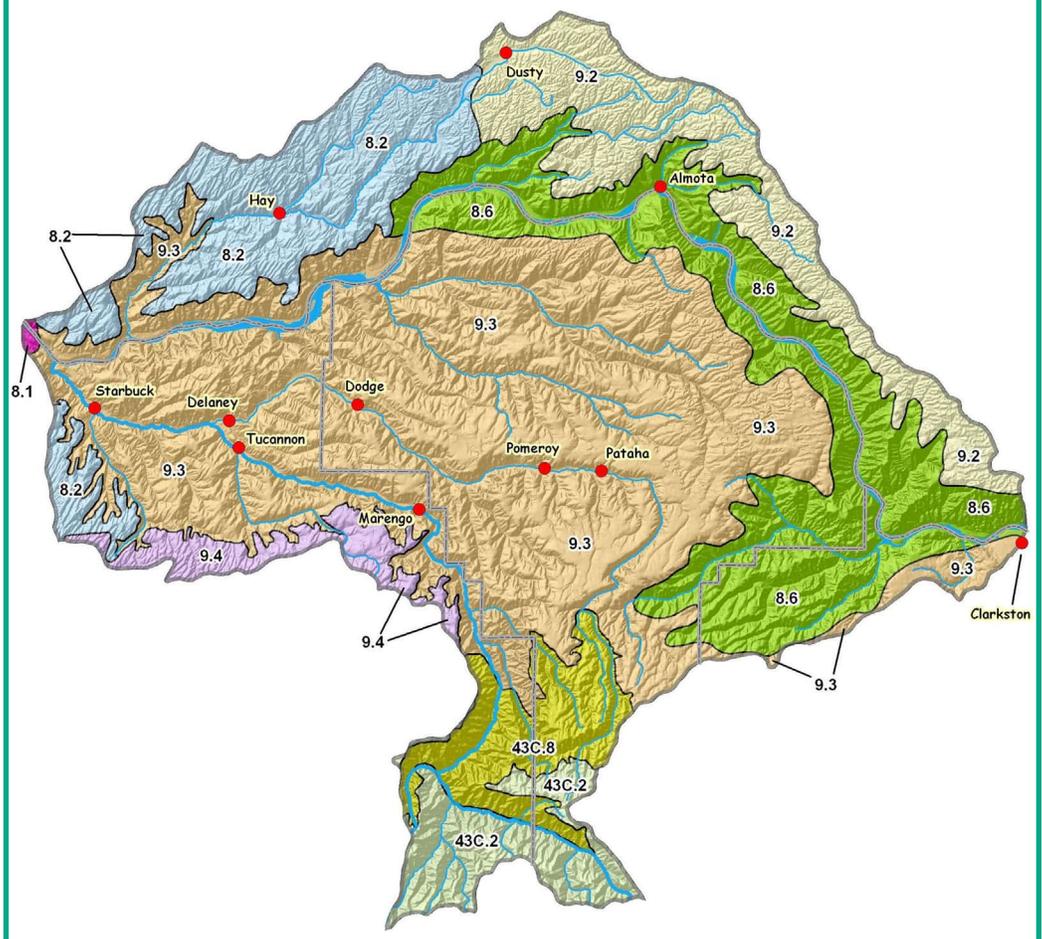
Landuse is a term used for a designation of a land area. NRCS uses official designations, based on use, such as cropland, forestland and pastureland. The Lower Snake Tucannon watershed map shows the primary landuse designations; Evergreen Forest, Fallow, Grasslands/Herbaceous, Shrubland, and Small Grains. These 5 major landuses make up 95% of the watershed. Minor landuses are displayed in the table.



43C.2 – Blue and Seven Devils Mountains - Maritime-Influenced Zone.

This unit is that part of the Blue Mountains that directly intercepts marine weather systems moving east through the Columbia River Gorge. Rain or snow events occur except in the summer. Loess soils are found at lower elevations near the Columbia Plateau and have a moderately high water holding capacity. Moisture availability is sufficient to support forests at lower elevations than elsewhere in the Blue Mountains. A dry forest of ponderosa pine and Douglas fir occurs and has a dense and diverse shrub layer.

Common Resource Area Map



43C.8 – Blue and Seven Devils Mountains - Blue and Seven Devils Mountains Dissected Uplands. This unit is characterized by deeply dissected forested mountain slopes. Temperature regime is frigid and the moisture regime is xeric. Vegetation is grand fir, Douglas-fir and ponderosa pine. The soils on the north facing slopes retain an ash mantle but south facing slopes lack this mantle due to erosion. Below about 4,500 feet elevation, the Douglas fir forest changes abruptly to the grassland of the Warm Canyons and Dissected Uplands CRA.

8.1 – Columbia Plateau - Channeled Scablands. This unit was formed by glacial Lake Missoula flood waters during the Pleistocene. The flood waters scoured away the thick loess soil covering the Columbia Plateau and exposed the basalt bedrock. The basalt plateaus bordering the main flood channels are patterned by ‘scabs’ (mounds of loess) surrounded by rock fragments. The scablands (mounds) are too dry to support trees. The most common native vegetation on the scabland channels is the stiff sage-Sandberg’s bluegrass association.

(Common Resource Area descriptions continued on next page.)



