VSP Submittal Checklist
Pend Oreille County VSP Work Plan
(October 2018)

Substantive Required Elements for the VSP Work Plan
RCW 36.70A.720 (1)(a through l)

RCW 36.70A.720 (1): Work Plan Contents

RCW 36.70A.720 (1)	Code Language	Response/Location in Work Plan
(a)	**Review and incorporate applicable** water quality, watershed management, farmland protection, and species recovery **data and plans.**	• **Work Plan Section 2:** Includes description of the Pend Oreille County profile • **Work Plan Section 3:** Includes baseline conditions description which relied on applicable data and plans • **Work Plan Section 5.1 (page 53):** References applicable data and plans and how they were reviewed and incorporated into the Work Plan, including the goals and objectives in **Tables 5-1 through 5-5** • **Appendix E:** References applicable data, plans, and regulations and the intersect with VSP • Applicable data and plans were also relied upon to develop: o **Work Plan Mapfolio** (included throughout the plan) o **Appendix C:** Baseline Conditions Summary
(b)	**Seek input from tribes, agencies, and stakeholders.**	• **Work Plan Section 1.2:** Includes discussion of Work Group formation and how input was sought from tribes, agencies, and stakeholders throughout the Work Plan process • **Appendix B:** Includes an Outreach Plan detailing how input was sought throughout the Work Plan process and how tribes, agencies, and stakeholders will continue to be engaged through the implementation process

RCW 36.70A.720 (1)	Code Language	Response/Location in Work Plan
(c)	**Develop goals for participation by agricultural operators** conducting commercial and noncommercial agricultural activities in the watershed **necessary to meet the protection and enhancement benchmarks** of the work plan.	• **Work Plan Section 5.1:** Includes goals and objectives for protection and enhancement; and producer participation in conservation practices • **Work Plan Section 5.2:** Includes measurable protection and/or enhancement benchmarks based on producer participation: o Measured in acres enrolled/reported in conservation practices o Accounts for estimated disenrollment in participation/discontinuation of acres managed under conservation practices • **Work Plan Section 5.4: Table 5-9 (page 78)** includes producer participation goals, objectives, and adaptive management measures • **Work Plan Section 6.2.1 and Appendix B** describe how POCD will continue to reach out to property owners during implementation.
(d)	**Ensure outreach and technical assistance** is provided to agricultural operators in the watershed.	• **Work Plan Section 6.2:** o Describes organization leads that provide technical assistance in Pend Oreille County and who will continue to provide technical assistance in coordination with the VSP Coordinator during Work Plan implementation o Identifies outreach opportunities to be implemented by the VSP Coordinator and organization leads during Work Plan implementation o Identifies a summary list of conservation programs available to agricultural operators in the County • **Appendix E:** Identifies existing conservation programs available to agricultural operators in the County • **VSP Overview and Checklist:** Developed as an outreach tool to assist the VSP Coordinator and technical assistance providers in outreach and education, and reporting conservation practices implemented within Pend Oreille County towards the Work Plan's goals and benchmarks
(e)	**Create measurable benchmarks** that, within ten years after the receipt of funding, are designed to result in: (i) the **protection** of critical area functions and values and (ii) the **enhancement** of critical area functions and **values through voluntary, incentive-based measures.**	• **Work Plan Sections 5.1 and 5.2:** See response to (c) above. Benchmarks are based on participation in conservation practices that protect key critical area functions and promote agricultural viability. ▪ See the following sections for crosswalk connecting functional effects of conservation practices on critical area functions and values: **Section 4.1, Section 5.1, Appendix C** • **Work Plan Section 5.3:** Identifies indicators that can be tracked over time to help evaluate if anticipated protection of critical area functions and values are occurring • **Work Plan Section 5.4:** Includes an adaptive management plan to achieve protection of critical area functions and values

RCW 36.70A.720 (1)	Code Language	Response/Location in Work Plan
(f)	**Designate the entity or entities that will provide technical assistance.**	• See response to (d) above
(g)	Work with the entity **providing technical assistance to ensure that individual stewardship plans contribute to the goals and benchmarks** of the work plan.	• **Work Plan Sections 5.1 and 5.2:** See response to (c) above • **Appendix E:** Provides a summary of existing and related plans, programs, and regulations • **VSP Overview and Checklist:** Provides an outreach tool to assist the VSP Coordinator and technical assistance providers in reporting conservation practices implemented within the County towards the Work Plan's goals and benchmarks
(h)	**Incorporate** into the work plan **any existing development regulations relied upon to achieve the goals and benchmarks for protection.**	• **Work Plan Section 3:** Identifies baseline conditions and the intersect with the environmentally sensitive areas ordinance where applicable • **Work Plan Section 6.4:** Describes the regulatory backstop for VSP • **Appendix C-2:** Provides a summary of the Pend Oreille environmentally sensitive areas ordinance designations and definitions • **Appendix E:** Provides a summary of existing and related plans, programs, and regulations
(i)	**Establish baseline monitoring for:** (i) **Participation activities and implementation** of the voluntary stewardship plans and projects; (ii) **stewardship activities**; and (iii) the **effects on critical areas and agriculture** relevant to the protection and enhancement benchmarks developed for the watershed.	• **Work Plan Section 5.1:** Includes goals and objectives for: o Protection and/or enhancement of critical area functions o Goals for agricultural viability o Goals for producer participation in conservation practices • **Work Plan Section 5.2:** Includes measurable protection and enhancement benchmarks based on producer participation in conservation practices: o Performance objectives provided for acres enrolled/reported in conservation practices o See response to (e) establishing relationship of conservation practices with protection of key critical area functions • **Work Plan Section 5.3:** Identifies indicators that can be tracked over time to evaluate if anticipated protection of critical area functions and values are occurring. This section describes how POCD will track water quality data, hydrology, soil function, and habitat through ongoing monitoring, use of existing agency data, and aerial imagery interpretation. • **Work Plan Section 5.4:** Includes an adaptive management plan to help evaluate if anticipated protections of functions and values are occurring (**Tables 5-9, 5-10, and 5-11 starting on Page 78**) and adaptive management procedures, as applicable, to achieve protection of critical area functions and values within 10 years of the receipt of funding

RCW 36.70A.720 (1)	Code Language	Response/Location in Work Plan
(j)	**Conduct periodic evaluations, institute adaptive management, and provide a written report** of the status of plans and accomplishments to the county and to the commission within sixty days after the end of each biennium.	• **Work Plan Section 5.4:** Includes an adaptive management plan to achieve protection of critical area functions within 10 years of the receipt of funding • **Work Plan Section 6.3:** Includes a description of required reporting components for the Work Plan for 2-year status reports, 5-year performance reports, monitoring, and adaptive management
(k)	**Assist state agencies in their monitoring programs.**	• **Work Plan Section 5.3:** Identifies indicators that can be measured/monitored over time to identify if anticipated protection and enhancement of critical area functions are occurring, in coordination with state agencies. This section describes how POCD will track water quality data, hydrology, soil function, and habitat through ongoing monitoring, use of existing agency data, and aerial imagery interpretation. • **Work Plan Section 5.4: Tables 5-9 and 5-11 (Pages 78 and 80)** include a list of indicators for protection and enhancement of critical areas • **Work Plan Section 6.2 (Page 82):** Describes how POCD will continue to coordinate with local agencies to share data regarding habitat conditions, project implementation, and monitoring to the extent possible to continue successful implementation of ongoing plans and programs
(l)	**Satisfy any other reporting requirements of the program.**	• **Work Plan Section 6.3**: Includes a description of required reporting components for the Work Plan for 2-year status reports, 5-year performance reports, monitoring, and adaptive management

October 2018
Pend Oreille County Voluntary Stewardship Program

Work Plan

Pend Oreille County

October 2018
Pend Oreille County Voluntary Stewardship Program

Work Plan

Prepared for
Pend Oreille County VSP Work Group
Pend Oreille County Community Development
Pend Oreille Conservation District

Prepared by
White Bluffs Consulting

Prepared with assistance from:
Anchor QEA, LLC

TABLE OF CONTENTS

1 Introduction 1

1.1 Work Plan Elements 3

1.1.1 Work Plan Goals 3

1.1.2 Work Plan Organization 4

1.2 Work Plan Development – Roles and Responsibilities 4

2 Pend Oreille County Regional Setting 6

2.1 Pend Oreille County Profile 6

2.1.1 Water Resources and Precipitation 8

2.1.2 Terrain and Soils 11

2.1.3 Land Ownership 11

2.1.4 Agricultural Land Use and Landcover 14

2.2 Agricultural Activities 17

2.3 Critical Areas 19

2.3.1 Critical Areas Definitions 19

2.3.2 Critical Areas Functions and Values 21

3 Baseline and Existing Conditions 23

3.1 Baseline (2011) and Existing Conditions 24

3.1.1 Wetlands 26

3.1.2 Fish and Wildlife Habitat Conservation Areas 28

3.1.3 Critical Aquifer Recharge Areas 32

3.1.4 Geologically Hazardous Areas 35

3.1.5 Frequently Flooded Areas 38

3.2 Agricultural Viability Baseline Conditions 38

4 Protection and Enhancement Strategies 43

4.1 Examples of Stewardship Activities that Protect Critical Areas 44

4.2 Changes Since 2011 Baseline 46

4.2.1 Natural Resources Conservation Service Conservation Practices 48

4.2.2 Pend Oreille Conservation District-Led Practices 49

4.2.3 Conservation Reserve Program 49

4.2.4 Other Programs 50

5 Goals, Benchmarks, and Adaptive Management 52

5.1 Goals 53

5.2 Measurable Benchmarks 64
5.2.1 Methods 64
5.2.2 Benchmarks 67
5.3 Indicators 71
5.4 Adaptive Management 74

6 Implementation 81
6.1 Framework for Implementation 81
6.2 Agricultural Producers Participation, Technical Assistance, and Outreach 82
6.2.1 Organization Leads, Technical Assistance, and Outreach 84
6.3 Monitoring, Reporting, and Adaptive Management 88
6.4 Regulatory Backstop 90

7 References 91

TABLES

Table 1-1 VSP Roles and Responsibilities for Plan Development 5
Table 2-1 Land Ownership 11
Table 2-2 Agricultural Landcover Summary 14
Table 2-3 Agricultural Activity on Private Lands and Products 18
Table 2-4 Size of Farms in Pend Oreille County Based on Agricultural Product Sales 18
Table 2-5 Critical Areas Functions 21
Table 3-1 Critical Areas Within Pend Oreille County Agricultural Lands 24
Table 3-2 Agricultural Viability – Regional Elements 40
Table 3-3 Agricultural Viability – Farm Elements 41
Table 3-4 Agricultural Viability Strengths, Weaknesses, Opportunities, and Threats 42
Table 4-1 Examples of Critical Areas Conservation Practices in Pend Oreille County 45
Table 4-2 Calculating Discontinuation for Conservation Practices 47
Table 4-3 Top NRCS Conservation Practices Implemented from 2011 to 2017 48
Table 4-4 Pend Oreille Conservation District-Led Conservation Practices Implemented from 2011 to 2017 49
Table 5-1 Wetland Protection and Enhancement Goals 57
Table 5-2 FWHCA Protection and Enhancement Goals 58
Table 5-3 FFA Protection and Enhancement Goals 61
Table 5-4 CARA Protection and Enhancement Goals 62
Table 5-5 GHA (Erosion Hazard) Protection and Enhancement Goals 63

Table 5-6 Key Conservation Practices Crosswalk to National Functions Scores, Critical Areas, and Agricultural Viability ... 69
Table 5-7 Protection and/or Enhancement Benchmarks and Objectives ... 70
Table 5-8 Critical Area Functions Monitoring Indicators ... 73
Table 5-9 Producer Participation Goal and Adaptive Management for Low Participation ... 78
Table 5-10 Adaptive Management Process for Stewardship Practices Participation ... 79
Table 5-11 Adaptive Management Process for Critical Area Functions and Values Protection and Enhancement ... 80
Table 6-1 Implementation Budget ... 82
Table 6-2 VSP Outreach Opportunities ... 86
Table 6-3 Public Sector Conservation Programs Summary ... 87
Table 6-4 Timelines for Implementation Process ... 88

FIGURES

Figure 1-1 Balanced Approach of Critical Areas Protection and Agricultural Viability ... 2
Figure 2-1 Vicinity Map ... 7
Figure 2-2 30-yr Normal Annual Precipitation ... 9
Figure 2-3 Watershed Planning Areas ... 10
Figure 2-4 General Soils Map ... 12
Figure 2-5 Land Ownership ... 13
Figure 2-6a Agricultural Landcover ... 15
Figure 2-6b Agricultural Landcover ... 16
Figure 3-1 VSP Crosswalk – Critical Areas Connection with Functions and Values ... 24
Figure 3-2 Wetlands and Streams ... 27
Figure 3-3 Priority Habitat and Species Map ... 31
Figure 3-4a Critical Aquifer Recharge Areas ... 33
Figure 3-4b Critical Aquifer Recharge Areas ... 34
Figure 3-5 Water Erosion Potential ... 36
Figure 3-6 Wind Erosion Susceptibility ... 37
Figure 3-7 Frequently Flooded Areas (FEMA Special Flood Hazard Areas) ... 39
Figure 4-1 Critical Areas Functions and Values Connection with Conservation Practices ... 43
Figure 5-1 VSP Crosswalk – Stewardship Practices Connection with Goals and Benchmarks ... 53
Figure 5-2 Direct and Indirect Effects of Practices on Critical Area Functions ... 67
Figure 5-3 Adaptive Management System ... 75
Figure 6-1 VSP Checklist Use Protocol ... 86

Figure 6-2 Voluntary Stewardship Program Regulatory Backstop Diagram 90

APPENDICES

Appendix A VSP Overview and Checklist Materials
Appendix B Outreach Plan
Appendix C Baseline Conditions Summary
Appendix D Methods and Initial Results
Appendix E Existing and Related Plans, Programs, and Regulations

ABBREVIATIONS

ALEA	Aquatic Land Enhancement Account
CAO	Critical Areas Ordinance
CARA	Critical Aquifer Recharge Area
County	Pend Oreille County
CPPE	Conservation Practice Physical Effect
CRP	Conservation Reserve Program
CSP	Conservation Stewardship 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
FWHCA	Fish and Wildlife Habitat Conservation Area
GHA	Geologically Hazardous Area
GMA	Growth Management Act
NRCS	Natural Resources Conservation Service
PHS	Priority Habitat and Species
POCD	Pend Oreille Conservation District
RCW	Revised Code of Washington
SAFE	State Acres for Wildlife Enhancement
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USGS	U.S. Geological Survey
VSP	Voluntary Stewardship Program
WDFW	Washington Department of Fish and Wildlife
WHIP	Wildlife Habitat Improvement Program
Work Group	Pend Oreille County VSP Work Group
Work Plan	Pend Oreille County VSP Work Plan
WRIA	Water Resource Inventory Area
WSCC	Washington State Conservation Commission
WSDA	Washington State Department of Agriculture

ACKNOWLEDGEMENTS

Work Group
Amanda Parrish, The Lands Council
Andy Huddleston, Pend Oreille County Planning
David Marcell, Pend Oreille Conservation District
John Floyd, Small Acreage Landowner and Pend Oreille Conservation District Board
Jon Driver, Farm Credit Services and Hay Producer
Karen Skoog, Pend Oreille County
Larry Cordes, Cattle and Hay Producer
Michele Masuen, Poultry and Hay Producer
Mike Jensen, WSU Extension
Mike Lithgow, Kalispel Tribe
Ron Meyer, Hay Producer
Sharon Sorby, Pend Oreille County Weed Board Ted Davis, Hay Producer
Travis Hanson, Cattle and Hay Producer

Work Group Advisory Member
Sandy Dotts, Washington Department of Fish and Wildlife

Consultants
White Bluffs Consulting
Anchor QEA, LLC

Funded by:
Washington State Conservation Commission

Pend Oreille County
photo credit: White Bluffs Consulting

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.

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

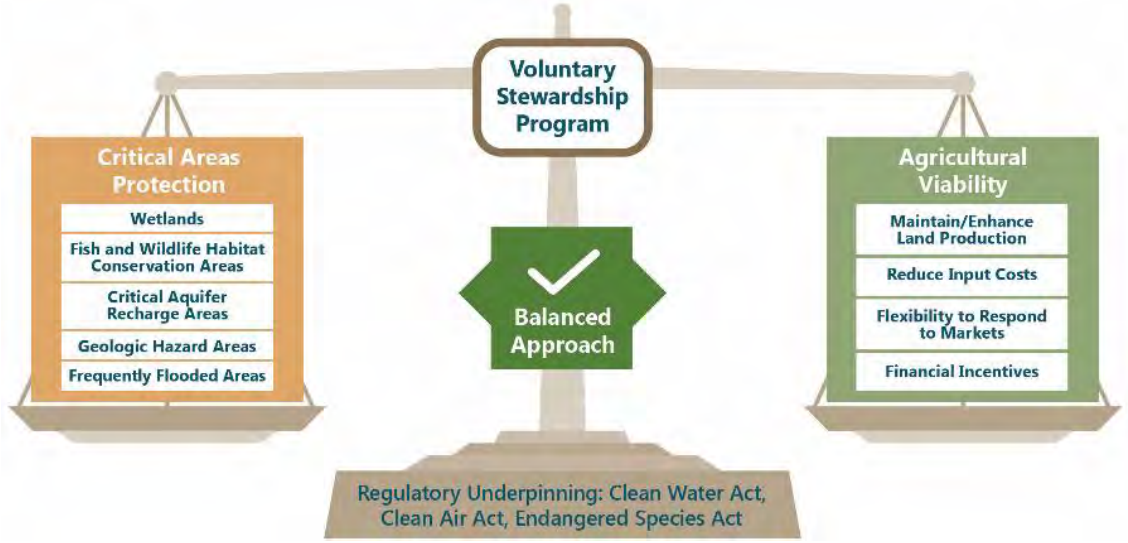
- Wetlands
- Fish and wildlife habitat conservation areas
- Critical aquifer recharge areas
- Geologically hazardous areas
- Frequently flooded areas

Under VSP (RCW 36.70A.705), critical areas on lands where agricultural activities are conducted are managed under this voluntary program. Lands used for non-agricultural purposes are regulated under Pend Oreille County's Development Regulations.

In 2011, the Legislature amended the GMA with the intent to protect and voluntarily enhance critical areas in places where agricultural activities are conducted, while maintaining and enhancing 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 counties under their Critical Areas Ordinances (CAO). The VSP does not regulate agricultural and other structures on agricultural lands. These will continue to be permitted and regulated through the County's Environmentally Sensitive Areas Code. Additionally, new agricultural activities proposed in County shoreline jurisdiction will be regulated under the County's shoreline master program.

VSP is not a replacement for compliance with other local, state, or federal laws and regulations, but participation in VSP will help to show how much effort Pend Oreille County's (County) agricultural producers are investing in meeting these requirements and to document the benefits of these efforts in protecting and enhancing critical area functions and values (Figure 1-1).

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



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

Opting into VSP

In 2012, the Board of County Commissioners of Pend Oreille County passed Ordinance No. 2012-2 to "opt-into" the VSP as an alternative to the traditional regulatory approaches to protecting critical areas on lands where agricultural activities are conducted.

What are Considered "Agricultural Activities" Under VSP?

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

- Producing, breeding, or increasing agricultural products, including livestock
- Rotating and changing agricultural crops
- Allowing land used for agricultural activities to lie fallow in which it is plowed and tilled, but left unseeded
- Allowing land used for agricultural activities to lie dormant 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

1.1 Work Plan Elements

The guiding document for the VSP is this Pend Oreille County VSP Work Plan (Work Plan), the goal of which is to provide a framework for protecting and voluntarily enhancing critical areas while maintaining the viability of agriculture in the County. The Work Plan was developed by the Pend Oreille County VSP Work Group (Work Group), convened by the County and comprising agricultural producers, local government elected officials and staff, agency representatives, and interest groups.

Core VSP Work Plan Approval Tests

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

- **Protect critical areas while maintaining and enhancing the viability of agriculture** at the end of 10 years after receipt of funding (RCW 36.70A.0725).
- **Create measurable benchmarks that are designed to protect and enhance** (through voluntary, incentive-based measures), **critical areas functions and values** (RCW 36.70A.720 (1)(e)).

1.1.1 Work Plan Goals

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

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

Conservation Practices

Examples of practices that protect critical area functions and values and promote agricultural viability include:

- Riparian restoration
- Grazing management
- Weed management
- Forest slash treatment

See the **VSP Checklist** (Appendix A-2) for additional examples of voluntary conservation practices and resources for additional information and potential incentive funding.

