Adams County Voluntary Stewardship Program

Approved Work Plan

October 2018

Prepared for Adams County and the Washington State Conservation Commission

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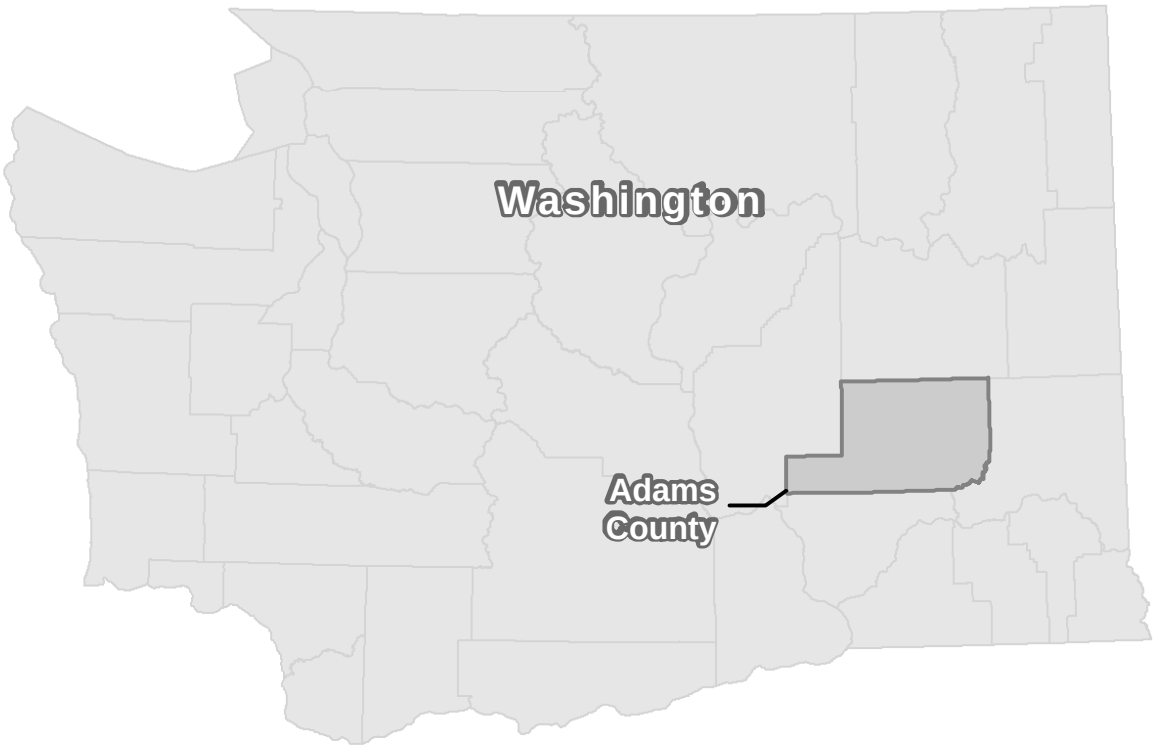
Abbreviations

CARA	Critical Aquifer Recharge Area
CD	conservation district
County	Adams County
CPPE	Conservation Practice Physical Effect
CRP	Conservation Reserve Program
Ecology	Washington State Department of Ecology
EQIP	Environmental Quality Incentives Program
FEMA	Federal Emergency Management Agency
FFA	Frequently Flooded Area
FSA	Farm Service Agency
GCCD	Grant County Conservation District
GHA	Geologically Hazardous Area
GMA	Growth Management Act
HCA	Fish and Wildlife Habitat Conservation Area
NRCS	Natural Resources Conservation Service
NRI	Natural Resources Inventory
PHS	Priority Habitats and Species
RCW	Revised Code of Washington
SAFE	State Acres for Wildlife Enhancement
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
VSP	Voluntary Stewardship Program
WDFW	Washington Department of Fish and Wildlife
WHIP	Wildlife Habitat Improvement Program
Work Group	Adams County VSP Work Group
Work Plan	Adams County VSP Work Plan
WRIA	Water Resource Inventory Area
WSCC	Washington State Conservation Commission
WSDA	Washington State Department of Agriculture



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1 Introduction

The Washington State Growth Management Act (GMA) was adopted by the Washington State Legislature in 1990. The GMA provides for citizens, communities, local governments, and the private sector to cooperate and coordinate in comprehensive land use planning. The GMA requires county and local governments to adopt development regulations that protect critical areas.

In 2011, the Legislature amended the GMA with the intent to protect and enhance critical areas in places where agricultural activities are conducted, while maintaining and improving the long-term viability of agriculture. This amendment established the Voluntary Stewardship Program (VSP), a new, non-regulatory, and incentive-based approach that balances the protection of critical areas on agricultural lands, while promoting agricultural viability, as an alternative to managing agricultural activities in the County under the Critical Areas Ordinance.

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

- Wetlands
- Fish and wildlife habitat conservation areas
- Areas with a critical recharging effect on aquifers used for potable water
- Geologically hazardous areas
- Frequently flooded areas

Under VSP, critical areas on agricultural lands are protected under this voluntary program. Lands used for non-agricultural purposes and structures requiring a building permit are regulated under Adams County's Critical Areas Ordinance.

Frequently Asked Questions

What is a Voluntary Stewardship Program?

VSP is a new, non-regulatory, and incentive-based approach that balances the protection of critical areas on agricultural lands while promoting agricultural viability. VSP is allowed under the GMA as an alternative to traditional approaches to critical areas protection, such as protection buffers. VSP is not a replacement for compliance with other local, state, or federal laws and regulations, but participation in VSP will help show how much effort the County's agricultural producers are investing in meeting these requirements and document the benefits of these efforts in protecting and enhancing critical area functions and values (Figure 1-1).

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

How is VSP different from the Growth Management Act?

The Growth Management Act (GMA) is a state law (Chapter 36.70A Revised Code of Washington [RCW]) which requires local governments to manage growth through encouraging growth in urban areas, reducing sprawl into existing low-density areas, encouraging regional transportation, providing affordable housing options, and encouraging economic growth. Additionally, the GMA requires identifying and protecting critical areas, including those existing on agricultural lands. VSP is an alternate approach to regulations for protecting critical areas on agricultural lands that also includes provisions for maintaining agricultural viability.

What are critical areas and where are they in Adams County?

The five critical areas that are specifically defined under the GMA (RCW 36.70A.030) and designated through the Adams County (County) critical areas ordinance include: 1) wetlands; 2) fish and wildlife habitat conservation areas; 3) critical aquifer recharge areas; 4) geologically hazardous areas; and 5) frequently flooded areas. All five critical areas intersect with agricultural lands within the County. See Section 2 for definitions of these critical areas and Section 3 for descriptions on where these critical areas typically intersect with agricultural lands and critical area characteristics within the County. See section 3 for critical area descriptions and characteristics, and where these typically intersect with agriculture lands in Adams County.

Are there critical areas on my land or how might I affect critical areas?

Critical areas are designated through the County Critical Areas Ordinance. Each critical area has specific characteristics used for identification. Additionally, critical areas maps, such as the maps included in the Adams County VSP Work Plan (Work Plan), can be used help to identify where critical areas may occur; however, presence of critical areas is determined on an individual site basis. Critical areas can be protected or enhanced through implementing farm conservation practices. Benefits to critical areas from these practices can be direct (practices implemented next to or within a critical area), or indirect (e.g., upland practice implemented that might benefit a down-gradient critical area).

What would participation look like?

VSP participation includes tracking conservation practices implemented on a farm that protect and enhance critical area functions and values. There are many ways that agricultural producers can get involved, either through existing Conservation District (CD), Natural Resources Conservation Service, (NRCS) or other programs, or through self-funded improvements.

Participation in the VSP is voluntary, meaning that agricultural landowners and operators (commercial and noncommercial) are not required to participate. However, many producers already implement conservation practices that protect and enhance critical areas through government- or self-funded practices. These practices can be recorded anonymously as part of the VSP to ensure success of the Work Plan. Voluntary participation, anonymity, and privacy are all key principles that will be maintained during the reporting process. Agricultural producers who choose to participate are free to withdraw at any time without penalty (RCW 36.70A.760).

Why should I participate in VSP?

Many producers may already have implemented changes to farming techniques or implemented conservation practices that protect and enhance critical area functions and values. Participating in VSP can help to document these practices and give the producer and the County credit for the critical areas protection or enhancement measures put in place, including direct and indirect benefits. Additionally, VSP can help introduce producers to other practices that might improve farming operations and potentially reduce input costs that can improve the bottom line, while also providing benefits to critical areas. There is also flexibility in agricultural operations when critical area benefits are maintained through VSP. See below for how this flexibility could be reduced or go away if VSP fails.

How will my privacy be protected if I participate in VSP?

Stewardship strategies and practices documented through a local government agency, such as the CDs, are generally exempt from disclosure under the state Public Records Act. At the same time, the VSP Work Group requires some level of documentation to monitor and verify ongoing program effectiveness in meeting VSP requirements and goals and benchmarks, and to support the Adams County VSP Work Group's (Work Group's) finding that aggregate baseline critical area conditions are being protected.

Information collected by producers using this checklist will be kept confidential and combined together into summary data 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.

What is a "Self-Assessment Checklist," and how can it help producers participate in VSP?"

A Self-Assessment Checklist (Attachment A) is an implementation tool developed by the Work Group. This checklist helps facilitate the documentation of existing practices and the identification of additional conservation practices that could be implemented by producers to protect critical areas. It also provides important contact information for producers to obtain additional information on the program.

Conservation practices are implemented in a variety of ways as they are adapted to specific farm conditions. To receive credit for critical areas protection under VSP, practices do not need to meet NRCS or other government-based standards. Rather, practices need only to demonstrate a direct or indirect protection or enhancement to critical area functions and values.

How will critical areas be protected if VSP fails in my County?

Failure of the Work Plan to demonstrate protection of critical area functions as they existed in 2011 will trigger a regulatory approach to critical areas protection under the GMA, applying prescriptive requirements for protecting critical areas, such as buffers and setbacks. Additionally, regulation of critical areas on agricultural lands through the GMA does not take agricultural viability into account and does not encourage outreach or technical assistance for agricultural operators. Producers can help maintain flexibility in operations and this non-regulatory approach for protecting critical areas by participating in the program. Participation helps to ensure the success of the VSP.

How are concentrated animal feeding operations addressed in VSP?

Concentrated Animal Feeding Operations (CAFOs) must comply with additional regulations related to critical areas functions and values. Therefore, even if CAFO Operators are voluntarily enrolled in VSP, they are still required to obtain permits, potentially including critical area protections. A CAFO permit requires operators implement best management practices (BMPs) to prevent impacts to surface and groundwater.

Is there funding to support VSP?

The VSP has received statewide funding for the 2017 – 2019 biennium. However, future funding is contingent on additional appropriations by the state. Other funding sources, such as local CD funding, state funding programs administered by the Washington State Conservation Commission (WSCC) and other agencies, federal funding through farm bills or other programs, and private funding, can also be used to support VSP protection and enhancement goals.

What is meant by "Baseline Conditions?"

The VSP requires this Work Plan to identify measurable benchmarks that are designed to protect and enhance critical area functions and values (e.g., water quality function and wildlife habitat) through voluntary actions by agricultural producers while maintaining agricultural viability, these benchmarks are described in Section 5. Per VSP definitions:

- Implementation of this Work Plan must prevent any loss of county wide critical area functions as they existed on July 22, 2011, while maintaining agricultural viability. Goals for enhancement of critical area functions must also be identified.
- Failure to meet the goals and benchmarks for critical area functions will represent failure of the Work Plan and trigger a regulatory approach to critical areas protection under the GMA.

What does it mean to "Protect and Enhance Critical Areas?"

The VSP requires this Work Plan to identify measurable benchmarks that are designed to protect and enhance critical area functions and values (e.g., water quality function and wildlife habitat) through voluntary actions by agricultural producers while maintaining agricultural viability, these benchmarks are described in Section 5. Per VSP definitions:

- Protection requires prevention of the degradation of functions and values of baseline conditions (conditions existing as of July 22, 2011, when VSP legislation was passed).
- Enhancement means to improve the processes, structure, and functions of baseline conditions for ecosystems and habitats associated with critical areas (RCW 36.70A.703).

What does it mean to "Maintain Agricultural Viability?"

To receive approval, the Work Plan must protect critical areas in a way that maintains agricultural viability (RCW 36.70A.725). Activities or methods that protect critical areas must also be neutral to or benefit farm operations, such as reducing input costs or reducing soil erosion. Further, the VSP will not require an agricultural producer to discontinue agricultural activities that legally existed before July 22, 2011 (RCW 36.70A.702). Agricultural viability is discussed further in Section 3.

As illustrated in Figure 1-1, 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.

Background

In 2012, the Board of County Commissioners of Adams County (County) passed a resolution (R-02-2012) to "opt-into" the VSP. The Commissioners came to the following conclusions:

- Farming is vital to the economy of the County.
- The Palouse River, Crab Creek, and Esquatzel Coulee watersheds provide critical and economically important functions that may be impacted by farming.
- Biological diversity within these watersheds is important to water and habitat quality.

Work Plan Elements

The Work Plan is intended to fulfill the state requirements outlined under RCW 36.70A.720(1)(a-l), which includes twelve specific Work Plan elements that must be addressed. This Work Plan addresses these elements, including the following major components:

- Evaluate existing information and resource conditions.
- Establish protection and enhancement goals and measurable benchmarks for critical areas while maintaining agricultural viability.
- Establish participation goals by agricultural producers to meet measurable benchmarks.
- Provide a framework for monitoring and reporting.
- Facilitate landowner participation and outreach.

Opting into VSP:

In 2012, the Board of County Commissioners of Adams County passed a resolution to "opt-into" the VSP. Adams County is 1 of 27 counties that opted into VSP as an alternative to the traditional regulatory approaches to protecting critical areas. Funding was received for creation of the VSP Work Plan in 2016 and 2017.

What are considered "agricultural activities" under VSP?

VSP applies to lands where agricultural activities are conducted, as defined in RCW 90.58.065 and are applicable to dryland, irrigated, and rangeland activities.

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 as a result of 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.

Work Plan Development – 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. Administrative, technical, and collaborative roles and responsibilities are included in the Work Plan development process spanning state, county, and local levels. The Work Group, convened by Adams County, developed the Work Plan. The Work Plan was developed through a series of nine Work Group meetings, beginning on September 13, 2016, through March 13, 2018. Meetings were typically held on the second Tuesday of the month. Meeting agendas and materials were available to the public on the Adams County VSP webpage (http://www.co.adams.wa.us/departments/building_and_planning/volunteer_stewardship_program.php) and also emailed to the VSP interested parties/contact list for all Work Group meetings. The interested parties list included all those invited to participate on the Work Group, as well as people who requested information about VSP throughout the Work Plan development process. Tribal representatives from the Confederated Tribes of the Colville Reservation, Confederated Tribes of the Umatilla Indian Reservation, Spokane Tribe, Nez Perce, and Wanapum were invited to participate in the Work Group and chose not to participate. Additionally, in January 2018 two public meetings were held in Ritzville and Othello to inform the public of the VSP and to facilitate receiving public comments. Implementation roles and responsibilities for the Work Plan are further described in Section 6. See Appendix E: Outreach Plan for further discussion on how the Work Group was formed and the outreach and public participation opportunities provided during Work Plan development.

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]	Provides technical guidance, 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	
Adams County	Administers VSP funding and grant for work plan development
Adams County VSP Work Group	Develops and proposes a work plan for approval by WSCC
Conservation Districts[3]	Provides technical information to support work plan development
Other Technical Providers	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, WSDA, and the WSCC.
2. The Committee includes two representatives each from environmental interests, agriculture, and counties; two tribal representatives are also invited to participate.
3. The County includes two Conservation Districts—Adams and Grant

2 Adams County Regional Setting

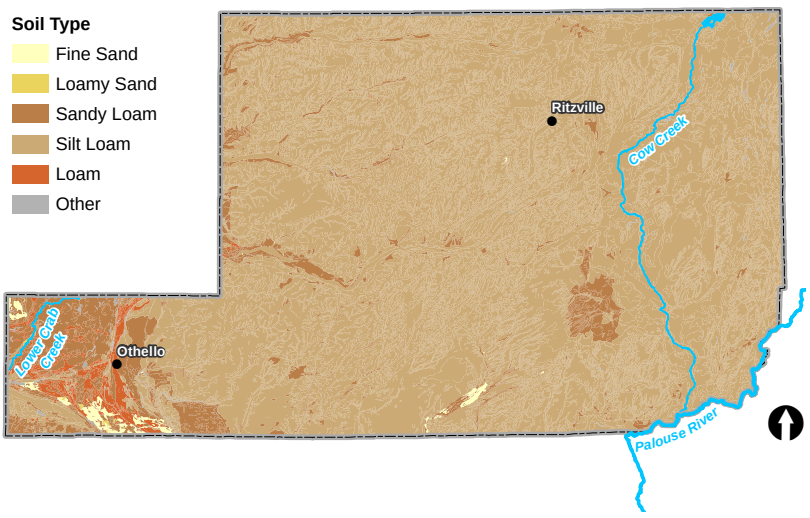
Adams County Profile

Adams County is located in eastern Washington and is bound by Grant County to the west, Lincoln County to the north, Whitman County to the east, and Franklin County to the south. The Palouse River borders the County in the southeast corner and drains approximately a third of the County's area. The rest of the County drains to either Crab Creek or Esquatzel Coulee.

Soils and Terrain

Soils and Terrain – Most of the County's soils are silt loam, but are influenced by the amount of precipitation they receive, ranging from 8 to 15 inches annually. These soils are well drained and approximately 3 to 4 feet deep. In the southwest portion of the County, near Othello, soils are mainly loamy and receive minimal precipitation. These soils are well drained, highly permeable, and approximately 2 feet deep (USDA 1967; Figure 2-1).

Figure 2-1
Soils Map

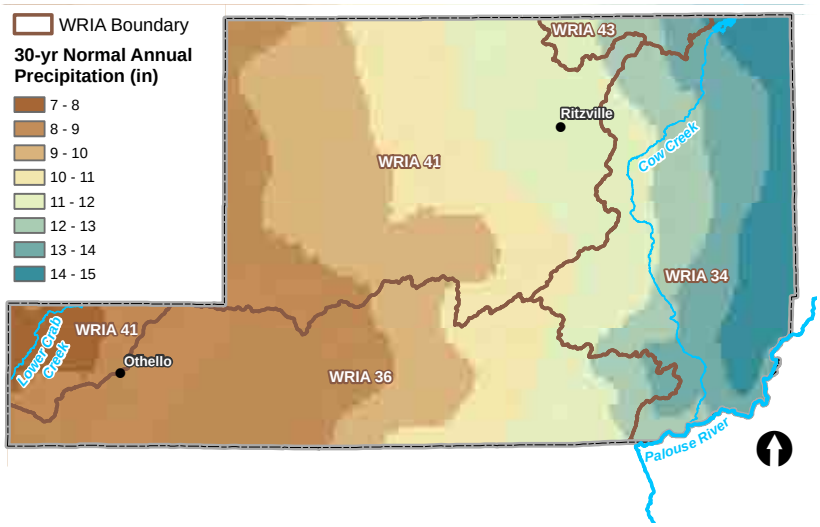


Water Resources and Precipitation

Water Resources – The County includes portions of four watersheds, which are known as Water Resource Inventory Areas (WRIAs). The northeastern portion of the County is in the Lower Crab (WRIA 41) and Upper Crab-Wilson (WRIA 43), which drain southwest toward the Columbia River. The southern portion of the County drains into the Esquatzel Coulee (WRIA 36). The eastern portions of the County drains southward through Cow Creek into the Palouse River (WRIA 34).

Precipitation – Precipitation ranges from 7 inches of annual precipitation in the southwestern corner of the County to 15 inches of precipitation in the eastern edge of the County (Figure 2-2).

Figure 2-2
Water Resources and Precipitation Map

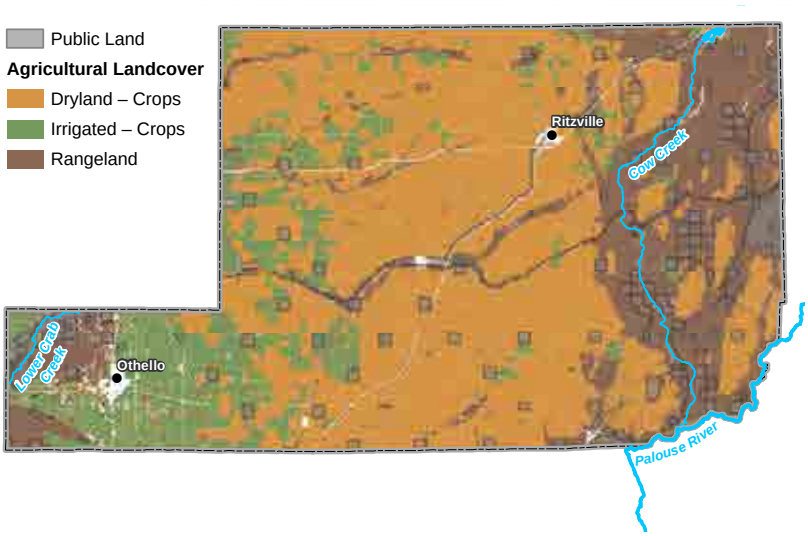


Land Use and Landcover

Land Use/Landcover – The County is predominantly rural and dominated by agricultural and larger land tracts outside of cities and town (Figure 2-3). The largest city in the County is Othello, and the County Seat is Ritzville. Agriculture on privately owned lands comprises approximately 92% of the County's landcover, which is generally associated with the following three categories:

- Dryland crops
- Irrigated crops
- Rangelands

Figure 2-3
Agricultural Landcover Map

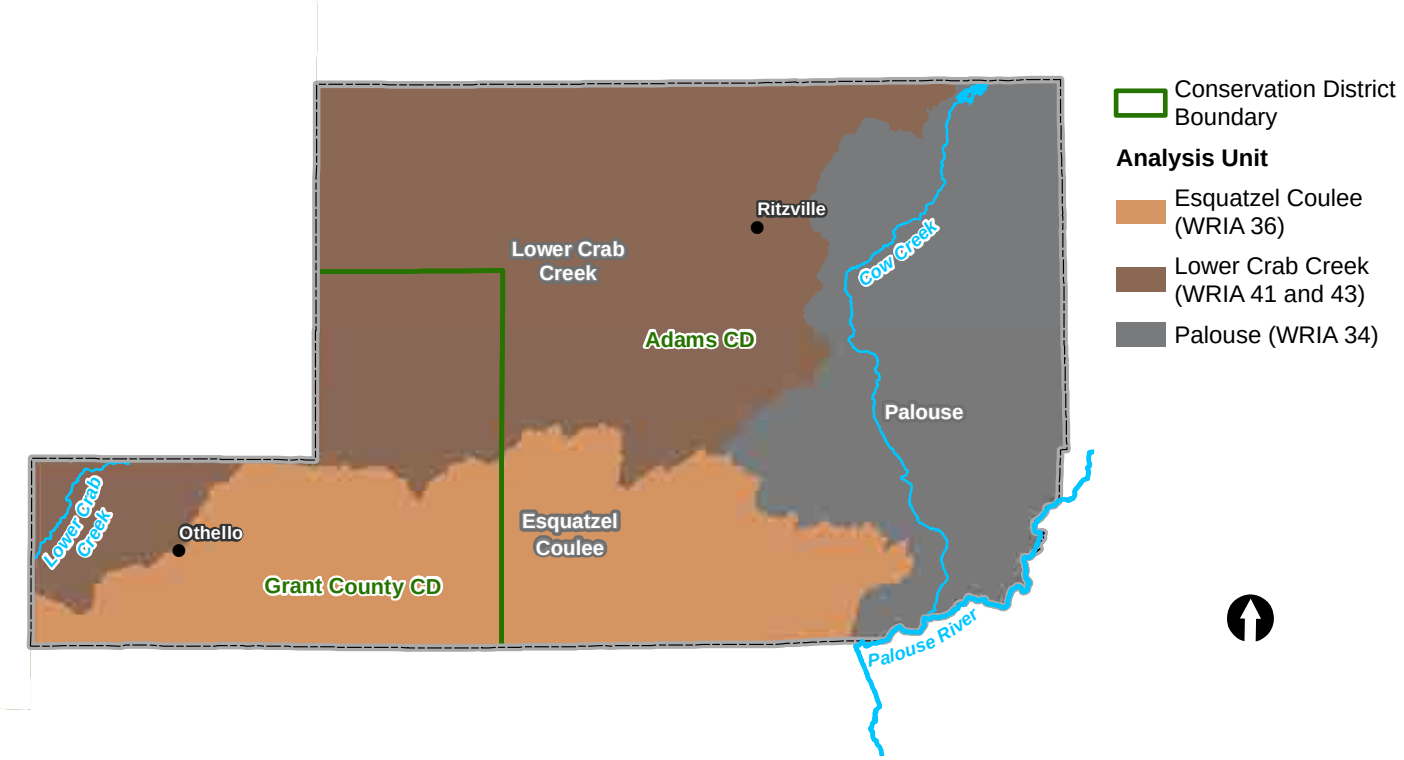


Implementation by Watershed Analysis Units

For the purposes of the Work Plan, the Work Group identified the following three watershed analysis units to develop a more localized planning approach during implementation of the Work Plan (Figure 2-4). Although the Work Plan and the goals and benchmarks discussed in Section 5 apply County-wide, the following watershed analysis units will help realize more localized watershed objectives during implementation:

- Esquatzel Coulee (includes WRIA 36) – The Esquatzel Coulee unit is located in the southern portion of the County. This unit drains seasonal creeks and streams, as well as irrigation water conveyance facilities near Othello.
- Lower Crab Creek (includes WRIAs 41 and 43) – The Lower Crab Creek unit encompasses a large portion of the central and northern portion of the County and in the southwest corner near Othello. Lower Crab Creek only flows through the County in the southwest corner, entering and exiting the County in the panhandle region. The majority of tributary creeks and streams in this area are seasonal.
- Palouse (includes WRIA 34) – The Palouse unit is located in the eastern portion of the County. The unit includes Cow Creek and Sprague Lake, which drain into the Palouse River in the southeast corner of the County.

Figure 2-4
Watershed Analysis Units Map



Agricultural Activities

Agriculture is the major 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 92% of the County's lands.

The County's dryland agriculture comprises most of the agricultural landcover within the County (56%). Additionally, rangelands account for 23% of County lands, and irrigated lands account for 13% of agricultural activity within the County. See Figure 2-3 for the agricultural landcover map.

Statewide, per the U.S. Department of Agriculture's (USDA's) Census of Agriculture (2012), Adams County:

- Produces mainly crops (79%) and, to a lesser extent, livestock (21%) by value:
  - By value, grains were the top commodity, followed by vegetables and potatoes.
- Has a market value from agricultural products of approximately $430 million.

See Table 2-1 for summary of agricultural landcover and major agricultural products within the County.

Dryland Agricultural Practices

Moisture management is a key concern within the County's dryland agricultural lands (primarily wheat) where the annual precipitation of 7 to 15 inches a year is relied on to support cropping systems. Lack of moisture in soils not only affects the land's ability to support wheat crops, but also results in loss of the region's erodible soils. In recent years, producers within the County have adopted practices to manage soil moisture retention and reduce waterborne soil erosion by implementing practices such as crop rotations, no- and reduced-till, field borders, and direct-seed methods. See Section 4 for additional protection and enhancement strategies.

Irrigated Agricultural Practices

In recent years, conversion from rill irrigation to sprinkler irrigation has brought about significant reduction in irrigation-induced erosion. Irrigation management systems have improved to the point of eliminating much of the irrigation-related erosion that has been a historical concern on irrigated agricultural lands in the County. See Section 4 for additional protection and enhancement strategies.

Table 2-1
Agricultural Activity and Products (Private Lands)

Agricultural Type	% of Agriculture in County	Primary Crops/ Livestock
Dryland	61%	• Wheat • Hay
Irrigated	14%	• Vegetables • Tree fruit (e.g., apples and cherries) • Potatoes
Rangeland	25%	• Cattle • Hogs and pigs • Sheep
Total	**100%**	

Note:
Agricultural lands cover approximately 92% of the County.
Sources: USDA 2012; WSDA 2011

Table 2-2
Size of Farms in Adams County based on Agricultural Product Sales

Farm Agricultural Product Sales (Dollars)	% of Farms
Less than 10,000	50%
10,000 to 100,000	11%
100,000 to 250,000	9%
250,000 to 500,000	9%
Greater than 500,000	21%

The 713 farms in the County vary in size, ranging from relatively small, with agricultural product sales of less than $10,000, to large, with agricultural product sales of greater than $500,000 (Table 2-2).

Critical Areas

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

Wetlands (WET)

Fish and Wildlife Habitat Conservation Areas (HCA)

Critical Aquifer Recharge Areas (CARA)

Geologically Hazardous Areas (GHA)

Frequently Flooded Areas (FFA)

Wetlands

Wetlands are areas inundated or saturated by surface water or groundwater for at least part of the growing season and that support vegetation adapted for life in saturated soil conditions.

Fish and Wildlife Habitat Conservation Areas

Fish and Wildlife Habitat Conservation Areas are lands and waters that provide habitat to support fish and wildlife species throughout their life stages.

Critical Aquifer Recharge Areas

Critical Aquifer Recharge Areas 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.

Geologically Hazardous Areas

Geologically Hazardous Areas are areas susceptible to erosion, sliding, and other geological events. In Adams County, designated Geologically Hazardous Areas related to agricultural activities are primarily associated with erosion hazard areas and are designated as Ringold Erosive Slopes (which are currently unmapped by the County). Severe water and wind erosion areas are another source of erosion in the County. Although they are not specifically designated as critical areas, they are discussed under Geologically Hazardous Areas in this VSP.

Frequently Flooded Areas

Frequently Flooded Areas include 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.

Critical Area Functions and Values

VSP regulations focus on setting goals and benchmarks to protect and enhance critical area **functions and values** (RCW 36.70A.720). These functions and values can be summarized into four major categories: 1) water quality function; 2) hydrology; 3) soil health; and 4) fish and wildlife habitat. Each critical area provides one or more of these functions and values, which are summarized in Table 2-3. The relationship between critical areas and the four functions and values is discussed further in Section 3. Per VSP regulations, critical area functions and values will be used to set goals and benchmarks to protect critical areas (see Section 5 for Goals and Benchmarks).

Table 2-3
Critical Area Functions

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

Water Quality Function

Water quality function refers to the capacity of the landscape to filter and retain excess fine sediments, nutrients (such as phosphorus and nitrogen), and other pollutants before they enter surface or groundwater. This function provides clean water for fish and other aquatic species, as well as clean water for agricultural practices, including irrigation and stock watering, and improves groundwater quality. Water quality functions also help moderate water temperatures by providing vegetative shade and cooler water from subsurface flow, which helps maintain cooler in-water temperatures and dissolved oxygen levels needed to support aquatic species.

In Adams County, some systems (including Cow Creek, Palouse River, and Lower Crab Creek) exceed state standards for pollutants such as pH, dissolved oxygen, bacteria, and temperature (Ecology 2016a). Agriculture can affect surface and groundwater water quality function through excess nutrients, bacteria from livestock (e.g., fecal coliform), toxins from crop protection tools, and sediment from soil erosion. However, fertilizer, sediment, and toxin inputs are also associated with paved or turfed landscapes, and septic systems also contribute to fecal coliform issues. Certain agricultural practices can decrease nutrient and sediment inputs in surface water and groundwater by enhancing the landscape's ability to filter and retain nutrients and sediments, and also protect riparian and wetland habitat.

Columbia Basin Project

The Columbia Basin Project (CBP) is a network of dams, pumping plants, and irrigation canals and reservoirs that provide irrigation water to more than 670,000 acres. The water for these facilities is supplied by Grand Coulee Dam and Franklin D. Roosevelt Lake. Once water enters the irrigation system, it is used multiple times, through runoff, collection in reservoirs, and reuse, before returning to the Columbia River. In total, irrigators use approximately 2.5 million acre feet (annually) of water though the CBP. In addition to providing irrigation water to portions of Adams, Grant, and Franklin counties, the CBP also generates power, provides recreation opportunities, controls floods, and aids navigation (Reclamation 2016).

Agriculture along the Columbia River

The establishment of the CBP in the mid-1900s resulted in expansion of irrigation in the southwest portion of Adams County, although, overall irrigation only occurs on 13% of the land. The delivery of irrigation water dramatically changed the appearance and ecology of that portion of the County from mostly semi-arid shrub steppe to a system of canals, wasteways, and irrigated farmland.

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 micro-organism communities. Streamflow in Adams County is mainly driven by variations in precipitation and evapotranspiration from year to year. Large woody debris recruitment greatly influences hydrology through channel roughness. Additionally, the Columbia Basin Project (CBP) supplies irrigation water for the southwest portion of the County.

Agricultural practices can affect the amount of moisture retained within soils and the amount of storage during rain events. Farming practices can also protect the land from loss of soil due to erosion. Water retention is equally important for maximizing dryland crop yields. Certain agricultural practices can increase the storage of water, reduce the speed of water delivery, and help control water movement. Agriculture practices that influence tree growth adjacent to streams have the potential to provide beaver (*Castor canadensis*) habitat, which could have an impact on hydrology through damming and other woody debris recruitment.

Soil Health

Soil provides an underground living ecosystem, which is essential for preserving plants, animals, and human life. Soil health is essential in the County to provide the following characteristics:

- Reduce susceptibility to erosion
- Hold and slowly release water
- Filter pollutants and, in many cases, detoxify them
- Store, transform, and cycle nutrients
- Physically support plants

Intensive tillage can lead to loss of soil organic matter, crop protection tools can impact beneficial soil organisms, and high concentrations of nutrients inhibit nitrogen fixation and stimulate nitrification (increasing toxins in the environment). However, agriculture protects lands from conversion to more intensive development, and farmers can be the County's most effective soil managers by limiting tillage, nutrients, and crop protection tool applications to the lowest effective level while still achieving the desired agricultural production results. Changes to agricultural practices can increase the overall soil health of the County through reducing susceptibility to erosion and increasing the capacity of soil to hold and cycle nutrients and water.

Historic Conditions and Shrub-Steppe Habitat

It is not the intent of VSP to restore natural resources to pre-development conditions, but to protect critical area functions and values that existed in 2011. Prior to cultivation, most of the County was covered with shrub-steppe habitat. The typical vegetation in these communities consisted of open sagebrush and shrub plains with an understory of perennial grasses. These areas are important habitat for species such as western ground squirrel, burrowing owl, and other bird species. Conversion to cropland, overgrazing, and invasion by exotic species have resulted in the loss and fragmentation of these habitats. Today, less than half of the historic shrub-steppe habitat in Washington remains (WDFW 2017). In Adams County, the remaining shrub-steppe habitat defined by Priority Habitat and Species mapping, covers less than 1% of the County. VSP activities are focused on protecting shrub-steppe and other habitats existing in the County as of 2011 (see photograph on page 17 for representative shrub-steppe habitat in the County.)

Fish and Wildlife Habitat

Habitats provide the natural environment in which a particular species or population can live and also support life stages such as breeding and rearing. Streams provide a key aquatic and streamside habitat functions such as being a source of organic materials, habitat structures and cover, streambank stabilization, and shade to help regulate water temperatures. Many terrestrial species require large areas of range for migration, forage, and cover. The habitat requirements are unique for different species and can be unique or vary for different life stages of a species. Habitat loss is the primary threat to the survival of native species.

Agriculture practices impacted natural habitats by replacing them with an intensely managed landscape, and although agriculture lands can provide vast tracts of semi-natural habitat, species biodiversity is typically higher in the remnant natural areas in the County. It has been shown that farmers who provide greater landscape variability can provide meaningful benefit to many different species (Weibull et al. 2002).

Shrub-steppe is the dominate natural habitat type within the County. This in combination with agricultural lands provides high-quality deer and bird habitat. Specifically, farming practices provide a variety of habitat functions, including providing cover. Crops provide a food source for herbivores such as deer, and birds help control insect and rodent populations. Only resident fish species are found in the Palouse River and Cow Creek due to Palouse Falls blocking migration of anadromous species (The Watershed Company 2014). Wetlands and other streams in the County provide habitat features for fish and other species to use. Conservation practices can protect or enhance terrestrial and aquatic habitat functions for species in Adams County.

Habitats and Species in Adams County

In the County, habitats include wetlands, rivers, and streams that support aquatic and terrestrial species.

Common fish and wildlife species in Adams County:

- Mule deer
- Northwest white-tailed deer
- Waterfowl and shorebirds
- Pheasant
- Trout
- Sculpin
- Bass

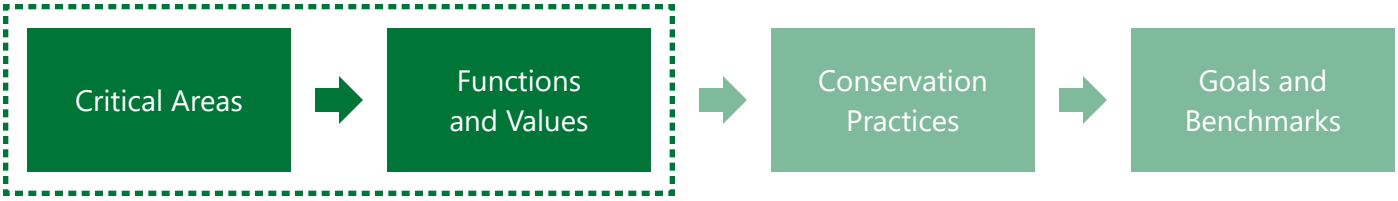
3 Baseline Conditions

Establishing baseline conditions is necessary in order to understand the critical areas that need to be protected under VSP. The effective date of the VSP legislation, July 22, 2011, serves as the baseline date for accomplishing the following items (RCW 36.70A.700):

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

To be successful, this Work Plan must protect critical area functions and values as they existed on July 22, 2011, as described in this Section and documented in greater detail in Appendix B. Any improvement of critical area functions and values through conservation practices will be considered enhancement under VSP regulations. Increasing the intensity or area of agriculture activity on the landscape may also have effects on critical areas functions and values and these effects, including negative effects, would also be characterized. The amount of agricultural land has remained consistent throughout the last 5 years with only a slight decrease overall; see Section 4 for discussion of change in agricultural landcover. Conservation practices that have been implemented since 2011 are discussed in Section 4. Both protection of baseline conditions, as described in this section, and improvements of critical area functions and values, as described in Section 4, dictate the setting of goals and benchmarks, described in Section 5 (Figure 3-1).

Figure 3-1
VSP Crosswalk – Critical Areas Connection with Functions and Values



Establishing Baseline Conditions

The baseline conditions assessment prepared for this Work Plan includes an inventory of agriculture and critical area resources and their connection with critical area functions and values. See Appendix B-1 for the complete inventory and methodologies applied to data collection and analysis. The following data were used in the inventory, to assess the conditions as close to the 2011 baseline as data availability allowed

- **Agricultural landcover assessment** was based primarily on Washington State Department of Agriculture (WSDA) 2011 agricultural landcover data. USDA 2011 agricultural landcover data also provided additional data on rangelands. Three major agricultural land categories were characterized within the County: 1) irrigated; 2); dryland; and 3) rangeland. These categories are associated with different crops and agricultural activities as they apply to these lands and their intersection with critical areas.
- **Critical areas assessment** was based on designations included in the County's Critical Areas Ordinance (Adams County Code Chapter 18.06). Data sources for planning-level critical areas mapping ranged from 2010 to 2016 and included data relied on for the County's recent Shoreline Master Program update (Adams County 2015). See Appendix B-1 for a complete list of data sources.
- **Privately owned lands** were used when assessing critical areas intersections with agricultural lands. The VSP does not apply to agricultural activities occurring on public lands through leases or other agreements.

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 or similar planning.

Baseline (2011) Intersection of Critical Areas and Agricultural Land Uses

The overlap between agricultural land use and critical areas generally accounts for only a small percentage of the total agricultural land in the County. However, critical areas provide benefit to the four functions and values beyond their physical locations. These functions and values are water quality function, hydrology, soil health, and fish and wildlife habitat. County-wide, the portion of agricultural lands that physically intersects with critical areas is small (Table 3-1). However, areas that have the potential to affect critical area functions and values are more widespread and will be targeted in the goals and benchmarks.

Although protection of physical critical areas is important, protection of critical area functions and values means even producers without a defined critical area on their property can participate in VSP to help the County reach its goals. Both critical areas locations within the County and their connection to critical area functions and values are described in this Section.

