Voluntary Stewardship Program

Asotin County Work Plan

May 2018

Funded by the
Washington State Conservation Commission

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Work Plan

Prepared for
Asotin County VSP Work Group

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ABBREVIATIONS

AAA	Agricultural Adjustment Act
ACC	Asotin County Code
ACCD	Asotin County Conservation District
ACMWP	Asotin Creek Model Watershed Plan
ASP	Agricultural Stewardship Plan
CAO	Critical Areas Ordinance
CARA	Critical Aquifer Recharge Area
CD	Conservation District
County	Asotin County
CPPE	Conservation Practice Physical Effect
CREP	Conservation Reserve Enhancement Program
CRP	Conservation Reserve Program
CSP	Conservation Stewardship Program
DNR	Washington State Department of Natural Resources
Ecology	Washington State Department of Ecology
EQIP	Environmental Quality Incentives Program
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FFA	Frequently Flooded Area
FSA	Farm Service Agency
FWHCA	Fish and Wildlife Habitat Conservation Area
GHA	Geologically Hazardous Area
GMA	Growth Management Act
IMW	Intensely Monitored Watershed
NAIP	National Agriculture Imagery Program
NRCS	Natural Resources Conservation Service
PHS	Priority Habitats and Species
RCW	Revised Code of Washington
TMDL	Total Maximum Daily Load
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
VSP	Voluntary Stewardship Program
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife
Work Group	Asotin County VSP Work Group
Work Plan	Asotin County VSP Work Plan
WRIA	Water Resource Inventory Area
WSCC	Washington State Conservation Commission

ACKNOWLEDGEMENTS

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Asotin County Wheat Growers
Blue Mountain Fire District

Funded by:
Washington State Conservation Commission

1.0 Introduction

In 1990, Washington State Legislature enacted the Growth Management Act (GMA; Revised Code of Washington [RCW] 36.70A) to create a collaborative planning process involving citizens, communities, counties, cities, and the private sector to manage for unplanned growth and development in Washington (GMHB 2017). The GMA is a regulatory approach requiring all counties to develop comprehensive plans to manage population growth and development. Plans must also identify and protect critical areas, including those on agricultural lands (WSCC 2014).

Critical Areas per RCW 36.70A.020(5) include:

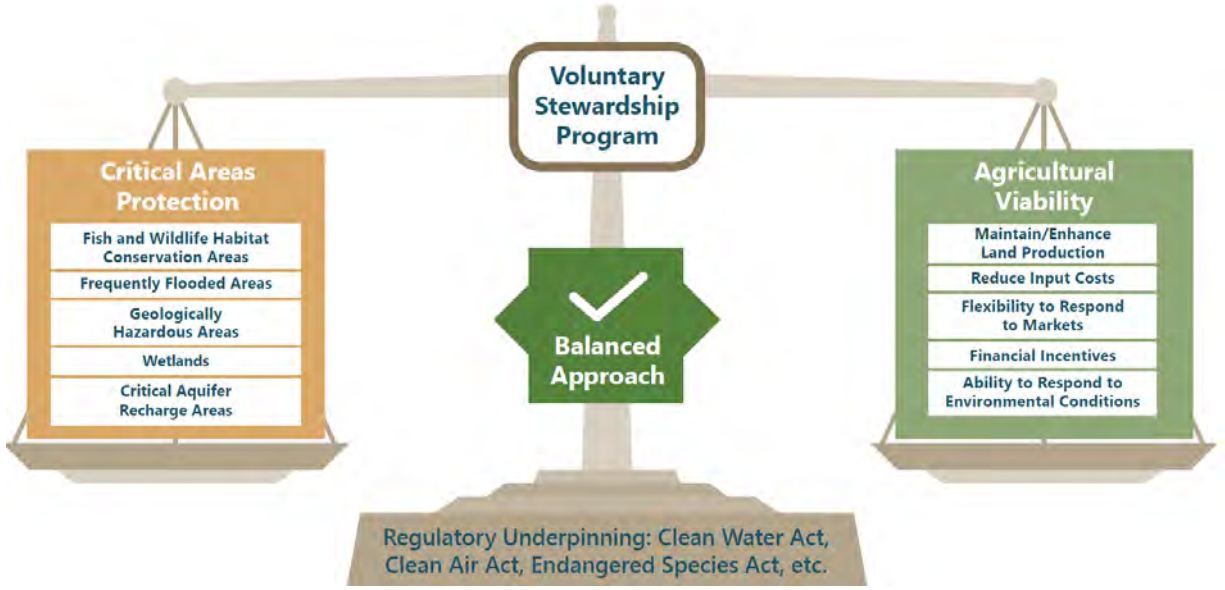
- Fish and wildlife habitat conservation areas
- Frequently flooded areas
- Geologically hazardous areas
- Wetlands
- Critical aquifer recharge areas

Under VSP, critical areas on lands where agricultural activities are conducted are managed under this voluntary program. Lands used for non-agricultural purposes are regulated under the County's Critical Areas Ordinance.

An alternative to the GMA's regulatory approach to protecting critical areas on agricultural lands was formed in 2011 when the Legislature created the Voluntary Stewardship Program (VSP). The VSP is a non-regulatory, incentive-based approach to protecting critical areas on agricultural lands at the watershed level (WSCC 2014). The VSP not only protects critical areas on agricultural lands, but also protects the agricultural viability of those lands. Individual Agricultural Stewardship Plans (ASPs) will be developed for any interested landowner that engages in agricultural actives in Asotin County and that would like to participate in VSP (see Appendix D for ASP template).

RCW 36.70A.700-760 outlines the VSP guidelines to fulfill the state's GMA requirements. VSP is not a replacement for compliance with other local, state, or federal laws and regulations, but participation in VSP will show the effort Asotin County's agricultural producers are investing in meeting these requirements and to document the benefits of these efforts in protecting and enhancing critical area functions and values. Figure 1-1 illustrates the parameters to balance within the VSP.

Figure 1-1. Balanced Approach of Critical Areas Protection and Agricultural Viability



The VSP presents a unique opportunity to address an important environmental topic that has been a source of controversy in recent decades—how to protect critical areas on agricultural lands while keeping agriculture economically viable (Schultz and Vancil 2016).

What are considered "agricultural activities" under VSP?

VSP applies to lands where agricultural activities are conducted, as defined in RCW 90.58.065. **Agricultural activities** mean agricultural uses and practices including, but not limited to:

- Producing, breeding, or increasing agricultural products, including livestock
- Rotating and changing agricultural crops
- Allowing land used for agricultural activities to lie fallow in which it is plowed and tilled but left unseeded
- Allowing land used for agricultural activities to lie dormant due to adverse agricultural market conditions
- Allowing land used for agricultural activities to lie dormant because the land is enrolled in a local, state, or federal conservation program, or the land is subject to a conservation easement
- Conducting agricultural operations
- Maintaining, repairing, and replacing agricultural equipment; maintaining, repairing, and replacing agricultural facilities, provided the replacement facility is no closer to the shoreline than the original facility
- Maintaining agricultural lands under production or cultivation

There are diverse types of agricultural activities and management/stewardship strategies that occur in cropland, rangeland, and forested lands in Asotin County. Below we provide definitions and local examples to distinguish between agricultural products, agricultural equipment/facilities, and agricultural land.

"Agricultural products" includes but is not limited to horticultural, viticultural, floricultural, vegetable, fruit, berry, grain, hops, hay, straw, turf, sod, seed, and apiary products; feed or forage for livestock; Christmas trees; hybrid cottonwood and similar hardwood trees grown as crops and harvested within twenty years of planting; and livestock including both the animals themselves and animal products including but not limited to meat, upland finfish, poultry and poultry products, and dairy products. In Asotin County, there are two major types of agricultural products include grain and livestock. Fruit (orchards), grapes (vineyards), grass seed, and feed for livestock are also produced in Asotin County but in much smaller quantities in comparison to grain and livestock.

"Agricultural equipment" and "agricultural facilities" includes, but is not limited to: (i) The following used in agricultural operations: equipment; machinery; constructed shelters, buildings, and ponds; fences; upland finfish rearing facilities; water diversion, withdrawal, conveyance, and use equipment and facilities including but not limited to pumps, pipes, tapes, canals, ditches, and drains; (ii) corridors and facilities for transporting personnel, livestock, and equipment to, from, and within agricultural lands; (iii) farm residences and associated equipment, lands, and facilities; and (iv) roadside stands and on-farm markets for marketing fruit or vegetables. In Asotin County, agricultural equipment consists primarily of equipment and machinery, such as trucks, tractors, combines, drillers/seeders, sprayers, and tillage equipment for crop production. Equipment for livestock operations include handling equipment and trucks and trailers for transporting livestock. The farmsteads and ranch headquarters typically include facilities for equipment storage and working/shop structures as well as bin structures to provide onsite storage for cereal grains that have been produced prior to being shipped to market. Other agricultural facilities that are common in Asotin County include ponds, livestock water developments, fencing, and corral structures.

"Agricultural land" means those specific lands on which agriculture activities are conducted. In Asotin County the dramatic topography creates changes in agricultural lands. The flat uplands include mostly grain crops and in the upper elevations trees are harvested for timber products. The drainage slopes are primarily grazed by livestock and the lower flat areas adjacent to the rivers and streams are also grazed and, in some limited areas, irrigated for fruit orchards.

In 2012, the Asotin Board of County Commissioners passed a resolution to "opt-into" the VSP as an alternative to the traditional regulatory approaches to protecting critical areas on lands where agricultural activities are conducted. The commission came to the following conclusions:

- Farming and ranching are vital to the economy of the County

- The County watersheds provide critical and economically important functions
- Biological diversity within the County watersheds is important to water and habitat quality and viability
- There is local leadership in place to support the success of the VSP
- There is relevant data and watershed plans and implementation strategies that can be implemented into the VSP
- Technical assistance is available locally as needed to develop and implement the VSP
- With adequate funding, there is a likelihood of success with a local effort to establish and implement the VSP

Voting and non-voting Work Group members were invited to participate in the VSP process by the Asotin County Conservation District (ACCD) and represent a cross-section of producers, fish and wildlife managers, and local and state government agencies. The Nez Perce tribe was invited to participate, and tribal staff helped in documenting baseline conditions to support the VSP Work Plan and the Asotin Geomorphic Assessment and Conceptual Restoration Plan (ELR 2018). The geomorphic assessment and restoration planning process was conducted concurrently with the development of the VSP Work Plan and several groups and organizations participated in this process to help establish the baseline conditions for both the VSP Work Plan and the assessment.

Information regarding the VSP process was also provided at the ACCD Annual meeting on March 3, 2016, through direct mailings to over 900 people (April and September 2016), during VSP outreach meetings on April 28 and September 29, 2016, and at landowner meetings organized by stream drainage areas on March 28 and 29, 2018. In addition, the ACCD reached out to local groups, including the Asotin County Cattlemen and Asotin County Wheat Growers. Individual Work Group members volunteered to provide representation of agricultural sectors including dryland crop and irrigated crop/orchard and livestock producers. The ACCD also strived to get representation from different geographic areas throughout the county. Non-producer members were included to provide representation from the local, state, and federal government sector, the Nez Perce Tribe, and interest groups (e.g., Tri-State Steelheaders) to provide technical support to both the VSP and geomorphic assessment and restoration planning processes.

Multiple opportunities have been provided for the public and stakeholders to attend meetings, provide input, and review and comment on the draft Work Plan. Additional information on the outreach process is included in the Outreach Plan in Appendix F.

1.1 Purpose and Intent

The intents and purposes of the VSP, set forth by the Washington State Legislature RCW 36.70A.700 are:

- Promote plans to protect and enhance critical areas within the area where agricultural activities are conducted, while maintaining and improving the long-term viability of agriculture in the state of Washington and reducing the conversion of farmland to other uses.
- Focus and maximize voluntary incentive programs to encourage good riparian and ecosystem stewardship as an alternative to historic approaches used to protect critical areas.
- Leverage existing resources by relying upon existing work and plans in counties and local watersheds, as well as existing state and federal programs to the maximum extent practicable to achieve program goals.
- Encourage and foster a spirit of cooperation and partnership among county, tribal, environmental, and agricultural interests to better assure the program success.
- Improve compliance with other laws designed to protect water quality and fish habitat.
- Rely upon voluntary conservation practices as the primary method of protecting critical areas and not require the cessation of agricultural activities.

1.2 Vision Statement

Complete and implement an integrated VSP Work Plan for Asotin County private agricultural lands which will protect and enhance both agricultural viability and critical areas function and sustainability with the participation and cooperation of landowners, government agencies, tribes, and the public. The process should lead to improved agricultural conditions (soil health, economic viability, increased production, decrease of soil loss and invasive species) and increased ecosystem health and viability of species of concern, and protection and/or enhancement of other critical area functions and values.

1.3 Stakeholder Goals

1.3.1 Agricultural Operators

- Reduce uncertainty in application of regulations and enforcement
- Increase flexibility of agricultural operations in response to changing environmental and economic conditions
- Recognition of agricultural activities and conservation practices that have already been voluntarily implemented in the county
- Recognition that as new information becomes available, critical areas and/or conservation practices may need to be updated/revised (i.e., adaptive management)
- Economic incentives to implement conservation practices
- Increase trust and cooperation and reduce conflict with regulatory agencies/tribes and the public

1.3.2 Agencies

- Demonstration of link between conservation and agricultural practices and protection and enhancement of critical areas
- Maintaining or enhancing critical areas protection at levels as of July 22, 2011
- Recognition that as new information becomes available, critical areas and/or conservation practices may need to be updated/revised (i.e., adaptive management)
- Increase trust and cooperation and reduce conflict with agricultural operators

1.3.1 Planning and Coordination Team

- Outline a clear planning process, schedule, and milestones in coordination with the Work Group
- Tailor plan to specific conditions Asotin County and needs of agricultural operators
- Document and recognize the conservation efforts already undertaken in Asotin County
- Develop adaptable and science-based plan that meets the needs of regulators and agricultural operators
- Increase the participation of agricultural operators in conservation efforts
- Increase the cooperation and trust between agricultural operators and land management agencies

1.4 Roles and Responsibilities

RCW 36.70A.705 identifies roles and responsibilities for state agencies, counties, and VSP work groups. Table 1-1 provides a summary of these roles and responsibilities, adapted to the Work Plan development process, including participation by producers, conservation districts (CDs), local and state agencies, and others. The Work Group, convened by the County, developed the Work Plan. Roles and responsibilities for implementing and managing the Work Plan are further described in Section 5.

Table 1-1. VSP Roles and Responsibilities for Plan Development

State – Approval and Administration	
WSCC	Administers VSP statewide; approves/rejects locally developed work plans
VSP Technical Panel [1]	Provide technical guidance and assistance, reviews draft work plans, makes recommendations on whether to approve or reject the work plan
VSP Statewide Advisory Committee [2]	Works with the WSCC to revise rejected draft work plans
Local – Administration and Work Plan Development	
Asotin County	Administers VSP funding and grant for work plan development
Asotin VSP Work Group	Develops and proposes a work plan for approval by WSCC
Asotin County Conservation District	Provides coordination and technical information to support work plan development

Other Technical Providers	Other technical providers, such as the Asotin County Cattlemen Association, the Farm Bureau, and the Asotin County Wheat Growers, provide technical input during work plan development
Agricultural Producers – Outreach Focus	
Landowners/Operators/Others	Provide input to the draft work plan

Notes:

1. The VSP Technical Panel members include representatives from Ecology, WDFW, Washington State Department of Agriculture, and the WSCC.
2. Committee includes two representatives each from environmental interests, agriculture, and counties; two tribal representatives are also invited to participate.

1.5 Work Plan Elements

The guiding document for the VSP is this Asotin County VSP Work Plan (Work Plan), the goal of which is to protect critical areas while maintaining the viability of agriculture. The Work Plan was developed by the Asotin County VSP Work Group (Work Group), comprised of agricultural producers, local government elected officials and staff, agency representatives, and interest groups.

Core VSP Work Plan Approval Tests

The Work Plan has been developed to meet the following VSP statutory tests required for State approval:

- **Protect critical areas while maintaining and enhancing the viability of agriculture** at the end of 10 years after receipt of funding. RCW 36.70A0725
- **Create measurable benchmarks that are designed to protect and enhance** (through voluntary, incentive-based measures), **critical areas functions and values**. RCW 36.70A.720 (1)(e)

1.5.1 Work Plan Goals

One of the main goals of the Work Plan is to identify stewardship strategies and practices that are implemented under existing voluntary programs or implemented through producer-funded practices and identify goals and benchmarks for continued protection and enhancement of the County's critical areas functions and values.

Producer participation is a key component of Work Plan implementation and program success. Failure of the Work Plan in meeting protection goals would trigger a regulatory approach to protecting critical areas under the GMA, such as applying buffers and setbacks along streams or wetlands. Additionally, the regulatory approach for protecting critical areas on agricultural lands would not have the equally important VSP goal of maintaining and enhancing agricultural viability. Neither would it necessarily encourage outreach or technical assistance for agricultural operators. Therefore, producer participation will be encouraged as a principal component of the Work Plan, through new and continued implementation of stewardship strategies and practices, to help ensure the success of VSP and protect agricultural viability.

Dryland agriculture in Asotin County
Photo Credit: Asotin County Conservation District

Stewardship Strategies and Practices

Examples of conservation practices, organized by land use, that protect critical area functions and values and promote agricultural viability include:

Land Use			
Cropland	**Range**	**Confined Livestock**	**Forest**
Tillage Management	Water Development	Nutrient Management	Tree/Shrub Establishment
Conservation Cover	Prescribed Grazing	Forage and Biomass Planting	Tree/Shrub Pruning
Conservation Crop Rotation	Fence	Forage Harvest Management	Silvopasture Establishment

See the **VSP Checklist in the ASP** for additional examples of voluntary stewardship strategies and practices, and resources for additional information and potential incentive funding.

The Work Group developed an *Asotin County VSP Overview* in Attachment 1 to provide a summary overview of VSP and the Work Plan, including frequently asked questions and a VSP Checklist, as an outreach and implementation tool to help assess how the VSP could apply to individual agricultural producer's lands. The VSP Checklist included in the ASP (Appendix D) provides additional examples of stewardship strategies and practices that protect and enhance critical areas and promote agricultural viability.

1.5.2 Work Plan Organization

This Work Plan, including its appendices, provides detailed information intended to fulfill the state requirements outlined under RCW 36.70A.720(1)(a through l). This requires work plans to include critical area protection and enhancement goals with measurable benchmarks, reporting, tracking framework, and implementation. See below for description of the Work Plan Organization.

Asotin VSP Work Plan Organization

- **Section 1 – Introduction:** Background on VSP regulation and how it applies to the County.
- **Section 2 – Asotin County Characteristics:** Overview of County conditions, including description of critical areas.
- **Section 3 – Agricultural and Stewardship Activities:** Overview of agriculture in the County and currently implemented stewardship activities that protect and enhance critical areas functions and values.
- **Section 4 – Critical Areas:** Description of county-wide critical areas presence and functions and values as of 2011; also, includes goals and protection benchmarks.
- **Section 5 – Plan Implementation and Management:** Detailed plan outlining implementation of VSP actions by ACCD and Work Group and indicators and methods for adaptive management.
- **Appendices –** Additional detailed information referenced by the above sections.

2.0 Asotin County Characteristics

Asotin County was established in 1883 (WAESD 2015) and is the southeasternmost County in Washington (See Map 1 in Appendix A). The northeast and eastern border of the County is framed by the Snake River, the southern edge is bound by Oregon, and the western and northwestern borders abut Garfield County.

The County is 640 square miles (409,706 acres) in area (WAESD 2015) and elevation ranges dramatically from 740 feet to 6,000 feet (Dougherty 2006). This broad range in elevation gives rise to a unique landscape comprised of steep slopes, uplands, and lowlands. Within this landscape is a variety of habitat types which support a diversity of plant, fish, and wildlife species.

Asotin County is home to an estimated 22,306 people as of 2016 (U.S. Census Bureau 2015). From 2010 to 2016 the County's estimated population has grown by 3.2% (U.S. Census Bureau 2015). This increase in the County's population is mostly due to the increase in net in-migration (WAESD 2015). The majority of landownership in the County is private land, with state-owned lands located throughout the County, and federally-owned lands primarily located on the west and south sides of the County (see Map 2 in Appendix A).

2.1 Climate

Asotin Creek is in a semi-arid region receiving precipitation in a range of 14 inches at lower elevations to up to 45 inches in the highest elevations (see Map 3 in Appendix A). Most of the precipitation in the winter comes in the form of snow near the headwaters of the Asotin Creek drainage; however, large floods can be associated with highly localized, high intensity summer thunderstorms. Temperatures vary greatly between seasons, with highs in the summer sometimes reaching temperatures greater than 100°F, and winter highs less than 32°F. Figure 2-1 summarizes average precipitation and maximum and minimum air temperature recorded at the Lewiston Nez Perce County Airport in Idaho from 1948 to 2016.

Figure 2-1. Average Precipitation and Maximum and Minimum Air Temperature Recorded at the Lewiston Nez Perce County Airport, Idaho (1948-2016)

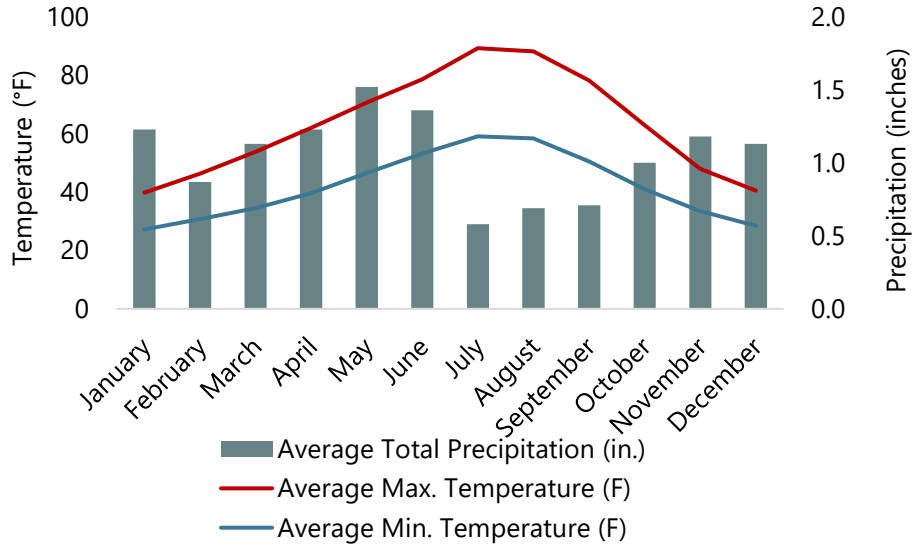


Figure 2-2 shows the total precipitation (inches) measured at a private property (Station No. 2) in Asotin County from 1977 to 2010 (see Map 3 in Appendix A).

Figure 2-2. Average Annual Precipitation – Station 2 Near Asotin, Washington

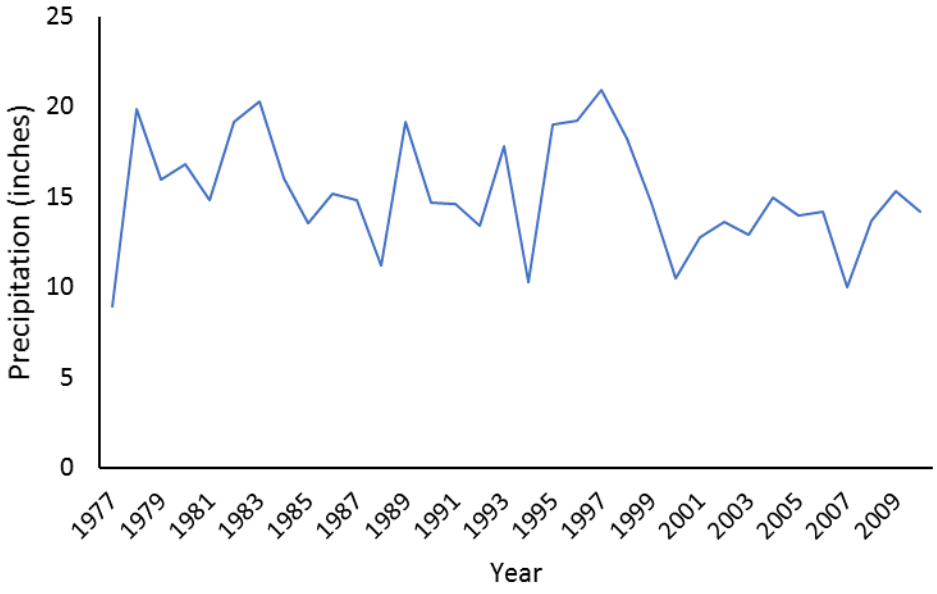


Table 2-1 provides a summary of total annual precipitation (inches) from the four private precipitation monitoring stations located throughout the County (see Map 3 in Appendix A).

Table 2-1. Total Annual Precipitation (Inches) Monitored from Four Stations in Asotin County

Year	Station 1	Station 2	Station 3	Station 4
2003	14.3	13.8	13.3	-
2004	13.3	14.0	13.7	-
2005	13.7	14.8	14.7	-
2006	13.6	15.4	11.8	-
2007	10.2	10.7	8.6	-
2009	-	-	-	13.1
2010	-	-	-	16.3
2011	-	-	-	15.3

2.2 Water Resources

The County is within the Snake River watershed and the state of Washington's Water Resource Inventory Area (WRIA) 35. Surface water features, including major streams and rivers, are shown on Map 4 in Appendix A. For the purposes of the Work Plan, the Work Group identified the following sub-watersheds to summarize VSP planning and assessments findings within the County: Alpowa Creek, Asotin Creek, George Creek, Tenmile Creek, Couse Creek, Grande Ronde River, and Snake River tributaries. Table 2-2 includes a summary of major waterbodies located within these watersheds.

Table 2-2. Asotin County Water Resources Information

Waterbody Name	County Miles (miles)	Watershed Area (acres)	Average Annual Discharge (cubic feet per second)
Grande Ronde River	30	112,807	3,026
Asotin Creek	60	88,199	94
George Creek	40	82,501	21
Couse Creek	5	15,486	< 5
Tenmile	21	26,321	< 5
Snake River	60	49,516	34,373
Alpowa	5	34,873	9.3

Notes:
1. Stream miles only include perennial streams.

Most of the precipitation comes in the winter months in the form of snow in the upper elevations of the County, and floods happen periodically. The largest floods are either associated with rain-on-snow

events or highly localized, high intensity convective summer thunderstorms that may form over a small portion of the watershed but produce a major flood downstream.

Groundwater springs are common throughout the County and are mainly produced from between basalt layers of different ages that are exposed by creeks that have downcut into the layers (HDR and GSI 2009). Groundwater springs make up the majority of the flow in Alpowa Creek (Liermann et al. 2012).

2.3 Terrain and Soils

The County is within the Columbia Plateau and Blue Mountains ecoregions. These ecoregions are dominated by deep narrow canyons cut into underlying basalt and surrounded by semi-arid sagebrush steppe and grasslands at lower elevations and open conifer dominated forests at higher elevations (Omernik 1987). There are four distinct landscape units with the county: mesic forests, dissected highlands, dissected loess uplands, and lower Snake Canyons. The mesic forests are at the highest elevations in the Asotin and George Creek only. The dissected highlands are transitional areas between the mesic forests and Lower Snake canyons which both have a mixture of conifer and deciduous trees and shrubs species and valleys that can be over 1,000 feet deep. The dissected loess uplands are flat plains or ridges where the majority of agriculture takes place.

Asotin County Landforms
Photo Credit: ACCD

Steep Canyon Intermittent Drainage
Photo Credit: ACCD

Soils in the mesic forest, dissected highlands, and lower Snake Canyons are distinct from the dissected loess uplands. Cropland is the dominant use of soils within the County and is characterized by a surface layer of fine sandy loam, loam, silt loam, or silty clay loam (Gentry et al. 1991). Decreasing organic matter in these soils can be attributed to ongoing cultivation.

Major Resource Concern

Riparian, water quality, and instream conditions are a focus of much restoration and conservation practices in the County. Reducing sediment delivery to streams and loss of agricultural soils are secondary concerns.

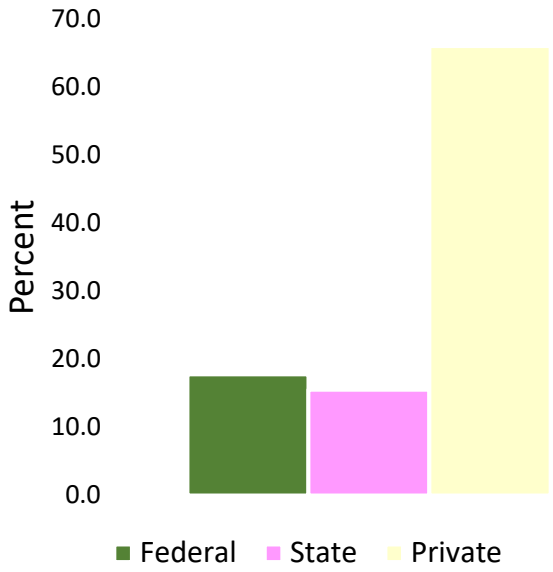
Section 3 includes further discussion on where these areas intersect with agricultural lands.

Degraded riparian conditions along Tenmile Creek

2.4 Landcover

The majority (66%) of the land area of the County is privately owned. Private lands are mainly agricultural properties where grazing of rangelands or dryland farming dominates. There is a very small amount of irrigated land in the County (134 acres or 0.1% of County). The federal government manages land in the Umatilla Forest (17.8% of the County), and the state manages 15.6% of the land – mainly on the Blue Mountains Wildlife Area Complex (WDFW 2006). Both the federal and state lands tend to be located in the middle to upper parts of the watersheds and are dominated by open forests and range lands with grass and sagebrush cover. Agriculture on privately owned lands comprises approximately 52% of the County's landcover (Figure 2-3; see Map 5 in Appendix A).

Figure 2-3. Percent Landownership in Asotin County



2.5 Habitat and Species

The County and the Blue Mountains have a wide diversity of wildlife habitats and species and is an important area in the state for wildlife conservation and management. Habitats of particular value to wildlife include the mature forests of ponderosa pine and Douglas-fir in the headwaters, riparian corridors of mixed forests and shrubs, and native grasslands and sagebrush in lower elevations and along higher ridges. The Washington Department of Fish and Wildlife (WDFW) manage the Asotin Creek Wildlife Area as part of the Blue Mountains Wildlife Area with a focus on salmonids such as steelhead, bull trout, and spring chinook salmon (WDFW 2006). The State of Washington has designated the Asotin Creek drainage as a wild steelhead refuge (Mayer et al. 2008). Much of the Asotin Creek Wildlife Area is managed to protect big game winter range and calving grounds. Deer,

elk, turkey, quail, chukar, grouse, and raptors are common throughout much of the County and provide a variety of hunting and wildlife viewing opportunities for sportsmen, hunters, and the general public (WFDW 2006). Horseback riders, hikers, and bird watchers commonly make use of trails.

Asotin County Bull Elk
Photo Credit: ACCD

Upper drainage habitat
Photo Credit: ELR

3.0 Agricultural and Stewardship Activities

Agriculture is the dominant land use in the County. The Work Plan's goals and measurable benchmarks for voluntary landowner participation apply to agricultural producers on privately owned land in unincorporated areas of the County, which comprise approximately 53% of the land.

The U.S. Department of Agriculture's (USDA) 2012 Census of Agriculture reports that relative to other Washington counties, Asotin County:

- Is a top wheat producer (sales value) in Washington, ranking number 12 in the state for winter wheat production
- Has an economic value (net cash income) from agricultural products of $4.8 million
- Has a market value from agricultural products of $20.5 million

Market sales are dominated by crop production (80%), mainly wheat and grains, with the remaining 20% of market sales in livestock (USDA 2012). The 185 farms in the County (as of 2012) comprise approximately 263,000 acres of land, averaging approximately 1,400 acres per farm. Table 3-1 shows a breakdown of agricultural product sales ranging from less than $10,000 greater than $500,000.

Dryland Agricultural Practices

Moisture management is a key concern within the County's dryland agricultural lands (primarily wheat) where the annual precipitation of 8 to 22 inches a year is relied on to support cropping systems. Lack of moisture in soils not only affects the lands ability to support wheat crops, but also results in loss of the region's highly erodible soils. In recent years, producers within the County have adopted practices to manage soil moisture-retention and reduce water-borne soil erosion, by implementing practices such as crop rotations, no- and reduced-till, and direct seed (photo above) methods.

See Section 4 for additional protection and enhancement strategies.

Table 3-1. Size of Farms in Asotin County Based on Agricultural Product Sales

Farm Agricultural Product Sales (Dollars)	# of Farms	% of Farms
Less than 10,000	110	60%
10,000 to 100,000	28	15%
100,000 to 250,000	24	13%
250,000 to 500,000	10	5%
Greater than 500,000	13	7%
Total	**185**	**100%**

Source: USDA 2012

The VSP, by design, is intended to accommodate both small and large agricultural producers and farms. It also applies to agricultural activities conducted on lands that are not necessarily classified as farms, but affect critical areas within the County (e.g., larger acreage ranchettes with animals and/or land practices affecting critical areas). This approach makes the VSP accessible to all agricultural producers regardless of sales and/or size of their operations.

With agriculture being the dominant land use in the County, balancing production and natural resources is important for the viability of agricultural and supporting the environment alike. Over the past 2 decades, landowners in the County have voluntarily participated in local, state, and federal conservation programs for cost-share implementation in addition to installing self-funded projects. With their proactive participation, a variety of conservation best management practices within cropland, rangeland, riparian areas, and timber ground have been implemented throughout Asotin County. Landowners are also quick to adopt the most current conservation methods and technologies as they are made available. The past and present proactive nature of Asotin County landowners demonstrates the ability to successfully adopt voluntary-based programs including VSP.

3.1 History of Agricultural Activities

Indigenous agricultural practices of the Nez Perce Indians are not well documented for Asotin County. While as much as two-thirds of their diet came from plant foods (Marshall 1977), they possessed little technical capacity to propagate crops. Burning was reported to have been used to stimulate production of camas (*Camassia quamash*; Marshall 1999) and the laborious cultivation of camas fields with sharpened tukas digging sticks is thought to have selected for larger bulbs (Baird 1999).

Historic Orchard near the town of Asotin.
Photo Credit: Project Gutenberg 2005

The earliest western agriculture in what is now Asotin County was initially practiced by Reverend Henry Harmon Spalding on the lower Alpowa Creek. Irrigated vegetable and orchard crops were established here in about 1837 (Kuykendall 1954) in what became the "Mission" or "Red Wolf" orchard. Agriculture persisted here after Spalding's removal in 1846 and practiced by the Nez Perce on the Grande Ronde River (Kuykendall 1954).

Following discovery of gold in the Clearwater country in 1860, a handful of settlers occupied select sites along Asotin County's major streams which produced gardens, orchards, and raised pack stock. Bob Bracken, Peter "Jerry" Maguire, Thomas Broncho, and Tom High, a California Indian and others settled on Asotin Creek and marketed stock and produce to Lewiston and the Salmon River mining camps (Kuykendall 1954). Timber was cut and milled near Anatone in 1862 for rudimentary buildings at Lewiston (ACHS 2017).

Settlement of the County's expansive dryland areas came after the "Nez Perce War" in 1877 and demonstration of the capabilities of dryland wheat farming in surrounding districts (Meinig 1968). Livestock grazing also increased exponentially in the late 1800s. By 1908 with formation of the Umatilla National Forest, some sheep and cattle were grazed on the Pomeroy Ranger District. Sheep required lower initial investment than cattle, and immigrant labor was abundant to care for the sheep herds. The end of the "open range" era, grazing restrictions on national forests, and conversion to shed lambing crowded sheepmen into less mobile and more expensive operations in the early 1900s. By the 1940s, preference for beef and synthetic fibers, and the declining supply of immigrant labor closed sheep operations regionally (McGregor 1982).

Private irrigation works expanded in the late 1800s and many canals and flumes were constructed in Asotin County. The most notable irrigation work took place in 1896 when an 18-mile long irrigation canal was constructed running from Asotin Creek, above the town of Asotin, to Jawbone Flat—an area along the Snake River on the western side of what is now the city of Clarkston. In response to the completion of the canal, irrigated crops were planted, and homes were constructed in the Jawbone Flat area. The population in the Jawbone Flat area grew from approximately 15 people in 1896 to 2,200 in 1903 (Dougherty 2006).

A section of the 18-mile canal
Photo Credit: Asotin County PUD 2016

Dry farming was modernized throughout the 20th Century. Horse powered reapers and binders and steam-powered threshers gave way to combines. Tractors in the region date to about 1910 but were not enumerated until 1920. The number of tractors doubled from 1920 to 1930. Federal government grant programs for dryland farmers began following the Agricultural Adjustment Act (AAA) of 1933.

The AAA helped farmers during the Great Depression by paying them to fallow ground and use less aggressive tillage in an attempt to encourage the commodity process and reduce soil erosion. A second agricultural revolution occurred following World War II with the development of semi-dwarf wheats with improved grain yields, early emergence, stripe rust and lodging resistance (Vogel 1984). These improved characteristics increased the viability for dryland farm operations.

Occupational data for Asotin County is available for the top seven occupations from 1940 to 2010. Farmers and farm managers were the second most common occupation in Asotin County and farm labor (wage work) and farm foremen were the seventh most common in 1940. In 1950, farmers and farm managers were the sixth most common occupation and farm labor (wage work) and farm foremen were not ranked in the top seven most common occupation types. By 1970, there were no farm associated occupation types that made it in the top seven (GRAPHIQ 2017).

In 1975, Lower Granite Dam was complete and many of the orchards occurring along the Snake River were submerged (WAESD 2015). Another significant impact restricting the available land for orchards is urban sprawl, specifically in the Clarkston Heights area southwest from downtown Clarkston. Even with the loss of available land and the decline in farm associated occupational types from 1940 to 1970, agriculture is still a large economic driver for the County today (WAESD 2015). Thus, protecting the County's agricultural viability is crucial for the local economy.

Grazing Cattle in Asotin County
Photo Credit: Mary Browne

Feed Pad: Manure Management Project
Photo Credit: ACCD

Trough and Solar Panel
Photo Credit: ACCD

3.2 History of Conservation Practices

In April of 1995, the Asotin Creek Model Watershed Plan (ACMWP), funded by the Power Planning Council of the Bonneville Power Administration, was completed. The ACMWP was a grassroots effort, developed by a landowner steering committee in conjunction with the technical advisory group to address watershed health on a ridgetop to ridgetop basis. The ACWMP was one of the first true ridgetop-to-ridgetop plans in Washington and provided the foundation for the ACCD cost-share program and conservation practice implementation over the last 2 decades in Asotin County. Ultimately, the success of the plan was due to the initial landowner involvement in the plan development and local desire to address conservation and resource issues at a watershed scale based on their understanding of landscape connectivity.

In 1997, Asotin County began a 5-year direct seed program which provided financial and technical assistance to agricultural producers to implement conservation tillage management practices. In 1997 and 1998, the first riparian exclusion fencing projects were planned and implemented in the County and allowed for early success when the Conservation Reserve Enhancement Program (CREP) was introduced by the USDA. The first CREP contract in the County was written in 2001. The first manure management project was in 2005. The proactive measures landowners in the County have adopted demonstrates their strong conservation values and holistic management of the land.

3.3 Agricultural Viability

At the regional level, agricultural viability is the support system that helps individual farms succeed. This system also helps to mitigate against potential threats and supports local producers in their operations and their ability to take advantage of business opportunities. Today, some agricultural operations in Asotin County are only viable with supplemental income opportunities such as hunting fees and timber sales which may not directly relate to their larger operation, but are an essential part of helping producers make a living. Other supplemental income is generated by off-farm employment that often includes health insurance and other household benefits.

Agriculture is widely recognized as a pillar of the Washington State and Asotin County economies. The VSP law is explicit that critical areas are to be protected while, "maintaining and improving the long-term viability of agriculture" (RCW 36.70A.700). Both objectives, critical areas protection and maintaining agricultural viability, have to be met in this Work Plan, as illustrated in Figure 1-1.

Agricultural viability in the County includes regional and individual farm elements. These are defined, respectively, as the region's ability to sustain agricultural production over time and an individual farm's ability to meet financial obligations and make a profit. Tables 3-2 and 3-3 identify agricultural viability concepts for the regional and individual farm perspectives within the County.

At the farm level, agricultural viability rests mostly on the productivity of the land and the ability of the operator to balance input costs with sales and market pressures. In the County, one of the main farm-level agricultural viability concerns is land productivity. Land production capacity can be impacted by soil erosion and soil quality (moisture and nutrient management). Maintaining and enhancing land production capacity can be addressed through conservation and land-management practices. Many of these stewardship strategies and practices also have the dual benefit of protecting and enhancing critical areas while enhancing land production capacity. Additionally, reduction of input costs (e.g., fuel and fertilizer) can also result from these practices, and technology improvements can also help enhance production capacity.

446 **Table 3-2. Agricultural Viability – Regional Elements**

Concept	Detail
Stable and Secure agricultural land base	Land conversion
	Stable water rights
Infrastructure and services	Utilities/irrigation
	Market access/transportation
Support for best farm management practices	Economically viable solutions
	Balanced approach
Education, training, and succession planning	Apprenticeships/training
	Interconnectivity with end users
Welcoming business environment	Stable regulatory environment
	Partnership-based environmental protection
New and expanding market opportunities	
Reliable marketing of goods and services	

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448 **Table 3-3. Agricultural Viability – Farm Elements**

Concept	Detail
Reduce inputs	Energy (power, fuels)
	Chemicals
	Labor
Maintain/enhance land production capacity	Soil health
	Water systems and moisture management
	Nutrient management
	New technologies
Flexibility to respond to market conditions	Changing land in production
	Individual schedule for implementing stewardship strategies and practices
	Cropping choices
Incentives	Payment for measures
	Tax breaks
Managed farmland conversion	Urban development (primarily in Pullman)
	Maintain resource lands
"No surprises" regulatory environment	Clean Water Act, Clean Air Act, ESA, and others.
	County permitting (drainage and other requirements)
Protect Private Property Rights	Recognize and respect rights
Environmental Variation	Rainfall, temperature, etc. affects activities

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Table 3-4 includes a summary of agricultural viability strengths, weaknesses, opportunities, and threats.

Table 3-4. Agricultural Viability Strengths, Weaknesses, Opportunities, and Threats

Strengths	Weaknesses
• Willingness by producers to implement conservation practices • Lewis-Clark Valley American Viticultural Area • Location along the Snake River and access to cost-efficient river transportation system • Proximity to Washington State University and University of Idaho Land Grant universities and associated technical support available • Committed and dedicated local producers	• Limited options for crop diversity - wheat and cattle are the primary agricultural products, and subject to commodity prices • Limited opportunity to vertically integrate • Water supply and associated rights are limited due to natural precipitation and hydrology • Smaller farms/operations often mean less economic buying power
Opportunities	**Threats**
• Limited urbanization pressures compare to other areas • Multiple smaller operations/integrated farming operations where producers sell to each other to support each other, with shared values and commitment to work together • Continued improvements in land and water management through applying technology and best management practices	• Land ownership changes and changes from working agricultural lands to recreation lands can change underlying land economics and affordability of lands to continue agriculture • Public land management (or lack of it) puts more game pressures on surrounding lands – grazing, trespassing, game population densities – on private lands. (NOTE: WDFW is providing some grazing agreements on some lands per purchase agreements while others do not have leases) • ESA listing of species and public land acquisitions have impacted agricultural operations including livestock management, and ESA listings have increased risk of third party lawsuits • Potential for impacts to critical areas from public and recreation managed lands • Lower Snake River dams removal studies and risk of removal • Equipment costs, input costs, and labor increases from minimum wage makes it challenging to find and retain qualified labor • Rural housing development where land management may lead to more limited pest and weed control • Younger generations not interested in working lands as they seek other career opportunities • Requirements associated with Global Good Agricultural Practices

Overall, the Asotin VSP Work Plan has been designed to support and promote the regional and individual farm agricultural viability elements as listed in Tables 3-2 and 3-3. The program places emphasis on practices, flexibility, incentives, and other opportunities mutually beneficial to agricultural viability and

critical areas protections, supporting continued agricultural viability in the County. Agricultural viability is a component of stewardship activities described in this and in each of the goals provided in Section 4. Protecting and enhancing agricultural viability will continue to be a key performance measure that must be met during the implementation of the Asotin County VSP Work Plan.

3.4 Impacts of the Regulatory Environment on Agricultural Viability

The VSP is provided as an alternative approach to protecting critical areas used for agricultural activities rather than the regulatory approach under the GMA. Despite its voluntary nature, it is still the intent of the VSP to improve, and not limit, "compliance with other laws designed to protect water quality and fish habitat," per RCW 36.70A.700 and 36.70A.702. Existing federal, state, and local environmental rules and regulations continue to apply to agricultural activities that have the potential to affect the environment, as shown in Table 3-5 (see Appendix C for a more comprehensive table).

Table 3-5. Example Environmental Rules and Regulations

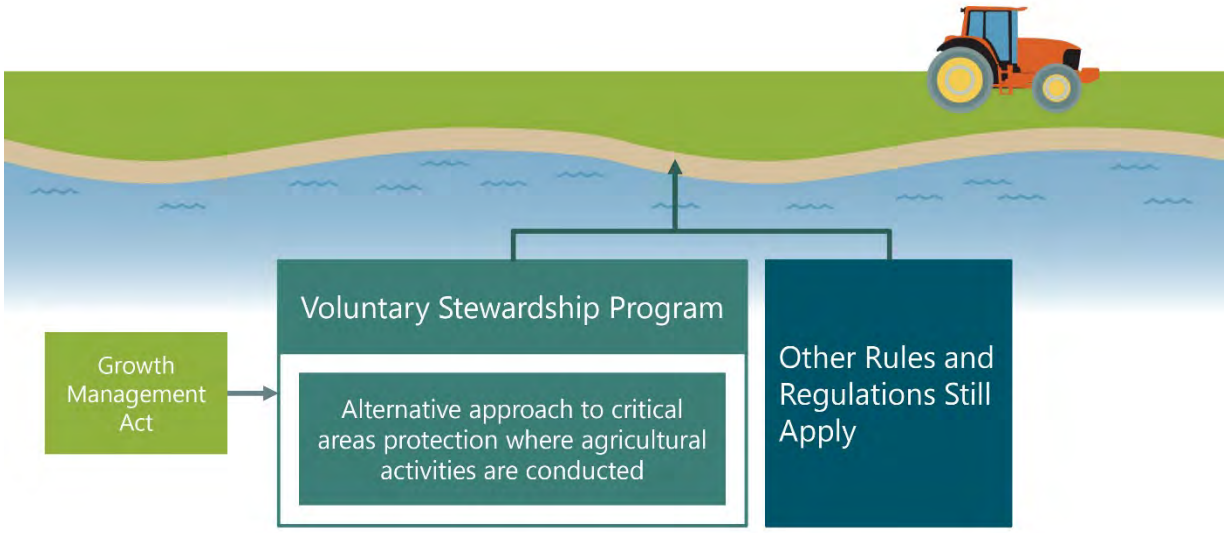
Regulation(s)/Program	Agency	Description
Federal Rules and Regulations/Program		
Agricultural Act (Farm Bill)	USDA	Reauthorized in 2014, eliminates direct payments and continues crop insurance
Clean Water Act	U.S. Environmental Protection Agency (regulated locally by Ecology)	Regulates discharges of pollutants into waters of the United States, including discharges of dredge or fill material in wetlands; Clean Water Act exemptions for agriculture are designed consistent with and support existing USDA programs
National Pollution Discharge Elimination System		Promulgated under the Clean Water Act to regulate discharges to waters of the United States from animal feeding operations
Federal Insecticide, Fungicide, and Rodenticide Act	U.S. Environmental Protection Agency	Regulates pesticide distribution, sale, and use and includes labeling and registration requirements
National Emissions Standards for Hazardous Air Pollutants	U.S. Environmental Protection Agency	Regulates hazardous air pollutant emissions, including from new and existing facilities that manufacture organic pesticide active ingredients used in herbicides, insecticides, and fungicides
State Rules and Regulations		
RCW Title 16: Animals and Livestock	Washington State Department of Agriculture	Includes general regulations pertaining to animals and livestock practices
RCW Title 17: Weeds, Rodents, and Pests	Washington State Noxious Weed Control Board	Includes general regulations pertaining to weed, rodent, and pest control
RCW Title 77: Fish and Wildlife	WDFW	Includes fish and wildlife enforcement regulations
RCW Title 87: Irrigation	Irrigation Districts	Regulates irrigation and irrigation districts

Regulation(s)/Program	Agency	Description
RCW Title 89: Reclamation, Soil Conservation, and Land Settlement	CDs, Office of Farmland Preservation, and Irrigation Districts	Includes general regulations pertaining to reclamation and local conservation districts
WAC Title 173	Ecology	Includes Ecology rules for air and water quality protection
Local Rules and Regulations		
CAO	Asotin County Building & Planning	Critical areas regulations are promulgated under the Asotin County CAO
Shoreline Master Program	Asotin County Building & Planning	Part of a multiple-county coalition comprised of Asotin, Columbia, and Garfield counties and the cities of Clarkston and Starbuck; includes shoreline management regulations and recommendations for waterbodies located within the county

Note:
See Appendix C for a more comprehensive list of rules and regulations.

Figure 3-1 is intended to show how the VSP relates to other rules and regulations that apply separately from critical areas protection under the GMA.

Figure 3-1. Voluntary Stewardship Program Regulatory Underpinning



The enforcement of these regulations has contributed to many changes in agricultural practices and management for several years. Landowners have struggled with consistency and changing expectations from regulatory agencies. It is important that landowners have a clear understanding of

the requirements set by regulatory agencies to avoid "moving targets" and ensure compliance when implementing practices, especially structural practices such as fences.