Producer participation is a key component of Work Plan implementation and success of the program. The Work Group developed a *VSP Informational Flyer* (Appendix A-1), *Pend Oreille County VSP Overview and Checklist* (Appendix A-2), and *Frequently Asked Questions* document (Appendix A-3), as outreach and implementation tools to help assess how the VSP could apply to individual

agricultural producers' lands. The VSP Checklist includes additional examples of conservation practices that protect and enhance critical areas and promote agricultural viability.

1.1.2 Work Plan Organization

This Work Plan, including its appendices, includes detailed information intended to fulfill the state requirements outlined under the Revised Code of Washington (RCW) 36.70A.720(1)(a through l), which requires Work Plans to include critical area protection and enhancement goals with measurable benchmarks and an implementation, reporting, and tracking framework.

Pend Oreille VSP Work Plan Organization

- **Section 1 – Introduction:** Background on VSP regulation and how it applies to the County
- **Section 2 – Pend Oreille County Regional Setting:** Overview of County conditions, including description of critical areas
- **Section 3 – Baseline and Existing Conditions:** Description of County-wide critical areas presence and functions and values as of 2011
- **Section 4 – Protection and Enhancement Strategies:** Description of currently implemented conservation practices that protect and enhance critical areas functions and values
- **Section 5 – Goals, Benchmarks, and Adaptive Management:** Description of VSP goals for critical area protection and enhancement, measurable benchmarks, and indicators and methods for adaptive management
- **Section 6 – Implementation:** Detailed plan outlining implementation of VSP actions by the VSP Lead
- **Appendix A:** VSP Overview and Checklist Materials
- **Appendix B:** Outreach Plan
- **Appendix C:** Baseline Conditions Summary
- **Appendix D:** Methods and Results
- **Appendix E:** Existing Plans, Programs, and Regulations

1.2 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 the County, developed the Work Plan through a series of Work Group meetings, beginning with a Kick Off Meeting on January 27, 2016, and continuing through July 2018. Work Group members were recruited through mailed invitation to tribal affiliates, conservation agencies, past and current participants in County conservation practices, and other interested parties. In total, 11 VSP Work Group meetings were held, including 4 in 2016 and 5 in 2018.

Additional public outreach efforts included 2 public meetings hosted by the County and POCD on June 20, 2018 in Usk and Cusick to invite input on the VSP Work Plan and discuss the implementation process. Public outreach for these meetings included mailing post cards to

landowners, posting flyers in public spaces, and running ads in the local newspaper, the Newport Miner.

Throughout the Work Plan development process, meeting agendas and other materials were made available to the public through the Pend Oreille County Community Development VSP webpage (https://pendoreilleco.org/your-government/community-development/vsp/) and emailed to Work Group members and the VSP interested parties contact list, including tribes, for all Work Group meetings (see Outreach Plan in Appendix B for contact list). Additional outreach was conducted to seek input from agencies and stakeholders through community meetings and other methods as described in the Pend Oreille County VSP Outreach Plan (Appendix B).

Work Plan implementation roles and responsibilities are further described in Section 6.

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 and assistance, reviews draft work plans, makes recommendations on whether to approve or reject the work plan
VSP Statewide Advisory Committee [2]	Works with the WSCC to revise rejected draft work plans
Local – Administration and Work Plan Development	
Pend Oreille County	Administers VSP funding and grants for work plan development
Pend Oreille County VSP Work Group	Develops and proposes a work plan for approval by WSCC
Pend Oreille Conservation District	Provides technical information to support work plan development and manages and facilitates the VSP process
Other Technical Providers	Provides 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 the Washington State Department of Ecology, Washington Department of Fish and Wildlife, Washington State Department of Agriculture, and Washington State Conservation Commission (WSCC).
2. The Committee includes two representatives each from environmental interests, agriculture, and counties; two tribal representatives are also invited to participate.

Pend Oreille County
photo credit: David Marcell

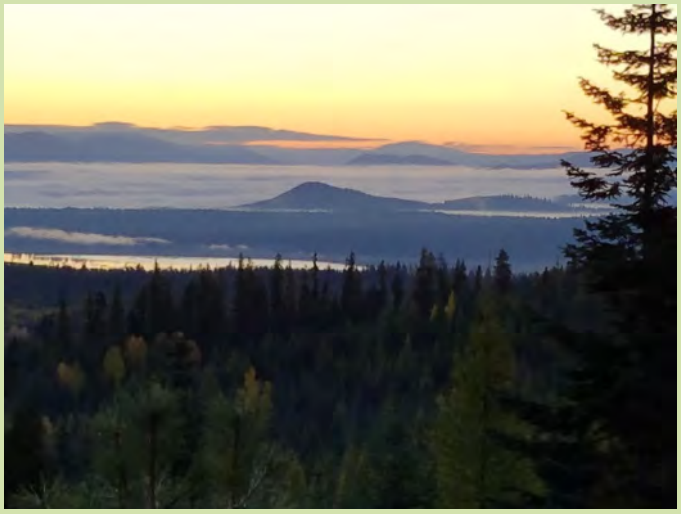
2 Pend Oreille County Regional Setting

2.1 Pend Oreille County Profile

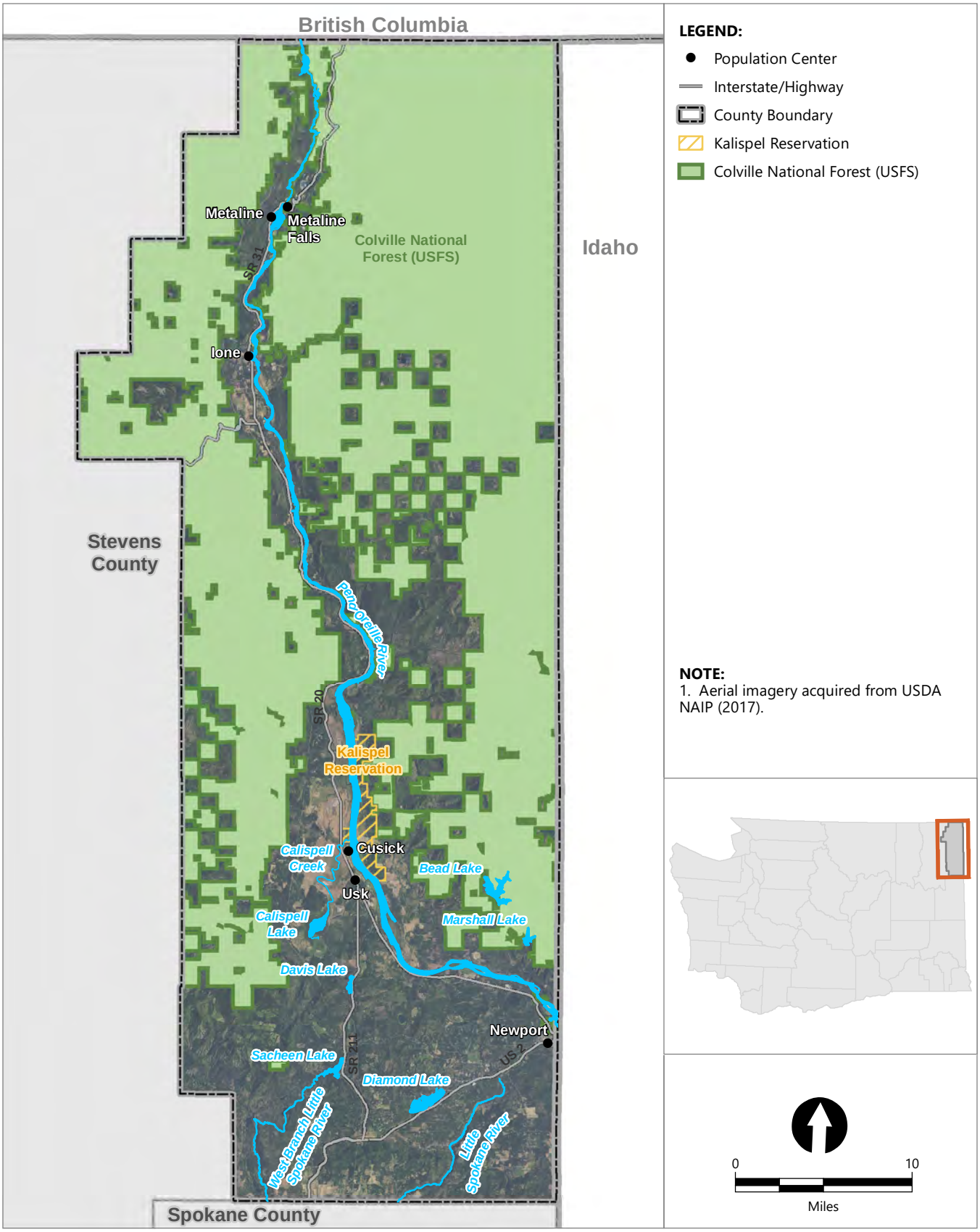
Pend Oreille County is located in northeastern Washington and is bound by the Canadian border to the north, Idaho to the east, and the counties of Stevens and Spokane to the west and south, respectively. Approximately 35% of the land in Pend Oreille County is privately owned. Approximately 25% of the private land is assessor designated timberland (Pend Oreille County 2014). Most of the remaining 65% is federally owned by the U.S. Forest Service (USFS) as a part of the Colville National Forest (Figure 2-1). Less than 1% of land in Pend Oreille County is owned by the Kalispel Tribe of Indians.

This section provides a County profile description in further detail for the following items:

- Water resources and precipitation
- Soils and terrain
- Land ownership
- Land use and landcover



Scenic Photo of Forest and Wildlife Habitat
Photo Credit: David Marcell, Pend Oreille Conservation District



Publish Date: 2018/03/28, 12:05 PM | User: lhudson
Filepath: \\orcas\gis\Jobs\WhiteBluffsConsulting_1678\PendOreilleCountyVSP\Maps\CriticalAreas\PendOreilleCo_CriticalAreas_Fig1_VicinityMap.mxd

ANCHOR QEA

Figure 2-1
Vicinity Map
Voluntary Stewardship Program
Pend Oreille County, Washington

2.1.1 Water Resources and Precipitation

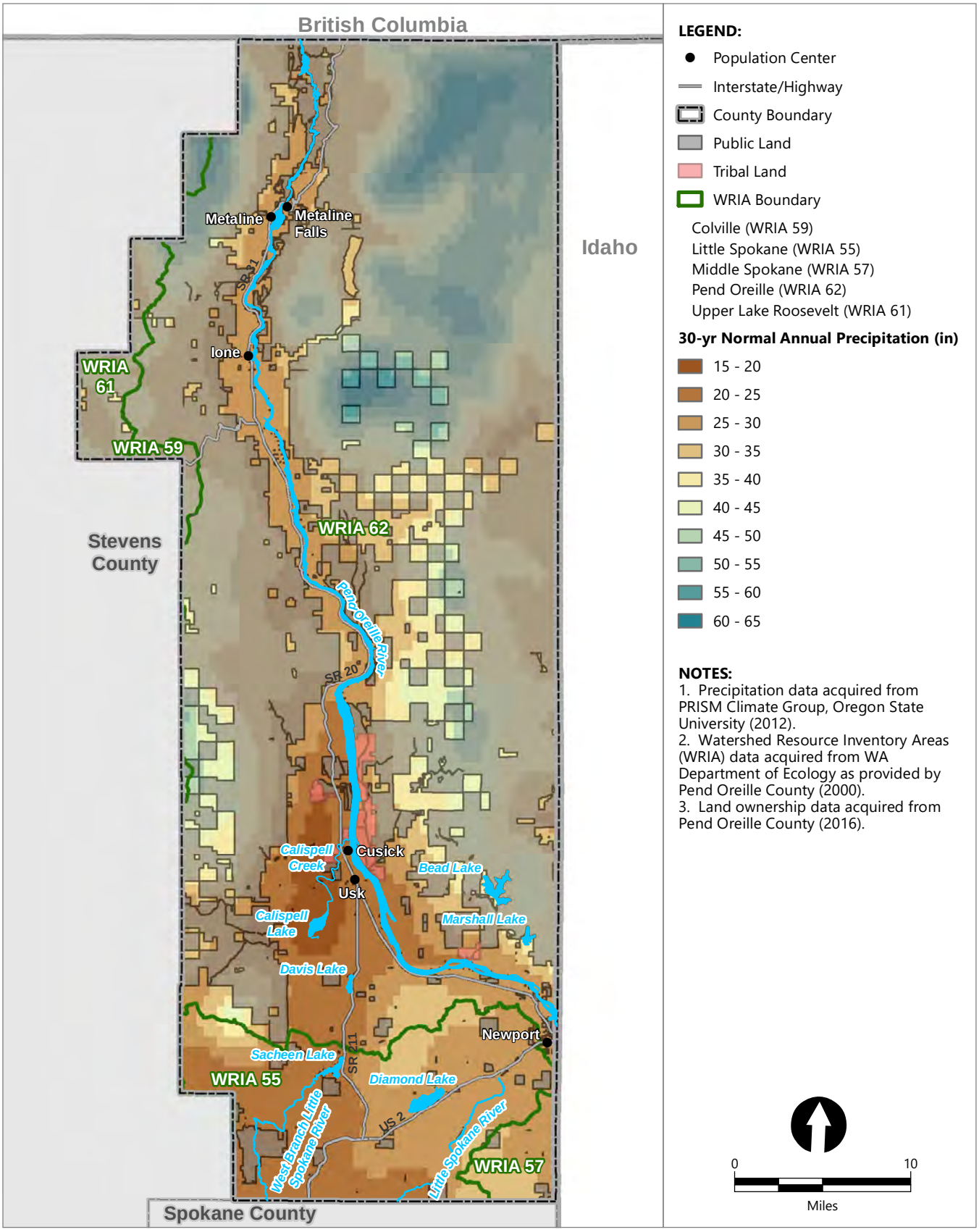
The County contains portions of five watersheds, which are known as Water Resource Inventory Areas (WRIAs). The majority of Pend Oreille County is in the Pend Oreille Watershed (WRIA 62). Little Spokane Watershed (WRIA 55) is in the southern part of the County, and a small portion of Middle Spokane Watershed (WRIA 57) is in the southeast corner. Small areas of the Upper Lake Roosevelt Watershed (WRIA 61) and Colville Watershed (WRIA 59) are found in the westernmost part of the County. Colville National Forest dominates most of the northern part of Pend Oreille County with the Pend Oreille River running south to north.

The climate in Pend Oreille County is generally characterized by warm, dry summers, with heavier precipitation in the winter and spring. Temperatures and precipitation vary widely, mostly depending on elevation. Precipitation ranges from approximately 15 to 65 inches annually, with the most precipitation being in the higher elevations in the northeast corner of the County. Annually, the average precipitation is about 26 inches (Figure 2-2; PRISM 2012).

For the purposes of the Work Plan, the Work Group identified the following watershed areas to develop a more localized planning approach during implementation of the Work Plan. Although the Work Plan and the goals and benchmarks discussed in Section 5 apply county-wide, the following watershed analysis units (Figure 2-3) will help realize more localized watershed objectives during implementation:

- Pend Oreille (WRIAs 59, 61, and 62)
- Spokane (WRIAs 55 and 57)

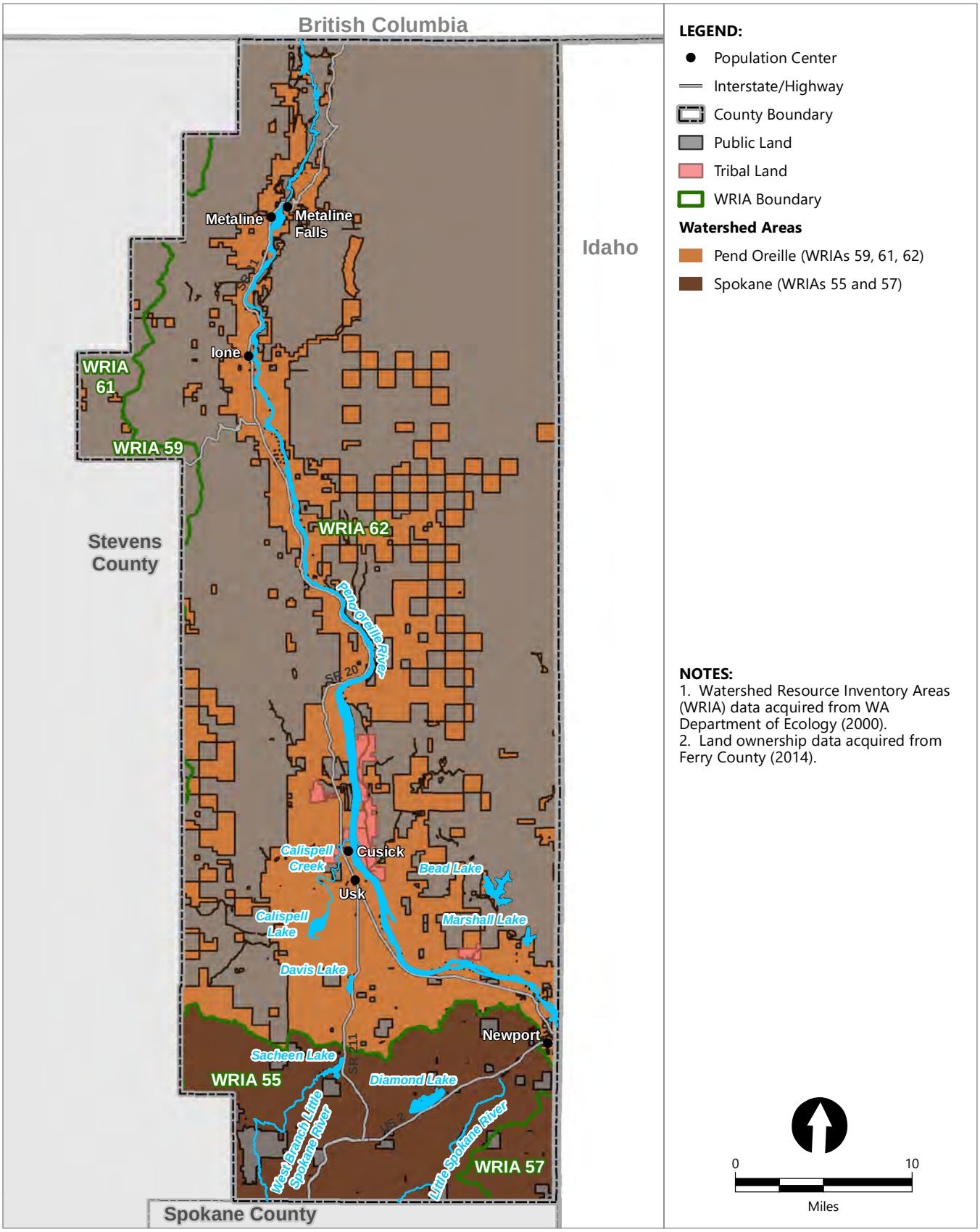
Appendix C-1 includes a summary of baseline conditions for each of the Pend Oreille and Spokane watershed analysis units.



Publish Date: 2018/05/30, 8:12 AM | User: lhudson
Filepath: \\orcas\gis\Jobs\WhiteBluffsConsulting_1678\PendOreilleCountyVSP\Maps\CriticalAreas\PendOreilleCo_CriticalAreas_Fig3_AnnualPrecip.mxd

ANCHOR QEA

Figure 2-2
30-yr Normal Annual Precipitation
Voluntary Stewardship Program
Pend Oreille County, Washington



Publish Date: 2018/05/30, 8:14 AM | User: lhudson
Filepath: \\orcas\gis\Jobs\WhiteBluffsConsulting_1678\PendOreilleCountyVSP\Maps\CriticalAreas\PendOreilleCo_CriticalAreas_Fig4_WatershedPlanningAreas.mxd

ANCHOR QEA

Figure 2-3
Watershed Planning Areas
Voluntary Stewardship Program
Pend Oreille County, Washington

2.1.2 Terrain and Soils

The northern and central parts of Pend Oreille County are characterized as mountainous with narrow river valleys, with the southern part of the County dominated by glacial outwash and terraces. The landcover consists predominately of river valleys with fertile farmlands surrounded by mountainous coniferous forest. Soils along the river valleys sustain small grain, hay, and cereal crops, and soils on uplands and outwash primarily support pasture, timber, and wildlife habitat (Donaldson et al. 1992). The growing season ranges from about 90 days in the mountainous areas in the northeast part of the County to 120 days in the river valleys (per VSP Work Group). Figure 2-4 shows the general soil types located throughout the County, with rock outcrops dominating the east side of the county and loams and sands on the central and west side.