Table 3-1
Critical Areas Within Adams County Agricultural Lands

Critical Areas			Acres Within Agricultural Lands[1]	Percent of Total Agricultural Lands[1]
Wetlands (all types)			5,936	<1%
Fish and Wildlife Habitat Conservation Areas *(In addition, this includes about 76 known stream miles[2])*			8,013[3]	<1%[2]
Critical Aquifer Recharge Area			4,427	<1%
Geologically Hazardous Areas[4]	Water Erosion	Ringold Soils and >15% slope	1,532	<1%
		Severe Water Erosion Potential[5]	422,120	38%
	Wind Erosion		131,476	12%
Frequently Flooded Areas			29,852	3%

Notes:

1. Agricultural areas included in this summary are limited to privately owned lands. Publicly owned land is not managed under Voluntary Stewardship Programs.
2. An additional 3,138 streams are mapped as unknown in Adams County. Many of these are streams dry washes that transport water only during large spring runoffs, rain on snow events, or spring, summer and fall thunderstorms. Therefore, they are not conducive to aquatic species habitat.
3. Approximately 160,000 acres of recreational and gaming species such as red-necked pheasant, mule deer, and Northwest white tailed deer is mapped in Priority Habitats and Species. Recreational and gaming species habitat is not included in this number, except where it overlaps with other Priority Habitats and Species.
4. Identifies areas with the potential to be susceptible to wind and water erosion. Actual erosion occurrences depend on weather events, vegetation, and other conditions.
5. Severe water erosion hazard areas are not a designated critical area in Adams County.

Game species in Priority Habitat and Species (PHS):

PHS data and mapping are maintained by Washington Department of Fish and Wildlife in part to provide a reference to the potential existence of Fish and Wildlife Habitat Conservation Areas. Game species habitat are mapped in PHS within approximately 160,000 acres of the County's private agricultural lands, comprising primarily of mule deer, white-tailed deer, and pheasant. These habitats almost entirely overlap existing dryland agriculture and range 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) 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 5, and Appendix B-4 for additional details on PHS species, including recreation and gaming species.

Wetlands

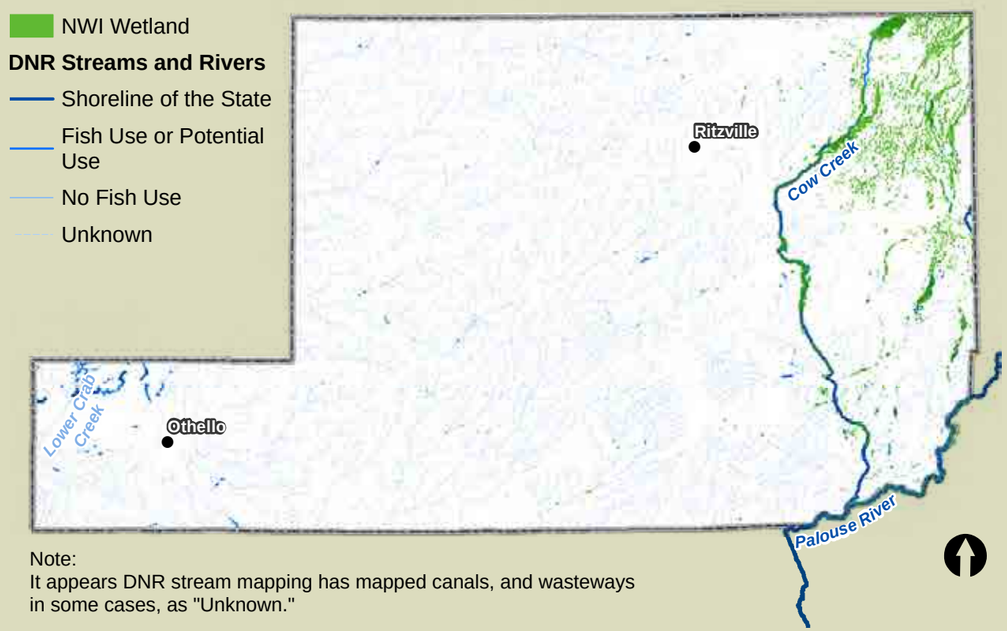
Wetlands are dispersed throughout the County and provide water quality function, hydrology, soil health, and habitat functions. Wetlands are found within 1.2% of the County's total agricultural lands (Figure 3-2), which represents a majority (approximately 79%) of the wetlands found within the County. They are mostly associated with rangelands, with some on dryland agricultural lands. An analysis of general validity of NWI wetland mapping and assessment of accuracy for representing existing conditions was presented in a technical memo, confirming the presence of many mapped wetlands in the county. The NWI wetland layer was found to be quite accurate particularly in both the eastern and western parts of the County, except that in the western part of the County sometimes the extent of wetland areas were larger than depicted on NWI (Anchor QEA 2017).

Key Functions	Wetland Functions
Water Quality Function	• Reduces siltation and erosion. • Provides water filtration. • Moderates water temperature.
Hydrology	• Stores water to reduce flooding and contributes to base flows.
Habitat	• Provides aquatic and woody vegetated habitat for fish and wildlife.

Irrigation-Influenced Wetlands

Development of the CBP has directly and indirectly caused the formation of many of the wetlands within the County through water management actions and associated facilities. Many wetlands are considered unintentional wetlands, resulting from localized conditions such as seepage from irrigation ditches. These types of wetlands are considered jurisdictional wetlands regulated by state wetland law. Improving water management practices (such as implementation of water conservation practices), which is happening through projects and practices implemented in Adams County each year, affects the size and number of wetlands and associated habitats within the County. 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).

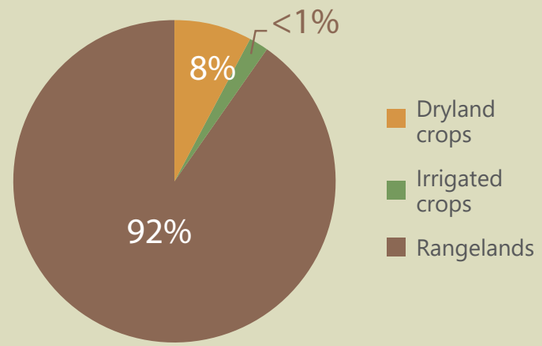
Figure 3-2
Wetlands and Streams Map



Note:
It appears DNR stream mapping has mapped canals, and wasteways in some cases, as "Unknown."

Wetlands on Agricultural Lands	
General Distribution	• Concentrated in the northeast corner of the County. • A few small wetlands are scattered throughout the rest of the County.
Characteristics	• Most are freshwater emergent wetlands.

Distribution of Wetlands in Each Agricultural Type



Fish and Wildlife Habitat Conservation Areas

Fish and Wildlife Habitat Conservation Areas include streams, riparian vegetation, and upland habitats that provide water quality, hydrology, soil health, and habitat functions. Fish and Wildlife Habitat Conservation Areas provide migratory corridors and refugia for wildlife. Streams provide a key habitat and streamside vegetation functions as a source of organic materials, habitat structures and cover, streambank stabilization, removal of excess nutrients and pollutants, and shade to help regulate water temperatures. Other species require large areas of range for migration, forage, and cover. Habitats of local importance may support sensitive species throughout their lifecycles, or are areas that are of limited availability or high vulnerability to alteration.

Streams and Riparian Vegetation

A majority (approximately 90%) of the total stream miles mapped within the County are within agricultural lands (Figure 3-2). However, almost all of those stream miles are classified as unknown by the Washington Department of Natural Resources. This means that the 3,138 unknown stream miles may or may not have characteristics of a fish and wildlife habitat conservation area. See Section 5 for additional indicators that will be reviewed through the Work Plan's monitoring and reporting process, such as USGS's NHD data.

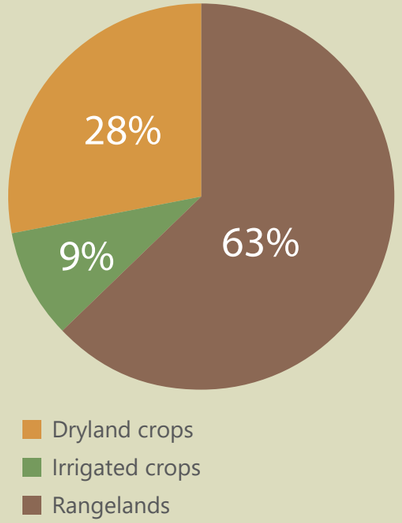
Streams and Riparian Areas on Agricultural Lands	
General Distribution	• Shorelines of the state, potential fish-use, and no-fish-use streams are mainly concentrated in rangeland areas. Unknown streams are mostly found on dryland agricultural fields. • Overall, a majority of streams are found in dryland areas.
Characteristics	**Streams:** • Lower Crab Creek is presumed to contain Endangered Species Act-listed summer steelhead (The Watershed Company 2014). • No anadromous fish species are present in the Palouse River or Cow Creek due to the natural blockage created by Palouse Falls. • Resident fish species above Palouse Falls include mountain whitefish, walleye, rainbow trout, brown trout, smallmouth bass, sculpin, and shiner perch (The Watershed Company 2014; WDFW 2018). • Water diversions on Cow Creek from Danekas Road to Hallin Lake must pass at least 0.5 cubic feet per second of flow, and water diversions on Cow Creek from the outflow of Cow Lake to the confluence with the Palouse River must pass at least 1 cubic feet per second of flow. **Riparian Vegetation:** • Primarily consists of herbaceous shrublands comprising sedge and rush species.

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 Adams County, riparian vegetation typically consists of grasses, shrublands, and some trees. Riparian vegetation provides habitat for fish and wildlife, reduces siltation by trapping sediments, filters excess nutrients and pollutants, and helps moderate in-water temperatures by providing vegetative shade. Satellite-based landcover classification and aerial imagery indicate that there is little woody riparian vegetation in the county, but these functions may be achieved by herbaceous vegetation even in the dormant season. Satellite-based landcover classification indicates that only 1% streams in the County currently have riparian vegetation characteristics.

Stream Type	Stream Miles Within Agricultural Lands	% of Total Stream Miles within Agricultural Lands
Streams Total	**3,214**	**89%**
Shorelines of the State	46	1%
WDFW-mapped Fish Use	88	3%
DNR-mapped Fish Use	26	<1%
DNR-mapped No Fish Use	4	<1%
DNR-mapped Unknown	3,138	98%

Distribution of Streams in Each Agricultural Type



Priority Habitats and Species

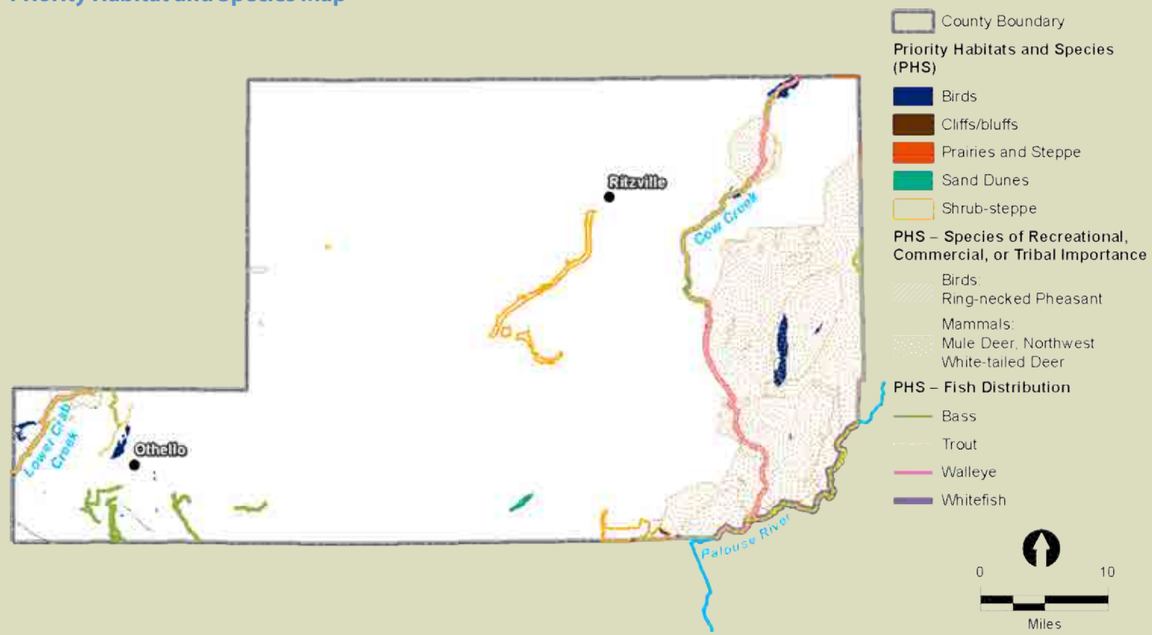
Areas mapped with Priority Habitats and Species (PHS) are extensive in the County. When habitat associated with game species such as mule deer, Northwest white-tailed deer, or red-necked pheasant are included, they cover 14% of agricultural lands; when excluded, PHS covers less than 1% of these lands (Figure 3-3). These game species are prevalent in the southeast portion of the County, particularly near Cow Creek and the Palouse River. Overall, PHS, excluding game species, occur mainly on rangelands. See Appendix B-4 for a comprehensive list of PHS Washington Department of Fish and Wildlife (WDFW) has identified in the County. Other species may also be present in Adams County in areas on or adjacent to agricultural lands, but not shown in PHS mapping, including Washington ground squirrels, sage grouse, pygmy rabbit, ferruginous hawks, and burrowing owls. Based upon field observation on evaluation of aerial imagery for the County there may be additional shrub-steppe habitat outside of currently mapped areas (Anchor QEA 2017).

Key Functions	Fish and Wildlife Habitat Conservation Area Functions
Water Quality Function	• Reduces siltation by stabilization of streambanks from riparian vegetation. • Provides water filtration. • Moderates water temperature by providing shade.
Hydrology	• Stores and retains water to reduce flooding and support base flows in streams.
Soil Health	• Reduces rate of erosion by providing vegetative cover and wind breaks.
Habitat	• Provides spawning, rearing, and migratory habitat for fish. Riparian habitat also provides refuge, nesting, migratory and rearing areas for wildlife.. • Provides aquatic habitat by supplying organic inputs (e.g., leaf fall, insects, and large wood). • Supports sensitive species lifecycles.

Game Species in Priority Habitat and Species (PHS) Maps

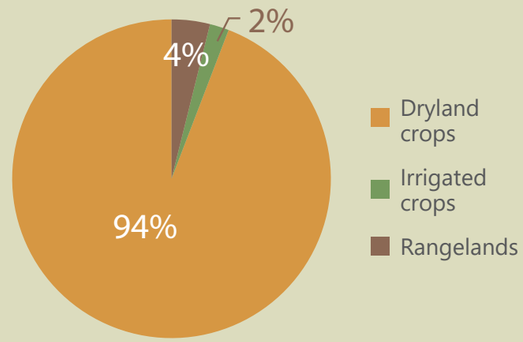
PHS maps maintained by WDFW provide a reference to the potential existence of Fish and Wildlife Habitat Conservation Areas. Game species habitat mapped in PHS on agricultural lands, mule deer, Northwest white-tailed deer, and pheasant, almost entirely overlap existing rangelands and dryland agriculture. Agriculture is expected to continue providing a positive benefit to deer and other game species habitat. Accordingly, benefits to game species are not a focus of this Work Plan, except where there is overlap with other Fish and Wildlife Habitat Conservation Areas, such as riparian or shrub-steppe habitat. Protection of these habitats is also expected to also benefit game species.

Figure 3-3
Priority Habitat and Species Map



Priority Habitats and Species on Agricultural Lands	
General Distribution	• Consists of mostly mammal species habitat along Cow Creek and the Palouse River. • Waterfowl concentrations are found near lakes and wetlands in the eastern portion of the County, including around Sprague Lake and near Othello.
Characteristics	• Incudes ponds, riparian habitats, and upland habitats, including 6,000 acres of shrub steppe habitat.

Distribution of PHS in Each Agricultural Type

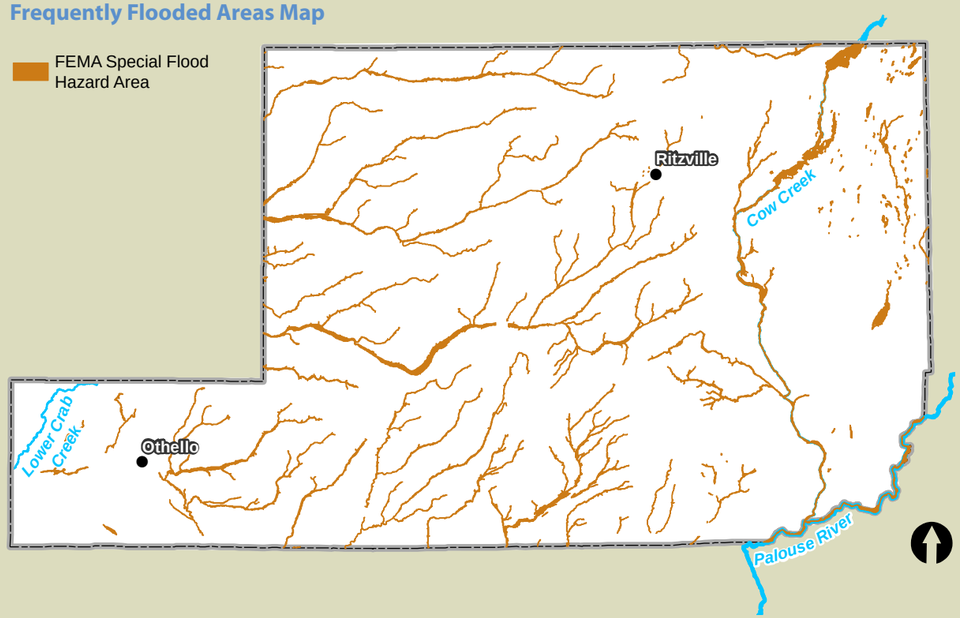


Frequently Flooded Areas

Frequently Flooded Areas protect public health and safety by providing temporary flood water storage and conveyance, while also providing water quality function, hydrology, soil health, and habitat functions. Frequently Flooded Areas are found within only 3% of the County's total agricultural lands (Figure 3-4). Frequently Flooded Areas typically overlap or are adjacent to streams, many of which are classified as unknown and may only contain water during floods. The Federal Emergency Management Agency (FEMA) occasionally works with the County to update floodplain mapping. No updates to the mapping are currently underway; any changes to the FEMA maps in the future would be reflected in this Work Plan through the adaptive management process.

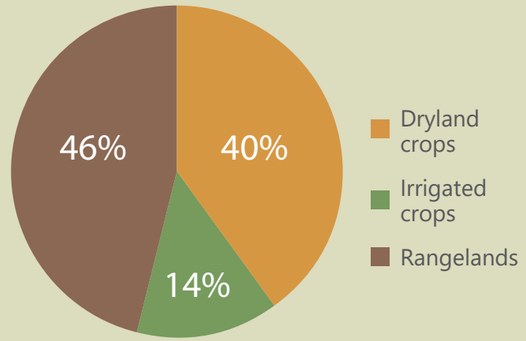
Key Functions	Frequently Flooded Areas Functions
Water Quality Function	• Vegetation in Frequently Flooded Areas holds underlying soil in place and provides area for new sediment depositions to settle out. • Moderates water temperature by shallow groundwater infiltration and releases from unconfined aquifers of cooler groundwater back to streams, and by vegetation that can provide shade.
Hydrology	• Stores and retains surface water surface in floodplain, reducing velocities and modifying discharge rates. • Recharges groundwater that can later be returned to the stream to help maintain base flow
Soil Health	• Supports moisture content in soils, reduces rate of erosion, and supports plant growth that can increase organic inputs to soil.
Habitat	• Provides aquatic and riparian habitats for wildlife, plants, and fish.

Figure 3-4
Frequently Flooded Areas Map



Frequently Flooded Areas on Agricultural Lands	
General Distribution	• Frequently Flooded Areas occur along waterways and drainages. Many of these are mapped as unknown streams located in the central portion of the County, • They also occur in scabland depressions in the central portion of the County.
Characteristics	• Flooding throughout the County is mainly caused by either rain-on-snow events, summer storm events, or spring runoff.

Distribution of Frequently Flooded Areas in Each Agricultural Type

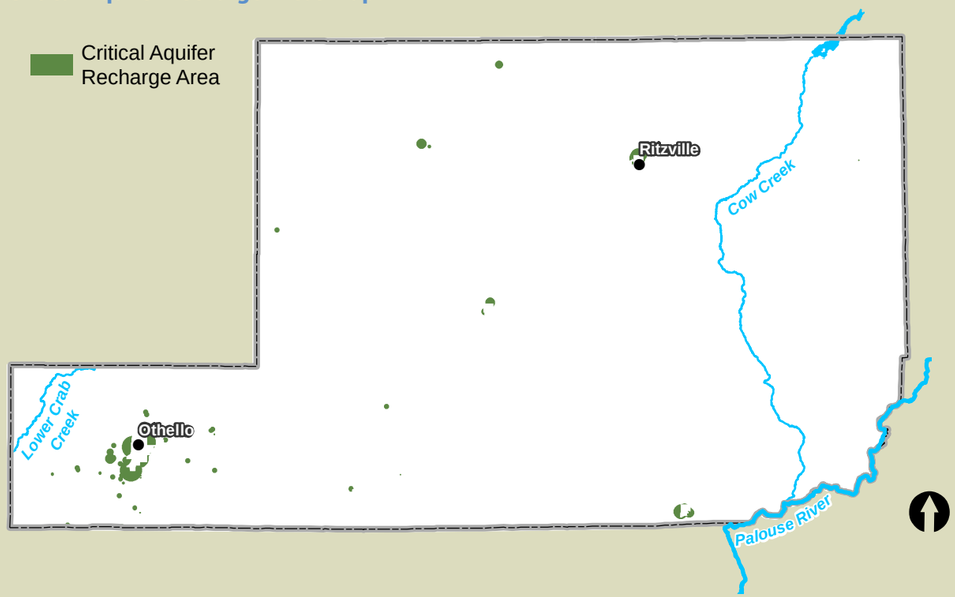


Critical Aquifer Recharge Areas

Critical Aquifer Recharge Areas provide clean and safe public drinking water supplies by protecting areas near public drinking water supplies from contamination from groundwater infiltration. There are 56 public water supply wells in the County, and their associated wellhead protection areas are found in less than 1% of the County's total agricultural lands (Figure 3-5). Of these wells, 28 are shallow wells that have the greatest potential risk from surface contamination. An additional 19 wells are deep wells, which have a low risk of contamination from surface activities, because recharge of these wells likely occurs in counties farther to the east. The other wells are either open to multiple aquifers or unknown. Accordingly, conservation practices that can protect water quality function and recharge aquifers are desirable.

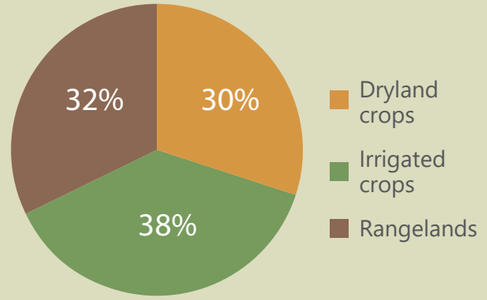
Key Functions	Critical Aquifer Recharge Area Functions
Water Quality Function	• Infiltration through soil column and underlying geology improves groundwater quality.
Hydrology	• Recharges groundwater resources.

Figure 3-5
Critical Aquifer Recharge Areas Map



Critical Aquifer Recharge Areas on Agricultural Lands	
General Distribution	• Those wellhead protection areas within incorporated cities and towns are not generally subject to the VSP, but any portions extending into agricultural lands of unincorporated Adams County are included.
Characteristics	• Most are located in areas where potential contaminants on the land surface, such as fuel, crop protection tools, or nutrients, could potentially infiltrate into public drinking water supplies. Agriculture practices can also affect the rates of recharge to aquifers.

Distribution of Critical Aquifer Recharge Areas in Each Agricultural Type



Geologically Hazardous Areas (Erosion)

Geologically Hazardous Areas can primarily impact soil erosion risks from wind and water. This is different from protecting inherent functions and values of other types of critical areas.

In Adams County, the only designated erosion geologic hazards are areas with Ringold soil types and slopes in excess of 15%, and which have potential for water loading (collectively referred to as Ringold Erosive Soils). These areas are not specifically mapped but have been approximated through looking at soil type and percent slope (shown on Figure 3-6) and comprise less than 1% of the County. Their general location is described below.

Severe water erosion potential areas are found within 38% of the County's total agricultural lands (Figure 3-6). High wind erosion potential areas are found within 12% of the County's agricultural lands (Figure 3-7). Although water and wind erosion potential areas are not officially designated as erosion hazard areas within the County's critical areas code, they are still considered within this Work Plan because they pertain to critical area functions and values and agricultural viability. Soil health and conservation is a key contributor to agricultural viability in the County.

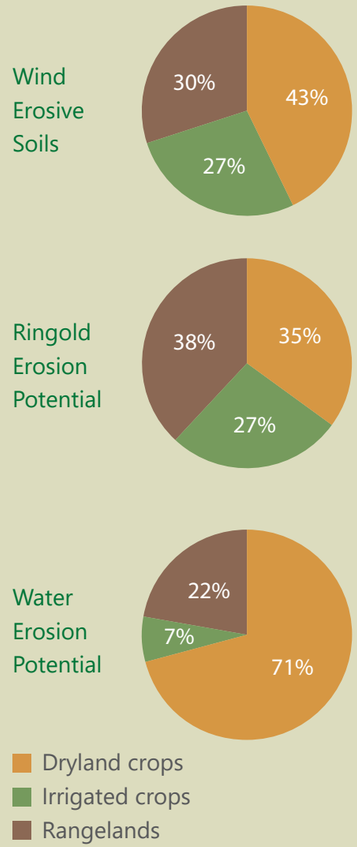
Key Functions	Geologically Hazardous Area Functions
Water Quality Function	• Regulates the rate of soil erosion and associated movement of sediment deposited in surface waterbodies.
Hydrology	• Regulates the rate of groundwater infiltration and rate of surface water runoff.
Soil Health	• Regulates the rate of erosion as it relates to depth.
Habitat	• Regulates the rate of erosion as it relates to sediment inputs to stream and wetland aquatic habitat.

Geologically Hazardous Areas for Seismic and Landslide Hazards

Geologically hazardous areas for landslide and seismic hazard areas are of limited concern because these hazards are traditionally considered under the Growth Management Act as areas to avoid building structures on or to include additional requirements to protect structures from earthquake, landslide, or other geologic hazards. Under this Work Plan, structures in agricultural lands will continue to be permitted and regulated through the County's critical areas code.

Geologically Hazardous Areas on Agricultural Lands	
General Distribution	• Ringold Erosive Soils are mainly located along ridges in the southwest portion of the County, and in area near Ritzville. • Severe water erosion potential areas are distributed throughout the County. • Wind erosion is distributed throughout the County and is concentrated mainly along ridges and in the southwest corner.
Characteristics	• County soils are generally characterized as silt loam, and erosion hazards range from slight to severe depending on soil type and slope (USDA 1967).

Distribution of Geologically Hazardous Areas in Each Agricultural Type



Geologically Hazardous Areas (Erosion)

Figure 3-6
Ringold Erosive Soils and Water Erosion Potential Map

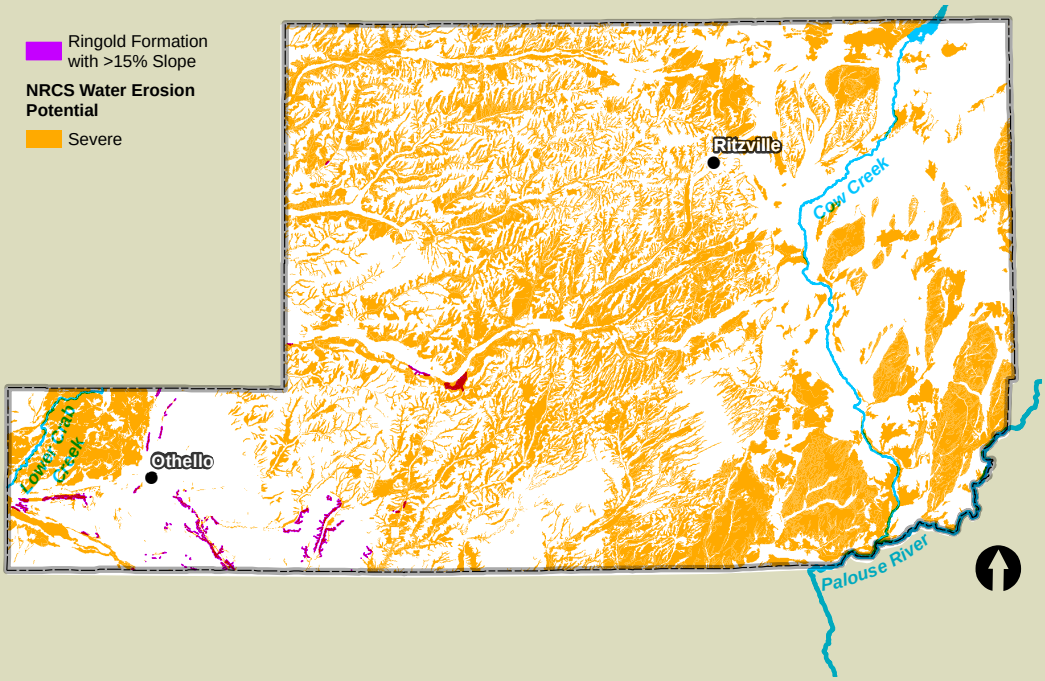
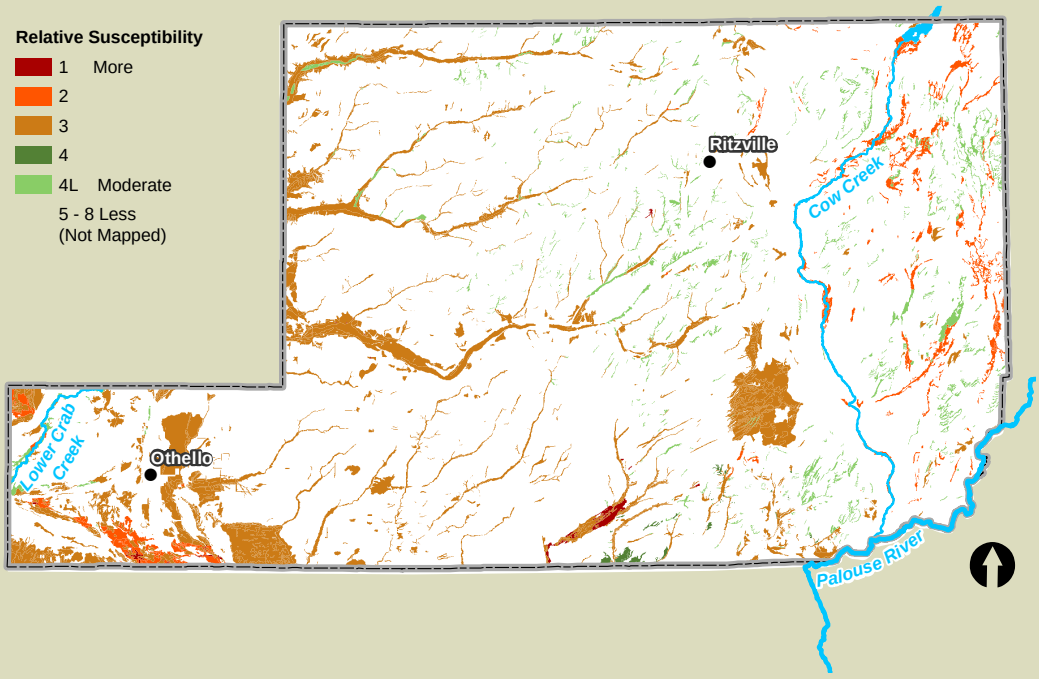


Figure 3-7
Wind Erosion Susceptibility Map



Agricultural Viability Baseline Conditions

Agriculture is widely recognized as a pillar of the Washington State's and Adams County's 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.

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.

Table 3-2
Agricultural Viability – Regional Elements

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
Market trends/viability	Changing livestock and commodity prices can affect the number of producers that support economy
	Value added measures to make products more marketable

At the regional level, agricultural viability is the support system that helps individual farms to succeed. This system also helps to mitigate potential threats and supports local producers in their operations and ability to take advantage of business opportunities.

At the farm level, agricultural viability rests mostly on the productivity of the land and the ability of the operator to balance inputs with sales and market pressures (Table 3-10). 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 conservation practices also have the dual benefit of protecting and enhancing critical areas while enhancing land production capacity; erosion reduction, for example, provides such dual benefits. Additionally, reduction of input costs (e.g., fuel and nutrients) can also result from these practices, and technology improvements can also help enhance production capacity.

Another important aspect of agricultural viability is the importance of operating and maintaining existing conservation practices/systems to achieve long-term benefits and minimize the discontinuation of conservation practices. The continuance of conservation practices and systems is a key component of VSP implementation. Maintenance of the land base in agricultural production is another agricultural viability component. Agricultural lands coming out of production due to market conditions or other factors can affect the services that support agriculture and make it less viable if the land base and associated productions and uses are declining.

Table 3-3
Agricultural Viability – Farm Elements

Regional Elements	
Concept	**Detail**
Reduce input	Energy (power, fuels)
	Crop protection tools
	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 farming practices
	Cropping choices
Incentives	Payment for measures
	Tax breaks
Managed farmland conversion	Urban development (limited)
	Maintaining resource lands
"No surprises" regulatory environment	Federal – Clean Water Act, Clean Air Act, Endangered Species Act, and others
	State and county permitting (drainage and other requirements)
Protect private property rights	Recognizing and respecting rights
Environmental variation	Rainfall, temperature, and other environmental factors can affect agricultural production and activities

Figure 3-8 includes a summary of agricultural viability strengths, weaknesses, opportunities, and threats based on responses obtained from a survey of local agricultural producers.

Overall, the Work Plan has been designed to support and promote the regional and individual farm agricultural viability elements listed above. The program places emphasis on systems, 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 conservation activities described in Section 4 and in each of the goals provided in Section 5. Protecting and enhancing agricultural viability will continue to be a key performance measure that must be met during plan implementation.

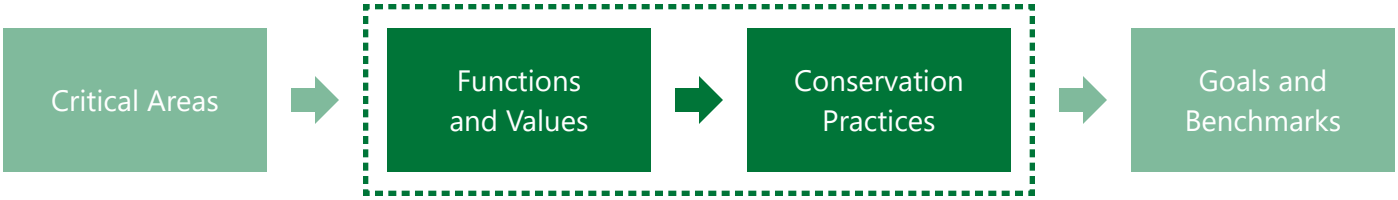
Figure 3-8
Agricultural Viability Strengths, Weaknesses, Opportunities, and Threats

Strengths	Weaknesses
• Consistent and predictable climate • Cheap electricity • Ability to grow many different types of crops in irrigated areas • Consistent high-quality production • Good shipping infrastructure	• Small market size • Certain crop types are not well suited for Adams County (i.e. canola) • Limited political influence within the State • Poor communication between agricultural community and regulators • Lack of alternative crop opportunities in dryland areas • Lack of young workers entering the workforce • Increased shipping costs
Opportunities	**Threats**
• Outreach opportunities for specialty products • New plant varieties (drought tolerance) • New technologies • New markets due to global population growth	• Water availability • Costs of weed management • Inadequate labor force • Lack of community infrastructure • Detrimental changes in government policy • International producers joining the market

4 Protection and Enhancement Strategies

Agricultural producers play a major role in the stewardship and management of private lands and resources within Washington and Adams County. Agricultural producers are continually improving agricultural practices, applying new science and technology, and implementing conservation practices that reduce agricultural impacts on critical areas, as well as maintain or increase the viability of the agricultural economy. In the County, agricultural producers have adopted a variety of practices to address the four critical area functions and values (i.e., water quality function, hydrology, soil health, and fish and wildlife habitat). This Section will introduce the connection between conservation practices and critical area functions and values (Figure 4-1). Additionally, this section will discuss the conservation practices that have been implemented since 2011, highlighting the protections to critical areas these practices are already providing.

Figure 4-1
VSP Crosswalk – Functions and Values Connection with Conservation Practices



Conservation Practices that Protect Critical Area Functions and Values

As discussed in Section 3, each critical area provides specific functions and values to the landscape (i.e., water quality function, hydrology, soil health, and fish and wildlife habitat). Many conservation practices provide the same benefits to critical area functions and values in addition to maintaining agriculture viability.

This Work Plan summarizes some of the practices that have been implemented by agricultural producers in the County under NRCS programs and illustrates how they protect and enhance critical area functions and values, in addition to promoting agricultural viability.

Both the Adams CD and Grant County Conservation District (GCCD) are available to provide technical guidance in identifying farming practices that promote agricultural viability and further the goals of this Work Plan to protect critical area functions; implementation is discussed further in Section 6. The Self-Assessment Checklist (Attachment A) has been developed for agricultural producers and the CDs to determine how the VSP could apply to their operations.

Crop Rotations

In the County, crop rotations has become a standard farming practice that addresses resource concerns and promotes agricultural viability. Crop rotation practices include managing land in such a way as to grow a sequence of various crops on the same piece of land to help improve soil health, nutrients, and moisture, and reduce soils lost to erosion.

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 6 for additional resources and technical assistance available to agricultural producers on a voluntary basis. Participation in a government-funded program is not required for VSP participants.

Self-Assessment Checklist

The Self-Assessment Checklist (Attachment A) is a helpful tool to help assess how the VSP could apply to individual agricultural producers. It includes questions producers can consider to identify existing practices that protect critical areas, as well as additional examples of conservation practices that producers can consider to further protect and enhance critical areas and promote agricultural viability.

Participation Confidentiality and Privacy

Self-Assessment Checklists can assist producers in developing an "individual stewardship plan" in coordination with the CD. Individual stewardship plans that a CD helps a producer develop are confidential and exempt from disclosure, similar to farm plans developed by CDs per RCW 42.56.270(17)(a) and (b) (WSCC 2017). Conservation practices information shared by producers with the Adams CD and GCCD will be reported for VSP at the watershed and County scales.

Examples of Critical Areas Conservation Practices in Adams County (Implemented Under NRCS)

Residue and Tillage Management

Managing crop and plant residue and limiting soil disturbance (e.g., no-till or reduced-till)

Applicability: D I R

Critical Area Functions	
Water Quality Function	• Reduces runoff and erosion • Reduces transport of nutrients and sediment
Hydrology	• Increases infiltration and decreases evapotranspiration to increase water availability
Soil Health	• Reduces soil disturbance and increases cover to reduce wind and water erosion
Habitat	• Provides food and cover for wildlife • Increases water availability

Agricultural Viability

- Soil quality and conservation
- Weed management
- Yield and fertility

Pest Management

Managing crop protection tools use to reduce runoff

Applicability: D I R

Critical Area Functions	
Water Quality Function	• Residual crop protection tools decrease in surface and groundwater
Soil Health	• Decreased wind and water erosion due to changes in pest management
Habitat	• Reduces the negative effects of pests on food quantity and quality

Agricultural Viability

- Soil quality
- Weed management
- Pollinator/beneficial organisms

D Dryland Crops I Irrigated Crops R Rangeland

Nutrient Management

Managing application of nutrients to minimize loss to runoff

Applicability: D I R

Critical Area Functions	
Water Quality Function	• Reduces nutrients in surface and groundwater due to matching plant needs to the amount, timing, and placement of nutrients
Habitat	• Optimizes health and vigor of desired plant species • Increases food and cover for wildlife

Agricultural Viability

- Soil quality
- Yield and fertility
- Reduced input costs

D Dryland Crops I Irrigated Crops R Rangeland

Prescribed Grazing

Managing grazing and vegetation harvest to improve plant communities and manage weeds

Applicability: D I R

Critical Area Functions	
Water Quality Function	• Reduces runoff and erosion • Reduces transport of nutrients and sediment
Hydrology	• Increases infiltration and water availability
Soil Health	• 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

Agricultural Viability

- Soil quality and conservation
- Weed management
- Yield and fertility

Irrigation Water Management

Managing water volume, frequency, and application rate for efficiency

Applicability: D I R

Critical Area Functions	
Water Quality Function	• Reduces runoff and erosion • Reduces transport of nutrients and sediment
Hydrology	• Reduces degradation of surface and groundwater resources
Soil Health	• Manages leaching of salt and chemicals below the root zone

Agricultural Viability

- Soil quality
- Yield and fertility
- Reduced inputs

D Dryland Crops I Irrigated Crops R Rangeland

Note:
Critical Areas Functions as defined by the Conservation Practices Physical Effects matrix for each practice.

Water Storage

An artificial barrier that can impound water for one or more beneficial purposes. Water storage projects—that provide multiple benefits, such as improving stream flow, wetland habitat, local water supply and allowing for fish passage consistent with fish management objectives—are another example of a practice that could be implemented within Adams County along the Cow Creek system.