Increasing regulations on agricultural lands and activities is a growing concern to many of the landowners in Asotin County. As more regulations become established, the flexibility and diversity in management tools are further constricted. A prime example of a management tool that has been limited over the years in Asotin County is fire. Fire has been used in agricultural settings to increase grass field production, reduce fuel loads, control weeds and pests, and increase forage production for livestock. Bluegrass burning has been banned in Washington State, which has reduced bluegrass seed production in Asotin County. Currently field and spot burn permits are still available, and it is important to agricultural producers in Asotin County to continue to have the flexibility to use a tool, even if rarely used, to react to a condition.

Increasing regulations can also limit the expansion of agriculture. In Asotin County, there have been no new water rights issued in recent years. This limits the expansion of irrigated crops along river and streams. This prevents many landowners from capitalizing on new crop opportunities. For example, the market demand for grapes has increased drastically in the recent past. There are areas in Asotin County that could be prime locations for growing grapes but doing so is not feasible due to the lack of irrigation water rights available and restrictions of water use.

Everything considered, increasing regulations can limit agriculture activities and the ever-changing regulatory environment can be difficult for agricultural landowners to keep up with. Moreover, added regulations put more pressure on agriculture viability and limit production. While many businesses can respond to increasing regulations by passing the burden onto the consumer by adjusting sale prices of goods, many of the agricultural commodities produced in Asotin County are sold in commodity markets where local farmers and ranchers do not set or control prices.

3.5 Other Conditions that Impact Agricultural Viability

Along with federal, state, and local regulations, there are additional conditions that impact the viability of agriculture in Asotin County. With the County's growing population, conversion of agricultural lands to other ownerships and the rise in outdoor recreation has become increasingly problematic to the County's agricultural viability. In addition, wildlife conflicts have also become an increasing concern to the viability of agriculture in Asotin County.

3.5.1 Conversion of Agricultural Lands to Other Ownerships

During the past decade, conversion of agricultural lands to other ownerships is becoming an increased problem for agricultural producers as Asotin County's population grows and people begin developing agricultural land for residential property. The price of agricultural land is increasing as land for urban development is becoming more demanding, making it difficult for farmers and ranchers to maintain

the agricultural land base for present and future generations. Small acreage properties are increasingly common in the County, which has contributed to the spread of noxious weeds, pests, and diseases because these properties are not actively regulated and managed in the same manner as commercial agricultural farms. For example, unchecked pests and diseases associated with backyard fruit trees can easily spread to commercial orchards causing decreases in yields, tree mortality, and/or economic loss from increased pest management. Additionally, urban encroachment on agricultural lands can result in potential agricultural conflicts. It is also common to see small acreage properties with horses or other livestock. This poses the potential of diseases spread to livestock in the rangelands, if livestock on those small acreage properties are not routinely vaccinated.

3.5.2 Recreation

The number of people engaging in outdoor recreation is on the rise and Asotin County is home to highly desirable recreation areas. Unfortunately, the increase in outdoor recreation has led to more human caused fires, especially along the Snake River. The increase in recreation has also aided in the spread of noxious weeds. Vehicles and people are often vectors for noxious weed seeds to spread to new areas. With more people driving, hiking, hunting, fishing, and boating, noxious weeds are more readily spread and introduced in the County.

3.5.3 Conflicts Between Agriculture and Wildlife

Herbivore species, primarily deer and elk, have used crops as a food source and this trend has increased over the past decades. Landowners are seeing larger herd sizes and increased amounts of damage to crop fields. They continue to work with WDFW to address the concern through Damage Prevention Cooperative Agreements using non-lethal hazing efforts, kill and damage prevention permits to target the animals causing damage, and seeking compensation for production loss. With the immigration and colonization of wolves in recent years from Canada, Idaho, and Oregon, the displacement of wildlife species including deer and elk will likely have a greater impact on crop production than ever before. Neighboring counties and states have seen elk move outside their traditional habitats to seek refuge in open spaces.

Asotin County anticipates more wildlife conflict as the wolf population increases and packs become more established in our area. Neighboring counties and states (Idaho, Oregon, and Northeastern Washington) have documented several conflicts between livestock and wolves since the establishment of packs in their regions. Livestock producers are having to implement proactive deterrence measures to discourage wolf interaction with livestock. While they can be effective, it is additional cost the producer incurs.

3.6 Agricultural Land Uses

The main agricultural land uses in Asotin County are: dryland agriculture, irrigated agriculture, rangeland, and pasture (Table 3-6).

Table 3-6. Asotin County Agricultural Land Uses

Land Use	Definition	Common Crops or Uses
Dryland Agriculture (73,309 acres)	Cultivated crops that are non-irrigated	• Wheat • Barley • Canola • Hay • Pasture
Irrigated Agriculture (134 acres)	Crops requiring the application of additional water during the growing season	• Orchards • Vineyards • Hay • Pasture
Rangeland Grazed Timberland Pasture (113,278 acres)	Land that receives no additional inputs (e.g., fertilizers or seeding, apart from those added for forage availability) and is used primarily for grazing cattle	• Cattle • Other livestock (e.g., goats)

See Map 5 in Appendix A illustrating the area (acres) for each type of agricultural land use.

3.7 Baseline of Agricultural Conditions (July 22, 2011)

This section provides a baseline conditions summary of the intersections of critical areas on agricultural lands. The following appendices provide additional information and methods relied upon for the baseline conditions summary:

- Appendix A: VSP Map Folio
- Appendix B: Baseline Conditions Summary (includes methods, data sources, and critical areas data summary tables)

Use of Maps

The data sources and maps that were used to assess the potential presence of critical areas within the County and intersection with agricultural lands were used for planning-level purposes only. Actual critical areas presence is determined on a case-by-case basis through farm stewardship planning.

The overlap between agricultural land use and mapped critical areas generally accounts for only a small percentage of the total agricultural land in the County (Table 3-1). Most agricultural lands do not contain critical areas other than water erosion potential areas. However, most of the fish and wildlife habitat conservation areas (FWHCAs), frequently flooded areas (FFAs), wetlands, and critical aquifer recharge area (CARAs) in the County are on agricultural lands. Although the portion of agricultural

lands that intersect with these mapped critical areas is a relatively small fraction of the County's agricultural land base, these lands include many areas of high functioning habitats, which provide important ecological functions.

Tables 3-7 and 3-8 summarize the potential presence of critical areas within the County that intersect with agricultural activities on private lands. Because the predominant landcover in the County is agriculture (52%), critical areas presence within the County, largely mimic these percentages.

Table 3-7. Critical Areas Intersect Within Asotin County Agricultural Lands

Critical Area Type		Acres Within Agricultural Lands[1]	% of Total Agricultural Lands[1]
Fish and Wildlife Habitat Conservation Areas[2]	Bighorn Sheep	21,984	11.8%
	Elk	21,584	11.5%
	Game Bird	45,203	24.2%
	Mule Deer	92,887	49.7%
	Raptor	90	<0.1%
	White-Tail Deer	57,448	30.7%
	Waterfowl	32	<0.1%
	Sagebrush	6,415	3.4%
	Cliffs/Bluffs	4,728	2.5%
Frequently Flooded Areas		390	<1%
Geologically Hazardous Areas	Steep Slopes (>40%)	53,577	25.5%
	Severe Erosion Hazard	109,345	58.5%
	Moderate Erosion Hazard	73,601	39.4%
	Slight Erosion Hazard	3,850	2.1%
Wetlands (all types)		196	0.1%
Critical Aquifer Recharge Areas[3]		759[3]	<1%

Notes:

1. Agricultural areas included in this summary are limited to privately owned lands with cultivation, grazing, and forestry activities. Publicly owned land is not managed under VSPs.
2. These areas include sensitive, candidate, and threatened species and habitats mapped in WDFW PHS data and maps, consistent with the County's CAO definition of FWHCAs and PHS listed in the County's CAO Appendix 1 (included in Appendix B-3). See Maps 6 through 8 in Appendix A and Appendix B-4 for additional details on PHS species, including recreation and game species.
3. This intersection only includes CARAs that intersect with agricultural lands and does not include other land use-designated lands that may include agricultural activities that occur on smaller acreage properties that could also affect drinking water quality. The Asotin County VSP Work Plan includes these smaller acreage properties with agricultural activities occurring on them, and the CD will work with these landowners in cooperation with public water system providers.

Game Species in Priority Habitat and Species

Priority Habitats and Species (PHS) data and mapping are maintained by Washington Department of Fish and Wildlife WDFW in part to provide a reference to the potential existence of FWHCAs. Game species habitat are mapped in PHS within approximately 134,778 acres of the County's private agricultural lands, comprising primarily of mule deer, pheasant, chukar habitat. These habitats almost entirely overlap existing dryland agriculture, and range, and forest lands. Agriculture is expected to continue providing a suitable habitat for these game species.

- **Protection goals:** Protection efforts under VSP are focused on the rare and undisturbed natural habitats that exist in the County, such as wetlands, prairies, riparian areas, and shrub-steppe. Game species areas that overlap with existing agricultural lands are not the primary protection focus of this Work Plan, except where there is overlap with other habitat types as referenced above. The protection goals included in the Work Plan (Section 5.14) for these habitats are also expected to benefit game species.
- **Enhancement goals:** Enhancement efforts under this Work Plan include conservation efforts that focus on improving habitat conditions for game (along with other species) on existing agricultural lands (e.g., Conservation Reserve Program or field fringe habitat). These enhancement efforts will be counted towards meeting the Work Plan's enhancements goals and benchmarks.

See Appendix A Figure 6, and Appendix B-3 for additional details on PHS species, including recreation and gaming species.

In the majority of the County, soils remain at risk of wind or water erosion and mobilization under certain conditions. This is a concern in terms of soil loss from farming areas and sedimentation in streams and lakes. The wetlands are generally associated with the streams in the County. These range in size from the Snake River to intermittent streams adjacent to agricultural lands. Intermittent streams only flow once or twice in a decade, and then often only for short periods of time.

Table 3-8. Critical Area Streams within Asotin County Agricultural Lands

Stream Type	Miles Within Agricultural Lands
Streams Total	
Perennial Streams	68
Steelhead Streams	30

Notes:

1. There are an additional 836 miles of streams which have been mapped as "Intermittent" or "Unknown" per USGS in Washington DNR's National Hydraulic Dataset stream mapping on private agricultural lands. These stream types would need to be verified on the ground as part of agricultural stewardship planning to identify appropriate protections for potential stream and riparian functions and associated fish or habitat use, as applicable.
2. Shorelines of the state located within Asotin County include approximately 15.3 miles of Asotin Creek and 38.3 miles of Grande Ronde (total acres within the County are 503 acres).

3.8 Existing Stewardship and Agricultural Programs

Table 3-9 includes a summary of public sector conservation programs.

Table 3-9 Local Public-Sector Conservation Agencies Summary

Lead	Description	Technical Assistance	Financial Assistance	Partnership Agreements	Contractor Easement Agreements
ACCD	Works through voluntary, incentive-based programs to assist landowners and agricultural operators with the conservation of natural resources throughout the CDs cost-share programs.	●	●	●	
NRCS	Provides technical and financial assistance to help agricultural producers make and maintain conservation improvements on their land and offers conservation easement programs and partnerships to leverage existing conservation efforts on farm lands	●	●	●	●
FSA	Oversees several voluntary, conservation-related programs that work to address several agriculture-related conservation measures, including programs such as CRP and CREP		●		●
Asotin County Noxious Weed Control Board	Assists the land managers and land users of Asotin County be responsible stewards of the land and resources by protecting and conserving our agricultural lands, recreational areas, and natural resources from the degrading impact of exotic, invasive noxious weeds	●	●		
WDFW	Provides financial assistance for habitat projects that restore and/or preserve fish and wildlife habitat through funding opportunities such as the Aquatic Lands Enhancement Account Volunteer Cooperative Grant Program	●	●		
Washington State University Extension	Provides agricultural producers with technical assistance, research, and education services and leads the Water Erosion Prediction Project, which is a hydrological characterization model to predict runoff and erosion that may be useful in identifying effective stewardship strategies and targeted locations in the County	●			

As discussed in Section 4.2, key critical areas functions include water quality, hydrology, soil health, and habitat. Many stewardship strategies and practices have been adopted within the County that provide a suite of benefits to these critical areas functions, in addition to maintaining the viability of agriculture.

Table 3-10 summarizes some examples of practices that have been applied by agricultural producers in the County under Natural Resources Conservation Service (NRCS) programs. This table helps illustrate the types of practices that have been or can be implemented to protect critical areas functions. As noted in the table, these examples also address the promotion of agricultural viability.

Additionally, a VSP Checklist is included in the ASP for agricultural producers to determine how the VSP could support their farm operations by promoting agricultural viability while protecting critical area functions (see Appendix D). See also Appendix E for a more comprehensive "toolbox" of example practices that have been or could be implemented by agricultural producers within the County.

VSP Checklist

The VSP Checklist is a helpful tool to help assess how the VSP could support individual agricultural producers. It includes additional examples of stewardship strategies and practices that protect and enhance critical areas and promote agricultural viability.

Residue and Tillage Management

A beneficial and cost-effective method of reducing soil erosion is through crop residue and tillage management practices such as mulch till, no-till/strip till/direct seed, and ridge till. Monitoring conducted as part of the Farmed Smart Partnership indicated the application of these practices can dramatically reduce erosion when compared to conventional practices (Pacific Northwest Direct Seed Association 2017).

Participation in Funded Programs

Federal, state, and local government, and private-sector programs and opportunities are available to support producers in addressing agricultural and resource concerns. See Section 5 for additional resources and technical assistance available to agricultural producers on a voluntary basis. **Participation in a government-funded program is not required to be a VSP participant.**

Table 3-10. Examples of Critical Areas Stewardship Strategies in Asotin County

Example Stewardship Strategies	Description	Critical Area Functions		Agricultural Viability
Residue and Tillage Management Dryland Rangeland Irrigated	Managing crop and plant residue and limiting soil disturbance (e.g., no-till or reduced-till)	Water Quality	• Reduces runoff and erosion • Reduces transport of nutrients and sediment	• Soil quality and conservation • Weed management • Yield and fertility
		Hydrology	• Increases infiltration and decreases evapotranspiration to increase water availability	
		Soil	• Reduces soil disturbance and increases cover to reduce wind and water erosion	
		Habitat	• Provides food and cover for wildlife • Increases water availability	

Example Stewardship Strategies	Description	Critical Area Functions		Agricultural Viability
Pest Management Dryland Rangeland Timber Irrigated	Managing pesticide use to reduce runoff	Water Quality	• Residual pesticides decrease in surface and groundwater	• Soil quality • Weed management • Pollinator/ beneficial organisms
		Soil	• Decreases wind and water erosion due to changes in pest management	
		Habitat	• Reduces the negative effects of pests on food quantity and quality	
Nutrient and Manure Management Dryland Irrigated Rangeland Timber	Managing nutrients to minimize loss to runoff	Water Quality	• Reduces nutrients in surface and groundwater due to matching plant needs to the amount, timing, and placement of nutrients	• Soil quality • Yield and fertility • Reduced inputs
		Habitat	• Optimizes health and vigor of desired plant species • Increases food and cover for wildlife	
Water Management Irrigated Rangeland	Managing application of water	Water Quality	• Residual pesticides/nutrients decrease in surface and groundwater	• Protect against erosion risk • Protect soil function • Reduce inputs • Promote yield and fertility
		Habitat	• Reduces soil disturbance • Reduces unintentional conversion of dryland habitat types	
Prescribed/ Managed Grazing Rangeland Timber	Managing grazing and vegetation harvest to improve plant communities and manage weeds	Water Quality	• Reduces runoff and erosion • Reduces transport of nutrients and sediment	• Soil quality and conservation • Weed management • Yield and fertility
		Hydrology	• Increases infiltration and water availability	
		Soil	• Decreases water and wind erosion due to increased vegetation cover • Reduces stream erosion through enhanced riparian vegetation	
		Habitat	• Improves and maintains health and vigor of desired plant species • Restores desired habitats, such as shrub-steppe • Helps maintain adequate water availability	

3.9 Changes Since 2011 Baseline

Since 2011, agricultural producers have implemented practices that provide protections and enhancements to critical areas and promote agricultural viability through private projects, and projects

funded by federal, state, and local governments. One of the key purposes of the VSP and this Work Plan is to leverage existing resources by relying on existing local work and plans, existing private-sector activities, and government programs to achieve Work Plan goals (RCW 36.70A.700(2)(d)).

VSP definitions determine whether a stewardship activity or project qualifies as a protection or an enhancement under the VSP. Under the VSP definitions "enhance … means to improve the processes, structure, and functions existing, as of July 22, 2011…" and "protect … means to prevent the degradation of functions and values existing as of July 22, 2011 (RCW 36.70A.703). Because most conservation practices or projects installed since 2011 were designed to improve functions, they should generally be counted as enhancements in the reporting of program performance, as discussed further in Section 5.2.

See Table 3-11 for assumptions related to varying estimated discontinuation rates. See Section 4 for discussion on how these anticipated discontinuation rates are considered in the protection benchmarks and enhancement goals.

Table 3-11. Calculating Rate for Stewardship Strategies and Practices Discontinuation[1]

Assumed Range of Discontinuation	Stewardship Strategies and Practices Category	Example Practices
Lower 0-2%	**Conservation Investments** Major Infrastructure	• Watering Facilities • Fencing • Vegetation Plantings
Higher 0-6%	**Conservation Actions** • Management practices and strategies Rotational use	• Tillage Management • Pest Management • Nutrient Management • Prescribed Grazing • Forage Planting • Cover Crop

Note:

1. This table provides an assumed range of discontinuation of conservation practices. Discontinuation rates may be adjusted based on actual data collected during implementation.

It is expected that stewardship strategies and practices, such as stock watering facilities and fencing, will see very little discontinuation, or relapse back to old practices. There are other stewardship strategies and practices (such as residue management and prescribed grazing) that have the potential for a higher rate of discontinuation. In some circumstances the stewardship strategies change to provide additional enhancements. Conservation practices and management systems implemented through programs have a designated life in which the practice or system must be maintained in accordance with the cost-share agreement. The discontinuation of these practices and systems after

the designated life is determined by the landowner/land manager. Frequently, practices are maintained and systems are continually used after the cost-share agreement obligations are completed.

Practices and stewardship strategies may see a higher discontinuation rate in the future if long-term government contracts are not available. Landowners/managers currently enrolled in programs such as the Conservation Reserve Program (CRP) and/or CREP would likely change management strategies if program funding ended. Measures and systems are typically put in place when lands are returned to production to conserve resources and protect potentially affected critical areas adjacent to lands no longer enrolled in conservation programs.

3.10 Conservation Programs, Practices, and Technical Support

3.10.1 Conservation District-Led Projects

Natural resource conservation projects are implemented through the ACCD which uses grant funds from numerous agencies. Major stewardship strategies implemented by the ACCD include riparian buffers, conservation tillage programs, rangeland enhancements, and manure management systems. Conservation plans are developed identifying resource concerns and conservation practices to address those concerns. In addition to implementing stewardship strategies and practices, the ACCD also maintains monitoring of watershed through the ACMWP.

3.10.2 Natural Resources Conservation Service Conservation Practices

NRCS develops and implements the conservation plans for the CRP, CREP, and Grassland Reserve Program, which are administered by the Farm Service Agency (FSA). NRCS also provides general technical assistance to many farms and county citizens throughout the year. That might include things like providing general soils information to someone in town, designing a windbreak, or identifying an unknown weed. NRCS has participated with and advised several planning boards or committees including the: ACCD board, Work Group for Environmental Quality Incentives Program (EQIP) planning, WDFW long range planning, VSP, Asotin Creek Model Watershed Technical Advisory Committee, Asotin County Noxious Weed Board, Asotin County Wheat Growers, and Asotin County Cattlemen's.

Enhancement projects are implemented under NRCS's Conservation Stewardship Program (CSP), which provides additional incentives for producers to enhance existing practices by providing funding to actively manage, maintain, and expand existing conservation practices. CSP practices primarily enhancing pest- and nutrient-management protect water quality, soil health, and habitat. Stewardship enhancements under CSP will be reviewed during implementation to assess the level of enhancements that can be accounted toward the Work Plan's goals and benchmarks.

3.10.3 Farm Service Agency Conservation Programs

The three FSA administered programs in Asotin County include the CRP, CREP, and Emergency Conservation Program. Each program and its parameters are described below.

Conservation Reserve Program: Participants agree to remove environmentally sensitive land from production and establish perennial cover in exchange for an annual rental payment. CRP provides an opportunity for landowners to address natural resource concerns on their property. CRP contracts are 10 to 15 years long. The objectives of CRP are to improve water quality, prevent soil erosion, and enhance fish and wildlife habitat. There are several programs under CRP; the most common are General, Continuous, and CREP. General CRP accepts offers on a competitive basis during designated sign up periods and applies to cropland. Sign up for Continuous CRP and CREP is open continuously and is not subject to competitive bidding. Riparian forest buffers, wetland buffers, and filter strips are eligible for Continuous CRP.

Conservation Reserve Enhancement Program: In 1998 the State of Washington entered into an agreement with the federal government (USDA) to assist in the recovery of salmonid species that have been listed as threatened or endangered under the Federal Endangered Species Act (ESA). The intent of the program is to establish forested buffers along streams that provide, or have the potential to provide, important habitat for salmonids. CREP can be an important tool help farmers and ranchers to meet state water quality standards.

Emergency Conservation Program: Provides funding to farmers and ranchers to repair damage caused by a natural disaster or severe drought. Practices eligible for this program include restoring fences, debris removal from farmland, restoring conservation structures, and providing emergency water.

3.10.4 Other Technical Assistance Providers

Technical assistance and support is available to producers from associations such as the Asotin County Cattlemen's and Wheat Growers associations, from peer to peer information exchange within the County (direct seed support group) and the region (lessons learned from other areas), and from private organizations. Additional technical assistance and stewardship programs and incentives are also provided through ACCD, WDFW, Asotin County Weed Board, Washington State University Cooperative Extension, and the Rocky Mountain Elk Foundation and other sportsman groups.

4.0 Critical Areas Baseline Conditions, Goals, and Measurable Benchmarks

The effective date of the VSP legislation is July 22, 2011. This is also the date chosen by the legislature as the applicable baseline for accomplishing the following items (RCW 36.70A.703):

- Protecting critical areas functions and values
- Providing incentive based voluntary enhancements to critical areas functions and values
- Maintaining and enhancing the viability of agriculture in the County

The 2011 baseline sets the conditions from which the County will measure progress in implementing the Work Plan and meeting measurable benchmarks (see Section 4.10).

Stewardship strategies and practices have been implemented since 2011 to improve agricultural productivity, reduce erosion, conserve water, and improve soil quality, water quality, and habitat; these and other stewardship strategies and practices will be accounted toward meeting the Work Plan goals and benchmarks.

It is important to note that changes to baseline conditions outside of VSP are likely to occur due to non-agricultural effects (e.g., climate change, natural events, wild fires, floods, conversions, forest practices activities), or other changes outside of the scope and jurisdiction of the VSP or the control of producers (including mapping errors and changes in federal program eligibility conditions). Additional changes to baseline may occur in the County that are the result of activities outside of the County, such as effects to watercourses that occur upstream and outside of the County limits. These changes will not be counted against the agricultural community and will be documented through the reporting and adaptive management processes discussed in Section 5.

4.1 Critical Areas Definitions

The five critical areas that are specifically defined under the GMA (RCW 36.70A.030) include: 1) FWHCAs; 2) FFAs; 3) geologically hazardous areas (GHAs); 4) wetlands; and 5) CARAs. Critical areas perform key environmental functions (e.g., water quality and fish and wildlife habitat) and provide protections from hazards (e.g., flood, erosion, or landslide hazards).

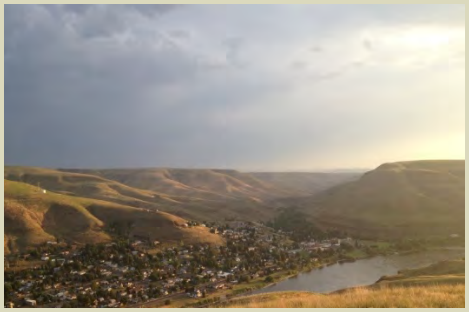
The County has identified five critical areas that will be managed under the VSP—FWHCAs, FFAs for agricultural activities, GHAs for erosion hazards, wetlands, and CARAs. Any structures (as defined in Asotin County Code [ACC] 18.18.450) that are proposed within agricultural lands for any of the five critical areas, whether they support agricultural activities or not, will continue to be regulated through the County's Critical Areas Ordinance (CAO; ACC Chapter 18.18), as applicable. Additionally, other critical area provisions that are incorporated into this Work Plan and that will continue to be reviewed under the County's CAO include GHAs for landslide or seismic hazards.

Geologically Hazardous Areas for Landslide or Seismic Hazards

Structures in agricultural lands will continue to be permitted and regulated through the County's CAO for landslide and seismic hazard areas. GHAs for erosion hazards have primary applicability in the VSP context, and agricultural activities related to erosion hazards will be managed under VSP.

Related to existing Asotin County critical areas regulations in place for agricultural activities, the County has a provision for allowing agricultural ditching through a critical areas exemption. This exemption applies to areas where drainage has been identified by NRCS as a Farmed Wetland or a Prior Converted Cropland. A landowner can improve the drainage by ditching it without any permitting from the County. This is often done to prevent cropland from being flooded. If the drainage is also an FFA (Federal Emergency Management Agency [FEMA] 100-year floodplain), then the landowner will need to apply for a County floodplain development permit which requires an engineer to evaluate the ditching, tiling, or other alteration to ensure there will be no negative impacts to flood elevations. Maintenance of these existing drainage ditches is accounted for as part of the 2011 baseline conditions.

The County's CAO (ACC Chapter 18.18), includes identification and designation criteria for the County's five critical areas, which are summarized below and further defined in Appendix B-3.

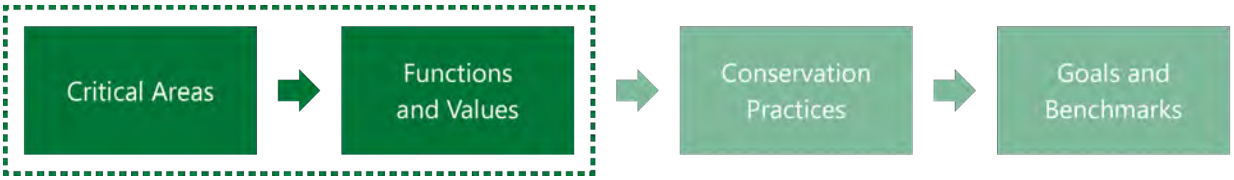
Fish and Wildlife Habitat Conservation Areas (FWHCAs) 	FWHCAs are lands and waters that provide habitat to support fish and wildlife species throughout their life stages. These include ranges and habitat elements where endangered, threatened, and sensitive species may be found, and areas that serve a critical role in sustaining needed habitats and species for the functional integrity of the ecosystem, and which, if altered, may reduce the likelihood that the species will persist over the long term. **Functions:** Water quality, hydrology, soil, and habitat
Frequently Flooded Areas (FFAs) 	FFAs includes 100-year floodplains and floodways, and often include the low-lying areas adjacent to rivers and lakes that are prone to inundation during heavy rains and snowmelt. These can include streams, rivers, lakes, wetlands, and areas where high groundwater forms ponds. **Functions:** Water quality, hydrology, soil, and habitat
Geologically Hazardous Areas (GHAs) 	GHAs are areas susceptible to erosion, sliding, and other geological events. In Asotin County, designated GHAs related to agricultural activities are primarily associated with erosion hazard areas, which include moderate to very severe water erosion potential areas. Wind can also be another source of soil erosion in the County. **Functions:** Water quality, hydrology, soil, and habitat
Wetlands 	Wetlands are areas inundated or saturated by surface water or groundwater for at least part of the growing season and support vegetation adapted for life in saturated soil conditions. Some irrigation-influenced artificial wetlands may be exempt from this designation (Ecology 2010). **Functions:** Water quality, hydrology, and habitat
Critical Aquifer Recharge Areas (CARAs) 	CARAs are areas that have a critical recharging effect on aquifers used for drinking water, including aquifers vulnerable to contamination or that could reduce supply by reducing recharge rates and water availability. **Functions:** Water quality and hydrology

4.2 Critical Areas Functions and Values

Agricultural producers play a major role in the stewardship and management of private lands and resources within Washington State and Asotin County. Agricultural producers are continually improving agricultural practices, applying new science and technology, and implementing stewardship strategies and practices that generally reduce agricultural impacts on critical areas, as well as maintain or increase the viability of the agricultural economy. In Asotin County, agricultural producers have adopted practices to address a variety of resource concerns, including practices to improve habitat, reduce soil erosion, and improve soil and water quality (WSDA 2015).

VSP legislation requires that work plans develop goals and benchmarks to protect and enhance critical area **functions and values** (RCW 36.70A.720(1)(e)). The key functions and values provided by the five critical areas in the County can be summarized into four major functions, which include: 1) water quality; 2) hydrology; 3) soil; and 4) fish and wildlife habitat. The goals and benchmarks developed for this Work Plan are based on protection and enhancement for these four key functions (see Figure 4-1).

Figure 4-1. VSP Crosswalk – Critical Areas Connection with Functions and Values



Each critical area provides one or more of these key functions and values, which are summarized in Table 4-1. The relationship between each critical area with key functions and values is discussed further in the following sections.

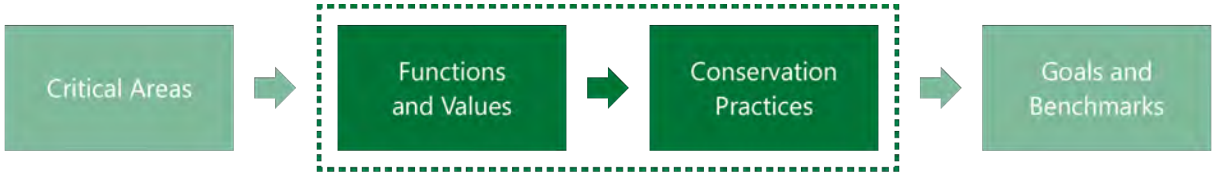
Table 4-1. Critical Areas Functions

Critical Areas	Key Functions			
	Water Quality	Hydrology	Soil	Habitat
Fish and Wildlife Habitat Conservation Areas	●	●	●	●
Frequently Flooded Areas	●	●	●	●
Geologically Hazardous Areas (Erosion)	●	●	●	●
Wetlands	●	●		●
Critical Aquifer Recharge Areas	●	●		

Additionally, this section discusses the conservation practices that have been implemented since 2011, highlighting the protections to critical areas and associated functions and values these practices are

already providing. This will provide the connection between conservation practices and critical area functions and values (Figure 4-2).

Figure 4-2. VSP Crosswalk – Functions and Values Connection with Conservation Practices



4.2.1 Water Quality

Critical areas, such as stream channels, riparian areas, and wetlands, are a part of the aquatic ecosystem that filters and retains excess fine sediments and cycles out excessive nutrients (such as phosphorus and nitrogen) and other pollutants. These functions provide cleaner water, which is essential for supporting habitat for fish and other aquatic species. Critical areas also help moderate water temperatures by providing vegetative shade and cooler water from recharged groundwater, which helps maintain cooler in-stream temperatures and dissolved oxygen levels needed to support aquatic species.

4.2.2 Hydrology

Hydrology is the process of water delivery, movement, and storage. In an ecosystem, hydrology is affected by landform, geology, soil characteristics and moisture content, and climate (including precipitation). Water is delivered to streams primarily from surface and shallow subsurface runoff and, in some cases, from groundwater. Stream channels, riparian areas, and wetlands are also a part of the aquatic ecosystem that stores and transports water and sediment, maintains base flows, and can support vegetation and microorganism communities.

4.2.3 Soil

Soil provides an underground living ecosystem, which is essential for preserving plants, animals, and human life. Soil conservation is essential in the County to support healthy soils that have the following characteristics:

- Reduce susceptibility to erosion
- Hold and slowly release water (see hydrology function section for more detail)
- Filter pollutants and, in many cases, detoxify them
- Store, transform, and cycle nutrients
- Physically support plants

Food Quality Protection

Before a crop protection product can be sold or used in Washington, it must be registered by the U.S. Environmental Protection Agency and the Washington State Department of Agriculture. The label the U.S. Environmental Protection Agency issues for each product is a legal document. Failure to follow label directions is a violation of law. The Washington State Department of Agriculture has an enforcement division to ensure users follow the label. More than 120 tests are required on each product to ensure safety for people and the environment.

Environmental tests determine how the product breaks down in soil, water, air, and plants to ensure the protection of wildlife, birds, aquatic life, and plants. Toxicology tests determine acute and chronic effects, effects on reproduction, and carcinogenic effects to ensure protection of human health. When Congress passed the Food Quality Protection Act in 1996, additional safety testing requirements were added to protect infants and children. The U.S. Environmental Protection Agency approves only label directions that meet the Food Quality Protection Act's "reasonable certainty of no harm" standard.

4.2.4 Fish and Wildlife Habitat

Habitats are the natural environment in which a particular species or population can live. The habitat requirements are unique for different species and can be unique for different life stages of a species. Habitat loss is the primary threat to the survival of native species. In Asotin County, agriculture has impacted habitats by replacing a historically diverse landscape with an intensely-managed agricultural landscape. Although agriculture lands can provide vast tracts of semi-natural habitat, species biodiversity is higher in the remnant natural areas in the County. Farmers that provide greater landscape variability, and high perimeter-to-area habitats on their land, can provide meaningful benefit to many different species (Weibull et al. 2002). Agricultural land, including winter wheat acreage and land enrolled in CRP provides important benefits for mule deer and other larger mammals, including elk, bighorn sheep, and white-tailed deer.

4.3 Critical Areas Indicators

Indicators are measurable metrics associated with specific environmental variables, (e.g. nitrate concentrations in a well or stream flow at a particular location). Metrics can be analyzed over time to understand longer term trends related to specific critical area functions and values. Indicator data will be reviewed every 2 years (as available) and analyzed with respect to adaptive management every 5 years to help focus technical assistance efforts and assess if the anticipated protection and/or enhancement of critical area functions is occurring.

If an indicator shows a loss or gain in the baseline condition for a critical area function, it can be compared to the performance objectives for stewardship strategies and practices implemented. If this analysis does not account for the change, a more targeted evaluation and analysis of the specific effects of agricultural activities can be made for the applicable parameter(s). This analysis would be used to

inform whether the VSP is meeting the protection standard for critical area functions within agricultural areas and the degree to which non-agricultural factors are influencing one or more indicators.

Indicators strongly affected by both agricultural and non-agricultural factors will be used for purposes of informing whether protection of baseline conditions is being when separating the relative agricultural effects from non-agricultural effects can reasonably be accomplished. Such indicators will still be used to identify resource trends and focus enhancement efforts to address specific stressors. If new information is collected during monitoring that is not confidential, it will be made available to the appropriate agencies as applicable to assist their monitoring programs. Other indicators may emerge during implementation.

The following are indicators from existing monitoring programs and/or information sources. The first indicator cuts across all four major critical area functions, while the others are specific to each function:

- **Land use change indicators** will include tracking of changes in land use from development, changes in farming practices, changes in the implementation of conservation and restoration programs and associated practices, and other applicable factors. This information will include Washington Department of Agriculture periodic agricultural survey results, federal agriculture programs statistics, and building permits, along with other sources. Information findings will be summarized at least every 2 years by major watersheds and help in interpreting the applicability of the other indicators below.
- **Water quality indicators** will include Category 4 and 5 303(d) listings, focused on parameters that potentially have an agricultural source. Category 4 includes polluted waters that do not require a Total Maximum Daily Load (TMDL), and Category 5 waters are polluted and require a TMDL or other water quality improvement project. Appendix B-5 provides a listing of these parameters found in Asotin County in 2016, acknowledging these parameters may be updated in the future. 303(d) listings within the County can be monitored using Washington State Department of Ecology (Ecology) Water Quality tools[1].
- **Hydrology indicators** will include tracking flow gauges through the U.S. Geological Survey (USGS), Ecology, or other agencies.
  - USGS Water data is available online: https://www2.usgs.gov/water/
  - Ecology streamflow and water quality data is available online: https://fortress.wa.gov/ecy/eap/flows/regions/state.asp?region=4
- **Soil function indicators** will include USDA Natural Resources Inventory and the National Wetland Inventory through U.S. Fish and Wildlife Service monitoring results related to erosion and soil functions and fertility. This monitoring should focus on locations within or adjacent to

[1] http://www.ecy.wa.gov/programs/wq/303d/index.html

critical areas in relation to erosion issues, allowing for more natural erosion rates upland of critical areas. Interactive data viewers at the State level are available online.

- **Habitat indicators** will be based on Asotin Intensively Monitored Watershed information for salmonid aquatic habitat in work areas of Charley Creek, North Fork Asotin Creek, and South Fork Asotin Creek will be available at least through 2020, along with fish-in fish-out monitoring of steelhead on the mainstem Asotin Creek and annual fish monitoring of Alpowa, Couse, and Tenmile creeks by WDFW.

Habitat indicators will also include PHS data available through WDFW (expected to be updated in 2019), National Agriculture Imagery Program (NAIP), and Asotin County aerial imagery. Other data, analysis, and related information that might become available in the future, such as remote sensing through WDFW's High Resolution Change Detection program or other GIS approaches for habitat assessment, will be used if this information is made available to Asotin County. These resources will be used for habitat assessment comparing 2011 baseline conditions with the most recent aerial imagery available. At least every 2 years, the most recent NAIP and other available imagery will be evaluated to identify trends (positive or negative) that may be occurring related to habitat, and in support of the 5- and 10-year review periods. Additionally, ground-truthing will occur to ensure change detection methods are accurate, and that agricultural activities were the cause of the identified changes.

Review of PHS updates and other relevant information will be used to make comparisons against the 2011 baseline conditions and will be done in coordination with WDFW. Random samples of habitat areas will be used to more accurately characterize critical areas protections achieved. These random samples will include a representation of lands with conservation practices implemented by VSP participants as well as other lands that may or may not have practices implemented on them, and these results will be extrapolated to the larger watershed analysis unit areas and the County. Ground-truthing will be needed to ensure that change detection data made available fits the scope and jurisdiction of the VSP and that agricultural activities were actually the cause of any identified degradations.

Additional "data truthing" of Washington State Department of Natural Resources' (DNR's) "Unknown" stream types and National Wetland Inventory wetlands in coordination with WDFW and Ecology will also be conducted during the implementation phase, as financial and staff resources allow, to better understand where "direct" effects may also be occurring.

Although not determinative of VSP success in maintaining 2011 baseline or better conditions as affected by agricultural activities and conservation practices, participation measures and

[2] https://www.nrcs.usda.gov/wps/portal/nrcs/rca/national/technical/nra/rca/ida/.

monitoring indicators provide important information for evaluating the VSP performance and adaptive management actions described in Section 5.3. It is also acknowledged that indicators data are limited and not always directly connected to direct evaluation of program performance. Where data are insufficient (including associated data sample sizes), it will be acknowledged as part of reporting, and adaptive management measures described in Section 5.3 will be applied as part of implementation to address these data shortfalls where possible within program constraints.

Guiding Principles for Aerial Imagery Interpretation

High resolution change detection or other public available aerial imagery is described as a potential monitoring tool for habitat indicators. This Work Plan includes the following Guiding Principles to ensure imagery interpretation would be reported at a watershed scale, recognize the voluntary nature of the VSP program, and the privacy concerns of volunteers and landowners:

- Monitoring activities that involve imagery should focus on publicly-available imagery.
- Monitoring should be reported at the watershed or County scale, not the parcel scale.
- Imagery evaluation should include a random sampling of areas within the Work Plan's watershed analysis units.
- The Work Group will determine what entities are suited to interpreting the imagery, such as Washington State University or other educational or professional bodies. The entity should not have other roles in enforcement given the voluntary, watershed-scale of the Work Plan.

It's important to note that changes to baseline conditions outside of VSP are likely to occur due to effects from climate change, natural events (e.g., wild fires), changes in surface hydrology from future water supply improvements, or other changes outside of the scope of VSP. Regarding agricultural viability, national and international trends in the market for agricultural products are beyond the control of the Work Plan.

4.4 Establishing Goals and Measurable Benchmarks

RCW 36.70A.720(1)(e) requires this Work Plan include goals and measurable benchmarks for the protection and enhancement of critical areas. The benchmarks must be designed to result in the measurable protection of critical area functions and values and the measurable enhancement of critical areas functions and values through voluntary, incentive-based measures.

4.4.1 Methods Overview

This section of the Work Plan identifies:

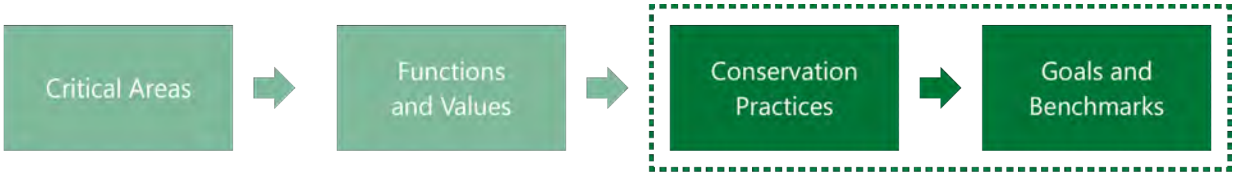
- **Goals** for protecting and enhancing the County's critical areas, and the four-associated major critical areas functions and values.
- **Measurable benchmarks** for protection and enhancement of critical areas based on participation in key stewardship strategies and practices. See the following subsection for additional discussion on the connection between stewardship strategies and critical areas

functions. This section also discusses the methods used to identify functional effects of stewardship strategies and practices.

- **Indicators** for measurable metrics that can be analyzed over time to help assess whether anticipated protection and enhancement of critical area functions are occurring and focus technical assistance efforts where needed.
- **Monitoring and adaptive management plan** to adjust the Work Plan's benchmarks and activities based on performance results and review of indicators analyzed through monitoring efforts.

Figure 4-3 shows the conservation practices and their general connection with goals and benchmarks.

Figure 4-3. VSP Crosswalk – Conservation Practices Connection with Goals and Benchmarks



4.4.2 Measurable Goals Methods

Protection and enhancement goals were developed consistent with the functions and values provided by each critical area per RCW 36.70A.720. Each critical area includes a protection goal for maintaining the conditions that existed in 2011, along with an enhancement goal to improve conditions from the 2011 baseline. Each goal is summarized and accompanied by specific objectives for applicable critical area functions that would be protected or enhanced and key conservation practices (see Tables 4-2 through 4-6 in the following subsections).

For each protection goal, participation benchmarks are identified and are designed to provide quantifiable measures that will ensure protection of the County's critical area functions and values is being achieved, as discussed in Section 4.4.3. VSP requires Work Plans to include measurable benchmarks for the protection and enhancement of critical area functions and values, along with goals for participation by agricultural operators (RCW 36.70A.720 (1)(c)) to meet these benchmarks. This is required to continue the voluntary, non-regulatory approach under VSP. Note that meeting enhancement goals is encouraged, but not required, to continue the voluntary, non-regulatory program under VSP for protecting critical areas. Work Plans are also required to incorporate applicable data and plans into development of Work Plan goals and benchmarks (RCW 36.70A.720 (1)(a)). The following elements are described in the following subsections consistent with RCW 36.70A.720 (1)(a) and (c):

- **Goals:** Participation goals are defined for the protection and enhancement of the County's critical areas and key functions.

- **Agricultural viability:** The ancillary benefits to agricultural production, profitability, and sustainability are also noted for each goal, as well as when financial assistance may be necessary to offset costs associated with implementing conservation practices, including the purchase of associated equipment or other costs.
- **Objectives:** Objectives are identified for each goal to help define specific applications that further each goal. To accomplish these objectives, agricultural producers can implement the conservation practices that are applicable to their land, agriculturally viable, and protect and/or enhance the critical area functions.
- **Key conservation practices:** Example conservation practices are tied to each objective; however, it is acknowledged other practices, including those administered outside of established government programs, can also help meet the objectives. Additionally, it is understood that new practices may emerge, and existing practices may be phased out during implementation of this Work Plan. Selection of example conservation practices for each objective are based upon Conservation Practice Physical Effect (CPPE) scores for each practice (Appendix E).
- **Existing plans:** Existing plans were reviewed and incorporated where applicable to VSP and are also referenced in Tables 4-2 through 4-6 where applicable to identified goals. The following plans identify goals, objectives, and strategies that are included in the Work Plan, as described below. See Appendix C for additional discussion on review of applicable data and plans as a part of the process for establishing measurable benchmarks and associated indicators.
  - **WRIA 35 Watershed Plans and Assessments** (HDR and EES 2006; HDR 2007; Middle Snake Watershed Planning Unit 2009 and 2011). The WRIA 35 watershed plans and assessments provide management recommendations for improving habitat, in-water flows, and aiding salmon recovery within the watershed. Included in these documents are recommendations and considerations for engaging landowners through conservation programs and habitat restoration efforts. These plans were used to assess existing conditions and inform management objectives described in Section 4.
  - **Asotin Creek Model Watershed Plan** (ACCD 1995). As described in Section 3.2, the ACMWP was one of the first true ridgetop-to-ridgetop plans to be implemented in Washington and provided the foundation for the ACCD cost-share program and conservation practice implementation over the last 2 decades in Asotin County. This plan provides historical context for habitat protection and restoration strategies for salmon and trout within the Asotin Creek watershed.
  - **NOAA Fisheries, Snake River Salmon Recovery Board, and Snake River Salmon Recovery Plans** (NOAA Fisheries 2015, 2016, and 2017; Snake River Salmon Recovery Board 2011, 2012, and 2017). The Snake River salmon recovery plans provide a framework for restoring habitat and protecting floodplain and riparian functions within the Snake River basin.

- **Draft Shoreline Inventory, Analysis, and Characterization Report: Southeast Washington Coalition Shoreline Master Program Update** (Anchor QEA and SCJ 2014). The Shoreline Inventory, Analysis, and Characterization Report provides a baseline of regional shoreline ecological functions as part of the Shoreline Master Program update. The report is primarily focused on areas within shoreline jurisdiction and includes an inventory of ownership, land cover, land uses, geology, climate, water resources, geologic hazards, and cultural resources. The report also includes analysis and characterization of the functions and values of shoreline areas.
- **Southeast Washington Coalition Shoreline Master Program Restoration Plan** (Anchor QEA 2016). The SMP Restoration Plan describes regional conditions within the Southeast Washington counties, including planning area characteristics and existing land cover and land use. Similar to VSP, the plan uses existing restoration planning, programs, and regional partners to assist with implementation. Additionally, the plan provides priority restoration and enhancement opportunities, in addition to mitigation measures, to obtain no net loss of ecological function within the coalition area.
- **Management Recommendations for Washington's Priority Habitats: Riparian** (Knutson and Naef 1997). This plan includes recommendations to protect riparian habitat areas and the associated functions to hold and filter sediment, pesticides, and nutrients and provide cover and foraging habitat. Recommendations related to agricultural activities to protect these functions include techniques that minimize soil erosion and protecting riparian vegetation through managed grazing. Riparian health is a driving force for the habitat functions of every critical area.
- **Blue Mountain Wildlife Area Management Plan** (WDFW 2006). The Blue Mountain Wildlife Area Management Plan was prepared by WDFW to outline Blue Mountains wildlife area management goals. The plan describes existing conditions of the area including land uses, climate, soils and geology, hydrology and watersheds, and other natural and cultural resources. Management objectives, issues, and strategies are provided for protecting, restoring, and enhancing fish and wildlife populations and habitats. This plan is in the process of being updated and the updated plan will be used as part of VSP implementation.
- **Asotin, Grande Ronde, and Lower Snake Subbasin Plans** (ACCD, Pomeroy Conservation District, and Grande Ronde Model Watershed Program 2004). The subbasin plans assess existing upland and aquatic habitat conditions for the respective areas, describe management objectives, and provide strategies for protecting, restoring, and enhancing fish and wildlife populations and habitats.
- **Asotin County Geomorphic Assessment and Conceptual Restoration Plan** (ELR 2018). The Asotin County Geomorphic Assessment and Conceptual Restoration Plan provides a geologic and watershed setting of the County, and watershed assessment and priority

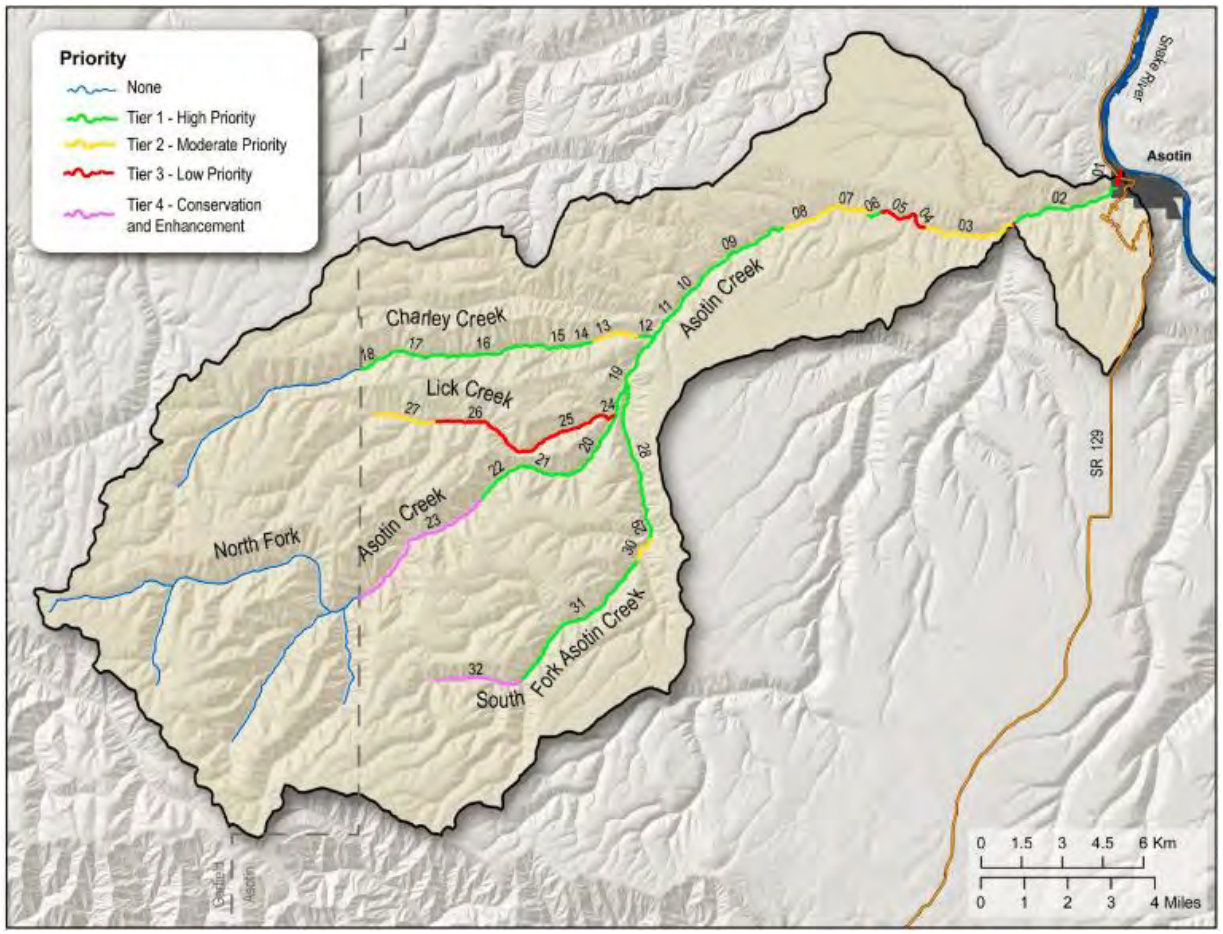
management and restoration goals. As described in Section 1, the geomorphic assessment and restoration planning process was conducted concurrently with the development of the VSP Work Plan. Several groups and organizations participated in this process to help establish the baseline conditions for both the VSP Work Plan and the assessment.