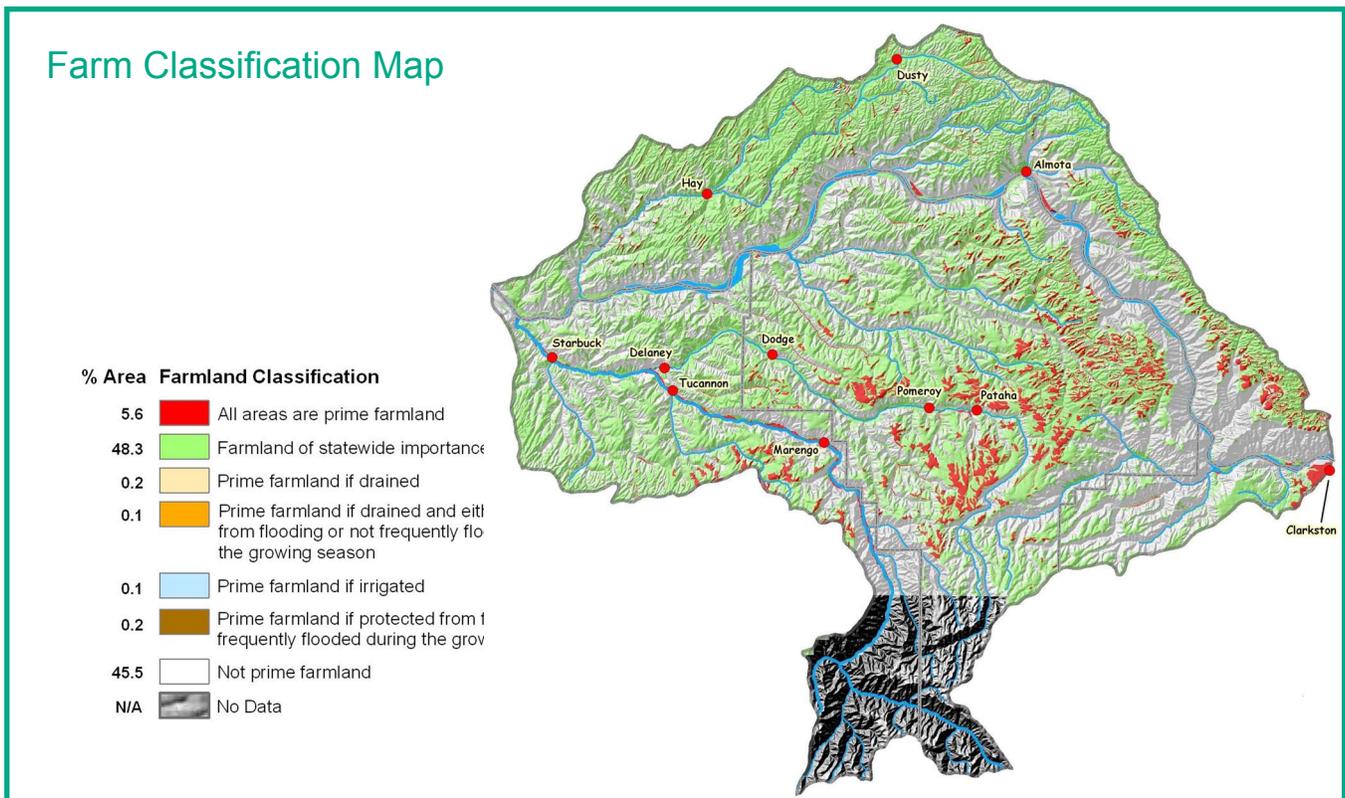
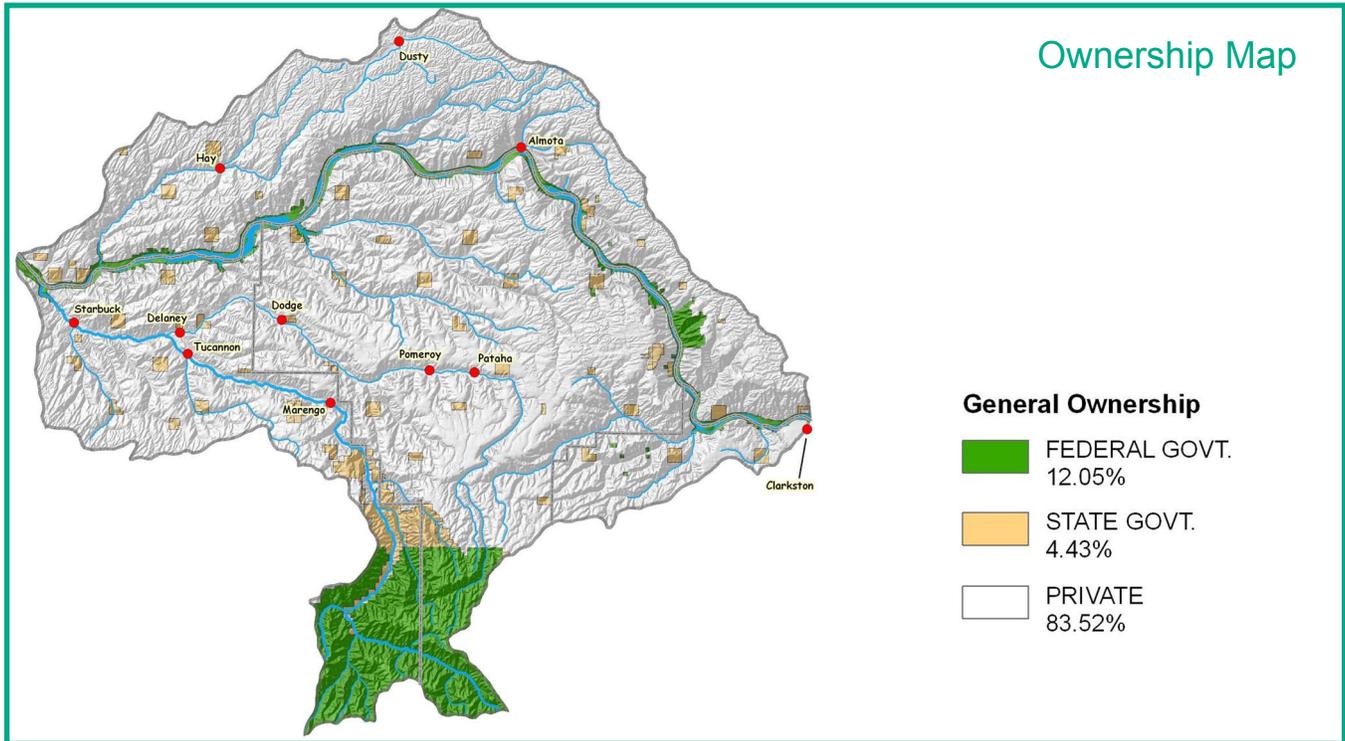
8.2 – Columbia Plateau - Loess Islands. This unit is the remnant of the once unbroken mantle of wind-deposited loess that covered the entire Columbia Plateau. The unit is surrounded by eroded Pleistocene flood channels. Mean annual precipitation is 9 to 15 inches, increasing from west to east. Temperature regime is mesic and the moisture regime is aridic and xeric. The big sage-bluebunch wheatgrass association is the predominant vegetation. Three tip sage and Idaho fescue grow in a band around the northern perimeter of the CRA. Present-day land use has transformed the loess islands into wheat fields. Because of the low annual precipitation, crop rotations generally include a fallow period.

8.6 – Columbia Plateau - Lower Snake and Clearwater Canyons. This unit consists of deeply dissected canyons cut through the basalt layers of the Columbia Plateau. It has isolated plateau fragments of the Dissected Loess Uplands CRA. The depth of the canyons, up to 2,000 feet, create drier conditions and Mean annual precipitation decreases to about 10 inches at the bottom of these canyons. Outside of human population centers and transportation corridors, canyons provide wildlife habitat for bighorn sheep and game birds. Grass-covered: grazing, recreation, and wildlife habitat.

9.2 – Palouse and Nez Perce Prairies - Palouse Hills. This unit is the western foothills of the Northern Rocky Mountains. This unit is characterized by a non-forested, loess-covered area with greater than 15 inches of precipitation. The highly productive soil has a higher organic matter and clay content. Original plant cover has been almost entirely supplanted by wheat farms. Water erosion is the major management issue. Perennial streams originate from the mountains to the east. Smaller, loess-bottomed streams rise within the CRA and are intermittent. Many of these intermittent streams are plowed and tiled. Extensive farming including small grains, peas, lentils, hay and pastureland.

9.3 – Palouse and Nez Perce Prairies - Dissected Loess Uplands. This unit is located on the northeastern slopes of the Blue Mountains. It comprises non-forested, rolling loess hills, canyons, and flat plateau remnants isolated by the lower canyons of the Snake River (CRA 8.6). Grasslands without a sagebrush component dominate the lower elevations. Shrubs (rose and snowberry) appear with increasing moisture at higher elevations. Though grazing and farming have eliminated much of the original plant cover, the dissected terrain and thinner soil is not as suited to agriculture as the neighboring Palouse Hills and Deep Loess Foothills CRAs. Small grain, pea, and hay farming, grazing, and wildlife habitat.

9.4 - Palouse and Nez Perce Prairies - Deep Loess Foothills. This unit is characterized by the lower, northwest-facing slopes of the eastern Blue Mountains. This unit is characterized by deep and very deep loess deposits on hills and terraces. The soils are dominated by the Athena, Imbler, Palouse, Lostine and Ladd soil series. Temperature regime is mesic and the moisture regime is xeric. Mean annual precipitation is 15 to 24 inches. Most areas are in cropland.



Physical Descriptions

Streams, Fish Species and Passage Barriers ^{7,8,9,18,19}

Lower Snake - Tucannon

944,438 Total Acres

HUC# 17060107

Statewide - these fish groups are exotic (introduced): catfish, spiny-rays (perch, sunfish, bass), pike, shad, mosquitofish, killifish, weatherfish, striped bass and goby.



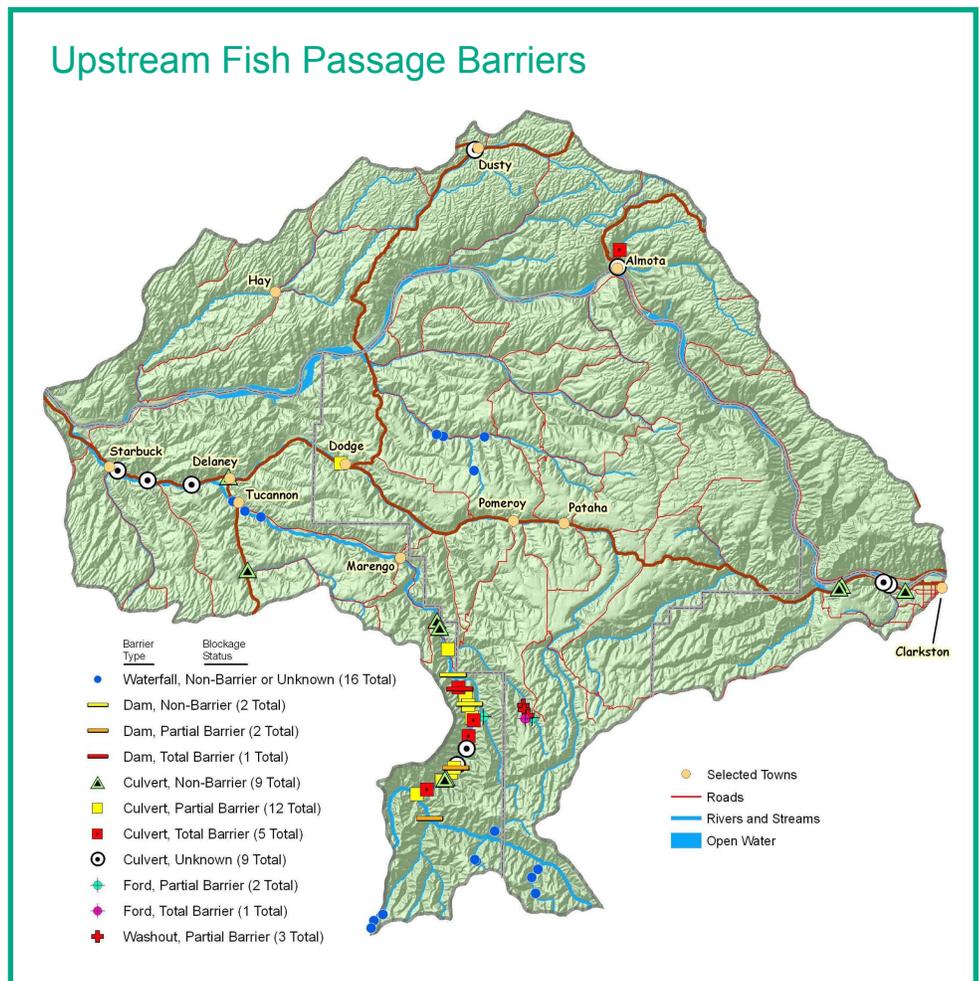
Fish Species Distribution in Lower Snake - Tucannon Watershed