Applicability: D I R

Critical Area Functions	
Water Quality Function	• Reduces suspended sediment
Hydrology	• Reduces runoff and high peak flows • Stores water from high flow events for periods without precipitation
Habitat	• Improves habitat availability for fish and wildlife • Increases food source for some fish and wildlife species

Agricultural Viability

- Soil quality
- Weed management
- Pollinator/beneficial organisms

Changes Since 2011 Baseline

One of the key purposes of the VSP and this Work Plan is to leverage existing resources, private-sector activities, and government programs to achieve Work Plan goals (RCW 36.70A.700.2.d) and improve critical area functions on agricultural lands. Since 2011, agricultural producers have implemented practices that provide protections to critical areas and promote agricultural viability through private projects and projects funded by federal, state, and local governments.

All the conservation practices implemented since July 22, 2011, are considered to be working toward the goals and benchmarks of this Work Plan inasmuch as they maintain or improve the critical area ecological functions. The following subsections summarize documented conservation practices, implemented since 2011, that the Adams County VSP Work Group believes are protecting or enhancing critical area functions and values and improving agricultural viability above and beyond baseline conditions. Changes to ecological functions unrelated to agricultural activities will be considered as a change in the baseline for the purposes of VSP. These changes could be related to residential development or infrastructure that potential reduce functions. They could also be due to restoration and conservation practices that improve functions but are not occurring on lands not in agricultural use. If projects are publicly-funded species and habitat restoration or enhancement projects without a nexus to agricultural activities, they will be considered a change to the baseline conditions and not protection or enhancement under VSP.

These documented practices likely represent only a subset of all the conservation practices implemented since 2011, because many agricultural producers in the County implement practices independent of government programs. Accounting for these improvements would require an extensive self-reporting and documentation process that is not yet in place. Additionally, it should be acknowledged that, during this same time, there are likely some practices that have been discontinued. The re-establishment of agriculture in lands managed in conservation can result in habitat and other functions being affected. It is expected only a small percentage of lands put into conservation are removed in a given year (Table 4-1). Documenting existing conservation practices and new ones that are implemented, as well as documenting those that are discontinued, is important to measuring performance of this Work Plan, as further discussed in Section 5.

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 potential compared to conventional practices (Pacific Northwest Direct Seed Association 2017).

NRCS Conservation Practices

Since 2011, there have been 704 conservation projects implemented on approximately 270,000 acres within the County through the NRCS-funded programs on agricultural lands. The following top practices have been implemented:

- Residue and tillage management actions to protect soil health and conservation
- Nutrient and crop protection tool management systems to protect water quality and conserve resources
- Prescribed grazing practices that improve plant communities and manage weeds
- Watering facility implementation that provides designated water sources for livestock that are located away from sensitive areas

As summarized previously in Table 4-1, these practices also promote agricultural viability. Figure 4-2 provides a summary of additional top NRCS practices implemented under the Environmental Quality Incentives Program (EQIP) and Wildlife Habitat Improvement Program (WHIP). As previously noted, these practices and programs only represent a portion of the practices likely being implemented, and additional practices still remain unaccounted for in the County.

Table 4-1
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 3%	**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., CRP)	• Habitat restoration • Prescribed grazing • Cover crop • Range planting

Figure 4-2
Top NRCS Conservation Practices Implemented from 2011 to 2016

Conservation Practice[1]	Acres Affected		Projects Implemented	Land use
Residue Management, Mulch Till		60,211 acres	109	D I R
Agricultural Energy Management		53,150 acres	28	D I R
Pest Management		38,784 acres	78	D I R
Nutrient Management		29,025 acres	60	D I R
Residue and Tillage Management, No-till/Strip Till/Direct Seed		20,811 acres	54	D I R
Irrigation Water Management		6,723 acres	25	D I R
Prescribed Grazing		6,519 acres	37	D I R
Cover Crop		978 acres	14	D I R
Fence	N/A	47,227 feet	26	D I R

10,000 Acres
1,000 Acres
100 Acres
D Dryland Crops
I Irrigated Crops
R Rangeland

Notes:
1. Includes projects implemented under the Environmental Quality Incentives Program and Wildlife Habitat Improvement Program.
N/A: Not applicable
Source: NRCS data provided by the Grant County Conservation District

Conservation District-Led Projects

Numerous other projects have also been implemented through the Adams CD and GCCD and are often funded directly by the district or programs administered by other agencies. Major conservation practices implemented by the CDs are identified in Table 4-2 and are mainly associated with livestock including livestock watering facilities, fencing for riparian exclusion, and fencing for rotational grazing.

Natural Resources Conservation Service Practices Related to Energy Management

A total of 28 energy-management projects have been administered through NRCS in Adams County from 2011 to 2016. These projects are intended to provide cost-effective conservation measures that reduce energy usage and/or increase energy efficiency in farm operations.

Fencing

A range of fencing could be installed to benefit critical areas and wildlife on agricultural lands, such as fencing for riparian buffers and fencing for rotational grazing. Fencing types also vary and include; permanent fencing, temporary fencing including electrical, and wildlife-friendly fencing. All of these are examples of fencing practices that could provide protection to or enhancement of critical areas (Paige 2012).

Table 4-2
Conservation Practices Implemented by Local Conservation Districts from 2011 to 2016

Conservation Practice	Amount
Livestock watering facilities	6 facilities
Windbreak	1 project
Fencing for riparian buffer	2.2 miles
Fencing for rotational grazing	3,960 feet

Conservation Reserve Program

The Conservation Reserve Program (CRP) is a federally funded program, managed by the Farm Service Agency (FSA), that pays a yearly rental payment in exchange for farmers removing environmentally sensitive land from agricultural production and planting species that will improve environmental quality. Acres enrolled in CRP vary year to year, depending on the availability of federal funding, which has decreased in recent years. However, these lands are not designated as critical areas. Habitat benefits from CRP lands are considered enhancement under VSP and, if put back into production, are accounted for under baseline conditions. Acreages enrolled in CRP decreased by approximately 13,000 acres between 2011 (209,576 acres) to 2015 (196,702 acres; USDA 2016). The State Acres for Wildlife Enhancement (SAFE) program offers incentives and cost-share assistance for producers who enroll land in SAFE projects that benefit identified wildlife and habitat, which includes the Eastern Washington Shrub-Steppe Project area within Adams County.

Changes in Agricultural Landcover Since 2011

Between 2011 and 2015, agricultural landcover decreased by approximately 3,000 acres based on WSDA agricultural landcover data (WSDA 2011, 2015). This amounts to a loss of approximately 0.3% during a 4-year period, and some of these acres could be attributed to market conditions, the natural variations that occurs in the management of rangelands year to year, or variations in surveying methods applied to development landcover data. The largest change in agricultural practices was conversion of rangeland to dryland. Additionally, conversion from agricultural land to open space also occurred between 2011 and 2015.

Table 4-3 provides a summary of change analysis in agricultural landcover between 2011 and 2015. This summary table indicates that changes in agricultural landcover are mostly a decrease in rangelands, but there have been increases in dryland, open space, and non-agricultural lands. Open space in this instance refers to barren ground, herbaceous wetlands, and woody wetlands instead of land that is considered either agricultural land or other developed lands, as defined by the USDA landcover data (USDA 2011).

Table 4-3
Agricultural Landcover Change Analysis from 2011 to 2015

Year	Agricultural Landcover Acres (Private)					
	Non-Agricultural	*Dryland*	*Irrigated*	*Rangeland*	*Open Space*	*Total in Agricultural Land*
2011	19,389	699,989	159,481	334,005	2,562	1,198,568
2015	22,792	703,238	160,611	323,677	5,083	1,195,176
Change since 2011	3,403	3,250	1,130	-10,328	2,521	-3,392

Lind Siphon Completion

Odessa Groundwater Replacement Project

The Odessa Groundwater Replacement Project has the potential to supply 164,000 acre-feet of surface water from Banks Lake to irrigate 70,000 acres of land currently irrigated with groundwater in the Odessa subarea, which includes portions of Adams, Grant, Lincoln, and Franklin counties. This project has the potential to affect agricultural land coverage within the County portions of the Odessa subarea, which includes the area southwest of Odessa. The Office of the Columbia River and the U.S. Bureau of Reclamation are in the process of constructing the infrastructure needed to bring the water to the Columbia Basin irrigation districts (Ecology 2016b). Any potential impacts to critical areas that would result from proposed CBP modification would be analyzed and mitigated for as part of the federal and/or state environmental review process that would occur outside of the VSP. VSP conservation practices can be used to manage water on farms after water is delivered to a producer.

Cow Creek Managed Flow

Cow Creek from Sprague Lake to its confluence with the Palouse River is regulated by minimum flow requirements. Water diversions from Cow Creek from Danekas Road to Hallin Lake must pass at least 0.5 cubic feet per second of flow and from the outflow of Cow Lake to the confluence with the Palouse River must pass at least 1 cubic feet per second of flow. Therefore, no diversion can result in depleting Cow Creek of flow. Additionally, each diversion has a set maximum withdrawal that cannot be exceeded.

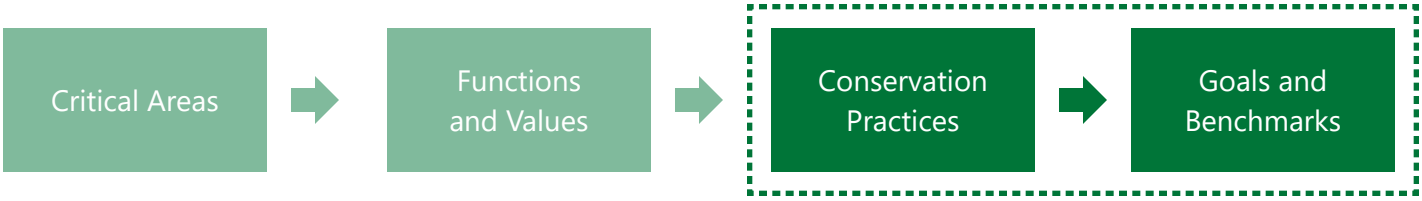
5 Goals, Benchmarks, and Adaptive Management

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

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: 1) water quality function; 2) hydrology; 3) soil; and 4) fish and wildlife habitat. See Section 2 for additional discussion on these four major functions and their relationship to the five types of critical areas.
- **Measurable benchmarks** for protection and enhancement of critical areas based on participation in key stewardship strategies and practices. See Section 4 for additional discussion on the connection between stewardship strategies and critical areas functions. This section further 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 5-1
VSP Crosswalk – Conservation Practices Connection with Goals and Benchmarks



Goals

The VSP law requires VSP Work Plans 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. Additionally, Work Plans are required to incorporate applicable data and plans into development of Work Plan goals and benchmarks (RCW 36.70A.720 (1)(a)). This section includes measurable benchmarks and identifies the following elements in support of 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 C).

- **Existing plans:** Existing plans were reviewed and incorporated where applicable to VSP and are also referenced in Goals No. 1 through 5 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 D for additional discussion on review of applicable data and plans as a part of the process for establishing measurable benchmarks and associated indicators.

- ***Palouse Watershed Plan (HDR/EES, Inc. 2007)*** This plan provides guidance for protecting water resources in WRIA 34 for out-of-stream uses, critical habitat, and recreational opportunities. Recommendations for implementing water conservation and efficiency strategies and protecting surface and groundwater quality are included with the goal of improving critical habitat and maintaining healthy drinking water. This plan also focuses on a basin-wide strategy to restore floodplain, riparian, and wetland capacities to increase aquifer recharge, provide habitat, and improve water quality.
- ***Palouse Basin Ground Water Management Plan (Palouse Basin Aquifer Committee 2015)*** This plan addresses the declining groundwater table and water supply concerns within the Palouse Basin through limiting annual aquifer pumping rates, promoting public outreach for key water conservation strategies, and maintaining water quality in the basin.
- ***WRIA 43 Upper Crab/Wilson Creek Watershed Plan (WRIA 43 Watershed Planning Unit 2006) and WRIA 43 Upper Crab/Wilson Creek Detailed Implementation Plan (WRIA 43 Water Resource Management Group, Inc. 2008)*** These plans promote watershed-level protection of water resources and land management to protect water quality and promote water and habitat conservation efforts. Recommendations related to agricultural activities include conservation of fish and wildlife habitat and riparian vegetation and voluntary restoration efforts. The plans identify strategies to reduce runoff impacts to help protect water quality functions of critical areas. Irrigation water management practices are also identified to conserve water resources and improve groundwater infiltration, providing filtration and recharge of groundwater resources.
- ***Palouse River Chlorinated Pesticide and Polychlorinated Biphenyl (PCB) Total Maximum Daily Load (TMDL): Water Quality Improvement Report and Implementation Plan (Ecology 2007)*** This plan reviews TMDL data in the Palouse River Basin and details an implementation plan to bring the river into compliance with water quality standards. Agriculture implementation strategies include continuing to reduce erosion in the watershed with best management practices like direct seed and runoff management.

- ***Shrub-Steppe and Grassland Restoration Manual for the Columbia River Basin (Benson et al. 2011)*** This manual provides guidance for meeting unique habitat requirements of grassland and shrub-steppe areas by maintaining vegetative cover. The manual gives general site preparation principles, including weed reduction control, along with guidance on appropriate seed mixes to meet wildlife-specific management goals. Maintaining quality vegetative cover is a benefit to each of the critical areas and incorporated as a stewardship practice throughout the Work Plan.
- ***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, nutrients, and other crop protection tools 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 in order to maintain vegetation and woody cover and protect riparian vegetation. Riparian health is a driving force for the habitat functions of every critical area.
- ***Riparian Ecosystems, Volume 1: Science Synthesis and Management Implications (Quinn et al. 2018) and Riparian Ecosystems, Volume 2: Management Recommendations (Windrope et al. 2018) (Draft))*** These plans are an update to the 1997 Management Recommendations for Washington's Priority Habitats: Riparian (Knutson and Naef 1997), which include recommendations to protect riparian habitat areas and the associated functions to hold and filter sediment, nutrients, and other crop protection tools 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 in order to maintain vegetation and woody cover and protect riparian vegetation. Riparian buffers are key in intercepting contaminants and reducing sedimentation going into rivers and streams. Riparian health is a driving force for the habitat functions of every critical area.
- ***Washington State Recovery Plan for the Greater Sage Grouse (Stinson et al. 2004)*** This plan describes the life history and habitat requirements for the greater sage-grouse and recommends population and habitat recovery and conservation strategies. Strategies include minimizing disturbing activities within 1.5 miles of sage-grouse leks during the breeding season, prescribed grazing to minimize the presence of livestock in sensitive sage-brush areas, minimizing the runoff from crop protection tools, managing nutrients, and maintaining native vegetation cover when possible. These strategies benefit critical area functions by providing habitat, supporting water quality functions, and maintaining more vegetative cover, which also benefits soil functions and reduces erosion consistent with the key stewardship practices identified in the Work Plan. The 2016 Periodic Status Review for the Greater Sage Grouse (Stinson 2016) includes a summary of management actions and population and habitat status updates.

Wetland Protection and Enhancement Goals

Goal #1: Protect and/or enhance wetland functions.

Protection and enhancement: Special emphasis on key functions provided by wetlands.

Key Functions	Wetland Functions
Water Quality Function	• Reduces siltation and erosion • Provides water filtration • Moderates water temperature
Hydrology	• Stores water to reduce flooding and contributes to base flows
Habitat	• Provides aquatic and woody vegetated habitat for fish and wildlife

Agricultural viability: This goal will be achieved while sustaining agriculture viability through:

- Deriving ancillary benefits from implemented conservation practices (improved soil function/soil preservation, weed management, increased pollinators/beneficial organisms, and increased fertility)
- Reducing regulation surprises associated with priority habitat degradation and species decline
- Reducing costs associated with lost ecosystem services (e.g., flood control and water filtration)
- Applying new technologies and monitoring of crops to reduce crop protection tools, nutrients, and irrigation input, as applicable.
- Offering financial incentives to offset startup costs for new practices and infrastructure

Objective	Key Conservation Practices Examples	Consistency With Existing Plans
Protect and enhance acres managed using strategies that provide direct protections to wetlands and wetland buffers	• Riparian herbaceous cover/filter strips • Conservation cover • Fencing • Access control/heavy use protection	• Riparian Ecosystems, Volume 1 & 2 (2018)
Protect and enhance acres managed using strategies that promote water quality function and hydrology functions by reducing erosion and improving water storage and filtration	• Conservation crop rotation • Cover crop • Mulch tillage • Tree/shrub establishment, windbreak/ shelterbelt establishment, critical area planting • Prescribed grazing	• Existing water quality data, such as the Ecology 303(d) List (2016) • Watershed Management Plans: ◦ Palouse Watershed Plan (HDR and EES 2007) ◦ WRIA 43 Watershed Management Plan (The WRIA 43 Watershed Planning Unit 2006) • Palouse Basin Aquifer Committee (PBAC) resources: ◦ PBAC Webpage (2017) ◦ Palouse Basin Ground Water Management Plan: 2015 Information Update to 1992 Plan (2015)
Protect and enhance acres managed using strategies that promote water quality function and fish and wildlife habitat functions by reducing inputs from runoff	• Irrigation water management • Nutrient management • Pest management • Riparian herbaceous cover/filter strips • Grassed waterways • Restoration and management of rare and declining habitats • Tree/shrub establishment	

Fish and Wildlife Habitat Conservation Areas Protection and Enhancement Goals

Goal #2: Protect and/or enhance fish and wildlife habitat conservation area functions.

Protection and enhancement: Special emphasis on key functions provided by fish and wildlife habitat conservation areas.

Key Functions	Fish and Wildlife Habitat Conservation Areas Functions
Water Quality Function	• Riparian vegetation stabilizes banks, reducing erosion • Provides water filtration • Moderates water temperature by providing shade
Hydrology	• Stores and retains water to reduce flooding and support base flows in streams
Soil	• Reduces rate of erosion by providing vegetative cover
Habitat	• Provides spawning, rearing, and migratory habitat for fish, and riparian habitat also provides refuge, nesting, migration, and rearing areas for wildlife • Provides aquatic habitat by supplying organic inputs (e.g., leaf fall, insects, and large wood) • Supports sensitive species lifecycles

Agricultural viability: This goal will be achieved while sustaining agriculture viability through:

- Reducing regulation surprises associated with priority habitat degradation and species decline
- Deriving ancillary agriculture benefits from implemented practices (soil conservation, weed management, and pollinator/beneficial organism)
- Reducing costs associated with lost ecosystem services (e.g., flood control and water filtration)
- Offering financial incentives to offset startup costs for new practices and infrastructure

Objective	Key Conservation Practices Examples	Consistency With Existing Plans
Protect and enhance acres managed using strategies that promote habitat functions by restoring or creating new habitat structures	• Range planting • Stream habitat and improvement management • Riparian herbaceous cover • Restoration and management of rare and declining habitats • Tree/shrub establishment • Conservation cover • Upland wildlife habitat management	• WDFW's Management Recommendations for Washington's Priority Habitats and Species: ◦ Greater Sage-grouse (2004) ◦ Shrub-steppe (2011) • Riparian Ecosystems, Volume 1 & 2 (2018) • WDNR Natural Heritage Program (rare plants and ecosystems) • Watershed Management Plans: ◦ Palouse Watershed Plan (HDR and EES 2007) ◦ WRIA 43 Watershed Management Plan (The WRIA 43 Watershed Planning Unit 2006) • Total Maximum Daily Load (TMDL) implementation recommendations for water quality improvement (Ecology 2007)
Protect and enhance acres managed using strategies that promote habitat functions by limiting trampling of habitat	• Prescribed grazing • Watering facilities • Fencing • Access control	

Goal #2: Protect and/or enhance fish and wildlife habitat conservation area functions (continued).

Objective	Key Conservation Practices Examples	Consistency With Existing Plans
Protect and enhance acres managed using strategies to promote habitat functions by preventing unintentional conversion of shrub-steppe habitat	• Irrigation water management	(Continued from previous existing plan)
Protect and enhance acres managed using strategies that promote water quality function, hydrology, and soil functions by reducing erosion and improving water storage and filtration	• Conservation crop rotation • Cover crop • Cross wind ridges • Mulch tillage • Direct seed • Range planting • Prescribed grazing	
Protect and enhance acres managed using strategies that promote water quality function and aquatic habitat functions by reducing inputs from runoff (surface water quality function)	• Irrigation water • Nutrient management • Pest management • Riparian herbaceous cover/filter strips • Grassed waterways	• Existing water quality data, such as the Ecology 303(d) List (2016) • Total Maximum Daily Load (TMDL) implementation recommendations for water quality improvement (Ecology 2007) • Watershed Management Plans: ◦ Palouse Watershed Plan (HDR and EES 2007) ◦ WRIA 43 Watershed Management Plan (The WRIA 43 Watershed Planning Unit 2006)
Protect and enhance acres managed using strategies to protect fish-bearing streams, limit shoreline and watercourse degradation, and enhance shoreline areas and watercourses	• Watering facility • Critical area planting • Stream habitat improvement and management • Channel bed stabilization • Fish and wildlife structure	• Watershed Management Plans: ◦ Palouse Watershed Plan (HDR and EES 2007) ◦ WRIA 43 Watershed Management Plan (The WRIA 43 Watershed Planning Unit 2006)
Enhance game species habitat through protection of existing habitats, crop rotations, conservation easement or other habitat improvements	• Corner habitat protection • Critical area planting • Fish and wildlife structure • Tree/shrub establishment • Upland wildlife habitat management	• WDFW Management Recommendations for Washington's Priority Habitats: Riparian (1997)

Critical Aquifer Recharge Areas Protection and Enhancement Goals

Goal #3: Protect and/or enhance critical aquifer recharge area functions.

Protection and enhancement: Special emphasis on key functions provided by Critical Aquifer Recharge Areas.

Key Functions	Critical Aquifer Recharge Areas Functions
Water Quality Function	• Infiltration through soil column and underlying geology improves groundwater quality
Hydrology	• Recharges groundwater resources

Agricultural viability: This goal will be achieved while sustaining agriculture viability through:

- Deriving ancillary agriculture benefits from implemented practices (increased soil, increased soil moisture, weed management, pollinator/beneficial organism, and increased fertility)
- Applying new technologies and monitoring of crops to reduce crop protection tool inputs, as applicable
- Applying new technologies to reduce irrigation and livestock watering
- Offering financial incentives to offset startup costs for new practices and infrastructure.
- Implementing hazardous materials spill containment and cleanup

Objective	Key Conservation Practices Examples	Consistency With Existing Plans
Protect and enhance acres managed to protect shallow groundwater wells by managing crop protection tool and nutrient input controls	• Water management • Nutrient management • Pest management	• Existing municipal and public water systems well monitoring data • Palouse Basin Aquifer Committee (PBAC) resources: ◦ PBAC Webpage (2017) ◦ Palouse Basin Ground Water Management Plan: 2015 Information Update to 1992 Plan (2015)
Protect and enhance acres managed to promote natural groundwater filtration functions	• Conservation cover • Cover crop • Mulch tillage • Direct seed • Range planting • Prescribed grazing	
Protect and enhance acres managed to promote hydrology functions by improving water conservation	• Irrigation water management	

Geologically Hazardous Area (Erosion Hazard) Protection and Enhancement Goals

Goal #4: Protect and/or enhance geologically hazardous area (erosion hazard) functions.

Protection and enhancement: Special emphasis on key functions provided by geologically hazardous areas for erosion hazards.

Key Functions	Critical Aquifer Recharge Areas Functions
Water Quality Function	• Rate of soil erosion and associated movement of sediment deposited in surface waterbodies
Hydrology	• Rate of groundwater infiltration and rate of surface water runoff
Soil	• Rate of erosion as it relates to depth
Habitat	• Rate of erosion as it relates to sediment inputs to stream and wetland aquatic habitat

Agricultural viability: This goal will be achieved while sustaining agriculture viability through:

- Preserving land available for agriculture
- Deriving ancillary agriculture benefits from implemented practices (increased soil moisture, weed management, and pollinator/beneficial organism)
- Reducing costs associated with soil replenishment and flood cleanup
- Financial incentives to offset startup costs for new practices and infrastructure

Objective	Key Conservation Practices Examples	Consistency With Existing Plans
Protect and enhance acres managed using strategies that promote water quality function, hydrology, soil and habitat functions by reducing erosion and improving water storage and filtration	• Conservation crop rotation • Cover crop • Mulch tillage • Direct seed • Cross wind ridges • Range planting • Prescribed grazing	• Existing water quality data, such as the Ecology 303(d) List (2016) • Watershed Management Plans: ◦ Palouse Watershed Plan (HDR and EES 2007) ◦ WRIA 43 Watershed Management Plan (The WRIA 43 Watershed Planning Unit 2006) • Palouse Basin Aquifer Committee (PBAC) resources: ◦ PBAC Webpage (2017) ◦ Palouse Basin Ground Water Management Plan: 2015 Information Update to 1992 Plan (2015)

Frequently Flooded Areas Protection and Enhancement Goals

Goal #5: Protect and/or enhance Frequently Flooded Areas functions.

Protection and enhancement: Special emphasis on key functions provided by Frequently Flooded Areas for erosion hazards.

Key Functions	Critical Aquifer Recharge Areas Functions
Water Quality Function	• Vegetation in Frequently Flooded Areas holds underlying soil in place and also provides area for new sediment depositions to settle out • Moderates water temperature by shallow groundwater infiltration and releases from unconfined aquifers of cooler groundwater back to streams, and by vegetation that can provide shade
Hydrology	• Stores and retains surface water surface in floodplain, reducing velocities and modifying discharge rates • Recharges groundwater that can later be returned to the stream to help maintain base flow
Soil	• Supports moisture content in soils, reduces rate of erosion, and supports plant growth that can increase organic inputs to soil
Habitat	• Provides aquatic and riparian habitats for wildlife, plants, and fish

Agricultural viability: This goal will be achieved while sustaining agriculture viability through:

- Deriving 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)
- Reducing costs associated with flood management and flood cleanup
- Financial incentives to offset startup costs for new practices and infrastructure

Objective	Key Conservation Practices Examples	Consistency With Existing Plans
Protect and enhance frequently flooded areas directly	• Riparian herbaceous cover • Grassed waterways • Conservation cover • Fencing • Access control/heavy use protection	• Watershed Management Plans: ◦ Palouse Watershed Plan (HDR and EES 2007) ◦ WRIA 43 Watershed Management Plan (The WRIA 43 Watershed Planning Unit 2006)
Protect and enhance acres managed using techniques that limit soil compaction or trampling of habitat	• Prescribed grazing • Watering facilities • Fencing • Access control	• Riparian Ecosystems, Volume 1 & 2 (2018)

Goal #5: Protect and/or enhance Frequently Flooded Areas functions (continued).

Objective	Key Conservation Practices Examples	Consistency With Existing Plans
Protect and enhance acres managed using strategies that promote water quality function, hydrology, soil, and habitat functions by reducing erosion and improving water storage and filtration	• Conservation crop rotation • Cover crop • Mulch tillage • Direct seed • Range planting • Prescribed grazing • Cross wind ridges	• Existing water quality data, such as the Ecology 303(d) List (2016) • Total Maximum Daily Load (TMDL) implementation recommendations for water quality improvement (Ecology 2007) • Watershed Management Plans: ◦ Palouse Watershed Plan (HDR and EES 2007) ◦ WRIA 43 Watershed Management Plan (The WRIA 43 Watershed Planning Unit 2006)

Measurable Benchmarks

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

Benchmarks are measured by tracking new and continued implementation of various conservation practices and associated stewardship on agricultural lands. Over time, the implementation of these conservation practices and the results of monitoring for critical area functions and values at a County-wide scale will be used to demonstrate that VSP is meeting the protection goals and determine if VSP is achieving the enhancement goals and benchmarks. See Appendix C for initial results based on 2011 to 2016 participation data in key conservation practices.

The Work Plan includes two measurable benchmarks per RCW 36.70A.720 (1)(e):

- **Protection Benchmarks** (preventing the degradation of baseline functions existing July 22, 2011) – The protection benchmark must be met to continue the voluntary, non-regulatory approach under VSP. For each protection goal, participation benchmarks are also identified and are designed to provide quantifiable measures that will ensure protection of the County's critical area functions and values is being achieved.
- **Enhancement Benchmarks:** (enhancements improve baseline critical area functions and values through voluntary and incentive based measures) – Meeting enhancement goals is encouraged, but not required, to continue the voluntary, non regulatory program under VSP for protecting critical areas. At each 5-year benchmark reporting period, voluntary enhancements of critical area conditions on lands used for agricultural activities are promoted and accounted for. Benchmarks for enhancement are specific to the County and indicate voluntary measures are leading to desired improvements 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 function(s) and/or value(s) occurs.

Benchmark quantities for conservation practice enrollment are provided in 5-year reporting increments (2021 and 2026). The methods used to establish protection and enhancement benchmark values for conservation practice participation include:

- **Measuring historical enrollment data** in key conservation practices to develop an average annual enrollment quantity for each practice.
- **Connecting conservation practices with specific benchmark goals** based on the CPPE scores for each practice developed by USDA (NRCS 2017). CPPE scores range between -5 and +5, with positive scores denoting a beneficial effect, and negative scores having an adverse effect. USDA CPPE scores were averaged for the four key functions, adjusted to include scoring criteria applicable to Adams County. See Appendix C for details on how averaged CPPE scores were developed for Adams County. The CPPE scoring is an interim step in determining whether protection and/or enhancement has occurred compared to the VSP 2011 baseline. Under VSP, the relative changes in functions affected from a given conservation practice will be tracked, most importantly the change since July 22, 2011. If a producer used one set of techniques

in 2011, but has since adopted new conservation practices that change could result in going from practice with a net impact on function (-2) to practices that have a positive effect on critical areas functions and values(+2). (This example would represent a +4 increase for acreage where beneficial practices replaced existing ones.

- **Setting anticipated disenrollment rate** of agriculture lands that may not continue to maintain the conservation practice past the required lifespan or following the end of a contract, or for other disenrollment reasons. Disenrollment or abandonment of practices can be monitored to adjust this rate further based on actual data.
- **Setting protection benchmarks and performance objectives** (see Table 5-2) by summing the enrollment goal to maintain baseline practices for protection of critical area function by replacing all lost functions associated with disenrollment or abandonment of practices (acres are calculated by anticipated disenrollment rates; see Table 4-1).

Change in 2011 Baseline Condition	=	(Newly Implemented Acres × Physical Effects Score)	-	(Disenrolled Acres × Physical Effect Score)

What is Conservation Practice Physical Effect (CPPE)?

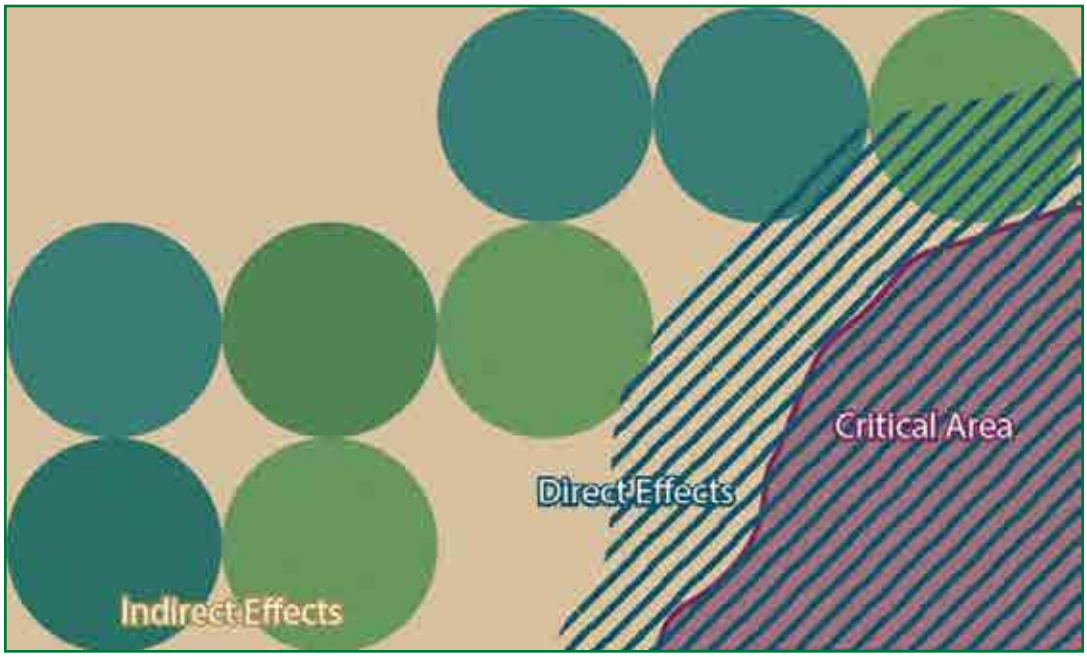
The CPPE describes how Natural Resources Conservation Service practices affect human-economic environment (e.g., agricultural viability) and natural resources (e.g., critical areas functions). This planning tool provides a quantitative score detailing the magnitude of the practice's effect on the resource. 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 practices with CPPE scores is provided in Appendix C. The implementation team will use discretion in determining which CPPE best represents the physical effects of stewardship practices on critical areas in the County based on local conditions and practices.

- **Setting enhancement benchmarks and performance objectives by:**
  - Including additional project acres funded for implementation in key practices (2017 to 2027)
  - Including project acres that have implemented between 2011 and 2016 above the protection performance objectives.
  - Enhancement benchmarks and performance objectives are in addition to the protection benchmarks; therefore, estimated disenrollment acres have been incorporated into the enhancement performance objectives value (see Table 5-2).

Enhancement above 2011 Baseline Conditions	=	(Key Practices to be Installed × Physical Effect Score) *based on 2017 to 2027 data on funded projects*	+	(Annual Enrolled Acres × Physical Effect Score) *based on 2011 to 2016 enrollment data*	-	(Disenrolled Acres × Physical Effect Score)

Conservation practices can be implemented within or directly adjacent to a critical area (see Figure 5-2 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 5-2
Direct and Indirect Effects of Practices on Critical Area Functions



Benchmarks

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

Table 5-1 provides a crosswalk of the key conservation practices identified for the Work Plan benchmarks to critical areas, function protections based on the overall averaged CPPE function effects score, and agricultural viability aims. The CPPE scoring shown in Table 5-1 indicates the most beneficial effects (enhancements; +5), no effect (0), and the most detrimental (-5). See Appendix C for additional information on methods applied for linking conservation practices to function protections using CPPE function effects and a more comprehensive list of conservation practices.

Table 5-2 provides a summary of protection and enhancement measurable participation benchmarks for the 5-year reporting increments (2021 and 2026). In predicting benchmark values for enhancement, GCCD typically assumed 40% implementation would likely occur within the first 5-year reporting timeframe (2021), while VSP implementation and outreach is developed and conducted, and 60% would occur within the second 5-year reporting timeframe (2026). The protection performance standard for each conservation practice is based on historical records. New practices will often replace existing practices. Trends in conservation practices and updates to the protection performance standard that reflect the move to new conservation practices will be included in the 2- and 5-year reports. Acreages may be adjusted as needed to reflect the higher or lower physical effect of the new practice.

Goals, Benchmarks, and Adaptive Management
Measurable Benchmarks

Table 5-1
Key Conservation Practices Crosswalk to National Functions Scores, Critical Areas, and Agricultural Viability

Key Conservation Strategies			Critical Area Functions Protection Metrics (averaged CPPE Function Effects Score)[2]				Critical Area Protections					Agricultural Viability Aims
Type	NRCS Code	Key Practices[1]	Soil	Hydrology	Water Quality Function	Fish and Wildlife Habitat	WET	HCA	CARA	GHA	FFA	
Soil Management	328	Conservation Crop Rotate	3.17	1.60	1.75	2.00	●	●		●		• Protect against erosion risk • Protect soil function • Protect against erosion risk • Protect soil function • Manage crop protection tool and nutrient inputs
	340	Cover Crop	2.46	1.40	1.75	2.00						
	386	Field Border	2.25	1.00	1.43	2.00						
Water Management[3]	449	Irrigation Water Management	1.75	1.50	1.82	0.00	●	●	●	●		• Protect against erosion risk • Protect soil function • Reduce input costs
	442	Sprinkler System	1.25	2.67	1.55	1.00						
Nutrient Management	590	Nutrient Management	0.83	0.00	3.50	0.00	●	●	●			• Protect soil function • Reduce invasive and nuisance species • Manage crop protection tool and nutrient inputs
Pest Management	595	Pest Management	2.00	0.00	4.00	2.00	●	●	●	●		• Protect soil function • Reduce invasive and nuisance species • Provide pollinator species/beneficial organisms habitat
Residue and Till Management	345	Residue Management - Mulch Till	2.75	1.33	2.20	1.67	●	●		●		• 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						
Livestock Management[4]	550	Range Planting	3.10	0.75	1.33	2.67	●	●		●	●	• Protect against erosion risk • Protect soil function • Reduce invasive and nuisance species • Promote yield and fertility
	528	Prescribed Grazing	2.83	1.50	1.30	2.67						
	614	Watering Facility	1.10	0.00	1.71	4.00						
Habitat Management	327	Conservation Cover	2.77	1.25	2.89	3.33	●	●		●	●	• 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	2.33	2.00						
	422	Hedgerow Planting	1.25	2.00	1.33	4.00						
	612	Tree/Shrub Establishment	3.00	1.20	1.17	2.33						
	643	Restoration and Management of Rare and Declining Habitats	0.50	0.00	2.00	4.00						
	645	Upland Wildlife Habitat Management	1.20	-0.50	2.00	5.00						
	382	Fence	1.00	0.00	2.00	0.00						

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 Conservation Practice Physical Effects (CPPE) matrix was relied on to develop an average function effects scores for the key function and practices. See Appendix C for full suite of conservation practices CPPE scores.
3. Water management stewardship focuses on key practices that address on-field resource concerns and management where irrigation activities are already occurring. Conveyance infrastructure, such as irrigation pipelines, is not considered in the group of key practices.
4. Livestock management stewardship focuses on key practices that address on-field resource concerns and management. Conveyance infrastructure, such as livestock pipelines, is not considered in the group of key practices.

Goals, Benchmarks, and Adaptive Management
Measurable Benchmarks

Table 5-2
Protection and/or Enhancement Benchmarks and Objectives

Stewardship Strategies			Historical Enrollment Data (2011 to 2016)		Protection Benchmarks and Performance Objectives[2,3]			Enhancement Benchmarks and Performance Objectives[2,3]		
Type		Key Conservation Practices[1]	Average Annual Enrollment in Key Practices	Estimated Yearly Disenrollment Acres	Benchmark	2021 Performance Objective (Disenrollment x 10[4])	2026 Performance Objective (Disenrollment x 15[4])	Benchmark	2021 Performance Objective	2026 Performance Objective
Indirect Intersects	Soil Management	• Conservation crop rotation • Cover crop • Polyacrylamides	796 acres 1,028 feet	48 acres (6%) 62 feet (6%)	No net loss in acres under soil management	478 acres 617 feet	716 acres 925 feet	Enrolled units (e.g., acres and feet) based on: • Implemented projects from 2011 to 2016 • Anticipated projects funded for conservation practices from 2017 to 2027 • Estimated annual disenrollment since 2011 at time of reporting	1,910 acres 2,468 feet	4,059 acres 5,244 feet
	Water Management[5]	• Irrigation water management • Sprinkler system	1,158 acres	35 acres (3%)	No net loss in acres under water management	347 acres	521 acres		3,125 acres	6,424 acres
	Nutrient Management	• Nutrient management	2,561 acres	154 acres (6%)	No net loss in acres under nutrient management	1,537 acres	2,305 acres		6,147 acres	13,063 acres
	Pest Management	• Pest management	2,911 acres	175 acres (6%)	No net loss in acres under pest management	1,747 acres	2,620 acres		6,987 acres	14,848 acres
	Residue and Tillage Management	• Residue and till management – mulch till • Direct seed	7,621 acres	457 acres (6%)	No net loss in acres under residue and tillage management	4,573 acres	6,859 acres		18,290 acres	38,867 acres
	Livestock Management[6]	• Range planting • Prescribed grazing • Watering facility	1,117 acres 1 watering facility	67 acres (3%) 0 watering facilities (0%)	No net loss in acres under livestock/range management	670 acres 0 watering facilities	1,005 acres 0 watering facilities		2,681 acres 3 watering facilities	5,697 acres 6 watering facilities
Direct Intersects	Habitat Management	• Conservation cover • Stream habitat improvement and management • Riparian herbaceous cover • Tree/shrub establishment • Restoration of rare and declining habitats • Upland wildlife habitat management • Fence	46 acres 2,761 feet (fence)	3 acres (6%) 83 feet (fence) (3%)	No net loss in acres under habitat management No net loss of feet providing habitat management	28 acres 828 feet (fence)	41 acres 1,242 feet (fence)		110 acres 7,455 feet (fence)	235 acres 15,324 feet (fence)

Notes:

1. Key practices include those practices that address resource concerns and critical areas function protections, and those that are widely implemented, anticipated for continued application, or identified as major practice trends anticipated in the future.
2. Measurable benchmarks are based on the historical NRCS participation data (2011 to 2016) in key practices (see Note 1). No net loss and enhancements will be measured based on estimated annual disenrollment rates for key practices from the 2011 baseline.
3. Benchmarks are anticipated to be adapted as new technologies and practices are applied by producers, and unanticipated changes in environmental and market conditions would be addressed through the adaptive management process. Protection benchmarks are based on estimated disenrollment rates. A more accurate estimate and understanding of which practices are discontinued can be used to modify these benchmarks.
4. Number is years between 2011 and benchmark year.
5. Water management stewardship focuses on key practices that address on-field resource concerns and management where irrigation activities are already occurring. Conveyance infrastructure, such as irrigation pipelines contracted under NRCS (approximately 3,000 feet in 2011 to 2016) are not included in measurable benchmarks.
6. Livestock management stewardship focuses on key practices that address on-field resource concerns and management. Conveyance infrastructure, such as livestock pipelines contracted under NRCS (approximately 4,000 feet in 2011 to 2016), is not included in measurable benchmarks.