2.1.3 Land Ownership

The portion of Pend Oreille County that is privately owned (35%) is mostly concentrated in the Cusick Flats area and the area along US Highway 2 and the southern border of the County. Public lands cover an additional 65% of the County, mainly associated with the Colville National Forest (managed by USFS) in the northern portion of the County.

The Kalispel Tribe of Indians own approximately 6,000 acres of land along a 10-mile stretch of the Pend Oreille River between the communities of Usk and Jared. See Table 2-1 and Figure 2-5 for land ownership summary within the County.

Tribal Government and Public Lands

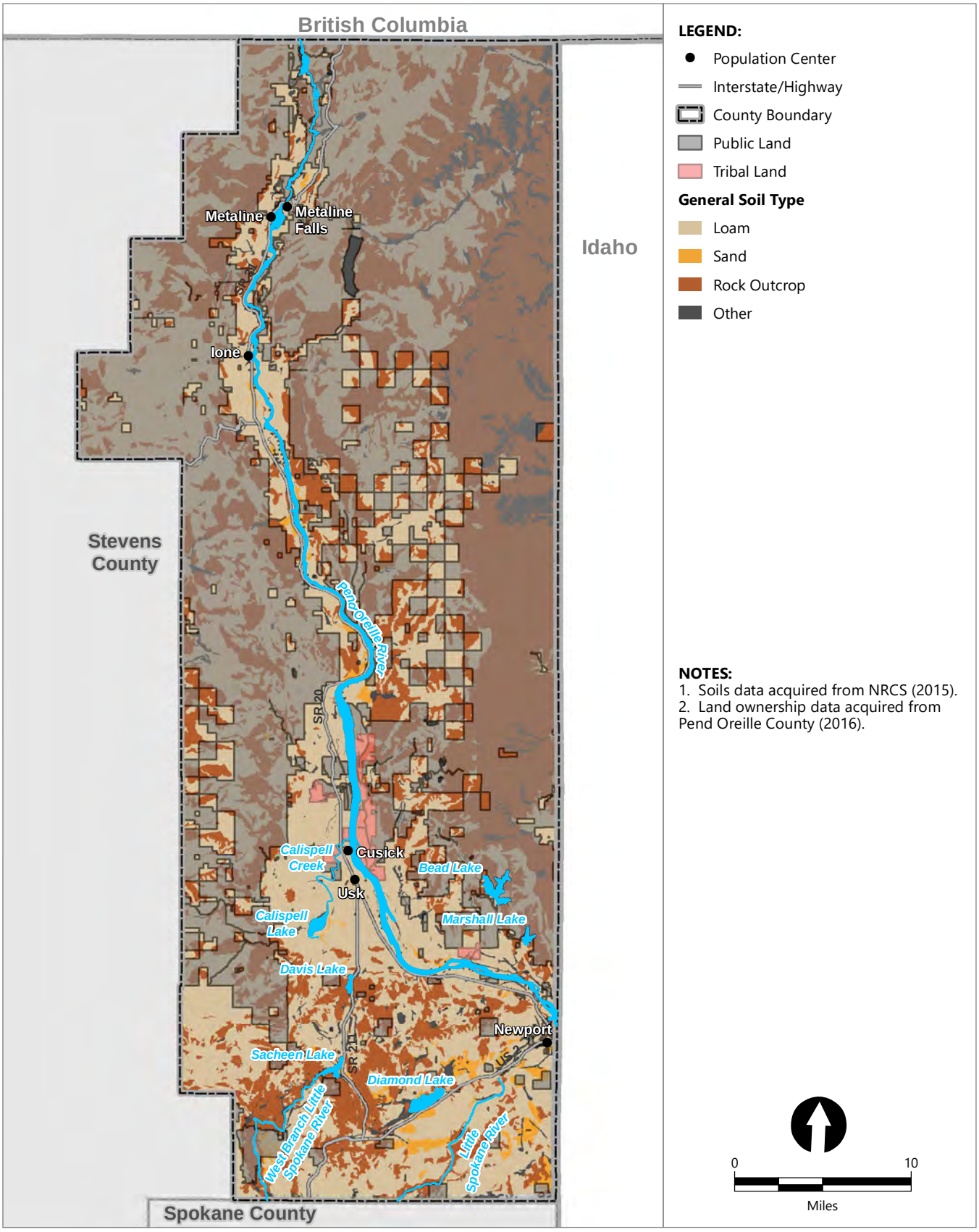
VSP does not apply to lands owned by tribal governments or agricultural activities occurring on public lands through leases or other agreements. However, for the purposes of VSP, fee-lands within the Kalispel Reservation are subject to the County's Development Regulations and are therefore included in this Work Plan under the "private lands" category where agricultural activities area occurring.

Table 2-1
Land Ownership

Ownership Type	Acres	Percent
Private	316,131	35%
Public	587,876	65%
Tribe	6,210	<1%
Total	**910,217**	**100%**

Notes:

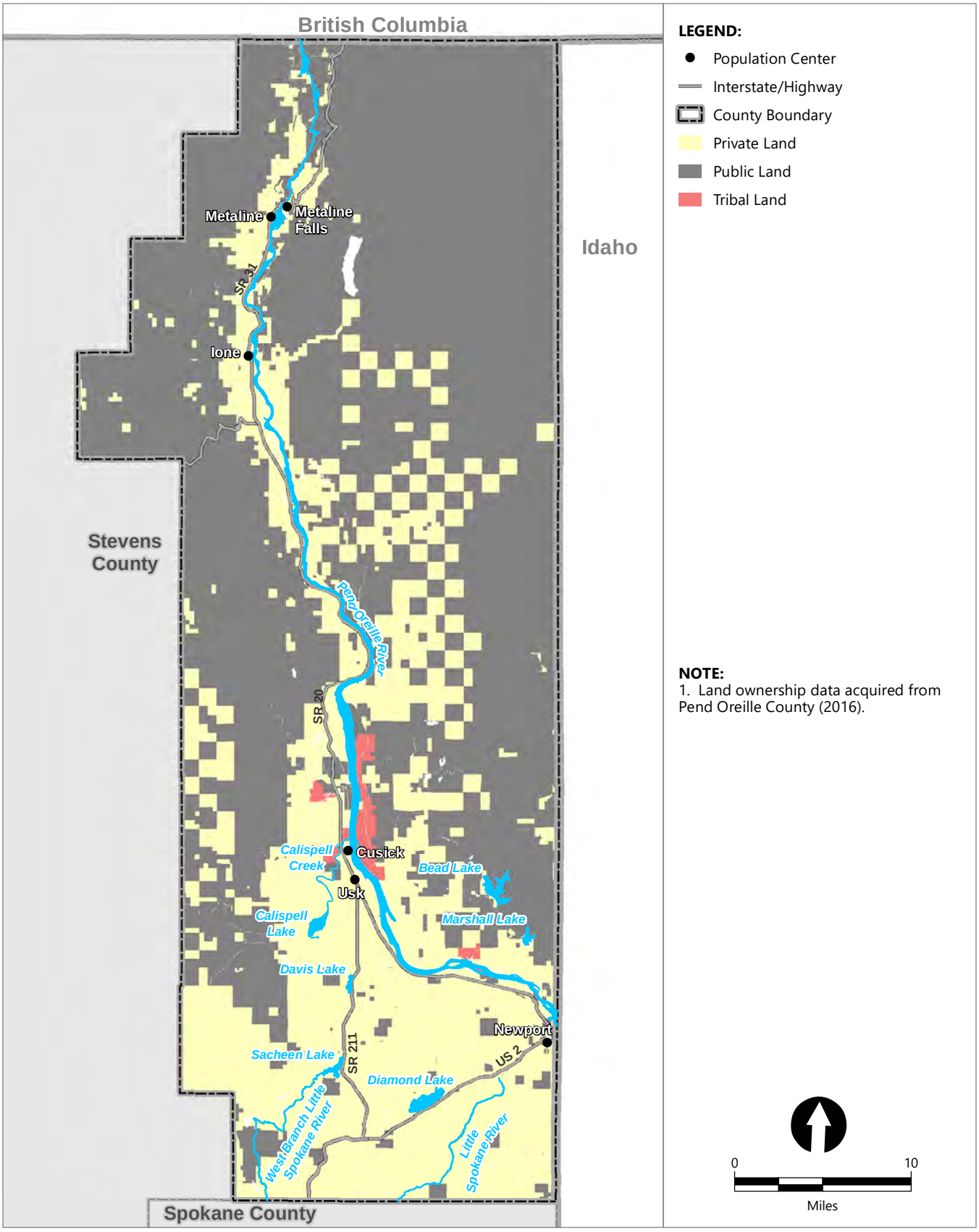
1. Includes fee lands within the Kalispel Reservation which are subject to County codes.
2. Data source: Pend Oreille County 2016a



Publish Date: 2018/05/30, 8:18 AM | User: lhudson
Filepath: \\orcas\gis\Jobs\WhiteBluffsConsulting_1678\PendOreilleCountyVSP\Maps\CriticalAreas\PendOreilleCo_CriticalAreas_Fig5_GeneralSoilsMap.mxd

ANCHOR QEA

Figure 2-4
General Soils Map
Voluntary Stewardship Program
Pend Oreille County, Washington



Publish Date: 2018/05/30, 8:07 AM | User: lhudson
Filepath: \\orcas\gis\Jobs\WhiteBluffsConsulting_1678\PendOreilleCountyVSP\Maps\CriticalAreas\PendOreilleCo_CriticalAreas_Fig2_LandOwnership.mxd

ANCHOR QEA

Figure 2-5
Land Ownership
Voluntary Stewardship Program
Pend Oreille County, Washington

2.1.4 Agricultural Land Use and Landcover

Agriculture is the major land use on the County's privately owned lands. 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. There are a total of approximately 308,383 acres of agricultural landcover in the County (Pend Oreille County 2016a; Figure 2-5).

Rangelands are the main type of agricultural activity in the County covering approximately 94% of the County's private agricultural lands, including private timber lands that are also used for rangelands. A small portion of the County also produces irrigated and dryland crops, <3% of the County combined (Table 2-2, Figure 2-6). Agricultural lands located within critical areas exist in floodplain and associated wetland areas along the Pend Oreille River, in wetted and wetland valley bottoms of other drainage areas in the County, and in upland fields and forested range lands.

Table 2-2
Agricultural Landcover Summary

Landcover	Acres	Percent of County
Total Area in County	**910,217**	**NA**
Private Lands	**316,131**	**35%**
Agricultural Landcover[1]	**308,353**	**34%**
Irrigated	907	<1%
Dryland	15,104	2%
Rangelands	292,343	32%

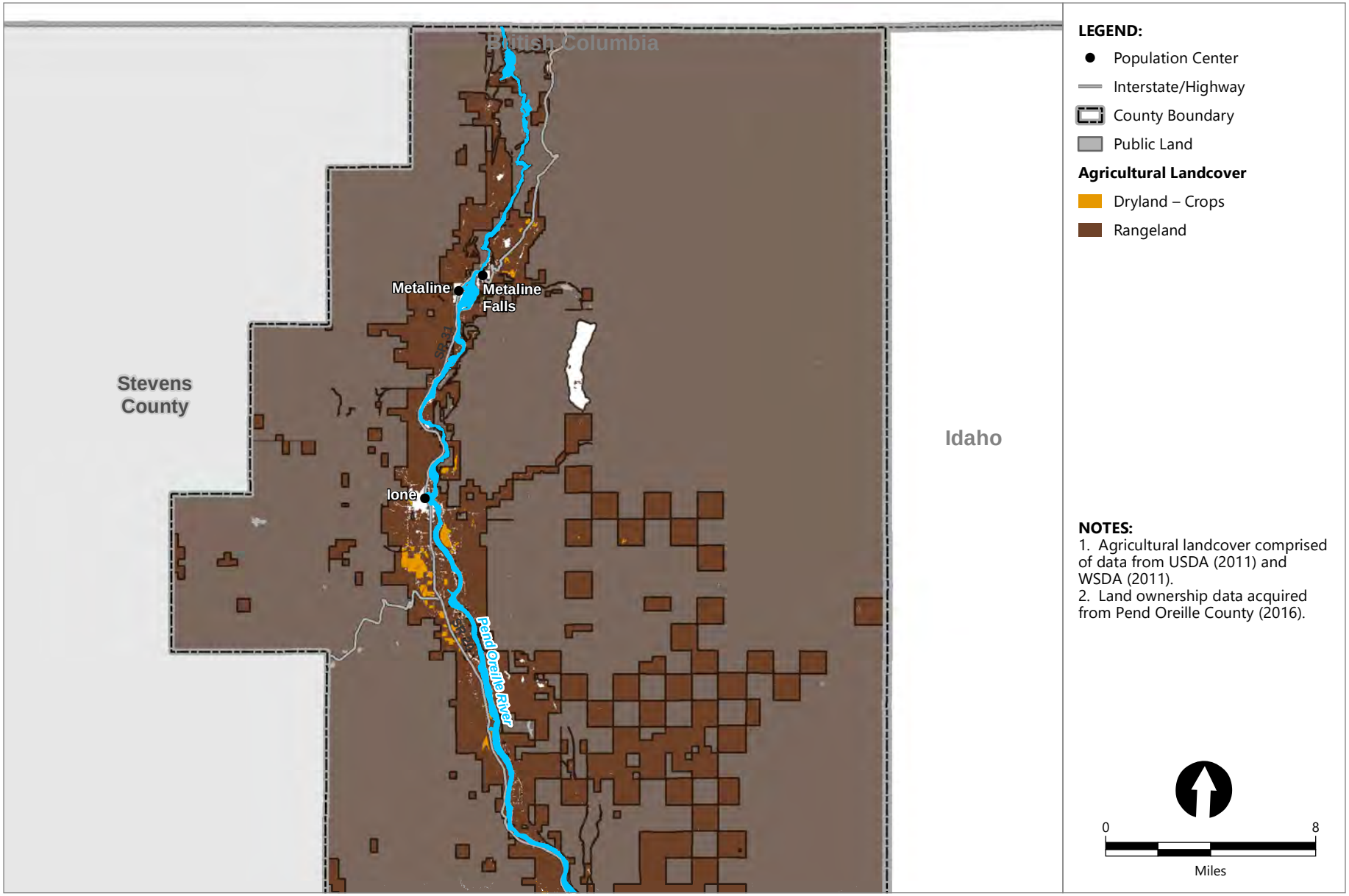
Notes:

1. Privately owned agricultural lands. Includes fee-lands within the Kalispel Reservation that are subject to Pend Oreille County codes.
2. Approximately 98% of private lands in the County is agricultural landcover.

NA: Not applicable

Rangeland in Pend Oreille County

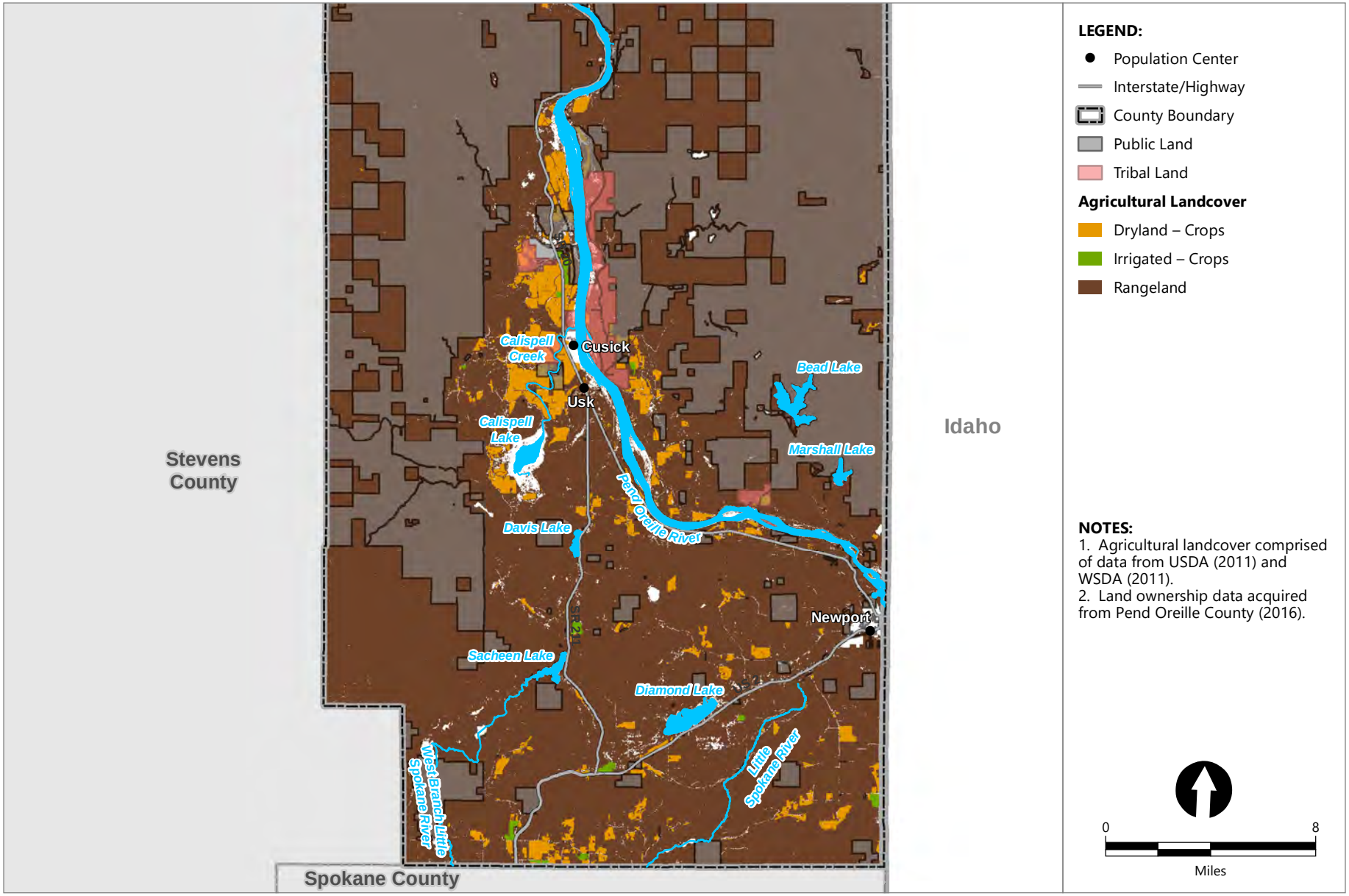
Rangelands are areas that are primarily kept in a natural or semi-natural state to facilitate grazing of livestock. These areas are essential for production of livestock, but also provide value to many wildlife species by preventing conversion to more intensive land uses. The limited growing season in Pend Oreille County is maximized for ranching by using higher elevation ranges as summer pasture and river valleys for hay production to feed cattle through the winter. Access to publicly-owned, forested rangeland is key to agricultural viability in the County.



Publish Date: 2018/05/30, 9:40 AM | User: lhudson
Filepath: \\orcas\gis\Jobs\WhiteBluffsConsulting_1678\PendOreilleCountyVSP\Maps\CriticalAreas\PendOreilleCo_CriticalAreas_Fig6_AgLandcover_DDP.mxd

ANCHOR QEA

Figure 2-6a
Agricultural Landcover
Voluntary Stewardship Program
Pend Oreille County, Washington



Publish Date: 2018/05/30, 9:45 AM | User: lhudson
Filepath: \\orcas\gis\Jobs\WhiteBluffsConsulting_1678\PendOreilleCountyVSP\Maps\CriticalAreas\PendOreilleCo_CriticalAreas_Fig6_AgLandcover_DDP.mxd

ANCHOR QEA

Figure 2-6b
Agricultural Landcover
Voluntary Stewardship Program
Pend Oreille County, Washington

Range Activity on Private Timber and Forest Lands

In Pend Oreille County, the main type of rangeland is forested rangeland. Forested rangeland occurs mostly in the mountainous areas of the County, on public and private timber and forest lands, and is characterized by livestock that graze on understory vegetation in the forest. Grazing in these areas often has the additional benefit of reducing fuels that contribute to hotter and more devastating forest fires. Conservation practices on these rangelands aim to support vegetation growth, maintain healthy soils, and reduce fuels for wildland fires. There are approximately 120,818 acres of commercial timber land in the County.