Fish Group	Native	Exotic
Catfish		4
Lamprey	2	
Minnow, carp	6	1
Perch, walleye		2
Salmonid (anadromous)	4	
Salmonid (resident)	4	2
Sand roller	1	
Sculpin	3	
Shad	1	
Sturgeon	1	
Sucker	3	
Sunfish, bass, crappie		7
Watershed Total	25	16
Statewide Total	53	41

Salmonid (resident) native: rainbow, bull, westslope cutthroat trout; mountain whitefish; **exotic:** brown, brook trout.

Salmonid (anadromous): Chinook, coho, sockey, steelhead.

Upstream Fish Passage Barriers



Stream Statistics for the Lower Snake - Tucannon Watershed	
Total streams	778
Named streams	123
Total stream miles	1965
Intermittent miles	1389
Intermittent %	71%

Physical Descriptions

303d Listed Surface Water ¹²

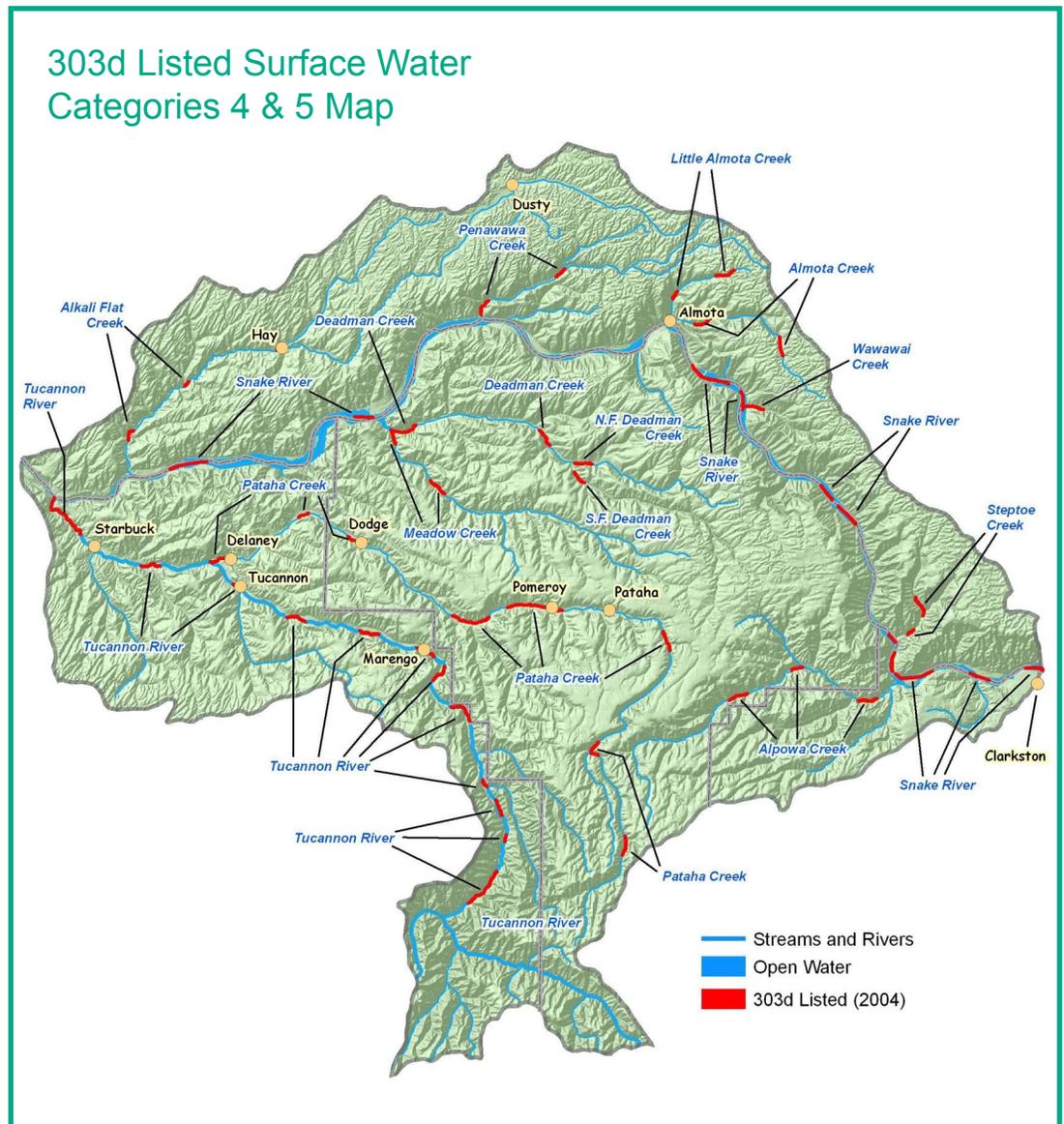
Lower Snake - Tucannon
944,438 Total Acres
HUC# 17060107



Section 303(d) of the federal Clean Water Act requires each state periodically to prepare a list of all surface waters in the state for which beneficial uses of the water – such as for drinking, recreation, aquatic habitat, and industrial use – are impaired by pollutants. These are water quality limited estuaries, lakes, and streams that fall short of state surface water quality standards and are not expected to improve within the next two years.

Waters placed on the 303(d) list require the preparation of Total Maximum Daily Loads (TMDLs), a key tool in the work to clean up polluted waters. TMDLs identify the maximum amount of a pollutant that can be released into a waterbody without impairing the uses of the water. TMDL's can be allocated amount among various pollution sources.

In addition, even before a TMDL is completed, the inclusion of a water body on the 303(d) list can reduce the amount of pollutants allowed to be released under permits issued by Ecology.



(303d description continued on next page.)

Physical Descriptions

303d Listed Surface Water

Lower Snake - Tucannon

944,438 Total Acres

HUC# 17060107



Washington State's Water Quality Assessment lists the status of water quality for a particular location in one of 5 categories recommended by EPA. Categories 1 – 4 represent the status of waters for the 305(b) Report, while Category 5 represents those waters placed on the 303(d) list.

Category 4: Polluted waters that do not require a TMDL is for waters that have pollution problems that are being solved in one of three ways.

Category 4a: **“has a TMDL”** is for water bodies that have an approved TMDL in place and are actively being implemented.

Category 4b: **“has a pollution control plan”** is for water bodies that have a plan in place that is expected to solve the pollution problems. While pollution control plans are not TMDLs, they must have many of the same features and there must be some legal or financial guarantee that they will be implemented.

Category 4c: **“is impaired by a non-pollutant”** is for water bodies impaired by causes that cannot be addressed through a TMDL. These impairments include low water flow, stream channelization, and dams. These problems require complex solutions to help restore streams to more natural conditions.

Category 5: Polluted waters that require a TMDL. The 303(d) list is the traditional list of impaired water bodies. Placement in this category means that Washington State Department of Ecology has data showing that the water quality standards have been violated for one or more pollutants, and there is no TMDL or pollution control plan. TMDLs are required for the water bodies in this category.