Indicators

Indicators are measurable metrics associated with specific environmental variables, (e.g. nitrate concentrations in a well). Metrics can be analyzed over time to understand longer term trends related to specific critical area functions and values. Indicators affected by agricultural and non agricultural factors will generally not be used for purposes of determining whether protection of baseline conditions is being achieved or goals and benchmarks are being met due to the cost and difficulty involved in separating agricultural effects from non-agricultural effects. Such indicators may be used to identify resource trends and focus enhancement efforts on high priority areas. Indicator data will be reviewed at least 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 conservation 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 if 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. Indicator data for the County are limited and not always directly applicable to the evaluation of program performance. Where data are insufficient (including where data sample sizes are small relative to data variability), it will be acknowledged as part of reporting, and adaptive management measures described later in this chapter will be applied as part of implementation to address these data shortfalls where necessary.

Although not determinative of VSP success in maintaining 2011 baseline or better conditions as affected by agricultural activities and conservation practices, participation measures and indicators provide important information for evaluating the Adams County VSP performance and adaptive management actions described in the Adaptive Management section.

The following indicators relate to the four major critical area functions:

- **Water quality function indicators** will include Category 2 through 5 303(d) listings, focused on parameters that potentially have an agricultural source. Category 4 includes polluted waters that do not require a TMDL, and Category 5 waters are polluted and require a TMDL or other water quality function improvement project. Appendix B-5 provides a listing of these parameters found in Adams 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's (Ecology) Water Quality tools found here: http://www.ecy.wa.gov/programs/wq/303d/index.html.
- **Hydrology indicators** will include tracking effects from high flood flows, which only happen periodically in the County. Tracking stream flow is not an indicator in Adams County because there are no active gages in which to set baseline condition or monitor flow. Additionally, most changes in hydrology result from changes in CBP management and operations, which is not part of the VSP.
- **Soil function indicators** will include USDA Natural Resources Inventory (NRI) monitoring results related to erosion and soil functions and fertility. This monitoring should focus on locations within or adjacent to 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 here: https://www.nrcs.usda.gov/wps/portal/nrcs/rca/national/technical/nra/rca/ida/.

- **Habitat indicators** will include evaluation of publicly available aerial imagery available at the 5- and 10-year performance review periods, based on adequate resources provided through the state for VSP implementation to assess critical area resource protections (primarily habitat conservation areas and wetlands). Imagery evaluation will include a random sampling of areas[1] within the Work Plan's community planning areas. Analysis results will be summarized in the reporting at planning area and County scales. Individual parcels will not be identified, and producer privacy will be maintained in the evaluation process. Priority habitats and species data available through WDFW will also be evaluated, in addition to other related information that might or is expected to become available in the future, such as remote sensing through WDFW's High Resolution Change Detection program or other GIS approaches for habitat assessment, if this information is made available to Adams County. Additionally, ground-truthing will be needed to ensure change detection data made available fit the scope and jurisdiction of the VSP, and that agricultural activities were actually the cause of any identified degradations. Review of PHS updates and other relevant information comparisons against the 2011 baseline conditions will be done in coordination with WDFW. Wetlands will be monitored through the USDA NRI and the National Wetland Inventory through the U.S. Fish and Wildlife Service to identify aquatic habitat.

While not exclusively determinative of VSP success in maintaining 2011 baseline or better conditions as affected by agricultural activities and conservation strategies and practices, these participation measures and potential indicators (Table 5-3) provide important information for evaluating the Adams County VSP performance and adaptive management actions described in this section. Other indicators may emerge during implementation. If new information that is not confidential is collected during monitoring, it will be made available to the appropriate agencies as applicable to assist their monitoring programs.

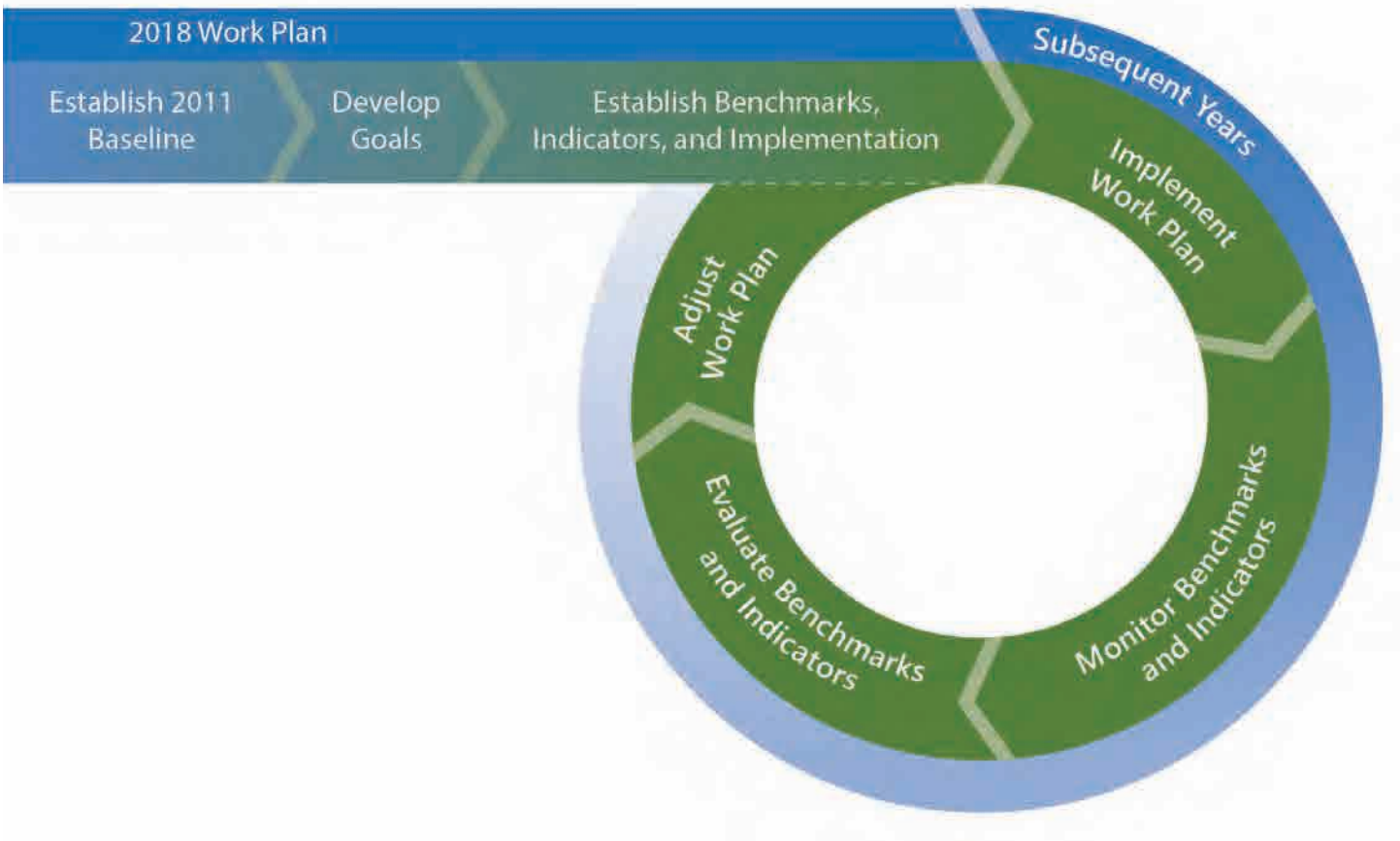
Notes:

1. Random sample areas will include a representation of lands for VSP participants, as well as other lands that may or may not have practices implemented on them. These results will be extrapolated to the larger watershed analysis unit areas and the County, in an effort to more accurately characterize critical areas protections achieved.

Monitoring and Adaptive Management

In addition to creating goals and measurable benchmarks, RCW 36.70A.720(1) requires periodic evaluations of benchmarks and institution of 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 if implementation suggests the VSP program may not be protective of critical areas functions existing in 2011. This process will help to identify if there are changes in agricultural practices required to sustain agricultural viability, such as the occurrence of a new pest or large-scale conversion of rangeland to cropland. These changes will be evaluated to determine if or to what extent they effect critical areas functions and values. This process will follow the adaptive management system for the Adams County VSP, which consists of the following five key sequential elements, as illustrated in Figure 5-3.

Figure 5-3
Adaptive Management System



1. **Assess** – Data on participation goals and the indicators previously described are compiled by the VSP Coordinator (Adams CD). The compiled information is used to identify issues, refine objectives, and understand if benchmarks are effective in protecting or voluntarily enhancing critical area functions and values. A minimum of 10% of total reported enhancements, and 100% of the first 20 reported enhancements, will be verified in the field annually. In monitoring and evaluating VSP participation by landowners, in addition to tracking the number of producers participating in VSP, the Work Group will consider:
   - Participation by geographic area and watershed planning areas (irrigated agriculture primarily in the west, dryland producer participation in the central part of the County, and livestock producers on rangeland, primarily in the east, along with representation within the lower Crab Creek and Cow Creek drainages, for example)
   - The amount of land area represented by producers participating in VSP and associated intersection with critical areas
   - The type of critical areas being protected and enhanced compared to mapped presence as described in baseline conditions
2. **Update Benchmarks** – Based on the results of the assessment stage, updates to the protection and voluntary, incentive-based enhancement benchmarks could occur. These updates could represent changes to the level of participation necessary to meet a specific protection or enhancement benchmark as established by the Work Group. 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 or voluntary enhancement of critical area functions and values. Monitoring data are collected on various indicators and used to determine if specific functions and values are being protected. 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 Adams CD and the VSP Coordinator.

Considering the Changes to Baseline Conditions

It's important to note changes to baseline conditions outside of VSP are likely to occur due to effects from climate change, natural events (e.g., floods, wild fires), the CBP, or other changes outside of the scope of VSP (e.g., land conversions). 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 agriculture for VSP assessment purposes and will be documented through the reporting and adaptive management process.

4. **Evaluate** – Participation data are evaluated relative to the protection and voluntary, incentive based enhancement goals. Differences between targeted goals and results are identified and the causes for those differences are 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, conservation practices, or level of incentive for voluntary enhancement. If the Work Group determines protection goals and benchmarks are being met, the Adams CD and GCCD will continue implementation of the Work Plan.

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 strategy 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

6. **Direct monitoring** of producer participation (Table 5-3):

   a. **Enrolled acres monitoring.** Direct monitoring of stewardship participation (enrolled acres) in key conservation practices is integral to the outreach strategy. Participation goals were developed based on agricultural activities, critical area functions, and the anticipated effects of implementing specific conservation practices. During outreach and implementation, enrollment data will be frequently reviewed to determine if participation levels are adequate to meet the goals and benchmarks identified in this section.

   b. **Sample verification.** In addition to monitoring enrollment acres, Adams CD and GCCD will also monitor a randomly selected sample of 10% of the reported projects, including self reported/ funded projects, to verify the performance of the conservation practices in terms of implementation/application and maintenance, relying on the CPPE framework. The relative changes in functions affected from a given conservation 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 to from a -2 to +2.

   c. **Adaptive management trigger.** If at any point after the first year the annual producer participation rate drops below 120% of the rate needed to meet the protection benchmark, measures would be taken to address the situation. Participation goals and objectives with potential adaptive management actions are described in Table 5-3.

   d. **Adaptive management process.** Table 5-4 includes a more detailed description of the adaptive management process for enrollment, including specific thresholds for each of the key practices.

7. **Indirect monitoring** of indicators of critical areas and their functions and values (Table 5-5):

   a. **Indicators.** Indicators, identified in this section, will be used to assess whether the enrollment in VSP is having the anticipated effect of protecting and/or enhancing critical area functions and values. If enrollment 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, and respond accordingly.

   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 conservation practices, higher enrollment goals, or increased outreach

may be necessary. Because detection of long-term trends in environmental indicators is difficult, this review will be taken every 5 years as part of the VSP reporting.

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

Goals, Benchmarks, and Adaptive Management
Monitoring and Adaptive Management

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

Participation Goal: Promote producer participation in voluntary stewardship of agricultural lands and critical areas to meet the protection and enhancement benchmarks 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
During a 10-year period, sufficient active participation by commercial and non-commercial agricultural operators (farmers and ranchers), which achieves the protection of critical area functions and values at a County-wide watershed level.[1]	• Number of acres reported in key conservation practices • Number of VSP checklists submitted • Sufficient producer participation necessary to meet protection and enhancement benchmarks	Key practice not consistent with agricultural viability	Identify alternative practices that provide similar function and are agriculturally viable	Adams CD/ GCCD	Monitored every year Reported during the 2-year status reports and 5-year performance reports
		Incentives associated with key conservation practice no longer available	Identify alternative funding or alternative practices that are more likely to be self-funded		
		Inadequate reporting of voluntary conservation practices	Increase outreach to producers		
		Change in agricultural practices that make key practices less applicable	Develop applicable practices that provide similar function		
		Changes in agricultural economy that make self-funded conservation practice implementation difficult	Identify alternative funding or other incentives		
During a 10-year period, passive participation by commercial and noncommercial agricultural operators in VSP conservation practices is maintained or increased on agricultural land (including but not limited to those listed in Table 5-1 and Appendix C).[2]	• Mapping and aerial photo evaluation 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 enrollment rate identified in Table 5-4 in key conservation practices	Increase outreach to producers		
Technical assistance and outreach is provided to agricultural producers to educate producers and encourage conservation practices and VSP participation.	• Number of outreach and education events • Number of event attendees	Decline below the baseline annual average enrollment rate identified in Table 5-4 in key conservation practices	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 stewardship activities reported either through publicly-funded programs or self-reported through the VSP checklist in coordination with the VSP Coordinator or technical assistance provider, see Section 6 for description of technical service providers.
2. Passive participation includes un-reported stewardship activities.

Goals, Benchmarks, and Adaptive Management
Monitoring and Adaptive Management

Table 5-4
Adaptive Management Process for Enrollment

Type	Adaptive Management Objective	Protection Metric[1] (Annual)	Verification	Adaptive Management Trigger (120 % of Protection Metric) (Annual)	Adaptive Management Action	Who Monitors	When
Soil Management	Conservation crop rotation	48 acres 62 feet	10% verified through monitoring and visual recognition	57 acres 74 feet	Outreach with producers/review approach	Adams CD/GCCD	Every year
	Cover crop						
	Polyacrylamide application						
Water Management	Irrigation water management	35 acres	10% verified through monitoring and visual recognition	42 acres	Outreach with producers/review approach	Adams CD/GCCD	Every year
	Sprinkler system						
Nutrient Management	Nutrient management	154 acres	10% verified through monitoring and visual recognition	184 acres	Outreach with producers/review approach	Adams CD/GCCD	Every year
Pest Management	Pest management	175 acres	10% verified through monitoring and visual recognition	210 acres	Outreach with producers/review approach	Adams CD/GCCD	Every year
Residue and Tillage Management	Residue management – Mulch till	457 acres	10% verified through monitoring and visual recognition	549 acres	Outreach with producers/review approach	Adams CD/GCCD	Every year
	Residue and tillage management – No-till/strip till/direct seed						
Livestock Management	Range planting	67 acres	10% verified through monitoring and visual recognition	80 acres	Outreach with producers/review approach	Adams CD/GCCD	Every year
	Prescribed grazing						
	Watering facility	0 each		0 each			
Habitat Management	Conservation cover	3 acres	10% verified through monitoring and visual recognition	4 acres	Outreach with producers/review approach	Adams CD/GCCD	Every year
	Stream habitat improvement and management						
	Riparian herbaceous cover						
	Tree/shrub establishment						
	Restoration of rare and declining habitats						
	Upland wildlife habitat management						
	Fence	83 feet		100 feet			

Notes:
1. Metric is calculated based on annual to meet 2021 benchmark values identified in Table 5-2.

Goals, Benchmarks, and Adaptive Management
Monitoring and Adaptive Management

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

Goal	Adaptive Management Objective	Indicator Data Source	Performance Metric	Monitoring Method	Adaptive Management Action Threshold	Adaptive Management Action	Who Monitors	When	Party Responsible for Action
Maintain or improve surface water and groundwater quality	Ensure conservation practices employed with the goal of protecting or improving water quality function are effective	Ecology water quality stations	Change in Category 2 through 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	Significant trends indicating a decrease from baseline water quality function due to agriculture	• Determine whether water quality function parameters are from agriculture or non-agriculture contributors. • Survey with outreach to agricultural producers owners along affected watercourse, waterbody and/or Critical Aquifer Recharge Areas to determine % of participation in stewardship • Identify if enrollment in conservation practices is supporting goals • Identify stewardship strategies with Work Group to target for implementation to support goal	Adams CD/ GCCD	Every 5 years	CD and participating land owners
Maintain or improve storage capacity and groundwater recharge	Ensure conservation practices employed with the goal of maintaining or improving storage capacity and groundwater recharge are effective	Install flow gages on streams outside of Columbia Basin Project, such as Cow Creek	Changes in flows in areas outside of Columbia Basin Project that are attributable to agricultural practices (as opposed to regional drought)	Tracking water level through newly installed gages outside of Columbia Basin Project	Significant trends indicating a decrease from 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 Critical Aquifer Recharge Areas to determine percentage of participation in stewardship • Identify if enrollment in conservation practices is supporting goals • Identify stewardship strategies with Work Group to target for implementation to support goal	Adams CD/ GCCD	Every 5 years	CD and participating land owners
Maintain or improve soil conservation and soil fertility	Ensure conservation practices employed with the goal of maintaining or improving soil functions are effective	U.S. Department of Agriculture Natural Resources Inventory monitoring result	Changes in volume of soil and/or overall soil fertility relative to critical areas	Tracking soil data through U.S. Department of Agriculture Natural Resources Inventory monitoring results, tracking sediment parameter within Ecology's 303(d) Water Quality tools	Significant trends indicating a decrease from 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 enrollment in stewardship practices is supporting goals • Identify stewardship strategies with Work Group to target for implementation to support goal	Adams CD/ GCCD	Every 5 years	CD and participating land owners
Protect or enhance terrestrial and aquatic habitat	Ensure conservation practices employed with the goal of protecting or improving habitat are effective	WDFW Priority Habitats and Species data or Good Agricultural Practices data, U.S. Fish and Wildlife Service National Wetland Inventory, USGS NHD, or other aerial- and GIS-based evaluation	Changes in amount of habitat conservation areas and wetlands	Tracking priority habitats and species data through the WDFW, National Wetland Inventory, Good Agricultural Practices, or USGS NHD data. Evaluating random sample areas (including a representation of lands with conservation practices documented and lands where practices are not documented) using aerial imagery and associated GIS methods.	Significant trends indicating a decrease from baseline terrestrial and/or aquatic habitat due to agriculture	• Determine whether habitat issues are due to agriculture • Survey with outreach to agricultural producers property owners to determine percentage of participation in stewardship • Identify if enrollment in stewardship practices is supporting goals • Identify stewardship strategies with Work Group to target for implementation to support goal	Adams CD/ GCCD	Every 5 years	CD and participating landowners

6 Implementation

Framework for Implementation

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 maintain 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. These requirements include 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 initial tracking timeframe for this Work Plan is the first 10 years of implementation.

Per RCW 36.70A.705, the Work Group is responsible for developing the Work Plan and overseeing its implementation. Work Plan implementation responsibilities include agricultural producer participation and outreach, technical assistance, program performance tracking and reporting, and adaptive management. CDs, the County, a VSP Liaison, and others can help in performing these responsibilities. The anticipated implementation budget for this Work Plan is summarized in Table 6-1, under the assumption that state funding for VSP is continued at a level of $250,000 each biennium for the County.

The CDs have flexibility to move resources within the budget categories during plan implementation. The highest budget priority for the Work Group is keeping the VSP Work Plan viable by meeting the protection and enhancement benchmarks of the plan. After keeping the plan viable, the next Work Group priority is to use funding to support and leverage implementation of as many stewardship strategies and practices as possible consistent with the VSP Work Plan.

Table 6-1
Implementation Budget

Venue	Description	Who	Biennium Budgets[1]
Education, Outreach, and Technical Assistance	• Conduct outreach and develop education materials • Assist producers in developing stewardship plans • Facilitate VSP checklist reporting • Identify cost-share to leverage other conservation project funding • Consider funding a VSP Liaison	CDs	$140,000
Monitoring, Reporting, and Adaptive Management	• Annual monitoring and tracking • Develop adaptive management as needed • Prepare 2-year status reports • Prepare 5-year progress reports	VSP Coordinator (Adams CD), GCCD, or contract services	$70,000[2]
Work Group Coordination	• Attend quarterly meetings • Coordinate report and adaptive management review and approvals	VSP Coordinator (Adams CD) and GCCD	$10,000
		Total State Budget	**$220,000**

Notes:

The WSCC determines whether funds accepted by the County are adequate for continued implementation of the VSP and the Adams County VSP Work Plan.

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 items will support costs during the 2- and 5-year reporting years (see Table 6-4).

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

Agricultural Producers Participation, and Technical Assistance and Outreach

Many producers are already implementing conservation practices that are protecting critical areas and supporting agricultural viability throughout the County, as described in Section 4. Two participation objectives have been established for Adams 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 and the number of practices implemented by agricultural producers. The number of practices to be implemented by producers is reflected in the goals and measurable benchmarks described in Section 5.

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 period. Various outreach activities will be ongoing through the life of the plan.

The second participation objective is focused on increasing the number of conservation practices implemented by agricultural producers, helping to meet protection and/or enhancement goals outlined in Section 5. Achieving this objective includes offering technical assistance to producers and making them aware of available private- and public-sector financial incentives and programs. This technical assistance would also include helping estimate the expected benefits that can be realized from implementing the measures identified in individual stewardship plans, including agriculture viability benefits at the farm level.

Results from these efforts will be tracked and documented, along with any lands converted from conservation 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 (WSCC 2017), statutory provisions on the confidentiality and disclosure of a farm plan also apply to a VSP "individual stewardship plan" 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.

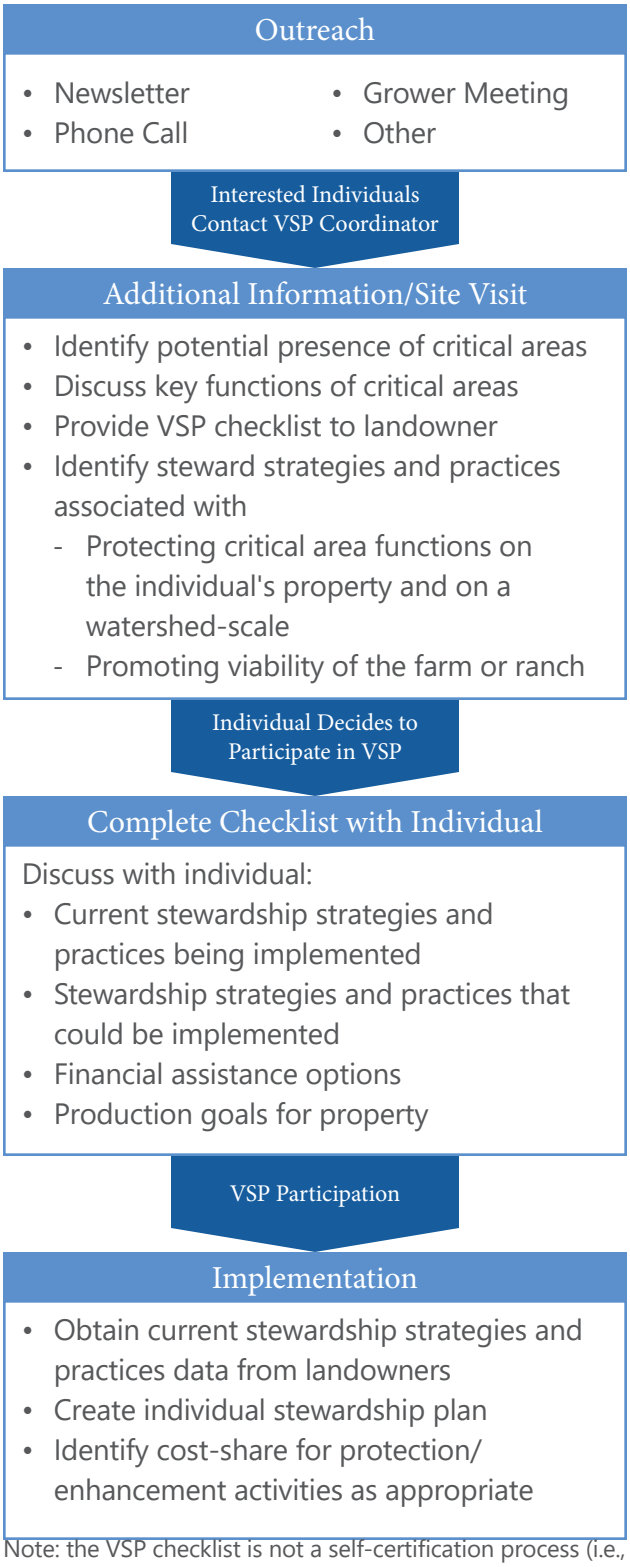
Organization Leads, Technical Assistance, and Outreach

Adams CD will be the VSP Coordinator for reporting and will receive applicable information on VSP efforts from GCCD and other participating organizations. Adams CD will prepare biennial work plans that incorporate public-sector activities to be implemented to achieve VSP outreach, technical assistance, and conservation practices implementation objectives as well as identify plans for working with the private sector to capture information about practices put in place and the presence of critical areas through its efforts.

Adams CD and GCCD will commit to reaching out annually to 15% of the producers that operate within the County using methods described in the Outreach Plan (see Appendix E). 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. The Adams CD and GCCD have an ongoing relationship with private landowners, working together on natural resource conservation projects. The CDs will be conducting additional outreach for individuals that have not been participating in conservation programs, with goal is to reach an additional 100 landowners (15% of the County's farms) each year on top of those the CDs are already working with, so they are aware of VSP, critical areas, conservation opportunities, and management systems that can be implemented on their properties. In monitoring and evaluating VSP participation by landowners, in addition to tracking the number of producers participating in VSP, the Work Group will consider:

- Participation by geographic area and watershed planning areas (irrigated agriculture primarily in the west, dryland producer participation in the central part of the County, and livestock producers on rangeland, primarily in the east, along with representation within the lower Crab Creek and Cow Creek drainages, for example)
- The amount of land area represented by producers participating in VSP and associated intersection with

Figure 6-1
VSP Checklist Use Protocol



Note: the VSP checklist is not a self-certification process (i.e., it is not considered an individual stewardship plan by itself).

critical areas

- The type of critical areas being protected and enhanced compared to mapped presence as described in baseline conditions

The Adams CD and GCCD will lead the public-sector program participation efforts within their respective boundaries (Figure 2-4), supported by other agencies, such as WSDA, WDFW, Ecology, NRCS, and FSA, and others, with their respective programs and support from the private sector. Additionally, the VSP Coordinator should consider appointing a VSP liaison. This liaison should be someone with established effective working relationships with agricultural producers in the County and can assist in outreach to producers to encourage participation in VSP. Technical assistance occurs in a variety of ways, including providing advice on use of specific practices, and sharing information at forums, meetings, and other venues where conservation practices are highlighted for environmental and economic benefits.

Table 6-2 identifies potential VSP outreach strategies, opportunities, and forums. Figure 6-1 provides a protocol on how the VSP Checklist will be used and illustrates the process from outreach to implementation. Table 6-3 includes a list of technical assistance providers and public-sector conservation programs that are currently available. Private-sector programs are available through existing agri-businesses and associations serving the County. Appendix D contains more detail for each program and links to the programs' webpages.

Table 6-2
VSP Outreach Opportunities

Venue	Description
Meetings	• Private-sector agricultural industry meetings • Agricultural associations • Local government (city and county)
Media	• Adams County website • Conservation District and private-sector agricultural industry websites, newsletters, and social media sites • Washington State Conservation Commission news and announcement webpage • Farm Service Agency newsletter • Washington State University newsletter • Articles, announcements, and advertisements with local newspapers • E-mail distribution lists
Others	• Informational booths and displays at fairs and agricultural conventions • Individual outreach, consistent with County policies • VSP Self-Assessment Checklist

Table 6-3
Public Sector Conservation Programs Summary

Lead	Description	Technical Assistance	Financial Assistance	Partnership Agreements	Contractor Easement Agreements
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.	●	●	●	●
Farm Service Agency (FSA)	FSA oversees several voluntary, conservation-related programs that work to address several agriculture-related conservation measures, including programs such as Conservation Reserve Program and Conservation Reserve Enhancement Program.		●		●
Washington State Conservation Commission (WSCC)	WSCC works with 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.		●	●	
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 Aquatic Lands Enhancement Account (ALEA) Volunteer Cooperative Grant Program. WDFW private lands biologists may also provide technical assistance on habitat improvement projects.	●	●	●	●

Lead	Description	Technical Assistance	Financial Assistance	Partnership Agreements	Contractor Easement Agreements
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 Salmon Recovery Funding Board Grant Program.		●		
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.		●	●	
Conservation Districts (CDs)	CDs works through voluntary, incentive-based programs to assist landowners and agricultural operators with the conservation of natural resources throughout the CDs, including a variety of cost-share and technical assistance programs.	●	●	●	

Monitoring, Reporting, and Adaptive Management

Monitoring performance, reporting progress, and implementing adaptive management measures 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 WSCC at the end of the biennium. 2-year reports are shortly after the end of the biennium in September 2019, 2021, 2023, 2025, and 2027, and then continue every two years into the future.
- **5-year performance reports.** Developing and providing to Washington State 5-year progress reports on Work Plan performance in meeting goals and benchmarks. Based on receipt of funding in May 2016, 5-year progress reports would be due in 2021 and 2026 and beyond.

The timeline for this implementation process is shown in Table 6-4.

Table 6-4
Timelines for Implementation Process

Category	Schedule	Roles and Responsibilities
Periodic Evaluations (2-year Status Reports)	Finalize Work Plan in 2018 (Latest due date is February 23, 2019 due date per WSCC[1])	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; VSP Coordinator (Adams CD) prepares report
	2021 and 2026 and beyond	
Adaptive Management or Additional Voluntary Actions	Ongoing after 2021	Work Group oversees Work Plan adjustment recommendations to WSCC

Notes:
1. This is assuming Work Plan approval through the Technical Panel review process (February 23, 2019; 2 year and 9 months). The deadline for approval via the State Advisory Committee process is May 23, 2019 (3 years).

The 2-year status and 5-year performance reports would be developed by the County under the direction of the Work Group. Draft reports would be prepared and presented to the Work Group for review and comment. Reports will meet refined standards for VSP from lessons learned as part of implementation, as funding allows. Comments would be addressed and edits made to the reports, which would then be approved by the Work Group, after they are satisfied the reports are accurate and complete. Reports would be distributed to the WSCC and others by the County on behalf of the Work Group. The general timing for reporting will be as follows:

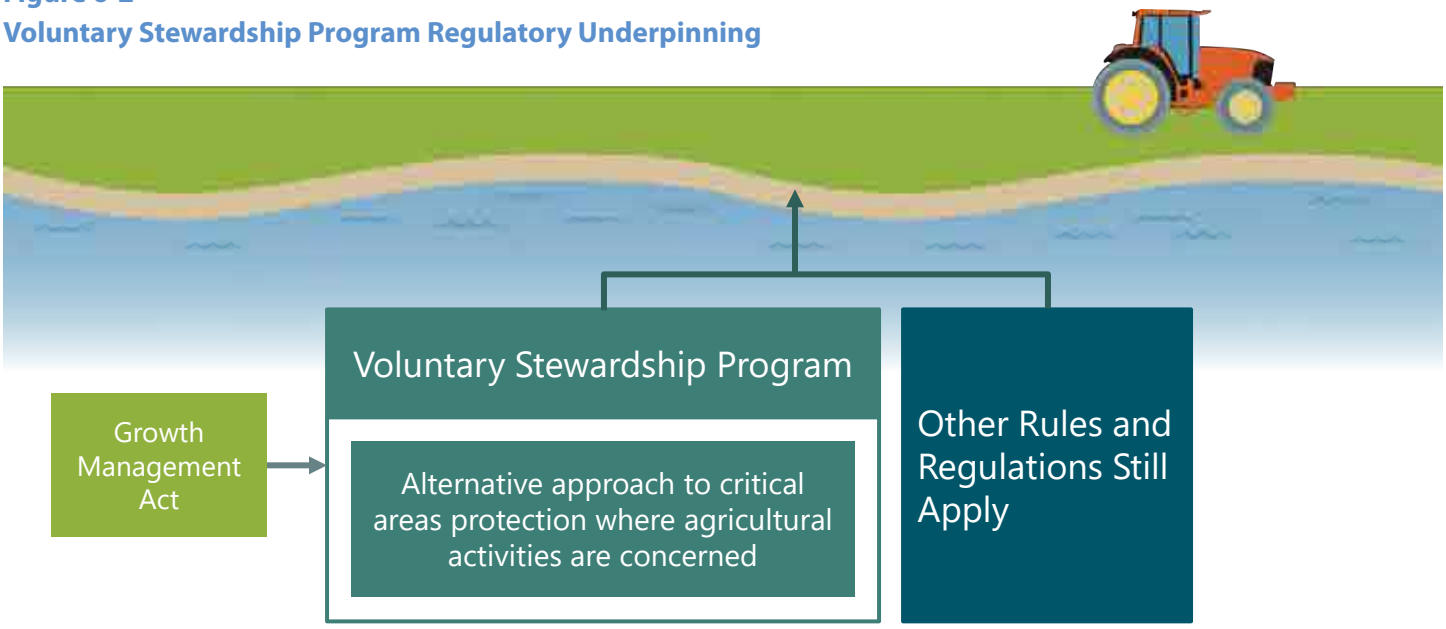
- Monitoring will focus on the measurable benchmarks described in Section 5 and will include informal evaluations at least every 2 years, in support of the 5-year performance review, and to determine if any adaptive management measures are needed prior to the 5-year review.
- The Work Group must report no later than 5 years after receipt of funding on whether the protection and/or 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 are not 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 for achieving the goals and benchmarks. While adaptive management actions will be included with the 2-year status reports and 5-year progress reports, the monitoring and adaptive management process outlined in Section 5 will be applied on an ongoing basis as needed. Monitoring indicators will inform the long-term viability of the Adaptive Management Plan, based on goals for protecting and enhancing critical area functions. Monitoring will focus on the measurable benchmarks and goals also described in Section 5. The Work Group is committed to satisfying any other reporting requirements of the program, including associated updates in reporting to address plan adaptations and any other reporting requirements for VSP per RCW 36.70A.720, as funding allows.

Regulatory Backstop

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 function and fish habitat," per RCW 36.70A.700 and 36.70A.702. Existing federal rules and regulations will still apply to agricultural activities that have the potential to affect the environment, including the federal Clean Air Act, Clean Water Act, and Endangered Species Act. State and local environmental regulations may also apply to agricultural activities with the potential to affect the environment (see Appendix D). Figure 6-2 is intended to show how the VSP relates to other rules and regulations that apply separately from critical areas protection under the GMA.

Figure 6-2
Voluntary Stewardship Program Regulatory Underpinning



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Working together, farmers can use voluntary 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 while protecting critical areas and maintaining agriculture viability in Adams County through **voluntary stewardship strategies and practices**.

Failure to meet protection and associated participation goals in the County will trigger the **traditional regulatory approach** to critical area protection under the County's Critical Areas Ordinance process.

How Can the VSP Support Operations on Your Farm?

VSP allows farmers to have more flexibility, through ongoing agricultural stewardship practices, than traditional regulatory approaches for protecting critical areas. VSP also requires that this approach maintains and enhances the long-term viability of agriculture. Many farmers in the County are already conducting and tracking stewardship activities and practices that promote farm viability while also providing protections to critical area functions. This Self-Assessment Checklist will allow farmers to take credit for the actions they are already implementing.

Balanced Approach of Critical Area Protection and Agricultural Viability

Adams County VSP
Self-Assessment Checklist

The main objectives of the VSP checklist are to:

- Identify and document existing stewardship strategies or practices you have implemented since 2011 (effective date of VSP), either through existing publicly funded programs or voluntarily implemented through producer-funded practices.
- Identify opportunities to:
  - Maintain or improve existing stewardship strategies and practices.
  - Implement additional stewardship strategies and 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 practices to help ensure the success of VSP.

What are critical areas?

Critical areas include:

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

Stewardship Practices on Your Farm

Stewardship practices are broadly defined as any practice, that when implemented, further protects critical areas directly or indirectly, and maintains or improves agricultural viability whether or not they meet a Natural Resources Conservation Service (NRCS) conservation practice or other standard recognized by VSP.

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

Privacy Note:

Stewardship strategies and practices documented through a local government agency, such as the Conservation Districts, are generally exempt from disclosure under the state Public Records Act. At the same time, 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 this 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.

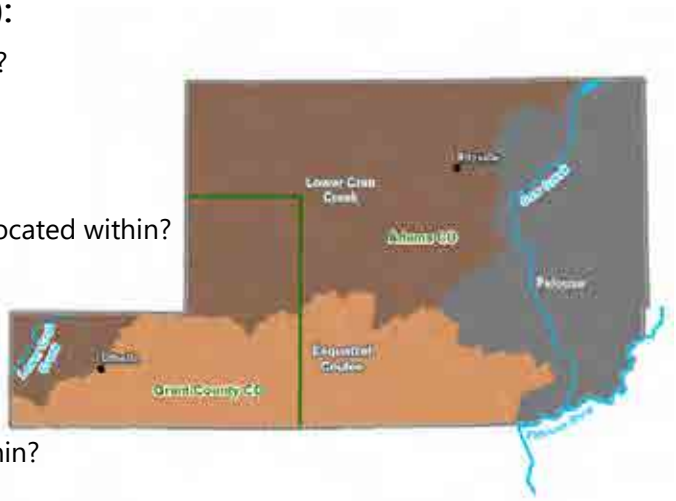
General Location (voluntary information):

Do you know of any Critical Areas on your property?

- ☐ Yes
- ☐ No

If you are inclined to share, what area is your farm located within?

- ☐ Lower Crab Creek
- ☐ Palouse River
- ☐ Esquatzel Coulee



What Conservation District is your farm located within?

- ☐ Adams Conservation District
- ☐ Grant County Conservation District

Land Management and Agricultural Viability:

What types of land management or agricultural viability concerns do you have on your property?

- ☐ Soil composition (organic matter)
- ☐ Soil loss (erosion)
- ☐ Moisture management
- ☐ Weed management
- ☐ Pollinator/beneficial organism management
- ☐ Yield/fertility
- ☐ Reduce inputs (e.g., crop protection tools and/or nutrients)
- ☐ Other(s) please list: _____ _____

Erosion

Residue- and till-management strategies are applied by producers in the County to reduce erosion caused by tillage and to manage soil moisture content.

Grazing

Managing grazing to improve plant communities helps to reduce run-off, increases water infiltration, restores degraded habitat, and maintains healthy plant communities.

What Conservation Practices Are Being Implemented on Your Farm?

Conservation Practices Examples[1]	I do this	I'm interested in this	Does not apply	Not interested	Average units/year (acres/feet/other)
Residue and Tillage Management					
Mulch Till	○	○	○	○	_____ acres
Reduced Till	○	○	○	○	_____ acres
No Till/Direct Seed	○	○	○	○	_____ acres
Other(s): _____	○	○	○	○	_____ acres
Pest and Nutrient Management					
Pest Management	○	○	○	○	_____ acres
Nutrient Management	○	○	○	○	_____ acres
Other(s): _____	○	○	○	○	_____ acres
Water and Filtration Management					
Grassed Waterways	○	○	○	○	_____ acres
Sprinkler Systems	○	○	○	○	_____ acres
Irrigation Water Management	○	○	○	○	_____ acres
Other(s): _____	○	○	○	○	_____ acres
Range Management					
Prescribed Grazing	○	○	○	○	_____ acres
Range Planting	○	○	○	○	_____ acres
Stock Watering Facilities/Wells	○	○	○	○	_____ acres
Other(s): _____	○	○	○	○	_____ _____ *(unit)*
Soil Management					
Conservation Crop Rotation	○	○	○	○	_____ acres
Cover Crop	○	○	○	○	_____ acres
Mulch	○	○	○	○	_____ acres
Other(s): _____	○	○	○	○	_____ acres
Habitat Management					
Conservation Cover	○	○	○	○	_____ acres
Herbaceous Weed Control	○	○	○	○	_____ acres
Tree/Shrub Establishment	○	○	○	○	_____ acres
Hedgerow	○	○	○	○	_____ acres
Fencing	○	○	○	○	_____ feet
Other(s): _____	○	○	○	○	_____ ____ *(unit)*

[1] There are a variety of implementation methods that are acceptable within each type of conservation. For example, under reduced till, varied methods can be used that result in different amounts of residue left on the soil. Under VSP, a goal is to document and take credit for all conservation practices that provide benefits to critical areas functions and values.