While VSP does not apply to forest practices, range activities occurring on private timber and forest lands do fall under the definition of "agricultural activity" per RCW 90.58.065 and conservation practices implemented on these lands to support agricultural viability and critical areas protections are included in this Work Plan.

Photo Credit: Ben Floyd, White Bluffs Consulting

2.2 Agricultural Activities

Agriculture is a major land use in the County with most of the agricultural activity in livestock production. According to the U.S. Department of Agriculture's (USDA) Census of Agriculture (2012), Pend Oreille County produces approximately $3.9 million in market value from agricultural products (includes land in farms within the Kalispel Reservation[1]). County-wide, livestock sales account for approximately 41% of the market value of products sold in the County, with crop sales accounting

[1] USDA 2012 Census of Agriculture data includes land in farms on the Kalispel Reservation, which, with the exception of fee lands, are not included in the Work Plan goals and benchmarks.

for approximately 59% (USDA 2012). See Table 2-3 for summary of agricultural landcover and major agricultural products within the County.

In 2012, there were approximately 288 farms in the County that varied in size ranging from relatively small, with agricultural product sales of less than $1,000, to large, with agricultural product sales of greater than $500,000. According to the USDA Census, the majority of County farms (85%) in 2012 had agricultural product sales of less than $10,000 (Table 2-4).

Table 2-3
Agricultural Activity on Private Lands and Products

Agricultural Type	% of County Agricultural Landcover	Primary Crops/Livestock
Irrigated	<1%	Hay Seed crops
Dryland	5%	Hay
Private Rangeland	95%	Cattle
Total	**100%***	

Sources:
WSDA Agricultural Landcover Data 2011
USDA 2012
* Represents 34% (308,353 acres) of the total land area in the County.

Table 2-4
Size of Farms in Pend Oreille County
Based on Agricultural Product Sales

Farm Agricultural Product Sales (Dollars)	Number of Farms
Less than $1,000	98
$1,000 to $10,000	146
$10,000 to $100,000	37
$100,000 to $250,000	4
Greater than $250,000	3
Total	**288**

2.3 Critical Areas

2.3.1 Critical Areas Definitions

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 (FWHCAs); 3) frequently flooded areas (FFAs); 4) critical aquifer recharge areas (CARAs); and 5) geologically hazardous areas (GHAs). Critical areas perform key environmental functions (e.g., water quality and fish and wildlife habitat) and provide protections from hazards (e.g., flood, erosion, or landslide hazards). Critical areas that will continue to be reviewed under the County's Environmentally Sensitive Areas Code include GHAs for seismic hazards, and any structures that are proposed within agricultural lands for any of the five critical areas, whether they support agricultural activities or not.

GHAs for Landslide or Seismic Hazards

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

Pend Oreille County's Development Regulations Chapter XX.36, Environmentally Sensitive Areas, includes identification and designation criteria for these five critical areas, which are summarized below and further defined in Appendix C-2.

Wetlands

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

Functions: Water quality, hydrology, and habitat

Fish and Wildlife Habitat Conservation Areas

FWHCAs are lands and waters that provide habitat to support fish and wildlife species throughout their life stages. These include ranges and habitat elements where endangered, threatened, and sensitive species may be found, and areas that serve a critical role in sustaining needed habitats and species for the functional integrity of the ecosystem, and which, if altered, may reduce the likelihood that the species will persist over the long term.

Functions: Water quality, hydrology, soil, and habitat

Frequently Flooded Areas

FFAs 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.

Functions: Water quality, hydrology, soil, and habitat

Critical Aquifer Recharge Areas

CARAs are areas that have a critical recharging effect on aquifers used for drinking water, including aquifers vulnerable to contamination or that could reduce supply by reducing recharge rates and water availability.

Functions: Water quality and hydrology

Geologically Hazardous Areas

GHAs are areas susceptible to erosion, sliding, and other geological events. Designated GHAs related to agricultural activities are primarily associated with erosion hazard and landslide hazard areas.

Functions: Water quality, hydrology, soil, and habitat

2.3.2 *Critical Areas Functions and Values*

VSP legislation requires that work plans develop goals and benchmarks to protect and enhance critical area **functions and values** (RCW 36.70A.720(1)(e)). The key functions and values provided by the five critical areas in the County can be summarized into four major functions, which include: 1) water quality, 2) hydrology, 3) soil, and 4) fish and wildlife habitat. Each critical area provides one or more of these key functions and values (Table 2-5). This section provides an overview of the functions and values and Section 3 will further describe the relationship between critical areas and their functions and values.

Table 2-5
Critical Areas Functions

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

Water Quality

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

Hydrology

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

Soil Function

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

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

Fish and Wildlife Habitat

Habitats are the natural environment in which a particular species or population can live. The habitat requirements are unique for different species and can be unique for different life stages of a species. Habitat loss is the primary threat to the survival of many native species.

Pend Oreille County
photo credit: White Bluffs Consulting

3 Baseline and Existing Conditions

Establishing baseline conditions is an important step to understanding the critical areas functions and values 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

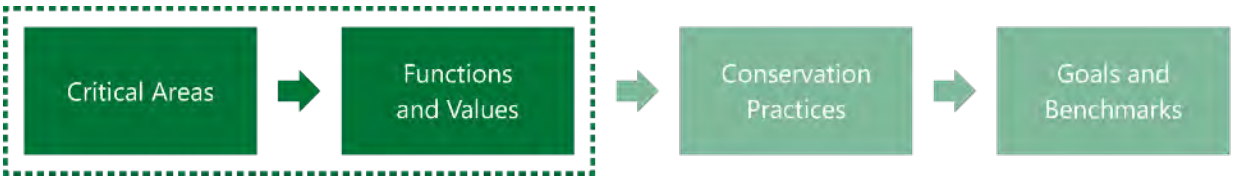
To be successful, this Work Plan must protect critical area functions and values as they existed on July 22, 2011, as described in this section. The 2011 baseline sets the conditions from which the County will measure progress in implementing the Work Plan and meeting measurable benchmarks (see Section 5). Any improvement of critical area functions and values through conservation practices will be considered enhancement under VSP regulations.

It's important to note that changes to baseline conditions outside of VSP are likely to occur due to effects from climate change, natural events (e.g., wildfires), or other changes outside of the scope of VSP. These changes would be documented through the reporting and adaptive management process discussed in Sections 5 and 6.

Conservation practices have been implemented since 2011 to improve agricultural productivity, reduce erosion, and improve water and soil quality and 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



3.1 Baseline (2011) and Existing Conditions

The overlap between agricultural land use and critical areas generally accounts for only a small percentage of the total agricultural land in the County. Agricultural lands that physically intersect with critical areas (Table 3-1) include many areas of high-functioning habitats, which provide important ecological functions. Additionally, critical areas provide benefit to the four functions and values beyond their physical locations. These functions and values are water quality, hydrology, soil function, and fish and wildlife habitat. Areas that have the potential to affect critical area functions and values are more widespread and will be targeted in the goals and benchmarks.

Use of Maps and Data
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. For more information on data used to establish baseline conditions see Appendix C.

Table 3-1
Critical Areas Within Pend Oreille County Agricultural Lands

Critical Area Type		Acres Within Agricultural Lands[1]	% of Total Agricultural Lands[1]
Wetlands (all types)		19,143	6%
Fish and Wildlife Habitat Conservation Areas[2] *(Also includes about 1,693 stream miles)*		32,727	11%
Frequently Flooded Areas		19,633	6%
Critical Aquifer Recharge Area		2,510	1%
Geologically Hazardous Areas	Water Erosion	193,533	63%
	Wind Erosion	234,286	76%

Notes:
1. Agricultural areas included in this summary are limited to privately owned lands, including fee lands within the Kalispel Reservation which are subject to County codes. Other tribal government or publicly-owned lands are not managed under VSP.
2. These areas include sensitive, candidate, and threatened species and habitats mapped in the Washington Department of Fish and Wildlife's PHS data and maps. This excludes an additional 135,854 acres of game species habitat including, mule deer, white-tailed deer, moose, elk, mountain goat, marten, and ducks.

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 area locations within the County and their connections to critical area functions and values are described in this section.

Game Species in Priority Habitat and Species

PHS data and mapping are maintained by the Washington Department of Fish and Wildlife (WDFW) in part to provide a reference to the potential existence of FWHCAs. Game species habitat are mapped in PHS within approximately 135,854 acres of the County's private agricultural lands, comprising primarily of moose, white-tailed deer, and elk habitat. These habitats overlap existing rangelands. 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, cliffs and bluffs, riparian areas, and forests. 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. The protection goals included in the Work Plan (Section 5.1) 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., habitat restoration). These enhancement efforts will be counted towards meeting the Work Plan's enhancements goals and benchmarks.

See Figure 3-3 for additional details on PHS species, including recreation and game species.

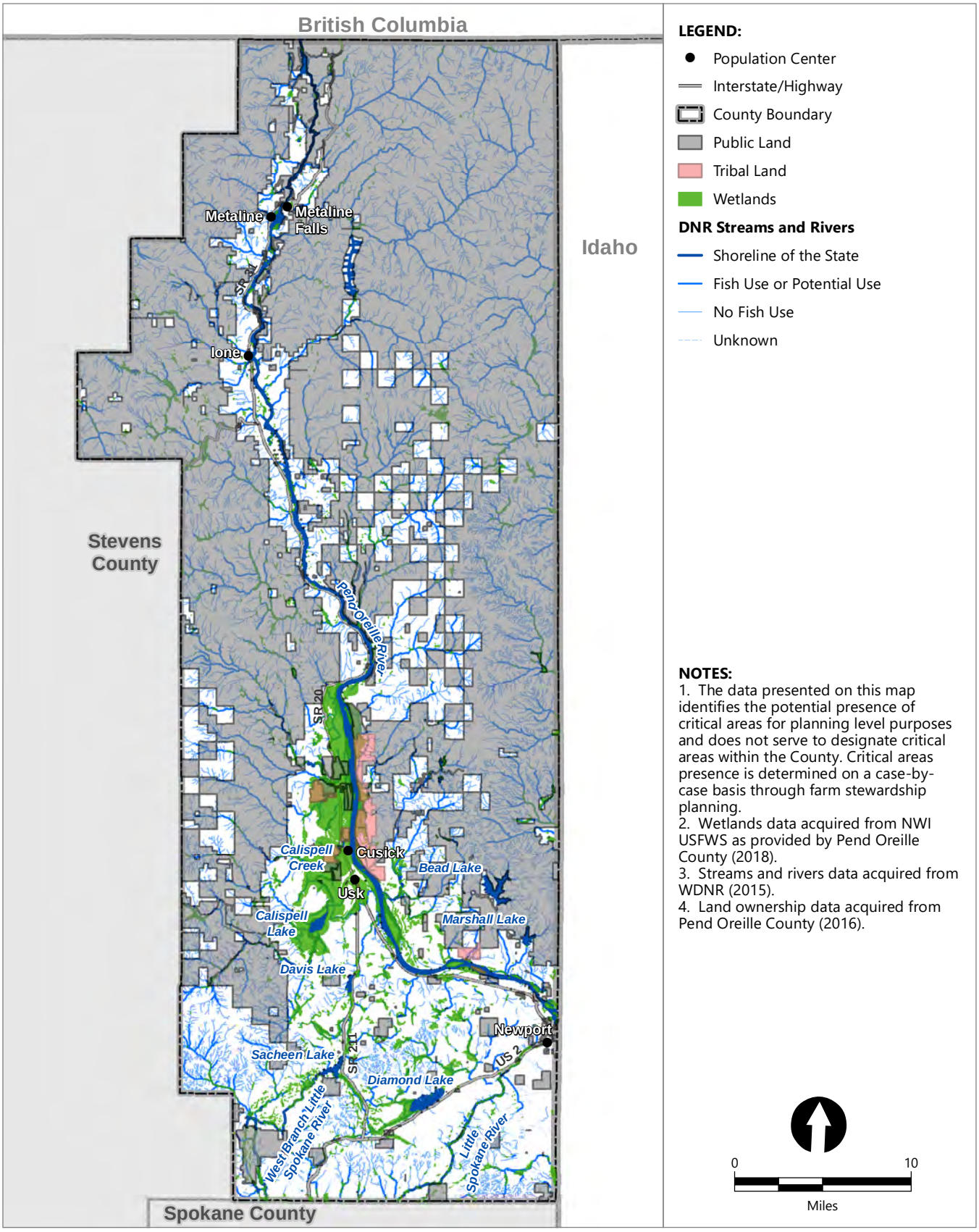
Elk on Davis Farm
Photo Credit: Ted Davis

3.1.1 Wetlands

Characteristics and functions overview: Wetlands in Pend Oreille County provide a range of functions for water quality, hydrology, and fish and wildlife habitat. Wetlands are characterized as areas that are inundated with water and are surrounded by vegetation adapted to saturated soil conditions. Wetlands act to reduce siltation and erosion by catching particles in vegetation or allowing sediment to settle on the bottom. Filtration of water also occurs as water is filtered through wetland vegetation. Wetland vegetation also provides shade, which acts to moderate water temperature. Additionally, wetlands act as water storage which moderates flooding and contributes to base flow. Wetlands also provide aquatic and woody vegetated habitat for fish and wildlife.

Intersections on agricultural lands: In Pend Oreille County wetlands are found on 6% of the County's agricultural lands (Figure 3-2). These wetlands are concentrated primarily along the Pend Oreille River in the central portion of the County near the town of Cusick and community of Usk. Wetlands also can be found around many of the lakes south of the Pend Oreille River and along many of the County's tributaries including Calispell, Diamond, and Sacheen lakes and the West Branch Little Spokane River.

Wetlands on Agricultural Lands in Pend Oreille County	
General locations/distribution	• Concentrated in river valleys and along streams and lakes, particularly in the central portion of the county on the Pend Oreille River
Characteristics	• Palustrine and riverine wetlands are largely found in the County characterized by freshwater emergent and forested shrub vegetation



Publish Date: 2018/05/30, 9:23 AM | User: lhudson
Filepath: \\orcas\gis\Jobs\WhiteBluffsConsulting_1678\PendOreilleCountyVSP\Maps\CriticalAreas\PendOreilleCo_CriticalAreas_Fig7_WetlandsAndStreams.mxd

ANCHOR QEA

Figure 3-2
Wetlands and Streams
Voluntary Stewardship Program
Pend Oreille County, Washington

3.1.2 Fish and Wildlife Habitat Conservation Areas

Characteristics and functions overview: FWHCAs include streams, riparian vegetation, and upland habitats that provide water quality, hydrology, soil, and fish and wildlife habitat functions. FWHCAs provide migration corridors; breeding and reproduction areas; forage, cover, and refugia space; and wintering habitat for wildlife species. Streams provide a key habitat, and streamside vegetation functions as a source of organic material, habitat structures and cover, streambank stabilization, and shade to help regulate water temperatures.

Large FWHCAs provide for species that require large spaces or range for migration, forage, and cover. Habitats of local importance may support sensitive species throughout their lifecycle, or are areas that are of limited availability, or high vulnerability to alteration. FWHCAs (riparian areas and wetlands) also help improve water quality, affect hydrology, contribute to soil health, and provide a variety of habitats.

Agriculture practices can impact natural habitats by replacing them with a managed landscape, displacing native wildlife species, and compacting soils from grazing. 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. 2003). 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.

Habitats and Species in Pend Oreille County

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

Common fish and wildlife species and habitats in Pend Oreille County include:

- Bull trout
- Rainbow trout
- Kokanee
- Cutthroat trout
- Lynx habitat
- Elk and mule deer
- Riparian habitat

Streams and Riparian Areas

Intersections on agricultural lands: In Pend Oreille County, the Pend Oreille River is the largest river system (Figure 3-2). In total, there are 1,753 miles of streams on privately owned land in the County, of which 97% are located on or adjacent to privately owned agricultural lands (1,693 miles). There are approximately 8,500 acres of agricultural land that intersect the Shoreline Master Program jurisdiction (200-foot shoreline buffer) within the County. Of the streams on or adjacent to agricultural lands, 24% are either shorelines of the state or contain fish habitat, per DNR data. Fish are not known to use 62% of the streams on agricultural lands. The remaining 14% of streams are classified as unknown, meaning that they may or may not have the characteristics of fish and wildlife habitat. There are approximately 223 stream miles with Priority Habitats and Species (PHS) mapped fish use intersecting with private agricultural lands in the County (see Figure 3-3). See Section 5 for

additional indicators that will be reviewed through the Work Plan's monitoring and reporting process, such as USGS' National Hydrography Dataset and WDFW's PHS data.

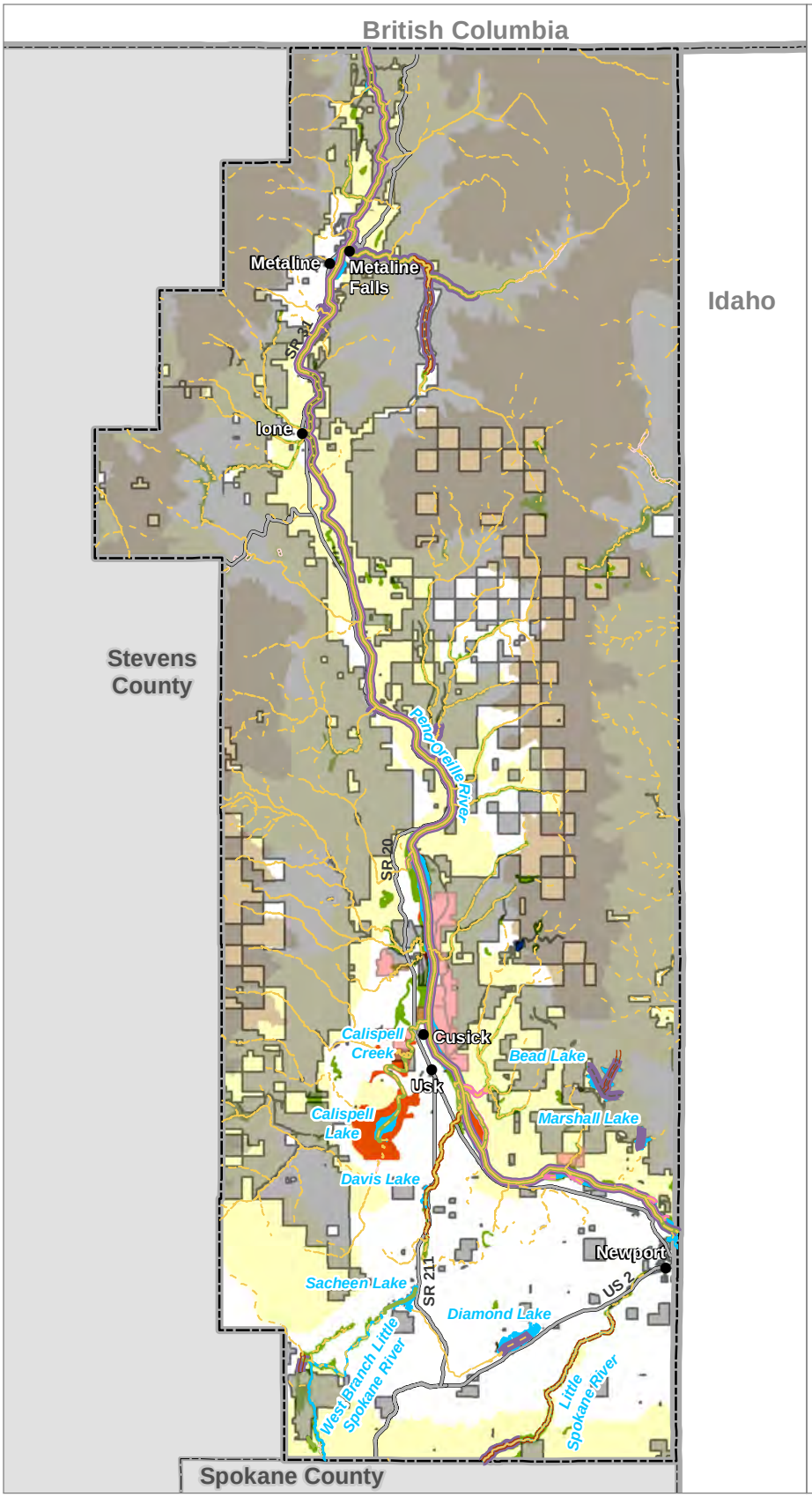
Streams and Riparian on Agricultural Lands in Pend Oreille County	
General locations/ distribution	**Streams:** Found throughout the County. See Section 2.1 for additional discussion of water resources within the County. **Riparian vegetation:** Located along water resources and form a "ribbon of green" from ordinary high water
Characteristics	**Streams:** • The Pend Oreille River supports a variety of fish species including bull trout, rainbow trout, Western cutthroat trout, and Kokanee (WDFW 2018). No anadromous fish species are present in the County due to blockage by Grand Coulee Dam on the Columbia River. However, many resident fish species are found in the Pend Oreille river. – There are two dams along the Pend Oreille River in Pend Oreille County: Boundary and Box Canyon dams. – Sullivan Creek is the largest stream tributary of the Pend Oreille River and supports bull trout and Kokanee. **Riparian vegetation:** • Forest riparian areas provide specialized habitat such as snag for woodpeckers and cavity nesting animals, and other benefits as discussed in the text box below. • Riparian habitat distribution in the County is most prominent down the center of the County, adjacent to the Pend Oreille River and associated waterbodies (see Figure 3-3).