(303d continued on next page)

Physical Descriptions

303d Listed Surface Water ¹³

Lower Snake - Tucannon
 944,438 Total Acres
 HUC# 17060107

Water Body	Fecal Coliform	Temperature	Dissolved Oxygen	pH	Turbidity	Dissolved Gas	Exotic Invasive Total	Ammonia-N	Total PCBs	Mercury	Thalium	Dioxin	Pyrene	Nickel	Phenol	Clordane	Fluorene
Alkali Flat Creek		x															
Almota Creek		x															
Alpowa Creek	x	x															
Deadman Creek		x															
Little Almota Creek		x															
Meadow Creek		x															
N.F. Deadman Creek	x	x															
Pataha Creek	x	x	x	x				x									
Penawawa Creek		x															
S.F. Deadman Creek	x	x															
Snake River		x	x	x		x	x		x	x	x	x	x	x	x	x	x
Stepto Creek		x															
Tucannon River	x	x	x	x	x			x									

Water Body	1,4-Dichloro-benzene	Hexachloro-benzene	BIS(2-chloro-isopropyl)ether	Anthracene	2,4-Dinitrotolene	Nitro Benzene	Antimony	4,4'-DDE	Hexachloro-ethane	Gamma-BHC (Lindane)	Trichlorophenol	2,4,6-Sulfate	Endosulfan	2,4-Diphenylhydrazine	1,3-Dichloro-benzene	Heptachlor	Beta-BHC	1,2-Dichloro-benzene	Fluorathene	
Alkali Flat Creek																				
Almota Creek																				
Alpowa Creek																				
Deadman Creek																				
Little Almota Creek																				
Meadow Creek																				
N.F. Deadman Creek																				
Pataha Creek																				
Penawawa Creek																				
S.F. Deadman Creek																				
Snake River	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Stepto Creek																				
Tucannon River																				

Physical Descriptions

Riparian Land Use / Land Cover ⁵

Lower Snake - Tucannon
 944,438 Total Acres
 HUC# 17060107

The current condition and quality of riparian areas adjacent to water bodies is often times dependent on the land use and land cover characteristics.



This data set is based on a riparian width of 100 feet on each side of all streams in the watershed.

Riparian Land Cover / Land Use		
Based on a 100-foot stretch on both sides of all streams in the 100K Hydro GIS Layer	ACRES	% of Buffer Area
Bare Rock/Sand/Clay	21	0.0
Commercial/Industrial/Trans	250	0.0
Deciduous Forest	172	0.0
Emergent Herbaceous	2	0.0
Evergreen Forest	4,530	0.1
Fallow	2,824	0.1
Grasslands/Herbaceous	9,249	0.2
Low Intensity Residential	97	0.0
Mixed Forest	495	0.0
Open Water	2,508	0.1
Pasture/Hay	861	0.0
Shrubland	12,965	0.3
Small Grains	13,467	0.3
Transitional	118	0.0
Urban/Recreational Grasses	56	0.0
Woody Wetlands	6	0.0
Total Acres of 100-Foot Stream Buffers	47,622	100 %

Physical Descriptions

Irrigated Cropland, Hayland and Pastureland ¹⁴

Lower Snake - Tucannon
 944,438 Total Acres
 HUC# 17060107

The Natural Resource Inventory (NRI) of 1997 was used to estimate acres of irrigated and cultivated cropland, uncultivated cropland (hayland) and pastureland in the watershed.



These estimates were then verified by the Pomeroy and Colfax office staffs.

Irrigated Lands <i>(1997 NRI³ Estimates for Non-Federal Lands Only)</i>			
Type of Land	Acres	Percent of Irrigated Lands	Percent of HUC
Cultivated Cropland	600	46%	<1%
Uncultivated Cropland	700	54%	<1%
Pastureland	0	0%	0%
Total Irrigated Lands	1,300	100%	<1%

Animal Feeding Operations						
Animal Type	Dairy	Beef Feedlot	Heifer Feedlot	Poultry	Sheep	Swine
				(Egg & Fryer)	Feedlot	
No. of Farms	0	17	0	0	2	0



Cultural resources are important to most residents in the watershed. Cultural Resources are considered equivalent to “historic properties” as defined in the National Historic Preservation Act. They include any prehistoric or historic district, site, building, structure or object listed in or eligible for listing in the National Register of Historic Places (maintained by the Secretary of the Interior). They also include all records, artifacts and physical remains associated with the historic properties. They may consist of the traces of all of the past activities and accomplishments of people.

Cultural resources that are also protected under other authorities (such as the American Indian Religious Freedom Act) include:

- (1) tangible traces such as districts, sites, buildings, structures and objects;
- (2) less tangible traces such as dance forms, aspects of folk life, landscapes, vistas, cultural or religious practices;
- (3) historical documents;
- (4) and some landscapes, vistas, cemeteries (if they have historic or cultural value) and life ways.

Native Americans have fished the waters of the Lower Snake and Tucannon Rivers and vicinity for thousands of years. Native Americans thrived on abundant fish and mammals, basing much of their culture and economy on these rich resources, particularly the multiple runs of salmon. Lewis and Clark journals noted that native bands moved between pre-established sites, influenced by the seasons and the availability of food resources.

The first European settlers arrived in the 1830’s and 1840’s. These settlers followed a period of French fur trappers working in the area and were mostly associated with the Hudson Bay Company. Early settlement occurred primarily in the Walla Walla valley and along the Snake River that was used for transportation.

Activities carried out in the watershed by Federal agencies, where the agency has control of the outcome, is subject to provisions of the National Historic and Preservation Act. The Act requires Federal agencies to take into account the effects of their undertakings on any cultural resources or historic properties that meet the National Register of Historic Places criteria. Part of this process involves taking action to avoid or minimize harm to eligible resources.

Physical Descriptions

Air Quality, Ground Water ¹⁶ and Wind Erosion

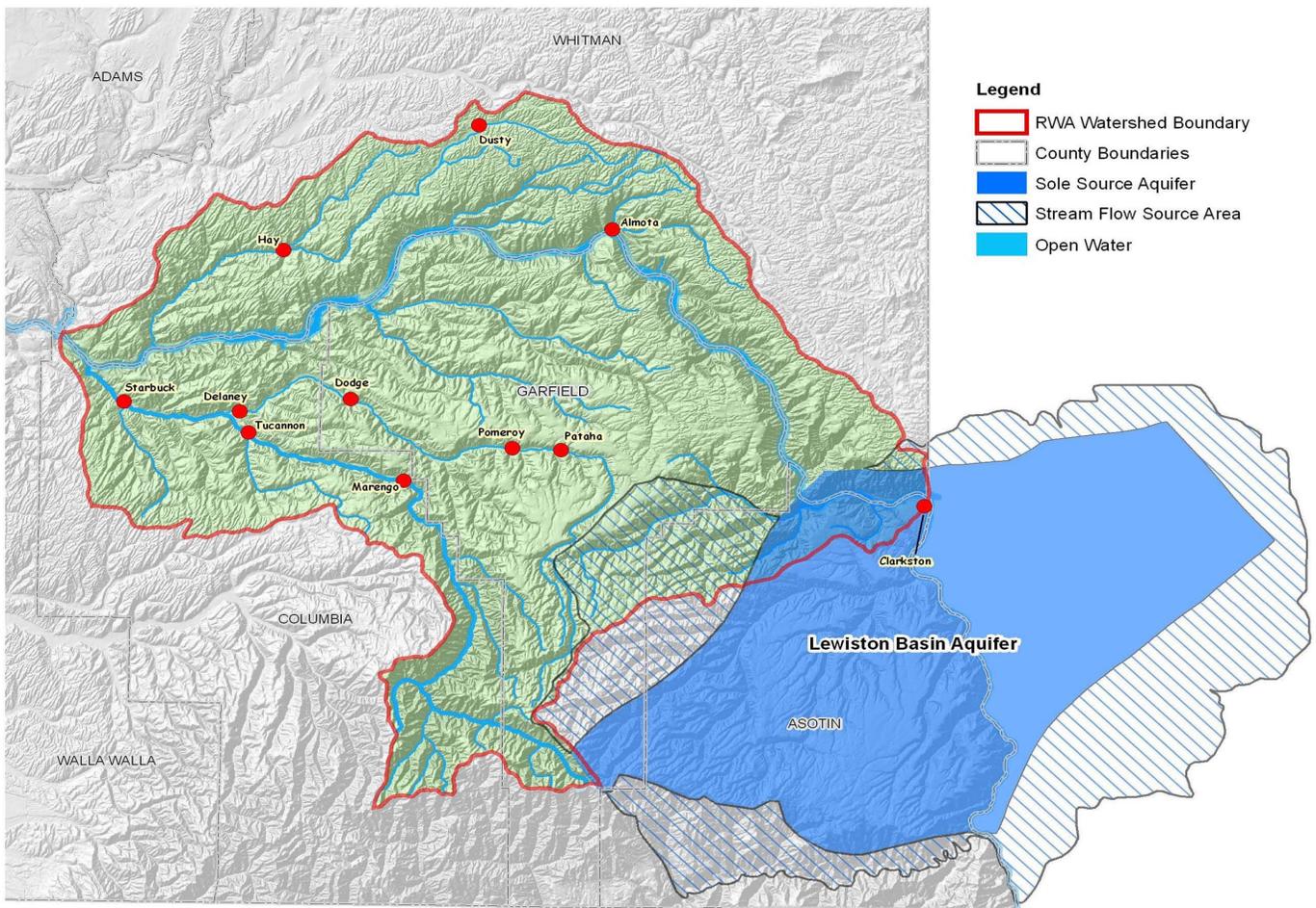
Lower Snake - Tucannon
944,438 Total Acres
HUC# 17060107