The objectives and key conservation practices described in the following sections are consistent with plans and programs that have been developed to protect or enhance critical areas throughout the County. For example, the WRIA 35 watershed plans place high priority on projects that would protect or restore important aquatic and riparian habitats from further degradation (HDR and EES 2006; HDR 2007; Middle Snake Watershed Planning Unit 2009 and 2011). Some example objectives from the local watershed plans that are addressed in the Work Plan (Section 4) include implementing strategies to reduce runoff and provide erosion control for pasture, crop, and forested land; support noxious weed control programs; protect and restore floodplain, riparian, and wetland areas; and monitor surface and groundwater resources for long-term availability.

The watershed plans and strategies complement salmon recovery efforts also being undertaken by organizations such as the Snake River Salmon Recovery Board. The goals of these salmon recovery plans have been taken into consideration for this Work Plan (Snake River Salmon Recovery Board 2011, 2012, and 2017). For example, the *Snake River Salmon Recovery Regional Provisional 3-5 Year Work Plan* (2017) goals for priority reaches align with those identified in this Work Plan: restore and protect floodplain and riparian function; restore habitat complexity; reduce fine sediments; and maintain or restore in-stream flow.

The *Asotin County Geomorphic Assessment and Conceptual Restoration Plan* (ELR 2018) is another resource that has been incorporated in this Work Plan, including the key conservation practices described in Section 4 and strategies for implementation described in Section 5. It is expected that upland conservation practices implemented under this Work Plan will be complementary to the restoration efforts implemented under the conceptual restoration plan. ACCD will encourage participation by all landowners in VSP, with emphasis on participation among those adjacent to the priority restoration reaches in the conceptual restoration plan, to identify and implement upland practices that will complement those restoration efforts (see Figure 4-4 for restoration reaches identified for Asotin Creek. Similar maps have been prepared for other drainages within Asotin County). Outreach efforts will be updated over time as watershed priorities evolve.

Figure 4-4. Asotin County Geomorphic Assessment and Conceptual Restoration Plan Priority Watersheds



Another existing program used for this plan is the Intensely Monitored Watershed (IMW) planning effort. The IMW has provided ongoing aquatic habitat and salmon recovery monitoring and restoration support since 2004 and this is expected to continue at least through 2020 (PNAMP 2014). During implementation of the Work Plan (Section 5), data will be collected on salmon health and population status in the watershed as well as site-specific data associated with restoration projects to inform progress toward meeting identified goals and benchmarks. In addition to GIS analysis and other monitoring efforts conducted during implementation of this Work Plan, ACCD will rely on and apply monitoring data collected through the IMW, as well as data from other partner agencies (see Section 5, Table 5-5 for a list of proposed indicator data sources). As described in Section 4.4.4, ACCD will continue to share publicly-disclosable data collected during implementation with partner agencies while maintaining private landowner confidentiality.

4.4.3 Measurable Benchmarks Methods

Measurable benchmarks were developed as required by RCW 36.70A.720 (1)(e) for: 1) protection of critical area functions and value; and 2) enhancement of critical areas functions and values through voluntary, incentive-based measures. Protection benchmarks and enhancement goals are based on agricultural producer participation in key stewardship strategies and practices that further the Work Plan's goals identified in the sections that follow.

Benchmarks are measured by tracking new implementation practices and/or the continuation of various stewardship strategies and practices on agricultural lands. Over time, the implementation of these stewardship strategies and practices will be used to demonstrate that the VSP is meeting the protection and enhancement goals and benchmarks.

The Work Plan includes two measurable benchmarks:

- **Protection Benchmarks** (preventing the degradation of baseline functions existing July 22, 2011)
- **Enhancement Benchmarks** (improving baseline critical area functions and values through voluntary and incentive-based measures) – Benchmarks for enhancement are specific to the County and indicate that the voluntary implementation of conservation practices is leading to overall enhancement in critical area functions and values. Enhancement also provides a measure of certainty that the VSP protection goal will be met if some unforeseen, future loss of critical area functions and values occurs whether or not this loss is related to agricultural activities.

4.4.4 Tracking and Reporting Goals and Benchmarks Performance

At each 5-year reporting period, voluntary enhancements of critical area conditions on lands used for agricultural activities are promoted and accounted for.

Benchmark quantities for stewardship strategies and practice implementation are provided in 5-year reporting increments (2021 and 2026). The methods used to establish protection and enhancement goals and benchmark values for stewardship strategies and practices participation included:

- **Connecting stewardship strategies and practices with specific goals and benchmarks** based on the CPPE scores for each practice developed by USDA (NRCS 2017). CPPE scoring approach is described in detail in Section 4.10.

- **Measuring historical participation** in key stewardship strategies and practices to develop an average annual implementation quantity for each practice (Table 4-9). Historical participation data include NRCS and CD-led practices that were reported before the VSP law went in to effect (prior to 2011).
- **Setting anticipated reduction rate** of agriculture lands that may not continue to maintain the stewardship strategies and practices past the required lifespan or following the end of a contract, or for other discontinuation reasons (Table 4-8). Discontinuation or abandonment of practices can be monitored to reduce this rate further based on actual data.
- **Protection benchmarks and performance objectives** (Table 4-8) developed by summing the practice participation goal to maintain baseline practices for protection of critical area functions by replacing all lost functions associated with discontinuation or abandonment of practices (acres calculated by anticipated reduction rates). If the 2011 baseline condition change is positive in terms of physical effects the protection performance objective and associated benchmark has been met.

What is Conservation Practice Physical Effect?

The CPPE describes how NRCS practices affect human-economic environment (e.g., Agricultural Viability) and natural resources (e.g., Critical Functions). This planning tool provides a quantitative score detailing the magnitude of the practice's effect on the resource. Technical reports for each practice also include a qualitative statement on the impact of each practice on soil, water, air, plants, animals, energy and labor, capital, and risk. A summary of the CPPE scoring methodology is described in Section 4.10 and practices with CPPE scores are provided in Appendix E. The implementation team will use discretion in determining which CPPE best represents the physical effects of stewardship strategies and practices on critical areas in the County based on local conditions and practices.

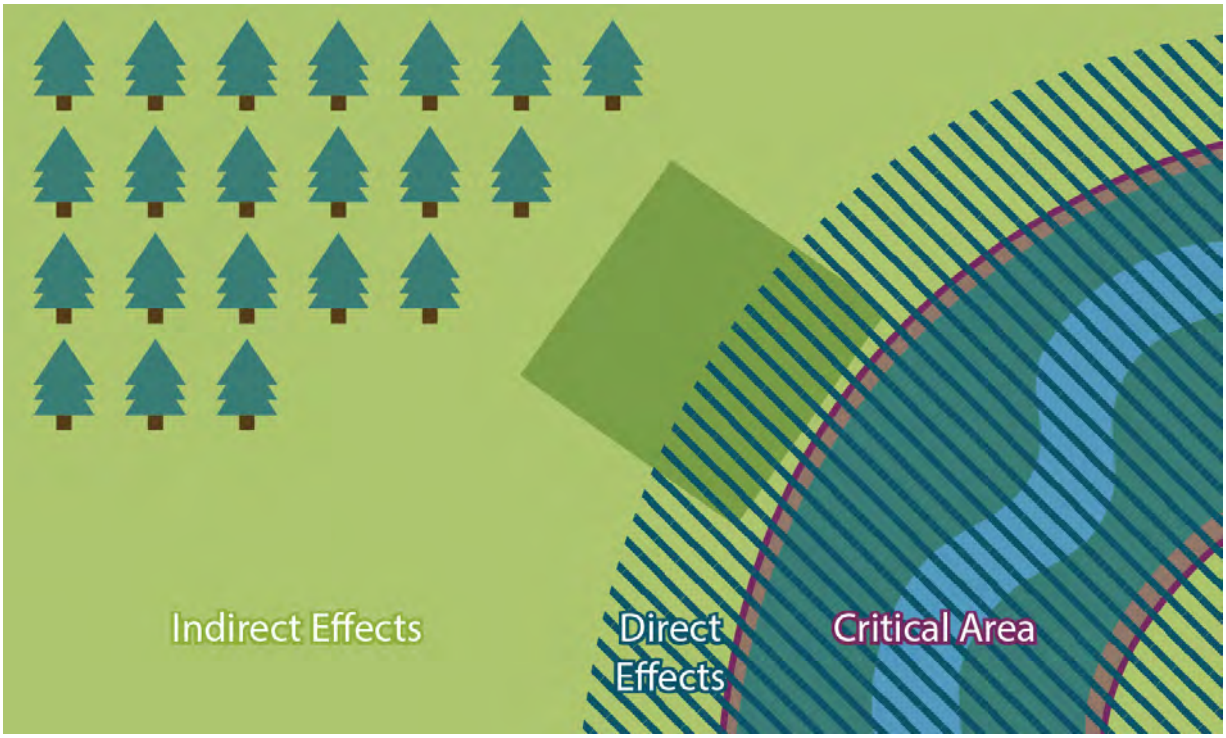
2011 Baseline Condition Change	=	**Protection Performance Objective** *(New Implemented Acres x Physical Effects Score)*	-	**Discontinuation Rate** *(Discontinued Acres x Physical Effect Score)*

- **Enhancement benchmarks and performance objectives** were developed by estimating additional project acres implemented in key stewardship strategies and practices since 2011. The Enhancement benchmarks and performance objectives are in addition to the protection benchmarks; therefore, estimated discontinued acres (protection benchmark value) have been incorporated into the enhancement performance objectives value (Table 4-9).

Enhancement Performance Objective	=	**(Implemented Acres x Physical Effect Score)** ***based on 2011 to 2016 enrollment data***	-	**Protection Performance Objective**

Stewardship strategies and practices can be implemented within or directly adjacent to a critical area (see Figure 4-5 for a conceptual representation). An example of a direct effect would include implementing wetland restoration practices within or adjacent to an existing wetland critical area. Indirect effects occur within agricultural areas that are not adjacent to or within critical areas but still have indirect effects on resource functions.

Figure 4-5. Direct and Indirect Effects of Conservation Practices on Critical Area Functions



ACCD collaborates on natural resource concerns, projects, and management with partner agencies including the NRCS, FSA, WDFW, Ecology, Snake River Salmon Recovery Board, and local tribes. Many of these agencies have been involved in the development of the Work Plan and *Asotin Geomorphic Assessment and Conceptual Restoration Plan* (ELR 2018) as technical members/support. For example, the Snake River Regional Technical Team is a group that includes tribal, local, state, and federal agencies that meets monthly to review project needs and resource issues as well as provide support for agencies and landowners in the region. There is significant data sharing that takes place between these agencies. ACCD strives to participate in data sharing regarding habitat conditions, project implementation, and monitoring to the extent possible to continue successful implementation of plans and programs as a team. ACCD will continue to balance the need to collaborate and share data while following public disclosure restrictions for individual conservation plans.

4.5 Fish and Wildlife Habitat Conservation Areas

Definition: "Fish and wildlife habitat conservation areas are areas that serve a critical role in sustaining needed habitats and species for the functional integrity of the ecosystem, and which, if altered, may reduce the likelihood that the species will persist over the long term. These areas may include, but are not limited to, rare or vulnerable ecological systems, communities, and habitat or habitat elements including seasonal ranges, breeding habitat, winter range, and movement corridors; and areas with high relative population density or species richness. Counties and cities may also designate locally important habitats and species" (Washington Administrative Code [WAC] 365-190-030(6)(a)). "Fish and wildlife habitat conservation areas" do not include such artificial features or constructs as irrigation delivery systems, irrigation infrastructure, irrigation canals, or drainage ditches that lie within the boundaries of and are maintained by a port district or an irrigation district or company" (RCW 36.70A.030(5)).

Focal Species and Habitats (including both sport-introduced and native species):

- Species
  - Mammals: Bighorn sheep, elk, and mule deer
  - Fish: Salmon, steelhead, lamprey, and bull trout
  - Birds: Gamebirds, waterfowl, migratory songbirds, and raptors
- Habitats
  - Shrub-steppe (includes shrubs, forbs, and grasses)
  - Cliff nesting areas

Adult steelhead captured at the WDFW adult weir operated on the mainstem of Asotin Creek above George Creek each year from approximately January to June.

4.5.1 Fish and Wildlife Habitat Conservation Areas Baseline Conditions

Characteristics and functions overview: FWHCAs include streams, riparian vegetation, and upland habitats (e.g., prairies and shrub-steppe; see section 3.1) that provide water quality, hydrology, soil health, and habitat functions. FWHCAs provide migration corridors; breeding/reproduction area; forage, cover, and refugia space; and wintering habitat for wildlife species. Streams provide a key habitat and streamside vegetation functions as a source of organic materials, habitat structures and cover, slope and streambank stabilization, and shade to help regulate water temperatures. Large habitat areas provide for species that require large spaces or range for migration, forage, and cover. Habitats of local importance may support sensitive species throughout their lifecycle, or are areas that are of limited availability, or high vulnerability to alteration. FWHCAs help improve water quality, affect hydrology, contribute to soil health, and provide a variety of habitats.

4.5.2 Stream and Riparian Vegetation

Intersections on agricultural lands: There are approximately 240 miles of perennial streams within the County (see Map 4 in Appendix A). About 28% (68 miles) of the perennial streams are on private land. Field reconnaissance has confirmed that most of these unknown type streams lack the characteristics of a stream and do not constitute FWHCAs. These stream types would need to be verified on the ground to identify appropriate protections for potential fish life or habitat use, if any.

Riparian Vegetation

Riparian vegetation includes the vegetated areas along water sources (wetlands and streams) characterized by plants accustomed to soils with higher water content than adjacent areas. In Asotin County, riparian vegetation typically consists of grasses, willows shrublands alder, and cottonwood, and some trees. Riparian vegetation provides for habitat for fish and wildlife, reduces siltation by trapping sediments, provides slope and bank stability, and helps moderates in-water temperatures by providing vegetative shade.

Streams and Riparian Areas on Agricultural Lands	
General locations/ distribution	• Streams: See Section 2 for discussion of water resources within the County • Riparian vegetation: Located along water sources and mostly within a relatively narrow (e.g., 20 to 30-foot) "ribbon of green" from ordinary high water, which can also be wider where wetlands or low-lying floodplain also occur
Intersections with agricultural lands	• Streams: Primarily occur within rangelands and dryland agricultural lands adjacent to rangelands • Riparian vegetation: – Primarily occurs within rangelands – Within dryland agricultural areas typically includes reed canary grass and cat tails
Characteristics	Streams: • Most intersections with agriculture are intermittent stream types (as mapped by the USGS National Hydraulic Dataset), which in the County is largely characterized by topographical lows that serve as drainage pathways during storm events. • All the perennial streams in the County support ESA-listed salmonids for at least a portion of the stream length. The native species of fish in WRIA 35 (Middle Snake) are Chinook salmon, steelhead, dace, lamprey, sculpin, bridgelip suckers, and other species. • The Middle Snake River primarily serves as a migratory corridor for spring-run and fall-run Chinook salmon, coho salmon, sockeye salmon, and steelhead. Snake River spring-run and fall-run Chinook salmon, steelhead, and bull trout are listed as federally threatened. Snake River sockeye salmon are ESA-listed (Anchor QEA and SJC 2014). Riparian Vegetation: • Primarily comprises grass, shrublands, and dense canopies of alder in lower elevations and conifers in higher elevations (many ephemeral streams have riparian areas characterized by only grasses and shrubs)

4.5.3 Priority Habitats and Species

Intersections on agricultural lands: Priority habitats and species areas included in FWHCAs are present throughout many of the agricultural lands in the County, as agriculture lands provide much of the forage area for larger mammals and other species in the County, along with providing cover and nesting areas.

Game Species in Priority Habitat and Species Maps

PHS maps maintained by WDFW provide a reference to the potential existence of FWHCAs. Game species and habitat mapped in PHS are primarily mule deer, elk, big horn sheep, gamebirds, sagebrush, and cliff nesting habitats. When the PHS areas are combined there is significant overlap with agricultural lands.

Priority Habitats and Species on Agricultural Lands	
General locations/ distribution	• Big horn sheep critical habitats are restricted to steep open grassland and shrub areas in the Grande Ronde Watershed, Snake River Breaks south of 10-mile Creek, and Asotin Creek. In Asotin Creek, habitats are primarily in Charley, North Fork, and South Fork tributaries, but sheep routinely use habitats in Dry Gulch, Laufer Spring, and Palmer Gulch as well as the east side of Asotin Creek between the Campbell Grade and Headgate County Park. Elk habitats are restricted to forested, shrub, and grassland areas in the upper tributaries of Asotin Creek, but routinely travel between Smoothing Iron and Cloverland areas. Mule deer habitats are prevalent throughout the County in steep canyons, rangeland, and grasslands. • Golden eagles nest along basalt cliffs and in ponderosa pines and maintain breeding territories in Alpowa, Charley, and George creeks, Ayer Gulch, and multiple sites along the Snake River. • Game birds including chukar, California Valley quail, and turkeys are common throughout the mid to upper locations, and a small mountain quail population persists in the Lick Creek, North Fork, and South Fork tributaries, with known dispersal into upper Dry Gulch and likely suitable habitat in upper George, Tenmile, and Couse creeks. Migratory songbirds are also common seasonally. • Great blue herons nest along the Snake River downstream from Clarkston and frequently forage on insects and rodents in agricultural fields both during and outside the breeding season. • Priority habitats include sagebrush communities that are restricted to the upper Asotin Creek along Charley, South Fork Asotin, and Pow Wah Kee creeks in the Alpowa watershed.
Intersections with agricultural lands	• Primarily occurs within rangelands and dryland agricultural lands
Characteristics:	• Habitat includes sagebrush habitat, salmon-bearing streams, wetlands, and wildlife habitat. • Core areas for most species occur on public land (WDFW Wildlife Area, U.S. Army Corps of Engineers Habitat Management Unit, U.S. Forest Service), but foraging areas have extensive overlap with private rangeland, agricultural fields, and undeveloped cliff and riparian habitats.

4.5.4 Protection and Enhancement Goals

Protection and enhancement goals for FWHCAs are summarized in Table 4-2. This table provides a summary of the goals, specific objectives, applicable critical area functions that would be protected or enhanced, and key conservation practices. Measurable benchmarks are determined by conservation practices that may provide benefits to multiple critical areas. Therefore, these benchmarks are calculated by conservation practice instead of by individual critical area. Measurable benchmarks for the County are summarized in Section 4.10.

Table 4-2. Fish and Wildlife Habitat Protection and Enhancement Goals

Goal – Fish and Wildlife Habitat Protection and Enhancement
Preserve and enhance existing terrestrial habitat areas. • **Protection and enhancement:** Special emphasis on declining and rare habitats, and those habitats or watercourses that support candidate, threatened, and endangered species and priority and sensitive species. • **Agricultural viability:** The habitat goal will be achieved while sustaining agriculture viability through: – Regulatory assurances and support to implement voluntary practices – Ancillary agriculture benefits from implemented practices (soil conservation, weed management, and pollinator/beneficial organism) – Reduced costs associated with lost ecosystem services (e.g., flood control and water filtration) – Financial incentives to offset start-up costs for new practices and infrastructure

Goal – Fish and Wildlife Habitat Protection and Enhancement

Key Plans or Programs

- WRIA 35 Middle Snake Watershed Instream Habitat Assessment (Middle Snake Watershed Planning Unit 2009)
- WRIA 35 Watershed Detailed Implementation Plan (Middle Snake Watershed Planning Unit 2011)
- WRIA 35 Middle Snake Watershed Plan (HDR 2007)
- Asotin Creek Model Watershed Plan (ACCD 1995)
- Proposed ESA Recovery Plan for Snake River Fall Chinook Salmon (NOAA Fisheries 2017)
- Proposed Endangered Species Act (ESA) Recovery Plan for Snake River Spring/Summer Chinook Salmon & Snake River Steelhead (NOAA Fisheries 2016)
- ESA Recovery Plan for Snake River Sockeye Salmon (NOAA Fisheries 2015)
- Snake River Salmon Recovery Regional Provisional 3-5 Year Work Plan (Snake River Salmon Recovery Board 2017)
- Snake River Salmon Recovery Region Provisional 3 Year Work Plan (2012 – 2014) (Snake River Salmon Recovery Board 2012)
- Snake River Salmon Recovery Plan for SE Washington (Snake River Salmon Recovery Board 2011)
- Asotin, Grande Ronde, and Lower Snake Mainstem Subbasin Plan (ACCD, Grande Ronde Model Watershed Program, and Pomeroy Conservation District 2004)
- Draft Shoreline Inventory, Analysis, and Characterization Report for the Southeast Washington Coalition Shoreline Master Program Update (Anchor QEA and SCJ 2014)
- Southeast Washington Coalition Shoreline Master Program Restoration Plan (Anchor QEA 2016)
- Management Recommendations for Washington's Priority Habitats: Riparian (Knutson and Naef 1997)
- Washington State Recovery Plan for the Greater Sage Grouse (WDFW 2004)
- Washington Department of Fish and Wildlife Priority Habitats and Species (PHS) Data for Asotin County (note: PHS data scheduled to be updated in Asotin County starting in 2019)
- Blue Mountain Wildlife Area Management Plan (WDFW 2006) (note: this plan is currently in the process of being updated)
- Asotin County Geomorphic Assessment and Conceptual Restoration Plan (ELR 2018)

Objectives	Critical Area Functions	Key Conservation Practices Examples
Protect and enhance acres managed using techniques that limit adverse impacts to native plants and animals	Water Quality, Hydrology, Soil Health, and Habitat	• Prescribed grazing • Watering facility • Fencing
Restore existing or degraded native habitat	Water Quality, Hydrology, Soil Health, and Habitat	• Conservation cover • Critical area planting • Restoration and management of rare and declining habitats • Tree/shrub establishment • Upland wildlife habitat management • Hedgerow planting
Protect and enhance acres managed using techniques that limit shoreline and watercourse degradation and enhance shoreline areas and watercourses	Habitat, Water Quality, and Hydrology	• Watering facility • Critical area planting • Stream habitat improvement and management • Channel bed stabilization • Fish and wildlife structure • Spring development

Goal – Fish and Wildlife Habitat Protection and Enhancement		
Protect and enhance acres managed under chemical and nutrient input controls, including acres near habitat for pollinators, birds, and other wildlife	Water Quality and Habitat	• Nutrient management • Pest management • Heavy-use area protection • Manure transfer • Irrigation water management and pipelines
Control erosion and reduce sedimentation in waterways	Water Quality and Habitat	• Direct seed • Grass waterways • Sediment ponds • Critical area planting

4.5.5 Fish and Wildlife Habitat Conservation Areas Summary

Steelhead and salmon protection and enhancement has been a priority for the County for several decades (ACCD 1995). All the main watersheds have populations of ESA-listed steelhead and Alpowa Creek, Asotin Creek, the Grande Ronde River, and Snake River are used by both fall and spring Chinook salmon as well (Grande Ronde Model Watershed, Crawford and Herr 2017). Asotin Creek is designated as a wild steelhead refuge. In the past, increased sediment to streams was a concern; however, changes in upland farming practices and sediment pond construction has reduced sediment delivery to County streams. A significant number of stream miles have also been fenced off to protect riparian areas and allow rivers to connect to parts of historic floodplains. However, poor riparian conditions and degraded instream habitat conditions are still a concern throughout the County because past disturbances caused by land use and flooding. A detailed study is ongoing in Asotin Creek to determine how much steelhead populations can increase when instream habitat and floodplain conditions are improved using large woody debris additions to the stream (Bennett et al. 2015).

The County supports a diverse amount of wildlife habitats due to the range in elevation differences from the Snake River to the Blue Mountains. Portions of the County are a focus of wildlife management for WDFW as reflected in the Blue Mountains Wildlife Area Management Plan (WDFW 2006). Wildlife species and habitats of particular value and management significance include elk, mule deer, bighorn sheep, raptors, game birds, and sagebrush habitats.

4.6 Frequently Flooded Areas

Definition: "Frequently flooded areas are lands in the flood plain subject to at least a one percent or greater chance of flooding in any given year, or within areas subject to flooding due to high groundwater. These areas include, but are not limited to, streams, rivers, lakes, coastal areas, wetlands, and areas where high groundwater forms ponds on the ground surface" (WAC 365-190-030(8)).

4.6.1 Frequently Flooded Areas Baseline Conditions

Characteristics and functions overview: FFAs protect public health and safety by providing temporary flood water storage and conveyance. They also provide riparian habitat and other wildlife benefits and can improve water quality and recharge groundwater. FFAs can affect surface and groundwater quality and hydrology (timing and magnitude of flows and alluvial aquifer recharge), improve or degrade soil health based on vegetative conditions, and contribute to riparian habitat diversity.

Intersections on agricultural lands: There are approximately 370 acres of FFAs within the County (1% of County area). FFAs are found within only 2% of the County's total agricultural lands (see Map 9 in Appendix A). FFAs typically overlap or are adjacent to wetlands and some FWHCAs. The County is in the process of working with FEMA to update County floodplain mapping. The Work Plan is based on 2016 draft FEMA map updates.

Frequently Flooded Areas on Agricultural Lands	
General locations/ distribution	• FFAs occur along waterways and drainages mainly on the Snake River, Grande Ronde River, Asotin Creek, and Alpowa Creek mainstems and lower reaches of George Creek and Joseph Creek.
Intersections with agricultural lands	• The majority occur within rangelands
Characteristics	• Flooding throughout the County is mainly caused by heavy rainfall combined with snowmelt over a frozen ground (rain-on-snow) during the winter or early spring months. • Floods in the County are typically short duration (less than 1 day), with rapid rise and fall of water levels. • Flooding can be worsened due to extended cold periods that cause ice jams

4.6.2 Protection and Enhancement Goals

Protection and enhancement goals for FFAs are summarized in Table 4-3. This table provides a summary of the goals, specific objectives, applicable critical area functions that would be protected or enhanced, and key conservation practices.

Measurable benchmarks are determined by conservation practices that may provide benefits to multiple critical areas. Therefore, these benchmarks are calculated by conservation practice instead of by individual critical area. Measurable benchmarks for the County are summarized in Section 4.10.

1233 **Table 4-3. Frequently Flooded Area Protection and Enhancement Goals**

Goal – Frequently Flooded Area Protection and Enhancement		
Maintain or improve frequently flooded areas. • **Protection and enhancement:** Special emphasis on areas supporting FFAs • **Agricultural viability:** The FFA goal will be achieved while sustaining agriculture viability through: – Ancillary agriculture benefits from implemented practices (maximize availability of surface withdrawals for irrigation, flood control benefits/soil preservation, increased soil moisture, weed management, and pollinator/beneficial organism) – Reduced costs associated with flood management and flood cleanup – Financial incentives to offset start-up costs for new practices and infrastructure		
Key Plans or Programs • WRIA 35 Middle Snake Watershed Instream Habitat Assessment (Middle Snake Watershed Planning Unit 2009) • WRIA 35 Watershed Detailed Implementation Plan (Middle Snake Watershed Planning Unit 2011) • WRIA 35 Middle Snake Watershed Plan (HDR 2007) • Asotin, Grande Ronde, and Lower Snake Mainstem Subbasin Plan (ACCD, Grande Ronde Model Watershed Program, and Pomeroy Conservation District 2004) • Draft Shoreline Inventory, Analysis, and Characterization Report for the Southeast Washington Coalition Shoreline Master Program Update (Anchor QEA and SJC 2014) • Southeast Washington Coalition Shoreline Master Program Restoration Plan (Anchor QEA 2016) • Management Recommendations for Washington's Priority Habitats: Riparian (Knutson and Naef 1997)		
Objectives	**Critical Area Functions**	**Key Conservation Practices Examples**
Protect FFAs directly	Water Quality, Hydrology, Soil Health, and Habitat	• Fencing • Critical area planting • Restoration and management of rare and declining habitats • Riparian forest buffer and herbaceous cover • Wetland enhancement/restoration • Stream crossing • Streambank and shoreline protection
Protect and enhance acres managed using techniques that limit soil compaction or trampling of habitat	Soil Health	• Prescribed grazing • Watering facility
Protect and enhance acres managed using techniques that promote soil's water-holding capacity	Soil Health	• Residue and tillage management/mulch till or no-till • Conservation cover • Mulching

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1235 *4.6.3 Frequently Flooded Areas Summary*

1236 FFAs are generally restricted to locations along the mainstems of streams or rivers including the Snake
1237 and Grande Ronde rivers, Asotin and Alpowa creeks, and the lower reaches of George and Joseph

Creek. Large floods have been recorded several times in the County and on several occasions resulted in the town of Asotin being flooded. Many of the larger floods are due in part to either rain on snow or rain on frozen ground events. Localized flooding can also occur during high intensity thunder storms during the summer, but these are usually limited in the area they affect. Other localized flood risks are present where ponds that are created in the uplands for water storage or recreational activities fail. Failure of such ponds have been documented in Charley Creek in 1964 causing the loss of a house and in Rattlesnake Creek in 2017 causing significant loss of riparian vegetation over several miles and the loss of a private road.

4.7 Geologically Hazardous Areas (Erosion)

Definition: "Geological hazardous areas are areas that because of their susceptibility to erosion, sliding, earthquake, or other geological events, are not suited to the siting of commercial, residential, or industrial development consistent with public health or safety concerns" (RCW 36.70A.030(9)).

4.7.1 Geologically Hazardous Areas Baseline Conditions

Characteristics and functions overview: This Work Plan addresses only a narrow focus for geological hazards related to potential wind and water erosion areas, for maintaining agricultural viability by keeping productive soils in fields used to produce crops, improving water quality, and maintaining habitat. This is different from protecting inherent functions and values of other types of critical areas. Rill and inter-rill erosion potential areas are designated within the County's CAO (moderate to very severe water erosion potential areas). These erosion potential areas, along with wind erosion hazards, are considered in this Work Plan for soil conservation and to reduce the risk of erosion effects on other functions such as surface water quality, water infiltration into soil to improve groundwater conditions, and soil health. In the developed areas (outside of VSP), GHAs can affect areas where constructing structures may not be suitable due to landslide, earthquake, or other geological risks.

Intersections on agricultural lands: Moderate and severe water erosion potential areas cover 98% of the County's total agricultural lands (see Map 10 in Appendix A). Severe risk areas are the most common water erosion risk areas and cover 109,345 acres (58.5%) of agricultural lands. of the Moderate risk areas cover 73,601 acres (39.4%) of agricultural lands. Roads contribute to erosion where they intersect drainages and where stormwater discharges to agricultural lands or discharge off of agricultural lands occurs. Roads contribute to erosion where they intersect drainages and where stormwater discharges to agricultural lands or discharge off of agricultural lands occurs.

High wind erosion potential areas are only found within 3% of the County's agricultural lands (see Map 11 in Appendix A). Although wind erosion potential areas are not officially designated as erosion hazard areas within the County's CAO, they are still considered within this Work Plan because they pertain to agricultural viability.

Erosion Hazard Areas on Agricultural Lands	
General locations/ distribution	• Erosion potential areas are prevalent in the loess soil areas of the County, which are predominantly located along the Asotin Creek drainages adjacent to dryland agricultural areas in the uplands, and in the northeast part of the County. Within the rangeland areas along steep slopes on the cropped hills and canyons, much of the soils have been stripped away by geologic events. Range activity may not necessarily exacerbate erosion risks in these areas.
Intersections with agricultural lands	• Moderate and severe water erosion areas are within rangelands and on dryland agricultural lands. • Soil health is a key contributor to agricultural viability in the County.
Characteristics	• County soils are generally characterized as loess and Columbia River basalt with bedrock and alluvium found along Asotin Creek and other areas.

Geologically Hazardous Areas for Seismic and Landslide Hazards

GHAs for landslide and seismic hazard areas are of limited concern because these hazards are traditionally considered under GMA as areas to avoid building structures or to include additional requirements to protect structures from earthquake, landslide, or other geological hazards. Under the Work Plan, structures in agricultural lands will continue to be permitted and regulated through the County's CAO.

4.7.2 Protection and Enhancement Goals

Protection and enhancement goals for GHAs are summarized in Table 4-4. This table provides a summary of the goals, specific objectives, applicable critical area functions that would be protected or enhanced, and key conservation practices.

Measurable benchmarks are determined by conservation practices that may provide benefits to multiple critical areas. Therefore, these benchmarks are calculated by conservation practice instead of by individual critical area. Measurable benchmarks for the County are summarized in Section 4.10.

Table 4-4. Geologically Hazardous Area Protection and Enhancement Goals

Goal – Geologically Hazardous Area Protection and Enhancement		
Protect or enhance available soil for agriculture within the County. • **Protection and enhancement:** Special emphasis on areas with loess soil supporting agriculture land and geologically hazardous areas that are at greatest risk of soil erosion • **Agricultural viability:** The geologic hazard goal will be achieved while sustaining agriculture viability through: – Preserved land available for agriculture – Ancillary agriculture benefits from implemented practices (increased soil moisture, weed management, and pollinator/beneficial organism) – Reduced costs associated with soil replenishment and flood cleanup – Financial incentives to offset start-up costs for new practices and infrastructure		
Key Plans or Programs • Soil Survey of Asotin County Area, Washington, Parts of Asotin and Garfield Counties (Gentry et al. 1991) • Draft Shoreline Inventory, Analysis, and Characterization Report for the Southeast Washington Coalition Shoreline Master Program Update (Anchor QEA and SJC 2014)		
Objectives	**Critical Area Functions**	**Key Conservation Practices Examples**
Protect and enhance acres managed using techniques that limit water erosion of soil	Water Quality, Hydrology, Soil Health, and Habitat	• Residue and tillage management/mulch till • Prescribed grazing • Conservation cover • Tree/shrub establishment, restoration and management of rare and declining habitats, critical area planting • Cross fencing of rangeland

4.8 Wetlands

Definition: "Wetland or wetlands means areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from non-wetland areas created to mitigate conversion of wetlands" (RCW 36.0A.030(20)).

Exempt or Artificial Wetlands

Some wetlands have been directly or indirectly formed throughout the County by agricultural uses, water management actions, and associated facilities (e.g., irrigation ditches, surface water impoundments, stock watering ponds). Many wetlands are considered artificial wetlands that are intentionally created in formerly non-wetland areas or unintentional wetlands that have resulted from localized conditions such as seepage from irrigation ditches. Artificial wetlands are not subject to state regulation as a wetland if they meet the criteria of intentionally created and located in a formerly non-wetland upland site.

Unintentional wetlands (e.g., seepage from irrigation ditches) are considered jurisdictional wetlands regulated by state wetland law. However, if the irrigation practices are changed (such as implementation of water conservation practices), and the wetland dries up and no longer performs wetland functions, then no mitigation is required (Ecology 2010). When irrigation efficiencies result in wetlands drying up, voluntary enhancement measures could be implemented to help maintain habitat features, although these voluntary enhancements would not be necessary to meet the wetland protection standard.

Functions and Values: Wetlands provide an array of functions that are ecologically important to the health of an ecosystem and valuable to humans, fish, and wildlife. These functions and values include:

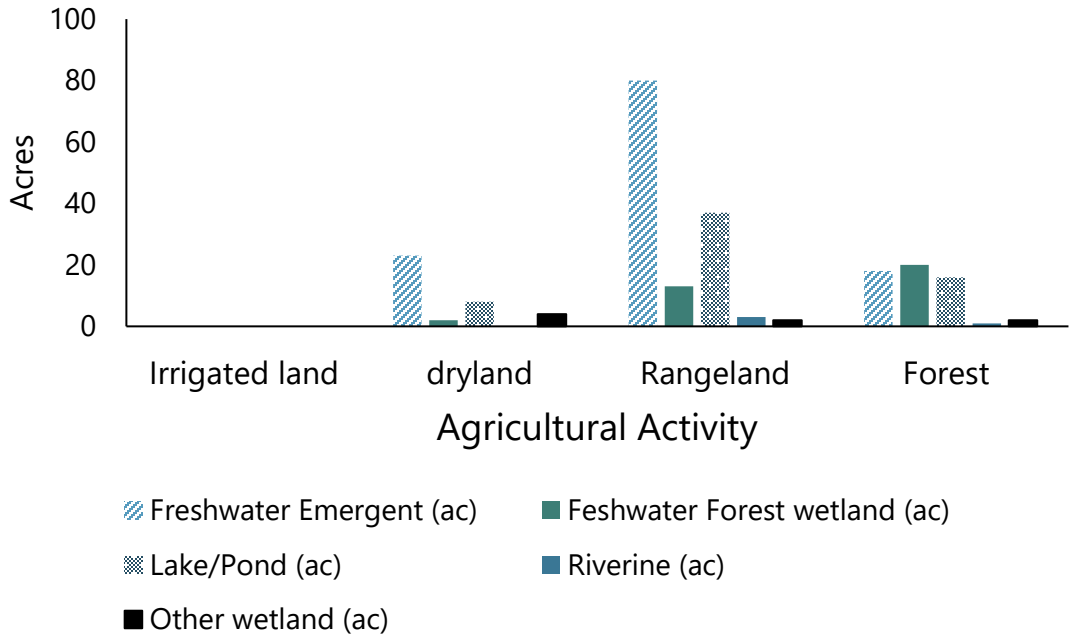
- **Water purification** – Wetlands act as a natural filter by trapping sediments, nutrients, and other pollutants. By doing so, wetlands improve water quality for humans, fish, and wildlife.
- **Flood protection** – Wetlands absorb excess runoff after a storm and release the water slowly. The ability to absorb and slowly release the water also helps in reducing flood peaks which can reduce property damage.
- **Shoreline stabilization** – Wetlands that occur along lakes, streams, and rivers protect the banks from erosion because the wetland vegetation above ground dissipates the water's energy and roots hold the soils in place.
- **Groundwater recharge and streamflow maintenance** – In areas where wetlands are connected with aquifers, groundwater, and/or streams, wetlands help maintain minimum levels by holding water and slowly releasing it over time. During dry periods, the storage and slow release of water becomes even more important.
- **Fish and wildlife habitat** – A variety of birds, fish, mammals, reptiles, amphibians, and insects depend on wetland habitat types for all or part of their life history.
- **Economics** – The cost of artificially engineering the functions of wetland, such as flood control and water purification, are much greater than the cost of preserving the natural wetland systems. Commercial and recreation fishing is also lost when wetlands lose their value as fish habitat.
- **Other** – Wetlands may be aesthetically pleasing and/or provide recreational opportunities such as birding and photography (Ecology 2017).

4.8.1 Wetland Baseline Conditions

Characteristics and functions overview: Wetlands can help reduce erosion and siltation; provide filtration and produce cleaner water; retain water to reduce flooding and support base flows; and provide wildlife, plant, and fisheries habitats.

Intersections on agricultural lands: There are 4,547 acres of wetlands in the County of which 3,162 acres are on private land (USFWS 2016). However, only 196 acres of wetlands (0.1%) intersect with the County's agricultural lands (see Map 4 in Appendix A). The majority of wetlands in the County and on agricultural land are along rivers, small lakes or ponds, and freshwater forest wetlands (Figure 4-6).

Figure 4-6. Wetland Types that Intersect Agricultural Land in Asotin County



Wetlands on Agricultural Lands	
General locations/ distribution	• Most are very small (less than 1 acre) and scattered primarily in mid to upper elevations • Primarily occur within small lowland areas on the impermeable surface of basalt bedrock
Intersections with agricultural lands	• Most are within rangelands, with some on dryland agricultural lands
Characteristics	• Most are freshwater emergent wetlands and only inundated for brief periods in the spring

4.8.2 Protection and Enhancement Goals

Protection and enhancement goals for wetlands areas are summarized in Table 4-5. This table provides a summary of the goals, specific objectives, applicable critical area functions that would be protected or enhanced, and key conservation practices.

Measurable benchmarks are determined by conservation practices that may provide benefits to multiple critical areas. Therefore, these benchmarks are calculated by conservation practice instead of by individual critical area. Measurable benchmarks for the County are summarized in Section 4.10.

Table 4-5. Wetland Protection and Enhancement Goals

Goal – Wetland Protection and Enhancement		
Maintain or improve wetlands • **Protection and enhancement:** Special emphasis on wetland and wetland buffers • **Agricultural viability:** The wetland goal will be achieved while sustaining agriculture viability through: – Ancillary agriculture benefits from implemented practices (increased soil health/soil preservation, weed management, pollinator/beneficial organism, increased fertility, and pollinator/beneficial organism) – Regulatory assurances and support to implement voluntary practices – Reduced costs associated with lost ecosystem services (e.g., flood control and water filtration) – Reduced input costs associated with chemicals and irrigation – Financial incentives to offset start-up costs for new practices and infrastructure		
Key Plans or Programs • WRIA 35 Watershed Detailed Implementation Plan (Middle Snake Watershed Planning Unit 2011) • WRIA 35 Middle Snake Watershed Plan (HDR 2007) • Asotin Creek Model Watershed Plan (ACCD 1995) • Asotin, Grande Ronde, and Lower Snake Mainstem Subbasin Plan (ACCD, Grande Ronde Model Watershed Program, and Pomeroy Conservation District 2004) • Draft Shoreline Inventory, Analysis, and Characterization Report for the Southeast Washington Coalition Shoreline Master Program Update (Anchor QEA and SJC 2014) • Southeast Washington Coalition Shoreline Master Program Restoration Plan (Anchor QEA 2016) • Management Recommendations for Washington's Priority Habitats: Riparian (Knutson and Naef 1997) • Blue Mountain Wildlife Area Management Plan (WDFW 2006) (note: this plan is currently in the process of being updated) • Asotin County Geomorphic Assessment and Conceptual Restoration Plan (ELR 2018)		
Objectives	**Critical Area Functions**	**Key Conservation Practices Examples**
Protect and enhance wetland and wetland buffers directly	Water Quality, Hydrology, and Habitat	• Fencing • Critical area planting • Restoration and management of rare and declining habitats • Riparian forest buffer • Wetland enhancement/restoration

Goal – Wetland Protection and Enhancement		
Protect and enhance acres managed using techniques that limit water or wind erosion of soil, or erosion due to unrestricted livestock access, or soil compaction	Water Quality and Hydrology	• Residue and tillage management/mulch till • Prescribed grazing • Conservation cover • Tree/shrub establishment, restoration and management of rare and declining habitats, critical area planting
Protect and enhance acres managed under chemical and nutrient input controls, including acres near wetlands providing habitat for pollinators, birds, and other wildlife	Water Quality and Habitat	• Nutrient management • Pest management • Heavy-use area protection • Manure transfer • Irrigation water management and pipelines
Protect and enhance acres managed under natural filtration practices	Water Quality	• Residue and tillage management/mulch till • Conservation cover • Critical area planting • Tree/shrub establishment • Grassed waterway

4.9 Critical Aquifer Recharge Areas

Definition: "Critical aquifer recharge areas are areas with a critical recharging effect on aquifers used for potable water, including areas where an aquifer that is a source of drinking water is vulnerable to contamination that would affect the potability of the water, or is susceptible to reduced recharge" (WAC 365-190-030(3)).

4.9.1 Critical Aquifer Recharge Areas Baseline Conditions

Characteristics and functions overview: CARAs provide protections to public drinking water supplies. CARAs affect groundwater quality and hydrology through groundwater infiltration.

Intersections on agricultural lands: There are 11 wellhead protection areas within the County. All the wellheads are located on private land within residential areas of Clarkston, Asotin, and rural areas along the Snake River. These CARAs are found within 0.4% of the County's total agricultural lands, and these are primarily associated with wellhead protection areas mapped for the public drinking water supply (see Map 9 in Appendix A). Public drinking water wells in Asotin County are typically completed in basalt aquifers.

Critical Aquifer Recharge Areas on Agricultural Lands	
General locations/ distribution	• Most are within residential areas in Clarkston, Asotin, or rural properties along the Snake River
Intersections with agricultural lands	• Those within incorporated cities and towns are not generally subject to VSP, but any portions extending into agricultural lands of unincorporated Asotin County are included
Risks associated with agriculture	• Most are located in areas where potential contaminants on the land surface, such as fuel, pesticide, or fertilizer, could potentially infiltrate into public drinking water supplies

4.9.2 Protection and Enhancement Goals

Protection and enhancement goals for critical aquifer recharge areas are summarized in Table 4-6. This table provides a summary of the goals, specific objectives, applicable critical area functions that would be protected or enhanced, and key conservation practices.

Measurable benchmarks are determined by conservation practices that may provide benefits to multiple critical areas. Therefore, these benchmarks are calculated by conservation practice instead of by individual critical area. Measurable benchmarks for the County are summarized in Section 4.10.

Table 4-6. Critical Aquifer Recharge Area Protection and Enhancement Goals

Goal – Critical Aquifer Recharge Area Protection and Enhancement
Maintain or improve critical aquifers through implementation of key conservation practices that reduce inputs, including nutrients and other contaminants. • **Protection and enhancement:** Special emphasis on critical aquifer recharge areas • **Agricultural viability:** The CARA goal will be achieved while sustaining agriculture viability through: – Ancillary agriculture benefits from implemented practices (increased soil health, increased soil moisture, weed management, pollinator/beneficial organism, and increased fertility) – Reduced input costs associated with chemicals – Reduced costs associated with irrigation and livestock watering – Financial incentives to offset start-up costs for new practices and infrastructure – Hazardous materials spill containment and cleanup
Key Plans or Programs • WRIA 35 Middle Snake Watershed Plan (HDR 2007) • Draft Shoreline Inventory, Analysis, and Characterization Report for the Southeast Washington Coalition Shoreline Master Program Update (Anchor QEA and SJC 2014)

Goal – Critical Aquifer Recharge Area Protection and Enhancement		
Objectives	**Critical Area Functions**	**Key Conservation Practices Examples**
Protect and enhance acres managed under chemical and nutrient input controls	Water Quality	• Nutrient management • Pest management • Heavy-use area protection • Irrigation water management
Protect and enhance acres managed under natural filtration practices	Water Quality	• Residue and tillage management/mulch till • Conservation cover • Critical area planting • Tree/shrub establishment • Grassed waterway
Protect and enhance acres managed using techniques for water conservation	Hydrology	• Irrigation water management

4.10 Measurable Benchmarks

Work Plan benchmarks are focused on measuring and tracking producer participation in implementing key stewardship strategies and practices identified by the Work Group as having a clear benefit to one or more critical area functions and values.

Table 4-7 provides a crosswalk of key stewardship strategies and practices, their link to critical areas, critical area function based on the CPPE function effects scores, and agricultural viability aims. Interpretation of the CPPE scoring shown in Table 4-7 indicates the most beneficial effects (enhancements) to functions up to +5, no effect (0), and the most detrimental effects to functions -5. As previously discussed, it's important to note that the relative changes in functions affected from a given stewardship strategy and practice will be tracked in relation to baseline conditions, e.g., a +2 CPPE score for a practice will be captured as a +4 if practices are moving from a -2 to +2. Table 4-7 also provides a general guide for the direct benefits of key practices to critical areas using scoring for illustration purposes. These scores were developed based on CPPE function effects scores that were then customized, based on input from conservation district managers familiar with local conditions and practice characteristics. These composite scores provide a general guide for the type of practice and direct benefit to critical areas.

Additional Key Conservation Practices Currently Implemented (Self-funded)

Additional conservation practices implemented by producers throughout the County that do not necessarily follow the NRCS practice prescriptions, but provide functional benefits include:

- Weed management
- Summer fallow
- Residue management (40% or greater)

See Appendix E for additional information on methods applied for linking stewardship strategies and practices to function protections using CPPE function effects and a more comprehensive list of stewardship strategies and practices and their functional effects.