Riparian Vegetation
Riparian vegetation includes the vegetated areas along water sources (wetlands and streams) characterized by plants accustomed to moist soil and high-water table conditions than adjacent areas. In Pend Oreille County's agricultural areas, riparian vegetation is typically riparian wetlands, forested with ponderosa pines and other conifers. 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.

Priority Habitats and Species

Intersections on agricultural lands: Areas mapped as Priority Habitats and Species are extensive in the County (Figure 3-3). However, many of these areas are associated with game species such as moose, white-tailed deer, and elk. When these species are included, they cover 53% of the agricultural lands in the County; when excluded, PHS covers approximately 11% of the agricultural lands. Of the non-game species, lynx habitat is the most prevalent PHS element in the County. While suitable lynx habitat is mapped in large areas in the County, occurrences are quite rare.

Priority Habitats and Species on Agricultural Lands in Pend Oreille County	
General locations/ distribution	• Large mammal and ungulate habitat can be found throughout much of the County, particularly on the abundant private and public timberlands used for grazing. • Small areas of bird, including waterfowl, habitats are located mostly in river valleys. • Isolated instances of talus and cliff habitat can be found on private lands, but are mostly located on public lands.
Characteristics	• Bull trout habitat is concentrated in the Pend Oreille River with some presence along East Branch LeClerc and Cedar creeks. • Game species habitat overlaps existing rangelands throughout the County. Predation of game species and livestock by wolves is a concern in these areas.



LEGEND:

- Population Center
- Interstate/Highway
- County Boundary
- Public Land
- Tribal Land

Priority Habitats and Species (PHS)

- Birds
- Waterfowl Concentrations
- Mammals
- Old-growth/Mature Forest
- Riparian Zones

PHS - Species of Recreational, Commercial, or Tribal Importance

Birds:
Cavity-nesting Ducks; Harlequin Duck; Wood Duck

Mammals:
Elk; Marten; Moose; Mountain Goat; Mule Deer; Northwest White-tailed Deer; Rocky Mountain Elk

PHS – Fish Distribution

- Bass
- Burbot
- Salmon
- Trout
- Walleye
- Whitefish

NOTES:

1. The data presented on this map identifies the potential presence of critical areas for planning level purposes and does not serve to designate critical areas within the County. Critical areas presence is determined on a case-by-case basis through farm stewardship planning.
2. Priority habitat and species data acquired from WDFW as provided by Pend Oreille County (2018).
3. Fish distribution data provided by WDFW (2018).
4. Land ownership data acquired from Pend Oreille County (2016).

0 10
Miles

Publish Date: 2018/10/05, 11:46 AM | User: lhudson
Filepath: \\orcas\gis\Jobs\WhiteBluffsConsulting_1678\PendOreilleCountyVSP\Maps\CriticalAreas\PendOreilleCo_CriticalAreas_Fig3_3_PriorityHabitatSpecies.mxd

ANCHOR QEA

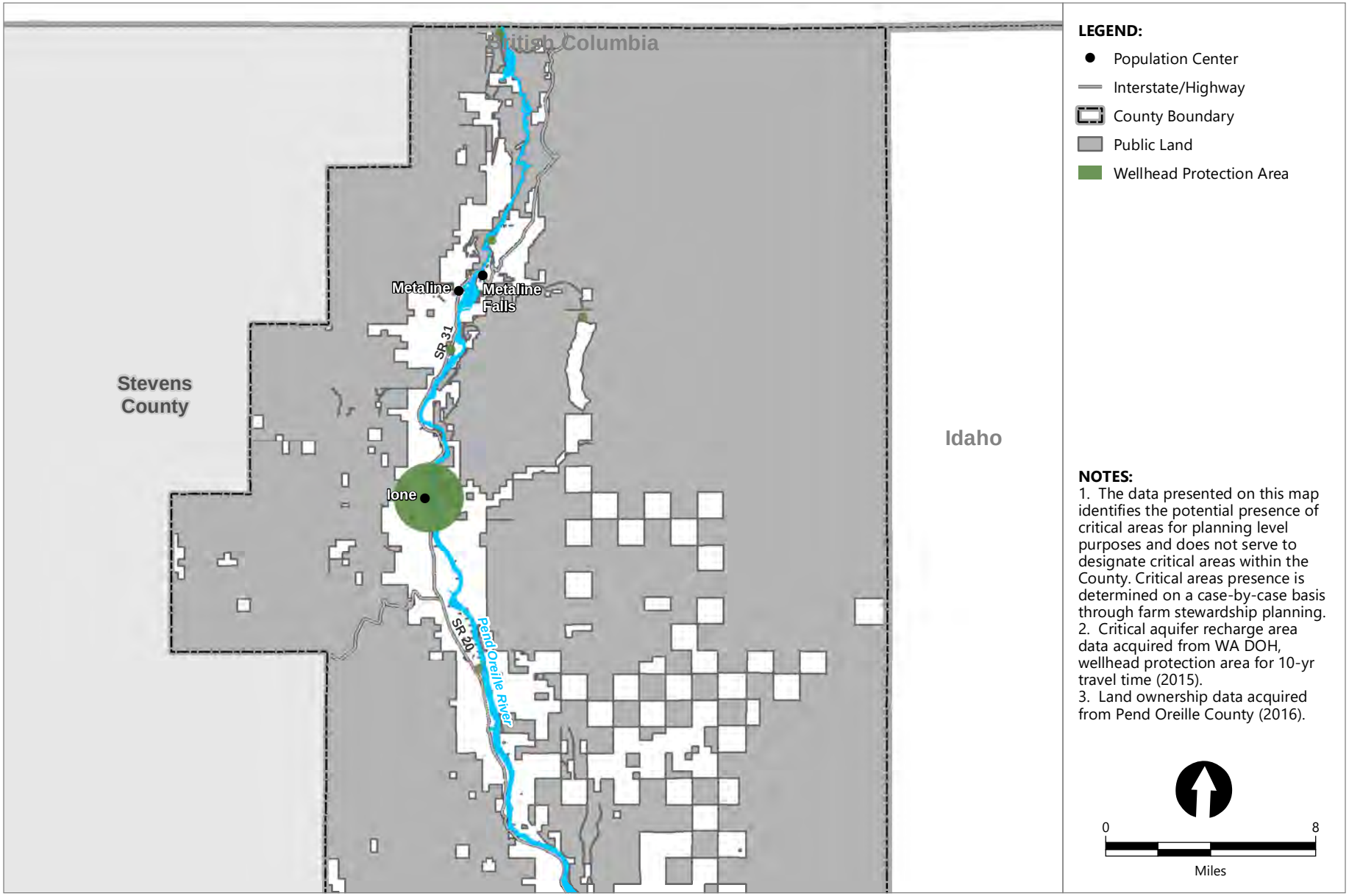
Figure 3-3
Priority Habitat and Species Map
Voluntary Stewardship Program
Pend Oreille County, Washington

3.1.3 Critical Aquifer Recharge Areas

Characteristics and functions overview: CARAs provide clean and safe public drinking water supplies by protecting areas near public water supplies from contamination from groundwater infiltration.

Intersections on agricultural lands: In Pend Oreille County, there are only a few wellhead protection areas. The largest area is associated with the town of Ione (Figures 3-4a and 3-4b). Overall, wellhead protection areas occur on 1% of agricultural lands in the County.

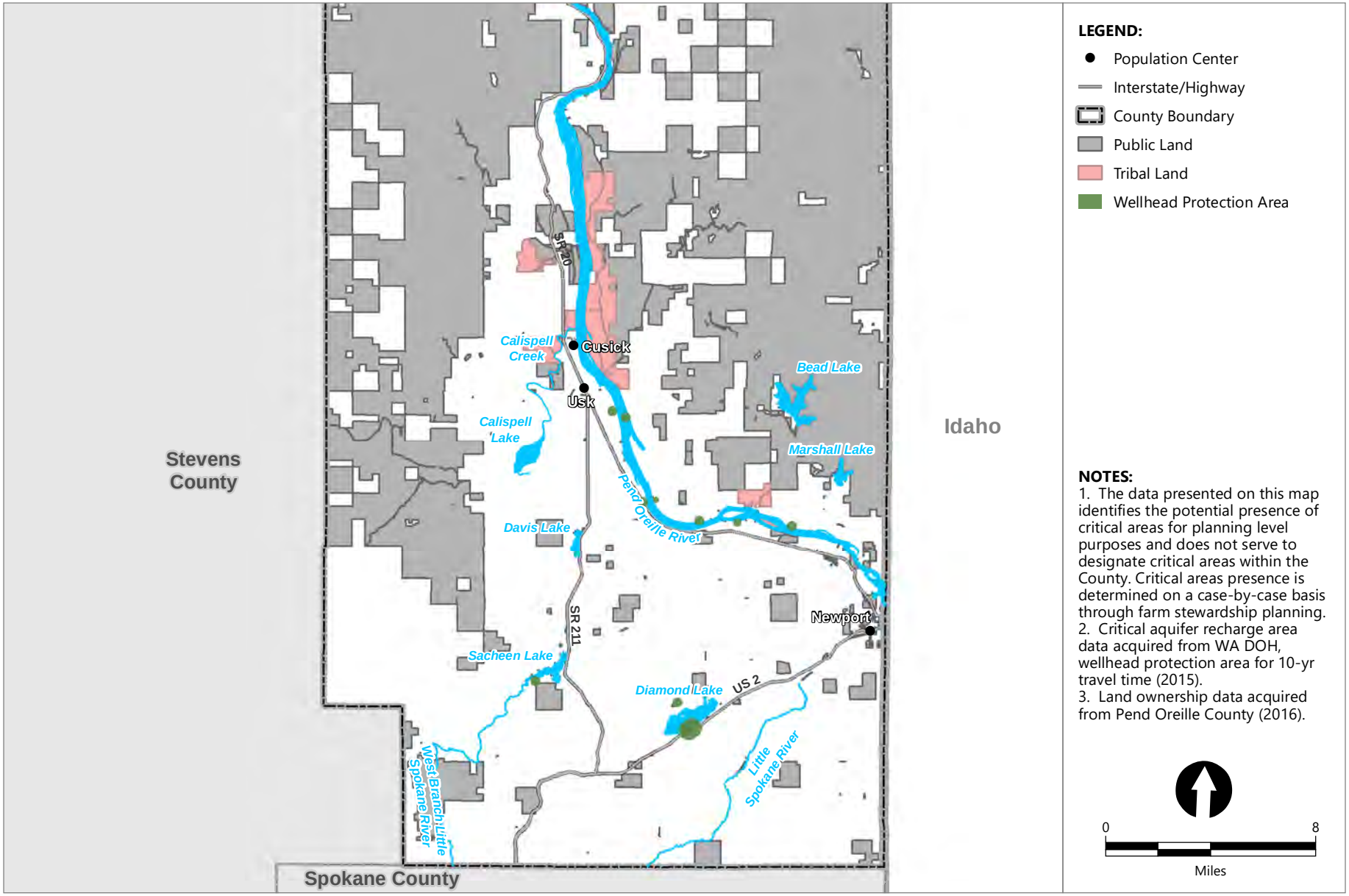
Critical Aquifer Recharge Areas on Agricultural Lands in Pend Oreille County	
General locations/distribution	• Most are within rangelands close to municipal water supplies; these are concentrated around the town of Ione and Newport, and in the communities next to Diamond and Sacheen lakes. There are also several located along the extent of the Pend Oreille River.
Characteristics	• Where recharge areas are present, there is a potential for contaminants on the land surface, such as fuel, pesticide, or fertilizer, to infiltrate into public or private drinking water supplies.



Publish Date: 2018/05/30, 9:34 AM | User: lhudson
Filepath: \\orcas\gis\Jobs\WhiteBluffsConsulting_1678\PendOreilleCountyVSP\Maps\CriticalAreas\PendOreilleCo_CriticalAreas_Fig9_CARA_DDP.mxd

ANCHOR QEA

Figure 3-4a
Critical Aquifer Recharge Areas
Voluntary Stewardship Program
Pend Oreille County, Washington



Publish Date: 2018/05/30, 9:34 AM | User: lhudson
Filepath: \\orcas\gis\Jobs\WhiteBluffsConsulting_1678\PendOreilleCountyVSP\Maps\CriticalAreas\PendOreilleCo_CriticalAreas_Fig9_CARA_DDP.mxd

ANCHOR QEA

Figure 3-4b
Critical Aquifer Recharge Areas
Voluntary Stewardship Program
Pend Oreille County, Washington

3.1.4 Geologically Hazardous Areas

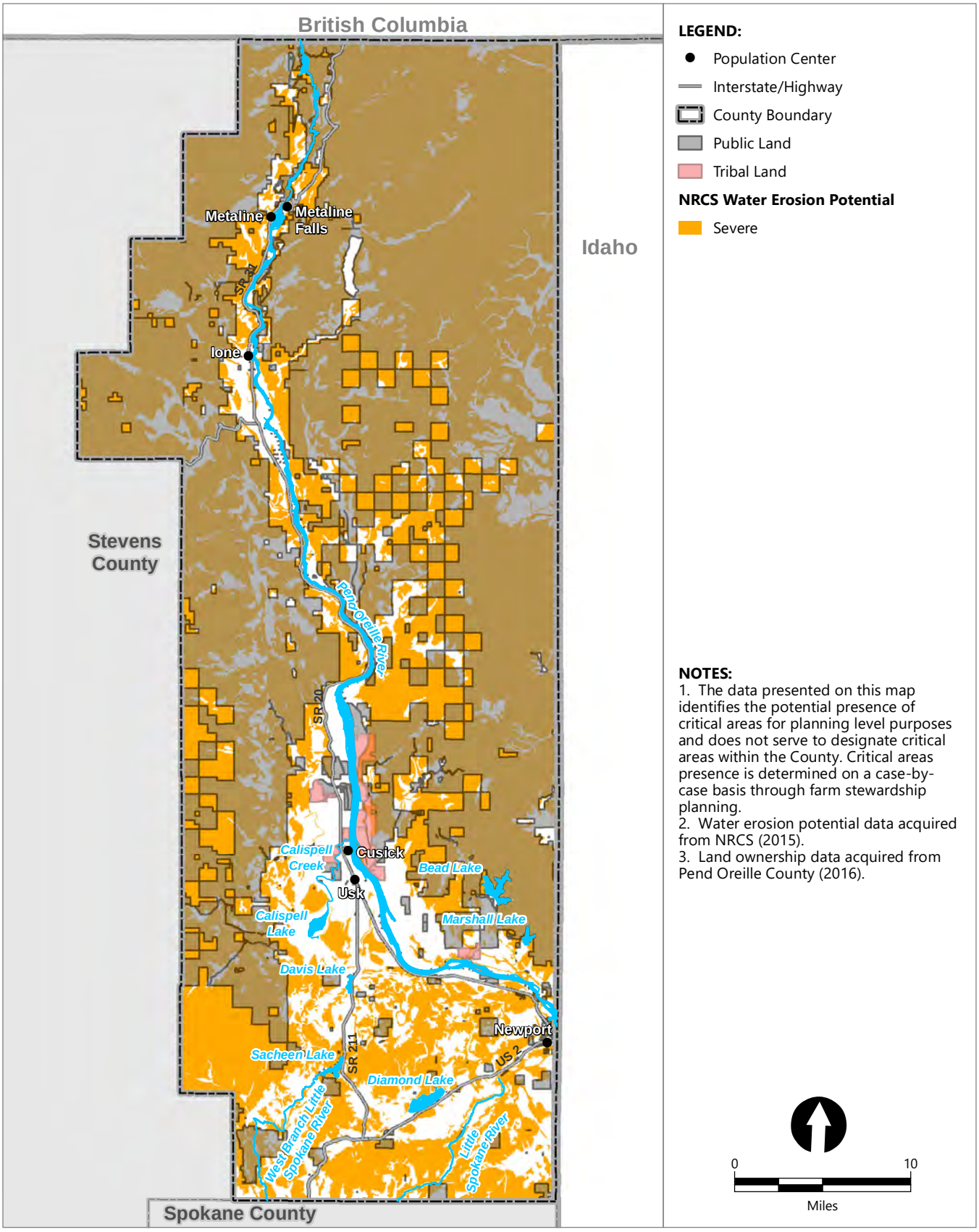
Characteristics and functions overview: This Work Plan addresses only a narrow focus for geologic hazards related to instability of steep slopes and potential for water and wind erosion. These are included mainly for maintaining agricultural viability by keeping productive soils in fields used to produce crops, improving water quality, and maintaining habitat. This is different from protecting inherent functions and values of other types of critical areas. Water erosion and wind erosion hazards are considered in this Work Plan for soil conservation and to reduce the risk of erosion effects on other functions such as surface water quality, water infiltration into soil to improve groundwater conditions, and soil health. Steep slopes are included and mainly associated with maintaining soil health in steep rangeland areas. In developed areas (outside of VSP), the County's Development Regulations can determine where constructing structures may not be suitable due to landslide, earthquake, or other geologic risks.

Intersections on agricultural lands: GHAs can primarily impact soil erosion risk from wind and water. In Pend Oreille County, designated erosion hazards are associated with development; however, water and wind erosion hazards are discussed as part of the Work Plan due to their potential impact on agricultural viability. Water erosion potential areas are mapped on a large portion of agricultural lands in Pend Oreille County (63%; Figure 3-5). These areas cover all agricultural types, but are most prevalent in rangelands. Wind erosion susceptibility areas are mapped on 76% of the County's agricultural lands (Figure 3-6).

Geologically Hazardous Areas on Agricultural Lands in Pend Oreille County	
General locations/ distribution	• Water erosion potential areas are concentrated in rangeland areas. • Wind erosion susceptibility areas are concentrated in rangeland areas, but are more prevalent in irrigated and dryland areas than water erosion areas.
Characteristics	• In rangeland areas, water erosion and landslide hazards can be exacerbated by the loss of vegetation from wildfires or overgrazing along streams.