The Southeastern part of the Lower Snake-Tucannon watershed lies above the Lewiston Basin Aquifer that has been designated as a sole source aquifer (SSA). Under the Federal Safe Drinking Water Act, the EPA may determine that an underground water supply is the sole or principal source of drinking water for an area which, "if contaminated, would create a significant hazard to public health...". Designation may come from the EPA administrator's own initiative or by a petition by any person, including individuals, corporations, municipalities, associations, or agencies.



Definition of a SSA includes: The aquifer must be the sole or principle source of drinking water for residents within the aquifer boundary. No feasible alternatives can replace the drinking water supplied by the aquifer should it become contaminated. The aquifer boundaries must be clearly definable. Once EPA designates an aquifer as a Sole Source Aquifer, monetary limits may be placed on "federal financial assistance" for projects that could contaminate drinking water.

Sole Source Aquifer Area

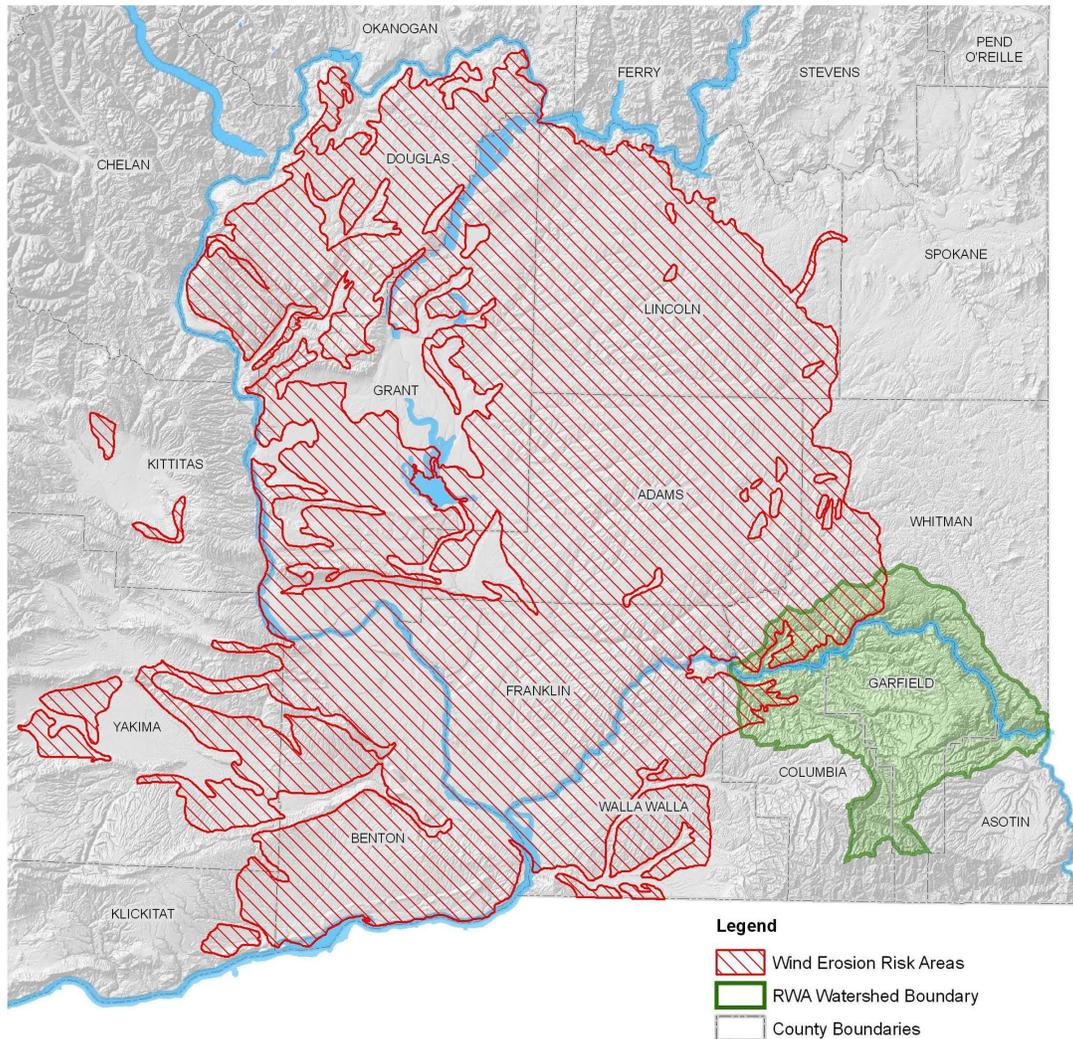


Risk of wind erosion is determined by the erodibility and erosivity at a site. Erodibility is affected by soil texture, surface cover and landscape position. Erosivity refers to wind speed, duration, direction and moisture pattern.



The soils that are mapped as wind erosion risk areas have a loess parent material of various depths with high percentages of silt. The soils occur in xeric/mesic climate regime with erosive winds channeled along the Snake River valley. This combination of factors is conducive to wind erosion when adequate vegetation or residue is unable to protect the soil surface.

Wind Erosion Risk Areas



The Local Work Group (LWG) has identified the following resource concerns as being the top priority for cost share assistance:

SOIL
CI > 16 and the RKLS <=25 on cropland.
Minimum tillage (herbicides and tillage) or a delayed minimum tillage (herbicides and delayed tillage) system of management on summer fallow in the less than 12 precipitation zone.
Native or introduced forage species be established on HEL cropland.
RKLS on cropland > 25 and CI <=16 on cropland.
Vegetation be managed without soil disturbance from harvest of the previous crop until seeding of the crop following the fallow season in the 12 and greater precipitation zone.
WATER
Forest road is delivering sediment directly or indirectly to salmonid-bearing streams.
Irrigation water management.
Livestock water is a limiting factor for achieving proper grazing distribution.
Noxious weeds and/or woody vegetation.
Nutrient/Pest Management Systems utilizing GIS Guidance/Mapping.
Pest Management System utilizing automated spot spraying.
Riparian Forest Buffer, Grass Buffer Strip, Shelterbelt, Grassed Waterway, Field Border, or Filter Strip.
Uncontrolled livestock access to riparian areas.
Winter feeding areas adjacent to streams.
AIR
Field Windbreak.
Land located within the Conservation Priority Area identified on the CRP Air Quality Map (2-CRP, WA Exhibit 12).
PLANT
Decline in forest health on Non-Industrial private forest land.
Revegetation on unstable disturbed areas on Class 6e soil.
Prescribed grazing system need.
ANIMAL
Salmonid fish passage barriers.

Resource Concerns

Threatened and Endangered List ^{18,19}

Lower Snake - Tucannon
 944,438 Total Acres
 HUC# 17060107



The following Chart shows the listed plant and animal species under the Endangered Species Act (ESA).

These species are a resource concern that must be addressed during the planning process. For additional information contact the United States Fish & Wildlife Service (USF&W) and/or the National Marine Fisheries Service (NMFS).

If planned practices will be applied in an area where potential listed species or its designated critical habitat may be affected either positively or negatively, than a Biological Assessment (BA) must be conducted.