Table 4-8 provides a summary of protection and enhancement measurable benchmarks and performance objectives for the 5-year reporting increments (2021 and 2026), a table splitting out detail by conservation practice is provided in Appendix E. Acres for performance objectives is used to represent 1-acre of implementation of one practice. Multiple stewardship strategies and practices can be conducted on a single field (which is reported as additional acres). When a new practice replaces existing practices the benefits to critical area functions would change, but not the acreage. A complete description of the scoring and function and value calculation is included in Appendix E. In addition to tracking the net acreage changes, the Work Group will track the overall physical effects of those changes to document the protection and enhancement of critical area functions and values.

As indicated in Table 4-8 (last column), total participation acres key stewardship strategies and practices since 2011 are overcoming the anticipated reduction in acres (or other measure) with stewardship strategies and practices (protection benchmark) and additional acreages with stewardship strategies and practices since 2011 are accounted in the enhancement benchmarks. Enhancement benchmarks were developed through 2026 with the assumption that half of these benchmarks would be achieved by 2021.

Table 4-7. Key Stewardship Strategies and Practices Crosswalk to Function Scores, Critical Areas, and Agricultural Viability

Key Stewardship Strategies				Critical Area Functions Protection Metrics (averaged National CPPE Function Effects Score)[2]				Critical Area Protection Metrics (based on CPPE Function Effects Score customized (bold) for local conditions)					Agricultural Viability Aims
Type		NRCS Code	Key Practices[1]	Soil	Hydrology	Water Quality	Habitat	WET	FWHCA	CARA	GHA	FFA	
Indirect Intersects	Residue and Till Management	345	Residue Management - Mulch Till	2.75	1.33	2.20	1.67	2.00	1.67	0.00	0.00	0.00	• Protect against erosion risk • Protect soil function • Reduce invasive and nuisance species • Promote yield and fertility
		329	Residue and Tillage Management - No-Till/ Strip Till/ Direct Seed	3.00	0.80	2.00	1.67	1.82	1.67	2.00	0.00	0.00	
	Pest Management	595	Pest Management	2.00	0.00	4.00	2.00	3.00	3.00	1.00	0.00	0.00	• Protect soil function • Reduce invasive and nuisance species • Provide pollinator species/beneficial organisms habitat
	Nutrient Management	590	Nutrient Management	0.83	0.00	3.50	0.00	3.00	3.00	2.80	0.00	1.03	• Protect soil function • Reduce invasive and nuisance species • Reduce inputs
	Water Management	350	Sediment Basin	0.67	-0.67	1.00	-0.33	0.00	-0.33	2.00	-2.00	0.27	• Protect against erosion risk • Protect soil function • Reduce inputs • Promote yield and fertility
		441	Irrigation System, Micro-Irrigation	0.50	2.00	2.00	1.00	-1.00	1.00	-1.00	0.00	1.20	
	Livestock Management[3]	528	Prescribed Grazing	2.83	1.50	1.30	2.67	0.00	1.00	0.00	0.00	0.00	• Protect against erosion risk • Protect soil function • Reduce invasive and nuisance species • Promote yield and fertility
		550	Range Planting	3.10	0.75	1.33	2.67	0.00	1.00	1.20	0.00	0.00	
		614	Watering Facility	1.10	0.00	1.71	4.00	-1.00	2.00	0.20	0.00	0.00	
		642	Water Well	1.50	2.00	-1.00	1.00	0.67	0.00	-3.00	0.00	1.00	
	Soil Management	381	Pasture and Hay Planting	2.90	1.60	1.50	1.00	1.37	1.00	1.20	0.00	0.00	• Protect against erosion risk • Protect soil function • Reduce invasive and nuisance species • Provide pollinator species/beneficial organisms habitat • Promote yield and fertility
		650	Windbreak/Shelterbelt Renovation	2.50	2.83	1.40	3.00	0.00	3.00	0.20	0.00	2.45	
		484	Mulching	2.50	0.60	0.83	1.00	0.81	1.00	-0.40	4.00	1.49	
Direct Intersects	Habitat Management	327	Conservation Cover	3.17	1.40	3.11	3.33	1.00	4.00	2.20	3.00	1.00	• Protect against erosion risk • Protect soil function • Reduce invasive and nuisance species • Provide pollinator species/beneficial organisms habitat
		342	Critical Area Planting	3.63	0.00	3.00	2.00	1.00	1.00	0.40	1.00	2.00	
		412	Grassed Waterway	2.17	2.50	1.33	1.00	1.00	1.00	0.00	1.00	1.83	
		666	Forest Stand Improvements	0.38	3.00	0.75	2.33	0.00	-1.00	0.80	0.75	1.37	
		612	Tree/Shrub Establishment	3.00	1.20	1.17	2.33	0.00	3.00	2.00	1.00	2.50	
		391	Riparian Forest Buffer	2.47	0.67	2.83	4.00	2.50	5.00	1.80	0.00	5.00	
		645	Upland Wildlife Habitat Management	1.20	-0.50	2.00	5.00	0.00	5.00	0.00	0.00	0.00	
		422	Hedgerow Planting	1.25	2.00	1.33	4.00	0.00	4.00	0.00	1.00	0.00	
		472	Access Control	2.95	1.75	1.44	2.00	0.00	4.00	0.00	1.00	0.00	
		382	Fence	2.00	0.00	2.00	1.00	1.00	1.00	0.00	1.00	1.40	

Notes:

1. Key practices include those practices that address resource concerns and critical areas function protections and are widely implemented, anticipated for continued application, or identified as major practice trends anticipated in the future.
2. The NRCS CPPE matrix was relied upon to develop average function effects scores for the key practices. See Attachment 1 and 2 of Appendix E for full suite of stewardship strategies and practices CPPE scores.
3. Range management stewardship focuses on key stewardship strategies and practices that address on-field resource concerns and management. Conveyance infrastructure, such as livestock pipelines, are not considered in the group of key stewardship strategies and practices.

Table 4-8. Protection Benchmarks and Enhancement Goals

	Stewardship Strategies[1]	NRCS and CD-Led Practices Historic Participation Data (2000 – 2010)		Protection Benchmarks[2, 3]			Enhancement Goals[2, 3]			2000– 2010 Enrollment Data
		Average Annual Participation in Key Practices	Estimated Yearly Reduction of Stewardship Strategies and Practices	Benchmark	2021 Performance Objective[4]	2026 Performance Objective[4]	Benchmark	2021 Performance Objective[4]	2026 Performance Objective[4]	Total Enrollment in NRCS and CD-Led Programs
Indirect Intersects	Residue and Tillage Management	1,873 acres	112 acres (6%)	No net loss of acres managed under stewardship strategies and practices No net loss of feet or units managed for protection	1,124 acres	1,686 acres	Enrolled enhancement units (e.g., acres and feet) are sufficient to offset identified agricultural degradations and maintain baseline conditions, based on: • Implemented projects from 2000 – 2010 • Excluded protection benchmarks (estimated annual reduction or discontinuation of stewardship strategies and practices since 2011 at time of reporting)	9,179 acres	18,919 acres	20,605 acres
	Pest Management	3,344 acres	201 acres (6%)		2,007 acres	3,010 acres		16,387 acres	33,778 acres	36,788 acres
	Nutrient Management	1,769 acres	106 acres (6%)		1,061 acres	1,592 acres		8,667 acres	17,864 acres	19,456 acres
	Water Management	1 acre and 8 features	0 acres (2%) and 1 feature (2%)		0.03 acres and 2 features	0.04 acres and 2 features		0.67 acres and 11 features[6]	1 acres and 21 features[6]	1 acres and 85 features
	Range Management	2,045 acres and 16 stock watering facilities	123 acres (6%) and 0.32 watering facility (2%)		1,227 acres and 3 watering facilities	1,841 acres and 5 watering facilities		10,021 acres and 54 watering facilities[6]	20,655 acres and 108 watering facilities[6]	22,495 acres and 175 watering facilities
	Soil Management	2 acres and 5,823 feet	0.11 acres and 349 feet (6%)		1 acre and 3,494 feet	2 acres and 5,240 feet		9 acres and 28,530 feet	18 acres and 58,808 feet	20 acres and 64,048 feet
Direct Intersects	Habitat Management[5]	786 acres, 15,533 feet, and 8 features	47 acres (6%), 6,311 feet (2%) 2 and 0.15 feature		471 acres, 3,111 feet and 2 features	707 acres, 4,666 feet and 2 features		3,850 acres, 82,428 feet and 41 features	7,937 acres, 166,412 feet and 83 features	8,644 acres, 171,078 feet and 85 features

Notes:

1. See Table 4-7 for suite of stewardship strategies and practices considered under these strategies.
2. Key stewardship strategies and practices include those practices that address resource concerns and critical areas function protections and are widely implemented, anticipated for continued application, or identified as major practice trends anticipated in the future.
3. Measurable benchmarks are based upon the historic NRCS and reported CD-led participation data (2005 through 2010) in key stewardship strategies and practices (see Note 2). No net loss and enhancements will be measured based on estimated annual discontinuation rates from key stewardship strategies and practices from the 2011 baseline.
4. Benchmarks are anticipated to be adapted as new technologies and practices are applied by producers and unanticipated changes in environmental and market conditions which would be addressed through the adaptive management process. Protection benchmarks are based on estimated discontinuation rates. A more accurate estimate and understanding of which practices are discontinued can be used to modify these benchmarks.
5. Benchmarks for habitat management stewardship strategies include benchmarks for practices measured in acres (e.g., conservation cover) and practices measured in feet (i.e., hedgerow planting and fencing)
6. Enhancement benchmarks for number of sediment management and stock watering features was adjusted down slightly due to above-average historic enrollment during the selected time period.

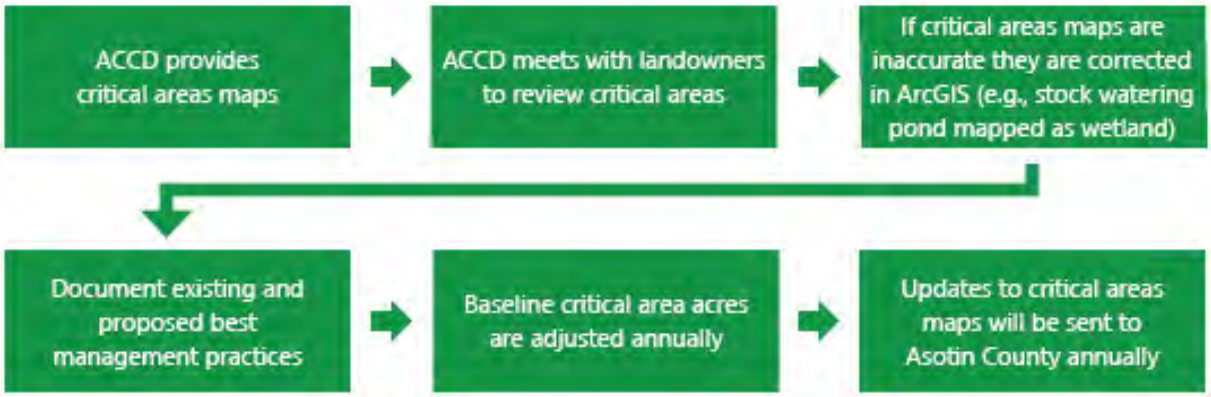
5.0 Plan Implementation and Management

Work Plan implementation is expected to continue largely through established programs and organizations. As noted previously, many agricultural-based programs, activities, and efforts are already in place to protect and, in many cases, enhance critical areas and agricultural viability. Significant progress has been made to these ends in recent years. This Work Plan has been designed to fit within this existing framework, with supplemental efforts identified to meet state VSP requirements, including documenting 2011 critical areas baseline conditions, establishing goals and measurable benchmarks, identifying conservation activities, and establishing monitoring and adaptive management measures to track Work Plan performance in protecting critical areas and maintaining agricultural viability. The tracking timeframe for this Work Plan is the first 10 years of implementation.

5.1 Requirements

Per RCW 36.70A.705, ACCD is responsible for developing the Work Plan and overseeing its implementation, in coordination with the Work Group. Work Plan implementation responsibilities include: 1) agricultural producer participation and outreach; 2) technical assistance; 3) program performance tracking and reporting; and 4) adaptive management. The ACCD and others can help in performing these responsibilities. The implementation process for working with individual producers and sharing updated information with Asotin County will generally follow the steps shown in Figure 5-1.

Figure 5.1. Implementation Process Chart



The anticipated implementation budget for this Work Plan is summarized in Table 5-1, under the assumption that State funding for VSP is continued at a level of $220,000 each biennium for the County.

Table 5-1. Implementation Budget

Task	Activities	Who	Biennium Budgets[1]
Education, Outreach, and Technical Assistance	• Conduct outreach and develop education materials • Assist producers in developing stewardship plans • Facilitate Self-Assessment Checklist reporting • Identify cost-share to leverage other conservation project funding	ACCD and technical assistance providers	$155,000
Monitoring, Reporting, and Adaptive Management	• Annual monitoring and tracking • Develop adaptive management as needed • Prepare 2-year status reports • Prepare 5-year progress reports	ACCD and technical assistance providers or contract services	$50,000[2]
Work Group Coordination	• Attend quarterly meetings • Coordinate report and adaptive management review and approvals	ACCD and technical assistance providers	$15,000
		Total State Budget	**$220,000**

Notes:

1. Assumes State funding for VSP is continued at a level of $220,000 each biennium for the County.
2. Costs will be less in non-reporting years to support annual monitoring and tracking efforts. The majority of budget item will support costs during the 2-year and 5-year reporting years: 2019, 2021, and 2026.

Ultimately, agricultural producers play the most integral role in VSP implementation. Success of the VSP relies on these producers to voluntarily implement conservation actions that help meet Work Plan goals and benchmarks for critical areas protection and agricultural viability.

5.2 Monitoring and Reporting

Monitoring performance, reporting progress on Work Plan goals and benchmarks, and implementing adaptive management measures when necessary are part of this Work Plan. Tracking program performance and reporting includes the following tasks:

- **2-year status reports.** Conducting a program evaluation and providing a written report on the status of the Work Plan, including accomplishments, to the County and to the Washington State Conservation Commission (WSCC) every 2 years. Based on a January 2016 receipt of funding date, 2-year reports are due by end of September in 2018, 2020, 2022, 2024, and 2026.
- **5-year performance reports.** Developing and providing to the WSCC 5-year progress reports on Work Plan performance in meeting goals and benchmarks. Based on a January 2016 start date, 5-year progress reports would be due in early 2021 and 2026.

Timelines for this implementation process is shown in Table 5-2 below.

Table 5-2. Timelines for Implementation Process

Category	Schedule	Roles and Responsibilities
Periodic Evaluations (2-Year Status Reports)	Finalize Work Plan in 2018 (latest due date is December 14, 2018 per WSCC)	Work Group
	2018, 2020, et seq.	Work Group
Report on Goals and Benchmarks (5-Year Performance Reports)	Funding receipt date in 2016	Work Group oversees; ACCD prepares report
	2021,2026, et seq.	
Adaptive Management or Additional Voluntary Actions	Ongoing after 2021	Work Group oversees Work Plan adjustment recommendations to WSCC

The 2-year status and 5-year performance reports would be developed by the ACCD under the direction of the Work Group. Draft reports would be prepared and presented to the Work Group for review and comment. Comments would be addressed and edits made to the reports, and then approved by the Work Group after they are satisfied the reports are accurate and complete.

Reports would be distributed to the County, WSCC, and others by the ACCD on behalf of the Work Group. The general timing for reporting will be as follows:

- Monitoring will focus on the measurable benchmarks described in Section 5–10 and will include periodic evaluations every 2 years.

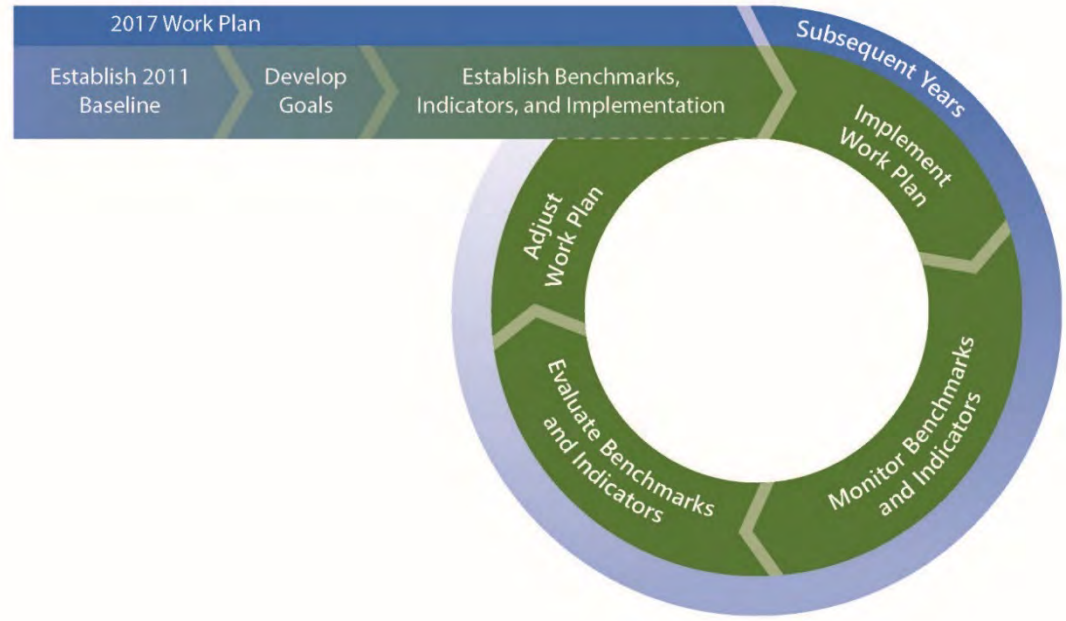
- The Work Group must report no later than 5 years after receipt of funding on whether the protection and enhancement goals are being met or identify an adaptive management plan to meet VSP goals and benchmarks.
- The Work Group must report no later than 10 years after receipt of funding, and every 5 years thereafter, whether it has met the protection and enhancement goals and benchmarks of the Work Plan.

Work plans often need to adapt to changing conditions and observations of results that aren't consistent with established goals. Adaptive management is the process for "continually improving management policies and practices by learning from the outcomes of the operational programs" (Nyberg 1999). If the Work Group determines goals have not been met, they must propose and submit an Adaptive Management Plan to achieve the goals and benchmarks. The adaptive management process is outlined in Section 5.3. Monitoring indicators will inform the long-term viability of the Adaptive Management Plans, based on goals for protecting critical area functions. Monitoring will focus on the measurable benchmarks and goals also described in Section 4.10. The Work Group is committed to satisfying any other reporting requirements of the program, including associated updates in reporting to address plan adaptations. ACCD will satisfy any other reporting requirements for VSP per RCW 36.70A.720.

5.3 Adaptive Management

Adaptive management typically consists of a monitoring system to identify changes in the environment coupled with a response system to adjust the activities based on performance results and review of indicators information. The adaptive management system would be applied if the performance review in Year 5 of implementation suggests the VSP program may not be protective of critical areas functions existing in 2011. The adaptive management system for the Asotin County VSP consists of the following five key sequential elements, as illustrated on Figure 5-2.

Figure 5-2. Adaptive Management System for Asotin County VSP



1. **Assess** – Data on participation goals and the indicators described above are compiled. The compiled information is used to identify issues, refine objectives, and understand if benchmarks are effective in protecting or enhancing critical area functions and values.
2. **Update Benchmarks** – Based on the results of the assessment stage, updates to the protection benchmarks and enhancement goals could occur. These updates could represent changes to the level of participation necessary to meet a specific protection or enhancement standard. These updates could also reflect a change in the goals for a specific watershed or critical area function.
3. **Implement and Monitor** – The approved work plan is put into action, concurrently with monitoring focused on documenting the protection and enhancement of critical area functions and values. Monitoring data are collected on specific indicators, as well as participation by producers in implementing stewardship strategies and practices. A multi-data spreadsheet tracking tool will be developed early in plan implementation and used to assist with data tracking and reporting. The tool will be updated regularly with new information collected or received by ACCD.
4. **Evaluate** – Monitoring of participation data are evaluated relative to the protection and enhancement goals. Differences between targeted goals and results are identified, and the causes for those differences investigated, including consideration of participation measures and indicators. Goal adjustments are made as needed to maintain protection of critical area functions and values.

5. **Adjust** – Information learned in previous steps is used to adjust the participation benchmarks, stewardship strategies and practices, or level of incentive for enhancement.

The adaptive management process is iterative and would repeat cyclically at least every 5 years, as part of the implementation of the VSP. If an adjustment is identified, the Work Group would submit a written report identifying the results of the evaluation and a plan to make the necessary adjustments to the work plan to the WSCC. If an adjustment is not necessary, then the report would simply state the results of the evaluation. In either case, the process of adaptive management would be applied at least every 5 years.

Monitoring and adaptive management is based on two strategies:

1. **Direct monitoring** of producer participation (Table 5-3 and 5-4):
    a. **Conservation acres monitoring**. Direct monitoring of stewardship participation in key stewardship strategies and practices implemented is integral to the outreach strategy. Participation goals were developed based on agricultural activities, critical area functions, and the anticipated effects of implementing specific stewardship strategies and practices. During outreach and implementation, stewardship strategies and practices data will be frequently reviewed to determine if participation levels are adequate to meet the goals and benchmarks identified in Section 4.
    b. **Sample verification.** In addition to monitoring stewardship strategies and practices implemented, Asotin County CD will also monitor a randomly selected sample of 10% of the reported projects, including self-reported/funded, to verify the performance of the stewardship strategies and practices in terms of implementation/application and maintenance, relying on the CPPE framework.
    c. **Adaptive management trigger.** If at any point after the first year the participation rate drops below 120% of the annual projected level of stewardship strategies and practices implemented to meet the protection performance objectives, measures would be taken to address the situation. Potential causes for low participation and potential adaptive management actions are described in Table 5-3. Based on stewardship strategies and practices data from 2011 – 2016, the level of participation has been far exceeding those necessary to meet the protection performance objectives.
    d. **Adaptive management process.** Table 5-4 includes a more detailed description of the adaptive management process for stewardship strategies and practices implemented, including specific thresholds for each of the key practices.
2. **Indirect monitoring** of indicators of critical areas and their functions and values (Table 5-5):
    a. **Indicators**. Indicators, identified in Section 4.3, will be used to assess whether the stewardship strategies and practices implemented under VSP are having the anticipated effect of protecting and/or enhancing critical area functions and values. If goals are met,

but indicators show a negative trend in critical area functions and values, it will be important to analyze whether this is related to agriculture.

b. **VSP applicability.** Some indicators (e.g. stream temperature) may be responding to climactic changes rather than changes in agricultural practices since 2011. If any link to agriculture is determined, additional stewardship strategies and practices, higher participation goals, or increased outreach may be necessary. Because detection of long-term trends in environmental indicators is difficult, this review will occur every 5 years as part of the VSP reporting.

c. **Process.** Table 5-5 includes a description of how environmental indicators discussed in Section 4.3 will be used to refine the goals and benchmarks of the VSP over time.

As noted above, indicators data are limited and not always collected in an ideal manner for the direct evaluation of VSP benchmarks and program performance. Where data are limited, adaptive management measures described in this section will be applied as part of implementation to address these data shortfalls where possible within program constraints.

Table 5-3. Producer Participation Goal and Adaptive Management for Low Participation

Participation Goal: Promote producer participation in voluntary stewardship of agricultural lands and critical areas to meet the protection benchmarks and/or enhancement goals and protect critical areas functions and values at a County-wide watershed level.					
Objectives/Benchmarks	**Performance Metric/Monitoring Method**	**Identified Cause/Adaptive Management Threshold**	**Adaptive Management Action**	**Who Monitors**	**When**
Sufficient active participation by commercial and non-commercial agricultural operators (farmers and ranchers) over 10 years that achieves the protection of critical area functions and values at a County-wide watershed level[1]	• Mapping and aerial photo evaluation and/or rapid watershed assessment of practices in place • Number of acres reported in key stewardship strategies and practices • Number of VSP self-assessment checklists submitted • Sufficient producer participation necessary to meet protection benchmarks and enhancement goals	Key practice not consistent with agricultural viability	Identify alternative practice that provides similar function and is agriculturally viable	ACCD	Monitored every year Reported during the 2-year status reports and 5-year performance reports
		Incentives associated with key stewardship strategies and practice no longer available	Identify alternative funding or alternative practices that are more likely to be self-funded		
		Inadequate self-reporting of voluntary participation	Increase outreach to producers, small acreage landowners, and youth groups (e.g., 4-H) that provide a potential pathway for non-commercial producers		
		Change in agricultural practices that make key practices less applicable	Develop applicable practices that provide similar functions		
		Changes in agricultural economy that make self-funded stewardship strategies and practice implementation difficult	Identify alternative funding or other incentives		
Passive participation by commercial and non-commercial agricultural operators in VSP stewardship strategies and practices is maintained or increased over 10 years on agricultural land (including but not limited to those listed in Table 5-4 and Appendix E, Attachment 2)[2]	• Mapping and aerial photo evaluation and/or rapid watershed assessment of practices in place • Random sampling of farmers and ranchers in the field by technical assistance providers with willing landowners	Decline below the annual average stewardship strategies and practices rate identified in Table 4-8	Increase outreach to producers, small acreage landowners, and youth groups (e.g., 4-H) that provide a potential pathway for non-commercial producers		
Technical assistance and outreach is provided to agricultural producers to encourage stewardship strategies and practices and VSP participation	• Number of outreach and education events • Number of event attendees	Decline below the baseline annual average stewardship strategies and practices rate identified in Table 4-8	Increase outreach to producers, small acreage landowners, and youth groups (e.g., 4-H) that provide a potential pathway for non-commercial producers		

Notes:

1. Active participation includes conservation practices reported either through publicly-funded programs or self-reported through the VSP self-assessment checklist in coordination with the ACCD or other technical assistance provider (see Appendix D).
2. Passive participation includes un-reported stewardship activities.
3. An Outreach Plan is provided in Appendix F.

Table 5-4. Adaptive Management Process for Stewardship Strategies and Practices Participation

Type	Adaptive Management Objective	Protection Metric[1] (Annual)	Verification	Adaptive Management Trigger (120% of Protection Metric) (Annual)	Adaptive Management Action	Who Monitors	When
Residue and Tillage Management	Residue Management – Mulch Till	112 acres	10% verified through monitoring and visual recognition	135 acres	Outreach with producers/review approach	ACCD	Every year
	Residue and Tillage Management – No-Till/ Strip Till/ Direct Seed						
Nutrient Management	Nutrient Management	201 acres	10% verified through monitoring and visual recognition	240 acres			
Pest Management	Pest Management	106 acres	10% verified through monitoring and visual recognition	127 acres			
Water Management	Irrigation Water Management/Micro-Irrigation	0 acres	10% verified through monitoring and visual recognition	0.003 acres			
	Sediment Basin/Stream Crossing	0.15 features		0.19 features			
Range Management	Range Planting	123 acres	10% verified through monitoring and visual recognition	147 acres			
	Prescribed Grazing						
	Stock Watering Facilities	0.32 features		0.4 features			
Soil Management	Mulching	0.11 acres	10% verified through monitoring and visual recognition	0.13 acres			
	Windbreak/Shelterbelt Renovation	349 feet		419 feet			
	Terrace						
	Grassed Waterway						
Habitat Management	Conservation Cover	47 acres	10% verified through monitoring and visual recognition	57 acres			
	Critical Area Planting						
	Upland and Wetland Wildlife Habitat Management						
	Restoration and Management of Rare/Declining Habitats						
	Access Control						
	Herbaceous Weed Control						
	Forage Biomass Production						
	Silvopasture for Wildlife						
	Tree/Shrub Preparation, Pruning, and Establishment						
	Hedgerow Planting	311 feet		373 feet			
	Fence						
	Pond	0.15 features		0.19 features			
	Spring Development						

Note:

1. Metric is calculated based on annual to meet benchmark values identified in Table 4-9.
2. An Outreach Plan is included in Appendix F

Table 5-5. Adaptive Management Process for Critical Area Functions and Values Protection and Enhancement

Adaptive Management Objective	Indicator Data Source	Performance Metric	Monitoring Method	Adaptive Management Action Threshold	Adaptive Management Action	Who Monitors	When	Party Responsible for Action
Ensure stewardship strategies and practices employed with the goal of protecting or improving water quality are effective	Ecology water quality stations	Change in Category 4 and 5 303(d) listings, focused on parameters that potentially have an agricultural source.	Tracking Category 4 and 5 listings through Ecology's 303(d) Water Quality tools	Trends indicating a decrease in baseline water quality due to agriculture	• Determine whether water quality parameters are from agriculture or non-agriculture contributors. • Survey with outreach to agricultural producers owners along affected watercourse, waterbody and/or CARA to determine % of participation in stewardship • Identify if participation in stewardship strategies and practices is supporting goals • Identify stewardship strategies with Work Group to target for implementation to support goal	ACCD (or other)	Every 5 years	ACCD and others; and participating land owners
Ensure stewardship strategies and practices employed with the goal of maintaining or improving storage capacity and groundwater recharge are effective	USGS flow gauges	Changes in flows that are attributable to agricultural practices (as opposed to regional drought)	Tracking water level gauges through USGS water data	Trends indicating a decrease in baseline storage capacity and/or groundwater recharge due to agriculture	• Determine whether storage capacity and groundwater recharge issues are due to agriculture • Survey with outreach to agricultural producers along floodplains and within CARA to determine percentage of participation in stewardship • Identify if participation in stewardship strategies and practices is supporting goals • Identify stewardship strategies with Work Group to target for implementation to support goal			
Ensure stewardship strategies and practices employed with the goal of maintaining or improving soil functions are effective	USDA Natural Resources Inventory monitoring result	Changes in volume of soil and/or overall soil fertility relative to critical areas	Tracking soil data through USDA Natural Resources Inventory monitoring results, tracking sediment parameter within Ecology's 303(d) Water Quality tools	Trends indicating a decrease in baseline soil and/or soil fertility due to agriculture	• Determine whether soil issues are due to agriculture • Survey with outreach to agricultural producers to determine percentage of participation in stewardship • Identify if participation in stewardship strategies and practices is supporting goals • Identify stewardship strategies with Work Group to target for implementation to support goal			
Ensure stewardship strategies and practices employed with the goal of protecting or improving habitat are effective	WDFW PHS data, National Wetland Inventory, or other GIS approaches for habitat and wetlands mapping	Changes in amount of FWHCAs and wetlands	Tracking PHS data through the WDFW; tracking changes in habitat quality and extent including shrub-steppe, wetlands, and other habitats using aerial imagery (NAIP data, which is expected to be updated every 2 years) and associated GIS methods with some ground-truthing to verify results; evaluating random sample areas (including a representation of lands with conservation practices documented and lands where practices are not documented)	Trends indicating a decrease in baseline terrestrial and/or aquatic habitat due to agriculture	• Determine whether habitat issues are due to agriculture • Survey with outreach to agricultural producer property owners to determine percentage of participation in stewardship • Identify if participation in stewardship strategies and practices is supporting goals • Identify stewardship strategies with Work Group to target for implementation to support goal			

Notes:

1. Note that timing of data updates by other agencies is out of ACCD's control and future updates will be made to reports as new data is available.
2. Trends indicating a change from baseline will be monitored for critical areas in County areas outside of cities and urban growth areas and with a direct agriculture intersection to determine if adaptive management should be triggered.
3. An Outreach Plan is included in Appendix F.

5.4 Technical Assistance and Outreach

Many producers are already implementing stewardship strategies and practices that are protecting or enhancing critical areas and supporting agricultural viability throughout the County, as described in Section 4. Two participation objectives have been established for Asotin County VSP implementation:

1. Better identify and document the existing measures that have been put in place since 2011 through private-sector activity and outside of government programs.
2. Increase the level of participation among agricultural producers in implementing stewardship strategies and practices.

Regarding the first objective, it is expected the measures summarized in Section 4 represent only a portion of the total measures implemented during this period. Outreach to individual landowners, as well as to private industry groups, is planned in Years 0 to 2 to better document existing practices and identify future practices that might be implemented outside of government programs. Additional outreach and coordination with the private sector, resulting from the initial outreach activities, is expected to continue through the remaining 8 years of the initial 10-year performance tracking period. An Outreach Plan is provided in Appendix F.

The second participation objective is focused on increasing the number of stewardship strategies and practices implemented by agricultural producers, helping to meet protection and, where possible, enhancement performance goals outlined in Section 4. Achieving this objective includes offering technical assistance to producers with the development of individual ASPs and making them aware of available private- and public-sector financial incentives and programs. This technical assistance would also include helping to estimate the expected benefits that can be realized from implementing the measures identified in individual ASPs, including agriculture viability benefits at the farm level.

ACCD Forest Timber Health Tour
Photo Credit: ACCD

An individual ASP is defined by the Work Group as synonymous with the definition of a "farm plan" as described in RCW 89.08.560. The ASP is a plan prepared by a CD in cooperation with a landowner or operator for the purpose of conserving, monitoring, or enhancing renewable natural resources. ASPs can include, but are not limited to, provisions pertaining to:

1. Developing and prioritizing conservation objectives
2. Taking an inventory of and verifying soil, water, vegetation, livestock, and wildlife, including the preparation of a VSP checklist included in the ASP identifying potential applicable conservation practices (see Figure 5-3)
3. Implementing conservation measures, including technical assistance provided by the ACCD

4. Developing and implementing livestock nutrient management measures
5. Developing and implementing plans pursuant to business and financial objectives

ASPs prepared by ACCD must be approved as final by a producer in writing before being determined final and complete. Consistent with RCW 42.56.270, ASPs are not disclosable as publicly available information, unless written approval is provided by a producer. Final ASPs prepared solely by a private sector technical assistance provider for a producer are disclosable to the public if a copy of the ASP is provided to ACCD.

Results from these conservation efforts will be tracked and documented, along with documenting any lands converted from stewardship strategies and practices back to more conventional farming, so the overall net effect on protecting (and where applicable, enhancing) critical areas is characterized. VSP success depends on producer participation, and producer participation depends on effective protection of producers' confidential business information from disclosure. According to guidance from the WSCC, statutory provisions on the confidentiality and disclosure of a farm plan also apply to a VSP ASP that a CD helps a producer develop (unless the producer expressly permits disclosure). VSP technical assistance providers can provide more detail on applicable confidentiality and disclosure provisions for particular types of agricultural operations and conservation programs.

5.4.1 Organization Leads

ACCD will rely on local organization leads to continue to provide technical assistance to providers:

- The ACCD will continue to implement public-sector program participation efforts within their respective boundaries, supported by other agencies, such as Washington State Department of Agriculture,

Figure 5-3.
Self-Assessment Checklist Use Protocol

Notes:
The VSP Checklist is not a self-certification process.
Protocol is based on flowchart developed by the Franklin Conservation District for the Franklin County VSP Work Plan.

WDFW, and Ecology, NRCS, and FSA; others with their respective programs; and support from the private sector.

5.4.2 Technical Assistance and Outreach Strategies

Technical assistance occurs in a variety of ways, including developing individual farm stewardship or conservation plans, providing advice on use of specific practices, range management plans, and sharing information at forums, meetings, and other venues where stewardship strategies and practices are highlighted for environmental and economic benefits. ACCD will prepare biennial work plans that incorporate public-sector activities to be implemented to achieve VSP outreach and technical assistance objectives, and also identify plans for working with the private sector to capture information about practices put in place and presence of critical areas through their efforts. See Appendix C for additional detail on public-sector plans, programs, and agency partners that support the goals of this Work Plan.

There are roughly 185 land owners in Asotin County whose lands intersect with critical areas. ACCD will commit to reaching out to 15% of the approximately 185 producers that operate those lands each year using the methods described in the Outreach Plan in Appendix F. As part of the adaptive management process, this percentage may change based on available funding and resources and/or how the County is progressing toward the goals and benchmarks described in the Work Plan during implementation.

ACCD has been working with private landowners on natural resource conservation projects since its formation in 1940. However, there was an increase in opportunity and effort with the development of the ACMWP in 1995 (ACCD 1995). Since then, ACCD has had consistent funding for project implementation through cost-share programs. On average, the ACCD provides funding to 25 to 30 landowners each year to implement conservation projects, and in some years even more. In the past, the target has been primarily directed at larger agricultural operations, and many have been consistently implementing projects and improving land for the last 3 decades. Communication and partnership with these landowners will continue into the future.

In addition, ACCD will be providing outreach for individuals that have not been participating in conservation programs. This is where the 15% goal was developed. ACCD's goal is to reach an additional 28 to 30 landowners each year on top of those the ACCD is already working with, so they are aware of VSP, critical areas, conservation opportunities, and management systems that can be implemented on their properties. Small acreage landowners will be one focus area of ACCD outreach efforts. An early implementation action will be to work with Asotin County to identify landowners with small parcels that may implement conservation practices in areas that intersect with or have the potential to impact critical areas.

ACCD will also continue and expand youth education programs. Currently eight schools participate in the Salmon in the Classroom program, reaching over 400 students. Wheat Week and Drain Range programs are also being taught in the schools in partnership with other agencies. ACCD also provides a water quality class at the 4-H youth camp in the summer. ACCD's goal is to continue to use existing youth education programs to incorporate information that supports resource conservation, including VSP conservation practices and critical areas protection and enhancement measures. ACCD will also expand youth education to reach more families through the 4-H and Future Farmers of America programs in Asotin County. Many 4-H and Future Farmers of America members are from families with small acreage "ranchettes" and have agricultural activities on their properties that could affect critical areas but are in areas not "zoned" as agriculture.

Another participation objective is focused on increasing the number of conservation practices implemented by agricultural producers, helping to meet protection and, where possible, enhancement performance goals outlined in Section 4. Achieving this objective includes offering technical assistance to producers with the development of an ASP, identifying technical assistance and financial incentive programs that further the goals of the Work Plan, and making producers aware of available private- and public-sector financial incentives and programs. This technical assistance would also include helping to estimate the expected benefits that can be realized from implementing the measures identified in ASPs, including agriculture viability benefits at the farm level.

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Attachment 1
VSP Overview

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Asotin County
Voluntary Stewardship Program Overview

Working together, farmers can use volunteer efforts to avoid additional regulatory controls. The Voluntary Stewardship Program (VSP) is a new, non-regulatory, and incentive-based approach that supports individual farm operations and viability while protecting critical areas and maintaining agriculture viability in Asotin County through **voluntary stewardship strategies and practices**. Participation in VSP is an opportunity for agricultural producers to showcase sustainable practices and stewardship of the land.

How can the VSP support operations on your farm?

VSP allows farmers to have more flexibility than Asotin County's traditional critical area regulations by promoting tailored stewardship strategies and practices to individual farms to protect critical areas and maintain and enhance agricultural viability.

This VSP checklist included in the Agricultural Stewardship Plan (ASP) is intended to help each farmer contribute to the goals and benchmarks of the Asotin County VSP Work Plan. Many farmers in the County are already implementing stewardship strategies and conservation practices that promote farm viability while also providing protections to critical area functions. **Working together, farmers can use volunteer efforts to avoid additional regulatory controls.**

Balanced Approach of Critical Area Protection and Agricultural Viability

VSP Checklist

The VSP Checklist, included in Appendix D of the VSP Work Plan, has the following main objectives:

- Identify and document existing stewardship strategies or conservation practices you have implemented since 2011 (effective date of VSP), either through existing publicly funded programs or voluntarily implemented through producer-funded practices.

What are critical areas?

Critical areas include:

- Fish and Wildlife Habitat Conservation Areas
- Frequently Flooded Areas
- Geologically Hazardous Areas
- Wetlands
- Critical Aquifer Recharge Areas

- Identify opportunities to:
  - Maintain or improve existing stewardship strategies and conservation practices
  - Implement additional stewardship strategies and conservation practices on your land and connect you with technical service providers for implementing these practices
- Encourage high producer participation, through implementation of voluntary stewardship strategies and conservation practices, to help ensure the success of VSP. **Failure of the County to meet protection and associated participation goals will trigger the traditional regulatory approach to critical area protection under the County's Critical Areas Ordinance process.**

Conservation Practices on Your Farm

A conservation practice is broadly defined as any practice, that when implemented, further protects critical areas directly or indirectly, and maintains or improves agricultural viability whether or not it meets a Natural Resources Conservation Service (NRCS) conservation practice or other standard.

The VSP Checklist can assist in documenting all stewardship strategies and conservation practices currently being implemented by producers in the County and identify additional conservation practices that might apply to your property. Because stewardship strategies and conservation practices may fall under multiple categories, please include each implemented practice **only once**.

Disclaimer:
Stewardship strategies and voluntary conservation plans documented through a local government agency, such as the Asotin County Conservation District, are generally exempt from disclosure under the state Public Records Act. Note that cost-shared practices are not exempt. The VSP Work Group requires some level of substantive information to be able to monitor ongoing program effectiveness in meeting VSP requirements and goals and benchmarks and to support the Work Group's finding that aggregate baseline critical area conditions are being protected.

Information collected by producers using the VSP Checklist will be used to quantify, at the County-level, stewardship measures that have been implemented, as well as associated critical area protections and enhancements, and agricultural viability benefits. See Appendix D of the VSP Work Plan for ASP and checklist.

Additional Information and Assistance

Critical areas exist throughout the County. You can direct questions about the presence of critical areas on your property to the Asotin County VSP Coordinator by using the contact information below.

Asotin County VSP Coordinator:

Asotin County Conservation District
720 6th Street, Suite B
Clarkston, Washington 99403-2012
509-552-8100
info@asotincd.org

Other Local Resources:

- Asotin County Weed Board: http://www.co.asotin.wa.us/noxious-weed-control/noxious-weed-control-board/
- Rocky Mountain Elk Foundation: http://www.rmef.org/Washington
- Snake River Salmon Recovery Board: http://snakeriverboard.org/wpi/
- Tri-State Steelheaders: http://www.tristatesteelheaders.com/
- Washington Department of Fish and Wildlife: https://wdfw.wa.gov/
- Washington State University Cooperative Extension: http://extension.wsu.edu/asotin/
- Washington Cattlemen's Association: http://www.washingtoncattlemen.org/
- Washington Association of Wheat Growers: http://www.wawg.org/
- USDA Natural Resources Conservation Service:
    - https://www.nrcs.usda.gov/wps/portal/nrcs/site/national/home/

Appendix A
VSP Map Folio

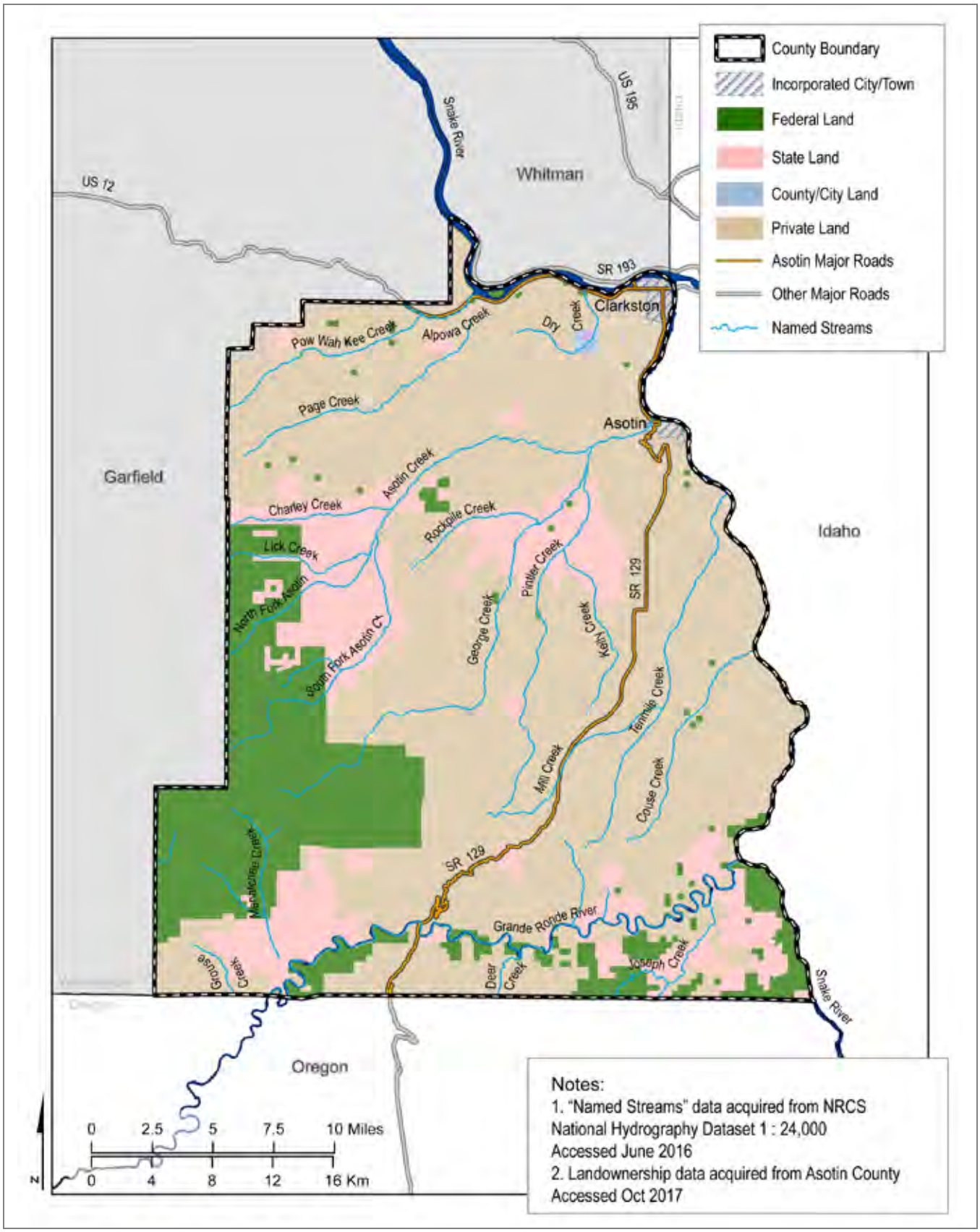
1823

Note: Maps prepared by Eco Logical Resources, Inc. (February 2018)

Map 1
Asotin County Location Map

This information is to be used for planning purposes only.
Data is displayed as is and without any guarantee of accuracy or completeness.