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 Adams County VSP Coordinator by using the contact information below.

For more information and to download the VSP Work Plan visit the Adams County VSP website at http://www.co.adams.wa.us/departments/building_and_planning/volunteer_stewardship_program.php

VSP Technical Assistance Providers

Adams Conservation District *See map on page 3*	**Grant County Conservation District** *See map on page 3*
VSP Coordinator Adams Conservation District 118 East Main Avenue Ritzville, WA 99169 509-659-1553 ext 1 http://www.adamscd.com/	Marie Lotz Grant County Conservation District: 1107 S Juniper Drive Moses Lake, WA 98837 509-765-9618 marie-lotz@conservewa.net http://www.columbiabasincds.org/

Other Local Resources:

- Washington Cattlemen's Association: http://www.washingtoncattlemen.org/
- Adams County Farm Bureau: http://wsfb.com/adams-county-farm-bureau/
- 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/
- Washington State University Extension: http://extension.wsu.edu/

Work Plan Appendices

Adams County Voluntary Stewardship Program

October 2018

Prepared for Adams County and the
Washington State Conservation Commission

Appendices

Appendix A
VSP Map Folio

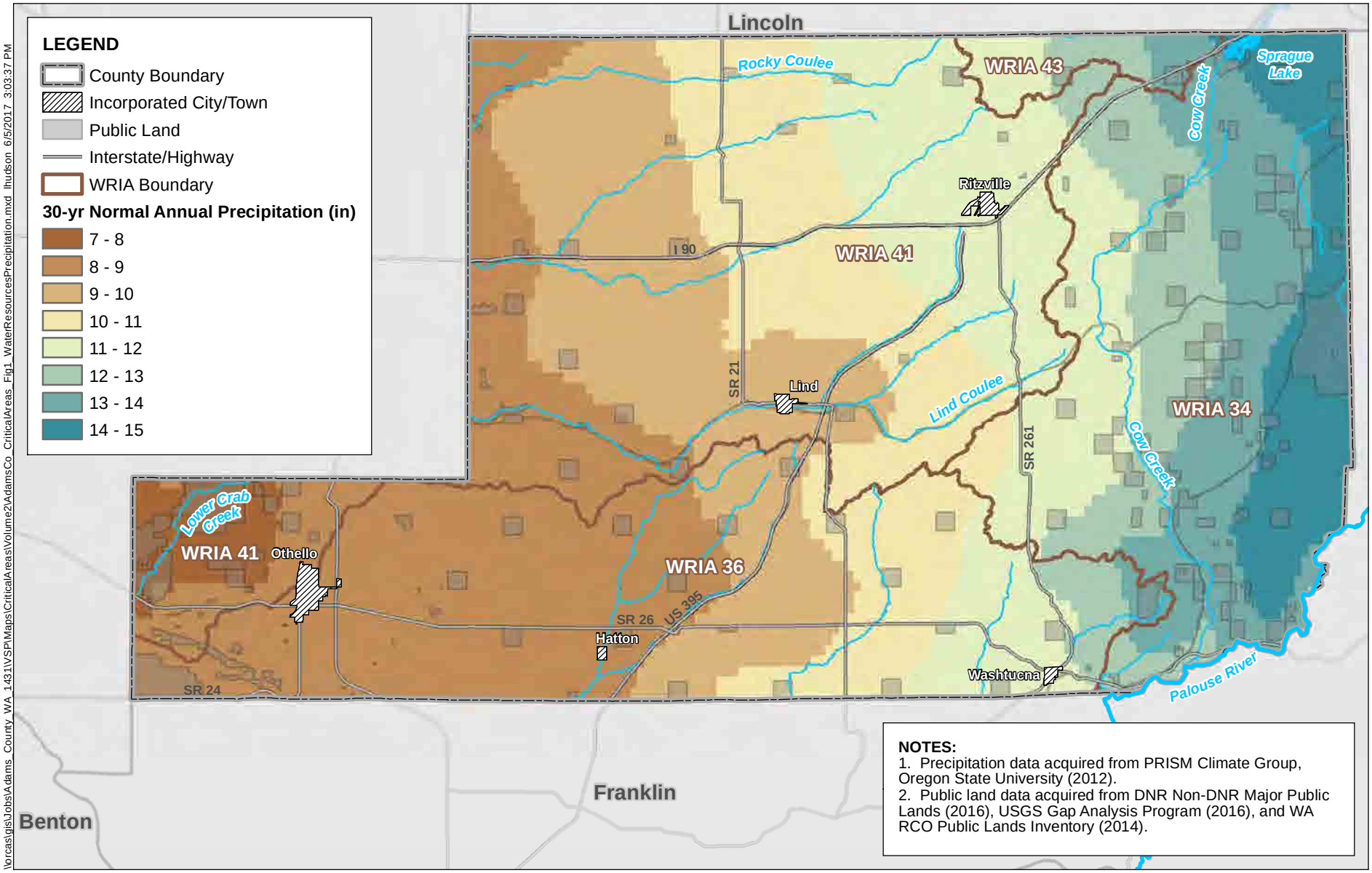


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Figure 1
Water Resources and Precipitation Map
Voluntary Stewardship Program
Adams County, WA

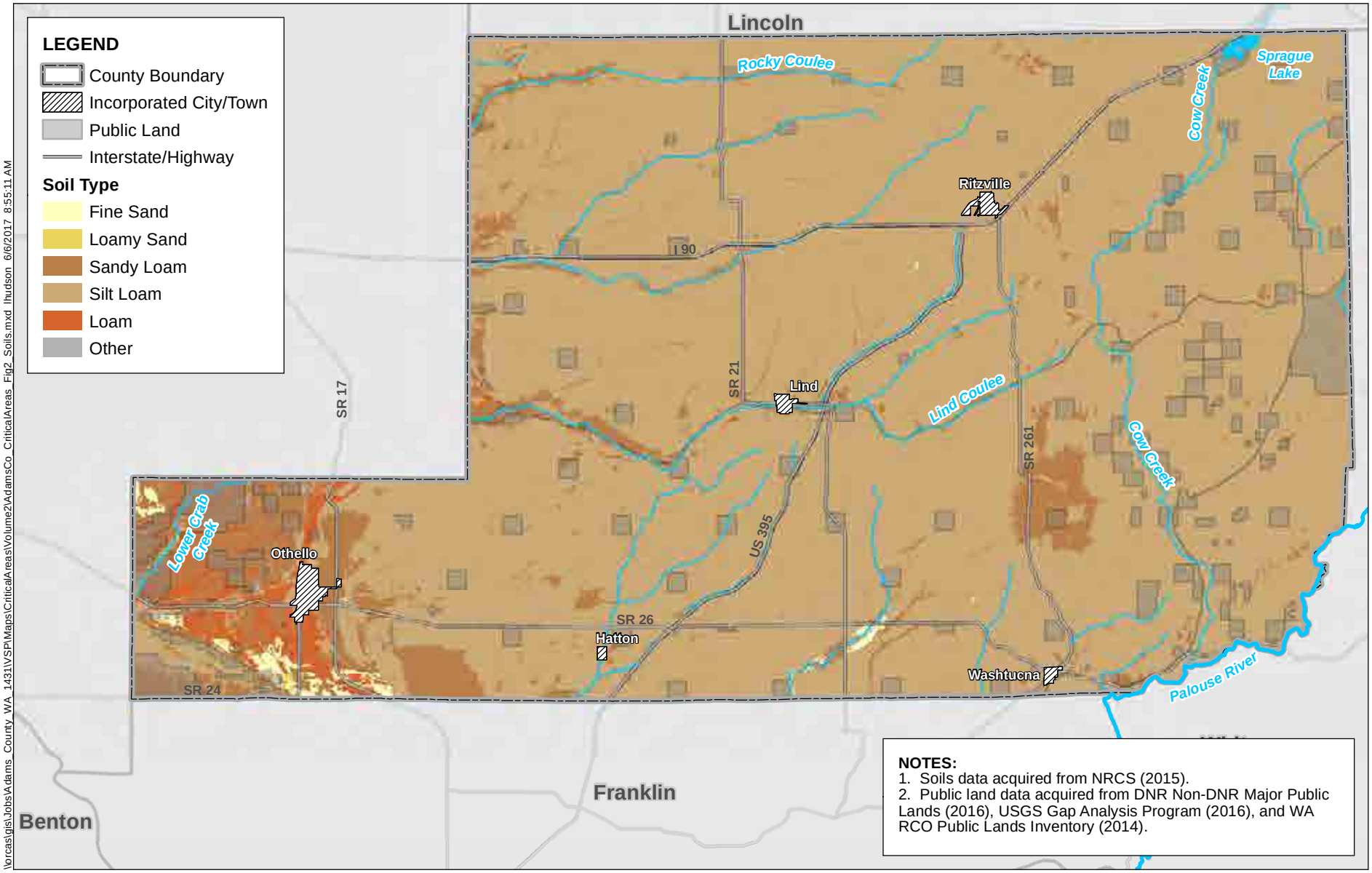

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Figure 2
Soils Map
Voluntary Stewardship Program
Adams County, WA

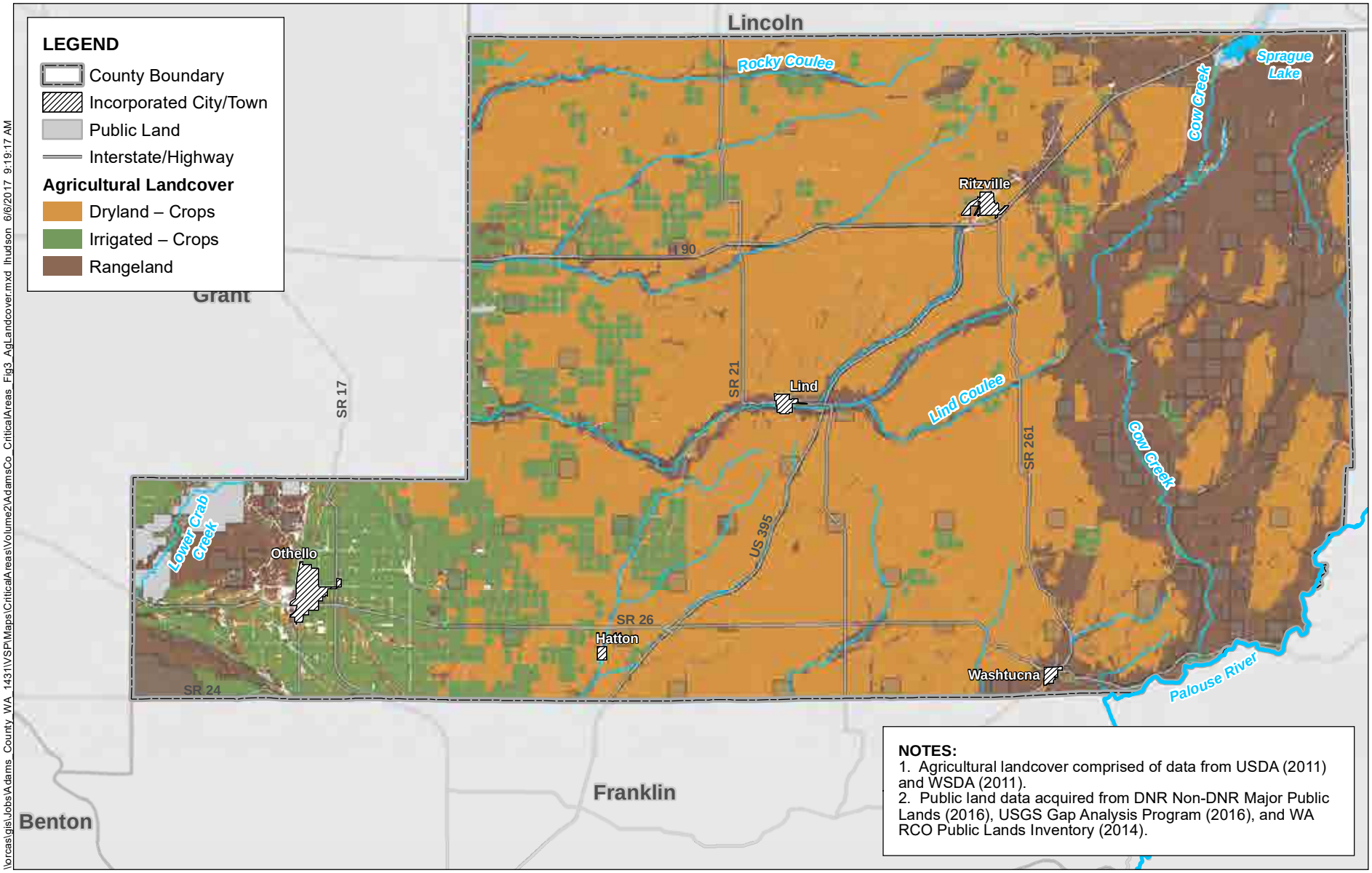

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Figure 3
Agricultural Landcover Map
Voluntary Stewardship Program
Adams County, WA

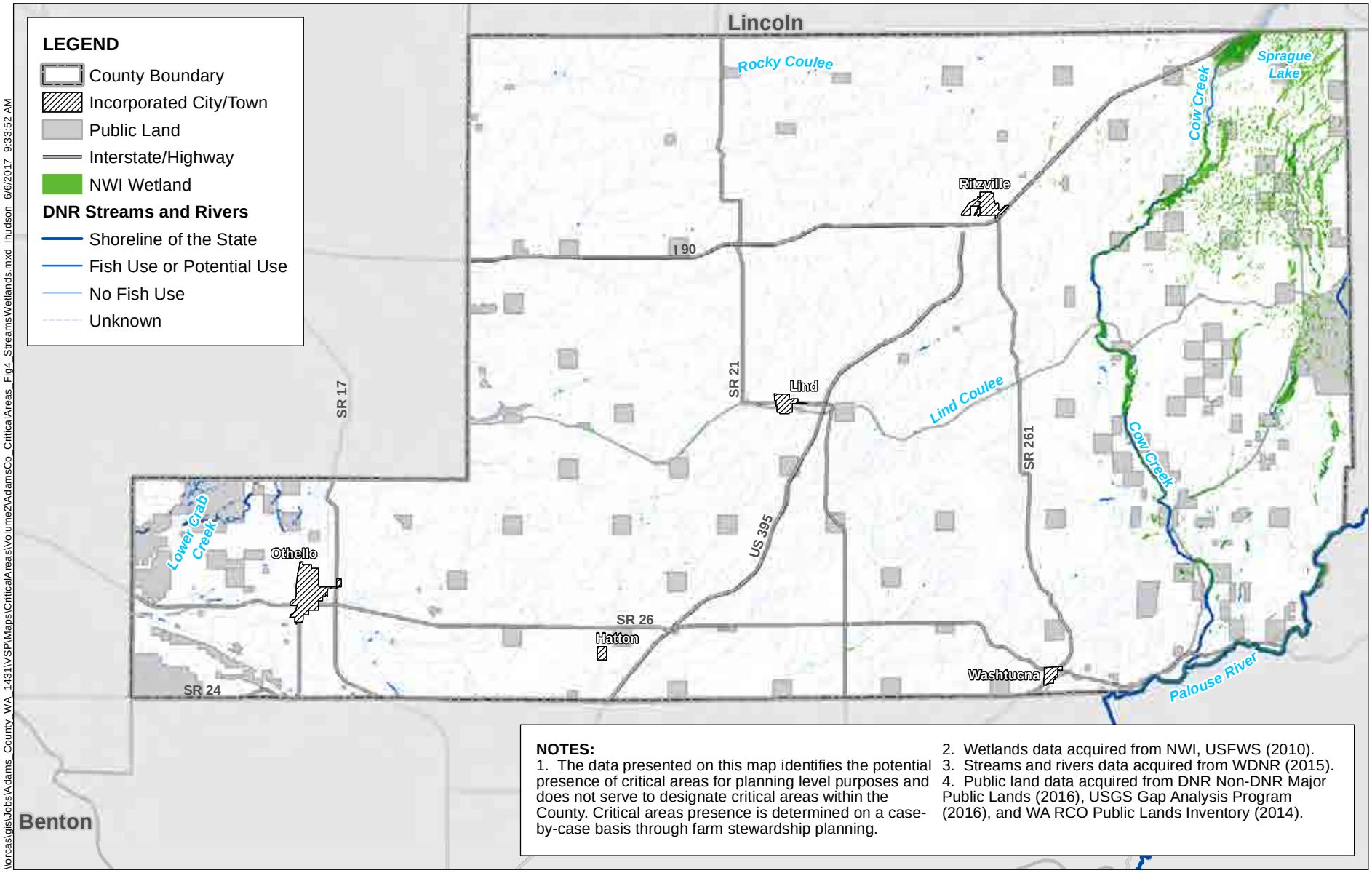

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Figure 4
Streams and Wetlands Map
Voluntary Stewardship Program
Adams County, WA

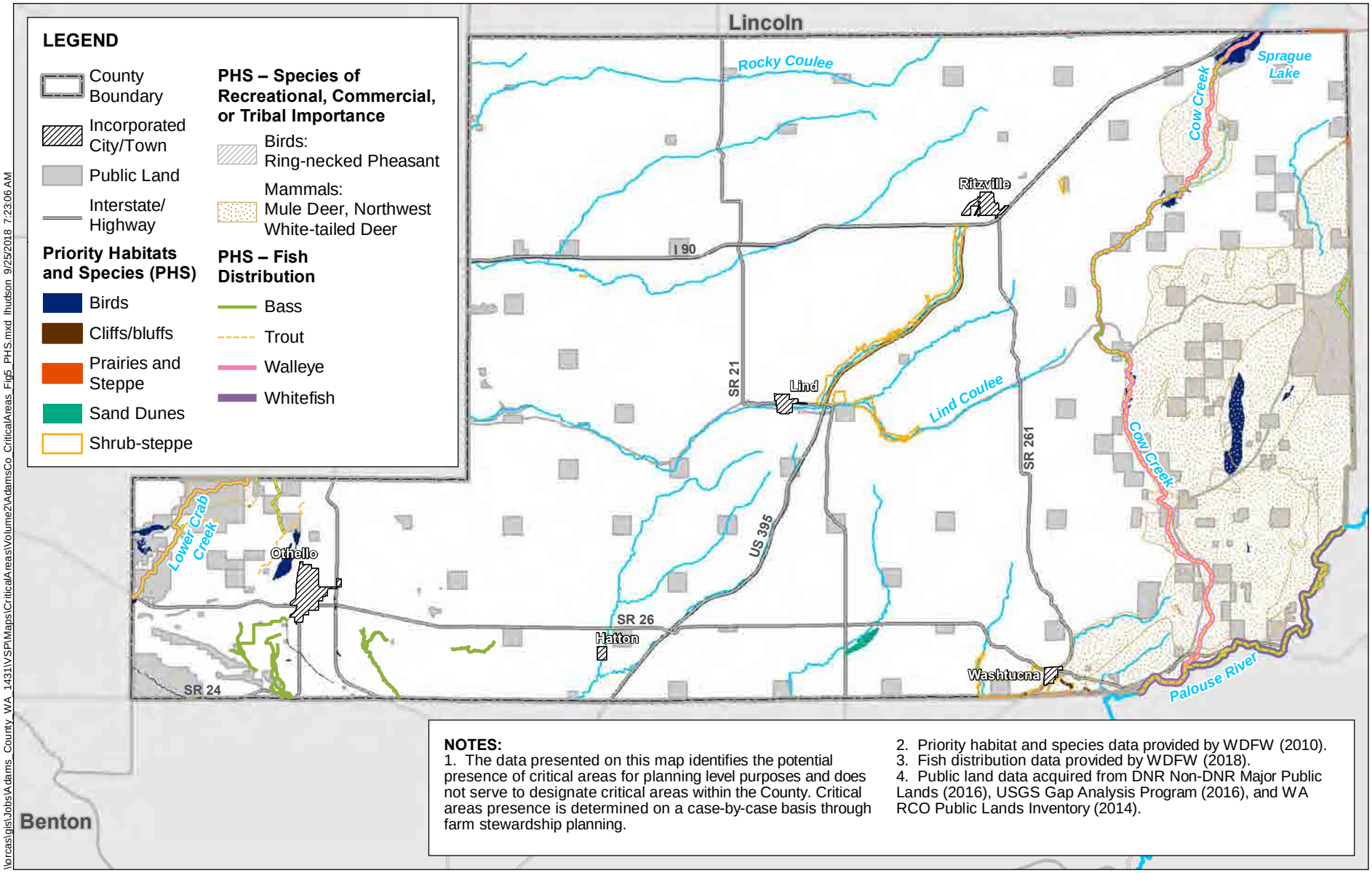

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Figure 5
Priority Habitat and Species Map
Voluntary Stewardship Program
Adams County, WA

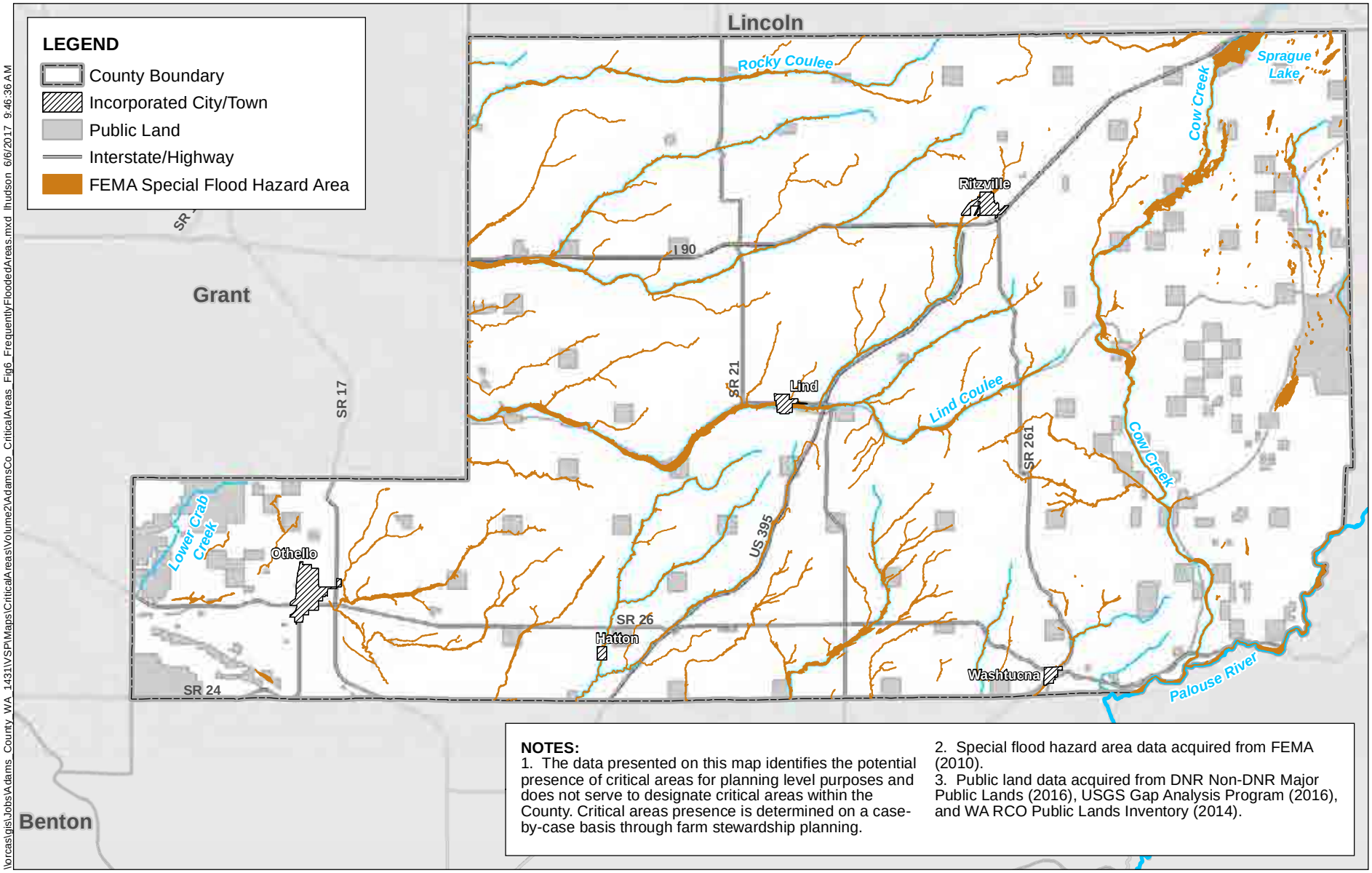

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Figure 6
Frequently Flooded Areas Map
Voluntary Stewardship Program
Adams County, WA

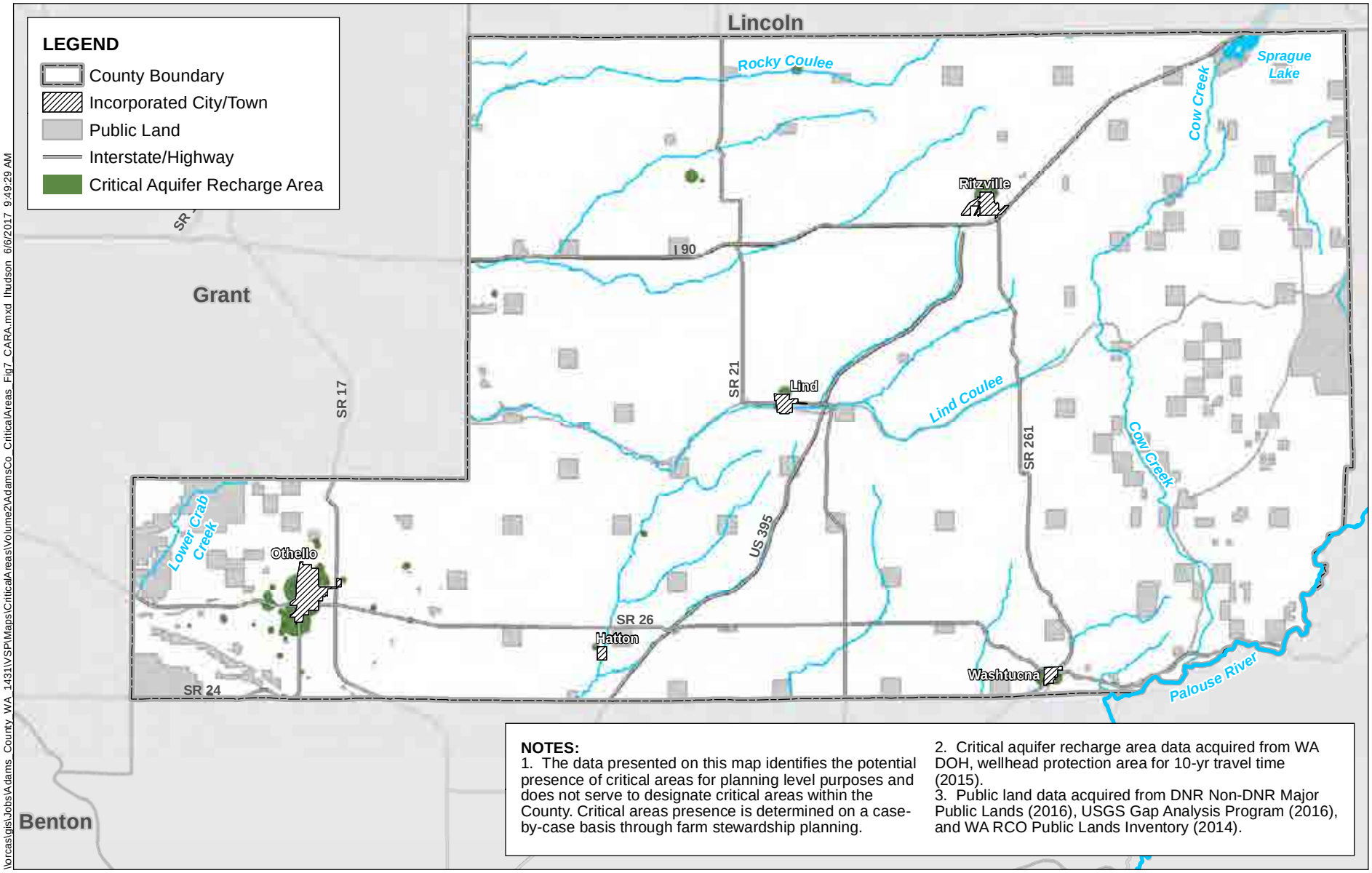

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Figure 7
Critical Aquifer Recharge Areas Map
Voluntary Stewardship Program
Adams County, WA

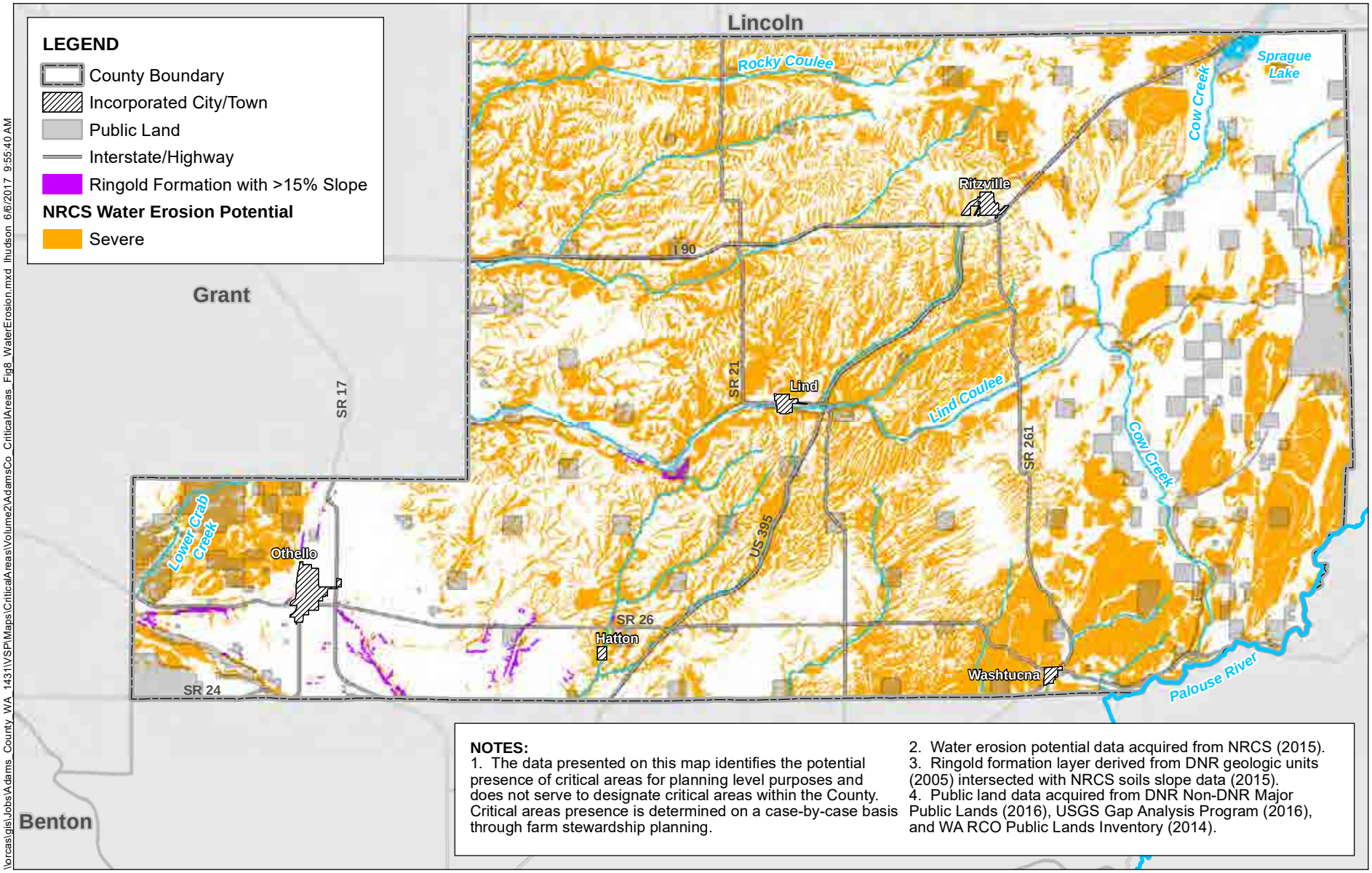

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Figure 8
Geologic Hazard Areas – Water Erosion Potential Map
Voluntary Stewardship Program
Adams County, WA

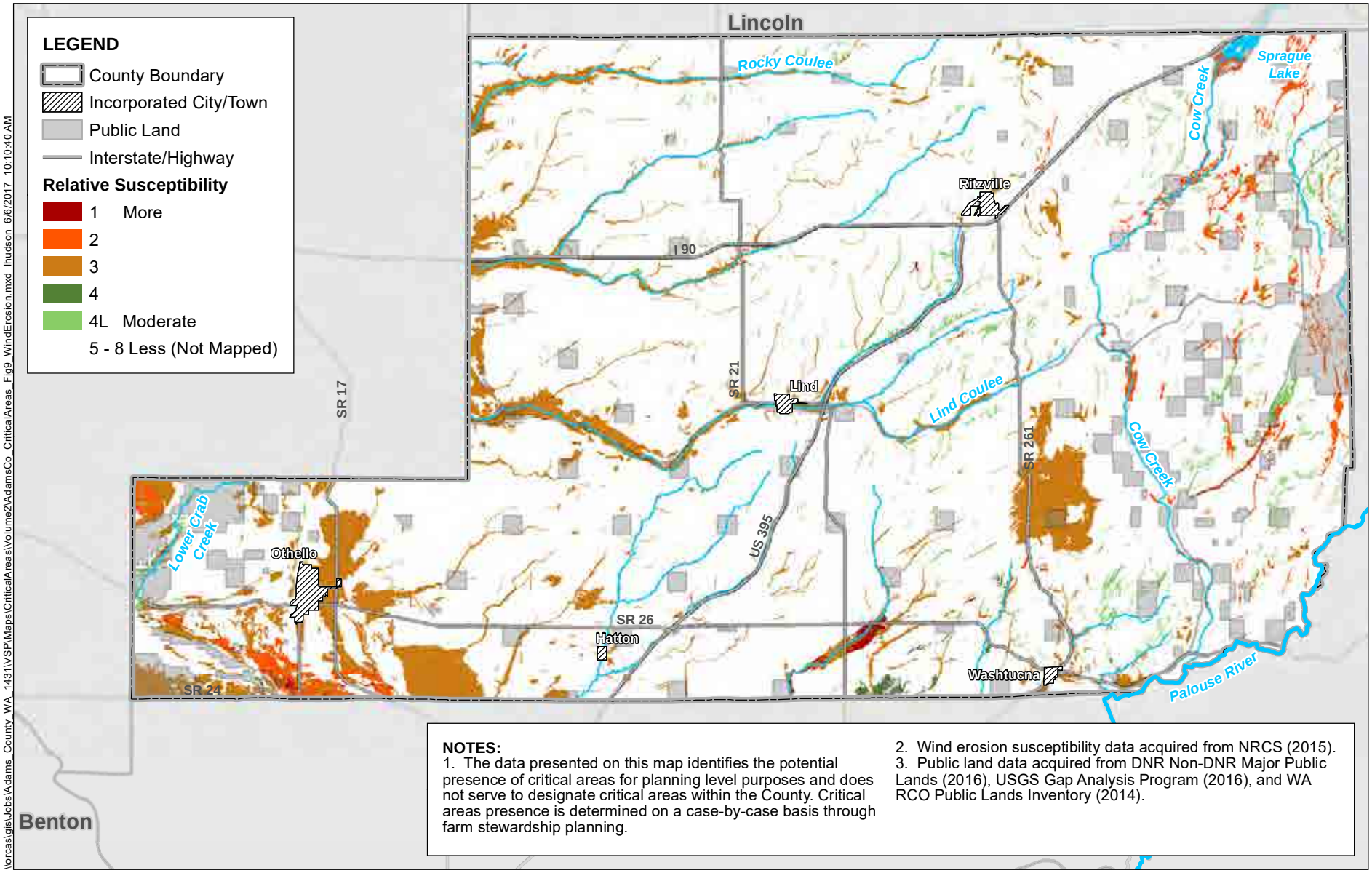

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Figure 9
Geologic Hazard Areas – Wind Erosion Susceptibility Map
Voluntary Stewardship Program
Adams County, WA

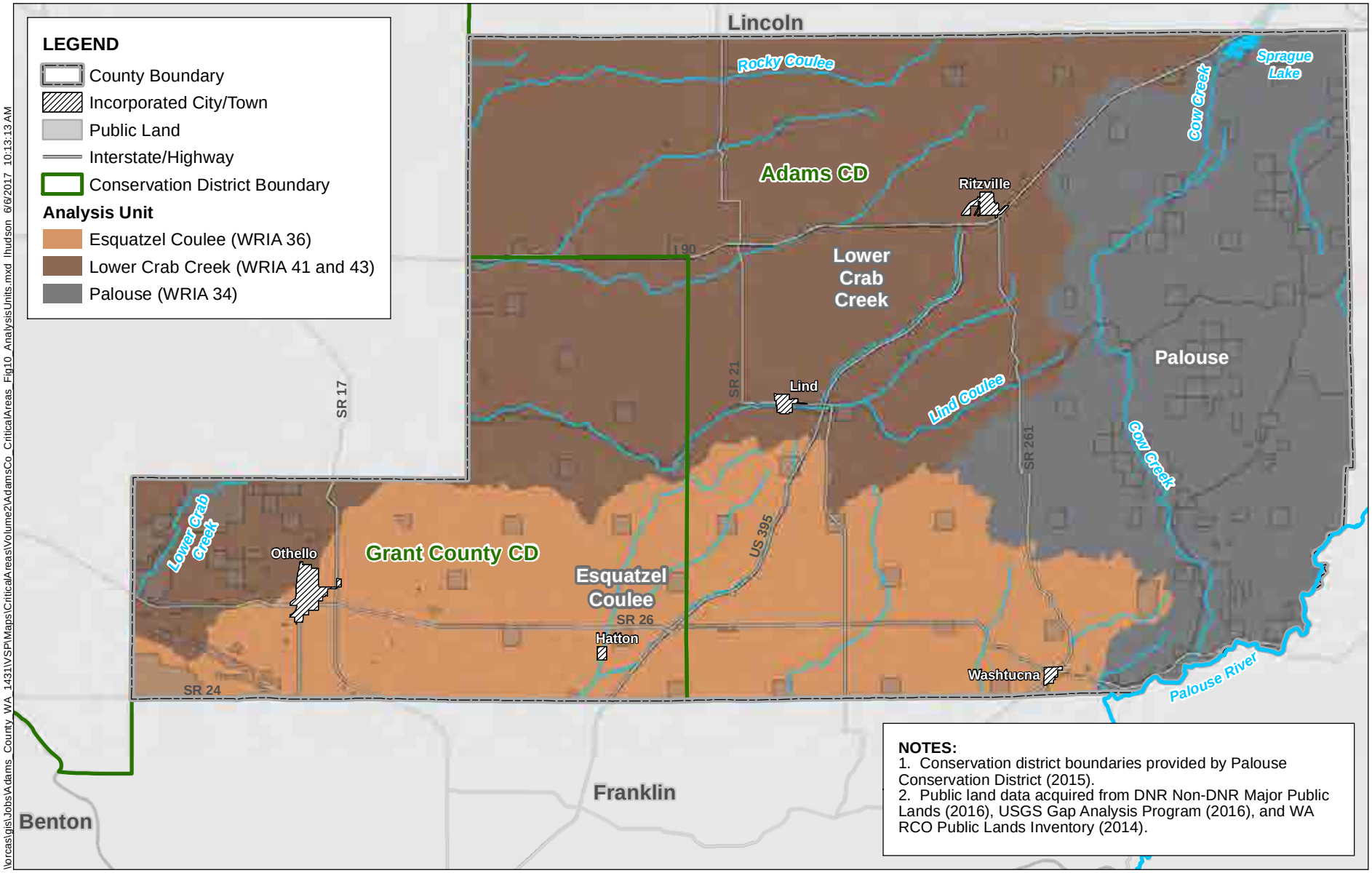

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Figure 10
Analysis Units Map
Voluntary Stewardship Program
Adams County, WA

Appendix B
Baseline Conditions Summary

Appendix B-1: Baseline Conditions Summary Method and Data Sources
Appendix B-2: Watershed Analysis Units
Appendix B-3: Adams County Critical Areas Designations and Definitions
Appendix B-4: Critical Areas Data Summary Tables
Appendix B-5: Adams County Water Quality 303(d) Listings (2017)

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 Adams 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, Section 5: Goals, Benchmarks, and Adaptive Management.