Animal and Plant Species Included in the Endangered Species Act for the Lower Snake-Tucannon Watershed		
Common Name	Scientific Name	Type
<i>Endangered Species</i>		
Sockeye Salmon	<i>Oncorhynchus nerka</i>	<i>Fish</i>
<i>Threatened Species</i>		
Bald Eagle	<i>Haliaeetus leucocephalus</i>	<i>Bird</i>
Spalding's Catchfly	<i>Silene spaldingii</i>	<i>Plant</i>
Chinook Salmon	<i>Oncorhynchus tshawytscha</i>	<i>Fish</i>
Steelhead	<i>Oncorhynchus mykiss</i>	<i>Fish</i>

Farm Bill Programs

Performance Results ²²

Lower Snake - Tucannon

944,438 Total Acres

HUC# 17060107

This section highlights the conservation application that has been reported from FY 2001 through FY 2006. Performance Results System (PRS) data was extracted from PRS reports by year, conservation systems by Hydrologic Unit Code (HUC). HUC reports were not available where NA. For additional information and other performance reports visit <http://ias.sc.egov.usda.gov/prshome/>.

	FY02	FY03	FY04	FY05	FY06	Total
Conservation Systems						
Total Conservation Systems Planned (acres)	3,496	24,670	NA	19,962	23,509	71,637
Total Conservation Systems Applied (acres)	26,347	35,271	NA	19,797	19,578	100,993
Conservation Treatments						
Waste Management (no.)	0	0	0	0	0	0
Buffers	2,216	2,043	460	28	132	4,879
Erosion Control (tons/year)	115,821	167,226	NA	43,725	17,539	344,311
Erosion Control (acres treated with erosion control measures)	14,302	18,086	NA	6,041	576	39,005
Irrigation Management (acres)	0	0	0	0	0	0
Nutrient Management (acres)	2,974	968	4,830	4,060	0	12,832
Pest Management (acres)	4,622	4,607	8,777	7,208	688	25,902
Prescribed Grazing (acres)	4,143	1,520	1,307	0		6,970
Tree and Shrub Establishment (acres)	1,314	793	301	60	41	2,509
Wildlife Habitat (acres)	15,333	19,733	6,156	585	50	41,857
Wetlands (acres)	0	0	0	0	0	0

This table lists the farm bill program participation in the watershed during the last five years. Data was collected from Conservation Systems Planned using Farm Bill Programs from PRS reports for the hydrologic unit area. NA indicates that the information was not available.

	FY02	FY03	FY04	FY05	FY06	Total
Conservation Systems Planned Using Conservation Farm Bill Programs (acres)						
Conservation Reserve Program (CRP)	2,555	13,223	8,923	1,931	3,704	30,336
Conservation Security Program (CSP)	NA	NA	NA	NA	NA	0
Environmental Quality Incentives Program - Ground and Surface Water (EQIP-GSWC)	-	0	0	0	0	0
Environmental Quality Incentives Program (EQIP)	158	9,357	26,603	11,880	11,757	59,755
Farmland Protection Program (FPP)	0	0	0	0		0
Forestry Incentives Program (FIP)	0	0	0	0	0	0
Grassland Reserve Program (GRP)	-	0	0	0	0	0
Wetlands Reserve Program (WRP)	0	0	0	0	0	0
Wildlife Habitat Incentive Program (WHIP)	0	0	7	0	584	591

Census Data - Ethnicity ²⁴ and Economic Characteristics ²⁵



There are 198 farms in Garfield County and 1,087 farms in Whitman County, the core counties comprising 74% of the agricultural operations in the watershed. An analysis of the 2002 Agricultural Census data by zip code suggests there are 364 agricultural operations in the watershed. Garfield County has 41% of the agricultural operations in the watershed. The county average farm size in the 2002 Census of Agriculture was 864 acres for Garfield and 58 acres for Whitman.

For Garfield County, the 2002 average market value of agricultural products sold was \$99,887 with a net cash farm income of \$30,819. The Garfield county net cash farm income was 91% of the statewide average. For Whitman County, the 2002 average market value of agricultural products sold was \$149,614 with a net cash farm income of \$49,037. The Whitman County net cash farm income was 145% of the statewide average.

The average farm size for Washington State in the 2002 Census of Agriculture was 426 acres with an average market value of agricultural products sold of \$148,327 and an average net cash farm income of \$33,925.

Population Ethnicity by County	Garfield	Whitman	Washington
White persons, percent, 2004 (a)	98.4%	88.6%	85.3%
Black persons, percent, 2004 (a)	0.0%	1.8%	3.5%
American Indian and Alaska Native persons, percent, 2004 (a)	0.4%	0.7%	1.6%
Asian persons, percent, 2004 (a)	0.7%	6.6%	6.3%
Native Hawaiian and Other Pacific Islander, percent, 2004 (a)	0.0%	0.3%	0.5%
Persons reporting two or more races, percent, 2004	0.4%	1.9%	2.9%
Persons of Hispanic or Latino origin, percent, 2004 (b)	2.3%	3.3%	8.5%

ECONOMIC CHARACTERISTICS by County	Garfield		Whitman		Washington	
	Number	%	Number	%	Number	%
Employed civilian population 16 years and over	976		18,870		2,793,722	
OCCUPATION						
Management, professional, and related occupations	386	40	8,593	46	993,198	36
Service occupations	125	13	3,292	17	416,056	15
Sales and office occupations	238	24	4,545	24	723,256	26
Farming, fishing, and forestry occupations	35	4	334	2	43,495	2
Construction, extraction, and maintenance occupations	77	8	919	5	263,767	9
Production, transportation, and material moving occupations	115	12	1,187	6	353,950	13

ECONOMIC CHARACTERISTICS by COUNTY	Garfield		Whitman		Washington	
	Number	%	Number	%	Number	%
INDUSTRY						
Agriculture, forestry, fishing and hunting, and mining	182	19	1,214	6	68,976	3
Construction	52	5	600	3	194,871	7
Manufacturing	26	3	506	3	348,646	13
Wholesale trade	88	9	401	2	113,526	4
Retail trade	111	11	1,545	8	338,772	12
Transportation and warehousing, and utilities	36	4	487	3	150,985	5
Information	8	1	396	2	95,669	3
Finance, insurance, real estate, and rental and leasing	37	4	568	3	170,622	6
Professional, scientific, management, administrative, and waste management services	28	3	1,033	6	272,466	10
Educational, health and social services	229	24	8,503	45	541,214	19
Arts, entertainment, recreation, accommodation and food services	38	4	1,918	10	221,656	8
Other services (except public administration)	47	5	895	5	135,379	5
Public administration	94	10	804	4	140,940	5
CLASS OF WORKER						
Private wage and salary workers	493	51	8,786	47	2,125,029	76
Government workers	305	31	8,611	46	459,722	17
Self-employed workers in own not incorporated business	171	18	1,405	7	199,827	7
Unpaid family workers	7	1	68	0	9,144	0
INCOME IN 1999						
Households	999	100	15,247	100	2,272,261	100
Less than \$10,000	123	12	2,659	17	171,863	8
\$10,000 to \$14,999	78	8	1,846	12	124,848	6
\$15,000 to \$24,999	177	18	2,310	15	265,131	12
\$25,000 to \$34,999	142	14	2,001	13	284,630	13
\$35,000 to \$49,999	159	16	2,110	14	389,434	17
\$50,000 to \$74,999	210	21	2,329	15	486,392	21
\$75,000 to \$99,999	63	6	1,033	7	264,498	12
\$100,000 to \$149,999	38	4	678	4	188,513	8
\$150,000 to \$199,999	5	1	181	1	47,615	2
\$200,000 or more	4	0	100	1	49,337	2
Median household income (dollars)	33,398	0	28,584	0	45,776	0