Natural Resources Conservation Service Erosion Potential

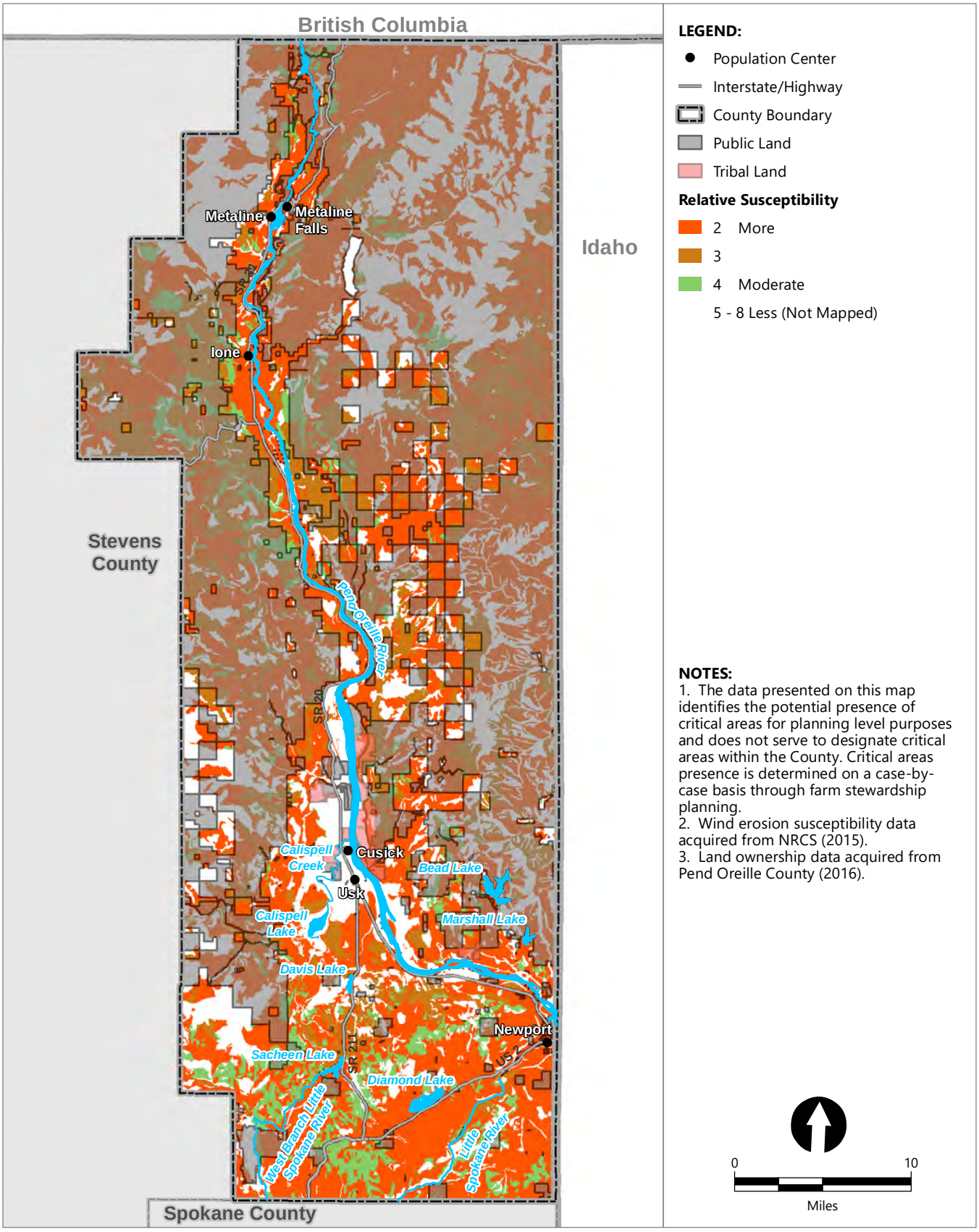
- **Water erosion potential** is identified based on long-term climate data (precipitation), inherent soil types, on-site characteristics (slopes and length of slopes), and cropping and management practices.
- **Wind erodibility soils groups** are based on qualities such as soil texture, organic matter, moisture, and wind velocity.



Publish Date: 2018/05/30, 9:39 AM | User: lhudson
Filepath: \\orcas\gis\Jobs\WhiteBluffsConsulting_1678\PendOreilleCountyVSP\Maps\CriticalAreas\PendOreilleCo_CriticalAreas_Fig10_WaterErosion.mxd

ANCHOR QEA

Figure 3-5
Water Erosion Potential
Voluntary Stewardship Program
Pend Oreille County, Washington



Publish Date: 2018/05/30, 9:49 AM | User: lhudson
Filepath: \\orcas\gis\Jobs\WhiteBluffsConsulting_1678\PendOreilleCountyVSP\Maps\CriticalAreas\PendOreilleCo_CriticalAreas_Fig11_WindErosion.mxd

ANCHOR QEA

Figure 3-6
Wind Erosion Susceptibility
Voluntary Stewardship Program
Pend Oreille County, Washington

3.1.5 Frequently Flooded Areas

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

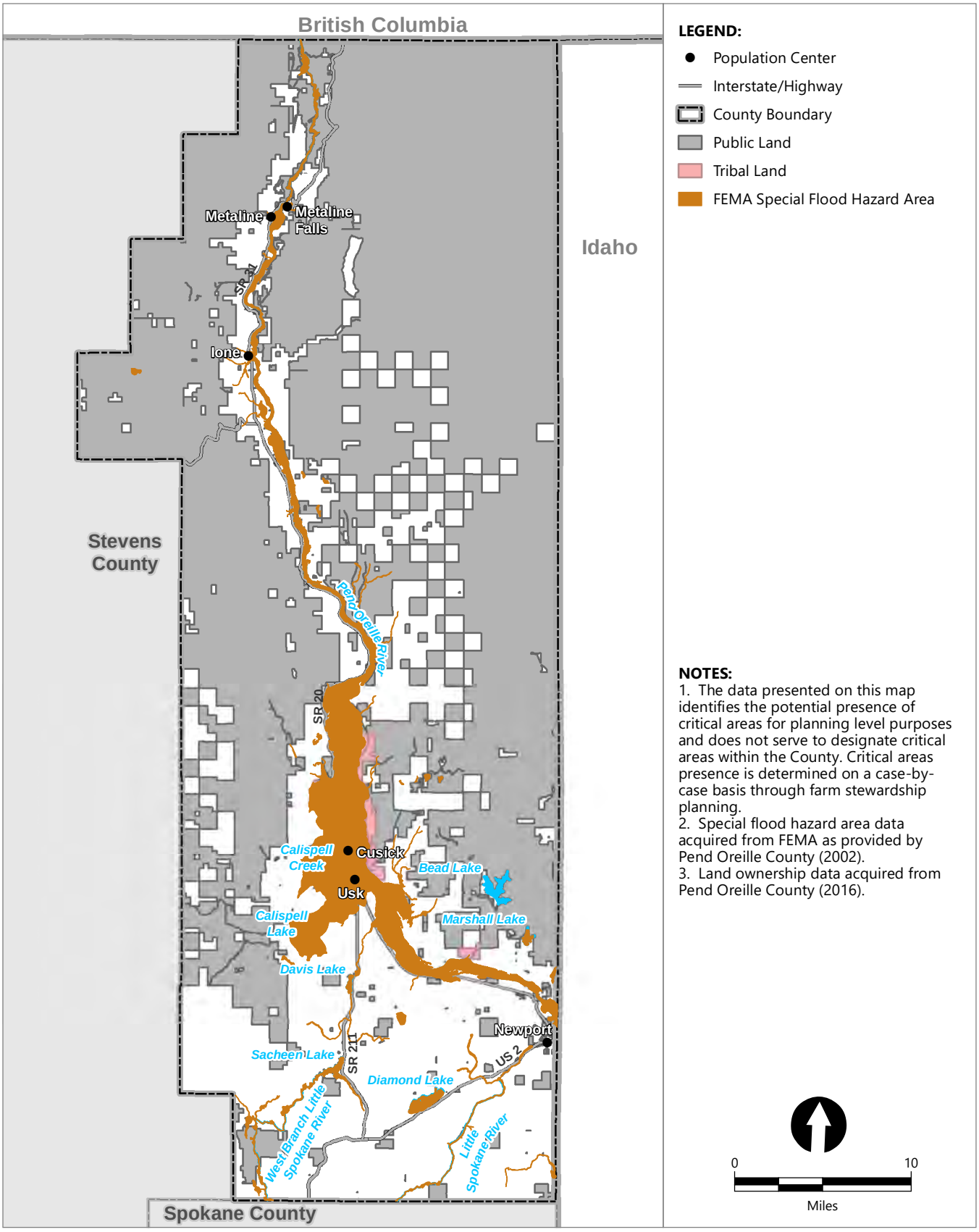
Intersections on agricultural lands: FFAs are found within 6% of the County's total agricultural lands (Figure 3-7). FFAs typically overlap or are adjacent to wetlands and some FWHCAs, primarily in the central portion of the County on the Pend Oreille River near the town of Cusick and community of Usk. 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.

Frequently Flooded Areas on Agricultural Lands in Pend Oreille County	
General locations/distribution	• Large portions of dryland and rangeland areas are within FFAs, with only a small portion of FFAs occur on irrigated land. • FFAs occur mainly along the Pend Oreille River and around Calispell Lake.
Characteristics	• Rain-on-snow events are a major cause of flooding in the County.

3.2 Agricultural Viability Baseline Conditions

Agriculture is widely recognized as a pillar of the Washington State and Pend Oreille County economies. The VSP regulations are 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, must be addressed 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.



Publish Date: 2018/05/30, 10:01 AM | User: lhudson
Filepath: \\orcas\gis\Jobs\WhiteBluffsConsulting_1678\PendOreilleCountyVSP\Maps\CriticalAreas\PendOreilleCo_CriticalAreas_Fig12_FrequentlyFloodedAreas.pdf.mxd

ANCHOR QEA

Figure 3-7
Frequently Flooded Areas (FEMA Special Flood Hazard Areas)
Voluntary Stewardship Program
Pend Oreille County, Washington

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

In Pend Oreille County, the primary agricultural product is livestock, which is heavily dependent on public rangelands for summer grazing. The 1934 Taylor Grazing Act, the 1976 Federal Land Policy and Management Act, and the 1978 Public Rangeland Improvement Act provides leased grazing, which stabilizes the livestock industry dependent upon the public range, prevents economic disruption, saves open space and western wildlife, and has been the mainstay of the rural western economy.

Table 3-2
Agricultural Viability – Regional Elements

Regional Elements	
Concept	**Detail**
Stable and secure agricultural land base	Public lands leases
	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 farm level, agricultural viability rests mostly on the productivity of the land and the ability of the operator to balance input costs with sales and market pressures (Table 3-3). In this Work Plan, emphasis is placed on implementing conservation practices through a systematic approach that maximizes the dual benefits of protecting and enhancing critical areas while enhancing agricultural viability. These systems are a suite of farming practices, applied by agricultural type, that target multiple agricultural viability concerns, including water quality, soil health, and nutrient and pest management. In combination, practices that maximize benefits and synergies through a systematic approach are expected to have the most benefit for critical areas and agricultural viability.

Another important aspect of agricultural viability is the importance of operating and maintaining existing conservation practices to achieve long-term benefits and minimize the number of practices that are discontinued over time. The continued operation of existing conservation practices will be a key component of VSP implementation. New technology or practices is another area that can be explored by agricultural producers to improve the operation of existing conservation practices or establish new ones. As described in this Work Plan, conservation practices have the potential to benefit multiple resources, including agricultural practices and critical areas.

Table 3-3
Agricultural Viability – Farm Elements

Farm Elements	
Concept	**Detail**
Reduce inputs	Energy (power, fuels)
	Chemicals/fertilizers
	Labor
Maintain/enhance land production capacity	Weed management
	Irrigation water systems management
	Soil health
	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 in Pend Oreille County)
	Maintaining resource lands and public lands leases
"No surprises" regulatory environment	Clean Water Act, Clean Air Act, Endangered Species Act, and others
	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

To obtain a firsthand agricultural viability perspective, producers in the Work Group provided insight on agricultural viability including strengths, weaknesses, opportunities, and threats (Table 3-4).

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

Strengths	Opportunities
• Excellent product (grass fed beef) • Strength of family farms • Established floodplains maintain lower land costs for agriculture • High quality Timothy hay production • Low cost of production relative to other areas • Feeding local people – cattle raised and consumed within County	• Local and regional market for grass-fed beef • Strong demand for product • New technologies (e.g., improved seed types) • Increased irrigation efficiency • Agricultural tourism • Limited urbanization pressures compare to other areas • Multiple smaller operations/integrated farming operations where producers sell to each other, with shared values and commitment to work together for sales • Partnership opportunities with the CD and NRCS • More comprehensive farmers market more centrally located in County to serve larger Spokane area • Small farms in the area are growing
Weaknesses	**Threats**
• Distance from markets and suppliers/shipping costs • Fluctuating price of hay and fertilizers and fuel • Cost of electricity and public utility rate increases; lost historical competitive advantage of low cost power • Short growing season • Limited options for crop diversity - hay and cattle are the primary agricultural products, and subject to commodity prices. Also, some crops like oats will be eaten by game species just before crop is ready to be harvested • Limited opportunity to vertically integrate • Smaller farms/operations often mean less economic buying power	• Reliance on public lands leases to support ranching • New and updated regulations and trade policies • Predation of livestock and changes in game patterns of migration and forage areas • Loss of land base to development • Wildfires, floods, and landslides (impacts to roads system) • Inflated land values drive up costs • Invasive plant species • Equipment costs, input costs, and labor increases from minimum wage makes it challenging to find and retain qualified labor • Younger generations not interested in larger commercial agriculture operations, although they have shown some interest in smaller agriculture operations or seeking other career opportunities. Baby-boomers more represented in larger commercial operations are retiring

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 practices 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.

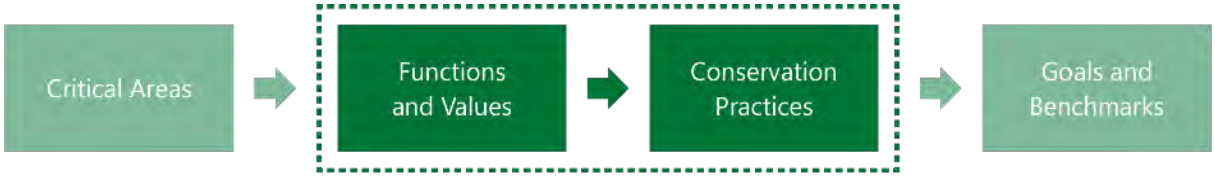
Pend Oreille County
photo credit: Travis Hanson

4 Protection and Enhancement Strategies

Agricultural producers play a major role in the stewardship and management of private lands and resources within Washington State and Pend Oreille 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 Pend Oreille County, agricultural producers have adopted a variety of conservation practices to address many of the major resource concerns within the County, including practices to improve habitat, reduce soil erosion, and improve soil quality.

This section introduces the connection between conservation practices and critical area functions and values (Figure 4-1). Additionally, this section discusses the conservation practices that have been implemented since 2011, highlighting the protections to critical areas and associated functions and values these practices are already providing.

Figure 4-1
Critical Areas Functions and Values Connection with Conservation Practices



4.1 Examples of Stewardship Activities that Protect Critical Areas

As discussed in Section 3, key critical areas functions include water quality, hydrology, soil, and habitat. Many conservation practices have been adopted within the County that provide a suite of benefits to these critical areas functions, in addition to maintaining the viability of agriculture.

Table 4-1 summarizes examples of conservation practices that have been applied by agricultural producers in the County under Natural Resources Conservation Service (NRCS) programs and Pend Oreille Conservation District (POCD)-led projects. This table helps illustrate the types of practices that have been or can be implemented to protect critical areas functions. As noted in the table, these examples also address agricultural viability.

It is important to consider implementing a suite of conservation practices in order to develop an effective conservation system on a ranch or farm. For example, prescribed grazing would realize the most benefit for critical areas protections and agricultural viability when implemented in conjunction with weed management, fencing, and shoreline stabilization practices. Many conservation practices can be enhanced with the addition of one or more complementary practices. The POCD is available to provide technical guidance and assistance to producers, working collaboratively with them to identify conservation practices that are complementary to their operations, promoting agricultural viability and protecting critical area functions.

The VSP Checklist (Appendix A-2) has been developed for agricultural producers and the POCD to determine how the VSP could apply to their operations. Appendix D provides a more comprehensive "toolbox" of example practices that have been or could be implemented by agricultural producers within the County.

VSP Checklist

The VSP Checklist (Appendix A) is a helpful tool to help document existing conservation practices and assess how the VSP can further support individual agricultural producers. It includes additional examples of conservation practices and strategies that protect and enhance critical areas and promote agricultural viability.

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 to be a VSP participant.**

Participation Confidentiality and Privacy

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

Table 4-1
Examples of Critical Areas Conservation Practices in Pend Oreille County

Example Practice	Applicability	Description	Critical Area Functions		Agricultural Viability
Prescribed Grazing	Rangeland Irrigated	Managing grazing and vegetation harvest to improve plant communities and manage weeds	Water Quality	• Reduces runoff and erosion • Reduces transport of nutrients and sediment	• Soil quality and conservation • Weed management • Yield and fertility
			Hydrology	• Increases infiltration and water availability	
			Soil	• Decreases water and wind erosion by increasing 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	
Livestock Watering Facility	Rangeland	Providing drinking water to livestock and wildlife, often to provide a water source away from streams or other areas of concern	Water Quality	• Reduces erosion and transport of nutrients by reducing loss of vegetation cover near streams	• Soil quality and conservation • Weed management • Yield and fertility
			Soil	• Decreases soil erosion by increasing vegetation cover	
			Habitat	• Improves the quantity of vegetation and health of plant communities by protecting streams and riparian areas	
Forest Understory Management	Rangeland	Managing forest understory by selectively cutting or removing trees and forest understory for range management	Water Quality	• Reduces transport of sediment by reducing wildfire hazard	• Soil quality and conservation • Weed/pest management • Yield and fertility
			Hydrology	• Increases infiltration and water availability	
			Soil	• Reduces runoff and erosion risks by reducing wildfire hazard • Improves soil composition and organic matter retention	
			Habitat	• Improves access to forage for grazing and browsing animals • Reduces risk of harmful insects and pests • Reduces wildfire hazard	
Pest Management	Rangeland Irrigated Dryland	Managing pesticide use to reduce runoff	Water Quality	• Decreases residual pesticides in surface and groundwater	• Soil quality • Weed management • Pollinator and beneficial organisms
			Soil	• Decreases wind and water erosion through pest management	
			Habitat	• Reduces negative effects of pests on food quality and quantity	

Note:
Functions are defined by the NRCS Conservation Practice Physical Effect (CPPE) matrix for each practice. See Section 5.2 and Table 5-6 for additional discussion and details on how practices provide benefits to these critical area functions, based on the NRCS CPPE scores.

4.2 Changes Since 2011 Baseline

Since 2011, agricultural producers have implemented conservation practices that provide protections and enhancements to critical areas and promote agricultural viability through private projects and projects funded by federal, state, and local governments. One of the key purposes of the VSP and this Work Plan is to leverage existing resources by relying on existing local planning efforts, existing 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. All the conservation practices implemented since July 22, 2011, are considered to be working towards the goals and benchmarks of this Work Plan inasmuch as they maintain or improve the critical area ecological functions.

Forest Understory Management to Maintain Grazing Conditions

As discussed in Section 2.1.4, the main type of rangeland in the County is forested rangeland, characterized by livestock that graze on understory vegetation in the forest. Forest understory management is a key practice included in this Work Plan for maintaining grazing access and conditions within forested rangelands. These practices also provide important protections to critical area functions by reducing wildfire hazards and the resulting erosion risks, improving soil composition and organic matter, and providing habitat and forage access to wildlife. Forest understory management to maintain or improve grazing conditions is different from forest practices associated with timber management for harvest. The practices conducted under the Forest Practices Act (RCW Chapter 76.09) are outside of the scope of VSP and are not considered a part of this Work Plan.

The following subsections summarize documented conservation practices, implemented since 2011 that the Pend Oreille 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 potentially reduce functions. They would also be due to restoration and conservation practices that improve functions but are occurring on lands not in agricultural use. If projects are publicly funded for fish and wildlife habitat enhancement or Federal Energy Regulatory Commission mitigation for Pend Oreille Public Utility District without a direct nexus to agricultural activities, they will be considered as enhancement, and not as mitigation to offset agricultural impacts elsewhere.

These documented practices likely represent only a subset of all the conservation practices that have been implemented since 2011, because many agricultural producers in the County implement practices independent of government programs. Accounting for these improvements would require

extensive self-reporting and documentation processes that are 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 that most implemented conservation practices, such as irrigation management system improvements, stock watering facilities, and fencing, will see very little to no relapse back to old practices. Less than 3% of these types of practices are anticipated to be removed or discontinued each year. There are other conservation practices (such as pest and nutrient management, residue management, and prescribed grazing) where a higher rate of discontinuation (6%) or more variability could be seen year to year in implementation. See Table 4-2 for assumptions related to varying estimated discontinuation rates.

Table 4-2
Calculating Discontinuation for Conservation Practices

Assumed Range of Discontinuation	Conservation Practice Category	Example Practices
None	**Easements and Infrastructure** • Permanent conservation practices	• Permanent easements • Major infrastructure
Lower 0 – 3%	**Conservation Investments** • High barriers to entry/exit – Maintenance cost – Effectiveness • Increases land productivity • Lowers cost	• Fencing • Forest understory management • Streambank/shoreline protection • Habitat restoration • Irrigation management • Nutrient and pest management
Higher 3 – 7%	**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)	• Prescribed grazing • Cover crop • Range/forest understory vegetation management

4.2.1 Natural Resources Conservation Service Conservation Practices

Conservation practices have been implemented on approximately 120,000 acres since 2011 through the NRCS-funded programs on agricultural lands. The most implemented practices that have been implemented include:

- Tree and shrub establishment to improve plant diversity, habitat, and improve soil functions while controlling erosion and sequestering carbon
- Forest understory management practices to reduce wildfire hazard, maintain grazing conditions, and improve vegetation composition to support grazing
- Fencing to protect riparian and other habitats from grazing and trampling
- Bank stabilization to improve the stream corridor and prevent damage to land uses

As summarized previously in Table 4-1, these practices also promote agricultural viability. VSP definitions help in categorizing whether a conservation strategy, practice, or project qualifies as a protection or an enhancement measure under the VSP. Under the VSP definitions "enhance… means to improve the processes, structure, and functions existing, as of July 22, 2011…" and "protect… means to prevent the degradation of functions and values existing as of July 22, 2011" (RCW 36.70A.703). Because most conservation practices or projects installed since 2011 were designed to improve functions, they should generally be counted as enhancement. See Section 5.2 for additional discussion on measurable benchmarks for protection and enhancement.