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 land cover 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. Three major agricultural land categories were characterized within the County: 1) irrigated; 2) dryland; and 3) rangeland. 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 2010 to 2016 and included data relied

on for the County's recent Shoreline Master Program update, adopted in 2016. 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	2012	Oregon State University
USDA Agricultural Landcover	2011	United State Department of Agriculture
WSDA Agricultural Landcover	2011	Washington State Department of Agriculture
National Wetland Inventory Data	2010	United State Fish and Wildlife Service
Streams and Rivers Data	2015	Washington State Department of Natural Resources
Priority Habitat and Species Data	2010	Washington State Department of Fish and Wildlife
Critical Aquifer Recharge Area	2015	Washington State Department of Health
Water Erosion Potential	2015	Natural Resources Conservation Service
Ringold Erosive Slopes	2016	Anchor QEA
Wind Erosion Susceptibility	2015	Natural Resources Conservation Service
Special Flood Hazard Areas	2010	Federal Emergency Management Agency
Hydraulic Unit Code (HUC) 10 data	2013	Bureau of Land Management
Watershed Resource Inventory Area (WRIA)	2000	Washington State Department of Ecology
Public Lands (Gap Analysis Program)	2016	United States Geological Survey
Public Lands (Public Lands Inventory)	2014	Washington State Recreation and Conservation Office
Public Lands (Non-DNR Major Public Lands)	2016	Washington State Department of Natural Resources
Priority Habitat and Species Data (Fish Use)	2018	Washington State Department of Fish and Wildlife

Appendix B-2
Watershed Analysis Units

Appendix B-2: Watershed Analysis Units

The Adams County Voluntary Stewardship (VSP) Work Plan (Work Plan) divides the County into three watershed analysis units to establish a more localized planning approach during implementation of the Work Plan (see Figure 1). These watershed analysis units are defined by the following Water Resource Inventory Area (WRIA) boundaries:

- Esquatzel Coulee (WRIA 36)
- Lower Crab Creek (WRIA 41 and 43)
- Palouse (WRIA 34)

Figure 1
Watershed Analysis Units Map

Esquatzel Coulee Watershed Analysis Unit

The Esquatzel Coulee watershed analysis unit is located in the southern portion of the County. This unit drains seasonal creeks and streams and irrigation water conveyance facilities near Othello.

Profile

Water Resources

The Esquatzel Coulee unit primarily consists of seasonal creeks and streams that are tributaries to the Columbia River. Waterbodies in the Esquatzel Coulee unit include Esquatzel Coulee, Wahluke Branch, Potholes and East Low canals, and Rodeo Lake (The Watershed Company 2014). Water conveyance facilities are also located throughout the unit. Precipitation ranges from 8 to 10 inches in the western region to up to 12 inches in the east. Groundwater is generally located in bedrock, with limited availability outside of the boundaries of the Columbia Basin Project (CBP; Ecology 2012). Many aquifers throughout the watershed are in decline, meaning limited water is available for new consumptive uses (Ecology 2012).

Soils and Terrain

Channeled scablands are scattered throughout the County (Lenfesty 1967). Within the Esquatzel Coulee unit, scablands are located near the Saddle Mountains, which are in the southwestern part of the County (Lenfesty 1967). Soils in the unit are dominated by silt loam with pockets of sandy loam located throughout. The western portion of the unit near Othello includes more loam, sandy loam, and pockets of fine sand. Most of the soils in this unit are used for dryland farming.

Agricultural Landcover and Primary Crops/Products

Approximately 92% of the Esquatzel Coulee unit is within agricultural landcover (private lands), primarily comprising dryland agriculture. In 2015, primary crops produced in the County included potatoes, wheat, and apples (WSDA 2015).

Landcover	Acres	Percent
Total Community Area	**343,511**	**NA**
Agricultural Landcover	**317,198**	**92%**
Irrigated	82,067	26%
Dryland	206,635	65%
Range	28,496	9%

Location of Critical Areas

Fish and Wildlife Habitat Conservation Areas (HCAs) are mapped as Priority Habitat and Species (PHS) within the Esquatzel Coulee unit. Approximately 1% of private agricultural lands include mapped non-game species PHS areas and approximately 2% include game species PHS areas, which are described below:

- Shrub-steppe PHS habitat occurs on 2,442 acres of agricultural lands.
- Game species PHS habitat, primarily mule deer habitat, occurs on 7,228 acres of agricultural lands.

Water Erosion Areas have a moderate intersect with agricultural lands within the Esquatzel Coulee unit (33%). The majority of land to the east, near the Palouse River and Cow Creek, is listed as having severe water erosion potential.

Other Critical Areas such as wetlands, critical aquifer recharge areas, and frequently flooded areas have limited intersections with agriculture in the Esquatzel Coulee unit.

Critical Areas	Areas within Agricultural Lands[1]							
	Irrigated		Dryland		Rangeland		Total	
	Acres	*Percent*	*Acres*	*Percent*	*Acres*	*Percent*	*Acres*	*Percent*
Wetlands	2	<1%	16	<1%	23	<1%	41	<1%
HCAs – Non-game Species	49	<1%	26	<1%	2,472	1%	2,546	1%
HCAs – Game Species[2]	156	<1%	3,284	1%	3,792	1%	7,231	2%
CARAs	1,262	<1%	533	<1%	939	<1%	2,734	1%
Geologic Hazards[2]	9,424	3%	81,934	26%	13,942	4%	105,301	33%
Frequently Flooded Areas	1,746	1%	4,630	1%	2,309	1%	8,685	3%

Notes:

1. Agricultural areas included in this summary are limited to privately owned lands.
2. Only displaying water erosion potential as a geologically hazardous area. In addition to water erosion potential, wind erosion potential covers approximately 14% of the agricultural area in this unit.

Critical Area Functions

Critical area functions, including water quality, habitat, soil, 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 the Esquatzel Coulee unit are associated with water conveyance facilities located throughout the unit. In this unit, several wasteways on the east side near Othello are listed on the Washington State Department of Ecology 303(d) list as Category 5 for bacteria, dissolved oxygen, pH, and temperature (Ecology 2016). • Riparian vegetation, where it occurs, includes a mix of native and introduced trees and shrubs (WDFW 2006). These areas provide stream cover, which reduces temperatures and helps 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:** Streams within the Esquatzel Coulee unit are mostly seasonal, with some providing a variety of riparian and wetland habitat. Riparian and wetland vegetation, where available, provides cover and food inputs for aquatic species. • **Wildlife and habitat**: Priority species occurrences in the Esquatzel Coulee unit include burrowing owl and waterfowl concentrations. Game species include mule deer and ring-necked pheasant.
Soil and Hydrology Functions
• Surface water moves flow through this area for irrigation supply, carrying soil and creating wetland and stream-like habitat as water moves through topographic lows. • Soils are characterized as silty loams with severe water erosion susceptibility in most areas throughout the unit.

Indirect Effects of Agriculture on Critical Area Functions

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

Severe water erosion susceptibility areas are designated across the Esquatzel Coulee unit, which 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 habitat areas, including riparian and wetland areas scattered throughout the unit, including PHS-listed shrub-steppe habitat located in the southeast corner of the unit • Protect soils from water and wind erosion, including those listed as severe water erosion potential areas located throughout the unit and Ringold Formation soils located on the west side of the unit • Protect and manage groundwater aquifers to ensure adequate recharge and water quality • Manage irrigation water so it is delivered, scheduled, and/or applied efficiently[1]	• Critical area planting • Prescribed grazing • Till and residue management • Direct seed • Conservation cover • Nutrient management • Irrigation water management

Note:

1. Watershed goal described in the Focus on Water Availability: Esquatzel Coulee Watershed WRIA 36 (Ecology 2012).

Lower Crab Creek Watershed Analysis Unit

The Lower Crab Creek watershed analysis unit encompasses a large portion of the central and northern portion of the County and in the southwest corner near Othello. Lower Crab Creek only flows through the County in the southwest corner, entering and exiting the County in the panhandle region. The majority of tributary creeks and streams in this area are seasonal.

Profile

Water Resources

The Lower Crab Creek unit primarily consists of seasonal creeks and streams that are tributaries to the Columbia River. Lower Crab Creek only flows through the County in the southwest corner, entering and existing the County in the panhandle region. The majority of tributary creeks and streams in this area are seasonal. Water conveyance facilities are also located throughout the unit. Precipitation ranges from 7 to 8 inches in the western panhandle region to up to 13 inches in the northeast. Groundwater is generally located in bedrock, with limited availability outside of the boundaries of the CBP (Ecology 2012). Many aquifers throughout the watershed are in decline, meaning limited water is available for new consumptive uses (Ecology 2012).

Soils and Terrain

Channeled scablands are scattered throughout the County (Lenfesty 1967). Within the Lower Crab Creek unit, scablands are located near the Saddle Mountains, which are in the southwestern part of the County (Lenfesty 1967). Soils in the unit are dominated by silt loam with pockets of sandy loam located throughout. Soils in the unit are dominated by silt loam with pockets of sandy loam located throughout. The western portion of the unit in the panhandle near Othello and Lower Crab Creek are dominated by loam, sandy loam, and pockets of fine sand. Most of the soils in this unit are used for dryland farming.

Agricultural Landcover and Primary Crops/Products

Approximately 93% of the Lower Crab Creek unit is within agricultural landcover (private lands), primarily comprising dryland agriculture. In 2015, primary crops produced in the County included potatoes, wheat, and apples (WSDA 2015).

Landcover	Acres	Percent
Total Community Area	**555,885**	**NA**
Agricultural Landcover	**518,275**	**93%**
Irrigated	68,331	13%
Dryland	376,426	73%
Range	73,518	14%

Location of Critical Areas

Fish and Wildlife Habitat Conservation Areas (HCAs) are mapped as PHS within the Lower Crab Creek Coulee unit. Approximately 1% of private agricultural lands include mapped non-game species PHS areas and less than 1% include game species PHS areas which are described below:

- Shrub-steppe PHS habitat occurs on 3,648 acres of agricultural lands.
- Game species PHS habitat, primarily mule deer, occurs on 474 acres of agricultural lands.

Water Erosion Areas have a moderate intersect with agricultural lands within the Lower Crab Creek unit (43%). The majority of land in the panhandle, surrounding Lower Crab Creek, is listed as having severe water erosion potential.

Other Critical Areas such as wetlands, critical aquifer recharge areas, and frequently flooded areas have limited intersections with agriculture in the Lower Crab Creek unit.

Critical Areas	Areas within Agricultural Lands[1]							
	Irrigated		Dryland		Rangeland		Total	
	Acres	*Percent*	*Acres*	*Percent*	*Acres*	*Percent*	*Acres*	*Percent*
Wetlands	17	<1%	22	<1%	62	<1%	101	<1%
HCAs – Non-game Species	73	<1%	230	<1%	4,012	1%	4,315	1%
HCAs – Game Species[2]	107	<1%	19	<1%	348	<1%	474	<1%
CARAs	437	<1%	789	<1%	465	<1%	1,690	<1%
Geologic Hazards[2]	18,692	4%	162,129	31%	40,827	8%	221,649	43%
Frequently Flooded Areas	1,889	<1%	5,409	1%	6,028	1%	13,326	3%

Notes:

1. Agricultural areas included in this summary are limited to privately owned lands.
2. Only displaying water erosion potential as a geologically hazardous area. In addition to water erosion potential, wind erosion potential covers approximately 10% of the agricultural area in this unit.

Critical Area Functions

Critical area functions, including water quality, habitat, soil, 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 the Lower Crab Creek unit are associated with the Lower Crab Creek and water conveyance facilities located throughout the unit. In this unit, several stretches of the Lower Crab Creek are listed on the Washington State Department of Ecology 303(d) list as Category 5 for temperature (Ecology 2016). • Riparian vegetation, where it occurs, includes a mix of native and introduced trees and shrubs (WDFW 2006). These areas provide stream cover, which reduces temperatures and helps 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:** Streams within the Lower Crab Creek unit are mostly seasonal, with some providing a variety of riparian and wetland habitat. Riparian and wetland vegetation, where available, provides cover and food inputs for aquatic species. • **Wildlife and habitat**: Priority species occurrences in the Lower Crab Creek unit include sandhill crane and shorebird and waterfowl concentrations. Game species primarily include mule deer.
Soil and Hydrology Functions
• Surface water moves flow through this area for irrigation supply, carrying soil and creating wetland and stream-like habitat as water moves through topographic lows. • Soils are characterized as silty loams with severe water erosion susceptibility in most areas throughout the unit.

Indirect Effects of Agriculture on Critical Area Functions

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

Severe water erosion susceptibility areas are designated across the Lower Crab Creek unit, which 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/or enhance existing fisheries habitat and promote voluntary riparian and wetland habitat planting and restoration projects, including on Lower Crab Creek where water quality issues are present (e.g., temperature)[1] • Protect and/or restore stream channel and floodplain restoration and habitat enhancement projects to reduce high runoff events within the Lower Crab Creek watershed[1] • Protect and enhance habitat areas, including PHS-listed habitat such as game species habitat on the west side of the unit and shrub-steppe habitat on the east side of the unit • Manage nutrient inputs (e.g., nitrates, phosphorus, fecal coliform) into surface waters and groundwater (e.g., near wellheads) through best management practices[1] • Implement conservation, reuse, and reclaimed water strategies, including agriculture irrigation conservation[1]	• Stream habitat improvement and management • Critical area planting • Fish and wildlife structure • Prescribed grazing • Till and residue management • Direct seed • Conservation cover • Nutrient management • Grass waterways • Irrigation water management

Note:

1. Planning unit goal described in the *WRIA 43 Watershed Management Plan* (The WRIA 43 Watershed Planning Unit 2006).

Palouse Watershed Analysis Unit

The Palouse watershed analysis unit is located in the eastern portion of the County. The unit includes Cow Creek and Sprague Lake, which drain into the Palouse River in the southeast corner of the County.

Profile

Water Resources

The Palouse unit includes Cow Creek and Sprague Lake and primarily consists of seasonal creeks and streams. Water conveyance facilities are also located throughout the unit. Precipitation ranges from 10 to 12 inches in the western region to up to 15 inches in the east. Groundwater is generally located in bedrock, with limited availability outside of the boundaries of the CBP (Ecology 2012). Many aquifers throughout the watershed are in decline, meaning limited water is available for new consumptive uses (Ecology 2012).

Soils and Terrain

Channeled scablands are scattered throughout the County (Lenfesty 1967). Within the Palouse unit, soils are dominated by silt loam with pockets of sandy loam located throughout. Most of the soils in this unit are used for rangeland practices.

Agricultural Landcover and Primary Crops/Products

Approximately 86% of the Palouse unit is within agricultural landcover (private lands), primarily comprising rangeland area. In 2015, primary crops produced in the County included potatoes, wheat, and apples (WSDA 2015).

Landcover	Acres	Percent
Total Community Area	**330,729**	**NA**
Agricultural Landcover	**283,865**	**86%**
Irrigated	5,695	2%
Dryland	100,078	35%
Range	178,091	63%

Location of Critical Areas

Fish and Wildlife Habitat Conservation Areas (HCAs) are mapped as PHS within the Palouse unit. Less than 1% of private agricultural lands include mapped non-game species PHS areas and approximately 51% include game species PHS areas which are described below:

- Waterfowl concentration PHS species and habitat occurs on 1,046 acres of agricultural lands.
- Game species PHS habitat, primarily mule deer and northwest white-tailed deer, occurs on 144,339 acres of agricultural lands.

Water Erosion Areas have a moderate intersect with agricultural lands within the Palouse unit (34%). The majority of land in the vicinity of the Palouse River and Cow Creek is listed as having severe water erosion potential.

Other Critical Areas such as wetlands, critical aquifer recharge areas, and frequently flooded areas have limited intersections with agriculture in the Lower Crab Creek unit.

Critical Areas	Areas within Agricultural Lands[1]							
	Irrigated		Dryland		Rangeland		Total	
	Acres	*Percent*	*Acres*	*Percent*	*Acres*	*Percent*	*Acres*	*Percent*
Wetlands	3	<1%	410	<1%	5,381	2%	2,794	2%
HCAs – Non-game Species	4	<1%	85	<1%	1,063	<1%	1,152	<1%
HCAs – Game Species[2]	2,055	<1%	57,102	20%	95,182	34%	144,339	51%
CARAs	0	0%	0	0%	3	<1%	3	<1%
Geologic Hazards[2]	1,630	1%	58,895	12%	36,177	13%	96,702	34%
Frequently Flooded Areas	383	<1%	1,884	1%	5,575	2%	7,841	3%

Notes:

1. Agricultural areas included in this summary are limited to privately owned lands.
2. Only displaying water erosion potential as a geologically hazardous area. In addition to water erosion potential, wind erosion potential covers approximately 12% of the agricultural area in this unit.

Critical Area Functions

Critical area functions, including water quality, habitat, soil, 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
• Water quality functions in the Palouse unit are primarily associated with Cow Creek and the Palouse River. In this unit, Cow Creek is listed on the Washington State Department of Ecology 303(d) list as Category 5 for ammonia and nitrogen from Sprague Lake to its confluence with Lugenbeal Creek; the Palouse River is listed for dissolved oxygen and pH in several locations along the County border with Whitman County (Ecology 2016). • Riparian vegetation, where it occurs, includes a mix of native and introduced trees and shrubs (WDFW 2006). These areas provide stream cover, which reduces temperatures and helps 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:** Streams within the Palouse unit are mostly seasonal, with some providing a variety of riparian and wetland habitat. Riparian and wetland vegetation, where available, provides cover and food inputs for aquatic species. • **Wildlife and habitat**: Priority species occurrences in the Palouse unit include American white pelican, western grebe, and waterfowl concentrations. Game species include mule deer, northwest white-tailed deer, and ring-necked pheasant.
Soil and Hydrology Functions
• Surface water moves flow through this area for irrigation supply, carrying soil and creating wetland and stream-like habitat as water moves through topographic lows. • Soils are characterized as silty loams with severe water erosion susceptibility in most areas throughout the unit.

Indirect Effects of Agriculture on Critical Area Functions

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

Severe water erosion susceptibility areas are designated across the Palouse unit, which 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 riparian and wetland habitat located adjacent to and to the west of Cow Creek and its tributaries; protect and enhance terrestrial habitat for bird and game species, including PHS-listed habitat located throughout the unit[1] • Address soil compaction, accelerated erosion, and reduction in water infiltration and soil holding capacity from agricultural activities, particularly in moderately to severe water erosion potential areas located throughout the unit[1] • Manage commercial nutrient over-application and resulting excess nutrient contribution to receiving waters[1] • Manage livestock grazing and winter feeding operations, which can result in excess sediment, and bacteria and nutrient contributions to receiving waters[1] • Protect aquatic life and water quality in streams within the unit, including those listed on the Ecology 303(d) list such as Cow Creek and the Palouse River [1] • Restore and enhance natural floodplain, riparian, and wetland capacities to increase aquifer recharge, improve water quality, provide aquatic and riparian habitat, and reduce the duration and severity of flood events within the Palouse watershed[1]	• Critical area planting • Upland and wetland wildlife habitat management • Direct seed • Till and residue management • Conservation cover • Nutrient management • Prescribed grazing • Fencing • Riparian herbaceous cover/filter strips • Stream habitat improvement and management

Note:

1. Watershed goal described in the *Palouse Subbasin Management Plan* (Gilmore 2004).

References

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Attachment 1

- Watershed Analysis Units: GIS Data Summary Tables

Attachment 1
Watershed Analysis Units: GIS Data Summary Tables

Critical Areas Data Summary Tables

Table 1
Agricultural Activity Landcover

Landcover	Acres	Percent
Total Area	**343,511**	N/A
Agricultural Landcover	**317,198**	**92%**
Irrigated	82,067	26%
Dryland	206,635	65%
Range	28,496	9%

Analysis Unit: Esquatzel Coulee

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		Total	
		Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
Wetlands		2	0%	16	0%	23	0%	41	0%
Fish and Wildlife Habitat Conservation Areas[1,2]		49	0%	26	0%	2,472	1%	2,546	1%
Critical Aquifer Recharge Areas		1,262	0%	533	0%	939	0%	2,734	1%
Geologically Hazardous Areas	Water Erosion	9,424	3%	81,934	26%	13,942	4%	105,301	33%
	Wind Erosion	22,370	7%	15,980	5%	6,685	2%	45,036	14%
Frequently Flooded Areas		1,746	1%	4,630	1%	2,309	1%	8,685	3%

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 3
Stream Summary

Critical Areas	Areas Within Agricultural Lands							
	Irrigated		Dryland		Rangeland		Total	
	Miles	Percent	Miles	Percent	Miles	Percent	Miles	Percent
Streams Total	**156**	**13%**	**650**	**56%**	**206**	**18%**	**1,011**	**87%**
Shorelines of the State	0		0		0		0	
Fish Use or Potential Fish Use	0		1		0		1	
No Fish Use	0		0		0		0	
Unknown	155		649		206		1,010	

Wetlands Data Summary

Table 4
Wetland Summary

Critical Areas	Acres Within Agricultural Lands			
	Irrigated	Dryland	Rangeland	Total
Wetlands (All Types)	**2**	**16**	**23**	**41**
Freshwater Emergent Wetland	0	12	10	22
Freshwater Forested/Shrub Wetland	0	0	3	4
Lake/Pond	2	4	8	14
Riverine	0	0	0	0
Other	0	0	1	1

Fish and Wildlife Habitat Conservation Areas – Priority Habitats and Species Data Summary

Table 5

Priority Habitats and Species Summary – Excluding Game Species[1,2]

Critical Areas	Acres Within Agricultural Lands			
	Irrigated	Dryland	Rangeland	Total
Priority Habitats and Species	**49**	**26**	**2,472**	**2,546**
Birds	**49**	**10**	**36**	**95**
American White Pelican	0	0	0	0
Burrowing Owl	49	9	7	64
Caspian Tern	0	0	0	0
Gull Species	0	0	0	0
Sandhill Crane	0	0	0	0
Shorebird Concentrations	0	0	0	0
Tundra Swan	0	0	0	0
Western Grebe	0	0	0	0
Waterfowl Concentrations	0	2	29	31
Cliffs/Bluffs	**0**	**0**	**57**	**57**
Shrub-Steppe	**0**	**15**	**2,427**	**2,442**
Prairies and Steppe	**0**	**0**	**0**	**0**

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

Priority Habitats and Species Summary (Game Species)[1]

Critical Areas	Acres Within Agricultural Lands			
	Irrigated	Dryland	Rangeland	Total
Priority Habitats and Species (Game Species)	**156**	**3,284**	**3,792**	**7,231**
Birds	**3**	**0**	**0**	**3**
Ring-Necked Pheasant	3	0	0	3
Mammals	**153**	**3,284**	**3,792**	**7,228**
Mule Deer	153	3,284	3,792	7,228
Northwest White-Tailed Deer	0	0	0	0

Notes:

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

Geologically Hazardous Areas – Water Erosion Potential

Table 7
Water Erosion Potential

Critical Areas	Acres Within Agricultural Lands			
	Irrigated	Dryland	Rangeland	Total
Water Erosion Potential	**9,424**	**81,934**	**13,942**	**105,301**
Ringold Soils and Greater Than 15% Slope	333	451	233	1,017
Severe to Very Severe	9,091	81,483	13,709	104,284

Critical Areas Data Summary Tables

Table 1
Agricultural Activity Landcover

Landcover	Acres	Percent
Total Area	**555,885**	N/A
Agricultural Landcover	**518,275**	**93%**
Irrigated	68,331	13%
Dryland	376,426	73%
Range	73,518	14%

Analysis Unit: Lower Crab Creek

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		Total	
		Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
Wetlands		17	0%	22	0%	62	0%	101	0%
Fish and Wildlife Habitat Conservation Areas[1,2]		73	0%	230	0%	4,012	1%	4,315	1%
Critical Aquifer Recharge Areas		437	0%	789	0%	465	0%	1,690	0%
Geologically Hazardous Areas	Water Erosion	18,692	4%	162,129	31%	40,827	8%	221,649	43%
	Wind Erosion	13,546	3%	22,780	4%	15,838	3%	52,164	10%
Frequently Flooded Areas		1,889	0%	5,409	1%	6,028	1%	13,326	3%

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 3
Stream Summary

Critical Areas	Areas Within Agricultural Lands							
	Irrigated		Dryland		Rangeland		Total	
	Miles	Percent	Miles	Percent	Miles	Percent	Miles	Percent
Streams Total	**143**	**8%**	**1,083**	**63%**	**340**	**20%**	**1,566**	**91%**
Shorelines of the State	0		0		0		0	
Fish Use or Potential Fish Use	0		1		2		3	
No Fish Use	0		0		0		1	
Unknown	143		1,082		337		1,562	

Wetlands Data Summary

Table 4
Wetland Summary

Critical Areas	Acres Within Agricultural Lands			
	Irrigated	Dryland	Rangeland	Total
Wetlands (All Types)	**17**	**22**	**62**	**101**
Freshwater Emergent Wetland	9	12	39	60
Freshwater Forested/Shrub Wetland	0	0	3	3
Lake/Pond	3	7	9	20
Riverine	3	0	11	15
Other	2	2	0	4

Fish and Wildlife Habitat Conservation Areas – Priority Habitats and Species Data Summary

Table 5

Priority Habitats and Species Summary – Excluding Game Species[1,2]

Critical Areas	Acres Within Agricultural Lands			
	Irrigated	Dryland	Rangeland	Total
Priority Habitats and Species	**73**	**230**	**4,012**	**4,315**
Birds	**73**	**63**	**531**	**667**
American White Pelican	0	0	0	0
Burrowing Owl	0	0	0	0
Caspian Tern	0	0	0	0
Gull Species	0	0	0	0
Sandhill Crane	39	9	3	51
Shorebird Concentrations	34	54	528	615
Tundra Swan	0	0	0	0
Western Grebe	0	0	0	0
Waterfowl Concentrations	34	54	529	616
Cliffs/Bluffs	**0**	**0**	**0**	**0**
Shrub-Steppe	**0**	**167**	**3,481**	**3,648**
Prairies and Steppe	**0**	**0**	**0**	**0**

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

Priority Habitats and Species Summary (Game Species)[1]

Critical Areas	Acres Within Agricultural Lands			
	Irrigated	Dryland	Rangeland	Total
Priority Habitats and Species (Game Species)	**107**	**19**	**348**	**474**
Birds	**0**	**0**	**1**	**1**
Ring-Necked Pheasant	0	0	1	1
Mammals	**106**	**19**	**347**	**473**
Mule Deer	106	19	347	473
Northwest White-Tailed Deer	0	0	0	0

Notes:

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

Geologically Hazardous Areas – Water Erosion Potential

Table 7
Water Erosion Potential

Critical Areas	Acres Within Agricultural Lands			
	Irrigated	Dryland	Rangeland	Total
Water Erosion Potential	**18,692**	**162,129**	**40,827**	**221,649**
Ringold Soils and Greater Than 15% Slope	77	93	344	515
Severe to Very Severe	18,615	162,036	40,483	221,134

Critical Areas Data Summary Tables

Table 1
Agricultural Activity Landcover

Landcover	Acres	Percent
Total Area	**330,729**	N/A
Agricultural Landcover	**283,865**	**86%**
Irrigated	5,695	2%
Dryland	100,078	35%
Range	178,091	63%

Analysis Unit: Palouse River

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		Total	
		Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
Wetlands		3	0%	410	0%	5,381	2%	5,794	2%
Fish and Wildlife Habitat Conservation Areas[1,2]		4	0%	85	0%	1,063	0%	1,152	0%
Critical Aquifer Recharge Areas		0	0%	0	0%	3	0%	3	0%
Geologically Hazardous Areas	Water Erosion	1,630	1%	58,895	21%	36,177	13%	96,702	34%
	Wind Erosion	857	0%	18,204	6%	15,215	5%	34,276	12%
Frequently Flooded Areas		383	0%	1,884	1%	5,575	2%	7,841	3%

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 3
Stream Summary

Critical Areas	Areas Within Agricultural Lands							
	Irrigated		Dryland		Rangeland		Total	
	Miles	Percent	Miles	Percent	Miles	Percent	Miles	Percent
Streams Total	**8**	**1%**	**307**	**41%**	**321**	**43%**	**636**	**86%**
Shorelines of the State	1		5		40		45	
Fish Use or Potential Fish Use	0		2		20		22	
No Fish Use	0		0		3		3	
Unknown	8		300		259		566	

Wetlands Data Summary

Table 4
Wetland Summary

Critical Areas	Acres Within Agricultural Lands			
	Irrigated	Dryland	Rangeland	Total
Wetlands (All Types)	**3**	**410**	**5,381**	**5,794**
Freshwater Emergent Wetland	1	260	4,304	4,566
Freshwater Forested/Shrub Wetland	1	10	118	130
Lake/Pond	0	81	755	836
Riverine	1	13	111	126
Other	0	45	92	137

Fish and Wildlife Habitat Conservation Areas – Priority Habitats and Species Data Summary

Table 5

Priority Habitats and Species Summary – Excluding Game Species[1,2]

Critical Areas	Acres Within Agricultural Lands			
	Irrigated	Dryland	Rangeland	Total
Priority Habitats and Species	**4**	**85**	**1,063**	**1,152**
Birds	**4**	**85**	**957**	**1,046**
American White Pelican	0	2	44	47
Burrowing Owl	0	0	0	0
Caspian Tern	0	1	2	3
Gull Species	0	2	28	30
Sandhill Crane	0	0	0	0
Shorebird Concentrations	0	0	0	0
Tundra Swan	0	0	0	0
Western Grebe	0	2	44	47
Waterfowl Concentrations	4	85	957	1,046
Cliffs/Bluffs	**0**	**0**	**0**	**0**
Shrub-Steppe	**0**	**0**	**74**	**74**
Prairies and Steppe	**0**	**0**	**32**	**32**

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

Priority Habitats and Species Summary (Game Species)[1]

Critical Areas	Acres Within Agricultural Lands			
	Irrigated	Dryland	Rangeland	Total
Priority Habitats and Species (Game Species)	**2,055**	**47,102**	**95,182**	**144,339**
Birds	**0**	**219**	**500**	**719**
Ring-Necked Pheasant	0	219	500	719
Mammals	**2,055**	**47,102**	**95,182**	**144,339**
Mule Deer	2,055	47,102	95,182	144,339
Northwest White-Tailed Deer	588	1,742	5,747	8,077

Notes:

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

Geologically Hazardous Areas – Water Erosion Potential

Table 7
Water Erosion Potential

Critical Areas	Acres Within Agricultural Lands			
	Irrigated	Dryland	Rangeland	Total
Water Erosion Potential	**1,630**	**58,895**	**36,177**	**96,702**
Ringold Soils and Greater Than 15% Slope	0	0	0	0
Severe to Very Severe	1,630	58,895	36,177	96,702

Appendix B-3
Adams County Critical Areas Designations and Definitions

Appendix B-3: Adams County Critical Areas Designations and Definitions

Adams County Critical Areas and Resources Lands Code (Chapter 18.06)

General Provisions

Critical areas in Adams County are categorized as follows:

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

Resource Information and Maps (Adams County Code [ACC] 18.06.040):

Reference Maps and Inventories. The distribution of critical areas within Adams County is described and displayed on reference materials and on maps maintained by the administrator. These reference materials are intended for general information only and do not depict site-specific designations. These reference materials shall include but are not limited to the following:

- Any maps created through a critical areas review process
- Washington Department of Fish and Wildlife priority habitats and species maps, as amended
- U.S. Geologic Survey quadrangle maps
- Flood insurance rate maps (Federal Emergency Management Agency [FEMA]), as amended
- Flood boundary and floodway maps (FEMA), as amended
- Aerial photographs
- U.S. Fish and Wildlife Service national wetland inventory maps
- Columbia Basin Ground Water Management Area maps
- Columbia Basin Irrigation Project topography and retracement maps from 1939 to 1943 and from 1960, as well as other preconstruction and construction maps developed for the project
- Previously completed maps in the vicinity of a permit application

Wetlands

Identification and Designation (ACC 18.06.620)

Wetlands shall be identified and delineated using the Washington State Wetlands Identification and Delineation Manual for Eastern Washington[1]. Classification and rating of wetlands will be done using the Washington State Wetlands Rating System for Eastern Washington.

The following wetlands may not be further regulated by this article:

- Artificial wetlands within the developed portion of the Columbia Basin Irrigation Project. (Conversion of ground and surface water conditions within the developed project boundary was anticipated and intended.)
- Areas that may meet the definition of "artificial wetlands" either intentionally or unintentionally as described herein that are managed and regulated by the U.S. Bureau of Reclamation.
- 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.

Fish and Wildlife Habitat Conservation Areas

Identification and Designation (ACC 18.06.520)

Fish and Wildlife Habitat Conservation Areas in the County shall include:

- Areas of fish and wildlife habitat conservation that include:
  - Areas with which federal or state endangered, threatened, and sensitive species of fish, wildlife, or plants have a primary association
  - Habitats and species of local importance, which could include areas with state-listed monitored or candidate species, or federally listed candidate species, or species with high recreational value (e.g., game) that have primary association
  - Naturally occurring ponds fewer than 20 acres and their submerged aquatic beds that provide fish or wildlife habitat
  - Waters of the state
  - Lakes, ponds, streams, and rivers planted with game fish by a governmental entity (these include waterbodies planted under auspices of a federal, state, or local program, or which support important fish species as identified by Washington Department of Fish and Wildlife)

[1] Ecology (Washington State Department of Ecology), 2007. *Washington State Wetlands Identification and Delineation Manual for Eastern Washington*. Ecology Publication #04-06-15. March 2007.

  - Federal, state, and private natural area preserves and natural resource conservation areas
- The following species occur in, but may not be limited to, different areas of Adams County, and are currently listed as threatened or endangered under the Federal Endangered Species Act or within WAC Chapter 232-12:
  - Threatened or endangered species:
    - Ferruginous hawk
    - Sandhill crane
    - Northern leopard frog
    - Ute ladies' tresses
  - State candidate species and species of local importance[2]:
    - Golden eagle
    - Burrowing owl
    - Loggerhead shrike
    - Sage thrasher
    - Washington ground squirrel
  - National Heritage Program Species of Special Concern[3]:
    - Snake River cryptantha (*Cryptantha spiculifera*)
    - Washington monkeyflower (*Erythranthe washingtonensis*)
    - Inch-high rush (*Juncus uncialis*)
    - Yellow wildrye (*Leymus flavescens*)
    - Foxtail mousetail (*Myosurus clavicaulis*)
    - American pillwort (*Pilularia Americana*)
    - Washington polemonium (*Polemonium pectinatum*)
    - Downy buttercup (*Ranunculus hebecarpus*)
    - Spalding's catchfly (*Silene spaldingii*)
- It is recognized that the list of federal and state threatened and endangered species changes from time to time. The above list of species shall be periodically updated to reflect the federal and/or state listed threatened or endangered species when the applicable federal or state agencies make updates and make updated lists available to Adams County and others.
- Adams County allows for the nomination of species/habitats of local importance by the process identified in Section 18.06.060

[2] Additional candidate species not specified in the code include sage sparrow, Merriam's shrew, Preble's shrew, Townsend's big-eared bats, black-tailed jackrabbit, and white-tailed jackrabbit.
[3] Washington Natural Heritage Program 2018 Washington Vascular Plant Species of Special Concern (WDNR 2018).

- In order to accommodate the needs and desires of the people of Adams County, public input shall be required to include species and/or habitats in the important habitat area classification identified in this article

Critical Aquifer Recharge Areas

Identification and Designation (ACC 18.06.320)

Areas identified by the Columbia Basin Ground Water Management Area Plan (GWMA) as being exposures above-ground of the top of the highest recognized basalt complex basalt flows are referred to as critical aquifer recharge areas.

Geologically Hazardous Areas

Identification and Designation (ACC 18.06.420)

Geologically Hazardous Areas are defined as follows:

- Areas with slopes in excess of 45%
- Areas with all three of the following characteristics:
  - Soil types with the properties of the Ringold formation (clay)
  - Areas with the potential for water loading
  - Slopes in excess of 15%
- Soils within Adams County are subject to wind erosion:
  - All developments subject to the provisions of ACC 18.06 that involve any land-clearing activities shall have a dust control and wind erosion mitigation plan reviewed and approved by the County
- Slopes having gradients steeper than 80% subject to rock fall during seismic shaking
- Areas highly susceptible to liquefaction from seismic activity

As noted in the Voluntary Stewardship Program (VSP) Work Plan, structures in agricultural lands will continue to be permitted and regulated through the County's Critical Areas Ordinance, notably for landslide, mine, and seismic hazard areas. Geologically hazardous areas for erosion hazards have primary applicability in the VSP context.

Frequently Flooded Areas

Identification and Designation (ACC 18.06.230)

Shorelines and waters that are currently identified within the 100-year floodplain in the FEMA Flood Insurance Rate Maps dated January 16, 2009. If and when this study becomes updated to reflect new conditions, designation of frequently flooded areas will include the changes.

Appendix B-4
Critical Areas Data Summary Tables

Critical Areas Data Summary Tables

Table 1
Agricultural Activity Landcover

Landcover	Acres	Percent
Total Area	**1,230,126**	N/A
Agricultural Landcover	**1,119,338**	**91%**
Irrigated	156,093	14%
Dryland	683,140	61%
Range	280,105	25%

Analysis Unit: County-Wide Summary

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		Total	
		Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
Wetlands		22	0%	448	0%	5,466	0%	5,936	1%
Fish and Wildlife Habitat Conservation Areas[1,2]		126	0%	340	0%	7,547	1%	8,013	1%
Critical Aquifer Recharge Areas		1,699	0%	1,322	0%	1,407	0%	4,427	0%
Geologically Hazardous Areas	Water Erosion	29,746	3%	302,959	27%	90,946	8%	423,652	38%
	Wind Erosion	36,773	3%	56,964	5%	37,739	3%	131,476	12%
Frequently Flooded Areas		4,018	0%	11,922	1%	13,912	1%	29,852	3%

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 3
Stream Summary

Critical Areas	Areas Within Agricultural Lands							
	Irrigated		Dryland		Rangeland		Total	
	Miles	Percent	Miles	Percent	Miles	Percent	Miles	Percent
Streams Total	**307**	**8%**	**2,040**	**56%**	**867**	**24%**	**3,214**	**89%**
Shorelines of the State	1		5		40		46	
Fish Use or Potential Fish Use	0		4		22		26	
No Fish Use	0		0		3		4	
Unknown	306		2,031		802		3,138	

Wetlands Data Summary

Table 4
Wetland Summary

Critical Areas	Acres Within Agricultural Lands			
	Irrigated	Dryland	Rangeland	Total
Wetlands (All Types)	**22**	**448**	**5,466**	**5,936**
Freshwater Emergent Wetland	11	284	4,353	4,648
Freshwater Forested/Shrub Wetland	1	11	125	136
Lake/Pond	5	93	772	870
Riverine	4	14	123	141
Other	2	47	94	142

Fish and Wildlife Habitat Conservation Areas – Priority Habitats and Species Data Summary

Table 5

Priority Habitats and Species Summary – Excluding Game Species[1,2]

Critical Areas	Acres Within Agricultural Lands			
	Irrigated	Dryland	Rangeland	Total
Priority Habitats and Species	**126**	**340**	**7,547**	**8,013**
Birds	**126**	**158**	**1,524**	**1,808**
American White Pelican	0	2	44	47
Burrowing Owl	49	9	7	64
Caspian Tern	0	1	2	3
Gull Species	0	2	28	30
Sandhill Crane	39	9	3	51
Shorebird Concentrations	34	54	528	615
Tundra Swan	0	0	0	0
Western Grebe	0	2	44	47
Waterfowl Concentrations	38	140	1,514	1,693
Cliffs/Bluffs	**0**	**0**	**57**	**57**
Shrub-Steppe	**0**	**182**	**5,982**	**6,164**
Prairies and Steppe	**0**	**0**	**32**	**32**

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

Priority Habitats and Species Summary (Game Species)[1]

Critical Areas	Acres Within Agricultural Lands			
	Irrigated	Dryland	Rangeland	Total
Priority Habitats and Species (Game Species)	**2,318**	**50,405**	**99,322**	**152,045**
Birds	**3**	**219**	**501**	**723**
Ring-Necked Pheasant	3	219	501	723
Mammals	**2,314**	**50,405**	**99,321**	**152,040**
Mule Deer	2,314	50,405	99,321	152,040
Northwest White-Tailed Deer	588	1,742	5,747	8,077

Notes:

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

Table 7
Priority Habitats and Species Summary (Fish Distribution)[1]

Critical Areas	Acres Within Agricultural Lands			
	Irrigated	Dryland	Rangeland	Total
Priority Habitats and Species - Fish Distribution	**4**	**15**	**69**	**88**
Bass	**4**	**12**	**47**	**62**
Largemouth Bass	4	12	22	38
Smallmouth Bass	0	1	28	29
Trout	**0**	**4**	**60**	**64**
Rainbow Trout	0	4	60	64
Steelhead	0	1	3	4
Cutthroat	0	0	1	1
Brown Trout	0	1	2	3
Whitefish	**0**	**0**	**20**	**20**
Walleye	**0**	**4**	**36**	**40**

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

Geologically Hazardous Areas – Water Erosion Potential

Table 8
Water Erosion Potential

Critical Areas	Acres Within Agricultural Lands			
	Irrigated	Dryland	Rangeland	Total
Water Erosion Potential	**29,746**	**302,959**	**90,946**	**423,652**
Ringold Soils and Greater Than 15% Slope	411	544	577	1,532
Severe to Very Severe	29,336	302,415	90,369	422,120

Appendix B-5
Adams County Water Quality 303(d) Listings (2017)

Adams County Water Quality 303(d) Listings (2017) –
Parameters with Potential Intersects with Agricultural Activities

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

Source: Washington Department of Ecology Water Quality Assessment Data accessed 2/7/2017

Appendix C
Benchmarks – Methods and Initial Results

Appendix C: Benchmarks – Methods and Initial Results

Methods

Linking Stewardship Practices to Resource Protection

Conservation practice benefits are related to critical areas functions and values through the use of conservation practice physical effect (CPPE) scores for each practice developed by U.S. Department of Agriculture (USDA; NRCS 2017), which have been tailored to Adams County conditions. 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 beneficial effect, 0 denoting no effect, and negative scores having an adverse effect.