2002 AG CENSUS DATA	Garfield	Whitman
Farms (number)	198	1,087
Land in farms (acres)	312,425	1,328,337
Total cropland (acres)	189,386	1,087,988
Irrigated land (acres)	842	6,192
Principal operator by primary occupation - Farming (number)	118	828
Principal operator by place of residence - On farm operated (number)	134	785
Farms by Size		
Average size of farm (acres)	1,578	1,222
1 to 9 acres	14	47
10 to 49 acres	22	110
50 to 69 acres	3	27
70 to 99 acres	5	33
100 to 139 acres	8	45
140 to 179 acres	5	33
180 to 219 acres	5	24
220 to 259 acres	2	14
260 to 499 acres	13	120
500 to 999 acres	28	160
1,000 to 1,999 acres	43	282
2,000 acres or more	50	192
Livestock and Poultry		
Inventory - Cattle and calves (farms)	71	238
Inventory - Cattle and calves - Beef cows (farms)	62	196
Inventory - Cattle and calves - Milk cows (farms)	0	8
Inventory - Hogs and pigs (farms)	5	34
Inventory - Sheep and lambs (farms)	11	67
Inventory - Layers 20 weeks old and older (farms)	13	37
Inventory - Broilers and other meat-type chickens (farms)	0	5



Selected Crops Harvested (acres)	Garfield	Whitman
Harvested cropland (acres)	102,997	761,565
Harvested cropland - Irrigated (acres)	631	5,056
Corn for grain (acres)	0	111
Corn for grain - Irrigated (acres)	0	0
Corn for silage or greenchop (acres)	0	0
Corn for silage or greenchop - Irrigated (acres)	0	0
Wheat for grain, all (acres)	68,013	486,853
Wheat for grain, all - Irrigated (acres)	61	1,420
Wheat for grain, all - Winter wheat for grain (acres)	51,671	348,572
Wheat for grain, all - Spring wheat for grain (acres)	16,342	138,281
Barley for grain (acres)	28,105	124,815
Barley for grain - Irrigated (acres)	0	55
Oats for grain (acres)	0	214
Oats for grain - Irrigated (acres)	0	0
Potatoes (acres)	0	0
Sugarbeets for sugar (acres)	0	0
Forage - land used for all hay, haylage, grass silage, and greenchop (acres)	2,073	13,538
Forage - land used for all hay, haylage, grass silage, and greenchop - Irrigated	422	1,711
Vegetables harvested for sale (acres)	0	6,582
Land in orchards (acres)	4	58



Many natural resource and socio-economic studies have been conducted in the Lower Snake Tucannon watershed and they are conducted with studies of Washington’s designated WRIA 35, Middle Snake. Many of these studies have focused on water quality issues and have been conducted in cooperation with Washington Department of Ecology. In addition, to water quality studies, the U.S. Forest Service, Umitilla National Forest address resource needs on National Forest lands within the Lower Snake Tucannon Watershed as part of their Forest planning process.

The Washington Department of Natural Resources conducts studies ranging from road inventories, culvert location and Habitat Conservation Plans. The Washington Department of Fish and Wildlife also engages in a natural resource planning process to address resource concerns within the Wooten Wildlife Area. The following list and links are from the Washington Department of Ecology:

WRIA 35, Middle Snake

Title	Number	Date
Progress on Watershed Planning and Setting Instream Flows	05-11-038	December 2005
Transforming Watersheds: Tenmile Creek -- Asotin County	05-10-090	November 2005
Quality Assurance Project Plan: Pataha Creek Effectiveness Monitoring Total Maximum Daily Load Study	05-03-203	August 2005
Transforming Watersheds: Upper Alpowa Creek - Garfield County	05-10-066	July 2005
Transforming Watersheds: Deadman Creek – Garfield County	05-10-049	June 2005
Transforming Watersheds: Couse Creek – Asotin County	05-10-017	February 2005
Total Maximum Daily Load for Lower Snake River Total Dissolved Gas	03-03-020	August 2003
Total Dissolved Gas Monitoring Results Columbia and Snake Rivers, May-July 2002	02-03-051	November 2002
Quality Assurance Project Plan: Mid Columbia and Snake Rivers Total Dissolved Gas TMDL Field Monitoring	02-03-067	July 2002
River and Stream Ambient Monitoring Report for Water Year 2000	01-03-042	December 2001
River and Stream Ambient Monitoring Report for Water Year 1997	99-332	August 1999
Aquatic Plants Technical Assistance Program 1997 Activity Report	98-311	1998
River and Stream Ambient Monitoring Report for Wateryear 1996	98-317	1998
River and Stream Ambient Monitoring Report for Wateryear 1995	96-355	1997

Footnotes and Bibliographies

All information is provided “as is.” There are no warranties, express or implied, including the warranty of fitness for a particular purpose, accompanying this document. Use for general planning purposes only.



1. Rapid Watershed Assessment (RWA) 8-digit Hydrologic Unit (HU) boundaries are from the U.S. Geological Survey huc250k vector data layer published in 1994. The data is based on the Hydrologic Unit Maps published by the U.S. Geological Survey Office of Water Data Coordination, together with the list descriptions and the name of the region, subregion, accounting unit, and cataloging unit. The hydrologic units are encoded with an eight-digit number that indicates the hydrologic region (first two digits), hydrologic subregion (second two digits), accounting unit (third two digits), and cataloging unit (fourth two digits). The HU data was downloaded from the NRCS Geospatial Data Gateway <http://datagateway.nrcs.usda.gov/>. Tribal reservation boundaries are from the Washington State Department of Ecology (WDOE) 1:100,000 scale State Tribal Lands vector data layer. This layer can be downloaded from <http://www.ecy.wa.gov/services/gis/data/data.htm#tribal>.
2. General Soils were derived from the General Soil Map, Washington (1:500,000 scale), by Maureen Boling, Bruce Frazier and Alan Busacca, Washington State University, 1998. The soil map is the product of the combined efforts of Washington State University and its National Cooperative Soil Survey Partners, the USDA Natural Resources Conservation Service and Forest Service. More information visit <http://remotesens.css.wsu.edu/washingtonsoil/index.htm>.
3. The Relief map was created using a seamless, statewide, 30-meter resolution USGS digital elevation model (DEM) raster clipped to the watershed boundary. This DEM was colored to represent relative relief and draped over a 30-meter hillshade grid derived from the statewide DEM to create a 3-D effect. The mountain peaks and town locations are from the 2004 USGS Geographic Names Information System (GNIS) Non-populated Places and Populated Places datasets. The GNIS data was downloaded from the NRCS Geospatial Data Gateway: <http://datagateway.nrcs.usda.gov/>.
4. Average Annual Precipitation is from the Parameter-elevation Regressions on Independent Slopes Model (PRISM) raster data. This annual precipitation data is derived from the climatological period of 1961-1990. The PRISM raster data is the underlying dataset from which the polygons and vectors were created. For more information about PRISM visit http://www.ocs.orst.edu/prism/prism_new.html. Precipitation data was downloaded from the NRCS Geospatial Data Gateway <http://datagateway.nrcs.usda.gov/>.
5. The Land Use/Land Cover data was generated from the National Land Cover Dataset (NLCD) compiled from Landsat satellite TM imagery (circa 1992) with a spatial resolution of 30 meters and supplemented by various ancillary data (where available). The data was assembled by the USGS and published in June of 1999. The analysis and interpretation of the satellite imagery was conducted using very large, sometimes multi-state image mosaics. These data can be used in a geographic information system (GIS) for any number of purposes, such as assessing wildlife habitat, water quality, pesticide runoff, land use change, etc. For more information about NLCD visit <http://landcover.usgs.gov/natl/landcover.php>. The data was downloaded from the NRCS Geospatial Data Gateway <http://datagateway.nrcs.usda.gov/>. For more information on Land Use designations, refer to the NRCS Planning Procedures Handbook, March 2003.