Table 4-3 provides a summary of top NRCS practices implemented under the Environmental Quality Incentives Program (EQIP) and Wildlife Habitat Improvement Program (WHIP) for acreages and number of projects. As previously noted, these practices and programs only represent a portion of all the practices being implemented, but that are currently unaccounted for in the County.

Table 4-3
Top NRCS Conservation Practices Implemented from 2011 to 2017

Practice	Amount	Projects Implemented
Access Road	6.5 miles	15
Fencing	2.2 miles	10
Woody Residue Treatment	890 acres	110
Pest Management	180 acres	50
Upland Wildlife Habitat Management	1,530 acres	125
Tree/Shrub Establishment	370 acres	80
Restoration and Management of Rare and Declining Habitats	670 acres	100
Fish and Wildlife Structure	108 structures	20
Forest Stand Improvement	860 acres	110

Notes:
Source: Data provided by NRCS (2018)
1. Includes irrigation water management (10 projects), sprinkler systems (6 projects), and a micro-irrigation system (1 project).

Additionally, enhancement projects have been implemented under NRCS's Conservation Stewardship Program (CSP), which provides technical assistance, funding, and additional incentives for producers to enhance existing practices by providing funding to actively manage, maintain, and expand existing conservation practices. Project acres implemented under CSP projects are thus considered enhancements under VSP. Any reductions in CSP acres are considered reduction in enhancement acres and would not be accounted against baseline conditions. Since 2011, CSP practices have been applied to approximately 6,000 acres and 10 miles through 800 projects, primarily managing forest understory areas and enhancing efforts to protect water quality, soil, and habitat. Conservation practices under CSP can be reviewed during implementation to assess the level of enhancements that could be counted toward the Work Plan's goals and benchmarks.

4.2.2 Pend Oreille Conservation District-Led Practices

Numerous other projects have also been implemented through the POCD and are often funded directly by the POCD or through programs administered by other agencies. A majority of the projects implemented by the POCD include fencing for livestock and riparian restoration projects. See Table 4-4 a summary of POCD-led projects implemented by agricultural producers since 2011.

Table 4-4
Pend Oreille Conservation District-Led Conservation Practices Implemented from 2011 to 2017

Practice	Amount	Projects Implemented
Tree and Shrub Establishment	18 acres	6
Fencing	17,600 feet	5
Fuel Break	60 acres	3
Pruning	35 acres	3
Riparian Forest Buffer	7 acres	1
Streambank Stabilization	0.11 acres	1
Tree and Shrub Site Preparation	1 acre	1

4.2.3 Conservation Reserve Program

Congress created the Conservation Reserve Program (CRP) in the 1985 Farm Bill as a land conservation program to address concerns over soil erosion and as a cropland retirement mechanism to help a struggling farm economy due to the large surplus of crops. The CRP is a federally funded program, managed by the Farm Service Agency (FSA), that pays a yearly rental payment in exchange for farmers removing cropland from agricultural production and establishing native plant species. Acres enrolled in CRP vary year to year, depending on the availability of federal

funding. 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.

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 enhancements under VSP and, if put back into production, are accounted for under baseline conditions.

4.2.4 Other Programs

Additional programs, entities, and agencies that support farmers in implementing conservation practices are further described in Section 6.4. Technical assistance and stewardship programs and incentives are also provided through the Pend Oreille Weed Board, NRCS, Washington State Department of Ecology, Washington Department of Fish and Wildlife, and Washington State Conservation Commission (WSCC), through private lands programs and assistance, such as the Farmed Smart Partnership and Aquatic Land Enhancement Account (ALEA).

Pend Oreille County Weed Board

Noxious weed control efforts are conducted through the Pend Oreille Weed Board cost-share program that is available throughout County. The Weed Board promotes cooperative weed control through public education and by personal or written contacts with landowners. The Weed Board also provides workshops and other public education opportunities for landowners.

Fencing

A range of fencing alternatives 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 vary and include permanent fencing, temporary fencing including electrical, and wildlife-friendly fencing. All of these are examples of fencing practices that could protect or enhance critical areas (Paige 2012).

Beekeeping in Pend Oreille County
Photo Credit: David Marcell, Pend Oreille Conservation District

Pend Oreille County
photo credit: White Bluffs Consulting

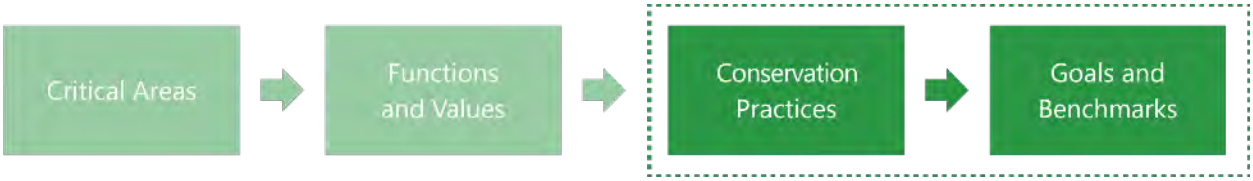
5 Goals, Benchmarks, and Adaptive Management

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 existing on July 22, 2011. Benchmarks for enhancement of critical areas functions and values are designed to be accomplished through voluntary, incentive-based measures.

This section of the Work Plan identifies the following:

- **Goals** for protecting and enhancing the County's critical areas, and the following four associated major critical areas functions and values: 1) water quality; 2) hydrology; 3) soil; and 4) habitat. See Section 2.3 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 conservation practices. See Section 4 for additional discussion on the connection between conservation practices and critical areas functions. Section 5.2 further discusses the methods used to identify functional effects of conservation 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 plans** 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 – Stewardship Practices Connection with Goals and Benchmarks



5.1 Goals

The VSP regulations require 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 identifies the following elements in support of RCW 36.70A.720 (1)(a) and (c) and Section 5.2 includes measurable benchmarks:

- **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 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 D).
- **Existing plans:** Existing plans were reviewed and incorporated where applicable to VSP and are also referenced in Tables 5-1 through 5-5 where applicable to identified goals. The following plans identify goals, objectives, and strategies that are included in the Work Plan, as described in the following bullets. See Appendix E for additional discussion on review of applicable data and plans as a part of the process for establishing measurable benchmarks and associated indicators.

- **Shoreline Master Program:** The Pend Oreille County Shoreline Master Program includes goals and policies for management and protection of shorelines of the state located within the County, along with a restoration plan and inventory and analysis of existing features. Critical areas protection and restoration of fish and riparian habitat are significant parts of the program.
  - Shoreline Master Program (Pend Oreille County 2015a)
  - Shoreline Master Program Appendix B: Inventory and Analysis Plan (Pend Oreille County 2015b)
  - Shoreline Master Program Appendix C: Restoration Plan (Pend Oreille County 2015c)
- **Protection of Natural Resources:** Erosion control through wildfire mitigation is a prominent aspect of many natural resource management plans in the County. Reducing the amount of available fuel in forested areas, implementing grazing management to support productive soil, and the constructing bank stabilization projects are key recommendations to protect residents, property, and critical areas.
  - Pend Oreille County Bank Stabilization Guide (Pend Oreille County 2016b)
  - Pend Oreille County Community Wildfire Protection Plan (Pend Oreille County and WDNR 2011)
  - POCD Annual Work Plan (POCD 2017)
  - Colville National Forest Proposed Revised Land and Resource Management Plan (Stevens, Ferry, and Pend Oreille Counties 2016)
  - Sullivan Creek Habitat and Geomorphic Assessment (SCL and NHC 2013)
- **Watershed Plans:** The watershed management plans for WRIA 55 and WRIA 57 include recommendations for improving water quality, water quantity, habitat, and instream flows in the Little and Middle Spokane watersheds. The initial water assessment prepared for WRIA 62 provides recommendations for managing water resources within the Pend Oreille River watershed.
  - Watershed Management Plan: WRIA 55 and WRIA 57 (Little Spokane River and Middle Spokane River Planning Unit 2006)
  - Detailed Implementation Plan: WRIA 55 and WRIA 57 (WRIA 55/57 Watershed Implementation Team 2008)
  - Initial Watershed Assessment: WRIA 62 Pend Oreille River Watershed (Dames & Moore and CEG 1995)
- **Boundary Hydroelectric Project Plans:** Plans written as part of Seattle City Light's Boundary Hydroelectric Project include tributary management, aquatic habitat and terrestrial resource management, and water quality parameters in the Boundary Reservoir and the Pend Oreille River. Habitat enhancement and water quality

strategies contribute to critical area protection goals, especially for FWHCAs, wetlands, and FFAs.

  - Boundary Hydroelectric Project Tributary Management Plan (R2 2014)
  - Boundary Hydroelectric Project Fish and Aquatics Management Plan (SCL 2010)
  - Boundary Hydroelectric Project Terrestrial Resources Management Plan (SCL 2009)
  - Boundary Hydroelectric Water Quality Certification (Bellatty 2011)

- **Fish and Wildlife Plans:** U.S. Fish and Wildlife Service and Washington Department of Fish and Wildlife have numerous wildlife and habitat management and recovery plans for species or areas within Pend Oreille County. All of the plans focus on conservation and enhancement of degraded habitat to help the recovery or maintenance of sensitive fish and wildlife species in the county, with recommended protection of FWHCAs and riparian areas.
  - Recovery Plan for the Coterminous United States Population of Bull Trout (U.S. Fish and Wildlife Service 2015)
  - Riparian Ecosystems, Volume 1: Science Synthesis and Management Implications (Quinn et al. 2018)[2]
  - Riparian Ecosystems, Volume 2: Management Recommendations (Windrope et al. 2018) (*draft*)[3]
  - Washington State Deer Management Plan: White-tailed Deer (WDFW 2010)
  - Washington State Mule Deer Management Plan (WDFW 2016)
  - Wolf Conservation and Management Plan (Wiles et al. 2011)
  - Selkirk Elk Herd Management Plan (WDFW 2014a)
  - Washington Department of Fish and Wildlife 2015-2021 Game Management Plan (WDFW 2014b)

The objectives and key conservation practices described in the following sections are consistent with plans and programs that have been developed to protect or enhance critical areas throughout the County. For example, the watershed plans prepared for WRIAs 55 and 57 place high priority on projects that would protect or restore important aquatic and riparian habitat from further degradation (Little Spokane River and Middle Spokane River Planning Unit 2006; WRIA 55/57 Watershed Implementation Team 2008). These plans primarily focus on instream flows, but include objectives related to water rights, water availability, water quality, and conservation and restoration

[2] This plan is an update to the 1997 Management Recommendations for Washington's Priority Habitats: Riparian (Knutson and Naef 1997), which 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 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.

[3] *Ibid*

measures to address some of these issues. Some of the watershed plan objectives, for example, that are addressed in this Work Plan include strategies to promote water quality, hydrology, and soil functions by reducing erosion and wildfire risk, and improving water storage and filtration through conservation practices.

Pend Oreille County and POCD also have developed guiding documents that identify priorities, goals, and objectives for the protection and enhancement of critical areas that have been incorporated into this Work Plan (Pend Oreille County 2016b; Pend Oreille County and WDNR 2011; POCD 2017; Stevens, Ferry, and Pend Oreille Counties 2016). These documents include streambank stabilization guidance developed for property owners looking to implement more habitat-friendly habitat stabilization methods (Pend Oreille County 2016b). As demonstrated in Section 5 of this Work Plan, streambank stabilization is a widely used conservation practice for protecting and enhancing critical areas. The POCD has also developed an annual work plan identifying natural resource priorities, goals, and objectives for the protection and enhancement of critical areas to be implemented in coordination with agricultural producers. These goals and objectives have been incorporated into this Work Plan (Sections 5 and 6).

This Work Plan also incorporates objectives from extensive studies completed by Seattle City Light as part of the Boundary Project at Boundary Dam, which is located on the Pend Oreille River near the Canadian border (Bellatty 2011; R2 2014; SCL 2009 and 2010). The Boundary Project documentation includes habitat restoration studies and planning efforts implemented under the Federal Energy Regulatory Commission license as mitigation for hydroelectric operations. These documents include existing conditions information related to critical areas and species and identify priority habitat restoration areas within the watershed. During implementation, the conservation practices will be promoted to complement planned restoration efforts.

Table 5-1
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	• Reduces siltation by capturing sediment • Retains water to reduce 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 the following:

- Ancillary benefits from implemented stewardship 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)
- Reducing input costs associated with nutrient, pest, and water management
- Financial incentives to offset start-up costs for new practices and infrastructure

Objectives	Key Conservation Practices	Consistency with Existing Plans
Protect and voluntarily enhance acres managed using practices that provide direct protections to wetlands and wetland buffers	• Riparian Forest Buffer • Tree/Shrub Establishment • Restoration and Management of Rare and Declining Natural Communities • Streambank Stabilization • Conservation Cover • Fencing • Wetland Wildlife Habitat Management • Wetland Creation	• 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). Pend Oreille County Shoreline Master Program and Restoration Plan (2015)

Goal #1: Protect and/or enhance wetland functions		
Protect and/or enhance acres managed using practices that promote water quality and hydrology functions by reducing erosion and improving water storage and filtration	• Heavy Use Area Protection • Conservation Cover • Tree/Shrub Establishment • Integrated Pest Management • Watering Facilities • Streambank Stabilization • Forage and Biomass Planting • Critical Area Planting • Mulching	• Pend Oreille County Bank Stabilization Guide (2016b) • Colville National Forest Proposed Revised Land and Resource Management Plan (Stevens, Ferry, and Pend Oreille Counties 2016) • WDFW Recovery Plan for the Coterminous United States Population of Bull Trout (2015)
Protect and/or enhance acres managed using practices that promote water quality and aquatic habitat functions by reducing inputs from runoff	• Integrated Pest Management • Tree/Shrub Establishment	• Pend Oreille County Shoreline Master Program and Restoration Plan (2015)

Table 5-2
FWHCA Protection and Enhancement Goals

Goal #2: Protect and/or enhance FWHCA functions

Protection and enhancement: Special emphasis on key functions provided by FWHCAs

Key Functions	FWHCA Functions
Water Quality	• Reduces siltation by stabilizing streambanks with 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	• Reduces rate of erosion by providing vegetative cover
Habitat	• Provides spawning, rearing, and migratory habitat for fish, and riparian also provides refuge, nesting, 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 the following:

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

Goal #2: Protect and/or enhance FWHCA functions		
Objectives	**Key Conservation Practices**	**Consistency with Existing Plans**
Protect and/or enhance acres managed using practices that promote habitat functions by restoring or creating new habitat structures	• Conservation Cover • Tree/shrub Establishment • Restoration and Management of Rare and Declining Habitats • Fish and Wildlife Structure • Riparian Forest Buffer • Upland Wildlife Habitat Management	• WRIA watershed plans (Little Spokane River and Middle Spokane River Planning Unit 2006; Watershed Implementation Team 2008) • 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). Pend Oreille County Community Wildfire Protection Plan (Pend Oreille County and WDNR 2011) • WDFW Recovery Plan for the Coterminous United States Population of Bull Trout (2015)
Protect and/or enhance acres managed using practices that promote habitat functions by limiting trampling of habitat	• Conservation Cover • Watering Facilities • Fencing • Heavy Use Area Protection	
Protect and/or enhance acres managed using practices to promote habitat functions by preventing unintentional conversion of shrub-steppe habitat	• Fencing • Watering Facilities • Livestock Pipeline	

Goal #2: Protect and/or enhance FWHCA functions		
Protect and/or enhance acres managed using practices that promote water quality, hydrology, and soil functions by reducing erosion and wildfire risk, and improving water storage and filtration	• Conservation Cover • Forest Understory Management • Mulching • Critical Area Planting • Streambank Stabilization • Forage and Biomass Planting	• Terrestrial Resource Management Plan (SCL 2009) • Sullivan Creek Habitat and Geomorphic Assessment (SCL and NHC 2013) • Boundary Hydroelectric Project Tributary Management Plan (R2 2014) • Boundary Hydroelectric Project Fish and Aquatics Management Plan (SCL 2010) • WDFW Deer Management Plan: White-tailed Deer (2010) • WDFW Selkirk Elk Herd Management Plan (2014a) • WDFW Wolf Conservation and Management Plan (2011) • WDFW Mule Deer Management Plan (2016) • WDFW 2015-2021 Game Management Plan (2014b) • 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).
Protect and/or enhance acres managed using practices that promote water quality and aquatic habitat functions by reducing inputs from runoff (surface water quality)	• Integrated Pest Management • Critical Area Planting • Tree/Shrub Establishment	• Pend Oreille County Shoreline Master Program and Restoration Plan (2015)
Protect and/or enhance acres managed using practices to protect fish-bearing streams and limit shoreline and watercourse degradation and enhance shoreline areas and watercourses	• Conservation Cover • Watering Facilities • Riparian Forest Buffer • Restoration and Management of Rare and Declining Habitats • Stream Stabilization • Fish and Wildlife Structures	• Pend Oreille County Shoreline Master Program and Restoration Plan (2015)

Table 5-3
FFA Protection and Enhancement Goals

Goal #3: Protect and/or enhance FFA functions

Protection and enhancement: Special emphasis on key functions provided by FFAs for erosion hazards

Key Functions	FFA Functions
Water Quality	• Vegetation in FFAs 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 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 the following:

- Ancillary agriculture benefits from implemented practices (maximized availability of surface withdrawals for irrigation, flood control benefits/soil preservation, increased soil moisture, weed management, and pollinator/beneficial organisms)
- Reducing costs associated with flood management and flood cleanup
- Financial incentives to offset start-up costs for new practices and infrastructure

Objectives	Key Conservation Practices	Consistency with Existing Plans
Protect and/or enhance FFAs directly	• Conservation Cover • Tree/Shrub Establishment • Riparian Forest Buffer • Stream Stabilization • Fencing	• Pend Oreille County Shoreline Master Program and Restoration Plan (2015) • 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).
Protect and/or enhance acres managed using techniques that limit soil compaction or trampling of habitat	• Watering Facilities • Fencing • Livestock Pipeline • Heavy Use Area Protection	• Pend Oreille County Shoreline Master Program and Restoration Plan (2015) • Colville National Forest Proposed Revised Land and Resource Management Plan (Stevens, Ferry, and Pend Oreille Counties 2016)

Goal #3: Protect and/or enhance FFA functions		
Protect and/or enhance acres managed using practices that promote water quality, hydrology, soil, and habitat functions by reducing erosion and improving water storage and filtration	• Conservation Cover • Forest Understory Management • Watering Facilities • Mulching	• Pend Oreille County Community Wildfire Protection Plan (Pend Oreille County and WDNR 2011) • Pend Oreille County Bank Stabilization Guide (2016b)

Table 5-4
CARA Protection and Enhancement Goals

Goal #4: Protect and/or enhance CARA functions

Protection and enhancement: Special emphasis on key functions provided by CARAs

Key Functions	CARA Functions
Water Quality	• 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 the following:

- Ancillary agriculture benefits from implemented practices (increased soil, increased soil moisture, weed management, pollinator/beneficial organisms, and increased fertility)
- Reducing input costs associated with chemicals
- Reducing costs associated with irrigation and livestock watering
- Financial incentives to offset start-up costs for new practices and infrastructure
- Hazardous materials spill containment and cleanup

Objectives	Key Conservation Practices	Consistency with Existing Plans
Protect and/or enhance acres managed to protect shallow groundwater wells by managing chemical and nutrient input controls	• Integrated Pest Management	• WRIA watershed plans (Little Spokane River and Middle Spokane River Planning Unit 2006; Watershed Implementation Team 2008) • Pend Oreille County Shoreline Master Program and Restoration Plan (2015)
Protect and/or enhance acres managed to promote natural groundwater filtration functions	• Conservation Cover • Tree/Shrub Establishment • Fencing	
Protect and/or enhance acres managed to promote hydrology functions by improving water conservation	• Livestock Pipeline • Watering Facilities	

Table 5-5
GHA (Erosion Hazard) Protection and Enhancement Goals

Goal #5: Protect and/or enhance GHA (erosion hazard) functions

Protection and enhancement: Special emphasis on key functions provided by GHAs for erosion hazards

Key Functions	GHA Functions
Water Quality	• 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 the following:

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

Objectives	Key Conservation Practices	Consistency with Existing Plans
Protect and/or enhance acres managed using practices that promote water quality, hydrology, soil, and habitat functions by reducing erosion and wildfire risk, and improving water storage and filtration	• Conservation Cover • Forest Understory Management • Tree/Shrub Establishment • Mulching • Pond • Grade Stabilization Structure • Shoreline Stabilization	• Pend Oreille County Community Wildfire Protection Plan (Pend Oreille County and WDNR 2011) • Pend Oreille County Bank Stabilization Guide (2016b) • Sullivan Creek Habitat and Geomorphic Assessment (SCL 2013)

5.2 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 of critical areas functions and values through voluntary, incentive-based measures. Protection and enhancement benchmarks are based on agricultural producer participation in conservation practices that further the Work Plans goals identified in Section 5.1.