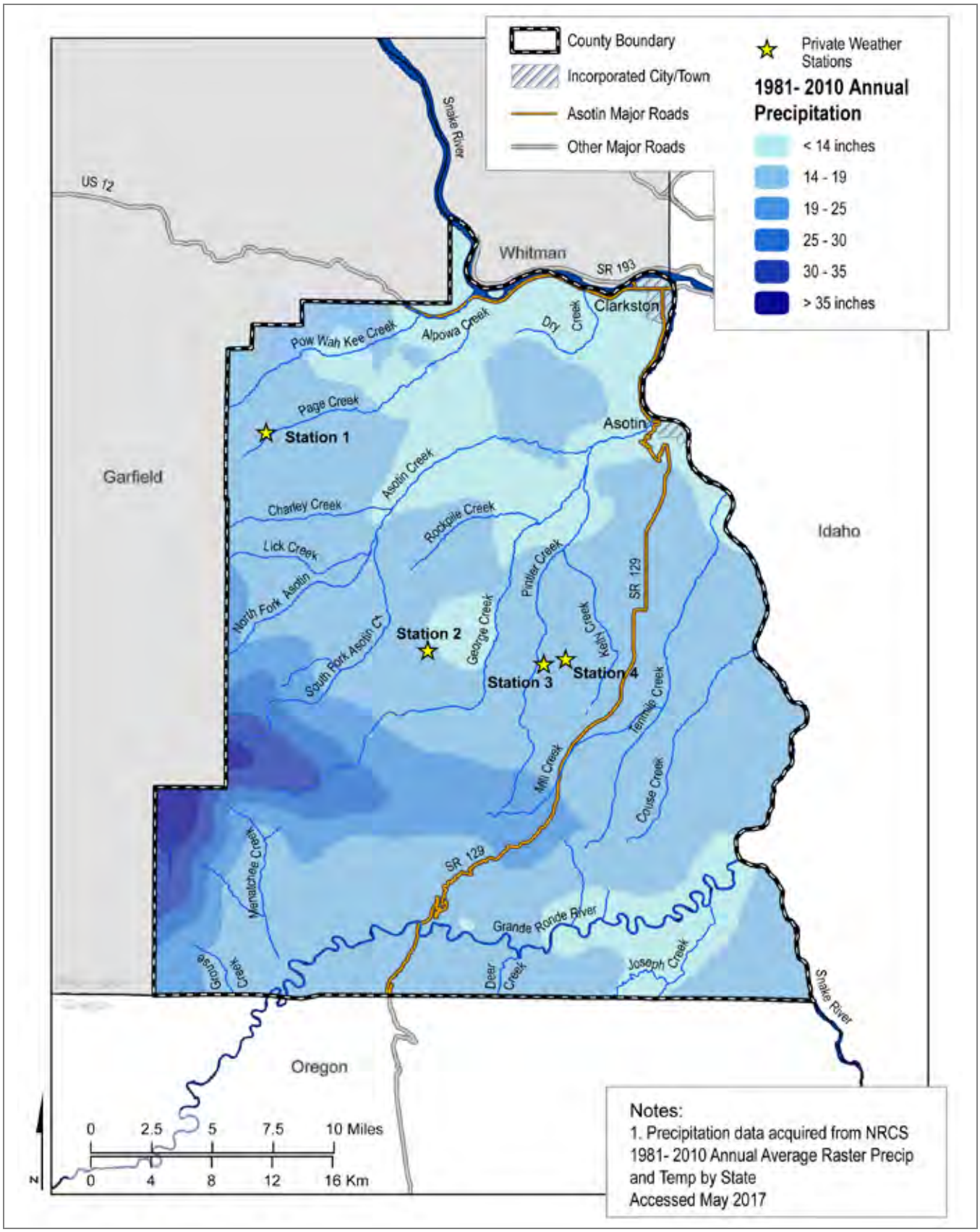
Voluntary Stewardship Program Work Plan
Asotin County, Washington



Note: Maps prepared by Eco Logical Resources, Inc. (February 2018)

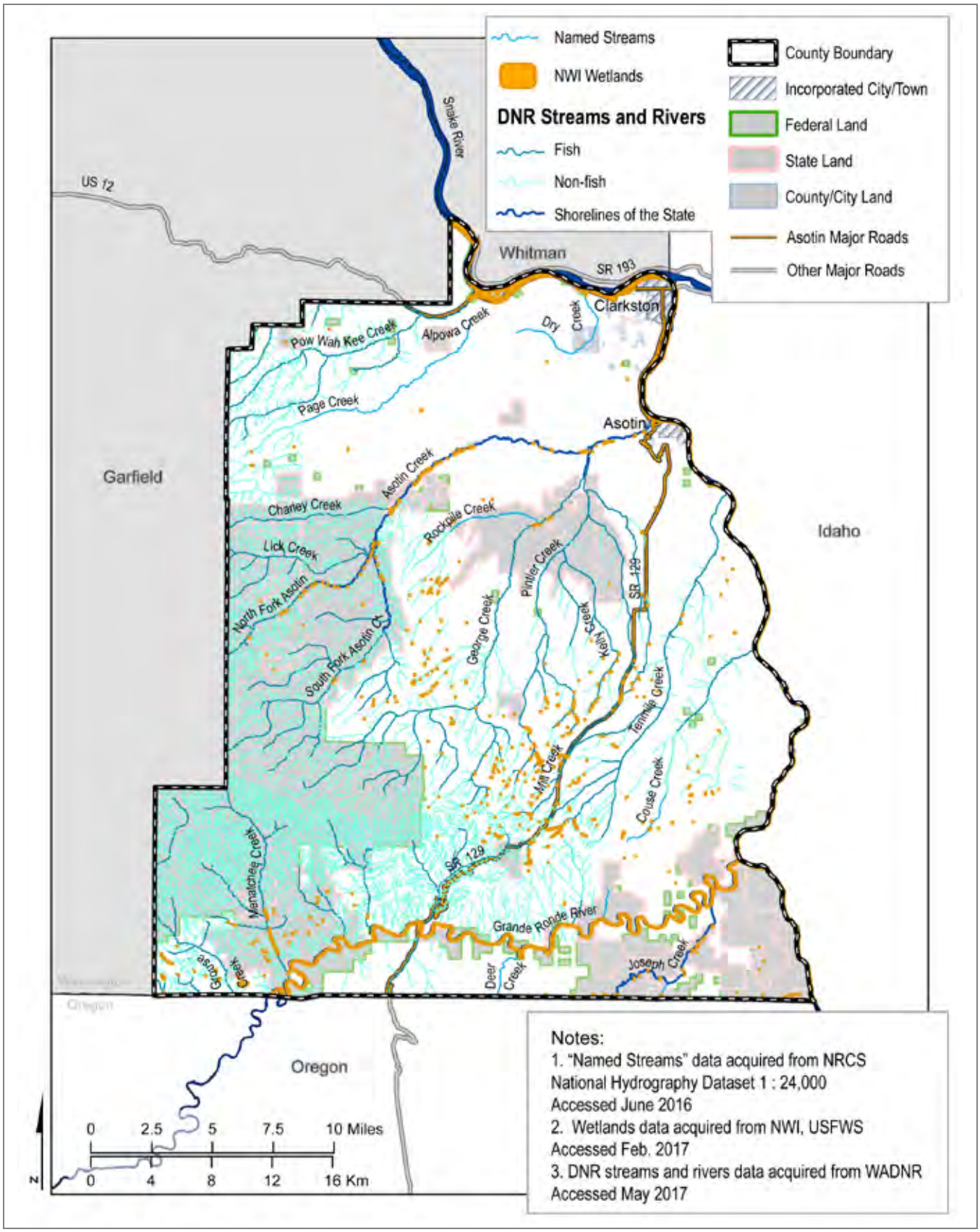
Map 2
Land Ownership Map

This information is to be used for planning purposes only.
Data is displayed as is and without any guarantee of accuracy or completeness.



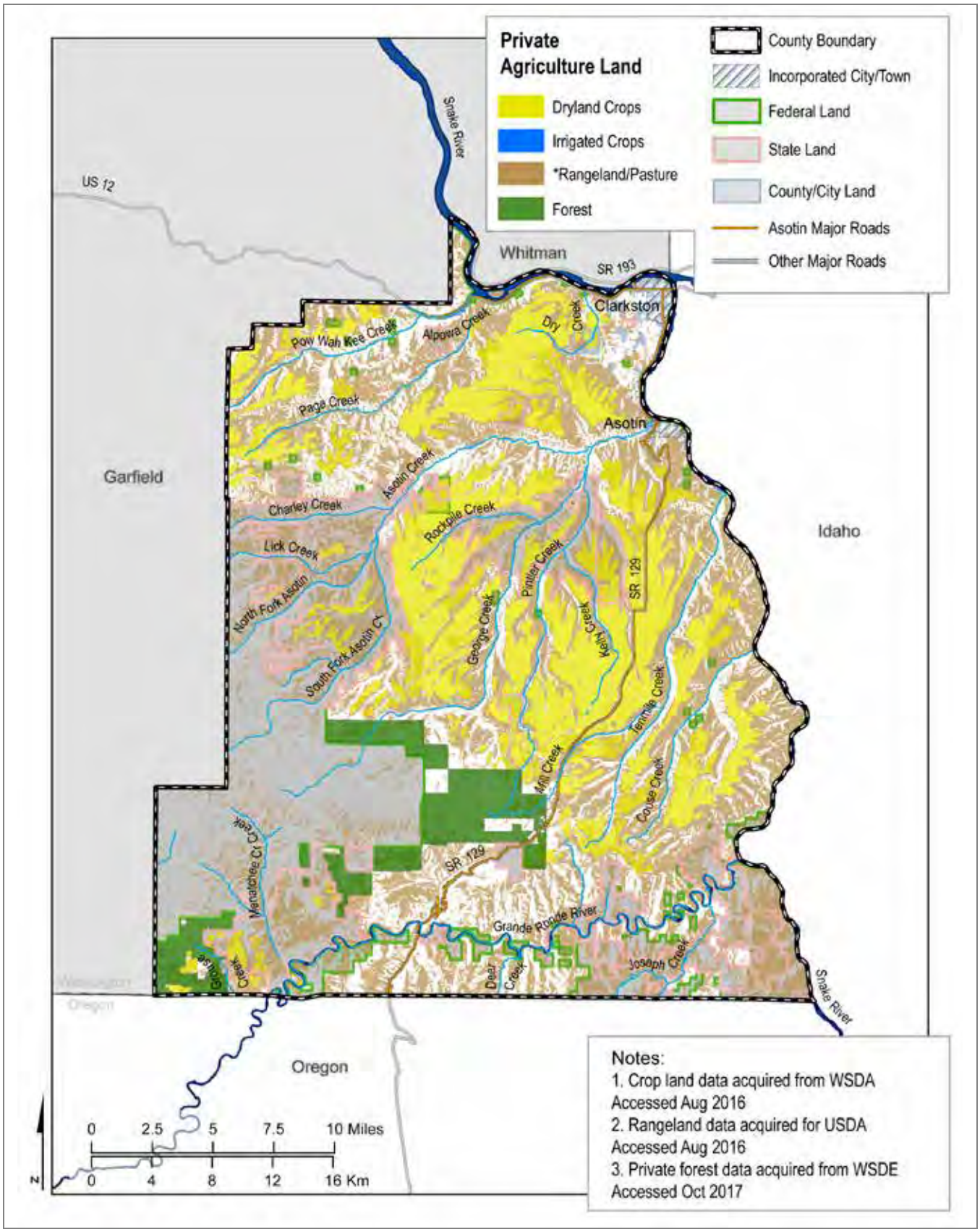
Note: Maps prepared by Eco Logical Resources, Inc. (February 2018)

Map 3
Precipitation Map



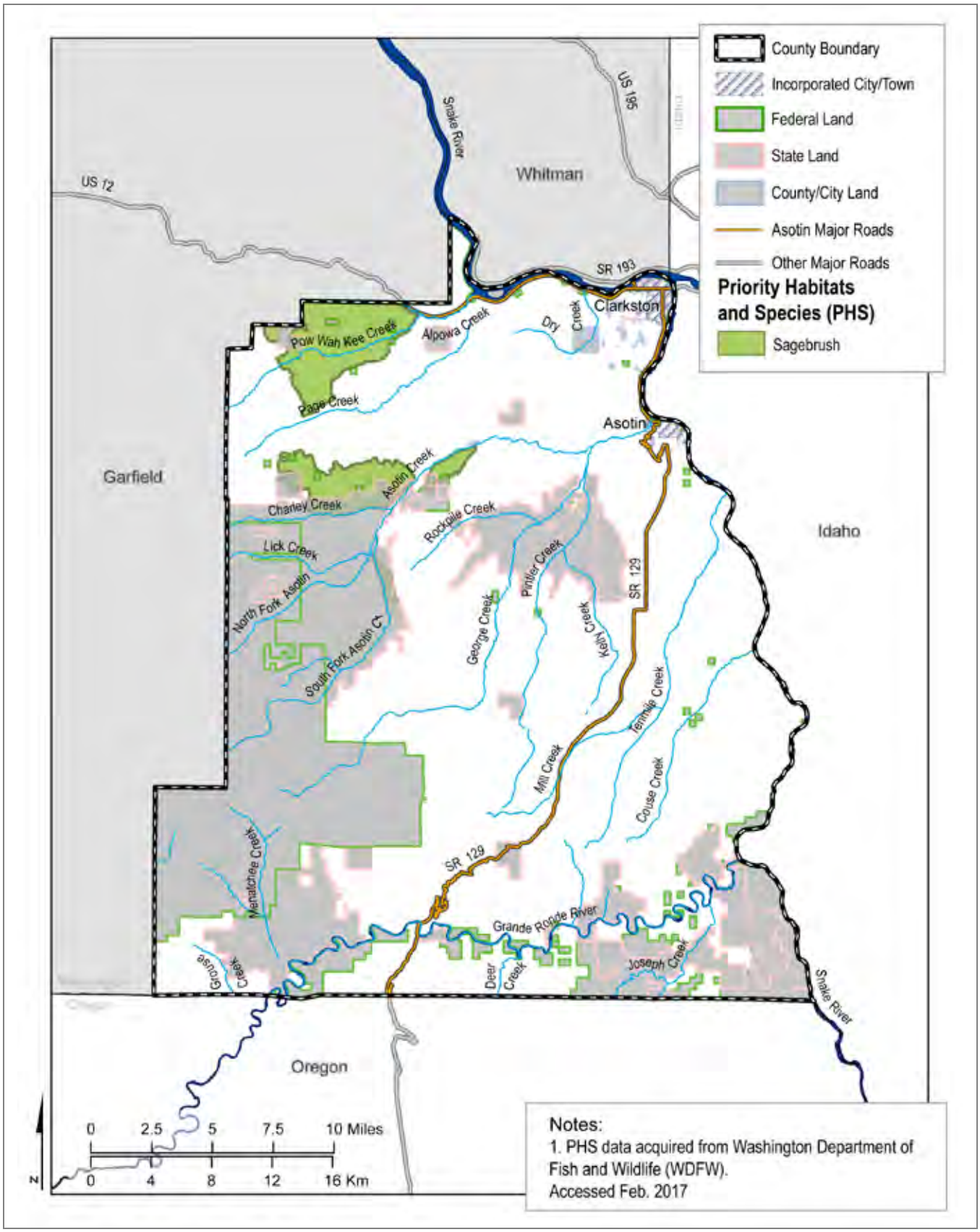
Note: Maps prepared by Eco Logical Resources, Inc. (February 2018)

Map 4
Streams and Wetlands Map



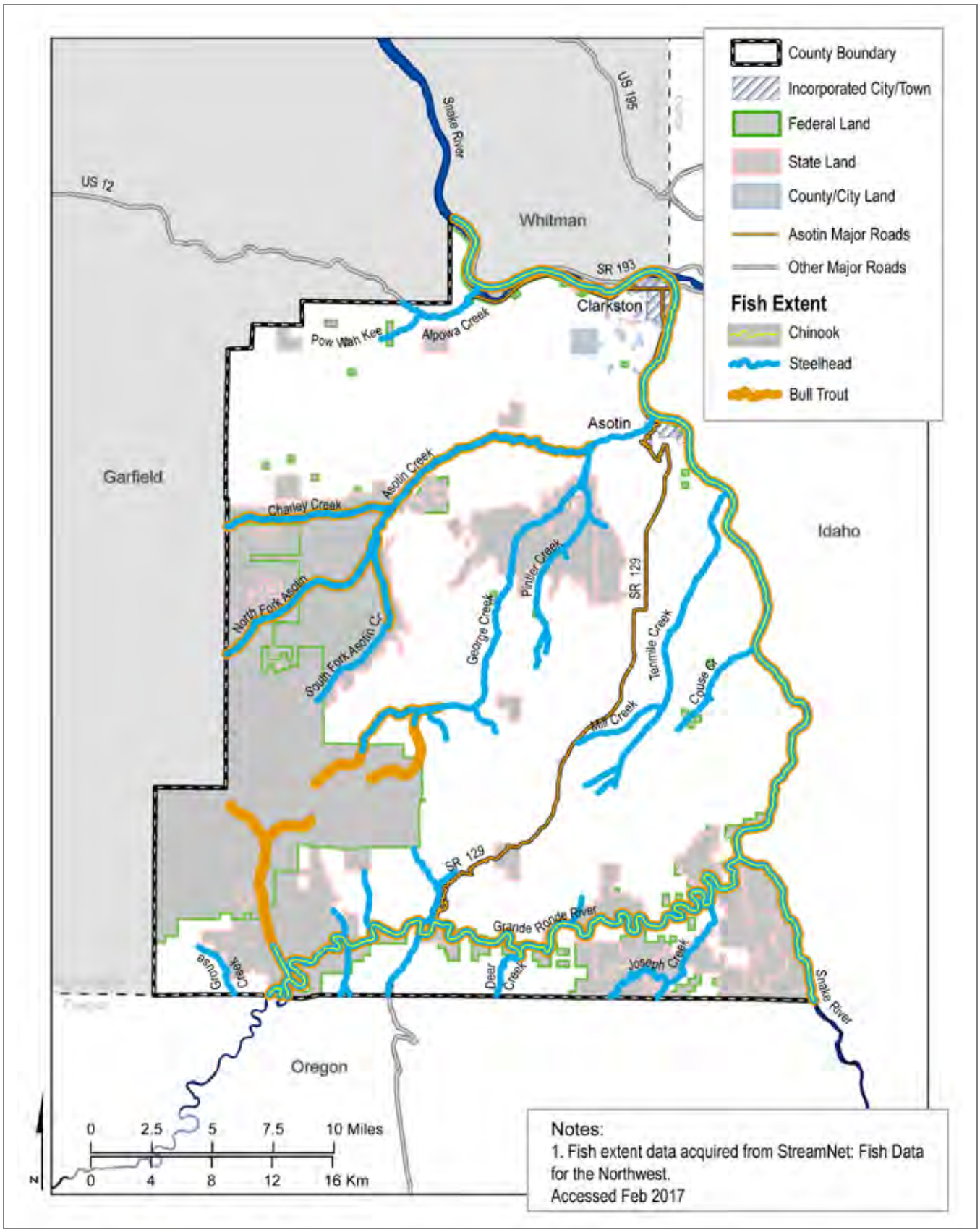
Note: Maps prepared by Eco Logical Resources, Inc. (February 2018)

Map 5
Agricultural Landcover Map



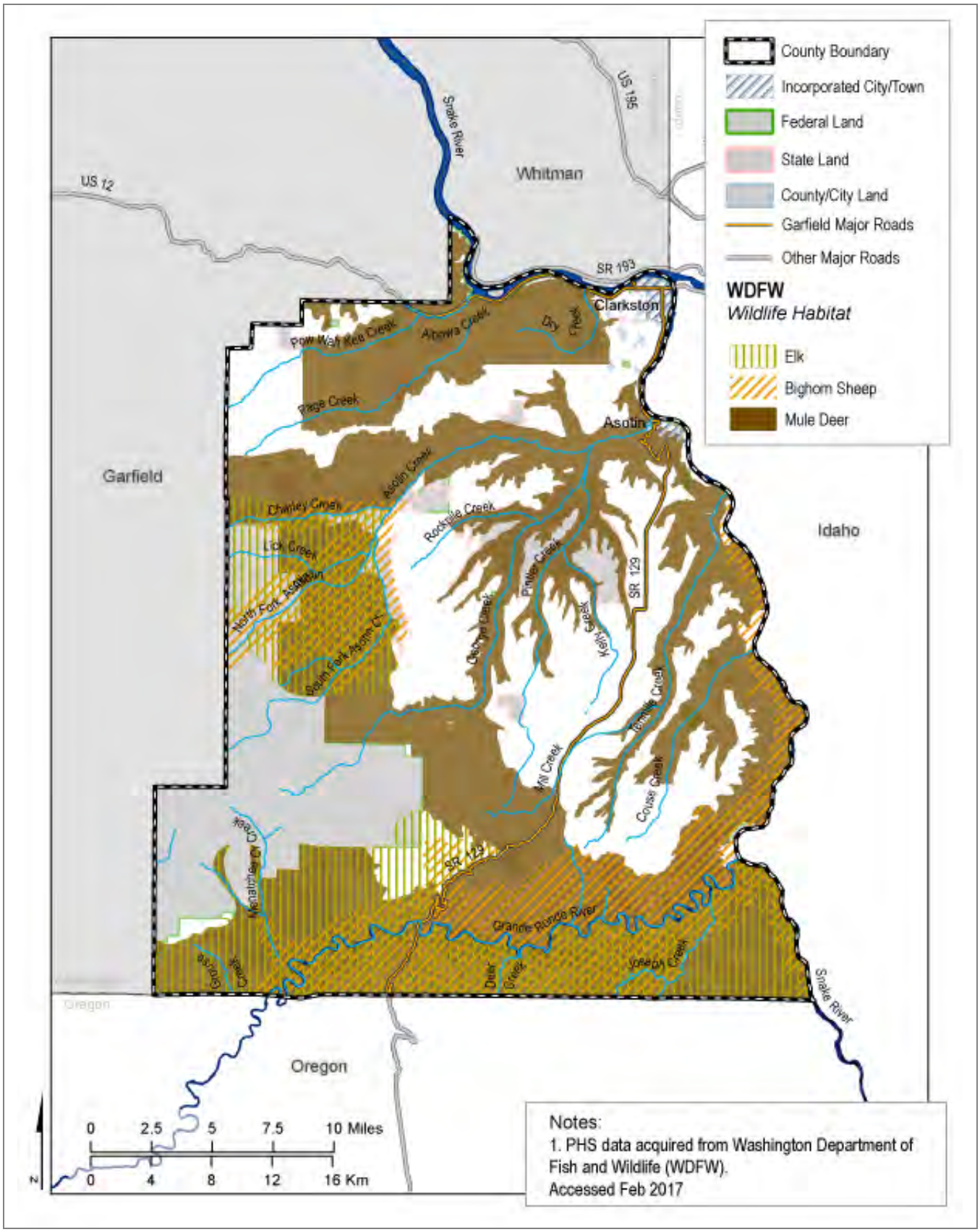
Note: Maps prepared by Eco Logical Resources, Inc. (February 2018)

Map 6
Sagebrush Habitat Map



Note: Maps prepared by Eco Logical Resources, Inc. (February 2018)

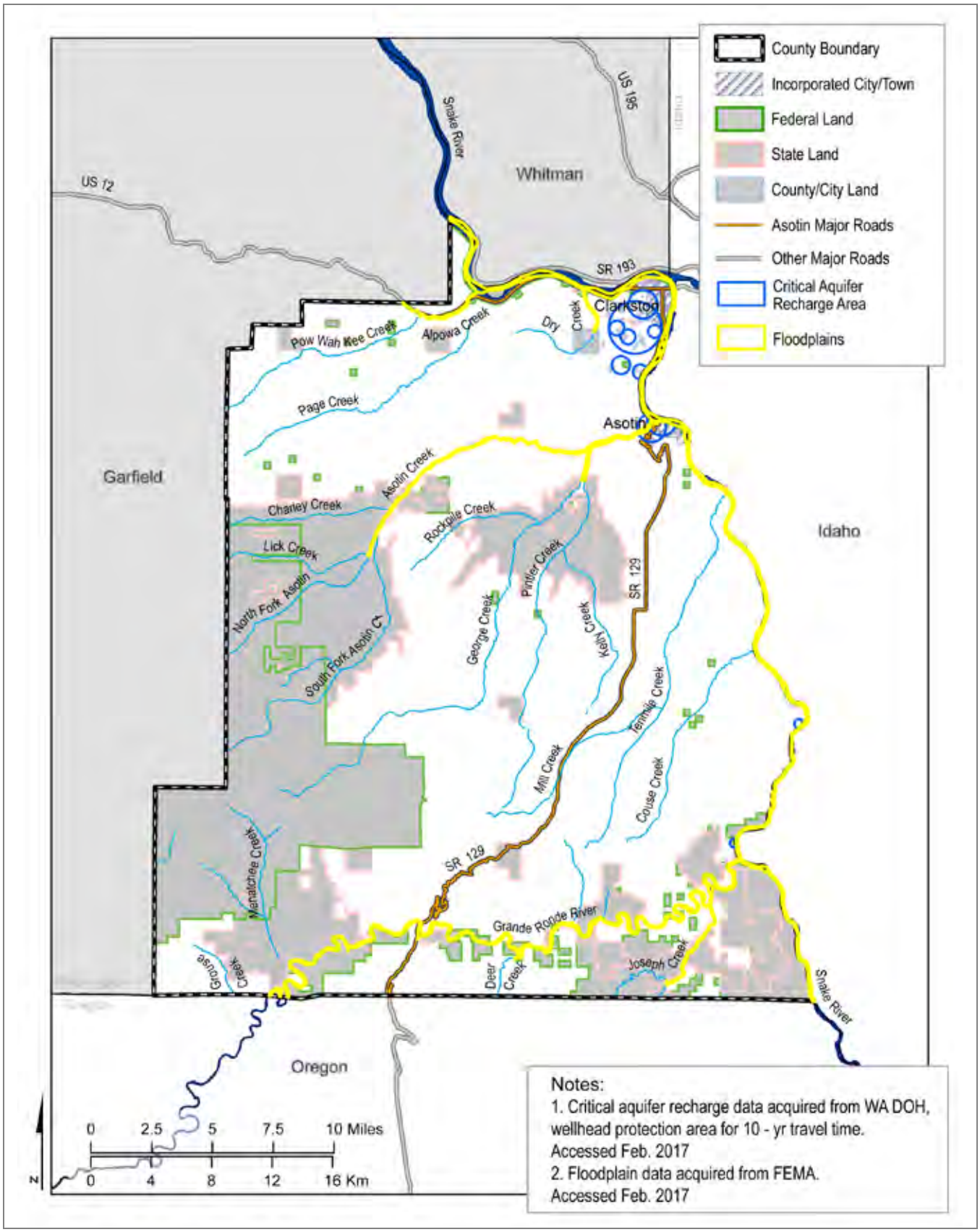
Map 7
Chinook and Steelhead Habitat Map



Note: Maps prepared by Eco Logical Resources, Inc. (February 2018)

Map 8

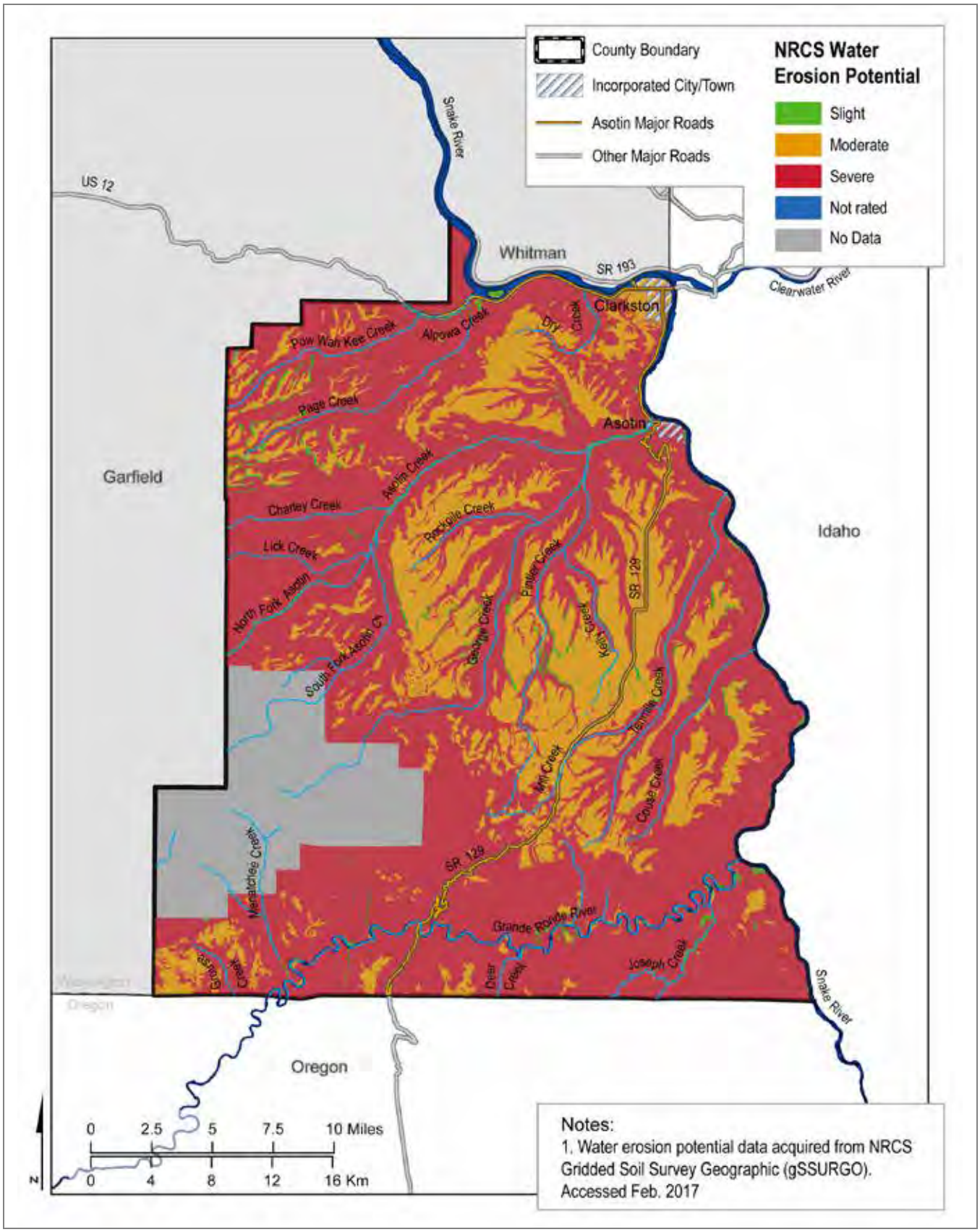
Priority Habitat and Species – Game Species Habitat Map



Note: Maps prepared by Eco Logical Resources, Inc. (February 2018)

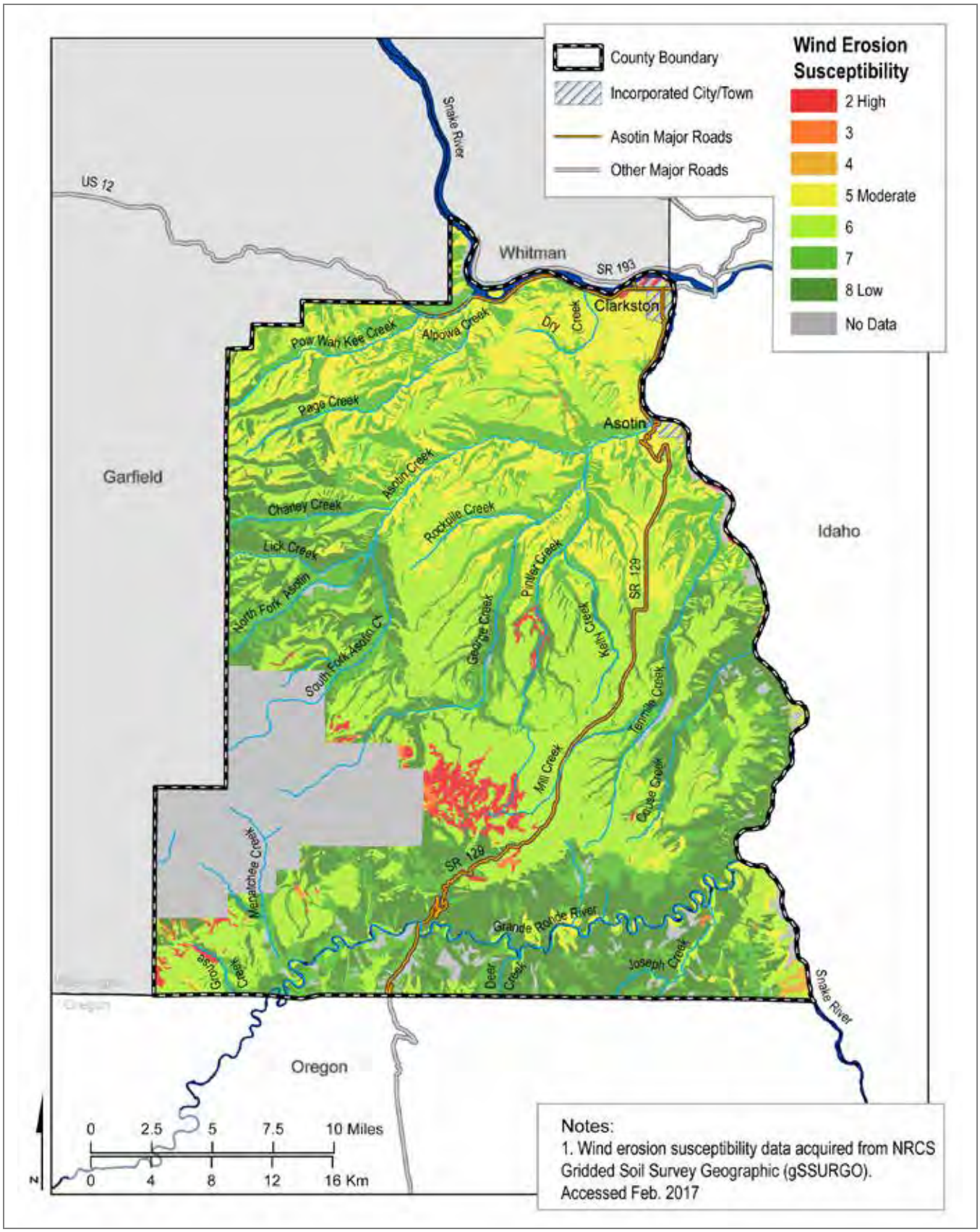
Map 9

Frequently Flooded Area and Critical Aquifer Recharge Area Map



Note: Maps prepared by Eco Logical Resources, Inc. (February 2018)

Map 10
Water Erosion Areas Map



Note: Maps prepared by Eco Logical Resources, Inc. (February 2018)

Map 11
Wind Erosion Areas Map

Appendix B
Baseline Conditions Summary

- B-1: Baseline Conditions Summary Method and Data Sources
- B-2: County-Wide Analysis
- B-3: Asotin County Critical Areas Designations, Definitions, and Priority Habitat and Species List
- B-4: GIS Data Summary Tables
- B-5: Asotin County Water Quality 303(d) Listings (2016)

Appendix B-1
Baseline Conditions Summary Method and Data Sources

Appendix B-1: Baseline Conditions Summary Method and Data Sources

Overview

The effective date of the Voluntary Stewardship Program (VSP) legislation is July 22, 2011. This is also the date chosen by the legislature as the applicable baseline for accomplishing the following items (Revised Code of Washington [RCW] 36.70A.703):

- Protecting critical areas functions and values.
- Providing incentive-based voluntary enhancements to critical areas functions and values.
- Maintaining and enhancing the viability of agriculture in the County.

The 2011 baseline sets the conditions from which the County will measure progress in implementing the Asotin County VSP Work Plan (Work Plan) and meeting measurable benchmarks. Measurable benchmarks are a required Work Plan element under VSP (RCW 36.70A.720 (1)(E)) and provided in the Work Plan, Sections 4 and 5.

The methods and data sources relied on to establish 2011 baseline conditions for the County's five critical areas and agricultural activities are described in the following sections.

Methods for Establishing Baseline Conditions

The 2011 baseline conditions summary includes an inventory of agriculture landcover and critical area resources. The following methods were applied in the baseline conditions inventory (see Table 1 for a complete list of data sources):

- **Agricultural landcover assessment** was primarily based on:
  - Washington State Department of Agriculture (WSDA) 2011 agricultural landcover data for croplands (irrigated and dryland agriculture). U.S. Department of Agriculture (USDA) 2011 agricultural landcover data were primarily relied on for additional data on rangelands. Four major agricultural land categories were characterized within the County: 1) irrigated; 2) dryland; 3) rangeland, and 4) forest land. These categories are associated with different crops, agricultural activities, stewardship practices, and intersections with critical areas.
- **Critical areas assessment** was based on:
  - Critical areas designations included in the County's Critical Areas Ordinance (CAO) (see Appendix B-3 for CAO summary).
  - Data sources for planning-level critical areas mapping (Appendix A: Map Folio) and critical area/agricultural intersections summaries (Appendix B-4: Baseline Conditions Critical Areas Data Summary Tables) ranged from 2009 to 2017 and included data from

the County's CAO, updated in 2009 and amended in 2012. See Table 1 for a complete list of data sources.

- **Privately owned lands** were used to:
  - Assess critical area intersections with agricultural lands. The VSP does not apply to agricultural activities occurring on public lands through leases or other agreements.
- **Data sources and the VSP Map Folio (Appendix A)** were used to:
  - Assess the potential presence of critical areas within the County and intersection with agricultural lands were used for planning-level purposes only. Actual critical areas presence is determined on a case-by-case basis through farm stewardship planning.

Data Sources

The data sources listed in Table 1 were used in the baseline conditions inventory, to assess the conditions as close to the 2011 baseline as data availability allowed.

Table 1
2011 Baseline Conditions Data Sources

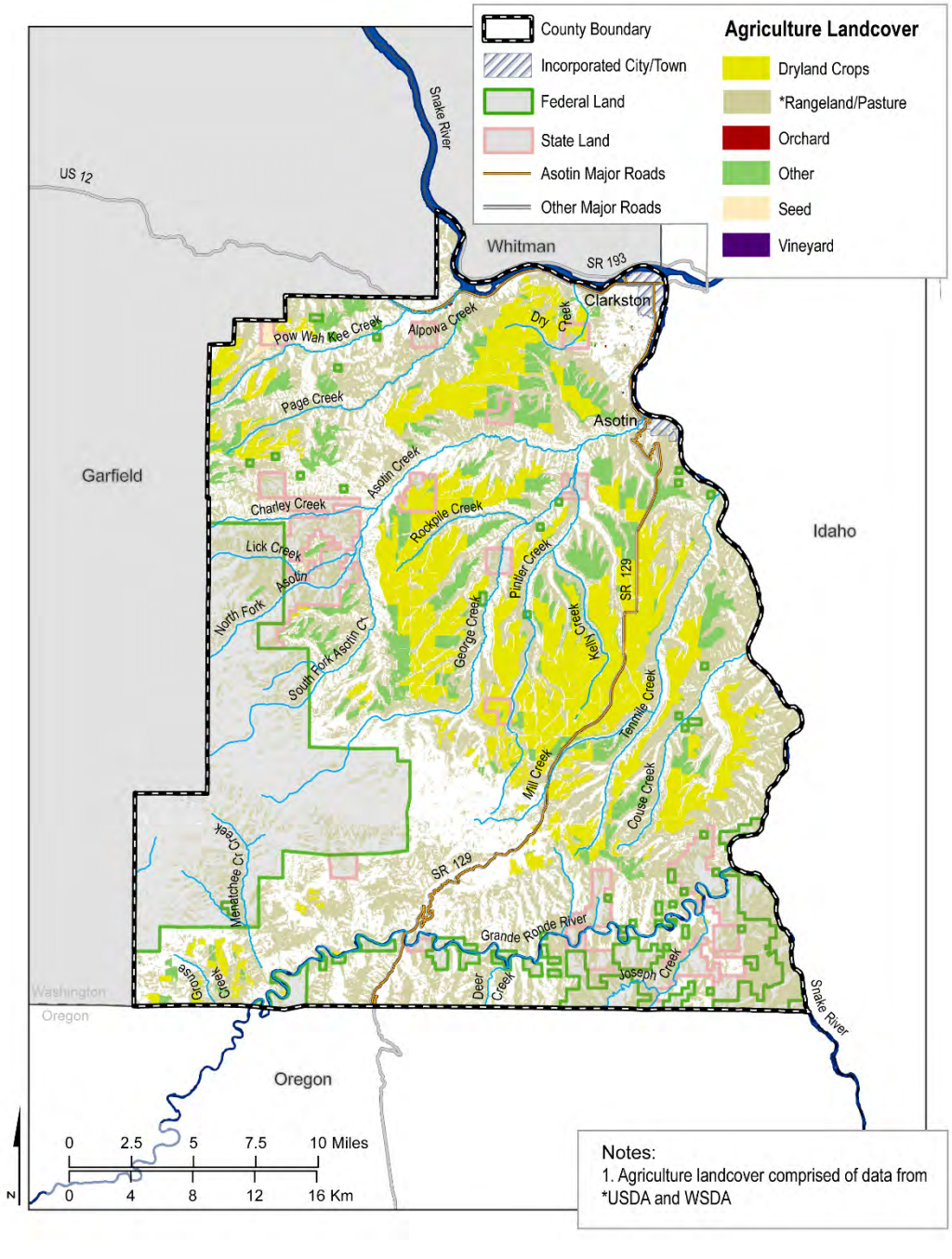
Title	Year	Author
PRISM Climate Group Precipitation Data	2010	Natural Resources Conservation Service
USDA Agricultural Landcover	2011	USDA
WSDA Agricultural Landcover	2011	WSDA
National Wetland Inventory Data	2016	United States Fish and Wildlife Service
Streams and Rivers Data	2015	Washington State Department of Natural Resources
Priority Habitat and Species Data	2017	Washington Department of Fish and Wildlife
Wellhead Protection Area	2009	Asotin County
Water Erosion Potential	2015	Natural Resources Conservation Service
Wind Erosion Susceptibility	2015	Natural Resources Conservation Service
Slopes	2015	USDA
Special Flood Hazard Areas	2017	Federal Emergency Management Agency
Stream Networks (National Hydraulic Dataset)	2017	United States Geological Survey
Landownership	2016	USDA

Appendix B-2
County-Wide Analysis

Appendix B-2: County-Wide Analysis

Asotin County is within the Snake River watershed and the state of Washington's Water Resource Inventory Area (WRIA) 35. Figure 1 shows the agriculture landcover types located within the County.

Figure 1
Asotin County Agriculture Landcover Types



The following includes an analysis of Asotin County and its watershed characteristics.

Profile

Water Resources

Asotin County has two major rivers within its borders which are the Snake River and the Grande Ronde River. The County also has several creeks including Alpowa, Asotin, George, Tenmile, and Couse, and their tributaries. Precipitation in the County ranges from less than 14 inches to greater than 35 inches. Critical aquifer recharge areas (CARAs) are concentrated primarily in the northeast corner of the County.

Soils and Terrain

Soils in the mesic forest, dissected highlands, and lower Snake Canyons are distinct from the dissected loess uplands. Cropland is the dominant use of soils within the County and is characterized by a surface layer of fine sandy loam, loam, silt loam, or silty clay loam (Gentry et al. 1991).

Agricultural Landcover and Primary Crops/Products

Approximately 51% of Asotin County is within agricultural landcover (private lands) and is primarily comprised of dryland crops and rangeland. Major dryland crops in the County include wheat, barley, or hay (Gentry et al. 1991). Privately-owned forest land covers approximately 23,531 acres, or 5.7%, of the County.

Landcover	Acres	Percent
Asotin County	**409,706**	**NA**
Agricultural Landcover	**209,564**	**51%**
Rangeland	130,645	31.9%
Dryland	78,586	19.2%
Irrigated	333	0.1%
Forestland	19,797	10.6%

Location of Critical Areas

Fish and Wildlife Habitat Conservation Areas (FWHCAs) are mapped as Priority Habitat and Species (PHS) within the County. Highlights of the PHS intersect with agricultural lands are included below:

- Mule deer PHS habitat occurs on 110,727 acres
- Sage brush PHS habitat occurs on 6,748 acres
- Cliff PHS habitat occurs on 6,659 acres

Water Erosion Areas have a large intersect with agricultural lands within Asotin County, comprising the entire County to some degree (slight, moderate, or severe). Severe water erosion areas overlap approximately 60% of agricultural lands and are located throughout the County, primarily occurring adjacent to creeks and other waterbodies.

Critical Aquifer Recharge Areas (CARAs) are most concentrated on the northeast corner of the County. All wellheads are located on private land within residential areas of Clarkston and Asotin and rural areas along the Snake River. Public drinking water wells are typically completed in basalt aquifers.

Other Critical Areas such as wetlands and frequently flooded areas have limited intersections with agriculture in the County.

Critical Areas	Areas within Agricultural Lands[1]									
	Irrigated		Dryland		Rangeland		Forestland		Total[2]	
	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%
Wetlands	0	0.0%	36	0.0%	135	0.1%	56	0.0%	196	0.1%
FWHCAs – Non-game Species[3]	4	0.0%	1,135	0.5%	10,329	4.9%	0	0.0%	11,265	6.0%
FWHCAs – Game Species	233	0.1%	40,707	19.4%	186,504	88.8%	29,618	14.1%	257,062	137.5%
CARAs	6	0.0%	9	0.0%	755	0.4%	0	0.0%	759	0.4%
Geologically Hazardous Areas[4]	30	0.0%	11,043	5.3%	89319	42.6%	16234	7.7%	109,345	58.5%
Frequently Flooded Areas	54	0.0%	69	0.0%	338	0.2%	0	0.0%	380	0.2%

Notes:

1. Total area within Agricultural Lands is 209,911 acres.
2. Total acres equal the total acres of critical areas with no overlap between agricultural land types; % calculated as total critical areas acres with no overlap by total agricultural land area.
3. Total acres of geologically hazardous areas include severe water erosion only; wind erosion potential overlaps approximately 25.5% of agricultural lands.

Note that agricultural activities may occur on lands that are not designated for agricultural uses that can be considered under VSP.

Critical Area Functions

Critical area functions, including water quality, habitat, soil health, and hydrology, are discussed below. This discussion focuses on existing functions and potential stressors on functions from agricultural activities on private lands.

Water Quality Function

- Much of the water quality functions in Asotin County are related to the Snake and Grand Ronde rivers and creeks that intersect the County. In this unit, the Snake River is listed on the Washington State Department of Ecology 303(d) List as Category 5 for 2,3,7,8-TCDD (Dioxin), 4,4'-DDE, dioxin, dissolved oxygen, pH, polychlorinated biphenyls (PCBs), temperature, and toxaphene. Other listings include Asotin Creek for bacteria, dissolved oxygen, and pH, George Creek for bacteria, and Menatchee Creek for temperature (Ecology 2016).
- Riparian vegetation provides stream cover, which reduces temperatures and helps to filter surface and groundwater inputs.

Habitat Function

- **Upland and riparian habitat:** Upland and riparian habitat in agricultural areas primarily occurs in the margins between fields. These areas and the cultivated fields provide shelter and migration corridors for terrestrial species and forage and breeding opportunities, particularly for a variety of avian and terrestrial species.
- **Aquatic habitat:** The majority of aquatic habitat in the County is associated with creeks that intersect the County. Wetlands are primarily present in the middle of the County and are associated with Asotin Creek and other tributaries. Riparian and wetland vegetation provides cover and food inputs for aquatic species.

• **Wildlife and habitat**: PHS occurrences in the County include raptors and waterfowl concentrations. Game species include bighorn sheep, elk, game birds, mule deer, and white-tail deer. Habitats primarily include cliffs and sage brush.
Soil and Hydrology Functions
• Surface water moves significant amounts of flow through this area for irrigation supply and creates wetland and stream-like habitat as water moves through topographic lows. • Soils are characterized as sandy and silty loams with severe water erosion susceptibility areas located throughout the County.

Indirect Effects of Agriculture on Critical Area Functions

Indirect effects occur within areas that are not adjacent to or within critical areas. Within Asotin County, agricultural activities can have indirect effects on surface and groundwater quality function and quantity (hydrology function).

Severe water erosion susceptibility areas are designated across Asotin County, intersecting approximately 60% of agricultural lands. These areas can affect soil health and agricultural viability and have been identified as a management concern for this area. Water erosion is a concern in steeper slope areas and can be exacerbated by intensive crop management practices or wildfires.

Objectives and Key Practices

Protection/Enhancement Objectives	Key Stewardship Practices
• Protect and enhance wetland and wetland buffers directly • Limit agricultural activities with a prescribed riparian buffer of Asotin Creek[1] • Protect soils from water and wind erosion, including those listed as severe water erosion potential located throughout the County • Manage nutrients and pesticides effectively and efficiently to protect surface and groundwater • Manage irrigation water so it is delivered, scheduled, and/or applied efficiently	• Critical area planting • Stream habitat improvement and management • Till and residue management • Direct seed • Conservation cover • Irrigation water management • Nutrient management

Note:

1. Restoration and protection opportunity from *Final Draft Cumulative Impact Analysis Report Southeast Washington Coalition Shoreline Master Program Update* (Anchor QEA 2016).

References

Anchor QEA (Anchor QEA, LLC), 2016. *Final Draft Cumulative Impact Analysis Report Southeast Washington Coalition Shoreline Master Program Update*. Prepared for the Southeast Washington Coalition County. April.

Gentry, H., T. Fait, and N. Donaldson, 1991. Soil Survey of Asotin County Area, Washington, Parts of Asotin and Garfield Counties. Prepared by the United States Department of Agriculture, Soil Conservation Service, in cooperation with Washington State Department of Natural Resources and Washington State University, Agricultural Research Center. September.

Ecology (Washington State Department of Ecology), 2016. Washington State Water Quality Assessment 303(d)/305(b) List Search Tool. Last modified July 22, 2016; accessed February 11, 2018. Available at: https://fortress.wa.gov/ecy/approvedwqa/ApprovedSearch.aspx.

Appendix B-3
Asotin County Critical Areas Designations, Definitions, and Priority Habitat and Species List

1833

Appendix B-3: Asotin County Critical Areas Designations, Definitions, and Priority Habitat and Species List

Asotin County Critical Areas Code

General Provisions

Critical areas in Asotin County are categorized as follows:

1. Wetlands
2. Critical Aquifer Recharge Areas
3. Frequently Flooded Areas
4. Geologically Hazardous Areas
5. Fish and Wildlife Habitat Conservation Areas

Wetlands

Classification and Designation

a. Wetlands shall be identified and delineated using the methods and standards set forth in the currently approved 1987 USACE Federal Wetlands Delineation Manual, as amended, and its regional applicable regional supplements, as amended. (The Arid West Final Regional Supplement was last updated in 2008 at the time of Ordinance adoption).
b. Classification and rating of wetlands will be done using the Washington State Wetlands Rating System for Eastern Washington, Ecology Publication #14-06-030 (October 2014), as amended. The most current copy of this document should be used in classifying wetlands and developing wetland mitigation plans.
c. The following wetlands within the County may not be further regulated by this section:

    i. Areas that may meet the definition of "artificial wetlands" as described herein that are managed and owned by the U.S. Bureau of Reclamation.
    ii. Wetland areas identified on the National Wetland Inventory maps with an artificial designation when it can be shown that the area(s) noted was (were) intentionally created from a non-wetland site.

Critical Aquifer Recharge Areas (CARAs)

Classification

a. Wellhead Protection Areas: Wellhead protection areas may be defined by the boundaries of the 10-year time of groundwater travel or boundaries established using alternate criteria

approved by the Department of Health in those settings where groundwater time of travel is not a reasonable delineation criterion, in accordance with WAC 246-290-135.

b. Sole Source Aquifers: Sole source aquifers are areas designated by the U.S. Environmental Protection Agency pursuant to the Federal Safe Water Drinking Act.
c. Susceptible Groundwater Management Areas: Susceptible groundwater management areas have been designated in an adopted groundwater management program developed pursuant to WAC 173-100.
d. Special Protection Areas: Defined pursuant to WAC 173-200-090.
e. Moderately, highly vulnerable, or highly susceptible aquifer recharge areas: Aquifer recharge areas that are moderately, highly vulnerable, or highly susceptible to degradation or depletion due to hydrogeologic characteristics are delineated by a hydrogeologic study prepared in accordance with Washington State Department of Ecology (Ecology) guidelines or criteria.

Frequently Flooded Areas (FFAs)

Classification

Classification of frequently flooded areas, according to FEMA minimum requirements, should include, at a minimum, the 100-year floodplain designations of FEMA and the National Flood Insurance Program. The following categories of frequently flooded areas established for the purpose of classification are:

a. Floodways: The channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment so the base flood can be carried without substantial increases in flood heights.
b. Floodplains: The floodway and special flood hazard areas, as applicable.
c. Special Flood Hazard Areas: The area adjoining the floodway which is subject to a 1% or greater chance of flooding in any given year and determined by the Federal Insurance and Mitigation Administration.

Designation

(3) Designation. The Area of Project Review for the purposes of this section include all County lands and waters that meet the following criteria:

a. Currently identified as frequently flooded areas by the Federal Insurance and Mitigation Administration in a scientific and engineering report titled the Flood Insurance Study for the County with accompanying flood insurance rate maps. If and when this study becomes updated to reflect new conditions, designation of frequently flooded areas will include the changes.

b. Within the 100-year floodplain, or having experienced historic flooding.