For each of the four key critical area functions (i.e., water quality function, hydrology, soil, and habitat), resource concerns 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 Adams County:

- **Table 1: CPPE Resource Concerns for Adams County** summarizes the resource concerns identified as applicable to Adams County conditions, pared down for applicability from the comprehensive list of resource concerns in the NRCS National CPPE Summary Tool, dated July 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: Adams 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: Adams County Practice Toolbox with CPPE Averaged Function Scores** provides an overview of NRCS conservation practices currently implemented in Adams County, showing quantitative scores, and additional applicable and key practices (scores greater than 3) for each function category.

Table 1
CPPE Resource Concerns for Adams County

Function	Resource Concern
Soil	The soil function score averaged 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	• Crop protection tools in surface water • Crop protection tools in groundwater • Nutrients in surface water • Nutrients in groundwater • Salts in surface water • Salts in groundwater • Excess pathogens and nutrients from manure, chemicals from bio-solids, or compost applications in surface water • Excess pathogens and nutrients from manure, chemicals from 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 Adams 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 fish and wildlife 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.
- Using 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 (2011 to 2016)

To track performance from implemented conservation practices from 2011 to 2016, 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 2011, 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 accounting for the varied disenrollment rates based on some of these categories of practices.

Figures 1 through 4 illustrate the functional indicator results from 2011 to 2016 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, hydrology, water quality, and habitat.

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 Reserve Program)	• Habitat restoration • Prescribed grazing • Cover crop • Range planting

Figure 1
Water Quality Functional Indictors: 2011 to 2016 NRCS Practice Enrollments

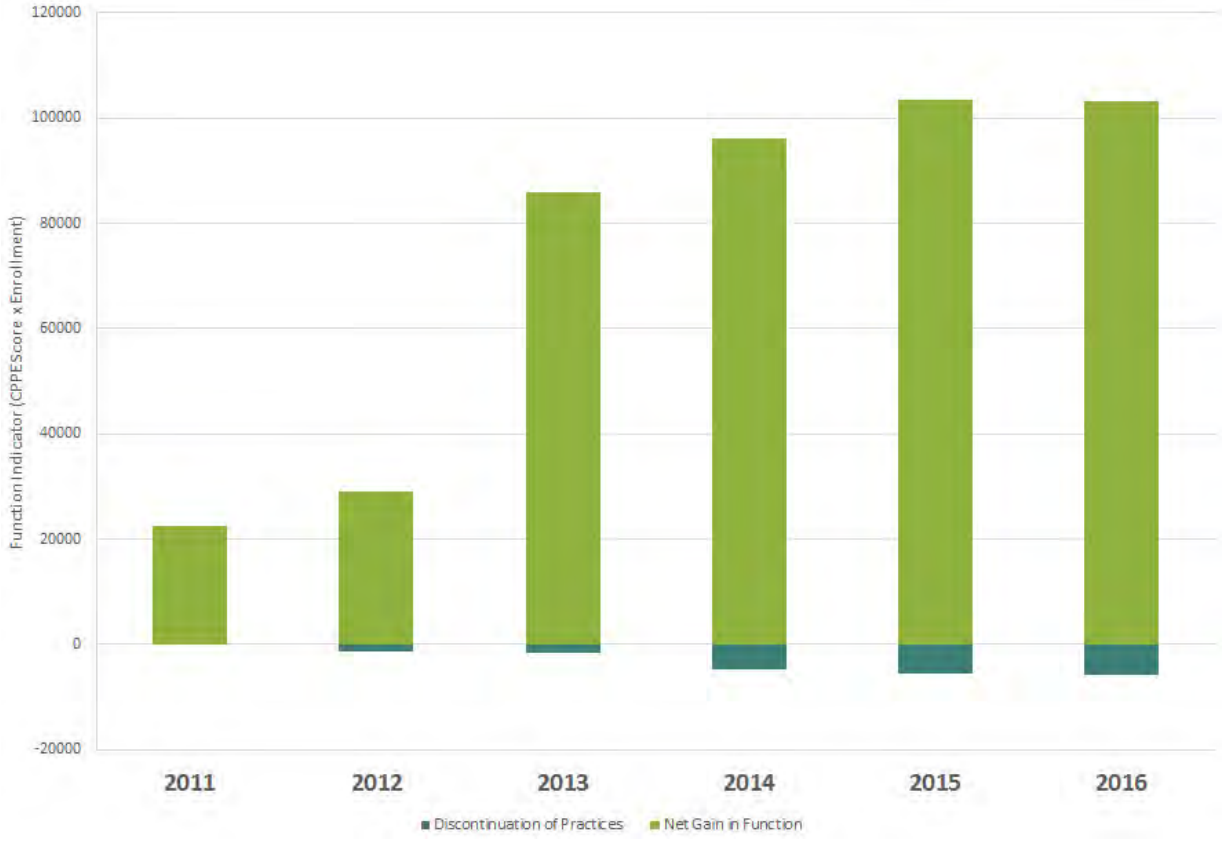


Figure 2
Hydrology Functional Indictors: 2011 to 2016 NRCS Practice Enrollments

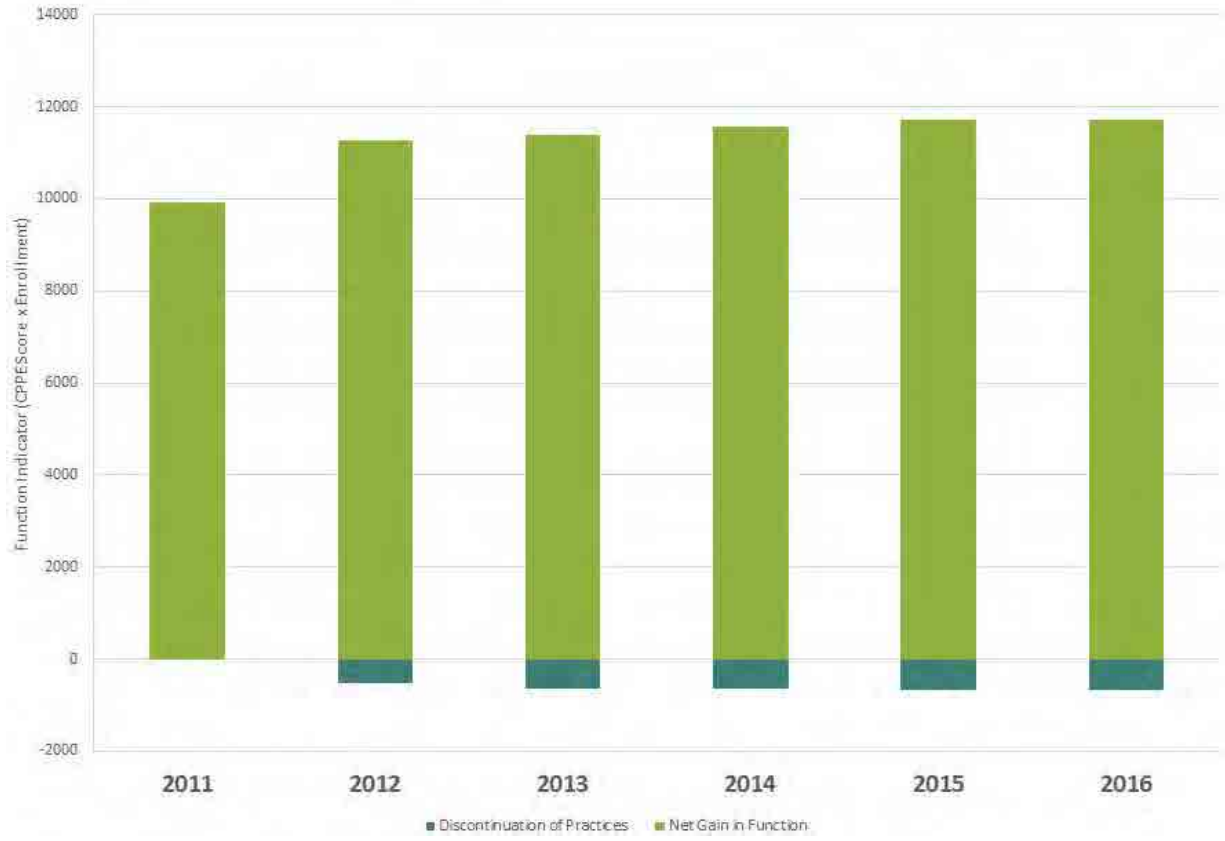


Figure 3
Soil Functional Indictors: 2011 to 2016 NRCS Practice Enrollments

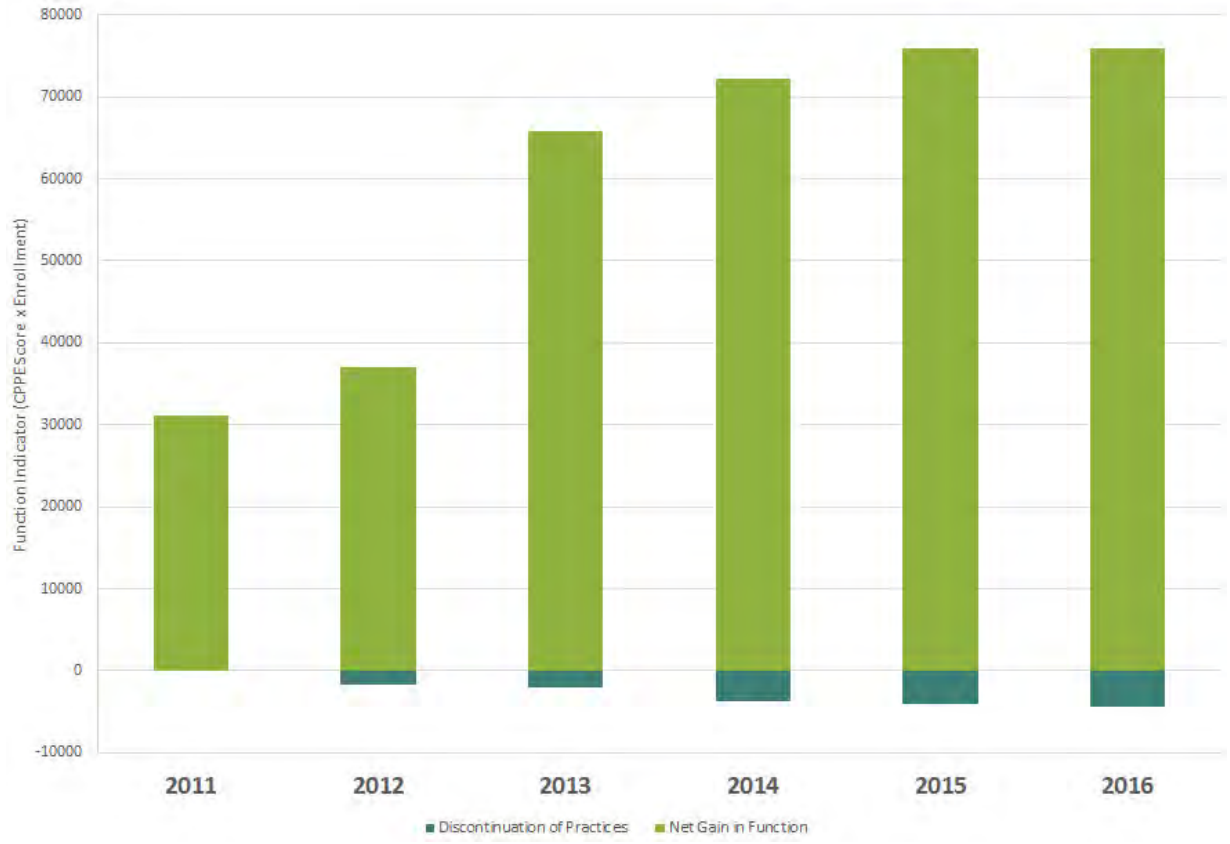
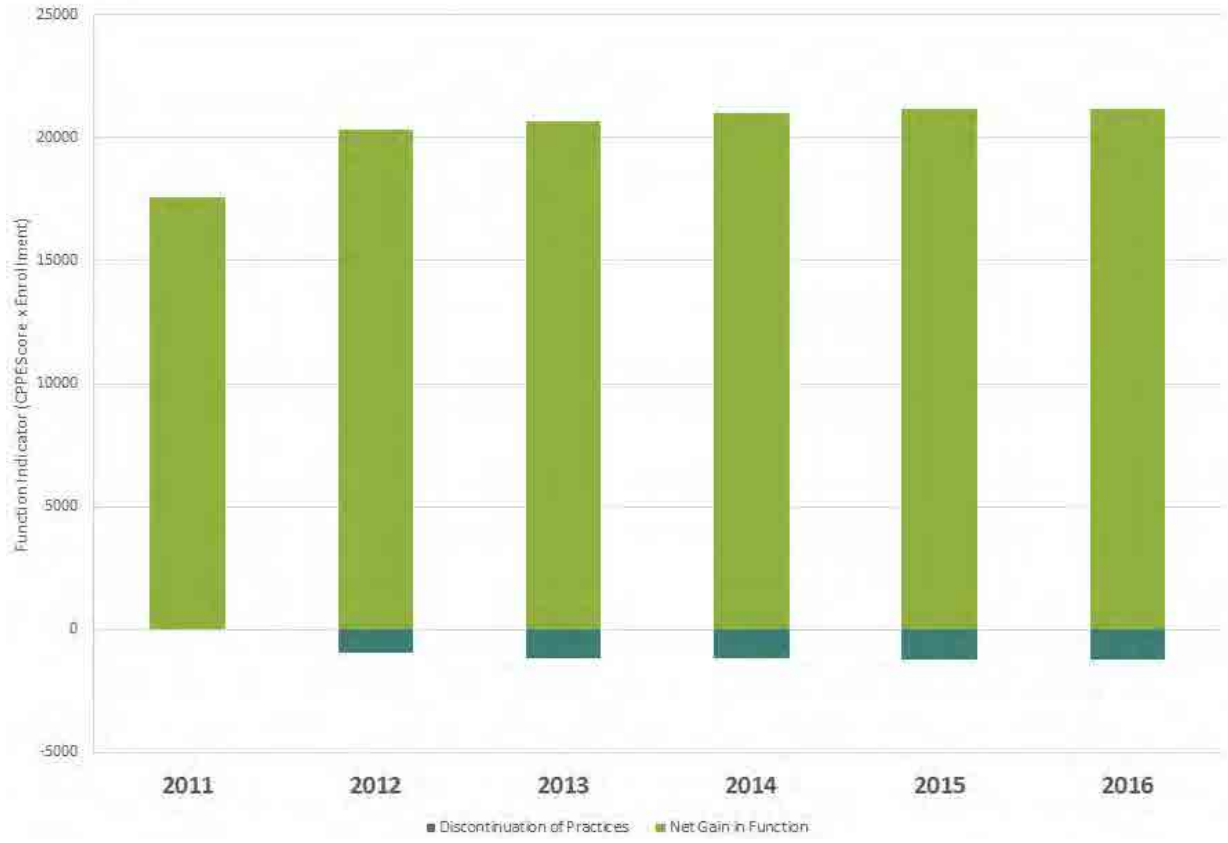


Figure 4
Habitat Functional Indictors: 2011 to 2016 NRCS Practice Enrollments



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
Adams County CPPE Resource Concerns and Scores

RESOURCE CONCERNS -> CONSERVATION PRACTICES	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
Access Control	472	3	1	4	4	5	3.40	1	4	0	0	2.50
Access Road	560	1	0	1	1	0	1.00	0	2	0	0	2.00
Agrichemical Handling Facility	309	0	0	0	0	0	0.00	0	0	0	0	0.00
Air Filtration and Scrubbing	371	0	0	0	0	0	0.00	0	0	0	0	0.00
Alley Cropping	311	5	5	5	3	0	4.50	5	2	0	1	2.67
Amending Soil Properties with Gypsum Products	333	1	1	0	0	0	1.00	1	0	0	1	1.00
Amendments for Treatment of Agricultural Waste	591	0	0	0	0	0	0.00	1	0	0	0	0.50
Anaerobic Digester	366	0	0	0	0	0	0.00	0	0	0	0	0.00
Animal Mortality Facility	316	0	0	0	0	0	0.00	0	0	0	0	0.00
Anionic Polyacrylamide (PAM) Erosion Control	450	2	2	2	0	0	2.00	0	2	0	0	2.00
Aquaculture Ponds	397	0	0	0	0	0	0.00	0	0	0	0	0.00
Aquatic Organism Passage	396	0	0	0	0	0	0.00	0	0	0	0	0.00
Bedding	310	2	0	0	0	0	2.00	-1	-1	0	1	-0.33
Bivalve Aquaculture Gear and Biofouling Control	400	0	0	0	0	0	0.00	0	0	0	0	0.00
Brush Management	314	1	1	1	1	0	1.00	0	0	0	0	0.00
Building Envelope Improvement	672	0	0	0	0	0	0.00	0	0	0	0	0.00
Channel Bed Stabilization	584	0	0	0	2	2	2.00	0	0	0	0	0.00
Clearing & Snagging	326	0	0	0	0	2	2.00	0	0	0	0	0.00
Combustion System Improvement	372	0	0	0	0	0	0.00	0	0	0	0	0.00
Composting Facility	317	0	0	0	0	0	0.00	0	0	0	0	0.00
Conservation Cover	327	4	4	1	1	1	2.20	5	3	0	2	3.33
Conservation Crop Rotation	328	4	4	0	0	0	4.00	4	1	0	2	2.33
Constructed Wetland	656	0	0	0	0	0	0.00	0	0	0	0	0.00
Contour Buffer Strips	332	3	0	0	0	0	3.00	2	0	0	0	2.00
Contour Farming	330	2	0	0	0	0	2.00	1	0	0	0	1.00
Contour Orchard and Other Perennial Crops	331	4	0	1	0	0	2.50	2	0	0	0	2.00
Controlled Traffic Farming	334	0	0	0	0	0	0.00	0	4	0	0	4.00
Cover Crop	340	4	4	3	0	0	3.67	2	2	0	1	1.25
Critical Area Planting	342	5	5	5	4	4	4.60	5	2	0	1	2.67
Cross Wind Ridges	588	0	4	0	0	0	4.00	1	0	0	0	1.00
Cross Wind Trap Strips	589C	0	4	0	0	0	4.00	2	0	0	0	2.00
Dam	402	0	0	0	2	1	1.50	0	0	0	-1	-1.00
Dam, Diversion	348	0	0	0	0	-1	-1.00	0	0	0	0	0.00
Deep Tillage	324	0	0	0	0	0	0.00	-4	5	-1	2	0.50
Denitrifying Bioreactor	605	0	0	0	0	0	0.00	0	0	0	0	0.00
Dike	356	0	0	0	1	-2	-0.50	0	0	0	0	0.00
Diversion	362	1	0	2	2	1	1.50	0	0	0	0	0.00
Drainage Water Management	554	0	2	0	0	0	2.00	2	-1	2	0	1.00
Dry Hydrant	432	0	0	0	0	0	0.00	0	0	0	0	0.00
Dust Control from Animal Activity on Open Lot Surfaces	375	0	2	0	0	0	2.00	0	0	0	0	0.00
Dust Control on Unpaved Roads and Surfaces	373	2	5	0	0	0	3.50	0	0	0	-1	-1.00
Early Successional Habitat Development/Mgt.	647	0	0	0	0	0	0.00	0	0	0	0	0.00
Emergency Animal Mortality Management	368	0	0	0	0	0	0.00	0	0	0	0	0.00
Farmstead Energy Improvement	374	0	0	0	0	0	0.00	0	0	0	0	0.00
Feed Management	592	0	0	0	0	0	0.00	0	0	0	0	0.00
Fence	382	1	0	0	0	0	1.00	0	1	0	0	1.00
Field Border	386	4	4	1	0	1	2.50	4	2	0	0	2.00
Field Operations Emissions Reduction	376	1	4	0	0	0	2.50	0	0	0	0	0.00
Filter Strip	393	0	0	0	0	0	0.00	5	0	0	0	5.00
Firebreak	394	-1	-1	-1	-1	0	-0.80	-2	-2	0	0	-2.00
Fish Raceway or Tank	398	0	0	0	0	0	0.00	0	0	0	0	0.00
Fishpond Management	399	0	0	0	0	0	0.00	0	0	0	0	0.00
Forage and Biomass Planting	512	1	1	0	0	0	1.00	1	2	0	0	1.50
Forage Harvest Management	511	1	1	0	0	0	1.00	1	3	0	0	2.00
Forest Stand Improvement	666	1	0	1	1	0	0.75	1	-1	0	0	0.00
Forest Trails and Landings	655	-1	0	-1	-1	0	-0.75	-1	1	0	0	0.00
Fuel Break	383	-1	-1	-1	-1	0	-1.00	-3	-1	0	0	-2.00
Grade Stabilization Structure	410	0	0	0	2	2	2.00	0	0	0	0	0.00
Grassed Waterway	412	0	0	5	4	1	3.33	3	0	0	-1	1.00
Grazing Land Mechanical Treatment	548	1	1	0	0	0	1.00	1	0	0	0	1.00
Groundwater Testing	355	0	0	0	0	0	0.00	0	0	0	0	0.00
Heavy Use Area Protection	561	2	2	2	2	0	2.00	0	1	0	0	0.50
Hedgerow Planting	422	0	1	0	0	0	1.00	2	1	0	0	1.50
Herbaceous Weed Control	315	4	4	2	2	4	3.20	0	0	0	0	0.00
Herbaceous Wind Barriers	603	0	4	0	0	0	4.00	2	0	0	0	2.00
High Tunnel System	325	0	0	-1	0	0	-1.00	1	0	0	0	1.00
Hillside Ditch	423	2	0	2	2	1	1.75	0	0	0	0	0.00
Integrated Pest Management	595	2	2	2	2	0	2.00	2	2	0	0	2.00
Irrigation Canal or Lateral	320	0	0	0	0	0	0.00	0	0	0	0	0.00
Irrigation Ditch Lining	428	0	0	0	0	0	0.00	0	0	0	0	0.00
Irrigation Field Ditch	388	0	0	0	0	0	0.00	0	0	0	0	0.00
Irrigation Land Leveling	464	1	0	1	0	0	1.00	-2	-2	0	-1	-1.67
Irrigation Pipeline	430	0	0	0	2	0	2.00	0	0	0	0	0.00
Irrigation Reservoir	436	0	0	0	2	1	1.50	0	0	0	0	0.00
Irrigation System, Microirrigation	441	0	0	0	0	0	0.00	0	0	0	1	0.50
Irrigation System, Surface & Subsurface	443	0	1	0	-1	-1	-0.33	0	-1	0	0	-0.50
Irrigation System, Tailwater Recovery	447	0	0	1	1	1	1.00	0	-1	0	-1	-1.00
Irrigation Water Management	449	0	2	0	0	0	2.00	1	0	0	2	1.50
Karst Sinkhole Treatment	527	0	0	4	4	0	4.00	0	0	0	2	2.00
Land Clearing	460	0	0	0	0	0	0.00	-3	-1	0	0	-2.00
Land Reclamation, Abandoned Mined Land	543	4	4	4	1	0	3.25	3	1	0	4	2.67
Land Reclamation, Currently Mined Land	544	4	4	4	1	0	3.25	3	1	0	4	2.67
Land Reclamation, Landslide Treatment	453	2	2	2	0	0	2.00	2	0	0	0	0.67
Land Reclamation, Toxic Discharge Control	455	2	2	2	0	0	2.00	0	0	0	2	2.00
Land Smoothing	466	0	0	1	0	0	0.50	-2	-2	0	-1	-1.67
Lighting System Improvement	670	0	0	0	0	0	0.00	0	0	0	0	0.00
Lined Waterway or Outlet	468	0	0	5	2	0	3.50	0	0	0	0	0.00
Livestock Pipeline	516	0	0	0	0	0	0.00	0	0	0	0	0.00
Livestock Shelter Structure	576	0	0	0	0	3	3.00	0	0	0	0	0.00
Mine Shaft & Adit Closing	457	0	0	0	0	0	0.00	0	0	2	0	2.00
Mole Drain	482	1	0	1	0	-1	0.20	-2	1	-2	2	-0.25
Monitoring Well	353	0	0	0	0	0	0.00	0	0	0	0	0.00
Mulching	484	4	4	0	0	0	4.00	1	0	0	1	1.00
Multi-Story Cropping	379	1	1	1	1	0	1.00	5	2	1	1	2.25
Nutrient Management	590	0	0	0	0	0	0.00	2	-1	0	4	1.67
Obstruction Removal	500	0	0	0	0	0	0.00	1	-1	0	0	0.00
On-Farm Secondary Containment Facility	319	0	0	0	0	0	0.00	0	0	0	0	0.00
Open Channel	582	0	0	0	0	2	2.00	0	0	0	0	0.00
Pond	378	0	0	0	2	1	1.50	0	0	0	-1	-1.00
Pond Sealing or Lining, Concrete	522	0	0	0	0	0	0.00	0	0	0	1	1.00
Pond Sealing or Lining, Compacted Soil Treatment	520	0	0	0	0	0	0.00	0	0	0	1	1.00
Pond Sealing or Lining, Flexible Membrane	521A	0	0	0	0	0	0.00	0	0	0	1	1.00
Precision Land Forming	462	0	0	2	4	0	2.00	-2	-1	0	1	-0.67
Prescribed Burning	338	2	2	1	1	1	1.40	1	0	-1	-1	-0.33
Prescribed Grazing	528	4	4	3	1	3	3.00	4	2	0	2	2.67
Pumping Plant	533	0	0	0	0	0	0.00	0	0	2	0	2.00
Range Planting	550	4	4	4	2	2	3.20	4	4	0	1	3.00
Recreation Area Improvement	562	1	1	1	1	1	1.00	1	1	0	0	1.00

CONSERVATION PRACTICES	Code	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
Access Control	472	1	1	2	0	0	3	1.75	1	0	1	1	0	0	1	1
Access Road	560	0	1	0	0	2	0	1.50	0	0	0	0	0	0	0	0
Agrichemical Handling Facility	309	0	0	0	0	0	0	0.00	5	5	5	5	0	0	0	0
Air Filtration and Scrubbing	371	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0
Alley Cropping	311	1	1	2	3	3	0	2.00	3	1	3	1	1	1	3	1
Amending Soil Properties with Gypsum Products	333	0	1	0	0	1	0	1.00	0	0	0	0	0	0	0	0
Amendments for Treatment of Agricultural Waste	591	0	0	0	0	1	0	0.50	0	0	2	2	2	2	2	2
Anaerobic Digester	366	0	0	0	0	0	0	0.00	0	0	2	0	0	0	2	0
Animal Mortality Facility	316	0	0	0	0	0	0	0.00	0	0	2	2	0	0	2	2
Anionic Polyacrylamide (PAM) Erosion Control	450	0	0	0	0	1	1	1.00	2	-1	2	-1	0	0	0	0
Aquaculture Ponds	397	0	0	0	0	0	0	0.00	0	0	-2	-2	0	0	-2	0
Aquatic Organism Passage	396	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0
Bedding	310	0	5	0	0	0	-1	2.00	-2	1	-2	1	-2	1	-2	1
Bivalve Aquaculture Gear and Biofouling Control	400	0	0	0	0	0	0	0.00	0	0	2	0	0	0	2	0
Brush Management	314	0	1	0	0	0	2	1.50	-1	0	0	0	0	0	0	0
Building Envelope Improvement	672	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0
Channel Bed Stabilization	584	2	0	0	0	0	0	2.00	0	0	0	0	0	0	0	0
Clearing & Snagging	326	0	2	0	0	0	0	2.00	0	0	0	0	0	0	0	0
Combustion System Improvement	372	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0
Composting Facility	317	0	0	0	0	0	0	0.00	0	0	2	2	0	0	2	2
Conservation Cover	327	1	2	1	1	0	0	1.25	2	2	4	4	5	2	1	2
Conservation Crop Rotation	328	1	2	1	0	2	2	1.60	2	2	2	2	1	2	1	0
Constructed Wetland	656	0	2	0	0	0	0	2.00	2	1	4	1	1	1	4	3
Contour Buffer Strips	332	-2	1	-1	0	0	0	-0.67	2	0	2	-1	1	-1	1	-1
Contour Farming	330	-2	1	-1	0	0	1	-0.25	1	-1	2	-1	1	-1	1	0
Contour Orchard and Other Perennial Crops	331	-2	1	-1	0	1	2	0.20	1	-1	2	-1	1	-1	0	0
Controlled Traffic Farming	334	0	0	0	0	1	1	1.00	0	0	0	0	0	0	0	0
Cover Crop	340	1	2	1	0	1	2	1.40	2	2	2	2	0	1	1	2
Critical Area Planting	342	0	0	0	0	0	0	0.00	0	0	2	1	0	0	0	0
Cross Wind Ridges	588	0	0	0	0	0	0	0.00	1	0	1	0	1	0	0	0
Cross Wind Trap Strips	589C	0	0	0	0	0	0	0.00	2	0	2	0	1	0	0	0
Dam	402	-2	2	-1	0	2	0	0.25	0	0	0	-1	0	0	-2	0
Dam, Diversion	348	0	2	0	0	2	2	2.00	0	0	0	0	0	0	0	0
Deep Tillage	324	-2	0	2	0	2	2	1.00	0	0	1	-2	1	0	0	0
Denitrifying Bioreactor	605	0	0	0	0	0	0	0.00	0	0	3	1	0	0	0	0
Dike	356	-1	2	-1	0	0	0	0.00	2	2	0	0	0	0	0	0
Diversion	362	-1	2	2	0	2	2	1.40	1	1	0	-1	0	0	1	0
Drainage Water Management	554	1	-2	2	0	0	0	0.33	2	2	1	-1	0	0	1	1
Dry Hydrant	432	0	0	0	0	-1	-1	-1.00	0	0	0	0	0	0	0	0
Dust Control from Animal Activity on Open Lot Surfaces	375	0	0	0	0	0	0	0.00	0	0	1	0	1	0	1	0
Dust Control on Unpaved Roads and Surfaces	373	0	0	0	0	0	0	0.00	0	0	-1	0	-1	0	0	0
Early Successional Habitat Development/Mgt.	647	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0
Emergency Animal Mortality Management	368	0	0	0	0	0	0	0.00	0	0	2	2	0	0	2	2
Farmstead Energy Improvement	374	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0
Feed Management	592	0	0	0	0	0	0	0.00	0	0	2	2	1	0	1	1
Fence	382	0	0	0	0	0	0	0.00	0	0	0	0	0	0	2	0
Field Border	386	0	1	0	0	0	0	1.00	2	2	1	1	0	1	1	0
Field Operations Emissions Reduction	376	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0
Filter Strip	393	0	0	0	0	0	0	0.00	2	1	5	2	1	1	3	1
Firebreak	394	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0
Fish Raceway or Tank	398	0	0	0	0	0	0	0.00	0	0	-1	-1	-1	0	-1	-1
Fishpond Management	399	0	0	0	0	0	0	0.00	0	0	0	-2	0	0	0	0
Forage and Biomass Planting	512	0	1	0	0	0	0	1.00	1	0	1	0	0	0	1	0
Forage Harvest Management	511	0	0	0	0	1	1	1.00	2	0	1	0	0	0	1	0
Forest Stand Improvement	666	0	0	0	0	0	3	3.00	0	0	1	2	1	0	1	1
Forest Trails and Landings	655	0	0	0	0	0	0	0.00	0	0	1	0	0	0	0	0
Fuel Break	383	0	0	-1	0	0	0	-1.00	-1	-1	0	0	0	0	0	0
Grade Stabilization Structure	410	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0
Grassed Waterway	412	0	3	2	0	0	0	2.50	2	0	2	0	0	0	1	0
Grazing Land Mechanical Treatment	548	0	2	0	0	0	2	2.00	0	0	1	0	0	0	1	0
Groundwater Testing	355	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0
Heavy Use Area Protection	561	0	-1	0	0	0	0	-1.00	0	0	1	0	0	0	2	0
Hedgerow Planting	422	0	0	0	2	0	0	2.00	1	0	2	0	0	0	0	0
Herbaceous Weed Control	315	0	0	0	0	2	0	2.00	-1	0	0	0	0	0	0	0
Herbaceous Wind Barriers	603	0	0	0	0	0	3	3.00	1	0	1	0	0	0	0	0
High Tunnel System	325	0	-3	0	0	0	-1	-2.00	0	0	0	0	0	0	0	0
Hillside Ditch	423	0	4	0	0	0	1	2.50	1	0	-1	-1	0	0	-2	0
Integrated Pest Management	595	0	0	0	0	0	0	0.00	5	5	0	0	0	0	0	0
Irrigation Canal or Lateral	320	0	2	-2	0	5	0	1.67	0	0	-2	0	0	0	-2	0
Irrigation Ditch Lining	428	1	0	-1	0	5	0	1.67	0	0	1	1	1	2	-1	1
Irrigation Field Ditch	388	0	1	-1	0	5	0	1.25	0	0	0	0	0	0	-1	0
Irrigation Land Leveling	464	0	1	2	0	4	0	2.33	2	2	2	2	0	2	2	2
Irrigation Pipeline	430	1	0	1	0	2	0	1.33	0	0	1	0	1	2	1	1
Irrigation Reservoir	436	-1	2	-1	0	2	0	0.50	0	0	0	-1	0	0	0	0
Irrigation System, Microirrigation	441	2	2	2	0	2	0	2.00	2	2	2	2	0	2	2	1
Irrigation System, Surface & Subsurface	443	1	1	1	0	2	0	1.25	1	1	1	1	1	1	1	1
Irrigation System, Tailwater Recovery	447	-1	1	-1	0	2	0	0.25	2	2	2	-1	1	-1	1	0
Irrigation Water Management	449	0	0	1	0	2	0	1.50	2	2	2	2	2	2	2	2
Karst Sinkhole Treatment	527	0	-2	0	0	0	0	-2.00	2	2	2	2	0	2	2	2
Land Clearing	460	0	-1	0	0	0	0	-1.00	-1	0	-1	0	0	0	-1	0
Land Reclamation, Abandoned Mined Land	543	0	3	0	0	0	0	3.00	0	0	0	0	1	1	3	0
Land Reclamation, Currently Mined Land	544	0	3	0	0	0	0	3.00	0	0	0	0	1	1	3	0
Land Reclamation, Landslide Treatment	453	2	0	2	0	0	0	2.00	0	0	0	0	0	0	1	0
Land Reclamation, Toxic Discharge Control	455	2	1	2	0	0	0	1.67	0	0	0	0	0	2	0	0
Land Smoothing	466	2	2	2	0	2	2	2.00	1	1	1	2	0	0	0	0
Lighting System Improvement	670	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0
Lined Waterway or Outlet	468	2	2	2	0	0	0	2.00	0	0	0	2	0	0	0	0
Livestock Pipeline	516	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0
Livestock Shelter Structure	576	0	0	0	0	0	0	0.00	0	0	3	0	0	0	2	0
Mine Shaft & Adit Closing	457	0	0	2	0	0	0	2.00	0	0	0	0	0	2	0	0
Mole Drain	482	2	2	2	0	0	0	1.20	1	1	-4	2	-2	2	0	2
Monitoring Well	353	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0
Mulching	484	-1	1	-1	0	2	2	0.60	2	0	2	-1	1	-1	0	0
Multi-Story Cropping	379	1	1	1	0	0	0	1.00	3	1	1	0	1	0	1	1
Nutrient Management	590	0	0	0	0	0	0	0.00	0	0	5	5	3	3	4	4
Obstruction Removal	500	0	0	0	2	0	0	2.00	0	0	0	0	0	0	0	0
On-Farm Secondary Containment Facility	319	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0
Open Channel	582	1	5	2	0	0	0	2.67	0	0	-1	0	0	0	0	0
Pond	378	-2	2	-1	0	2	2	0.60	0	0	2	-1	0	0	-2	0
Pond Sealing or Lining, Concrete	522	1	0	2	0	2	2	1.75	0	0	2	2	0	3	0	2
Pond Sealing or Lining, Compacted Soil Treatment	520	1	0	2	0	2	2	1.75	0	0	2	2	0	3	0	2
Pond Sealing or Lining, Flexible Membrane	521A	1	0	2	0	2	2	1.75	0	0	2	2	0	3	0	2
Precision Land Forming	462	2	2	2	0	0	2	2.00	1	1	1	2	0	1	0	1
Prescribed Burning	338	0	1	0	0	0	0	1.00	0	0	2	1	0	0	0	0
Prescribed Grazing	528	0	1	0	0	0	2	1.50	2	1	1	1	2	1	1	1
Pumping Plant	533	2	2	2	0	2	2	2.00	0	0	0	0	0	0	0	0
Range Planting	550	0	0	0	1	0	2	0.75	2	2	1	1	1	1	1	1
Recreation Area Improvement	562	0	1	0	0	0	0	1.00	1	1	0	0	0	0	0	0