Footnotes and Bibliographies

6. Common Resource Area (CRA) Map delineations are defined as geographical areas where resource concerns, problems, or treatment needs are similar. It is considered a subdivision of an existing Major Land Resource Area (MLRA) map delineation or polygon. Landscape conditions, soil, climate, human considerations, and other natural resource information are used to determine the geographic boundaries of a CRA. For more information about a CRA visit <http://soils.usda.gov/survey/geography/cra.html>.
7. Fish species distribution for both streams and lakes was obtained by overlaying a clear plastic outline of Washington State, with the chosen watershed highlighted, onto a similar-sized fish-distribution map found for each fish species in the publication, "Inland Fishes of Washington". Wydoski, R. S. and R. R. Whitney. 2003. Inland Fishes of Washington (2nd edition). American Fisheries Society and University of Washington Press. 320 pp. Many fish species are shown as living only in the main stem Columbia or Snake Rivers. If one of these rivers runs through, or is a boundary of a target watershed, river-borne species were included in the watershed. Likewise, estuary-type fish such as starry flounders, that are often found well upstream from saltwater, are included in most watersheds that drain to salt water.
8. Fish barrier information was downloaded from the SalmonScope website at: (<http://wdfw.wa.gov/mapping/salmonscape/>). This Washington Department of Fish and Wildlife website offers an online source of maps at the 1:24,000 scale for planners to identify and prioritize their stream restoration and protection activities. The site merges fish presence and habitat data collected by state, federal, tribal and local biologists and presents it in an integrated system that can be readily accessed by other agencies and the public. It is part of the larger StreamNet program for Northwestern States.
9. Stream statistics were obtained from 1:100,000 scale StreamNet data layers found at: <http://www.streamnet.org/pnwr/fileaccess.html>. StreamNet (<http://www.streamnet.org/>) is a cooperative venture of the Pacific Northwest's fish and wildlife agencies and tribes and is administered by the Pacific States Marine Fisheries Commission (<http://www.psmfc.org/>). It is recognized that a 100K map scale may show less streams and less stream miles than a 24K map, but it still gives a useful comparison between watersheds.
10. General Ownership is derived from the 1:100,000 scale Washington Public Lands (2005) layer. The layer is comprised of the best available data compiled at 1:100,000 scale. This data layer is a compilation of the Washington State Department of Natural Resources (WDNR) Managed Land Parcels layer and the Washington State Major Public Lands (Non-DNR or NDMPL) layer. The combination of these two data layers is intended to reflect the most current general ownership (and extent of public lands) digital data in Washington State at the 1:100,000 scale. These data layers were downloaded from the WDNR Available GIS Data website: <http://www3.wadnr.gov/dnrapp6/dataweb/dmmatrix.html>. The RWA map describes occurrences within the watershed of land ownership/management areas for federal, tribal, state, local and private entities. For current ownership status, consult official records at appropriate Federal, State, and county offices.

Footnotes and Bibliographies



11. Farmland classifications were derived using the Natural Resources Conservation Service (NRCS) Soil Survey Geographic Database (SSURGO) tabular and spatial data. This information can be referenced through the NRCS Field Office Technical Guide, Section II, Soils: soils data and interpretation databases. The following surveys were used:

Whitman County, WA (WA075) Published 2004 09 14
Asotin County Area, WA (WA603) Published 2004 09 14
Columbia County Area, WA (WA613) Published 2004 05 28
Garfield County Area, WA (WA623) Published 2004 05 28

These surveys and tabular databases were downloaded from the NRCS Soil Data Mart at <http://soildatamart.nrcs.usda.gov>. Farmland classification layers were created using the soil surveys in the NRCS Soil Data Viewer (SDV). Visit the online Web Soil Survey at <http://websoilsurvey.nrcs.usda.gov> for official and current USDA soil information as viewable maps and tables.

12. Washington Department of Ecology:
http://www.ecy.wa.gov/programs/wq/303d/wq_assessment_cats.html.
Washington State Water Quality Categories website:
<http://apps.ecy.wa.gov/wats/WATSQBHome.asp>
(In the first drop-down box, click on your WRIA of interest)
13. 303d listed streams were derived from the Washington State Department of Ecology's (WDOE) 2004 Washington Water Quality Assessment/303(d) List. This information was downloaded from the WDOE Statewide Datasets website: <http://www.ecy.wa.gov/services/gis/data/data.htm>.
14. ESTIMATES FROM THE 1997 NRI DATABASE (REVISED DECEMBER 2000) REPLACE ALL PREVIOUS REPORTS AND ESTIMATES. Comparisons made using data published for the 1982, 1987, or 1992 NRI may produce erroneous results. This is because of changes in statistical estimation protocols and because all data collected prior to 1997 were simultaneously reviewed (edited) as 1997 NRI data were collected. All definitions are available in the glossary. In addition, this December 2000 revision of the 1997 NRI data updates information released in December 1999 and corrects a computer error discovered in March 2000. For more information: <http://www.nrcs.usda.gov/technical/NRI/>
15. NRCS General Manual, Part 401 - Cultural Resources (Archeological and Historic Properties)
http://policy.nrcs.usda.gov/scripts/lpsiis.dll/GM/GM_420_401_a.htm .
16. The Sole Source Aquifers were derived from the Sole Source Aquifers in Idaho, Oregon and Washington polygon layer (1996, scale unknown) acquired from the Environmental Protection Agency (EPA) Region 10, Office of Environmental Management and Information. For more information regarding these Sole Source Aquifers please visit http://ops.dot.gov/init/usa/metadata/epa/epa10_ss.htm .

Footnotes and Bibliographies

17. The Wind Erosion Risk Areas of Washington State were derived by identifying cropland soils that contribute to air quality concerns. These soils are the Dq1, Dq2, Ds1, Ds2, L1, L2, L3, Lt2, X1, X2 and X3 soil types, and were extracted from the General Soil Map, Washington (1:500,000 scale), by Maureen Boling, Bruce Frazier and Alan Busacca, Washington State University, 1998. The General Soil Map is the product of the combined efforts of Washington State University and its National Cooperative Soil Survey Partners, the USDA Natural Resources Conservation Service and the US Forest Service. For more information regarding the General Soil Map please visit:
<http://remotesens.css.wsu.edu/washingtonsoil/index.htm> .
18. USFWS website for all federally listed animals and plants in Washington State.
http://ecos.fws.gov/tess_public/StateListing.do?state=WA&status=listed
19. Washington State's Rare Plant Species Populations and Endangered Ecosystems from the Washington Natural Heritage Program WNHP (Current and Historic) Data Set (September 2005). In designing the WNHP Data Set, Washington Natural Heritage Program sought to license and distribute a GIS data set for use in land use planning and management. In order to balance the interests of data users with species protection, the precise locations of rare plant populations are not included. These locations are instead represented by 'areas-of-concern'. Occurrences of species considered critically imperiled are generalized as larger areas-of-concern polygons. Some known element occurrences have been completely removed from this data set before distribution because information on these elements is considered sensitive at this time.
For more information please visit the WNHP website at www.dnr.wa.gov/nhp.
20. ESA-listed bull trout population delineations (termed by USFWS as a DPS, or Distinct Population Segment) were obtained from the following 1:100,000 scale StreamNet data layer: sp1498_Bulltrout_Icc. Similar information can be viewed in the Federal Register publication of the USFWS, 50 CFR Part 17, "Endangered And Threatened Wildlife Plants; Designation of Critical Habitat for the Bull Trout; Final Rule" September 26, 2005; page 56267:
<http://www.fws.gov/pacific/bulltrout/final/pdf/Bull%20Trout%20CH%20FR%20notice.pdf>
21. ESA-listed salmon and steelhead population delineations (termed by NMFS as an ESU, or Evolutionary Significant Unit) were obtained from data layers compiled by a GIS group from the Bonneville Power Administration, using written descriptions in National Marine Fisheries Service (NMFS) status reviews and mapping provided by NMFS. Drainage basin delineation and upstream barriers were based on 1:100,000 stream hydrography and available digital topography (1:250,000). General ESU maps can be found at the NMFS website: <http://www.nwr.noaa.gov/ESA-Salmon-Listings/Salmon-Populations/Maps/> .
22. Performance Results System (PRS) data was extracted from PRS reports by year, conservation systems, and practices by Hydrologic Unit Code (HUC) and Farm Bill Program. HUC level reports were not available where NA is listed. For additional information and other performance reports visit <http://ias.sc.gov.usda.gov/prshome/> .

Footnotes and Bibliographies



23. Ag Census data is from the National Agricultural Statistics Service (NASS) Website. For more information on individual census queries visit the NASS website at <http://www.nass.usda.gov/>. HUC specific data was derived from the 2002 Agricultural Census and adjusted by percent of zip code area/county in the HUC.
24. Population ethnicity data were extracted from the Census 2000 Summary File 3 compiled by the U.S. Census Bureau for Garfield and Whitman Counties and Washington State. For more information on census data and definitions visit <http://www.census.gov/Press-Release/www/2002/sumfile3.html>.
25. Urban population and median household income data were derived from the American FactFinder assembled by the U.S. Census Bureau. American FactFinder is a quick source for population, housing, income and geographic data.
For other census items and trends visit http://factfinder.census.gov/home/saff/main.html?_lang.
26. Washington Department of Ecology website: <http://www.ecy.wa.gov/biblio/wria35.html>
Publications listed by a Watershed Resource Inventory Area, WRIA 35, Middle Snake

The United States Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).
To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326W, Whitten Building, 14th and Independence Avenue, SW, Washington DC 20250-9410, or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.