Geologically Hazardous Areas (GHAs)

Identification and Designation

a. Geologically Hazardous Areas shall be designated consistent with the definitions provided in WAC 365-190-080(4). Geologically hazardous areas shall include all of the following:

    i. Erosion Hazards
    ii. Landslide Hazards
    iii. Mine Hazards
    iv. Seismic Hazards

b. Erosion Hazard Areas: Those areas identified as having high or very high water erosion hazard by the U.S. Department of Agriculture Natural Resources Conservation Service as designated by the Natural Resources Conservation Service local office.
c. Landslide Hazard Areas: Those areas potentially subject to landslides based upon the following combination of geologic, topographic, and hydrologic factors are as follows:

    i. Areas of historic failure with all of the following characteristics:

        A. Areas having a 30% slope or steeper, a vertical relief of 30 feet or more, and soil types identified by the Natural Resource Conservation Service as unstable and prone to landslide hazard
        B. Areas designated as quaternary slumps, earthflows, mudflows, lahars, or landslides on maps or technical reports published by the USGS, such as topographic or geologic maps, or the Geology and Earth Resources Division of the Washington Department of Natural Resources, or other documents authorized by government agencies.

    ii. Areas with all of the following characteristics:

        A. A gradient of 15% or greater
        B. Hillsides intersecting geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock
        C. Springs or groundwater seepage
        D. Areas that have shown movement during the Holocene Epoch or which are underlain or covered by mass wastage debris of the epoch
        E. Slopes that are parallel or sub-parallel to planes of weakness (such as bedding planes, joint systems, and fault planes) in subsurface materials
        F. Slopes having gradients greater than 80% subject to rockfall during seismic shaking

G. Areas potentially unstable as a result of rapid stream incision and streambank erosion
H. Areas located in a canyon or on an active alluvial fan, presently or potentially subject to inundation by debris flows or catastrophic flooding
I. Any area with a slope of 40% or steeper and with a vertical relief of 10 or more feet, except areas composed of solid rock. A slope is delineated by establishing its toe and top and measured by averaging the inclination over at least 10 feet of vertical relief.

d. Mine Hazard Areas: Those areas that fall within 100 horizontal feet of a mine opening at the surface or an area designated as a mine hazard area by the Washington State Department of Natural Resources.
e. Seismic Hazard Areas: Those areas subject to severe risk of damage as a result of earthquake-induced ground shaking, slope failure, settlement, soil liquefaction, or surface faulting, include the following characteristics:

i. Areas described in Sections XX.XX.150 (2)(b) and (c) or having a potential for soil liquefaction and soil strength loss during ground shaking.
ii. Areas located on a Holocene fault line identified by USGS investigative maps and studies.

f. Seismic hazards shall be identified in the Washington State Department of Natural Resources seismic hazard susceptibility maps for Eastern Washington and other geologic resources.

Fish and Wildlife Habitat Conservation Areas (HCAs)

Identification and Designation

a. The following information, data, and resources are used by the County to identify and designate Fish and Wildlife Habitat Conservation Areas (HCA), as defined below.

i. Areas within which federal and/or state-listed threatened or endangered fish and wildlife species exist, or state-sensitive, state candidate, and state-monitor species have a primary association, and as designated under the Federal Endangered Species Act or within the WAC 232-12 (Priority Species and Habitats).
ii. Riparian Habitat Areas: For the protection of habitat along rivers, streams, and lakes, the buffer widths provided in Table XX.XX.120 (5)(f)(ii) apply.
iii. Naturally occurring ponds fewer than 20 acres and their submerged aquatic beds that provide fish or wildlife habitat.
iv. The following important habitat areas, which are not based on use by a specific species, include those areas protected by their conservation ownership or management status, in addition to the protection standards within this section:

A. National wildlife refuges, national monuments, natural area preserves, or any preserve or reserve designated under WAC 332-30-151
B. State natural area preserves or natural resource conservation areas identified by state law and managed by the Department of Natural Resources

v. Mapping information sources for identification of Fish and Wildlife Habitat Conservation Areas include, but are not limited, to:

A. WDFW Priority Habitat and Species (PHS) maps
B. Wetlands mapped under the National Wetland Inventory by the U.S. Department of Interior, Fish and Wildlife Service
C. WDFW/Department of Natural Resources, Washington Rivers Inventory System maps
D. Maps and reference documents in the Southeast Washington Coalition's SMP Inventory, Analysis, and Characterization Report, as applicable

vi. The County allows for the nomination of Species/Habitats of Local Importance. In order to nominate Species/Habitats of Local Importance as candidates for designation within the category of Important Habitat Areas, an individual or organization must:

A. Demonstrate a need for special consideration
B. Propose relevant management strategies considered effective and within the scope of this section
C. Provide species habitat location(s) on a map (scale of 1:24,000)

vii. It is recognized that the list of Fish and Wildlife Habitat Conservation Area (including species and habitats) will change from time to time. Further, the locations of species may also change over time. With this, the Planning Department will maintain and update, as necessary, its list and mapping data of federal and state threatened, endangered, sensitive, monitoring, and candidate species and habitats for the County. Coordination with the necessary federal and state agencies will need to occur to obtain the applicable data updates. Restrictions may apply as to the County's ability to disseminate, both written and mapped sensitive fish and wildlife information, to the general public.

Attachment 1 includes a summary of Endangered Species Act-listed and Washington Department of Fish and Wildlife Priority Habitats and Species.

Attachment 1:

- Asotin County Endangered Species Act-Listed and Priority Habitats and Species

Attachment 1
Asotin County Endangered Species Act-Listed and Priority Habitats and Species

Endangered Species Act-listed Fish Species and Priority Habitats and Species

Species Name[1]		Status	
Common Name	**Scientific Name**	**State**	**Federal**
Bull Trout/Dolly Varden	*Salvelinus confluentus/Salvelinus malma*	Candidate*	Threatened*
Chinook Salmon	*Oncorhynchus tshawytscha*	Candidate	Threatened[2]
Kokanee	*Oncorhynchus nerka*		
Leopard Dace	*Rhinichthys falcatus*	Candidate	
Margined Sculpin	*Cottus marginatus*	Sensitive	Species of Concern
Mountain Sucker	*Catostomus platyrhynchus*	Candidate	
Pacific Lamprey	*Entosphenus tridentatus*		Species of Concern
Rainbow Trout/Steelhead/Inland Redband Trout	*Oncorhynchus mykiss*	Candidate**	Threatened**
Sockeye Salmon	*Oncorhynchus nerka*	Candidate	Threatened[3] Endangered[4]
Westslope Cutthroat	*Oncorhynchus clarkii lewisi*		
White Sturgeon	*Acipenser transmontanus*		
Columbia Spotted Frog	*Rana luteiventris*	Candidate	
Rocky Mountain Tailed Frog	*Ascaphus montanus*	Candidate	Species of Concern
Western Toad	*Anaxyrus boreas*	Candidate	Species of Concern
Sagebrush Lizard	*Sceloporus graciosus*	Candidate	Species of Concern
Bald Eagle	*Haliaeetus leucocephalus*	Sensitive	Species of Concern
Black-backed Woodpecker	*Picoides arcticus*	Candidate	
Burrowing Owl	*Athene cunicularia*	Candidate	Species of Concern
Chukar	*Alectoris chukar*		
Clark's Grebe	*Aechmophorus clarkii*	Candidate	
Dusky Grouse	*Dendragapus obscurus*		
E WA breeding occurrences of: Phalaropes, Stilts and Avocets	*Phalaropus, Himantopus, and Recurvirostra*		
Ferruginous Hawk	*Buteo regalis*	Threatened	Species of Concern
Flammulated Owl	*Otus flammeolus*	Candidate	
Golden Eagle	*Aquila chrysaetos*	Candidate	
Great Blue Heron	*Ardea herodias*		

Species Name[1]		Status	
Common Name	**Scientific Name**	**State**	**Federal**
Lewis' Woodpecker	*Melanerpes lewis*	Candidate	
Mountain Quail	*Oreortyx pictus*		
Northern Goshawk	*Accipiter gentilis*	Candidate	Species of Concern
Peregrine Falcon	*Falco peregrinus*	Sensitive	Species of Concern
Pileated Woodpecker	*Dryocopus pileatus*	Candidate	
Prairie Falcon	*Falco mexicanus*		
Ring-necked Pheasant	*Phasianus colchicus*		
Sage Thrasher	*Oreoscoptes montanus*	Candidate	
Upland Sandpiper	*Bartramia longicauda*	Endangered	
Vaux's Swift	*Chaetura vauxi*	Candidate	
Waterfowl Concentrations	*Anatidae*		
Western grebe	*Aechmophorus occidentalis*		
White-headed Woodpecker	*Picoides albolarvatus*	Candidate	
Wild Turkey	*Meleagris gallopavo*		
Bighorn Sheep	*Ovis canadensis*		
Black-tailed Jackrabbit	*Lepus californicus*	Candidate	
Elk	*Cervus canadensis*		
Gray Wolf	*Canis lupus*	Endangered	Endangered
Marten	*Martes americana*		
Merriam's Shrew	*Sorex merriami*	Candidate	
Northwest White-tailed Deer	*Odocoileus virginianus ochrourus*		
Preble's Shrew	*Sorex preblei*		
Rocky Mountain Mule Deer	*Odocoileus hemionus hemionus*	Candidate	Species of Concern
Roosting Concentrations of: Big-brown Bat, Myotis bats, Pallid Bat	*Antrozous pallidus*		
Townsend's Big-eared Bat	*Corynorhinus townsendii*	Candidate	Species of Concern
Washington Ground Squirrel	*Urocitellus washingtoni*	Candidate	Candidate
White-tailed Jackrabbit	*Lepus townsendii*	Candidate	
California Floater	*Anodonta californiensis*	Candidate	Species of Concern
Columbia Pebblesnail	*Fluminicola columbiana*	Candidate	
Columbia River Tiger Beetle	*Cicindela columbica*	Candidate	
Giant Columbia River Limpet	*Fisherola nuttalli*	Candidate	
Juniper Hairstreak	*Callophrys gryneus/ Mitoura grynea barryi*	Candidate	
Mann's Mollusk-eating Ground Beetle	*Scaphinotus mannii*	Candidate	

Species Name[1]		Status	
Common Name	**Scientific Name**	**State**	**Federal**
Poplar Oregonian	*Cryptomastix populi*	Candidate	
Shepard's Parnassian	*Parnassius clodius shepardi*	Candidate	

Notes:
* Bull trout only
** Steelhead only

1. These are the species identified for Asotin, Columbia, and Garfield counties. This list of species was developed using the distribution maps found in the PHS List (see http://wdfw.wa.gov/conservation/phs/).
2. Upper Columbia Spring run Chinook salmon is Endangered
3. Threatened in Ozette Lake
4. Endangered in Snake River

Appendix B-4
GIS Data Summary Tables

Critical Areas Data Summary Tables, Asotin County

Table 1

Agricultural Activity Landcover

Landcover	Acres	Percent
Total Area	**409,706**	N/A
Agricultural Landcover	**187,019**	**45.6%**
Irrigated	134	0.1%
Cropland	73,443	39.3%
Range	113,278	60.6%
Forest	19,797	10.6%

Analysis Unit: Asotin County

Global Notes:
- Agricultural areas included in VSP are limited to privately-owned lands. Additionally, incorporated city/town limits are not included in VSP and are excluded from these calculations.
- See Appendix B-1 for GIS data sources and methods.
- Critical area percentages are based on the total private agricultural landcover stated in Table 1

Table 2

Critical Areas within Agricultural Lands

Critical Areas		Areas within Agricultural Lands									
		Irrigated		Dryland		Rangeland		Forestland		Total	
		Acres	*Percent*	*Acres*	*Percent*	*Acres*	*Percent*	*Acres*	*Percent*	*Acres*	*Percent*
Wetlands		0	0%	36	0%	135	0%	56	0%	196	0.1%
Fish and Wildlife Habitat Conservation Areas[1]		4	0%	1,135	1%	10,329	6%	0	0%	11,265	6%
Critical Aquifer Recharge Areas		6	0%	9	0%	755	0%	0	0%	759	0%
Geologic Hazards	Water Erosion	134	0%	73,425	39%	113,197	61%	19,658	11%	186,796	100%
	Wind Erosion	0	0%	36	0%	744	0%	4,339	2%	4,950	3%
Frequently Flooded Areas		54	0%	69	0%	338	0%	0	0%	380	0%

Notes:

1. Excluding game species (see Table 6 for full list of game species)

Table 3

Stream Summary[1]

Critical Areas	Areas within Agricultural Lands							
	Irrigated		Dryland		Rangeland		Total	
	Miles	*Percent*	*Miles*	*Percent*	*Miles*	*Percent*	*Miles*	*Percent*
Streams Total (miles)	**0.2**	**0%**	**68**	**11%**	**517**	**83%**	**620**	**37%**
Intermittent streams	0.0		66		435		552	
Perennial streams	0.2		2		57		68	
Steelhead streams	0.0		0		25		30	
Shorelines Total (acres)	**24**	**0%**	**34**	**0%**	**480**	**0%**	**503**	**0.3%**
Shorelines	24		34		480		503	

Notes:

1. Streams data excludes irrigation canals

Wetlands Data Summary, Asotin County

Table 4

Wetland Summary

Critical Areas	Acres within Agricultural Lands			
	Irrigated	Dryland	Rangeland	Total
Wetlands (all types)	**0**	**36**	**135**	**196**
Freshwater Emergent Wetland	0	23	80	101
Freshwater Forested/Shrub Wetland	0	2	13	29
Lake/Pond	0	8	37	56
Riverine	0	0	3	4
Other	0	3	2	6

Fish and Wildlife Habitat Conservation Areas - PHS Data Summary, Asotin County

Table 5

Priority Habitats and Species (PHS) Summary - excluding game species[1,2]

Critical Areas	Acres within Agricultural Lands				
	Irrigated	Dryland	Rangeland	Forest	Total
Priority Habitats and Species	**4**	**1,135**	**10,329**	**0**	**11,265**
Birds	**0**	**0**	**122**	**0**	**122**
Raptor	0	0	90	0	90
Waterfowl Concentrations	0	0	32	0	32
Cliffs/bluffs	4	4	4,726	0	4,728
Sage brush	0	1,131	5,481	0	6,415

Notes:

1. Excluding game species (see Table 6 for full list of game species)

2. Summary Priority and Habitat Species numbers are collapsed so that overlapping species or habitats are not double counted

Table 6

PHS Summary (game species)[1]

Critical Areas	Acres within Agricultural Lands				
	Irrigated	Dryland	Rangeland	Forestland	Total
PHS (Game Species)	**233**	**40,707**	**186,504**	**29,618**	**257,062**
Birds	**66**	**1,682**	**42,940**	**1,569**	**45,203**
Game birds (pheasant, chukar, etc.)	66	1,682	42,940	1,569	45,203
Mammals	**167**	**39,025**	**143,564**	**28,049**	**193,903**
Elk	17	1,024	15,847	7,753	21,584
Bighorn sheep	38	206	21,810	189	21,984
Mule Deer	112	10,023	73,049	16,383	92,887
White-tailed Deer	0	27,772	32,858	3,724	57,448

Notes:

1. Summary Priority and Habitat Species numbers are collapsed so that overlapping species or habitats are not double counted

Geologic Hazard Areas - Water Erosion Potential, Asotin County

Table 7

Water Erosion Potential

Critical Areas	Acres within Agricultural Lands				
	Irrigated	Dryland	Rangeland	Forestland	Total
Water Erosion Potential	**134**	**73,425**	**113,197**	**19,658**	**186,796**
slight	93	491	3,494	30	3,850
Moderate	11	61,891	20,384	3,394	73,601
Severe to Very Severe	30	11,043	89,319	16,234	109,345

Appendix B-5
Asotin County Water Quality 303(d) Listings (2016)

Water Quality Parameter	Potential Agricultural-related Source
4,4'-DDE	Byproduct of DDT
Bacteria	Animal waste
Dissolved Oxygen	Organic matter decomposition
pH	Indicator
Temperature	Erosion/sediment/canopy cover

Appendix C
Existing and Related Plans, Programs, and Regulations

APPENDIX C: Existing and Related Plans, Programs, and Regulations

The Growth Management Act (GMA) was passed by the Washington State legislature in 1990 to help the state manage the growth of development and activities that have the potential to affect sensitive environments and species, including critical areas. The Voluntary Stewardship Program (VSP) is part of the GMA, but was also written to work with other existing programs, plans, and applicable rules and regulations. This appendix provides an overview of the existing resources used in the Asotin County VSP Work Plan and describes how they relate to other applicable rules and regulations (the regulatory environment).

Existing Conservation Programs

As described in the Asotin County VSP Work Plan, the VSP provides a voluntary framework for critical areas protection and enhancement actions carried out by agricultural producers while maintaining and improving agricultural viability. Other similar programs are available to agricultural producers that are designed to incentivize protection and enhancement of critical areas through conservation practices. The availability of these programs is variable, as they are heavily influenced by federal and state program funding, the regulatory environment, industry standards, and the agricultural market. Many of these programs have been in place since the July 22, 2011 baseline and have contributed to conservation practices being implemented across Asotin County.

There are a variety of voluntary incentive programs for agricultural producers provided by federal, state, and local entities. The VSP was written to be compatible with existing conservation programs to achieve protection and enhancement of critical areas. Table 1 includes a summary of federal programs, and Table 2 includes a summary of state and local programs available to agricultural producers. These tables provide a general representation of available federal, state, and local programs and are not intended to provide an exhaustive list.

The following list includes international organizations that offer a variety of voluntary conservation and certification programs to agricultural producers:

- **GLOBALG.A.P.:** GLOBALG.A.P. is an international non-profit organization that provides a voluntary GLOBALG.A.P. certification for eligible crops and livestock that meet or exceed 16 standards for safe and environmentally sound agricultural practices.
- **Safe Quality Food Institute (SQFI):** SQFI offers certifications recognized by the Global Food Safety Initiative for best agricultural and livestock practices.
- **PrimusLabs:** PrimusLabs, located in North and South America, is a food safety company that provides a Good Agricultural Practices (GAP) auditing program that certifies agricultural producers who comply with standard operating procedures for food safety.

- **Farmed Smart:** The Pacific Northwest Direct Seed Association oversees the Farmed Smart Program, which is designed to certify producers who use sustainable practices. The program defines conservation standards and provides educational tools to producers regarding the environmental benefits of direct seeding.

Table 1
Federal Conservation Programs

Lead	Description	Program	Details
Natural Resources Conservation Service (NRCS)	NRCS provides technical and financial assistance to help agricultural producers make and maintain conservation improvements on their land. NRCS also offers conservation easement programs and partnerships to leverage existing conservation efforts on farm lands.	**Environmental Quality Incentives Program (EQIP)**[1]	Voluntary program providing financial and technical assistance for agricultural producers to plan and implement conservation practices improving soil, water, plant, animal, air, and related natural resources.
		Conservation Stewardship Program (CSP)[2]	Voluntary program providing technical assistance for agricultural and forest landowners to develop plans for conservation, management, and enhancement activities.
		Agricultural Conservation Easement Program (ACEP)[3]	Provides conservation partners with financial and technical assistance through agricultural land easements to restore, protect, and enhance wetlands.
		Agricultural Water Enhancement Program (AWEP)[4]	Voluntary program providing financial and technical assistance to agricultural producers for implementing agricultural water-enhancement activities.
		Wildlife Habitat Incentive Program (WHIP)[5]	Voluntary program for wildlife habitat conservation and enhancement on agricultural land, non-industrial private forest land, and Native American land.

[1] www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/eqip/
[2] www.nrcs.usda.gov/csp
[3] www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/easements/acep/
[4] www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/whip/
[5] www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/awep/

Lead	Description	Program	Details
		Regional Conservation Partnership Program (RCPP)[6]	Provides conservation partners with financial assistance to support high-impact conservation projects. NRCS recently awarded $5.5 million in funds during the next 5 years to the Palouse Watershed RCPP through the 2014 Farm Bill. The RCPP provides additional opportunity within Water Resource Inventory Area (WRIA) 34 for increased conservation practices that enhance producer operations, and improve soil and water quality and wildlife habitat. These practices and programs likely only represent a small portion of practices being implemented but that are currently unaccounted for in the County.
Farm Service Agency (FSA)	FSA oversees several voluntary, conservation-related programs that work to address several agriculture-related conservation measures.	**Conservation Reserve Program (CRP)**[7]	Voluntary reserve program to conserve environmentally sensitive land through agricultural protections and plant species to improve environmental health.
		Conservation Reserve Enhancement Program (CREP)[8]	Similar to the CRP, this voluntary program targets high-priority conservation issues. The contract period is typically 10 to 15 years.

[6] https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/farmbill/rcpp/
[7] www.fsa.usda.gov/programs-and-services/conservation-programs/conservation-reserve-program/
[8] www.fsa.usda.gov/FSA/webapp?area=home&subject=lown&topic=cep

Table 2
State and Local Conservation Programs

Lead	Description	Program(s)	Details
Washington State Conservation Commission (WSCC)	WSCC works with conservation districts (CDs) to provide voluntary, incentive-based programs for implementation of conservation practices. WSCC supports the CDs through financial and technical assistance; administrative and operational oversight; program coordination; and promotion of CDs activities and services.	**Coordinated Resource Management (CRM) Program**[9]	Voluntary and locally led program for landowners seeking to resolve land-use and natural resource issues through local coalitions and consensus building.
		Irrigation Efficiencies Grant Program (IEGP)[10]	Provides financial incentives to landowners willing to install irrigation systems that save water.
		Natural Resource Investments (non-shellfish) Grants[11]	Grant program for landowners to complete natural resource enhancement projects necessary to improve water quality in non-shellfish growing areas.
		Office of Farmland Preservation (OFP)[12]	The OFP identifies and addresses farmland loss through agriculture conservation easement programs, providing technical assistance, developing farm transition programs, and providing data and analysis on trends.
Washington State Department of Fish and Wildlife (WDFW)	WDFW provides financial assistance for habitat projects that restore and/or preserve fish and wildlife habitat through funding opportunities such as the ALEA Volunteer Cooperative Grant Program.	**Aquatic Lands Enhancement Account (ALEA)**[13]	Grant program for qualifying landowners who undertake projects that benefit Washington state's fish and wildlife resources.

[9] http://scc.wa.gov/coordinated-resource-management/
[10] http://scc.wa.gov/iegp/
[11] http://scc.wa.gov/wq-nonshellfish/
[12] http://scc.wa.gov/office-of-farmland-preservation/
[13] http://wdfw.wa.gov/grants/alea/index.html

Lead	Description	Program(s)	Details
Washington State Recreation and Conservation Office	The Washington State Recreation and Conservation Office provides funding to protect aquatic lands and for projects aimed at achieving overall salmon recovery, including habitat projects and other activities that result in sustainable and measurable benefits for salmon and other fish species. Funding is provided through programs such as ALEA and the Salmon Recovery Funding Board Grant Program.	**Aquatic Lands Enhancement Account (ALEA)**[14]	Local and state agencies and Native American Tribes can apply for grants to fund aquatic habitat-enhancement projects.
		Salmon Recovery Funding Board Salmon Recovery Grants[15]	Grant program for eligible parties seeking to improve important habitat conditions or watershed processes to benefit salmon and bull trout.
		Farmland Preservation Grants[16]	Grant program for local agencies and non-profits to buy development rights on farmlands to ensure the lands remain available for farming in the future.

[14] http://www.rco.wa.gov/grants/alea.shtml
[15] http://www.rco.wa.gov/grants/sal_rec_grants.shtml
[16] http://www.rco.wa.gov/grants/farmland.shtml

Lead	Description	Program(s)	Details
Washington State Department of Ecology (Ecology)	Ecology provides funding for water-quality improvement and protection projects, including programs such as the Water Quality Financial Assistance program and voluntary partnership programs such as the Farmed Smart Partnership.	**Water Quality Financial Assistance Program**[17]	Grant and loan program for high-priority projects to protect and improve the health of Washington State waters.
		Farmed Smart Partnership[18]	Regional voluntary program overseen by the Pacific Northwest Direct Seed Association, in coordination with Ecology, that certifies agricultural producers for environmentally friendly and sustainable dryland agriculture practices.
Asotin County Conservation Districts (ACCD)	ACCD provide voluntary, incentive-based options that support working landscapes while protecting and enhancing our natural resources.	**Cost-share Program**[19]	Program offering federal and local cost-share opportunities for landowners and producers in the county.
Washington State University (WSU) Extension	The WSU Extension program connects agricultural and natural resource stakeholders and industries, as well as the public, to extend research-based information and conduct locally relevant applied research in the fields of agriculture and natural resource sciences.	**Agriculture and Natural Resources Program**[20]	Program providing technical assistance, research, and education to producers.

[17] http://www.ecy.wa.gov/programs/wq/funding/funding.html
[18] http://www.ecy.wa.gov/programs/wq/nonpoint/Agriculture/farmedsmart.html
[19] https://asotincd.org/costshare/
[20] http://anr.cw.wsu.edu/

Related Plans and Programs

As required by the Revised Code of Washington (RCW) 36.70A.720(1)(a), the VSP Work Plan must incorporate applicable water quality, watershed management, farmland protection, and species recovery data and plans. Table 3 includes a summary of the planning documents and programs that were referenced for the VSP Work Plan and appendices. This includes watershed management and wildlife management programs prepared specific to Asotin County.

The County is located within one major watershed, which is known as a Water Resource Inventory Area (WRIA). The entirety of the county is in the Middle Snake WRIA (WRIA 35). WRIA 35 has no Washington State Department of Ecology water quality improvement projects or Total Maximum Daily Loads (TMDLs) in process or under development.

Table 3
Summary of Planning Documents

Plan or Program	Date	Author/Agency	Description
Watershed Plans			
WRIA 35 – Middle Snake			
WRIA 35 Watershed Detailed Implementation Plan	2011	Middle Snake Watershed Planning Unit	The WRIA 35 Middle Snake Watershed Instream Habitat Assessment provides obligations and recommendations for short-term and long-term water management within the WRIA. The plan includes prioritized habitat and policy strategies, including a status update for existing policies.
WRIA 35 Middle Snake Watershed Instream Habitat Assessment	2009	Middle Snake Watershed Planning Unit	The WRIA 35 Middle Snake Watershed Instream Habitat Assessment assesses instream flows in select tributaries of the Middle Snake Watershed as part of its watershed planning efforts. The assessment provides recommendations and considerations for engaging landowners through conservation programs and habitat restoration efforts
WRIA 35 Middle Snake Watershed Plan	2007	HDR	The Middle Snake Watershed Plan is intended to identify, prioritize, and develop solutions to water resource management issues within the Palouse watershed. This plan was used to assess existing conditions and management recommendations in the VSP Work Plan.
WRIA 35 Streamflow Management	2006	HDR and EES	The WRIA 35 Streamflow Management report provides management objectives and instream flow recommendations.

Plan or Program	Date	Author/Agency	Description
Salmon Recovery Plans			
Asotin Creek Model Watershed Plan	1995	Asotin County Conservation District	This Model Watershed Plan provide habitat protection and restoration strategies for salmon and trout within the Asotin Creek watershed.
Proposed Endangered Species Act (ESA) Recovery Plan for Snake River Fall Chinook Salmon	2017	National Oceanic and Atmospheric Administration (NOAA) Fisheries	The Snake River Fall Chinook Salmon Recovery Plan provides recovery goals and strategies, including site-specific actions for restoring fall Chinook salmon populations in the Snake River basin. This includes strategies to improve habitat and water quality critical to the recovery of the species.
Proposed ESA Recovery Plan for Snake River Spring/Summer Chinook Salmon & Snake River Steelhead	2016	NOAA Fisheries	The Snake River Spring/Summer Chinook Salmon and Snake River Steelhead Recovery Plan provides recovery goals and strategies, including site-specific actions for restoring spring/summer Chinook salmon and Snake River steelhead populations in the Snake River basin. This includes strategies to improve habitat and water quality critical to the recovery of the species.
ESA Recovery Plan for Snake River Sockeye Salmon	2015	NOAA Fisheries	The Snake River Sockeye Salmon Recovery Plan provides recovery goals and strategies, including site-specific actions for restoring sockeye salmon populations in the Snake River basin. This includes strategies to improve habitat and water quality critical to the recovery of the species.
Snake River Salmon Recovery Regional Provisional 3-5 Year Work Plan	2017	Snake River Salmon Recovery Board	Snake River 3-5 Year Work Plan identifies priority restoration reaches for restoring and protecting floodplain and riparian function; restoring habitat complexity; reducing fine sediments; removing imminent threats; and maintaining or restoring in-stream flow.
Snake River Salmon Recovery Region Provisional 3 Year Work Plan (2012 – 2014)	2012	Snake River Salmon Recovery Board	Snake River 3 Year Work Plan identifies priority restoration reaches for restoring and protecting floodplain and riparian function; restoring habitat complexity; reducing fine sediments; removing imminent threats; and maintaining or restoring in-stream flow.
Snake River Salmon Recovery Plan for SE Washington	2011	Snake River Salmon Recovery Board	The Snake River Salmon Recovery Plan provides strategies for restoring salmon populations in the Snake River Basin. The plan represents a coordinated effort with other planning processes to provide recovery strategies and general actions to restore habitat and fish passage within the basin.

Plan or Program	Date	Author/Agency	Description
Lower Snake Mainstem Subbasin Plan	2004	Pomeroy Conservation District	The Lower Snake Mainstem Subbasin Plan provides strategies for meeting the Columbia River Basin objectives to provide a healthy ecosystem and recover fish and wildlife species.
Other Applicable Guidance Documents			
Draft Shoreline Inventory, Analysis, and Characterization Report for the Southeast Washington Coalition Shoreline Master Program Update	2014	Anchor QEA, LLC and SCJ Alliance	The Shoreline Inventory, Analysis, and Characterization Report provides a baseline of shoreline ecological functions throughout the county as part of the Shoreline Master Program update.
Southeast Washington Coalition Shoreline Master Program (SMP)	2016	Anchor QEA, LLC	The SMP includes shoreline goals and policies for management and protection of shorelines of the state located within the County. Existing agriculture activities are exempt from the SMP.
Southeast Washington Coalition Shoreline Master Program Restoration Plan	2016	Anchor QEA, LLC	The SMP Restoration Plan describes priority restoration and enhancement opportunities, in addition to mitigation measures, to obtain no net loss of ecological function within the coalition area.
Soil Survey of Asotin County Area, Washington, Parts of Asotin and Garfield counties	1991	Gentry and Fait	The Soil Survey of Asotin County Area includes an overview of soils in the county along with various practices and general recommendations for protecting soils within the survey area.
Management Recommendations for Washington's Priority Habitats: Riparian	1997	Washington State Department of Fish and Wildlife (Authors: Knutson and Naef)	The riparian habitat management plan provides statewide riparian management recommendations based on the best-available science.
Blue Mountain Wildlife Area Management Plan	2006	Washington State Department of Fish and Wildlife	The Blue Mountain Wildlife Area Management Plan provides agency goals and objectives toward managing and preserving natural resources in the Blue Mountain Wildlife Area.
Priority Habitats and Species List (PHS)	2016	Washington State Department of Fish and Wildlife	The Washington State Department of Fish and Wildlife manages the PHS list to track and document state-listed habitats and species located throughout the state.
Asotin County Geomorphic Assessment and Conceptual Restoration Plan	2018	ELR	The Asotin County Geomorphic Assessment and Conceptual Restoration Plan provides a geologic and watershed setting of the county and watershed assessment and priority management and restoration goals.

Federal, State, and Local Regulations that Apply to Agriculture

The VSP is provided as an alternative to protecting critical areas used for agricultural activities through development regulations under the GMA. Despite its voluntary nature, it is still the intent of the VSP to improve, and not limit, "compliance with other laws designed to protect water quality and fish habitat," per RCW 36.70A.700 and 36.70A.702. Per RCW 36.70A.720, the development regulations used to achieve the goals and measurable benchmarks for protection of critical areas must be incorporated into the VSP Work Plan.

Tables 4 and 5 include a summary of federal, state, and local development regulations that are used to achieve the goals and measurable benchmarks of the VSP Work Plan. This list includes the most common environmental regulations affecting agriculture. The list does not include all regulations potentially impacting agricultural producers in the County. For instance, regulations on taxation, employment practices, marijuana production, and other regulations are not included. Because no regulations are enforced via the VSP, regulatory enforcement in the County provides a "regulatory backstop." For example, the Washington State Department of Ecology will continue to regulate wetland conversions on agricultural lands through the local Water Pollution Control Act.[21] Continued compliance with these regulations provides additional assurance the functions and values of critical areas are protected.

As illustrated in Figure 1, the VSP is intended to balance critical areas protection and agricultural viability at the County level through voluntary actions by agricultural producers. VSP is not a replacement for compliance with other laws and regulations, but participation in the program can often help agricultural producers comply with these requirements.

[21] Washington State Department of Ecology, 2013. The Voluntary Stewardship Program and Clean Water. Available at: https://fortress.wa.gov/ecy/publications/publications/1310030.pdf.

Figure 1
Balanced Approach of Critical Areas Protection and Agricultural Viability

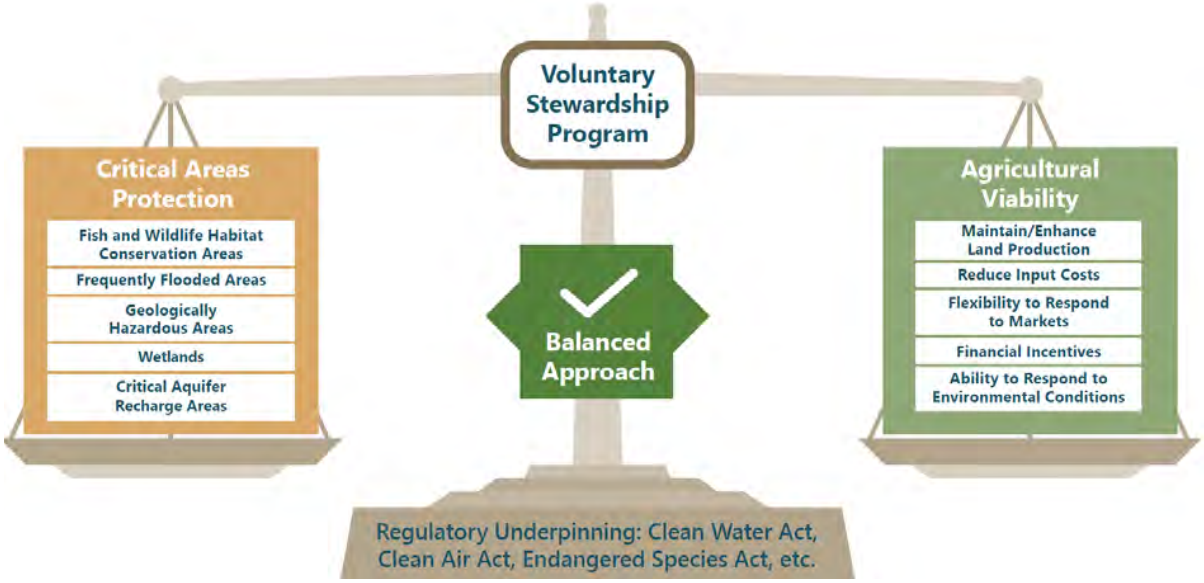


Table 4
Federal Regulations that Apply to Agriculture

Regulation(s)	Agency	Description	VSP Intersect
Agricultural Act (Farm Bill)[22]	U.S. Department of Agriculture	The Farm Bill, reauthorized in 2014, eliminates direct payments and continues crop insurance.	The Farm Bill includes the "swampbuster" conservation policy prohibiting land owners from converting wetlands to cropland. The "sodbuster" provision requires participating parties to maintain a specified level of conservation.
Clean Water Act (CWA)[23]	U.S. Environmental Protection Agency (USEPA); regulated locally by Washington State Department of Ecology	The CWA regulates discharges of pollutants into waters of the United States, including discharges of dredge or fill material in wetlands. CWA exemptions for agriculture are designed consistent with and support existing U.S. Department of Agriculture programs.	Compliance with the CWA maintains or enhances water quality, which in turn benefits critical areas, including wetlands and fish and wildlife habitat conservation areas.
Safe Drinking Water Act (SDWA)[24]		The SDWA protects public drinking water supplies in the United States, including sole-source aquifers. The USEPA provides technical and financial resources under the Clean Water State Revolving Fund (CWSRF) for improving water quality, protecting drinking water sources, and controlling nonpoint source pollution.	The SDWA is designed to protect critical aquifer recharge areas, an important source for drinking water that is vulnerable to contamination.
National Pollution Discharge Elimination System (NPDES)[25]		NPDES is promulgated under the CWA to regulate discharges to waters of the United States from animal feeding operations.	Regulated discharges to waters of the United States helps to protect water quality in critical areas, including wetlands and fish and wildlife habitat conservation areas.

[22] https://www.fsa.usda.gov/programs-and-services/farm-bill/index
[23] https://www.epa.gov/laws-regulations/summary-clean-water-act
[24] https://www.epa.gov/sdwa
[25] https://www.epa.gov/npdes

Regulation(s)	Agency	Description	VSP Intersect
Endangered Species Act (ESA)[26][27]	National Marine Fisheries Service and the U.S. Fish and Wildlife Service	The ESA protects threatened and endangered species and critical habitat throughout the United States.	ESA-listed species and critical habitat are protected through avoidance and minimization measures such as the "no-spray" pesticide buffer zones near ESA-listed salmon-bearing waterbodies. The no-spray buffer zones are 60 feet for ground and 300 feet for aerial pesticide applications.
Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)[28]	U.S. Environmental Protection Agency	FIFRA regulates pesticide distribution, sale, and use and includes labeling and registration requirements.	Compliance with FIFRA is intended to maintain or enhance water quality, which in turn benefits critical areas, including wetlands, fish and wildlife habitat conservation areas, and critical aquifer recharge areas.
National Emissions Standards for Hazardous Air Pollutants (NESHAP)[29]	U.S. Environmental Protection Agency	NESHAP regulates hazardous air pollutant emissions, including from new and existing facilities that manufacture organic pesticide active ingredients used in herbicides, insecticides, and fungicides.	These regulations are intended to reduce or eliminate hazardous air pollutant emissions with the potential to spread via aerial application to critical areas, including wetlands and fish and wildlife habitat conservation areas.

[26] http://www.nmfs.noaa.gov/pr/laws/esa/
[27] https://www.fws.gov/endangered/
[28] https://www.epa.gov/laws-regulations/summary-federal-insecticide-fungicide-and-rodenticide-act
[29] https://www.epa.gov/stationary-sources-air-pollution/national-emission-standards-hazardous-air-pollutants-neshap-9

Table 5
State and Local Regulations that Apply to Agriculture

Regulation(s)	Agency	Description	VSP Intersect
Revised Code of Washington (RCW)			
Title 15 Agriculture and Marketing	Washington State Department of Agriculture	RCW Title 15 includes general regulations pertaining to agricultural practices.	• Regulations cover pest and disease control, fertilizers, and commodity commissions.
Title 16 Animals and Livestock	Washington State Department of Agriculture	RCW Title 16 includes general regulations pertaining to animals and livestock practices.	• Regulations cover range areas, meat licensing, feed lot certification, and fencing.
Title 17 Weeds, Rodents, and Pests	Washington State Noxious Weed Control Board[1]	RCW Title 17 includes general regulations pertaining to weed, rodent, and pest control.	• RCW Title 17.06 establishes intercounty weed districts.
Title 36 Counties	*Various*	RCW Title 36 includes regulations pertaining to counties including the Voluntary Stewardship Program.	• RCW Titles 36.70A.700-904 comprise the Voluntary Stewardship Program, a program designed to promote plans to protect and enhance critical areas while maintaining and improving agricultural viability.
Title 77 Fish and Wildlife	Washington Department of Fish and Wildlife	RCW Title 77 includes fish and wildlife enforcement regulations.	• Salmon recovery and enhancement programs include habitat projects and plans, including voluntary, incentive-based enhancement programs. • In-water construction activities (i.e., hydraulic projects) are regulated under RCW Title 77.55.
Title 89 Reclamation, Soil Conservation, and Land Settlement	Conservation Districts, Office of Farmland Preservation, and Irrigation Districts	RCW includes general regulations pertaining to reclamation and local conservation districts.	• RCW Title 89.08 establishes conservation districts. • RCW Title 89.10 establishes the Office of Farmland Preservation. • RCW Title 89.12 includes adoption of the Columbia Basin Project Act and related regulations.

Regulation(s)	Agency	Description	VSP Intersect
Title 90 Water Rights – Environment	*Various*	RCW Title 90 regulates various aspects of water rights and appropriation for public and industrial purposes.	• RCW Title 90.42-46 include regulations pertaining to water resource management, regulation of public groundwater, and reclaimed water use. • RCW Title 90.48 includes the Water Pollution Control Act which regulates agricultural discharges to surface waters and wetlands. • RCW Title 90.64 includes dairy nutrient management regulations. • RCW Title 90.90 includes the Columbia River Basin water supply rules for allocation and development of water supplies.
Washington Administrative Code (WAC)			
Title 16	Washington State Department of Agriculture	WAC Title 16 includes Washington State Department of Agriculture rules pertaining to agriculture regulation, certification, and marketing.	• WAC Chapters 16-200 through 16-202 include standards for fertilizer and pesticide usage. • WAC Chapter 16-611 includes standards for nutrient management.
Title 173	Washington State Department of Ecology	WAC Title 173 includes Washington State Department of Ecology rules for air and water quality protection.	• WAC Chapters 173-15 through 173-27 include state Shoreline Management Act rules and permitting requirements. The County currently implements the Shoreline Master Program under these state rules. • WAC Chapter 173-158 includes floodplain management rules. • WAC Chapters 173-166, 173-170, and 173-173 includes rules for drought relief programs, agricultural water supply facilities, and measuring and reporting water usage. • WAC Chapter 173-220 includes National Pollution Discharge Elimination System rules for discharges to waters of the state. • WAC Chapter 173-430 includes rules for agricultural burning.

Regulation(s)	Agency	Description	VSP Intersect
Title 220 and 232	Washington State Department of Fish and Wildlife	WAC Title 173 includes Washington State Department of Fish and Wildlife rules for management of fish and wildlife species and habitat.	• WAC Chapter 220-410 defines game management areas, including the Game Management Units in Asotin County. • WAC Chapter 220-620 describes the volunteer cooperative fish and wildlife enhancement program. • WAC Chapter 220-660 includes the Washington State Hydraulic Code which regulates in-water construction activities (hydraulic projects) through Hydraulic Project Approvals. • WAC Chapter 232-28 includes wildlife interaction rules, including those pertaining to damage of commercial crops and livestock.
Title 246	Washington State Department of Health	WAC Title 246 includes Washington State Department of Health rules, including those for protection of water systems.	• WAC Chapters 246-290 and 246-291 includes rules for Group A and B public water supplies and water systems, respectively. These include regulations for using greywater for irrigation purposes.
Asotin County Regulations			
Asotin County Code (ACC) 18.18	Asotin County Building & Planning	Critical Areas Ordinance	• ACC 18.18.150 allows the application of herbicides, pesticides, organic or mineral-derived fertilizers, or other hazardous substances as approved by the County, in compliance with state recommendations and federal regulations.
SMP	Asotin County Building & Planning	The Asotin County shoreline code is promulgated under the Southeast Washington Coalition SMP	• The Shoreline Master Program covers new agricultural uses and activities within shorelines of the state (defined as 200 feet from mean higher high water) and does not limit or modify existing or ongoing agricultural practices.
Stormwater Ordinance #10-08	Asotin County Regional Stormwater Program	Stormwater Ordinance	• Asotin County Ordinance #10-08 regulates stormwater discharge in compliance with the Washington State Department of Ecology Eastern Washington Phase II Municipal Stormwater Permit.
ACC 17	Asotin County Building & Planning	Zoning Ordinance	• ACC Chapter 17 designates use zones and regulates new agriculture-related uses by land use zone (e.g., Agricultural Zone [AG] and Agricultural Transition Zone [A-T]).

Note:

1. Includes agencies responsible for overseeing agriculture-specific regulations. Other agencies may be assigned jurisdiction for non-agriculture related regulations described therein.

Appendix D
Agricultural Stewardship Plan Template and Checklist

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Appendix D: Agricultural Stewardship Plan Template and Checklist

Section one of the Individual Agricultural Stewardship Plan (below) will be used to better understand past conservation efforts and help identify future conservation needs. This information will also be used to assess trends in conservation efforts and will help guide funding needs. External reporting of provided information will only occur at the watershed level to protect the privacy of the landowner(s) and operation. Personally identifiable information will be held in confidentiality by the Asotin County Conservation District (ACCD).

Today's Date: _____

SECTION 1. LANDOWNER INFORMATION

Your Name	
Farm or Ranch Name	
Mailing Address	
Email	
Phone Number(s)	
What form of communication do you prefer?	

Type of Ownership. Check all that apply.

- ☐ Landowner – Cooperator (and Spouse) owned
- ☐ Multiple Party Ownership – Cooperator jointly owns property and is not the sole decision maker
- ☐ Leased/Rented – Cooperator is not the owner of the property

SECTION 2. OPERATION INFORMATION

How do you use your land? Check all that apply.

- ☐ Confined Livestock Area – Land used for high intensity animals including barn lots, feed pens, corrals, etc.
- ☐ Non-Irrigated Crop – Land used primarily for the production and harvest of annual crops, forage, food, and/or fiber
- ☐ Irrigated Crop – Land used primarily for the production and harvest of annual crops, forage, food, and/or fiber
- ☐ Forest – Land on which the primary vegetation is tree cover
- ☐ Hay – Land on which perennial plants are managed and primarily harvested for forage
- ☐ Pasture – Grazed land that periodically receives renovation through tillage, fertilization, etc., but not part of a crop rotation

- ☐ Range – Land primarily used for animal grazing
- ☐ Orchard – Land used to grow fruit trees
- ☐ Vineyard – Land used to grow grapes
- ☐ Other: _____

Historically, how was your land used or operation conducted?

What are your operation goals currently, in 3 years, and 5 years in the future?

Currently:

Three years:

Five years:

What type of concerns do you have on your property?

SECTION 3. CONSERVATION PROJECTS

Have you ever implemented any conservation projects?

- ☐ Yes
- ☐ No

Are you currently implementing any conservation projects?

- ☐ Yes
- ☐ No

If yes, explain what conservation projects:

Please fill in the table on the next page.

Stewardship Strategies and Conservation Practice Examples	**Yes**	**No**	**No, but interested**	**N/A**	**Comments**
Residue and Tillage Management					
Residue/Tillage Management	○	○	○	○	
Other(s): _____	○	○	○	○	
Chemical and Nutrient Management					
Pest Management	○	○	○	○	
Nutrient Management	○	○	○	○	
Other(s): _____	○	○	○	○	
Range/Pasture Management					
Prescribed/Managed Grazing	○	○	○	○	
Range Planting	○	○	○	○	
Stock Watering Facilities/Wells	○	○	○	○	
Fencing	○	○	○	○	
Other(s): _____	○	○	○	○	
Soil Management					
Conservation Crop Rotation	○	○	○	○	
Cover Crop	○	○	○	○	
Mulch	○	○	○	○	
Critical Area Planting	○	○	○	○	
Other(s): _____	○	○	○	○	
Habitat Management					
Conservation/Perennial Cover	○	○	○	○	
Noxious Weed and Invasive Species Control	○	○	○	○	
Tree/Shrub Establishment	○	○	○	○	
Other(s): _____	○	○	○	○	
Timberland Management					
Commercial Harvest	○	○	○	○	
Managed Grazing	○	○	○	○	
Fuels Reduction	○	○	○	○	
Forest Health Practices	○	○	○	○	
Other(s): _____	○	○	○	○	
Water Resource Management					
Riparian Buffers	○	○	○	○	
Livestock Access Control	○	○	○	○	
Instream Habitat Structures	○	○	○	○	
Wetland Management	○	○	○	○	
Other(s): _____	○	○	○	○	

Have any of the conservation projects been with assistance, technical or financial, from any of the following agencies? Check all that apply.

- ☐ Asotin County Conservation District (ACCD)
- ☐ Natural Resource Conservation Service (NRCS)
- ☐ Farm Service Agency (FSA)
- ☐ None
- ☐ Other: _____

Explain how assistance was provided:

_____

_____

_____

_____

_____

SECTION 4. CRITICAL AREAS

Which of the following critical areas are on your property? Check all that apply.

- ☐ Fish and Wildlife Conservation Areas
- ☐ Frequently Flooded Areas
- ☐ Geologically Hazardous Areas
- ☐ Wetlands
- ☐ Critical Aquifer Recharge Areas

If you checked one or multiple boxes above, please explain the critical area in more detail (e.g., size, river or stream length, fish and wildlife species)

_____

_____

_____

_____

_____

SECTION 5. LAND INVENTORY

What type of water resources do you have on your land(s)? Check all that apply.

- ☐ Perennial Stream – year-round flow
- ☐ Intermittent Stream – seasonal flow
- ☐ Ephemeral Stream – rain or spring thawing dependent flow

- ☐ Natural Spring – surface water that is fed by groundwater
- ☐ Wetland – areas that are inundated or saturated by surface or groundwater
- ☐ Pond – natural or manmade body of standing water
- ☐ Other: _____

If a perennial stream is on your land, are steelhead and/or salmon present?

- ☐ Yes
- ☐ No
- ☐ Not sure

What type of native terrestrial habitats occur on your land(s)? Check all that apply.