CONSERVATION PRACTICES	Code	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
Access Control	472	3	3	1	1	1.44	3	3	1	1	2.00
Access Road	560	1	0	0	0	1.00	0	0	0	-1	-1.00
Agrichemical Handling Facility	309	0	0	0	0	5.00	0	0	0	0	0.00
Air Filtration and Scrubbing	371	0	0	0	0	0.00	0	0	0	0	0.00
Alley Cropping	311	3	0	1	1	1.73	2	2	0	3	2.33
Amending Soil Properties with Gypsum Products	333	0	0	0	0	0.00	0	0	0	0	0.00
Amendments for Treatment of Agricultural Waste	591	0	0	2	2	2.00	0	0	0	0	0.00
Anaerobic Digester	366	0	0	0	0	0.67	0	0	0	0	0.00
Animal Mortality Facility	316	0	0	0	0	2.00	0	0	0	0	0.00
Anionic Polyacrylamide (PAM) Erosion Control	450	4	0	1	0	1.17	0	0	0	0	0.00
Aquaculture Ponds	397	0	-2	0	0	-2.00	0	0	1	0	1.00
Aquatic Organism Passage	396	0	2	0	0	2.00	0	2	1	5	2.67
Bedding	310	-1	0	-2	1	-0.55	0	0	0	0	0.00
Bivalve Aquaculture Gear and Biofouling Control	400	0	0	0	0	2.00	0	0	2	0	2.00
Brush Management	314	2	0	0	0	0.50	2	2	0	1	1.67
Building Envelope Improvement	672	0	0	0	0	0.00	0	0	0	0	0.00
Channel Bed Stabilization	584	1	1	0	0	1.00	1	1	1	2	1.25
Clearing & Snagging	326	-2	-1	0	0	-1.50	-2	-2	-1	-2	-1.75
Combustion System Improvement	372	0	0	0	0	0.00	0	0	0	0	0.00
Composting Facility	317	0	0	0	0	2.00	0	0	0	0	0.00
Conservation Cover	327	4	0	0	0	2.89	4	4	0	2	3.33
Conservation Crop Rotation	328	2	0	0	0	1.75	2	2	0	2	2.00
Constructed Wetland	656	5	0	4	1	2.25	3	3	0	2	2.00
Contour Buffer Strips	332	2	0	0	0	0.56	2	2	0	2	2.00
Contour Farming	330	2	0	0	0	0.50	0	0	0	0	0.00
Contour Orchard and Other Perennial Crops	331	2	0	0	0	0.43	0	0	0	0	0.00
Controlled Traffic Farming	334	0	0	0	0	0.00	0	0	0	0	0.00
Cover Crop	340	2	0	0	0	1.75	2	2	0	2	2.00
Critical Area Planting	342	4	0	0	0	2.33	2	2	0	2	2.00
Cross Wind Ridges	588	1	0	0	0	1.00	0	0	0	0	0.00
Cross Wind Trap Strips	589C	1	0	0	0	1.50	0	2	0	2	2.00
Dam	402	2	0	0	0	-0.25	2	2	0	2	1.50
Dam, Diversion	348	0	-2	0	0	-2.00	-2	-2	-2	-2	-2.00
Deep Tillage	324	0	0	0	0	0.00	0	0	0	0	0.00
Denitrifying Bioreactor	605	0	0	0	0	2.00	0	0	0	0	0.00
Dike	356	0	0	0	0	1.33	-2	-2	0	1	-0.75
Diversion	362	2	0	1	0	0.71	0	0	0	0	0.00
Drainage Water Management	554	0	0	2	0	0.89	0	0	2	2	2.00
Dry Hydrant	432	0	0	0	0	0.00	0	0	0	0	0.00
Dust Control from Animal Activity on Open Lot Surfaces	375	0	0	0	0	1.00	0	0	0	0	0.00
Dust Control on Unpaved Roads and Surfaces	373	1	0	-1	0	-0.50	0	0	0	0	0.00
Early Successional Habitat Development/Mgt.	647	0	-2	0	0	-1.00	4	4	0	4	4.00
Emergency Animal Mortality Management	368	0	0	0	0	2.00	0	0	0	0	0.00
Farmstead Energy Improvement	374	0	-2	0	0	-2.00	0	0	0	0	0.00
Feed Management	592	0	0	0	0	1.40	0	0	0	0	0.00
Fence	382	0	0	0	0	2.00	0	0	0	0	0.00
Field Border	386	2	0	0	0	1.43	2	2	0	2	2.00
Field Operations Emissions Reduction	376	0	0	0	0	0.00	0	0	0	0	0.00
Filter Strip	393	5	0	4	1	2.36	2	2	0	2	2.00
Firebreak	394	-1	0	0	0	-1.00	0	0	0	-1	-1.00
Fish Raceway or Tank	398	0	-1	0	0	-1.00	0	0	0	0	0.00
Fishpond Management	399	0	0	0	0	-2.00	4	4	2	4	3.50
Forage and Biomass Planting	512	1	0	1	0	1.00	1	1	0	0	1.00
Forage Harvest Management	511	0	0	1	0	1.25	1	1	0	0	1.00
Forest Stand Improvement	666	0	1	1	1	0.75	3	1	0	3	2.33
Forest Trails and Landings	655	0	0	0	0	0.50	1	1	0	-1	0.33
Fuel Break	383	-1	0	0	0	-1.00	1	-1	0	0	0.40
Grade Stabilization Structure	410	2	0	0	0	1.00	2	2	1	0	1.67
Grassed Waterway	412	2	0	1	0	1.33	1	1	1	1	1.00
Grazing Land Mechanical Treatment	548	5	0	0	0	2.33	0	0	0	0	0.00
Groundwater Testing	355	0	0	0	0	0.00	0	0	0	0	0.00
Heavy Use Area Protection	561	2	0	0	0	1.67	0	0	0	0	0.00
Hedgerow Planting	422	0	1	0	0	1.33	4	4	0	4	4.00
Herbaceous Weed Control	315	0	0	0	0	-0.25	2	2	0	1	1.67
Herbaceous Wind Barriers	603	1	0	0	0	1.00	2	2	0	2	2.00
High Tunnel System	325	-1	0	0	0	-1.00	0	0	0	0	0.00
Hillside Ditch	423	2	0	-1	0	-0.25	0	0	1	0	1.00
Integrated Pest Management	595	2	0	0	0	4.00	2	0	2	0	2.00
Irrigation Canal or Lateral	320	0	0	0	0	-1.33	0	0	1	0	1.00
Irrigation Ditch Lining	428	1	0	-1	1	0.60	0	0	1	0	1.00
Irrigation Field Ditch	388	0	0	1	0	0.00	0	0	1	0	1.00
Irrigation Land Leveling	464	1	0	1	1	1.55	0	0	0	0	0.00
Irrigation Pipeline	430	1	0	0	1	0.89	0	0	0	0	0.00
Irrigation Reservoir	436	2	0	0	0	0.33	2	-1	2	-1	0.50
Irrigation System, Microirrigation	441	1	0	1	1	1.33	0	0	1	0	1.00
Irrigation System, Surface & Subsurface	443	0	0	1	1	0.91	0	0	1	0	1.00
Irrigation System, Tailwater Recovery	447	1	0	4	-1	0.73	0	0	1	0	1.00
Irrigation Water Management	449	2	0	2	2	1.82	0	0	0	0	0.00
Karst Sinkhole Treatment	527	2	0	0	2	2.00	0	0	0	0	0.00
Land Clearing	460	-1	-2	-1	0	-1.00	-2	-2	0	-2	-2.00
Land Reclamation, Abandoned Mined Land	543	4	0	0	1	2.00	2	2	0	1	1.67
Land Reclamation, Currently Mined Land	544	4	0	0	1	2.00	2	2	0	1	1.67
Land Reclamation, Landslide Treatment	453	4	0	4	0	3.00	2	2	0	0	2.00
Land Reclamation, Toxic Discharge Control	455	0	0	4	2	2.67	2	2	0	0	2.00
Land Smoothing	466	1	0	1	0	1.17	0	0	0	-1	-1.00
Lighting System Improvement	670	0	0	0	0	0.00	0	0	0	0	0.00
Lined Waterway or Outlet	468	2	0	0	0	2.00	-2	1	0	0	-0.50
Livestock Pipeline	516	0	0	0	0	0.00	0	0	0	0	0.00
Livestock Shelter Structure	576	2	0	0	0	2.33	0	0	0	0	0.00
Mine Shaft & Adit Closing	457	0	0	2	1	1.67	0	0	0	2	2.00
Mole Drain	482	1	0	0	2	0.56	0	0	0	0	0.00
Monitoring Well	353	0	0	0	0	0.00	0	0	0	0	0.00
Mulching	484	2	0	0	0	0.83	1	1	0	0	1.00
Multi-Story Cropping	379	1	0	1	1	1.10	3	1	0	1	1.67
Nutrient Management	590	0	0	2	2	3.50	0	0	0	0	0.00
Obstruction Removal	500	0	0	0	0	0.00	0	-2	0	0	-2.00
On-Farm Secondary Containment Facility	319	0	0	5	5	5.00	0	0	0	0	0.00
Open Channel	582	0	0	-1	0	-0.67	0	0	-2	0	-0.50
Pond	378	2	0	0	0	0.20	2	2	4	2	2.50
Pond Sealing or Lining, Concrete	522	0	0	0	1	2.00	0	0	1	0	1.00
Pond Sealing or Lining, Compacted Soil Treatment	520	0	0	0	1	2.00	0	0	1	0	1.00
Pond Sealing or Lining, Flexible Membrane	521A	0	0	0	1	2.00	0	0	1	0	1.00
Precision Land Forming	462	1	0	1	1	1.11	0	0	0	0	0.00
Prescribed Burning	338	1	0	1	0	1.25	2	2	0	4	2.67
Prescribed Grazing	528	2	1	0	0	1.30	2	2	0	4	2.67
Pumping Plant	533	0	0	0	0	0.00	0	0	0	0	0.00
Range Planting	550	2	1	2	1	1.33	2	2	0	4	2.67
Recreation Area Improvement	562	1	0	0	0	1.00	1	1	0	-1	0.33

RESOURCE CONCERNS -> **CONSERVATION PRACTICES**	**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
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	2	0	0	0	2.00	-2	-2	0	-2	-2.00
Residue and Tillage Management, No Till	**329**	4	4	0	0	0	4.00	2	2	0	0	2.00	-1	2	-1	0	2	2	0.80	4	0	2	-1	0	0	1	0	4	0	0	2.00	2	2	0	1	1.67
Residue and Tillage Management, Reduced Till	**345**	4	4	0	0	0	4.00	2	1	0	0	1.50	0	1	0	0	1	2	1.33	4	0	2	0	1	0	1	0	3	0	0	2.20	2	2	0	1	1.67
Restoration and Management of Rare or Declining Habitats	**643**	2	2	2	0	0	2.00	0	0	0	-1	-1.00	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
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
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
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
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
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	1	0	1.80	0	0	0	0	0.00
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
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
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
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	0	0	0	0	0	0	0	0	0	5.00	0	0	0	0	0.00
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	1	-0.33
Shallow Water Development and Management	**646**	2	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
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	0	2	0	0	1	2.00	0	0	0	0	0.00
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	1	1.50	1	1	0	1	1.00
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
Spring Development	**574**	0	0	0	1	1	1.00	0	-1	0	0	-1.00	2	1	2	0	2	2	1.80	0	0	0	0	1	0	1	0	1	0	2	0	1.25	0	0	4	2	3.00
Sprinkler System	**442**	0	2	0	0	0	2.00	0	-1	0	2	0.50	0	2	1	0	5	0	2.67	2	2	2	1	2	2	2	1	1	0	1	1	1.55	0	0	1	0	1.00
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
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
Stream Crossing	**578**	0	0	0	0	2	2.00	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0	0	-1	0	0	0	-3	0	2	0	0	0	-0.67	0	0	0	0	0.00
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	2	2	0	0	2.00	2	3	3	4	3.00
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
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	2	0	2.00
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
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
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	1	-2	1	-2	1	-2	1	1	0	-2	1	-0.20	0	0	0	0	0.00
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	-1	2	0	-2	2	-0.22	0	0	0	0	0.00
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	-1	1	0	0	0	0.00	0	0	0	0	0.00
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
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	1	0	2	0	0	0	1.50	4	4	2	0	3.33
Tree/Shrub Establishment	**612**	5	5	4	2	2	3.60	4	2	0	1	2.33	2	0	2	1	0	1	1.20	1	1	1	1	1	1	1	0	3	1	1	1	1.17	1	3	0	3	2.33
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
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	0	0	1.00
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
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	0	0	2.00	5	5	0	5	5.00
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
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	0	0	1.60	1	1	1	1	1.00
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
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	0	2	0	0	0	1.75	0	0	0	0	0.00
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
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	0	0	0	2	2	2.00	0	0	0	0	0.00
Waste Storage Facility	**313**	0	0	0	0	0	0.00	1	1	0	1	1.00	0	0	0	0	1	0	1.00	0	0	4	2	2	1	2	2	0	0	0	1	1.75	0	0	0	0	0.00
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
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
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	1	2.00	0	0	0	0	0.00
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
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
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
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	2	0	2.00
Waterspreading	**640**	0	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
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	2	2.00	0	0	0	0	0.00
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
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
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
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
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
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
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

Attachment 2
Adams County Practice Toolbox with CPPE Averaged Function Scores

Adams County Conservation Practices

NRCS Practice Code	Conservation Practice	Average CPPE Scores		Function Effects: Average CPPE Scores				Critical Areas					Agricultural Viability					
		Soil Erosion	Soil Condition	Soil[1]	Hydrology	Water Quality	Habitat	WET	FFA	CARA	GHA	FWHCA	Soil Health	Prevent Soil Loss	Moisture Management	Weed/ Pest Management	Pollinator/ Beneficial Organisms	Yield/ Fertility Management
313	Waste Storage Facility	0.00	1.00	0.50	1.00	1.75	0.00											
315	Herbaceous Weed Control	3.20	0.00	1.60	2.00	-0.25	1.67											
325	Seasonal High Tunnel	1.00	0.00	0.50	0.00	0.00	0.00					x			x			
327	Conservation Cover	2.20	3.33	2.77	1.25	2.89	3.33	x	x		x	x	x	x		x	x	
328	Conservation Crop Rotate	4.00	2.33	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	4.00	2.00	3.00	0.80	2.00	1.67	x	x	x	x	x	x	x	x			x
340	Cover Crop	3.67	1.25	2.46	1.40	1.75	2.00	x	x	x	x	x	x	x	x	x	x	x
342	Critical Area Planting	4.60	2.67	3.63	0.00	2.33	2.00				x							
345	Residue Management - Mulch Till	4.00	1.50	2.75	1.33	2.20	1.67	x	x	x	x	x	x	x	x			x
350	Sediment Basin	1.33	0.00	0.67	-0.67	1.00	-0.33											
367	Roofs and Covers	0.00	0.00	0.00	-1.00	1.00	0.00											
380	Windbreak/Shelterbreak	2.67	2.33	2.50	2.83	1.40	3.00	x	x		x	x	x	x	x	x	x	x
382	Fence	1.00	1.00	1.00	0.00	2.00	0.00	x			x	x		x			x	
383	Fuel Break	-1.00	-2.00	-1.50	-1.00	-1.00	0.40									x		
384	Woody Residue Treatment	1.00	-1.50	-0.25	1.00	1.00	0.00									x		
386	Field Border	2.50	2.00	2.25	1.00	1.43	2.00	x	x	x	x	x		x	x			x
390	Riparian Herbaceous Cover	2.25	3.33	2.79	0.33	2.50	3.50	x	x		x	x		x		x	x	
391	Riparian Forest Buffer	2.60	2.33	2.47	0.67	2.83	4.00	x	x		x	x		x		x	x	
393	Filter Strip	0.00	5.00	2.50	0.00	2.36	2.00	x	x		x	x		x		x	x	
395	Stream Habitat Improvement and Management	5.00	0.00	2.50	0.00	2.00	3.00	x	x		x	x		x		x	x	
412	Grassed Waterway	3.33	1.00	2.17	2.50	1.33	1.00		x	x	x	x		x		x		
422	Hedgerow Planting	1.00	1.50	1.25	2.00	1.33	4.00	x	x	x	x	x		x	x			x
430	Irrigation Pipeline	2.00	0.00	1.00	1.33	0.89	0.00			x				x				x
441	Irrigation system, microirrigation (No)	0.00	0.50	0.25	2.00	1.33	1.00	x		x	x	x		x	x			x
442	Sprinkler System	2.00	0.50	1.25	2.67	1.55	1.00	x		x	x	x	x	x	x			x
449	Irrigation Water Management	2.00	1.50	1.75	1.50	1.82	0.00	x		x	x	x						
472	Access Control	3.40	2.50	2.95	1.75	1.44	2.00	x	x	x	x	x	x	x	x	x		
484	Mulching	4.00	1.00	2.50	0.60	0.83	1.00	x	x	x	x	x	x	x		x	x	x
490	Tree/Shrub Site Preparation	-1.25	-1.50	-1.38	2.00	-0.50	0.00	x	x		x	x				x	x	
500	Obstruction Removal	0.00	0.00	0.00	2.00	0.00	-2.00											
512	Pasture and Hayland Seeding	1.00	1.50	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			x	x	x						x
528	Prescribed Grazing	3.00	2.67	2.83	1.50	1.30	2.67	x	x	x	x	x		x				x
533	Pumping Plant	0.00	2.00	1.00	2.00	0.00	0.00		x					x		x		x
550	Range Planting	3.20	3.00	3.10	0.75	1.33	2.67				x	x	x	x		x	x	x
561	Heavy Use Area Protection	2.00	0.50	1.25	-1.00	1.67	0.00				x	x		x				
574	Spring Development	1.00	-1.00	0.00	1.80	1.25	3.00		x					x		x		x
578	Stream Crossing	2.00	0.00	1.00	0.00	-0.67	0.00	x	x		x	x		x				
580	Streambank and Shoreline Protection	4.00	0.00	2.00	0.00	1.25	1.50				x			x				
584	Channel Bed Stabilization	2.00	0.00	1.00	2.00	1.00	1.25				x			x				
585	Stripcropping	4.00	2.00	3.00	0.00	1.17	1.67				x			x				
587	Structure for Water Control	0.00	0.00	0.00	2.00	1.00	2.00			x					x			
588	Cross wind Ridges	4.00	1.00	2.50	0.00	1.00	0.00				x			x				
590	Nutrient Management	0.00	1.67	0.83	0.00	3.50	0.00			x		x	x					x
595	Pest Management	2.00	2.00	2.00	0.00	4.00	2.00			x		x	x			x	x	
600	Terrace	2.60	0.50	1.55	0.80	0.36	1.00				x			x				
601	Vegetative Barrier	2.00	-2.00	0.00	0.00	1.60	1.00	x	x	x	x	x		x	x			x
612	Tree/Shrub Establishment	3.60	2.33	2.97	1.20	1.17	2.33	x		x	x	x		x			x	
612	Tree Planting	3.60	2.33	2.97	1.20	1.17	2.33	x		x	x	x		x			x	
614	Watering Facility	2.20	0.00	1.10	0.00	1.71	4.00					x						x
642	Water Well	2.00	1.00	1.50	2.00	-1.00	2.00					x			x			x
643	Restoration and Management of Rare and Declining Habitats	2.00	-1.00	0.50	0.00	2.00	4.00					x				x	x	
644	Wetland Wildlife Habitat Management	0.00	0.00	0.00	2.00	2.00	4.00	x				x		x		x	x	
645	Upland Wildlife Habitat Management	2.40	0.00	1.20	-0.50	2.00	5.00					x		x		x	x	
647	Early Successional Habitat Development/Management	0.00	0.00	0.00	0.00	-1.00	4.00					x				x	x	
659	Wetland Enhancement	0.00	1.00	0.50	2.00	1.50	4.00	x				x		x		x	x	
666	Forest Stand Improvements	0.75	0.00	0.38	3.00	0.75	2.33					x		x		x	x	

Notes:

1. Soil function scores are based on the average scores for Soil Condition and Soil Erosion as summarized in Atttachment 1.

CARA: Critical Aquifer Recharge Areas

FFA: Frequently Flooded Areas

FWHCA: Fish and Wildlife Habitat Conservation Areas

GHA: Geologically Hazardous Areas

WET: Wetlands

Appendix D
Existing and Related Plans, Programs, and Regulations

Appendix D: 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 Adams 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 Adams 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 Adams County.

There are a variety of voluntary incentive programs provided by federal, state, and local entities to agricultural producers. 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:

- **USDA Good Agricultural Practices (GAP):** GAP is a USDA program providing voluntary audits which verify that fruit and vegetables are produced, handled, and stored as safely as possible using industry recognized agriculture practices.
- **GLOBALG.A.P.:** GLOBALG.A.P. is a 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 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]	Providing 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.
		Regional Conservation Partnership Program (RCPP)[6]	Providing 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.

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

Lead	Description	Program	Details
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 conserving environmentally sensitive land through agricultural protections and plant species to improve environmental health. The State Acres for Wildlife Enhancement (SAFE) program under CRP benefits high-priority state wildlife conservation objectives in SAFE geographic areas.
		Conservation Reserve Enhancement Program (CREP)[8]	Similar to the CRP, voluntary program targeting high-priority conservation issues. The contract period is typically 10 to 15 years.

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 CD 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]	Providing 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]	Identifying and addressing farmland loss through agriculture conservation easement programs, providing technical assistance, developing farm transition programs, and providing data and analysis on trends.

[7] https://www.fsa.usda.gov/programs-and-services/conservation-programs/conservation-reserve-program/
[8] https://www.fsa.usda.gov/FSA/webapp?area=home&subject=lown&topic=cep
[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/

Lead	Description	Program(s)	Details
Washington State Department of Fish and Wildlife (WDFW)	WDFW provides financial assistance for habitat projects that restore and/or preserve fish and wildlife habitat.	**Aquatic Lands Enhancement Account (ALEA) Volunteer Cooperative Grant Program**[13]	Grant program for qualifying landowners who undertake projects that benefit Washington state's fish and wildlife resources.
		Voluntary Public Access and Habitat Incentive Program[14]	Financial assistance for habitat improvement on private lands participating in public access hunting programs.
		Crop Damage Claims[15]	Financial compensation may be paid to eligible producers for damage to their commercial crops from deer or elk.
		Damage Prevention Cooperative Agreements[16]	Cost-share funding available to livestock producers who proactively use non-lethal preventative methods to minimize conflicts between livestock and wolves.
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.	**ALEA**[17]	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[18]	Grant program for eligible parties seeking to improve important habitat conditions or watershed processes to benefit salmon and bull trout.
		Farmland Preservation Grants[19]	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.

[13] http://wdfw.wa.gov/grants/alea/index.html
[14] https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/farmbill/?cid=stelprdb1242739
[15] https://wdfw.wa.gov/living/damage/
[16] https://wdfw.wa.gov/conservation/gray_wolf/livestock/agreements.html
[17] http://www.rco.wa.gov/grants/alea.shtml
[18] http://www.rco.wa.gov/grants/sal_rec_grants.shtml
[19] 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.	**Water Quality Financial Assistance Program**[20]	Grant and loan program for high-priority projects to protect and improve the health of Washington state waters.
		Farmed Smart Partnership[21]	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.
		Voluntary Clean Water Guidance for Agriculture Advisory Group[22]	The Advisory Group will be working with Ecology on identifying practices that support healthy farms and help farmers to meet clean water standards. The guidance resulting from this process will be a technical resource to help the agricultural community implement practices in a way that insures protection of water quality.
Adams Conservation District (Adams CD)	Adams CD provides financial and technical support is provided for education and the promotion of natural resource conservation.	**Grant Programs**[23]	Grant programs offer assistance through the WSCC grant program for implementing best management practices to conserve soil, improve water and air quality, and enhance wildlife habitat.
		Partnering Programs[24][25]	Partnerships with other agencies include the WRIA 34 Palouse Watershed Regional Conservation Partnership Program and the West Palouse local work group, comprising Adams and Lincoln county conservation agencies, organizations, and landowners.
Grant County Conservation District (GCCD)	GCCD works through voluntary, incentive-based programs to assist landowners and agricultural operators with the conservation of natural resources including cost-share, and assistance in the development of range management and farm conservation plans.	**Cost-Share Assistance Programs**[26]	Program providing technical assistance and cost-share assistance for projects that implement best management practices to address natural resources priority areas, livestock management, small farms, vacant lot weed control, and wildlife conservation.
		Irrigation Water Management Cost-Share[27]	Program providing cost-share assistance for farmers to install and use water management technology in coordination with the Grant Public Utility District.

[20] http://www.ecy.wa.gov/programs/wq/funding/funding.html
[21] http://www.ecy.wa.gov/programs/wq/nonpoint/Agriculture/farmedsmart.html
[22] https://ecology.wa.gov/About-us/Our-role-in-the-community/Partnerships-committees/Voluntary-Clean-Water-Guidance-for-Agriculture-Adv
[23] http://www.adamscd.com/assistance/
[24] *Ibid.*
[25] https://www.lincolncd.com/partnering-programs
[26] http://www.columbiabasincds.org/projects
[27] http://www.columbiabasincds.org/project-page

Lead	Description	Program(s)	Details
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**[28]	Program providing technical assistance, research, and education to producers.

[28] 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 referenced for the VSP Work Plan and appendices. These include watershed management and wildlife management programs prepared specific to Adams County.

The County includes portions of six watersheds, which are known as Water Resource Inventory Areas (WRIAs). Most of the County is in the Upper Crab-Wilson (WRIA 43), which drains southwest toward the Columbia River. The northern portion of the County drains northward into the Columbia River (Lower Lake Roosevelt WRIA 53) and the Spokane River (Lower Spokane WRIA 54). Small portions of the Grand Coulee (WRIA 42), Lower Crab (WRIA 41), and Palouse (WRIA 34) watersheds are also present in the County.

Within the six watersheds, there are two Washington State Department of Ecology water quality improvement projects, or Total Maximum Daily Loads (TMDLs), for the Palouse River within WRIA 34.[29]

Table 3
Summary of Planning Documents

Plan or Program	Date	Author/Agency	Description
Watershed Plans			
Water Resource Area (WRIA) 34 – Palouse			
Palouse Watershed Plan	2007	HDR and EES	The Palouse 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.
Rock Watershed HUC: 17060109 Rapid Watershed Assessment Profile	2006	NRCS	The Rapid Watershed Assessment presents quantitative and qualitative information to develop a watershed profile and provide a baseline to make decisions about conservation needs and recommendations.
Palouse Subbasin Management Plan	2004	Gilmore, S.	The Palouse Subbasin Management Plan includes three components, assessment, inventory, and management. These components are intended to support basin-wide efforts toward a coordinated ecosystem-based approach to fish and wildlife habitat protection and restoration efforts. This plan was used to assess existing conditions and management recommendations in the VSP Work Plan.

[29] http://www.ecy.wa.gov/programs/wq/tmdl/TMDLsbyCounty/adams.html

Plan or Program	Date	Author/Agency	Description
Final Draft Phase II – Level 1 Technical Assessment for the Palouse Basin (WRIA 34)	2004	Golder Associates	The Phase II – Level 1 Technical Assessment for the Palouse Basin (WRIA 34) identifies existing water resources and strategies for increasing water supplies within the management area. The assessment collects existing data for land and water uses for future water management activities.
WRIA 43 – Upper Crab-Wilson			
Watershed Assessment Report: WRIA 43	2005	Kennedy/Jenks Consultants	The Watershed Assessment Report objectives are to summarize data, propose strategies to increase availability of water supplies, identify water quality impairments, define approaches to improve water quality where needed, and identify data gaps and recommend options for addressing them.
WRIA 43 Watershed Management Plan	2006	The WRIA 43 Watershed Planning Unit	The WRIA 43 Watershed Management Plan is intended to provide a framework for management of water resources in the watershed with local input to protect the interests and values of residents and landowners within the watershed.
WRIA 43 Upper Crab/Wilson Creek Detailed Implementation Plan 2nd Draft	2008	WRIA 43 Water Resource Management Group, Inc.	The Detailed Implementation Plan outlines the implementation phase of watershed planning based on grant funding cycles and availability.
Other Applicable Guidance Documents			
Adams County Shoreline Master Program (SMP)	2015	Adams County	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.
Shoreline Restoration Plan for Shorelines in Adams County	2015	Adams County and The Watershed Company	The Restoration Plan describes how and where shoreline ecological functions can be restored within County's SMP jurisdiction.
Palouse River Chlorinated Pesticide and polychlorinated biphenyl (PCB) Total Maximum Daily Load (TMDL): Water Quality Improvement Report and Implementation Plan	2007	Washington State Department of Fish and Wildlife	The TMDL is prepared for impaired waterbodies to determine the amount of a pollutant that can be discharged to the waterbody and still meet standards. The TMDL provides implementation and adaptive management measures to protect water quality and meet TMDL goals.
Shrub-steppe and Grassland Restoration Manual for the Columbia River Basin	2011	Washington State Department of Fish and Wildlife	This publication provides guidance for shrub-steppe and grassland restoration practitioners within the Columbia River Basin.
Management Recommendations for Washington's Priority Habitats: Riparian	1997	Washington State Department of Fish and Wildlife	The riparian habitat management plan provides statewide riparian management recommendations based on the best-available science.

Plan or Program	Date	Author/Agency	Description
Washington State Recovery Plan for the Greater Sage Grouse	May 2004	Washington State Department of Fish and Wildlife	The greater sage grouse recovery plan prescribes strategies to recover the species such as protecting and restoring habitat.
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.
A Landowner's Guide to Wildlife Friendly Fences	2012	Montana Fish, Wildlife & Parks	This document provides guidance for installing wildlife-friendly fencing, fence alternatives, and predator deterrence.
Riparian Ecosystems Volumes 1 & 2 (Draft)	2018	Washington State Department of Fish and Wildlife	The riparian habitat management plan provides statewide riparian management recommendations based on the best available science.
Periodic Status Review for the Greater Sage-grouse	2016	Washington State Department of Fish and Wildlife	This review documents population and habitat status of sage-grouse, management activities, and recommendations for sage-grouse recovery efforts.

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.[30] 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.

[30] 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)[31]	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)[32]	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 to be 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)[33]		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 for improving water quality, protecting drinking water sources, and controlling nonpoint source pollution.	The SDWA is designed to protect critical aquifer recharge areas, which are important sources for drinking water and vulnerable to contamination.
National Pollution Discharge Elimination System (NPDES)[34]		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 help to protect water quality in critical areas, including wetlands and fish and wildlife habitat conservation areas.

[31] https://www.fsa.usda.gov/programs-and-services/farm-bill/index
[32] https://www.epa.gov/laws-regulations/summary-clean-water-act
[33] https://www.epa.gov/sdwa
[34] https://www.epa.gov/npdes

Regulation(s)	Agency	Description	VSP Intersect
Endangered Species Act (ESA)[35][36]	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)[37]	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)[38]	U.S. Environmental Protection Agency	NESHAP regulates hazardous air pollutant emissions, including from new and existing facilities that manufacture active ingredients for organic pesticide 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.

[35] http://www.nmfs.noaa.gov/pr/laws/esa/
[36] https://www.fws.gov/endangered/
[37] https://www.epa.gov/laws-regulations/summary-federal-insecticide-fungicide-and-rodenticide-act
[38] 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, nutrients, 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*	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 VSP.	• RCW Titles 36.70A.700-904 comprise the VSP, 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 87 Irrigation	Irrigation Districts	RCW Title 87 regulates irrigation and irrigation districts.	• RCW Title 87.03 establishes irrigation and improvement districts.
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 includes 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 Titles 16-200 through 16-202 include standards for nutrient and crop protection. • WAC Titles 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 Titles 173-15 through 173-27 include state Shoreline Management Act rules and permitting requirements. The County currently implements the SMP under these state rules. • WAC Titles 173-134A sets the Quincy groundwater management and zones. • WAC Title 173-158 includes floodplain management rules. • WAC Title 173-166, 173-170, and 173-173 includes rules for drought relief programs, agricultural water supply facilities, and measuring and reporting water usage. • WAC Title 173-220 includes NPDES rules for discharges to waters of the state. • WAC Title 173-430 includes rules for agricultural burning.

Regulation(s)	Agency	Description	VSP Intersect
Title 220	Washington State Department of Fish and Wildlife	WAC Title 220 includes Washington State Department of Fish and Wildlife rules for management of fish and wildlife species and habitat.	• WAC Title 220-410 defines game management areas, including the Game Management Units in Adams County. • WAC Title 220-620 describes the volunteer cooperative fish and wildlife enhancement program. • WAC Title 220-660 includes the Washington State Hydraulic Code, which regulates in-water construction activities (hydraulic projects) through Hydraulic Project Approvals. • WAC Title 220-440 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 Titles 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.
Adams County Regulations			
Critical Areas and Resource Lands	Adams County Building and Planning	The Adams County Critical Areas and Resource Lands Ordinance is promulgated under Adams County Code (ACC) Chapter 18.06	• ACC 18.06.090 exempts existing and ongoing agricultural operations occurring within critical areas and their buffers from the Critical Areas and Resources Lands Ordinance. If agricultural activities cease, then that land would be subject to the ordinance. • ACC 18.06.330 supports the Columbia Basin Groundwater Management Area (GWMA) and local CDs in working with agricultural producers to protect groundwater quality.
SMP	Adams County Building and Planning	The Adams County SMP is promulgated under ACC 18.08.	• The SMP 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.

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

Appendix E
Outreach Plan

Appendix E: Outreach Plan

Introduction

The Adams County Voluntary Stewardship Program (VSP) Outreach Plan provides a summary of outreach and public participation measures for 1) work plan development and 2) work plan implementation. Activities were conducted during Work Plan development to ensure that the agricultural community and other interested parties were involved in all aspects of the Adams County VSP Work Plan. Additional measures are planned for plan implementation in support of participation goals, and critical areas protection and enhancement goals and benchmarks.

Public Involvement During Work Plan Development

Work Group Formation

The Adams County VSP Work Group, convened by Adams County, developed the Work Plan through a series of 10 Work Group meetings from September 2016 through March 2018. The Work Group was formed by the Adams County Planning Department, and invitations were sent to representatives from states and federal agencies, tribes, and various stakeholder and interest groups. Tribal representatives from the Confederated Tribes of the Colville Reservation, Confederated Tribes of the Umatilla Indian Reservation, Spokane Tribe, Nez Perce and Wanapum were invited and chose not to participate. Meetings were typically held on the second Tuesday of the month.

Work Group Members

Through the outreach efforts mentioned above, the Adams County VSP Work Group was formed. Work Group and Advisory members are listed in Table 1. The Adams County VSP Work Group conducted its first meeting on March 22, 2016.

Table 1
Work Group Members and Advisory Members

Work Group Members	
Rex Harder – Livestock Producer	Grant Miller – Dryland Producer
Matt Harris – Potato Commission	Lynn Olsen – Irrigated Agriculture and Livestock Producer
Cara Hulce – Adams Conservation District	Craig Simpson – East Columbia Basin Irrigation District
Dave Leatherman – Irrigated Agriculture and Livestock Producer	Loren Wiltse – Adams County
Marie Lotz – Grant County Conservation District	Jake Wollman Jr. – Irrigated and Dryland Agriculture Producer
Advisory Members	
Heather Bush, Washington State Department of Ecology	
Eric Pentico, Washington State Department of Fish and Wildlife	
Evan Sheffels, Washington State Farm Bureau	

Public Participation and Outreach

Throughout the Work Plan development process, meeting agenda and materials were available to the public via the Adams County VSP webpage at:

www.co.adams.wa.us/departments/building_and_planning/volunteer_stewardship_program.php

The Work Group welcomed the participation of interested parties at all meetings. The interested parties list was sent all Work Group meeting announcement emails.

Meeting materials were also emailed to the VSP interested parties/contact list for all Work Group meetings. The interested parties list included all those invited to participate on the Work Group, including tribal representatives from the Confederated Tribes of the Colville Reservation, Confederated Tribes of the Umatilla Indian Reservation, Spokane Tribe, Nez Perce and Wanapum, as well as people who requested information about VSP throughout the Work Plan development process.

Prior to formal submittal to the State, the Adams County hosted two outreach meetings on January 17 and 18, 2018 in Ritzville and Othello to inform the public of the VSP and to facilitate receiving public comments. A total of 17 members of the public, Work Group members, conservation district staff, and support staff were in attendance at the two public meetings (see Attachment 1 for the public meetings summary).

Public Involvement During Plan Implementation

Continued public outreach and education is integral to implementing the Work Plan following its approval by the State Technical Panel. Annually, the Adams CD and GCCD will commit to reaching out to at least 15% of the producers that operate the approximately 700 farms in the County, using the methods described in Table 2 of this Outreach Plan. As part of the adaptive management program, 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. The intention is to reach all the producers in first 5 to 7 years of implementation. The results of outreach will be evaluated in the 2, 5, and 10-year reporting efforts and adjustments made based upon evaluation results.

In monitoring and evaluating VSP participation by landowners, in addition to tracking the number of producers participating in VSP, the Work Group will consider:

- Participation by geographic area and watershed planning areas (irrigated agriculture primarily in the west, dryland producer participation in the central part of the County, and livestock producers on rangeland, primarily in the east, along with representation within the lower Crab Creek and Cow Creek drainages, for example)
- The amount of land area represented by producers participating in VSP and associated intersection with critical areas

- The type of critical areas being protected and enhanced compared to mapped presence as described in baseline conditions

The Adams CD and GCCD will lead the public-sector program participation efforts within their respective boundaries as the VSP Technical Assistance Providers, supported by other agencies, such as WSDA, WDFW, Washington State Department of Ecology (Ecology), NRCS, and FSA, and others, with their respective programs and support from the private sector.

Additionally, the VSP Coordinator will consider appointing a VSP liaison. This liaison should be someone with established effective working relationships with agricultural producers in the County and can assist in outreach to producers to encourage participation in VSP. Technical assistance occurs in a variety of ways, including providing advice on use of specific practices, and sharing information at forums, meetings, and other venues where conservation practices are highlighted for environmental and economic benefits.

See Table 2 and 3 for planned and potential public outreach strategies. Figure 1 provides a protocol on how the VSP Checklist will be used and illustrates the process from outreach to implementation.

Table 2
Planned Public Communication and Outreach Activities

Type	Description
Maintain and update email list	Adams County created an email list containing all interested parties (e.g., Work Group, Technical Committee, public) for the VSP Work Plan process. The Adams CD will maintain and update this email list. All meeting notices and materials as well as documents will continue to be provided to the email list during implementation.
Update website and media	Adams County created a webpage specifically for the VSP. Adams CD will host the VSP website during implementation and the Adams CD will continually update the site with meeting notices and materials as well as outreach documents. Additional information will be added for the implementation phase.
VSP Checklist	The VSP Checklist was completed as part of the VSP Work Plan. This checklist will help facilitate participation in VSP and tracking of currently ongoing conservation practices. The VSP Checklist may potentially be converted to an online fillable document in the future.
Individual Stewardship Plans	Adams CD and GCCD will work with producers to help them prepare stewardship plans for their farms, and support in implementation of these plans.
Reporting on stewardship strategies and practices	The VSP Coordinator will work with NRCS and FSA to annually collect information related to ongoing and new practices implemented on individual farms. Additionally, VSP Coordinator will also work with individual producers to annually collect information on self-funded practices implemented, with associated metrics to use in developing 2-year and 5-year reports and performance reviews.
Educational opportunities	Educational opportunities focused on particular critical area issues and agricultural practices are available to producers at their convenience, on the CD websites
Tours	CD-led annual tours are opportunities to share information with producers, partners, and the public. Tours may include on-farm testing/demonstration and field trials.
Postcard mailers	Send periodic mailers to all agricultural producers and landowners in the County.

Table 3
Potential Community Meetings or Other Outreach Opportunities

Outreach Opportunity	Description
CD meetings	Adams CD and GCCD hosts periodic board meetings that are available to the public.
Newsletters and media sites	Provide information on VSP through the conservation district and County websites, newsletters, and social media sites
Association meetings	Give presentations at association meetings.
Work Group member outreach	Adams County led outreach activities with members of the Work Group to reach agricultural producers who are comfortable speaking with a fellow producer.
Newspapers	Provide information to producers though posting in local newspapers.

Government Agencies and Agricultural Groups

The VSP coordinator will coordinate with the following agencies and groups to help with outreach and implementation:

- Adams County Farm Bureau
- Washington Cattlemen's Association
- Washington Wheat Growers Association
- Natural Resources Conservation Service
- Washington State University Extension

Figure 1
VSP Checklist Use Protocol

Notes:
1. The VSP Checklist is not a self-certification process (i.e., it is not considered an individual stewareship plan by itself).
2. Based on flowchart developed by the Franklin Conservation District for the Franklin County VSP Work Plan.

Attachment 1
Adams County Voluntary Stewardship Program Public Outreach Meeting Summary

Meeting Summary

Voluntary Stewardship Program Public Outreach

Adams County Voluntary Stewardship Program Work Plan

January 17 and 18, 2017

Attendees

Work Group Members		Other Attendees	
Lynn Olson	Landowner	Marie Lotz	
Rex Harder	Landowner	Connor Olson	
Dave Leatherman	Landowner	Camas Uebelacker	
		Paul Wollman	
		Chris Olsen	
		Alan Bartelheimer	
		Jake Wollman, Jr.	
		Ron Hennings	
		Virginia McKay	
		TJ McKay	
		Rowdy Buechner	
		Ben Floyd	White Bluffs Consulting
		John Small	Anchor QEA
		Nora Schlenker	Anchor QEA

Meeting Minutes

Welcome and Work Plan Overview

The Voluntary Stewardship Program (VSP) is a non-regulatory, incentive-based approach to protecting critical areas on agricultural lands, while maintaining agriculture viability. VSP allows farmers and ranchers to protect critical areas through voluntary stewardship strategies while maintaining and enhancing agricultural viability.

VSP is allowed under a recent change in the Growth Management Act and provides an alternative to traditional approaches to critical areas protection, such as protection buffers. 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.

Failure to meet protection and associated participation goals in the county will trigger the **traditional regulatory approach** to critical area protection under the county's Critical Areas Ordinance process.

Discussion

Participants discussed the need for documentation of the good, environmentally friendly practices that many producers are already implementing. Specifically, this will demonstrate that agricultural practices are not damaging to the environment, which is often how it is viewed. Participants stated they thought VSP was a good way to publicize this fact and that it seemed similar to tracking what they are already doing through the Good Agricultural Practices (GAP) and other programs. They further noted that coordination between VSP and these types of programs will help ease the reporting burden on producers.

Participants also stated that it would be helpful if guidance material is developed to describe exactly how agricultural producers can participate and what producers need to do to track and report their practices. The GAP Program may have good examples of this type of documentation.

Participants also asked about how they can share additional pictures of other practices. These can be submitted via the email address provided in the meeting handout and also listed below. Questions were also raised about work plan implementation, and how Adams Conservation District would staff up to provide technical assistance to producers. The Conservation District is going through a staff transition and options for staffing were discussed, including hiring a VSP Coordinator, or contracting with another Conservation District – Grant or Lincoln, for example.

Next Steps

Become involved in VSP Work Plan development through attending Work Group Meetings, joining the Work Group, or joining the interested parties list by contacting AdamsVSP@anchorqea.com. Additionally, please comment on the Adams County VSP Work Plan by February 23, 2018. Send comments to AdamsVSP@anchorqea.com. Proposed revisions based on public comments will be discussed at the next Work Group meeting scheduled for Tuesday, March 13, 2018, from 11:00 a.m. to 1:00 p.m. at the Adams County Building.

After adoption of the Adams County VSP Work Plan, you can become involved in VSP implementation by developing a Farm Stewardship Plan and spreading the word about the importance of VSP.