- ☐ Forests – Trees are the dominant vegetation type, grasses and shrubs may be present
- ☐ Grasslands – Grasses are the dominant vegetation type, shrubs may be present
- ☐ Riparian – Shrubs and trees adjacent to a river, stream, or creek
- ☐ Rocky – Cliffs, rocky outcrops, rockslides, etc.
- ☐ Shrub-steppe – An even mixture of shrubs and grasses

What wildlife species have you observed on your property?

Are there any components of your land you would like to know more about? For example, soil types.

Would you like a complete resource management plan done on the entire or portion of your land/operation?

- ☐ Yes
- ☐ No
- ☐ Not sure

Please explain:

_____

_____

_____

_____

_____

Additional Comments or Information

_____

_____

_____

_____

_____

_____

_____

_____

Appendix E
Goals and Measurable Benchmarks Data

APPENDIX E: Goals and Measurable Benchmarks Data

Methods

Linking Stewardship Practices to Resource Protection

Conservation practice benefits are related to critical areas functions and values through the use of the national conservation practice physical effect (CPPE) scores for each practice developed by U.S. Department of Agriculture (USDA; NRCS 2017). The CPPE describes how Natural Resources Conservation Service (NRCS) practices affect the human-economic environment (e.g., Agricultural Viability) and natural resources (e.g., Critical Functions). CPPE, developed by USDA NRCS economists, helps field planners describe in detail how each practice affects agricultural viability and natural resource critical functions. Scores range between +5 and -5, with positive scores denoting a functional beneficial effect, 0 denoting no effect, and negative scores having an adverse effect.

For each of the four key critical area functions (i.e., soil health, hydrology, water quality, and habitat), resource concerns were tailored to Asotin County by including concerns applicable to the County and were averaged together to provide an overall function score. Where a resource concern was listed as not applicable to a particular practice, this resource concern was not factored into the average function score. Table 1 and Attachments 1 and 2 provide additional details on methods applied to summary tables of practice effects on resource function in Asotin County:

- **Table 1: CPPE Resource Concerns for Asotin County** summarizes the resource concerns identified as applicable to Asotin County conditions, pared down for applicability from the comprehensive list of resource concerns in the NRCS National CPPE Summary Tool, dated 7/28/2015 and available from the NRCS CPPE webpage (NRCS 2017) at https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/technical/econ/data/?cid=nrcs143_009740.
- **Attachment 1: Asotin County CPPE Resource Concerns and Scores** provides a detailed summary of applicable individual resource scores (identified in Table 1) and average function scores per key critical area function for all NRCS conservation practices. Resource concerns listed as a zero (and colored in red) indicate the score is applicable to the conservation practice as having no effect. Zero scores not highlighted in red indicate a resource concern that is not applicable to the practice and is therefore not factored into the average function score.
- **Attachment 2: Asotin County Practice Toolbox with CPPE Averaged Function Scores** provides an overview of NRCS conservation practices currently implemented in Asotin County, showing quantitative scores and additional applicable and key practices (scores greater than 3) for each function category.

- **Attachment 3: Asotin County Detailed Protection and Enhancement Benchmarks** provides a detailed table of protection and enhancement measurable benchmarks and performance objectives for the 5-year reporting increments (2021 and 2026). This table provides data specific to individual conservation measures.

Table 1
CPPE Resource Concerns for Asotin County

Function	Resource Concern
Soil Health	The soil function score averaged both soil erosion and soil condition scores based on the associated resource concerns listed below.
Soil Erosion	• Sheet and rill • Wind • Ephemeral gully • Classic gully • Streambank/shoreline/conveyance
Soil Condition	• Organic matter depletion • Compaction • Subsidence • Contaminants: Salts or other chemicals
Hydrology	• Excessive seepage • Excessive runoff, flooding, or ponding • Excessive subsurface water • Drifted snow • Inefficient water use on irrigated land • Inefficient water use on non-irrigated land
Water Quality	• Pesticides in surface water • Pesticides in groundwater • Nutrients in surface water • Nutrients in groundwater • Salts in surface water • Salts in groundwater • Excess pathogens and chemicals from manure, bio-solids, or compost applications in surface water • Excess pathogens and chemicals from manure, bio-solids, or compost applications in groundwater • Excessive sediments in surface water • Elevated water temperature • Petroleum, heavy metals, and other pollutants transported to surface water • Petroleum, heavy metals, and other pollutants transported to groundwater
Habitat	• Inadequate food • Inadequate cover/shelter • Inadequate water • Inadequate space

Application for Future Practices

The spreadsheets in Attachments 1 and 2 may be used to track enrollment in future practices and to continue to assess functional indicators of these practices. New NRCS practices may also be added to Asotin County's palette of protection and enhancement tools (Attachment 2).

For practices outside of NRCS, equivalent function scores should be developed to estimate the benefit or impact on soil health, hydrology, water quality, and habitat based on the understanding that scores range from +5 and -5, with positive scores denoting a beneficial effect and negative scores indicating an impact. The following steps are suggested for this process:

- Assessing whether the new practice is similar to existing NRCS practices and using the resource concern scores from the existing NRCS practice as a starting point to develop function scores
- Use experience and available technical information to develop scores, with the understanding that although a practice may have a beneficial effect on a target resource, there may be impacts to other resources. Also, not all practices will have an effect on all possible resource concerns; many will have no effect, and some will not be applicable and should be listed as a zero.

Initial Results (2005 to 2010)

To track performance from implemented conservation practices from 2005 to 2010, enrollment in conservation practices was tabulated and average function scores (Attachment 2) were applied. This provided a functional indicator that accounted for the beneficial and adverse effects of each practice.

Although NRCS enrollment data are available since 2005, the discontinuation of practices during that period was not recorded. The rate of discontinuation of practices often varies based on whether implemented practices involve stewardship investment (e.g., irrigation management systems), stewardship actions (e.g., cover cropping), or permanent conversion into conservation easements. Table 2 summarizes the proposed approach to account for the varied disenrollment rates based on some of these categories of practices.

Table 2
Calculating Disenrollment for Conservation Practices

Assumed Range of Disenrollment/ Discontinuation	Conservation Practice Category	Example Practices
None	**Easements and Infrastructure** • Permanent conservation practices	• Permanent easements • Major infrastructure
Lower 0 to 2%	**Conservation Investments** • High barriers to entry/exit – Conservation investments – Maintenance cost – Effectiveness • Increases land productivity • Lowers cost	• Tillage management • Pest management • Nutrient management • Irrigation management • Fencing
Higher 0 to 6%	**Conservation Actions** • Low barriers to entry/exit – Easily removed • Reduced land in production • Rotational use – Market driven rotation • Reliance on unstable conservation funding or incentives (e.g., Conservation Resource Program)	• Habitat restoration • Prescribed grazing • Cover crop • Range planting

Figures 1 through 4 illustrate the functional indicator results from 2005 to 2010 based on reported practices enrolled/implemented and estimated discontinuation of practices within that time period. Figures 1 through 4 indicate a net gain in function over time for soil health, hydrology, water quality, and habitat.

Figure 1
Soil Health Functional Indictors: 2005 to 2010 NRCS Practice Enrollments

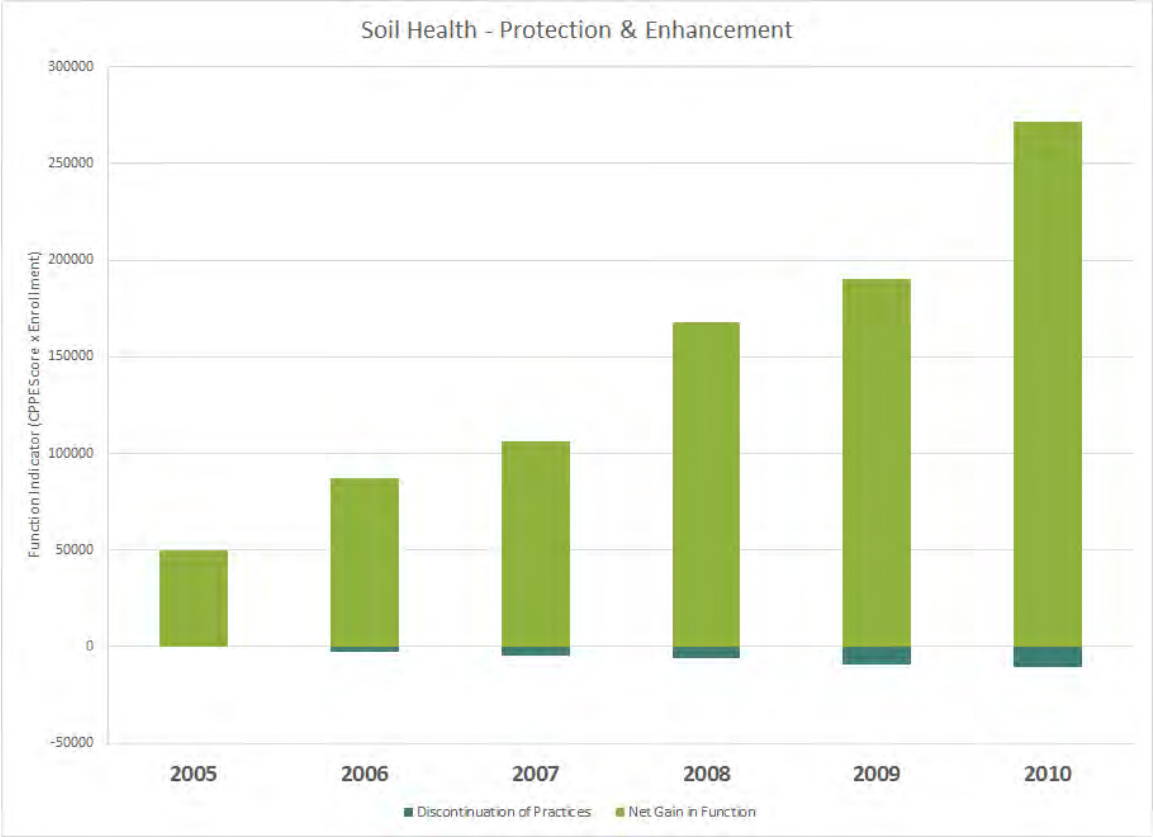


Figure 2
Hydrology Functional Indictors: 2005 to 2010 NRCS Practice Enrollments

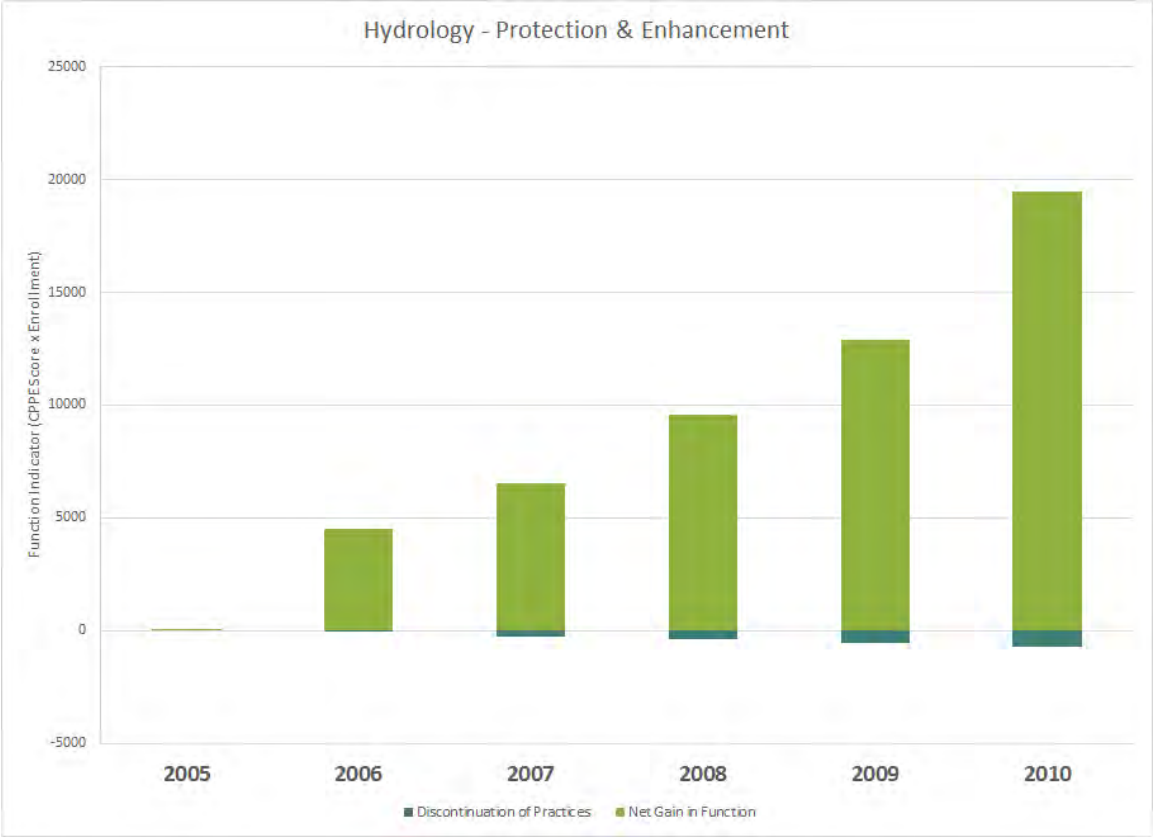


Figure 3
Water Quality Functional Indictors: 2005 to 2010 NRCS Practice Enrollments

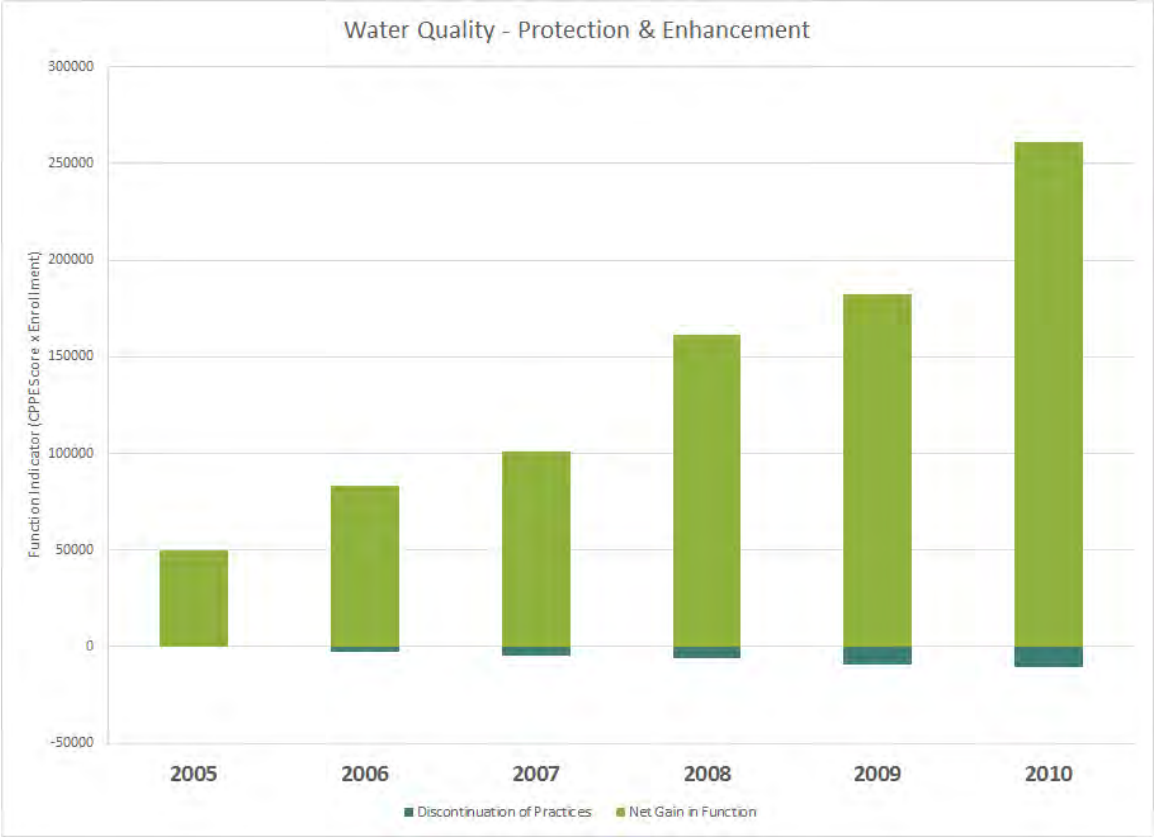
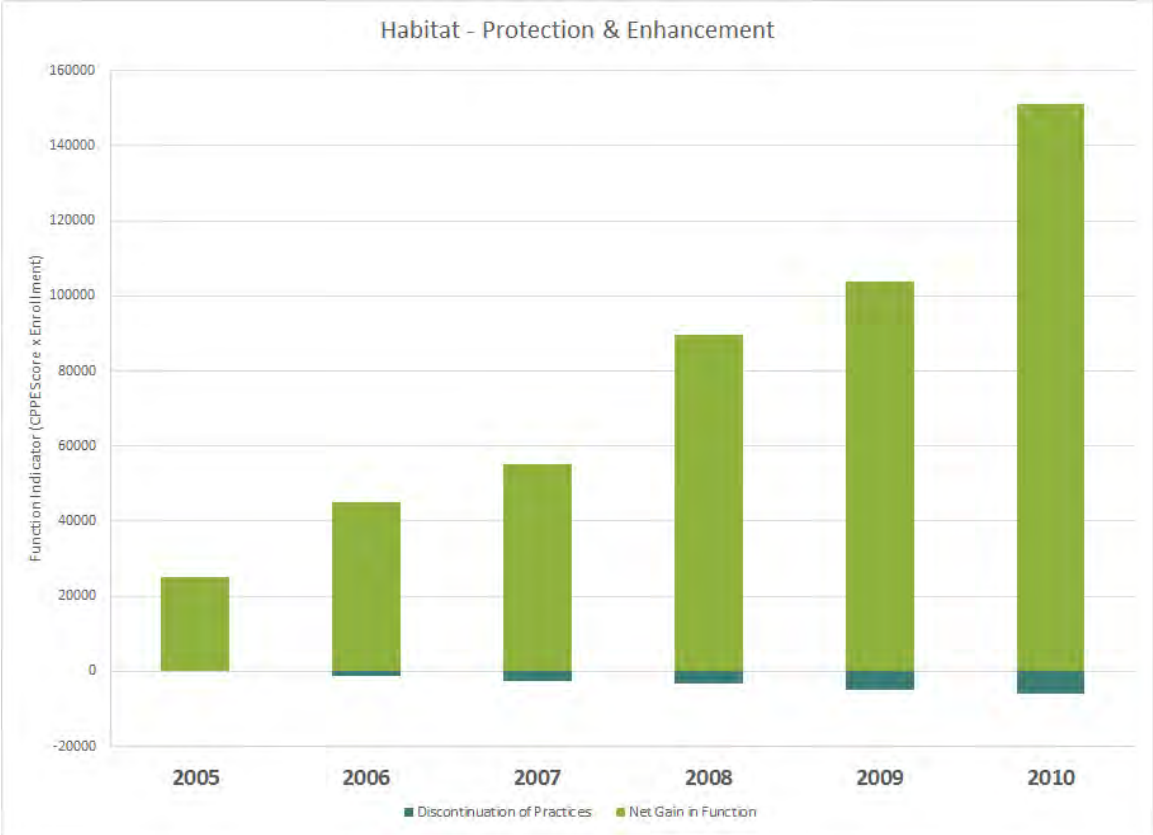


Figure 4
Habitat Functional Indictors: 2005 to 2010 NRCS Practice Enrollments



Reference

NRCS (Natural Resources Conservation Service), 2017. NRCS Conservation Practice Physical Effects CPPE|NRCS Economics. Cited March 2017. Available from: https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/technical/econ/data/?cid=nrcs143_009740.

Attachment 1
Asotin County CPPE Resource Concerns and Scores

Asotin County VSP Work Plan	Code	Soil Erosion – Sheet and Rill	Soil Erosion – Wind	Soil Erosion – Ephemeral Gully	Soil Erosion – Classic Gully	Soil Erosion – Streambank/ Shoreline/ Conveyance	Soil Erosion Average	Soil Condition – Organic Matter Depletion	Soil Condition – Compaction	Soil Condition – Subsidence	Soil Condition – Contaminants: Salts or Other Chemicals	Soil Condition Average	Water Quantity – Excessive Seepage	Water Quantity – Excessive Runoff, Flooding, or Ponding	Water Quantity – Excessive Subsurface Water	Water Quantity – Drifted Snow	Water Quantity – Inefficient Water Use on Irrigated Land	Water Quantity – Inefficient Water Use on Nonirrigated Land	Hydrology Average	Water Quality Degradation - Pesticides in Surface Water	Water Quality Degradation - Pesticides in Groundwater	Water Quality Degradation - Nutrients in Surface water	Water Quality Degradation - Nutrients in Groundwater	Water Quality Degradation - Salts in Surface Water	Water Quality Degradation - Salts in Groundwater	Water Quality Degradation - Excess Pathogens and Chemicals from Manure, Bio-solids or Compost Applications in Surface Water	Water Quality Degradation - Excess Pathogens and Chemicals from Manure, Bio-solids or Compost Applications in Groundwater	Water Quality Degradation - Excessive Sediment in Surface Water	Water Quality Degradation - Elevated Water Temperature	Water Quality Degradation - Petroleum, Heavy Metals and Other Pollutants Transported to Surface Water	Water Quality Degradation - Petroleum, Heavy Metals and Other Pollutants Transported to Groundwater	Water Quality Average	Fish and Wildlife – Inadequate Food	Fish and Wildlife – Inadequate Cover/Shelter	Fish and Wildlife – Inadequate Water	Fish and Wildlife – Inadequate Space	Habitat Average	Wetlands	Fish/Wildlife Habitat Conservation Areas	Critical Aquifer Recharge Areas	Geologically Hazardous Areas (Erosion)	Frequently Flooded Areas
Access Control	**472**	3	1	4	4	5	3.40	1	4	0	0	2.50	1	1	2	0	0	3	1.75	1	0	1	1	0	0	1	1	3	3	1	1	1.44	3	3	1	1	2.00	**0.00**	**0.00**	0.60	**0.00**	2.22
Access Road	**560**	1	0	1	1	0	1.00	0	2	0	0	2.00	0	1	0	0	2	0	1.50	0	0	0	0	0	0	0	0	1	0	0	0	1.00	0	0	0	-1	-1.00	**-1.00**	**-1.00**	0.00	**-2.00**	**-1.00**
Agrichemical Handling Facility	**309**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	5	5	5	5	0	0	0	0	0	0	0	0	5.00	0	0	0	0	0.00	1.67	0.00	2.00	0.00	1.00
Air Filtration and Scrubbing	**371**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
Alley Cropping	**311**	5	5	5	3	0	4.50	5	2	0	1	2.67	1	1	2	3	3	0	2.00	3	1	3	1	1	1	3	1	3	0	1	1	1.73	2	2	0	3	2.33	2.02	2.33	1.00	4.50	2.65
Amending Soil Properties with Gypsum Products	**333**	1	1	0	0	0	1.00	1	0	0	1	1.00	0	1	0	0	1	0	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0.00	0.33	0.00	0.00	1.00	0.60
Amendments for Treatment of Agricultural Waste	**591**	0	0	0	0	0	0.00	1	0	0	0	0.50	0	0	0	0	1	0	0.50	0	0	2	2	2	2	2	2	0	0	2	2	2.00	0	0	0	0	0.00	0.83	0.00	1.60	0.00	0.60
Anaerobic Digester	**366**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	2	0	0	0	2	0	0	0	0	0	0.67	0	0	0	0	0.00	0.22	0.00	0.00	0.00	0.13
Animal Mortality Facility	**316**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	2	2	0	0	2	2	0	0	0	0	2.00	0	0	0	0	0.00	0.67	0.00	0.80	0.00	0.40
Anionic Polyacrylamide (PAM) Erosion Control	**450**	2	2	2	0	0	2.00	0	2	0	0	2.00	0	0	0	0	1	1	1.00	2	-1	2	-1	0	0	0	0	4	0	1	0	1.17	0	0	0	0	0.00	0.72	0.00	-0.40	2.00	1.23
Aquaculture Ponds	**397**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	-2	-2	0	0	-2	0	0	-2	0	0	-2.00	0	0	1	0	1.00	-0.33	1.00	-0.40	0.00	-0.20
Aquatic Organism Passage	**396**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	2	0	0	2.00	0	2	1	5	2.67	1.56	2.67	0.00	0.00	0.93
Bedding	**310**	2	0	0	0	0	2.00	-1	-1	0	1	-0.33	0	5	0	0	0	-1	2.00	-2	1	-2	1	-2	1	-2	1	-1	0	-2	1	-0.55	0	0	0	0	0.00	0.48	0.00	1.00	2.00	0.62
Bivalve Aquaculture Gear and Biofouling Control	**400**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	2	0	0	0	2	0	0	0	0	0	2.00	0	0	2	0	2.00	1.33	2.00	0.00	0.00	0.80
Brush Management	**314**	1	1	1	1	0	1.00	0	0	0	0	0.00	0	1	0	0	0	2	1.50	-1	0	0	0	0	0	0	0	2	0	0	0	0.50	2	2	0	1	1.67	**-2.00**	**-2.00**	0.00	1.00	**-2.00**
Building Envelope Improvement	**672**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
Channel Bed Stabilization	**584**	0	0	0	2	2	2.00	0	0	0	0	0.00	2	0	0	0	0	0	2.00	0	0	0	0	0	0	0	0	1	1	0	0	1.00	1	1	1	2	1.25	1.42	1.25	0.00	2.00	1.25
Clearing & Snagging	**326**	0	0	0	0	2	2.00	0	0	0	0	0.00	0	2	0	0	0	0	2.00	0	0	0	0	0	0	0	0	-2	-1	0	0	-1.50	-2	-2	-1	-2	-1.75	**-1.00**	**-1.75**	0.00	**0.00**	**-2.00**
Combustion System Improvement	**372**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
Composting Facility	**317**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	2	2	0	0	2	2	0	0	0	0	2.00	0	0	0	0	0.00	0.67	0.00	0.80	0.00	0.40
Conservation Cover	**327**	4	5	2	2	2	3.00	5	3	0	2	3.33	1	2	1	1	0	2	1.40	3	3	4	4	5	2	1	2	4	0	0	0	3.11	4	4	0	2	3.33	**1.00**	**4.00**	2.20	3.00	**1.00**
Conservation Crop Rotation	**328**	4	4	0	0	0	4.00	4	1	0	2	2.33	1	2	1	0	2	2	1.60	2	2	2	2	1	2	1	0	2	0	0	0	1.75	2	2	0	2	2.00	**0.00**	**0.00**	1.20	**0.00**	**0.00**
Constructed Wetland	**656**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	2	0	0	0	0	2.00	2	1	4	1	1	1	4	3	5	0	4	1	2.25	3	3	0	2	2.00	2.08	2.00	1.40	0.00	1.25
Contour Buffer Strips	**332**	3	0	0	0	0	3.00	2	0	0	0	2.00	-2	1	-1	0	0	0	-0.67	2	0	2	-1	1	-1	1	-1	2	0	0	0	0.56	2	2	0	2	2.00	0.63	2.00	-0.60	**0.00**	1.38
Contour Farming	**330**	2	0	0	0	0	2.00	1	0	0	0	1.00	-2	1	-1	0	0	1	-0.25	1	-1	2	-1	1	-1	1	0	2	0	0	0	0.50	0	0	0	0	0.00	0.08	0.00	-0.60	**0.00**	0.65
Contour Orchard and Other Perennial Crops	**331**	4	0	1	0	0	2.50	2	0	0	0	2.00	-2	1	-1	0	1	2	0.20	1	-1	2	-1	1	-1	0	0	2	0	0	0	0.43	0	0	0	0	0.00	**1.00**	**1.00**	**1.00**	**0.00**	1.03
Controlled Traffic Farming	**334**	0	0	0	0	0	0.00	0	4	0	0	4.00	0	0	0	0	1	1	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0.00	0.33	0.00	0.00	0.00	1.00
Cover Crop	**340**	4	4	3	0	0	3.67	2	2	0	1	1.25	1	2	1	0	1	2	1.40	3	3	3	3	0	3	2	3	4	0	0	0	3.00	2	2	0	2	2.00	**1.00**	**1.00**	2.40	**0.00**	**0.00**
Critical Area Planting	**342**	5	5	5	4	4	4.60	5	2	0	1	2.67	0	0	0	0	0	0	0.00	3	0	3	2	3	0	3	0	4	0	0	0	3.00	2	2	0	2	2.00	**1.00**	**1.00**	0.40	**1.00**	**2.00**
Cross Wind Ridges	**588**	0	4	0	0	0	4.00	1	0	0	0	1.00	0	0	0	0	0	0	0.00	1	0	1	0	1	0	0	0	1	0	0	0	1.00	0	0	0	0	0.00	0.33	0.00	0.00	4.00	1.20
Cross Wind Trap Strips	**589C**	0	4	0	0	0	4.00	2	0	0	0	2.00	0	0	0	0	0	0	0.00	2	0	2	0	1	0	0	0	1	0	0	0	1.50	0	2	0	2	2.00	1.17	2.00	0.00	4.00	1.90
Dam	**402**	0	0	0	2	1	1.50	0	0	0	-1	-1.00	-2	2	-1	0	2	0	0.25	0	0	0	-1	0	0	-2	0	2	0	0	0	-0.25	2	2	0	2	1.50	**-1.00**	1.50	**2.00**	**0.00**	**3.00**
Dam, Diversion	**348**	0	0	0	0	-1	-1.00	0	0	0	0	0.00	0	2	0	0	2	2	2.00	0	0	0	0	0	0	0	0	0	-2	0	0	-2.00	-2	-2	-2	-2	-2.00	-0.67	**1.00**	**2.00**	-1.00	-0.60
Deep Tillage	**324**	0	0	0	0	0	0.00	-4	5	-1	2	0.50	-2	0	2	0	2	2	1.00	0	0	1	-2	1	0	0	0	0	0	0	0	0.00	0	0	0	0	0.00	0.33	0.00	-0.40	0.00	0.30
Denitrifying Bioreactor	**605**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	3	1	0	0	0	0	0	0	0	0	2.00	0	0	0	0	0.00	0.67	0.00	0.20	0.00	0.40
Dike	**356**	0	0	0	1	-2	-0.50	0	0	0	0	0.00	-1	2	-1	0	0	0	0.00	2	2	0	0	0	0	0	0	0	0	0	0	1.33	-2	-2	0	1	-0.75	**-1.00**	-0.75	**-2.00**	-0.50	**2.00**
Diversion	**362**	1	0	2	2	1	1.50	0	0	0	0	0.00	-1	2	2	0	2	2	1.40	1	1	0	-1	0	0	1	0	2	0	1	0	0.71	0	0	0	0	0.00	**-1.00**	0.00	**-2.00**	**0.00**	0.72
Drainage Water Management	**554**	0	2	0	0	0	2.00	2	-1	2	0	1.00	1	-2	2	0	0	0	0.33	2	2	1	-1	0	0	1	1	0	0	2	0	0.89	0	0	2	2	2.00	1.07	2.00	0.40	2.00	1.24
Dry Hydrant	**432**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	-1	-1	-1.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0.00	-0.33	0.00	0.00	0.00	-0.20
Dust Control from Animal Activity on Open Lot Surfaces	**375**	0	2	0	0	0	2.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	1	0	1	0	1	0	0	0	0	0	1.00	0	0	0	0	0.00	0.33	0.00	0.00	2.00	0.60
Dust Control on Unpaved Roads and Surfaces	**373**	2	5	0	0	0	3.50	0	0	0	-1	-1.00	0	0	0	0	0	0	0.00	0	0	-1	0	-1	0	0	0	1	0	-1	0	-0.50	0	0	0	0	0.00	-0.17	0.00	0.00	3.50	0.40
Early Successional Habitat Development/Mgt.	**647**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	-2	0	0	-1.00	4	4	0	4	4.00	1.00	4.00	0.00	0.00	0.60
Emergency Animal Mortality Management	**368**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	2	2	0	0	2	2	0	0	0	0	2.00	0	0	0	0	0.00	0.67	0.00	0.80	0.00	0.40
Farmstead Energy Improvement	**374**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	-2	0	0	-2.00	0	0	0	0	0.00	-0.67	0.00	0.00	0.00	-0.40
Feed Management	**592**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	2	2	1	0	1	1	0	0	0	0	1.40	0	0	0	0	0.00	0.47	0.00	0.60	0.00	0.28
Fence	**382**	1	0	0	0	0	1.00	0	3	0	0	3.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	2	0	0	0	0	0	2.00	0	0	1	0	1.00	1.00	1.00	0.00	1.00	1.40
Field Border	**386**	4	4	1	0	1	2.50	4	2	0	0	2.00	0	1	0	0	0	0	1.00	2	2	1	1	0	1	1	0	2	0	0	0	1.43	2	2	0	2	2.00	1.48	2.00	0.80	**1.00**	**0.00**
Field Operations Emissions Reduction	**376**	1	4	0	0	0	2.50	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0.00	0.00	**0.00**	0.50
Filter Strip	**393**	0	0	0	0	0	0.00	5	0	0	0	5.00	0	0	0	0	0	0	0.00	2	1	5	2	1	1	3	1	5	0	4	1	2.36	2	2	0	2	2.00	**3.00**	**3.00**	1.20	0.00	1.87
Firebreak	**394**	-1	-1	-1	-1	0	-0.80	-2	-2	0	0	-2.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	-1	0	0	0	-1.00	0	0	0	-1	-1.00	-0.67	**1.00**	0.00	-0.80	-0.96
Fish Raceway or Tank	**398**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	-1	-1	-1	0	-1	-1	0	-1	0	0	-1.00	0	0	0	0	0.00	-0.33	0.00	-0.40	0.00	-0.20
Fishpond Management	**399**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	0	-2	0	0	0	0	0	0	0	0	-2.00	4	4	2	4	3.50	0.50	3.50	-0.40	0.00	0.30
Forage and Biomass Planting	**512**	1	1	0	0	0	1.00	1	2	0	0	1.50	0	1	0	0	0	0	1.00	1	0	1	0	0	0	1	0	1	0	1	0	1.00	1	1	0	0	1.00	1.00	**3.00**	**2.00**	1.00	1.10
Forage Harvest Management	**511**	1	1	0	0	0	1.00	1	3	0	0	2.00	0	0	0	0	1	1	1.00	2	0	1	0	0	0	1	0	0	0	1	0	1.25	1	1	0	0	1.00	1.08	**3.00**	0.00	1.00	1.25
Forest Stand Improvement	**666**	1	0	1	1	0	0.75	1	-1	0	0	0.00	0	0	0	0	0	3	3.00	0	0	1	2	1	0	1	1	0	1	1	1	0.75	3	1	0	3	2.33	**0.00**	**-1.00**	0.80	0.75	1.37
Forest Trails and Landings	**655**	-1	0	-1	-1	0	-0.75	-1	1	0	0	0.00	0	0	0	0	0	0	0.00	0	0	1	0	0	0	0	0	0	0	0	0	0.50	1	1	0	-1	0.33	0.28	0.33	0.00	-0.75	0.02
Fuel Break	**383**	-1	-1	-1	-1	0	-1.00	-3	-1	0	0	-2.00	0	0	-1	0	0	0	-1.00	-1	-1	0	0	0	0	0	0	-1	0	0	0	-1.00	1	-1	0	0	0.40	-0.53	0.40	-0.20	-1.00	-0.92
Grade Stabilization Structure	**410**	0	0	0	2	2	2.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	2	0	0	0	1.00	2	2	1	0	1.67	0.89	**0.00**	0.00	2.00	**3.00**
Grassed Waterway	**412**	0	0	5	4	1	3.33	3	0	0	-1	1.00	0	3	2	0	0	0	2.50	2	0	2	0	0	0	1	0	2	0	1	0	1.33	1	1	1	1	1.00	**1.00**	1.00	0.00	**1.00**	1.83
Grazing Land Mechanical Treatment	**548**	1	1	0	0	0	1.00	1	0	0	0	1.00	0	2	0	0	0	2	2.00	0	0	1	0	0	0	1	0	5	0	0	0	2.33	0	0	0	0	0.00	1.44	0.00	0.00	1.00	1.27
Groundwater Testing	**355**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Use Area Protection	**561**	2	2	2	0	0	2.00	0	-1	0	0	-0.50	0	-1	0	0	0	0	-1.00	0	0	1	0	0	0	2	0	2	0	0	0	1.67	0	0	0	-1	-1.00	-0.11	-1.00	0.00	**0.00**	0.23
Hedgerow Planting	**422**	0	1	0	0	0	1.00	2	1	0	0	1.50	0	0	0	2	0	0	2.00	1	0	2	0	0	0	0	0	0	1	0	0	1.33	4	4	0	4	4.00	**0.00**	4.00	0.00	1.00	**0.00**
Herbaceous Weed Control	**315**	4	4	2	2	4	3.20	0	0	0	0	0.00	0	0	0	0	2	0	2.00	-1	0	0	0	0	0	0	0	0	0	0	0	-0.25	2	2	0	1	1.67	1.14	**0.00**	0.00	**0.00**	1.32
Herbaceous Wind Barriers	**603**	0	4	0	0	0	4.00	2	0	0	0	2.00	0	0	0	0	0	3	3.00	1	0	1	0	0	0	0	0	1	0	0	0	1.00	2	2	0	2	2.00	2.00	2.00	0.00	4.00	2.40
High Tunnel System	**325**	0	0	-1	0	0	-1.00	1	0	0	0	1.00	0	-3	0	0	0	-1	-2.00	0	0	0	0	0	0	0	0	-1	0	0	0	-1.00	0	0	0	0	0.00	-1.00	0.00	0.00	-1.00	-0.60
Hillside Ditch	**423**	2	0	2	2	1	1.75	0	0	0	0	0.00	0	4	0	0	0	1	2.50	1	0	-1	-1	0	0	-2	0	2	0	-1	0	-0.25	0	0	1	0	1.00	1.08	1.00	-0.20	1.75	1.00
Integrated Pest Management	**595**	2	2	2	2	0	2.00	2	2	0	0	2.00	0	0	0	0	0	0	0.00	5	5	0	0	0	0	0	0	2	0	0	0	4.00	2	0	2	0	2.00	**3.00**	**3.00**	1.00	**0.00**	**0.00**
Irrigation Canal or Lateral	**320**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	2	-2	0	5	0	1.67	0	0	-2	0	0	0	-2	0	0	0	0	0	-1.33	0	0	1	0	1.00	0.44	1.00	0.00	0.00	0.27
Irrigation Ditch Lining	**428**	0	0	0	0	0	0.00	0	0	0	0	0.00	1	0	-1	0	5	0	1.67	0	0	1	1	1	2	-1	1	1	0	-1	1	0.60	0	0	1	0	1.00	1.09	1.00	1.00	0.00	0.65
Irrigation Field Ditch	**388**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	1	-1	0	5	0	1.25	0	0	0	0	0	0	-1	0	0	0	1	0	0.00	0	0	1	0	1.00	0.75	1.00	0.00	0.00	0.45
Irrigation Land Leveling	**464**	1	0	1	0	0	1.00	-2	-2	0	-1	-1.67	0	1	2	0	4	0	2.33	2	2	2	2	0	2	2	2	1	0	1	1	1.70	0	0	0	0	0.00	1.34	0.00	1.80	1.00	0.67
Irrigation Pipeline	**430**	0	0	0	2	0	2.00	0	0	0	0	0.00	1	0	1	0	2	0	1.33	0	0	1	0	1	2	1	1	1	0	0	1	1.14	0	0	0	0	0.00	**-1.00**	0.00	**-1.00**	**0.00**	0.90
Irrigation Reservoir	**436**	0	0	0	2	1	1.50	0	0	0	0	0.00	-1	2	-1	0	2	0	0.50	0	0	0	-1	0	0	0	0	2	0	0	0	0.50	2	-1	2	-1	0.50	0.50	0.50	-0.20	1.50	0.60
Irrigation System, Microirrigation	**441**	0	0	0	0	0	0.00	0	0	0	1	1.00	2	2	2	0	2	0	2.00	2	2	2	2	0	2	2	2	2	0	2	2	2.00	0	0	1	0	1.00	**-1.00**	1.00	**-1.00**	0.00	1.20
Irrigation System, Surface & Subsurface	**443**	0	1	0	-1	-1	-0.33	0	-1	0	0	-0.50	1	1	1	0	2	0	1.25	1	1	1	1	1	1	1	1	0	0	1	1	1.00	0	0	1	0	1.00	1.08	1.00	1.00	-0.33	0.48
Irrigation System, Tailwater Recovery	**447**	0	0	1	1	1	1.00	0	-1	0	-1	-1.00	-1	1	-1	0	2	0	0.25	2	2	2	-1	1	-1	1	0	1	0	4	-1	0.73	0	0	1	0	1.00	0.66	1.00	-0.20	1.00	0.40
Irrigation Water Management	**449**	0	3	0	0	0	3.00	1	0	0	2	1.50	0	0	2	0	2	0	2.00	3	2	3	2	3	2	3	2	3	0	3	2	2.55	0	4	0	3	3.50	**-1.00**	3.50	2.00	**0.00**	2.51
Karst Sinkhole Treatment	**527**	0	0	4	4	0	4.00	0	0	0	2	2.00	0	-2	0	0	0	0	-2.00	2	2	2	2	0	2	2	2	2	0	0	2	2.00	0	0	0	0	0.00	0.00	0.00	2.00	4.00	1.20
Land Clearing	**460**	0	0	0	0	0	0.00	-3	-1	0	0	-2.00	0	-1	0	0	0	0	-1.00	-1	0	-1	0	0	0	-1	0	-1	-2	-1	0	-1.00	-2	-2	0	-2	-2.00	-1.33	-2.00	0.00	0.00	-1.20
Land Reclamation, Abandoned Mined Land	**543**	4	4	4	1	0	3.25	3	1	0	4	2.67	0	3	0	0	0	0	3.00	0	0	0	0	1	1	3	0	4	0	0	1	2.00	2	2	0	1	1.67	2.22	1.67	0.40	3.25	2.52
Land Reclamation, Currently Mined Land	**544**	4	4	4	1	0	3.25	3	1	0	4	2.67	0	3	0	0	0	0	3.00	0	0	0	0	1	1	3	0	4	0	0	1	2.00	2	2	0	1	1.67	2.22	1.67	0.40	3.25	2.52
Land Reclamation, Landslide Treatment	**453**	2	2	2	0	0	2.00	2	0	0	0	0.67	2	0	2	0	0	0	2.00	0	0	0	0	0	0	1	0	4	0	4	0	3.00	2	2	0	0	2.00	2.33	2.00	0.00	2.00	1.93
Land Reclamation, Toxic Discharge Control	**455**	2	2	2	0	0	2.00	0	0	0	2	2.00	2	1	2	0	0	0	1.67	0	0	0	0	0	2	0	0	0	0	4	2	2.67	2	2	0	0	2.00	2.11	2.00	0.80	2.00	2.07
Land Smoothing	**466**	0	0	1	0	0	0.50	-2	-2	0	-1	-1.67	2	2	2	0	2	2	2.00	1	1	1	2	0	0	0	0	1	0	1	0	1.17	0	0	0	-1	-1.00	0.72	-1.00	0.60	0.50	0.20
Lighting System Improvement	**670**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
Lined Waterway or Outlet	**468**	0	0	5	2	0	3.50	0	0	0	0	0.00	2	2	2	0	0	0	2.00	0	0	0	2	0	0	0	0	2	0	0	0	2.00	-2	1	0	0	-0.50	**-1.00**	-0.50	0.40	**0.00**	1.40
Livestock Pipeline	**516**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
Livestock Shelter Structure	**576**	0	0	0	0	3	3.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	3	0	0	0	2	0	2	0	0	0	2.33	0	0	0	0	0.00	0.78	0.00	0.00	**0.00**	1.07
Mine Shaft & Adit Closing	**457**	0	0	0	0	0	0.00	0	0	2	0	2.00	0	0	2	0	0	0	2.00	0	0	0	0	0	2	0	0	0	0	2	1	1.67	0	0	0	2	2.00	1.89	2.00	0.60	0.00	1.53
Mole Drain	**482**	1	0	1	0	-1	0.20	-2	1	-2	2	-0.25	2	2	2	0	0	0	1.20	1	1	-4	2	-2	2	0	2	1	0	0	2	0.56	0	0	0	0	0.00	0.59	0.00	1.80	0.20	0.34
Monitoring Well	**353**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
Mulching	**484**	4	4	0	0	0	4.00	1	0	0	1	1.00	-1	1	-1	0	2	2	0.60	2	0	2	-1	1	-1	0	0	2	0	0	0	0.83	1	1	0	0	1.00	0.81	1.00	-0.40	4.00	1.49
Multi-Story Cropping	**379**	1	1	1	1	0	1.00	5	2	1	1	2.25	1	1	1	0	0	0	1.00	3	1	1	0	1	0	1	1	1	0	1	1	1.10	3	1	0	1	1.67	1.26	1.67	0.60	1.00	1.40
Nutrient Management	**590**	0	0	0	0	0	0.00	2	-1	0	4	1.67	0	0	0	0	0	0	0.00	0	0	5	5	3	3	4	4	0	0	2	2	3.50	0	0	0	0	0.00	**3.00**	**3.00**	2.80	0.00	1.03
Obstruction Removal	**500**	0	0	0	0	0	0.00	1	-1	0	0	0.00	0	0	0	2	0	0	2.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	-2	0	0	-2.00	0.00	-2.00	0.00	0.00	0.00
On-Farm Secondary Containment Facility	**319**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	5	5	5.00	0	0	0	0	0.00	1.67	0.00	1.00	0.00	1.00
Open Channel	**582**	0	0	0	0	2	2.00	0	0	0	0	0.00	1	5	2	0	0	0	2.67	0	0	-1	0	0	0	0	0	0	0	-1	0	-0.67	0	0	-2	0	-0.50	0.50	**1.00**	0.00	**0.00**	0.70
Pond	**378**	0	0	0	2	1	1.50	0	0	0	-1	-1.00	-2	2	-1	0	2	2	0.60	0	0	2	-1	0	0	-2	0	2	0	0	0	0.20	2	2	4	2	2.50	**-1.00**	2.50	**2.00**	**0.00**	**-1.00**
Pond Sealing or Lining, Concrete	**522**	0	0	0	0	0	0.00	0	0	0	1	1.00	1	0	2	0	2	2	1.75	0	0	2	2	0	3	0	2	0	0	0	1	2.00	0	0	1	0	1.00	1.58	1.00	1.60	0.00	1.15
Pond Sealing or Lining, Compacted Soil Treatment	**520**	0	0	0	0	0	0.00	0	0	0	1	1.00	1	0	2	0	2	2	1.75	0	0	2	2	0	3	0	2	0	0	0	1	2.00	0	0	1	0	1.00	**0.00**	1.00	**-1.00**	0.00	1.15
Pond Sealing or Lining, Flexible Membrane	**521A**	0	0	0	0	0	0.00	0	0	0	1	1.00	1	0	2	0	2	2	1.75	0	0	2	2	0	3	0	2	0	0	0	1	2.00	0	0	1	0	1.00	**0.00**	1.00	**-1.00**	0.00	1.15
Precision Land Forming	**462**	0	0	2	4	0	2.00	-2	-1	0	1	-0.67	2	2	2	0	0	2	2.00	1	1	1	2	0	1	0	1	1	0	1	1	1.11	0	0	0	0	0.00	1.04	0.00	1.20	2.00	0.89
Prescribed Burning	**338**	2	2	1	1	1	1.40	1	0	-1	-1	-0.33	0	1	0	0	0	0	1.00	0	0	2	1	0	0	0	0	1	0	1	0	1.25	2	2	0	4	2.67	1.64	2.67	0.20	1.40	1.20
Prescribed Grazing	**528**	4	4	3	1	3	3.00	4	3	0	2	3.00	0	1	0	0	0	2	1.50	2	2	3	3	2	2	3	3	3	2	0	0	2.50	2	2	4	4	3.00	**0.00**	**1.00**	**0.00**	**0.00**	**0.00**
Pumping Plant	**533**	0	0	0	0	0	0.00	0	0	2	0	2.00	2	2	2	0	2	2	2.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0.00	**-1.00**	0.00	0.00	0.00	0.80
Range Planting	**550**	4	4	4	2	2	3.20	4	4	0	1	3.00	0	0	0	1	0	2	0.75	2	2	1	1	1	1	1	1	2	1	2	1	1.33	2	2	0	4	2.67	**0.00**	**1.00**	1.20	**0.00**	**0.00**
Recreation Area Improvement	**562**	1	1	1	1	1	1.00	1	1	0	0	1.00	0	1	0	0	0	0	1.00	1	1	0	0	0	0	0	0	1	0	0	0	1.00	1	1	0	-1	0.33	0.78	0.33	0.20	1.00	0.87
Recreation Land Grading and Shaping	**566**	0	0	0	4	2	1.20	1	0	0	0	0.50	0	2	0	0	0	0	2.00	0	0	0	0	0	0	0	0	2	0	0	0	2.00	-2	-2	0	-2	-2.00	0.67	-2.00	0.00	1.20	0.74
Residue and Tillage Management, No Till	**329**	4	4	1	0	0	3.00	2	2	0	0	2.00	-1	2	-1	0	2	2	0.80	4	0	3	0	2	0	2	0	4	0	0	0	3.00	2	2	0	1	1.67	1.82	1.67	**2.00**	**0.00**	**0.00**
Residue and Tillage Management, Reduced Till	**345**	4	4	1	0	0	3.00	2	2	0	1	1.67	0	1	0	0	1	2	1.33	4	0	3	0	2	0	2	0	4	0	0	0	3.00	2	2	0	1	1.67	2.00	1.67	0.00	**0.00**	**0.00**
Restoration and Management of Rare or Declining Habitats	**643**	2	3	2	0	2	2.25	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	2	2	0	0	2.00	4	4	4	4	4.00	**0.00**	**5.00**	0.00	**0.00**	1.65
Riparian Forest Buffer	**391**	3	2	1	3	4	2.60	4	2	0	1	2.33	1	-1	2	0	0	0	0.67	3	1	5	5	1	1	3	1	5	5	3	1	2.83	5	5	1	5	4.00	2.50	**5.00**	1.80	**0.00**	**5.00**
Riparian Herbaceous Cover	**390**	2	2	1	0	4	2.25	4	4	0	2	3.33	2	-3	2	0	0	0	0.33	2	2	5	5	1	1	3	2	4	2	2	1	2.50	4	4	2	4	3.50	2.11	**5.00**	2.20	**0.00**	**4.00**
Road/Trail/Landing Closure and Treatment	**654**	5	1	5	5	4	4.00	5	2	0	0	2.33	1	3	4	0	0	1	2.25	0	0	1	1	0	0	1	1	3	1	3	1	1.50	1	1	1	3	1.50	**0.00**	1.50	0.60	**2.00**	**0.00**
Rock Barrier	**555**	5	0	5	1	1	3.00	0	0	0	0	0.00	1	0	1	2	0	0	1.33	0	0	0	0	1	-1	1	0	2	0	1	0	0.80	0	0	0	0	0.00	0.71	0.00	-0.20	3.00	1.03
Roof Runoff Structure	**558**	1	0	3	1	1	1.50	0	0	0	0	0.00	1	-1	1	0	0	3	1.00	0	0	2	2	2	0	2	0	1	0	0	0	1.80	0	0	0	0	0.00	0.93	0.00	0.40	**0.00**	0.86
Roofs and Covers	**367**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	-1	0	0	0	0	-1.00	0	0	0	0	0	0	0	1	0	0	1	1	1.00	0	0	0	0	0.00	0.00	0.00	0.40	0.00	0.00
Row Arrangement	**557**	3	1	3	0	0	2.33	1	0	0	1	1.00	-1	2	-1	0	4	4	1.60	1	-1	-2	2	0	0	1	0	2	0	0	0	0.43	0	0	0	0	0.00	0.68	0.00	0.20	2.33	1.07
Salinity and Sodic Soil Management	**610**	0	0	0	0	0	0.00	0	0	0	2	2.00	0	0	0	0	2	2	2.00	0	0	0	0	-2	-2	0	-1	0	0	0	-1	-1.50	0	0	0	0	0.00	0.17	0.00	-0.80	0.00	0.50

Asotin County VSP Work Plan	Code	Soil Erosion – Sheet and Rill	Soil Erosion – Wind	Soil Erosion – Ephemeral Gully	Soil Erosion – Classic Gully	Soil Erosion – Streambank/ Shoreline/ Conveyance	Soil Erosion Average	Soil Condition – Organic Matter Depletion	Soil Condition – Compaction	Soil Condition – Subsidence	Soil Condition – Contaminants: Salts or Other Chemicals	Soil Condition Average	Water Quantity – Excessive Seepage	Water Quantity – Excessive Runoff, Flooding, or Ponding	Water Quantity – Excessive Subsurface Water	Water Quantity – Drifted Snow	Water Quantity – Inefficient Water Use on Irrigated Land	Water Quantity – Inefficient Water Use on Nonirrigated Land	Hydrology Average	Water Quality Degradation - Pesticides in Surface Water	Water Quality Degradation - Pesticides in Groundwater	Water Quality Degradation - Nutrients in Surface water	Water Quality Degradation - Nutrients in Groundwater	Water Quality Degradation - Salts in Surface Water	Water Quality Degradation - Salts in Groundwater	Water Quality Degradation - Excess Pathogens and Chemicals from Manure, Bio-solids or Compost Applications in Surface Water	Water Quality Degradation - Excess Pathogens and Chemicals from Manure, Bio-solids or Compost Applications in Groundwater	Water Quality Degradation - Excessive Sediment in Surface Water	Water Quality Degradation - Elevated Water Temperature	Water Quality Degradation - Petroleum, Heavy Metals and Other Pollutants Transported to Surface Water	Water Quality Degradation - Petroleum, Heavy Metals and Other Pollutants Transported to Groundwater	Water Quality Average	Fish and Wildlife – Inadequate Food	Fish and Wildlife – Inadequate Cover/Shelter	Fish and Wildlife – Inadequate Water	Fish and Wildlife – Inadequate Space	Habitat Average	Wetlands	Fish/Wildlife Habitat Conservation Areas	Critical Aquifer Recharge Areas	Geologically Hazardous Areas (Erosion)	Frequently Flooded Areas
Saturated Buffer	**604**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	5	5	0	0	0	0	0	0	0	0	0	0	5.00	0	0	0	0	0.00	1.67	0.00	0.00	0.00	1.00
Sediment Basin	**350**	0	0	2	2	0	1.33	0	0	0	0	0.00	-2	2	-2	0	0	0	-0.67	2	-1	5	-1	2	-1	2	-1	4	0	2	-1	1.00	-1	-1	1	0	-0.33	0.00	-0.33	**2.00**	**-2.00**	0.27
Shallow Water Development and Management	**646**	0	0	0	0	0	0.00	1	0	0	0	1.00	0	2	0	0	0	0	2.00	0	0	1	1	0	-1	2	-1	2	0	2	1	0.70	4	2	2	4	3.00	1.90	**5.00**	0.00	0.00	**4.00**
Short Term Storage of Animal Waste and Byproducts	**318**	0	0	0	0	0	0.00	1	1	0	0	1.00	0	0	0	0	0	0	0.00	0	0	4	2	2	1	2	2	0	0	0	1	2.00	0	0	0	0	0.00	0.67	0.00	1.20	0.00	0.60
Silvopasture Establishment	**381**	4	3	3	2	2	2.80	3	0	0	0	3.00	1	2	1	2	0	2	1.60	2	1	3	2	1	1	1	1	3	1	1	0	1.50	1	1	0	1	1.00	1.37	1.00	1.20	**0.00**	**0.00**
Spoil Spreading	**572**	0	0	0	0	0	0.00	1	-1	0	0	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	2	0	0	0	2.00	0	0	0	0	0.00	0.67	0.00	0.00	0.00	0.40
Spring Development	**574**	0	0	0	1	1	1.00	0	-1	0	0	-1.00	2	1	2	0	2	0	1.80	0	0	0	0	1	0	1	0	1	0	2	0	1.25	0	0	4	2	3.00	**-3.00**	**-2.00**	**-2.00**	**-1.00**	1.21
Sprinkler System	**442**	0	2	0	0	0	2.00	0	-1	0	2	0.50	1	2	1	0	5	0	2.25	2	2	2	1	2	2	2	1	1	0	1	1	1.55	0	0	1	0	1.00	**-1.00**	1.00	1.40	**0.00**	**0.00**
Stormwater Runoff Control	**570**	0	0	2	0	3	2.50	0	1	0	0	1.00	-1	4	-1	0	0	0	0.67	0	0	2	0	0	0	0	0	4	0	2	0	2.67	0	0	0	0	0.00	1.11	0.00	0.00	2.50	1.37
Streambank and Shoreline Protection	**580**	0	0	0	0	4	4.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	1	0	0	0	1	0	2	1	0	0	1.25	2	2	0	2	1.50	0.92	**3.00**	0.00	**0.00**	**4.00**
Stream Crossing	**578**	0	0	0	2	2	2.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	1	0	0	0	0	0	3	0	2	0	0.67	0	0	0	0	0.00	-0.22	0.00	0.00	0.00	0.27
Stream Habitat Improvement and Management	**395**	0	0	0	0	5	5.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	2	2	0	0	2.00	2	3	3	4	3.00	1.67	3.00	0.00	**0.00**	**4.00**
Stripcropping	**585**	4	4	0	0	0	4.00	2	0	0	0	2.00	-2	1	-1	1	0	1	0.00	2	0	2	0	1	-1	1	0	2	0	0	0	1.17	2	2	0	1	1.67	0.94	1.67	-0.20	**1.00**	**0.00**
Structure for Water Control	**587**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	2	0	0	2	2	2.00	0	0	0	0	0	0	0	0	1	1	0	0	1.00	0	0	0	-1	-1.00	**-1.00**	**0.00**	0.00	0.00	**3.00**
Structures for Wildlife	**649**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	4	0	0	4.00	1.33	4.00	0.00	0.00	0.80
Subsurface Drain	**606**	4	-1	4	1	1	1.80	-2	2	-2	2	0.00	4	4	4	0	2	1	3.00	2	2	-2	1	-2	2	0	1	2	0	0	1	0.70	0	0	0	0	0.00	**-3.00**	0.00	**3.00**	**-1.00**	1.10
Surface Drainage, Field Ditch	**607**	1	-1	2	0	0	0.67	-2	1	-1	2	0.00	0	2	2	0	2	2	2.00	0	0	-2	1	-2	1	-2	1	1	0	-2	1	-0.20	0	0	0	0	0.00	0.60	0.00	**-1.00**	0.67	0.49
Surface Drainage, Main or Lateral	**608**	0	-1	2	0	0	0.50	0	0	0	0	0.00	0	2	2	0	2	2	2.00	0	0	-2	1	-2	2	-2	2	-1	0	-2	2	-0.22	0	0	0	0	0.00	0.59	0.00	1.40	0.50	0.46
Surface Roughening	**609**	0	3	0	0	0	3.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	-1	1	0	0	0.00	0	0	0	0	0.00	0.00	0.00	-0.20	3.00	0.60
Terrace	**600**	5	1	4	2	1	2.60	2	-1	0	0	0.50	-1	4	-1	-1	0	3	0.80	2	-2	2	-2	2	-2	2	-1	2	0	2	-1	0.36	0	1	0	0	1.00	**-1.00**	1.00	-1.60	**-1.00**	1.05
Trails and Walkways	**575**	1	1	1	4	2	1.80	0	2	0	0	2.00	0	2	0	0	0	0	2.00	0	0	0	0	0	0	0	0	2	0	0	0	1.50	4	4	2	0	3.33	**0.00**	**-1.00**	0.00	**-1.00**	**-1.00**
Tree/Shrub Establishment	**612**	5	5	4	2	2	3.60	4	2	0	1	2.33	2	0	2	1	0	1	1.50	2	2	2	2	2	2	2	2	3	2	3	0	2.08	3	3	3	0	3.00	**0.00**	3.00	1.20	**1.00**	2.50
Tree/Shrub Site Preparation	**490**	-1	-1	-2	-1	0	-1.25	-2	-1	0	0	-1.50	0	0	0	0	0	2	2.00	-1	-1	0	0	0	0	0	0	-1	0	0	0	-0.50	0	0	0	0	0.00	0.50	0.00	-0.20	-1.25	-0.25
Tree/Shrub Pruning	**660**	1	0	0	0	0	1.00	1	0	0	0	1.00	0	0	0	0	0	0	0.00	1	1	1	1	0	0	0	0	0	0	0	0	1.00	1	1	1	0	1.00	0.67	**0.00**	0.40	1.00	0.80
Underground Outlet	**620**	0	0	5	4	-1	2.67	0	0	0	0	0.00	0	4	0	0	0	0	4.00	-1	0	-1	0	0	0	-1	0	0	0	1	0	-0.50	0	0	0	0	0.00	**-3.00**	0.00	**3.00**	**-2.00**	1.23
Upland Wildlife Habitat Management	**645**	3	3	3	2	1	2.40	0	0	0	0	0.00	0	-3	2	0	0	0	-0.50	0	0	0	0	0	0	0	0	2	0	2	0	2.00	5	5	0	5	5.00	**0.00**	**5.00**	0.00	**0.00**	**0.00**
Vegetated Treatment Area	**635**	4	4	0	0	0	4.00	3	3	0	-2	1.33	-1	0	-2	0	0	0	-1.50	0	0	4	-2	2	-2	5	0	2	0	0	0	1.50	0	0	0	0	0.00	0.00	0.00	-0.80	4.00	1.07
Vegetative Barrier	**601**	4	1	1	0	0	2.00	0	0	0	-2	-2.00	0	0	0	0	0	0	0.00	2	0	2	0	1	0	1	0	2	0	2	0	1.60	1	1	1	1	1.00	0.87	1.00	0.00	2.00	0.52
Vertical Drain	**630**	0	0	0	1	0	1.00	0	0	0	0	0.00	0	4	-2	0	0	0	1.00	0	-2	1	-2	1	-1	1	-1	1	0	1	-1	-0.20	0	0	0	0	0.00	0.27	0.00	-1.40	1.00	0.36
Waste Facility Closure	**360**	0	0	0	0	0	0.00	0	0	0	2	2.00	0	0	0	0	0	0	0.00	0	0	2	2	0	1	0	2	0	0	0	0	1.75	0	0	0	0	0.00	0.58	0.00	1.00	0.00	0.75
Waste Recycling	**633**	0	0	0	0	0	0.00	1	0	0	0	1.00	0	0	0	0	1	1	1.00	0	0	2	2	2	2	0	2	0	0	0	0	1.43	0	0	0	0	0.00	0.81	0.00	1.20	0.00	0.69
Waste Separation Facility (no)	**632**	0	0	0	0	0	0.00	1	0	0	0	0.50	0	0	0	0	1	0	1.00	0	0	2	2	2	2	2	2	0	0	0	0	2.00	0	0	0	0	0.00	1.00	0.00	1.60	0.00	0.70
Waste Storage Facility	**313**	0	0	0	0	0	0.00	1	1	0	1	1.00	0	0	0	0	0	1	1.00	0	0	4	2	2	1	2	2	0	0	0	1	1.75	0	0	0	0	0.00	0.92	0.00	1.20	0.00	0.75
Waste Transfer	**634**	-1	-1	-1	0	0	-1.00	0	-1	0	0	-1.00	0	0	0	0	0	1	1.00	0	0	2	2	2	2	2	2	0	0	0	0	1.50	0	0	0	0	0.00	0.83	0.00	1.20	-1.00	0.10
Waste Treatment	**629**	0	0	0	0	0	0.00	1	1	0	0	1.00	0	0	0	0	1	0	0.25	0	0	2	2	2	2	2	2	0	0	2	2	2.00	0	0	0	0	0.00	0.75	0.00	1.60	0.00	0.65
Waste Treatment Lagoon	**359**	0	0	0	0	0	0.00	1	1	0	0	1.00	0	0	0	0	1	0	0.50	0	0	4	2	2	1	4	2	0	0	0	0	2.00	0	0	0	0	0.00	0.83	0.00	1.20	0.00	0.70
Water and Sediment Control Basin	**638**	0	0	2	2	0	2.00	0	0	0	0	0.00	-2	2	-2	0	0	0	-0.67	0	-1	0	-1	0	-1	0	-1	4	-2	0	-1	-0.43	0	0	2	0	2.00	0.30	2.00	**2.00**	**-2.00**	**-1.00**
Water Harvesting Catchment	**636**	0	0	0	0	0	0.00	0	0	0	0	0.00	1	0	0	0	0	0	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	4	2	3.00	**-1.00**	**0.00**	**2.00**	0.00	**-1.00**
Watering Facility	**614**	2	2	2	1	4	2.20	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	4	0	1	0	2	1	2	1	1	0	1.71	0	0	5	3	4.00	**-1.00**	**2.00**	0.20	**0.00**	0.00
Water Well	**642**	2	2	2	0	0	2.00	0	0	0	1	1.00	0	0	2	0	2	0	2.00	0	0	0	0	0	0	-1	0	0	0	0	0	-1.00	0	0	1	0	1.00	0.67	**0.00**	**-3.00**	**0.00**	1.00
Waterspreading	**640**	0	0	-1	0	-1.00	1	0	0	1	1.00	0	1	-1	0	1	2	0.75	1	-1	2	-1	1	-1	0	-1	0	0	1	-1	0.00	2	2	1	0	1.67	0.81	1.67	-1.00	-1.00	0.48
Well Decommissioning	**351**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	2	0	2	0	2	0	2	0	0	0	0	2.00	0	0	0	0	0.00	0.67	0.00	2.00	0.00	0.40
Wetland Creation	**658**	0	0	0	0	0	0.00	2	0	0	0	2.00	0	2	-1	0	0	0	0.50	1	1	3	1	1	0	1	0	2	0	2	0	1.50	5	5	2	4	4.00	2.00	4.00	0.40	0.00	1.60
Wetland Enhancement	**659**	0	0	0	0	0	0.00	1	0	0	0	1.00	0	2	0	0	0	0	2.00	1	1	3	1	1	0	1	0	2	0	2	0	1.50	5	5	2	4	4.00	**5.00**	4.00	**2.00**	**0.00**	**4.00**
Wetland Restoration	**657**	0	0	0	0	0	0.00	1	0	0	0	1.00	0	2	0	0	0	0	2.00	1	1	3	1	1	0	1	0	2	0	2	0	1.50	5	5	2	4	4.00	**4.00**	4.00	**2.00**	0.00	**4.00**
Wetland Wildlife Habitat Management	**644**	0	0	0	0	0	0.00	0	0	0	0	0.00	0	2	0	0	0	0	2.00	0	0	0	0	0	0	1	0	3	0	0	0	2.00	5	5	2	4	4.00	**4.00**	4.00	**2.00**	0.00	**4.00**
Windbreak/Shelterbelt Establishment	**380**	1	5	2	0	0	2.67	4	2	0	1	2.33	2	0	2	5	5	3	2.83	3	0	1	1	0	0	0	0	1	0	1	0	1.40	3	3	0	3	3.00	**0.00**	3.00	0.20	**0.00**	0.00
Windbreak/Shelterbelt Renovation	**650**	1	5	2	0	0	2.67	4	2	0	1	2.33	2	0	2	5	5	3	2.83	3	0	1	1	0	0	0	0	1	0	1	0	1.40	3	3	0	3	3.00	**0.00**	3.00	0.20	**0.00**	2.45
Woody Residue Treatment	**384**	1	1	1	1	0	1.00	-1	-2	0	0	-1.50	0	0	0	0	0	1	1.00	0	0	0	0	0	0	0	0	1	0	0	0	1.00	0	0	0	0	0.00	0.67	0.00	0.00	1.00	0.30

Attachment 2
Asotin County Practice Toolbox with CPPE Averaged Function Scores

Asotin County Conservation Practices

NRCS Practice Code	Conservation Practice	Direct Effect Scores					Function Effects: Average CPPE Scores				Critical Areas					Agricultural Viability					
		Wetlands	Fish/Wildlife Habitat Conservation Areas	Critical Aquifer Recharge Areas	Geologically Hazardous Areas (Erosion)	Frequently Flooded Areas	Soil Health[1]	Hydrology	Water Quality	Habitat	WET	FFA	CARA	GHA	HCA	Soil Health	Prevent Soil Loss	Moisture Management	Weed/ Pest Management	Pollinator/ Beneficial Organisms	Yield/ Fertility Management
313	Waste Storage Facility	0.92	0.00	1.20	0.00	0.75	0.50	1.00	1.75	0.00											
315	Herbaceous Weed Control	1.14	**0.00**	0.00	**0.00**	1.32	1.60	2.00	-0.25	1.67											
325	Seasonal High Tunnel	-1.00	0.00	0.00	-1.00	-0.60	0.50	0.00	0.00	0.00					x			x			
327	Conservation Cover	**1.00**	**4.00**	2.20	3.00	**1.00**	3.17	1.40	3.11	3.33	x	x		x	x	x	x		x	x	
328	Conservation Crop Rotate	**0.00**	**0.00**	1.20	**0.00**	**0.00**	3.17	1.60	1.75	2.00	x			x	x	x	x	x	x	x	x
329	Residue and Tillage Management - No-till/ Strip Till/ Direct Seed	1.82	1.67	**2.00**	**0.00**	**0.00**	2.50	0.80	3.00	1.67	x	x	x	x	x	x	x	x			x
330	Contour Farming	0.08	0.00	-0.60	**0.00**	0.65	1.50	-0.25	0.50	0.00		x			x	x	x	x	x	x	x
331	Contour Orchard	**1.00**	**1.00**	**1.00**	**0.00**	1.03	2.25	0.20	0.43	0.00		x			x	x	x	x	x	x	x
332	Contour Buffer	0.63	2.00	-0.60	**0.00**	1.38	2.50	-0.67	0.56	2.00		x			x	x	x	x	x	x	x
340	Cover Crop	**1.00**	**1.00**	2.40	**0.00**	**0.00**	2.46	1.40	3.00	2.00	x	x	x	x	x	x	x	x	x	x	x
342	Critical Area Planting	1.00	**1.00**	0.40	**1.00**	2.00	3.63	0.00	3.00	2.00				x							
345	Residue Management - Mulch Till	2.00	1.67	0.00	**0.00**	**0.00**	2.33	1.33	3.00	1.67	x	x	x	x	x	x	x	x			x
350	Sediment Basin	0.00	-0.33	**2.00**	**-2.00**	0.27	0.67	-0.67	1.00	-0.33				x			x				
378	Pond	**-1.00**	2.50	**2.00**	**0.00**	**-1.00**	0.25	0.60	0.20	2.50	x	x						x		x	
380	Windbreak/Shelterbreak	**0.00**	3.00	0.20	**0.00**	**0.00**	2.50	2.83	1.40	3.00	x	x		x	x	x	x	x	x	x	x
381	Silvopasture Establishment	1.37	1.00	1.20	**0.00**	**0.00**	2.90	1.60	1.50	1.00	x			x	x		x			x	
382	Fence	1.00	1.00	0.00	1.00	1.40	2.00	0.00	2.00	1.00	x			x	x		x			x	
383	Fuel Break	-0.53	0.40	-0.20	-1.00	-0.92	-1.50	-1.00	-1.00	0.40									x		
384	Woody Residue Treatment	0.67	0.00	0.00	1.00	0.30	-0.25	1.00	1.00	0.00									x		
386	Field Border	1.48	2.00	0.80	**1.00**	**0.00**	2.25	1.00	1.43	2.00	x	x	x	x	x		x	x			x
390	Riparian Herbaceous Cover	2.11	**5.00**	2.20	**0.00**	**4.00**	2.79	0.33	2.50	3.50	x	x		x	x		x		x	x	
391	Riparian Forest Buffer	2.50	**5.00**	1.80	**0.00**	**5.00**	2.47	0.67	2.83	4.00	x	x		x	x		x		x	x	
393	Filter Strip	**3.00**	**3.00**	1.20	0.00	1.87	2.50	0.00	2.36	2.00	x	x		x	x		x		x	x	
394	Firebreak	-0.67	**1.00**	0.00	-0.80	-0.96	-1.40	0.00	-1.00	-1.00							x	x			
395	Stream Habitat Improvement and Management	1.67	3.00	0.00	**0.00**	**4.00**	2.50	0.00	2.00	3.00	x	x		x	x		x		x	x	
402	Dam	**-1.00**	1.50	**2.00**	**0.00**	**3.00**	0.25	0.25	-0.25	1.50		x	x				x		x		
410	Grade Stabization Structure	0.89	**0.00**	0.00	2.00	**3.00**	1.00	0.00	1.00	1.67		x					x				
412	Grassed Waterway	1.00	1.00	0.00	**1.00**	1.83	2.17	2.50	1.33	1.00		x	x	x	x		x		x		
422	Hedgerow Planting	**0.00**	4.00	0.00	1.00	**0.00**	1.25	2.00	1.33	4.00	x	x	x	x	x		x	x			x
430	Irrigation Pipeline	**-1.00**	0.00	**-1.00**	**0.00**	0.90	1.00	1.33	1.14	0.00			x				x				x
441	Irrigation system, microirrigation (No)	**-1.00**	1.00	**-1.00**	0.00	1.20	0.50	2.00	2.00	1.00	x		x	x	x		x	x			x
442	Sprinkler System	**-1.00**	1.00	1.40	**0.00**	**0.00**	1.25	2.25	1.55	1.00	x		x	x	x	x	x	x			x
449	Irrigation Water Management	**-1.00**	3.50	2.00	**0.00**	2.51	2.25	2.00	2.55	3.50	x		x	x	x						
472	Access Control	**0.00**	**0.00**	0.60	**0.00**	2.22	2.95	1.75	1.44	2.00	x	x	x	x	x	x	x		x	x	x
484	Mulching	0.81	1.00	-0.40	4.00	1.49	2.50	0.60	0.83	1.00	x	x		x	x				x	x	
490	Tree/Shrub Site Preparation	0.50	0.00	-0.20	-1.25	-0.25	-1.38	2.00	-0.50	0.00	x	x		x	x				x	x	
500	Obstruction Removal	0.00	-2.00	0.00	0.00	0.00	0.00	2.00	0.00	-2.00											
511	Foage Harvest Management	**1.08**	**3.00**	0.00	1.00	1.25	1.50	1.00	1.25	1.00	x	x	x	x	x	x	x	x	x	x	x
512	Forage and Biomass Planting	1.00	**3.00**	**2.00**	1.00	1.10	1.25	1.00	1.00	1.00	x	x	x	x	x	x	x	x	x	x	x
516	Pipeline	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			x	x	x						x
528	Prescribed Grazing	**0.00**	**1.00**	0.00	**0.00**	**0.00**	3.00	1.50	2.50	3.00	x	x	x	x	x		x				x
533	Pumping Plant	**-1.00**	0.00	0.00	0.00	0.80	1.00	2.00	0.00	0.00		x			x		x		x		x
550	Range Planting	**0.00**	**1.00**	1.20	**0.00**	**0.00**	3.10	0.75	1.33	2.67				x	x	x	x		x	x	x
560	Access Road	**-1.00**	**-1.00**	0.00	**-2.00**	**-1.00**	1.50	1.50	1.00	-1.00				x			x				
561	Heavy Use Area Protection	-0.11	-1.00	0.00	**0.00**	0.23	0.75	-1.00	1.67	-1.00				x	x		x				
574	Spring Development	**-3.00**	**-2.00**	**-2.00**	**-1.00**	1.21	0.00	1.80	1.25	3.00		x					x		x		x
575	Trails/Walkways	**0.00**	**-1.00**	0.00	**-1.00**	**-1.00**	1.90	2.00	1.50	3.33											
578	Stream Crossing	-0.22	0.00	0.00	**0.00**	0.27	1.00	0.00	-0.67	0.00	x	x		x	x		x				
580	Streambank and Shoreline Protection	0.92	**3.00**	0.00	**0.00**	**4.00**	2.00	0.00	1.25	1.50				x			x				
582	Open Channel	0.50	**1.00**	0.00	**0.00**	0.70	1.00	2.67	-0.67	-0.50		x			x		x				
584	Channel Bed Stabilization	1.42	1.25	0.00	2.00	1.25	1.00	2.00	1.00	1.25				x			x				
585	Stripcropping	0.94	1.67	-0.20	**1.00**	**0.00**	3.00	0.00	1.17	1.67											
587	Structure for Water Control	**-1.00**	**0.00**	0.00	0.00	**3.00**	0.00	2.00	1.00	-1.00			x					x			
588	Cross wind Ridges	0.33	0.00	0.00	4.00	1.20	2.50	0.00	1.00	0.00				x			x				
590	Nutrient Management	**3.00**	**3.00**	2.80	0.00	1.03	0.83	0.00	3.50	0.00			x		x	x					x
595	Pest Management	**3.00**	**3.00**	1.00	**0.00**	**0.00**	2.00	0.00	4.00	2.00			x		x	x			x	x	
600	Terrace	**-1.00**	1.00	-1.60	**-1.00**	1.05	1.55	0.80	0.36	1.00				x			x				
601	Vegetative Barrier	0.87	1.00	0.00	2.00	0.52	0.00	0.00	1.60	1.00	x	x	x	x	x		x	x			x
606	Subsurface Drain	**-3.00**	0.00	**3.00**	**-1.00**	1.10	0.90	3.00	0.70	0.00			x					x		x	
612	Tree/Shrub Establishment	**0.00**	3.00	2.00	**1.00**	2.50	2.97	1.50	2.08	3.00	x		x	x	x		x			x	
612	Tree Planting	0.00	3.00	2.00	1.00	2.50	2.97	1.50	2.08	3.00	x		x	x	x		x			x	
614	Watering Facility	**-1.00**	**2.00**	0.20	**0.00**	**0.00**	1.10	0.00	1.71	4.00					x						x
620	Underground Outlet	**-3.00**	0.00	**3.00**	**-2.00**	1.23	1.33	4.00	-0.50	0.00			x					x			
636	Water Harvest Catchment	**-1.00**	**0.00**	**2.00**	0.00	**-1.00**	0.00	1.00	0.00	3.00			x					x			
638	Water Sediment Control	0.30	2.00	**2.00**	**-2.00**	**-1.00**	1.00	-0.67	-0.43	2.00			x								
642	Water Well	0.67	**0.00**	**-3.00**	**0.00**	1.00	1.50	2.00	-1.00	1.00					x			x			x
643	Restoration and Management of Rare and Declining Habitats	**0.00**	**5.00**	0.00	**0.00**	1.65	1.13	0.00	2.00	4.00					x				x	x	
644	Wetland Wildlife Habitat Management	4.00	4.00	**2.00**	0.00	**4.00**	0.00	2.00	2.00	4.00	x				x		x		x	x	
645	Upland Wildlife Habitat Management	**0.00**	5.00	0.00	**0.00**	**0.00**	1.20	-0.50	2.00	5.00					x		x		x	x	
646	Shallow Water Willdife - Wetland Creation	1.90	**5.00**	0.00	0.00	**4.00**	0.50	2.00	0.70	3.00	x	x			x		x	x		x	
650	Shelterbreak/Windbreak Renovation	**0.00**	3.00	0.20	**0.00**	**2.45**	2.50	2.83	1.40	3.00				x	x		x		x	x	
654	Road/Trail Closure	**0.00**	1.50	0.60	**2.00**	**0.00**	3.17	2.25	1.50	1.50	x				x	x	x		x	x	
657	Wetland Restoration	**4.00**	4.00	**2.00**	0.00	**4.00**	0.50	2.00	1.50	4.00	x	x	x		x	x	x		x	x	
659	Wetland Enhancement	**5.00**	4.00	**2.00**	0.00	**4.00**	0.50	2.00	1.50	4.00	x	x	x		x	x	x		x	x	
666	Forest Stand Improvements	0.00	-1.00	0.80	0.75	1.37	0.38	3.00	0.75	2.33	x	x		x	x	x	x		x	x	
NA	Other Chemical Controls	1.82	1.67	0.00	3.00	2.09	2.33	1.33	3.00	1.67											
NA	Silvopasture for wildlife habitat	2.61	3.33	2.20	3.00	2.84	3.17	1.40	3.11	3.33											
NA	Harvest allowing wildlife escape/flushing	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	x	x									
NA	Retrofit watering facility for wildlife escape	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	x										

Notes:
1. Soil health function scores are based on the average scores for Soil Condition and Soil Erosion as summarized in Attachment 1.
2. Bold text indicates adjustments based on local conditions and best professional judgement
CARA: Critical Aquifer Recharge Areas
CPPE: conservation practice physical effect
FFA: Frequently Flooded Areas
GHA: Geologically Hazardous Areas
HCA: Fish and Wildlife Habitat Conservation Areas
NRCS: Natural Resources Conservation Service
WET: Wetlands

Attachment 3
Detailed Protection and Enhancement Benchmarks

Stewardship Strategies		Historic Enrollment Data in Key Practices (2000- 2010)			Estimated Yearly Disenrollement		Protection Benchmark		Enhancment Benchmark	
Type	Key Practices	Unit	Total	Annual Average	%	Value	2021 Monitoring Benchmark	2026 Monitoring Benchmark	2021 Predicted Benchmark	2026 Predicted Benchmark
Residue and Tillage Management	• Reduced Till / Mulch Till	ac	1,187	108	6%	6.48	65	97	529	1,090
	• No Till/ Strip Till / Direct Seed	ac	19,418	1,765	6%	105.92	1,059	1,589	8,650	17,829
Pest Management	• Pest Management	ac	36,788	3,344	6%	200.66	2,007	3,010	16,387	33,778
Nutrient Management	• Nutrient Management	ac	19,456	1,769	6%	106.12	1,061	1,592	8,667	17,864
Water Management	• Microirrigation	ac	1	0.13	2%	0.00	0.03	0.04	0.67	1
	• Sediment Basin	no	74	7	2%	0.13	1.35	2.02	5	10
	• Stream Crossing	no	11	1	2%	0.02	0.20	0.30	5	11
Livestock Management	• Prescribed Grazing	ac	22,495	2,045	6%	122.70	1,227	1,841	10,021	20,655
	• Heavy Use Area	ac	0	0	6%	0.00	0	0	0	0
	• Animal Trails and Walkways	ft	3	0	2%	0.01	0.1	0	2	3
	• Watering Facility	no	167	15	2%	0.30	3.0	5	50	100
	• Water Well	no	8	1	2%	0.01	0.1	0	4	8
Soil Management	• Conservation Crop Rotation	ac	0	0	6%	0.00	0	0	0	0
	• Pasture and Hay Planting	ac	10	1	6%	0.05	1	1	4	9
	• Filter Strip	ac	0	0	6%	0.00	0	0	0	0
	• Field Border	ac	0	0	6%	0.00	0	0	0	0
	• Mulching	ac	10	1	6%	0.06	1	1	5	9
	• Terrace	ft	56,042	5,095	6%	305.68	3,057	4,585	24,964	51,457
	• Grassed Waterway	ft	4,240	385	6%	23.13	231	347	1,889	3,893
	• Windbreak/Shelterbelt Renovation	ft	3,766	342	6%	20.54	205	308	1,678	3,458
Habitat Management - Direct Effects	• Conservation Cover	ac	24	2	6%	0.13	1	2	11	22
	• Critical Area Planting	ac	112	10	6%	0.61	6	9	50	103
	• Access Control	ac	7,377	671	6%	40.24	402	604	3,286	6,773
	• Tree/Shrub Establishment	ac	626	57	6%	3.42	34	51	279	575
	• Tree/Shrub Pruning	ac	58	5	6%	0.31	3	5	26	53
	• Forest Stand Improvement	ac	79	7	6%	0.43	4	6	35	72
	• Range Planting	ac	10	1	6%	0.05	1	1	4	9
	• Riparian Forest Buffer	ac	252	23	6%	1.37	14	21	112	231
	• Stream Habitat Improvement and Management	ac	0	0	6%	0.00	0	0	0	0
	• Upland Wildlife Habitat Management	ac	106	10	6%	0.58	6	9	47	97
	• Fencing	ft	167,728	15,248	2%	304.96	3,050	4,574	80,814	163,154
	• Hedgerow	ft	3,350	305	2%	6.09	61	91	1,614	3,259
	• Pond	no	23	2	2%	0.04	0	1	11	22
	• Spring Development	no	62	6	2%	0.11	1	2	30	60

Appendix F
Outreach Plan

Appendix F: Asotin County VSP Outreach

The Asotin County Voluntary Stewardship Program (VSP) Outreach Plan is intended to provide a summary of outreach activities conducted by the Asotin County Conservation District (ACCD) to support development of the VSP Work Plan as well as provide a framework for outreach during implementation. This will ensure that outreach to the agricultural community and other interested parties are involved in all aspects of the VSP.

Outreach for Plan Development

Work Group members were recruited by the ACCD. Information regarding the VSP process was provided at the ACCD Annual meeting on March 3, 2016, through direct mailings to over 900 people (April and September 2016), and during VSP outreach meetings on April 28, 2016 and September 29, 2016. In addition, the ACCD reached out to local groups, including the Asotin County Cattlemen and Asotin County Wheat Growers. Individual Work Group members volunteered to provide representation of agricultural sectors including dryland crop and irrigated crop/orchard and livestock producers. The ACCD also strived to get representation from different geographic areas throughout the county. Non-producer members were included to provide representation from the local, state, and federal government sector, the Nez Perce Tribe, and interest groups (e.g., Tri-State Steelheaders) to provide technical support to the process.

Table 1 includes a summary of public communication and outreach materials used throughout the VSP Work Plan development process.

Table 1
Past Public Communication and Outreach Materials

Type	Description
Create email list	ACCD created an email list containing all interested parties (e.g., Work Group, Technical Committee, public) for the VSP Work Plan process. All meeting notices and materials were provided to the email list. The email list was open to all subscribers via the ACCD VSP website: https://asotincd.org/voluntary-stewardship-program/
Update website	ACCD created a webpage specifically for the VSP and updated it with meeting notices, meeting materials, and documents: https://asotincd.org/voluntary-stewardship-program/
Newsletters and Latest News	ACCD published newsletters and the latest news on their publicly available website: https://asotincd.org/. Information about VSP was included in the summer and fall 2017 newsletters.
Postcards and Meeting Announcements	ACCD sent approximately 900 postcards notifying landowners of the VSP planning process.
Meetings	ACCD hosted two outreach meetings to provide information to producers, partners, and the public regarding the VSP planning process and to seek participation in the plan development.

The following includes local groups or landowners that participated in the Work Group:

- Karst Riggers – Asotin County
- Megan Stewart – ACCD
- Tim Simpson – Asotin County PUD
- Heidi McRoberts – Nez Perce Tribe
- Brit Ausman – Landowner (dryland farmer, custom farming, and grain trucking)
  - Location: Anatone Flat, Myers Ridge, Blue Mountains
- Brad Forgey – Landowner (dryland farmer and beef cattle rancher)
  - Location: Anatone, Anatone Flat, and Cloverland
- Casey Hagenah – Landowner (beef cattle rancher)
  - Location: George Creek
- Jerry Hendrickson – Landowner (leases property and conservation program participant)
  - Location: Snake River, Anatone Flat, Blue Mountains
- Levi Luhn – Landowner (beef cattle rancher)
  - Location: Snake River, Tenmile Creek
- Ron Scheibe – Landowner (dryland farmer, beef cattle rancher, and contractor)
  - Location: Snake River, Tenmile Creek
- Eric Wilson – Landowner (irrigated farmer, orchardist, and produce sales)
  - Location: Alpowa Creek

The following includes Work Group advisory members that were put forward to support the planning process:

- Chad Atkins – Washington State Department of Ecology
- Tom Schirm – Washington Department of Fish and Wildlife
- Jim Schroeder – Natural Resources Conservation Service
- Courtney Smith – Natural Resources Conservation Service
- Geremy Nelson – Farm Service Agency
- Lorelei McNamee – Farm Service Agency
- Kelly McLain – Washington Department of Agriculture
- Evan Scheffels – Washington Farm Bureau
- Brian Burns – Tri State Steelheaders

The Work Plan was developed through a series of Work Group meetings held on the dates listed below.

- January 26, 2017
- February 15, 2017
- March 15, 2017
- April 19, 2017

- May 17, 2017
- September 20, 2017
- October 26, 2017
- November 15, 2017
- December 20, 2017
- February 21, 2018

Outreach for Plan Implementation

As described above, the Asotin County VSP Outreach Plan is intended to provide a framework for outreach during plan implementation. Table 2 includes a summary of public communication and outreach materials to be used during implementation. Table 3 includes a summary of community meetings and other outreach opportunities to be leveraged by ACCD.

Table 2
Ongoing Public Communication and Outreach Materials

Type	Description
VSP Outreach	ACCD will conduct annual outreach to approximately 15% of producers in the County that have not been participating in conservation programs (totaling 28 to 30 landowners per year). This outreach will be conducted using the materials developed for VSP, including the Agricultural Stewardship Plan in Appendix D, to inform potential participants of the benefits of getting involved.
Email and Mailing List	ACCD will communicate with all interested parties regarding the VSP opportunities and updates. All meeting notices and materials as well as documents will continue to be provided to anyone on the lists. Anyone may subscribe to the contact lists through the ACCD VSP website: https://asotincd.org/voluntary-stewardship-program/
Update website	The Asotin County VSP webpage will continually be updated with meeting notices and materials as well as documents. The website can be found at: https://asotincd.org/voluntary-stewardship-program/
Newsletters	ACCD publishes newsletters that are publicly available. Information about VSP will continue to be included in the newsletter.
VSP Program Overview, Handouts, and Outreach Materials	The VSP Program Overview was completed as part of the VSP Work Plan (see Attachment 1). This overview will help facilitate participation in VSP. Additional handouts and materials will be developed to provide information to landowners and interested parties regarding VSP and participation opportunities.
Annual District Report	ACCD will send approximately 900 to 1,000 Annual District Reports to landowners, partners, and other interested parties detailing activities, projects, and program accomplishments each year.
Education	Educational opportunities will be provided to focus on specific critical area issues and agricultural practices. ACCD's educational opportunities are described on the ACCD website: https://asotincd.org/
Tours	Tours will provide opportunities to share information with producers, partners, and the public. Tours may include on-farm testing, demonstrations, and field trials.

Table 3
Potential Community Meetings or Other Outreach Opportunities

Outreach Opportunity	Description
ACCD Meetings	ACCD hosts monthly board meetings on the Thursday of the first full week of the month that are available to the public. ACCD has an annual meeting in the first quarter of each calendar year. Meeting announcements and past meeting minutes are available on the webpage at: https://asotincd.org/board-meetings/
Farmers Markets	Host a booth to provide information on the VSP to a broad range for people
Grower Meetings	Give presentations at grower and other meetings
Work Group Member Outreach	ACCD outreach activities with members of the Work Group to reach agricultural producers who are comfortable speaking with a fellow producer
Newspapers and Media	Provide information to producers though posting in local newspapers and other media outlets
Other Government Entity Meetings	ACCD will present at other local government meetings such as Asotin County Commissioners, Asotin County Weed Board, and Asotin County PUD

Government Agencies and Agricultural Groups

Coordination with the following agencies and groups help with outreach and implementation of the Asotin County VSP:

- Asotin County Conservation District
- Asotin County
  - Commissioners
  - Building and Planning Department
  - Noxious Weed Control Board
- Asotin County Wheat Growers
- Asotin County Cattlemen and Cattlewomen
- Washington State Department of Ecology
- Washington State Department of Agriculture
- Washington State Conservation Commission
- Washington Department of Fish and Wildlife
- U.S. Department of Agriculture Natural Resource Conservation Service
- U.S. Department of Agriculture Farm Service Agency

Appendix G
Comment Response Matrix

TP Member	Element [A]	Element [A] Explanation	Element [B]
Agriculture	Meets, but needs more information in the plan	please add some additional connectivity between what came over and where that information is included.	Meets, but could have more information in the plan
Ecology	Meets, but could have more information in the plan	please add information on what specific actions or activities that apply to agriculture from the various plans	Meets, but could have more information in the plan
Commission	Needs clarification	Some inclusion/mention of other plans in Chapter 3, wsp section 3.2. Plans are listed in Appendix C and again in Tables 4-2 - 4-5, but specifics from plans are not identified as to HOW they are incorporated. What BMPs or actions, if any, were recommended in other plans? And where in the VSP plan do they show up? Or, if BMPs were recommended in other plans and are NOT incorporated, what is the rationale for their omission?	Meets
Fish & Wildlife	Meets	[LEFT BLANK]	Meets
Work Group Comments		See new text at the end of Section 4.4.2 providing additional connectivity to plans and programs, including how they were incorporated and specific actions or activities that apply.	

TP Member	Element [B] Explanation	Element [C]	Element [C] Explanation	Element [D]
Agriculture	What do those landowners produce	Meets, but could have more information in the plan	provide context for how we know 15% is enough?	Meets
Ecology	Please clarify which agricultural sector was represented by the work group members	Meets	[LEFT BLANK]	Meets
Commission	Workgroup formation and composition described in Chapter 1 and Appendix F.	Needs clarification	Like other plans, uses acres of practice as goal for participation. Number of producers found at line 1603 with commitment to reach 15%/year (28 individuals). No linkage between outreach and acres to show how participation will meet protection/enhancement. No level of current participation/outreach level provided for reference. No quantities of outreach effort identified in Table 2 of Appendix F.	Meets
Fish & Wildlife	[LEFT BLANK]	Meets	[LEFT BLANK]	Meets Exceeds
Work Group Comments	See revisions to Acknowledgements page vii for updates and additional information added to the Outreach Plan in Appendix F, Page F-2..		See new paragraphs in Section 5.4.2 describing ACCD's existing outreach activities and how those will continue in addition to the 15% goal set out in the plan. These paragraphs provide more context as to how the 15% goal was developed and is expected to be sufficient. See revision to Table 2 in Appendix F showing quantities of outreach effort. See Table 5-4 for acreages and their connection to adaptive management triggers, including additional outreach.	

TP Member	Element [D] Explanation	Element [E][i]	Element [E][i] Explanation	Element [E][ii]
Agriculture	[LEFT BLANK]	Meets	[LEFT BLANK]	Meets
Ecology	[LEFT BLANK]	Meets, but needs more information in the plan	please add to table 5-5 that critical area presence will be verified during ASP development.	Meets
Commission	Like other plans, relies on stewardship plan template and checklist to ensure outreach.	Meets, but could have more information in the plan	Like other plans, relies on counting of practices and CPPE scores to determine if protection or enhancement is being achieved. Requires understanding of participating and non-participating ag producers (the lift) and some measure to ensure that other producers are not degrading CA functions in excess of the lift or meaningful monitoring of CA function response. Concern that if assumption (practices = protection/enhancement) is not valid, work group might not detect degradation of CA function.	Meets, but could have more information in the plan
Fish & Wildlife	[LEFT BLANK]	Meets	[LEFT BLANK]	Meets
Work Group Comments			See revised text at the end of Section 4.4.2 describing IMW and other data sources that will be relied on during implementation. While we are going to rely on indicators, indicators in this basin are robust. There is a lot of information being collected that will be used to ensure that we can see what is happening to critical areas as well as producers on their projects. There is also going to be follow-up to the 2018 Asotin County Geomorphic Assessment and Conceptual Restoration Plan in the future (also as described in Section 4.4.2).	

TP Member	Element [E][ii] Explanation	Element [F]	Element [F] Explanation	Element [G]	Element [G] Explanation	Element [H]
Agriculture	[LEFT BLANK]	Meets	[LEFT BLANK]	Meets	[LEFT BLANK]	Meets
Ecology	[LEFT BLANK]	Meets	[LEFT BLANK]	Meets	[LEFT BLANK]	Meets
Commission	Same	Meets	ACCD identified in Table 5-1	Meets	Uses checklist like other plans to link CA functions to BMPs so that TA leads to CA function.	Meets
Fish & Wildlife	[LEFT BLANK]	Meets	[LEFT BLANK]	Exceeds	I seems like the CD is dedicated to this process and has a strong reputation in this county for providing technical assistance.	Meets
Work Group Comments						

TP Member	Element [H] Explanation	Element [I][i]	Element [I][i] Explanation	Element [I][ii]	Element [I][ii] Explanation
Agriculture	[LEFT BLANK]	Meets, but could have more information in the plan	add a row about youth groups as a potential pathway for non-commercial landowners	Meets	[LEFT BLANK]
Ecology	[LEFT BLANK]	Meets, but could have more information in the plan	add a sentence that clarifies that a tracking tool will be developed to assist with data collection and reporting.	Meets	[LEFT BLANK]
Commission	Section 4.1 identifies all CAs, excluding buildings for geologic hazard.	Meets	Monitoring identified in section 5.2, referencing benchmarks in section 4.10.	Meets	Monitoring identified in section 5.2, referencing benchmarks in section 4.10.
Fish & Wildlife	[LEFT BLANK]	Meets	[LEFT BLANK]	Meets	[LEFT BLANK]
Work Group Comments			See updates to Table 5-3 that describes additional outreach to small acreage landowners and youth groups as an adaptive management strategy. See text added to Section 5.3 stating that a tracking tool will be used during implementation to assist with data collection and reporting.		

TP Member	Element [I][iii]	Element [I][iii] Explanation	Element [J]	Element [J] Explanation
Agriculture	Meets	[LEFT BLANK]	Meets	[LEFT BLANK]
Ecology	Meets, but needs more information in the plan	please clarify that CAs will be verified during ASP development	Needs clarification	On lines 1400 & 1401 strike the reference to biennium and clarify that reporting is on a two year cycle, not state biennium.
Commission	Meets, but could have more information in the plan	Concern, as with other plans of this model, small data sets (e.g. NRI) may not provide an adequate picture of critical area response, leading the workgroup to conclude CA function is okay, when it has actually declined. Analysis should include an assessment of whether or not enough data was collected and how much more is needed, then adaptively manage to collect the necessary data.	Meets	Identified in section 5.2
Fish & Wildlife	Meets	[LEFT BLANK]	Meets	[LEFT BLANK]
Work Group Comments		See Figure 5-3 describing the ASP development process, including verification of critical areas. See the end of Section 4.4.2 describing that in addition to GIS tracking and ongoing monitoring that will occur during implementation, ACCD will rely on and incorporate data from IMW and other monitoring efforts ongoing in the basin to make for a more robust dataset and paint a clearer picture of how critical areas functions are responding and/or changing over time.		See revised text as suggested.

TP Member	Element [K]	Element [K] Explanation	Element [L]	Element [L] Explanation	Other comments on the Work Plan
Agriculture	Meets	[LEFT BLANK]	Meets	[LEFT BLANK]	great plan
Ecology	Meets	[LEFT BLANK]	Needs clarification	add a sentence that the workgroup will meet any other reporting requirements.	Overall, a good plan. Nice work.
Commission	Meets, but could have more information in the plan	Amended language commits to undetermined level and type of data sharing. More specificity would be better.	Meets	Amended language addresses requirement.	[LEFT BLANK]
Fish & Wildlife	Meets Exceeds	Plan identifies actively partnering with WDFW and possibly Ecology on appropriate monitoring and updating the plan to reflect new information from PHS.	Meets	[LEFT BLANK]	Excellent work plan! Thank you for working so well with our Regional Habitat Biologist and others at WDFW.
Work Group Comments		ACCD already does a lot of data sharing with partner agencies in the region. See new Text at the end of Sections 4.4.2 and 4.4.4 describing the agencies and sharing of publicly-disclosable data that will occur through implementation of the Work Plan, while maintaining landowner confidentiality		the following statement was added at the end of Section 5.2 - "The Workgroup is committed to satisfying any other reporting requirements of the program, including associated updates in reporting to address plan adaptations."	