Establishing Baseline Monitoring per RCW 36.70A.720 (1)(i)

This section describes measurable benchmarks for participation in conservation practices. Conservation practices have been implemented since 2011 to improve agricultural productivity, reduce erosion, and improve soil quality.

Due to the lack of available data to establish baseline County-wide stewardship participation as of 2011, the Pend Oreille County Work Plan identifies average historic participation rates in conservation practices and establishes a baseline monitoring approach to overcome estimated discontinuation of practices, as further described in this section.

5.2.1 Methods

Benchmarks are measured by tracking new and continued implementations of various conservation practices on agricultural lands. Over time, the implementation of these stewardship activities 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 whether or not VSP is achieving the enhancement goals and benchmarks. See Appendix D for initial results based on 2011 to 2017 participation data in key conservation practices.

The Work Plan includes the following 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) and are based on maintaining yearly average participation rates in key stewardship practices based on historic data (2011 to 2017). The methods used to establish protection and enhancement benchmark values for conservation practice participation included the following:

- **Measuring historical enrollment data** in key conservation practices to develop an average annual enrollment quantity for each practice (Table 5-7). Historical enrollment data include NRCS and POCD-led practices that were documented between 2011 and 2017.
- **Connecting stewardship 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 Pend Oreille County. See Appendix D for details on how averaged CPPE scores were calculated for Pend Oreille County (applied national criteria and scores applicable to County conditions). 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, e.g., a +4 increase moving to from a -2 to +2, rather than the CPPE score of +2.

What is CPPE?
The CPPE describes how NRCS practices affect human-economic environment (e.g., Agricultural Viability) and natural resources (e.g., Critical Functions). This planning tool provides a quantitative score detailing the magnitude of the practice's effect on the resource. Technical reports for each practice also include a qualitative statement on the impact of each practice on soil, water, air, plants, animals, energy and labor, capital, and risk. A summary of the practices with CPPE scores are provided in Appendix D. 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 anticipated discontinuation/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 5-7) 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 calculated by anticipated disenrollment rates; see Table 4-2).

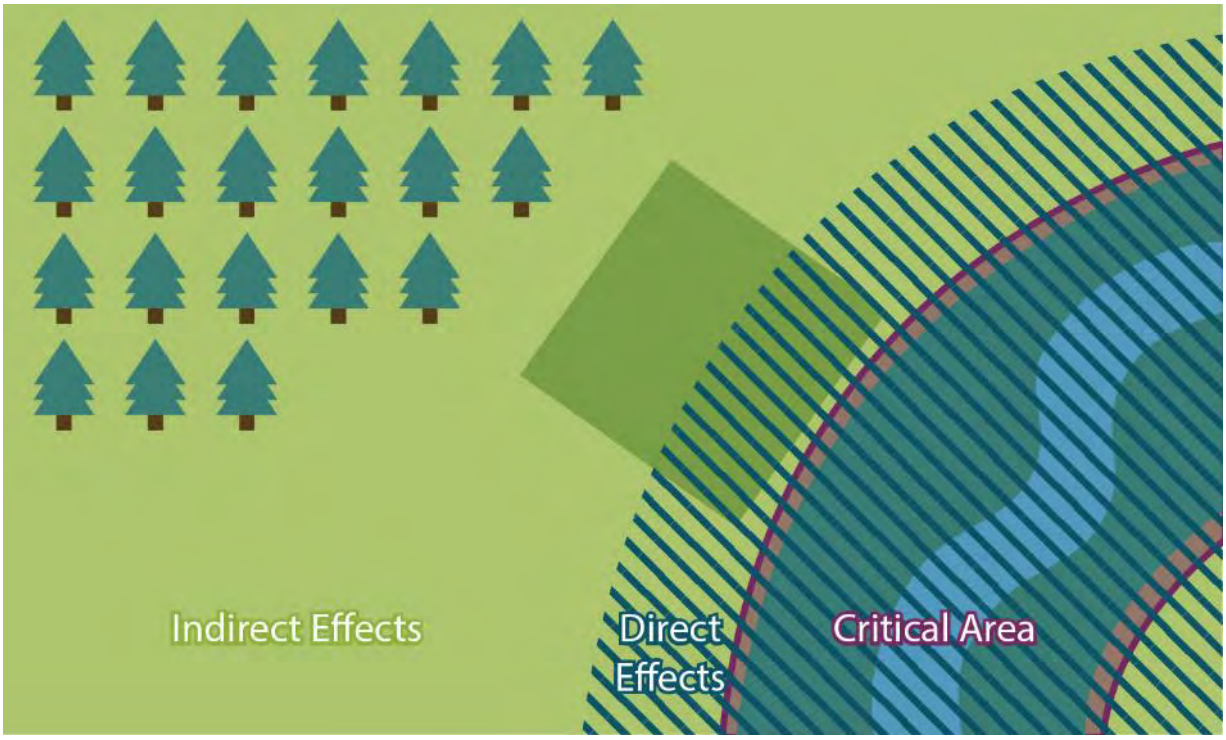
2011 Baseline Condition	**=**	**(Newly Enrolled Acres x Physical Effects Score)**	**-**	**(Disenrolled Acres x Physical Effect Score**)

- Setting enhancement benchmarks and performance objectives by:
  - Including project acres that have implemented between 2011 and 2017 above the protection performance objectives
  - Enhancement benchmarks and performance objectives are in addition to the protection benchmarks; therefore, estimated disenrollment acres (protection performance objectives value) have been incorporated into the enhancement performance objectives value (see Table 5-7)

Enhancement Performance Objective	**=**	**(Enrolled Acres x Physical Effect Score)** *based on 2011 to 2017 enrollment data*	**-**	**Protection Performance Objective**

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



5.2.2 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 5-6 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 5-6 indicates the most beneficial effects to functions in dark green boxes (+5), no effect (0), and the most detrimental effects to functions in dark red (-5). As previously discussed, it's important to note that 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. See Appendix D for additional information on methods applied for linking stewardship practices to function protections using CPPE function effects and a more comprehensive list of example conservation practices.

Table 5-7 provides a summary of protection and enhancement measurable participation benchmarks for the 5-year reporting increments (2021 and 2026). The protection performance standard for each conservation practice is based on historic records. New practices will often replace an existing

practice. 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.

Current performance based on 2011 to 2017 participation data:
As indicated in Table 5-7 (last column), total participation acres in key conservation practices since 2011 have overcome the anticipated reduction in acres (or other measure). Protection and enhancement performance objectives for 2021 and 2026 (participation acres) have been met based on reported acres in conservation practices from 2011 to 2017. Additionally, the acres that have been reported in conservation practices from 2011 to 2017 have overcome the estimated acres for discontinued practices through 2026.

The Work Plan will rely on adaptive management procedures (Section 5.4) to help assess whether protection and enhancement of critical area functions are occurring, which will be reported as described in Section 6.3.

Key						
Beneficial Effects			Neutral or No Effects	Adverse Effects		
High	Medium	Slight		Slight	Moderate	High

Table 5-6
Key Conservation Practices Crosswalk to National Functions Scores, Critical Areas, and Agricultural Viability

Key Conservation Practices				Critical Area Functions Protection Metrics (averaged CPPE Function Effects Score)[1]				Critical Area Protections					Agricultural Viability	
Type		NRCS Code	Key Practices[2]	Soil	Hydrology	Water Quality	F&W Habitat	WET	HAB	CARA	GHA	FFA	Aims	CPPE Metric[1]
Indirect Intersects	Livestock/ Range Management[3]	561	Heavy Use Protection	1.25	-1.00	1.67	0.00	●	●		●	●	- Protect against erosion risk - Protect soil function - Reduce invasive and nuisance species - Provide pollinator/beneficial organism habitat	-1.50
		614	Watering Facility	1.10	0.00	1.71	4.00							0.25
	Forest Understory Management	383	Fuel Break	-1.50	-1.00	-1.00	0.40		●		●		- Protect soil function - Reduce invasive and nuisance species - Provide pollinator/beneficial organism habitat	-0.33
		314	Brush Management	0.50	1.50	0.50	1.67							2.36
		384	Woody Residue/Forest Slash Treatment	-0.25	1.00	1.00	0.00							0.30
		660	Tree/Shrub Pruning	1.00	0.00	1.00	1.00							-0.29
		666	Forest Stand Improvement	0.38	3.00	0.75	2.33							0.45
	Pest Management	595	Pest Management	2.00	1.00	4.00	2.00	●	●	●	●	●	- Protect soil function - Reduce invasive and nuisance species - Reduce input costs	0.67
	Soil Management	484	Mulching	2.50	0.60	0.83	1.00	●	●	●	●		- Protect against erosion risk - Protect soil function - Reduce invasive and nuisance species - Provide pollinator /beneficial organism habitat	0.60
		575	Trails and Walkways	1.90	2.00	1.50	3.33							-0.09
		560	Access Road	1.50	1.50	1.00	-1.00							-0.33
		410	Grade Stabilization Structure	1.00	0.00	1.00	1.67							-0.56
Direct Intersects	Habitat Management	391	Riparian Forest Buffer	2.47	0.67	2.83	4.00	●	●			●	- Protect against erosion risk - Protect soil function - Reduce invasive and nuisance species - Provide pollinator/beneficial organism habitat	-1.33
		327	Conservation Cover	2.77	1.25	2.89	3.33							-1.11
		490	Tree/Shrub Site Preparation	-1.38	2.00	-0.50	0.00							-1.00
		512	Forage and Biomass Planting	1.25	1.00	1.00	1.00							1.40
		612	Tree/Shrub Establishment	2.97	1.50	1.17	2.33							-0.36
		658	Wetland Creation	1.00	0.50	1.50	4.00							-0.80
		644	Wetland Wildlife Habitat Management	0.00	2.00	2.00	4.00							-1.00
		612	Tree/Shrub Establishment	2.97	1.50	1.17	2.33							-0.36
		643	Restoration and Management of Rare and Declining Habitats	0.50	0.00	2.00	4.00							-1.22
		645	Upland Wildlife Habitat Management	1.20	-0.50	2.00	5.00							-0.14
		342	Critical Area Planting	3.63	0.00	2.33	2.00							-1.00
		378	Pond	0.25	0.60	0.20	2.50							-0.36
		734	Fish and Wildlife Structure	0.00	0.00	0.00	5.00							0.00
		580	Streambank and Shoreline Protection	2.00	0.00	1.25	1.50							-0.36

Notes:
1. The NRCS CPPE matrix was relied upon to develop an average function effects scores for the key function and practices. See Appendix D for full suite of stewardship practices CPPE scores.
2. 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.
3. Livestock management stewardship focuses on key practices that address on-field resource concerns and management. Conveyance infrastructure, such as livestock pipelines, are not considered in the group of key practices.

Table 5-7
Protection and/or Enhancement Benchmarks and Objectives

Key Conservation Practices[1]		Historic Participation Data (2011 – 2017)		Protection Benchmarks and Performance Objectives[1, 2]			Enhancement Benchmarks and Performance Objectives[1, 2]			2011 – 2017 Reported Data
		Average Annual Participation in Key Practices	Estimated Yearly Reduction of Stewardship Practices	Protection Benchmark	2021 Performance Objectives[3]	2026 Performance Objectives[3]	Enhancement Benchmark	2021 Performance Objectives[3]	2026 Performance Objectives[3]	Total Acres in NRCS and CD-led Programs
Indirect Intersects	Livestock/ Range Management[4, 5]	• <1-acre heavy use area • 3 watering facilities	• 0 acres (7%) • 0.8 watering facilities (3%)	No net loss of acres managed under stewardship practices No net loss of feet or units managed for protection	• 0 acres • 0.8 watering facility	• 0 acres • 1 watering facility	Enrolled enhancement units (e.g., acres and feet) are sufficient to offset identified agricultural degradations and maintain baseline conditions, based on: • Implemented projects from 2011 – 2017 • Excluded protection benchmarks (estimated annual reduction or discontinuation of stewardship practices since 2011 at time of reporting)	• 0 acres • 8 watering facilities	• 1 acre • 17 watering facilities	• 1 acre • 18 watering facilities
Indirect Intersects	Forest Understory Management	• 296 acres	• 9 acres (3%)		• 89 acres	• 133 acres		• 946 acres	• 1,936 acres	• 2,069 acres
Indirect Intersects	Pest Management	• 24 acres	• 1 acres (3%)		• 7 acres	• 11 acres		• 78 acres	• 160 acres	• 171 acres
Indirect Intersects	Soil Management	• 4 acres • 4,891 feet • <1 stabilization structures	• 0.3 acres (7%) • 147 feet (3%) • 0 structures (3%)		• 3 acres • 1,467 feet • 0 structures	• 4 acres • 2,201 feet • 0 structures		• 11 acres • 15,652 feet • 0 structures	• 24 acres • 32,038 feet • 1 structure	• 28 acres • 34,239 feet • 1 structure
Direct Intersects	Habitat Management[6]	• 468 acres • 14 feet • 16 ponds[7] or fish/wildlife structures	• 14 acres (3%) • 0 feet (3%) • 0.5 pond/structures (3%)		• 140 acres • 5 feet • 4 pond /structure	• 211 acres • 7 feet • 6 pond /structure		• 1,498 acres • 51 feet • 46 pond /structure	• 3,066 acres • 104 feet • 94 pond /structure	• 3,277 acres • 111 feet • 100 pond /structure

Notes:

1. See Table 5-6 for list of key conservation practices for each management strategy, which includes 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. Measurable benchmarks are based upon the reported historic NRCS and FCD participation data (2011-2017) in key practices (see Note 1). No net loss and enhancements will be measured based on estimated annual disenrollment rates from key practices from the 2011 baseline.
3. Performance objectives are anticipated to be adapted as new technologies and practices are applied by producers and unanticipated changes in environmental and market conditions which would be addressed through the adaptive management process. Protection benchmarks are based on estimated disenrollment rates. A more accurate estimate and understanding of which practices are discontinued can be used to modify these benchmarks.
4. 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 6,800 feet in 2011 – 2017) are not included in measurable benchmarks.
5. Performance objectives for livestock management conservation practices includes practices measured in acres (e.g., prescribed grazing) and practices measured in feet (i.e., fencing).
6. Performance objectives for habitat management conservation practices includes practices measured in acres (e.g., upland habitat management) and practices measured in feet (i.e., shoreline protection).
7. Ponds excavated in wetlands do not count as conservation practices. Ponds created in upland areas (or outside of critical areas) would be included as conservation practices that count toward the protection goal.

5.3 Indicators

Indicators are measurable metrics associated with specific environmental variables, (e.g. nitrate concentrations in a well or stream flow at a particular location). Metrics can be analyzed over time to understand longer term trends related to specific critical area functions and values. Indicator data will be reviewed 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 whether the VSP is meeting the protection standard for critical area functions within agricultural areas and the degree to which non-agricultural factors are influencing one or more indicators.

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 in Section 5.4 will be applied as part of implementation to address these data shortfalls where possible within program constraints.

Indicators affected by both agricultural and non-agricultural factors will generally not be used for purposes of informing 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 however be used to identify resource trends and focus enhancement efforts on high priority areas.

The following indicators relate to the four major critical area functions; monitoring of these indicators is summarized in Table 5-8:

- Water quality indicators
  - **Surface water** quality 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 Total Maximum Daily Load, and Category 5 waters are polluted and require a Total Maximum Daily Load or other water quality improvement project. Appendix C-4 provides a listing of category 2 through 5 parameters found in the County in 2018, 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 online at:

https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-improvement/Assessment-of-state-waters-.303d

  - **Groundwater** quality indicators will include data collected by public drinking water systems (Group A) and other available well monitoring data.
- **Hydrology indicators** will include tracking flow gauges through the U.S. Geological Survey (USGS) or other agencies. USGS has 3 streamflow gauges within the County on Pend Oreille River. USGS Water data is available here: https://www2.usgs.gov/water/
- **Soil function indicators** will include USDA Natural Resources Inventory 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. This monitoring should also help inform whether the Work Plan is achieving no increase in suitable agriculture soil loss trends overtime. 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 upon adequate resources provided through the state for VSP program implementation to assess critical area resource protections (primarily FWHCAs and wetlands).[4] Imagery evaluation will include a random sampling of areas[5] within the Work Plan's watershed analysis units. Analysis results will be summarized in the reporting at analysis unit and County scales. Individual parcels will not be identified, and producer privacy will be maintained in the evaluation process. PHS data available through Washington Department of Fish and Wildlife (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 Pend Oreille County. Additionally, ground-truthing will be needed to ensure that change detection data made available fits the scope and jurisdiction of the VSP, and that agricultural activities were actually the cause of any identified degradations. Review of PHS updates (recognizing the limitations of these information sources and the

[4] An analysis of general validity of NWI wetland mapping and assessment of accuracy for representing existing conditions was considered during plan development. Much of the agricultural activity occurs along the Pend Oreille River floodplains and wetlands complex, which is also mapped as a frequently flooded area. The NWI wetland layer was found to be quite accurate for these open floodplain and valley bottoms along the Pend Oreille River and other drainages, where there are limited forest stands in the valleys and floodplains. NWI for characterizing baseline conditions in the more densely forested areas is less accurate so monitoring and evaluations in this area will rely more extensively on field investigations, which a higher proportion of random sampling occurring for field verification on these lands, along with aerial imagery evaluation.

[5] 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, and 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.

resources to update them) and other relevant information comparisons against the 2011 baseline conditions will be done in coordination with WDFW.

While not exclusively determinative of VSP success in maintaining 2011 baseline or better conditions as affected by agricultural activities and conservation practices, participation measures and monitoring indicators (Table 5-8) provide important information for evaluating the Pend Oreille County VSP performance and adaptive management actions described in Section 5.4. If new information is collected during monitoring that is not confidential, it will be made available to the appropriate agencies as applicable to assist their monitoring programs.

Table 5-8
Critical Area Functions Monitoring Indicators

Critical Area Function	Monitoring Indicators
Water Quality	• Track turbidity relative to baseline 2011 levels • Track agriculture-related toxins or nutrients relative to baseline 2011 levels • Track dissolved oxygen/temperature relative to baseline 2011 levels • Track agriculture-related contaminants relative to baseline 2011 levels • Review data as collected by public drinking water systems (Group A) or other well monitoring data
Hydrology	• Track summer low flows of key springs and tributaries – Further evaluation of agricultural activities and potential effects on flows may be needed where non-drought flows are dropping below baseline levels at U.S. Geological Society or other gauges • Track flood damage of existing infrastructure
Soil	• Track suitable agriculture soil loss trends overtime (using long-term [10- to 15-year] soils inventory) through U.S. Department of Agriculture Natural Resources Inventory monitoring results • Track soil health measures (e.g., soil organic matter, physical, chemical, and biological parameters) beyond 2011 levels
Habitat	• Track mapped Priority Habitats and Species areas beyond 2011 areas • Track wetlands (using long-term [10- to 15-year] wetland inventory) through U.S. Department of Agriculture Natural Resources Inventory monitoring results and the National Wetland Inventory through U.S. Fish and Wildlife Service • Track habitat landcover based on publicly available aerial imagery, high resolution change detection mapping, or other GIS approaches for habitat mapping that are made available to the County

Guiding Principles for Aerial Imagery Interpretation

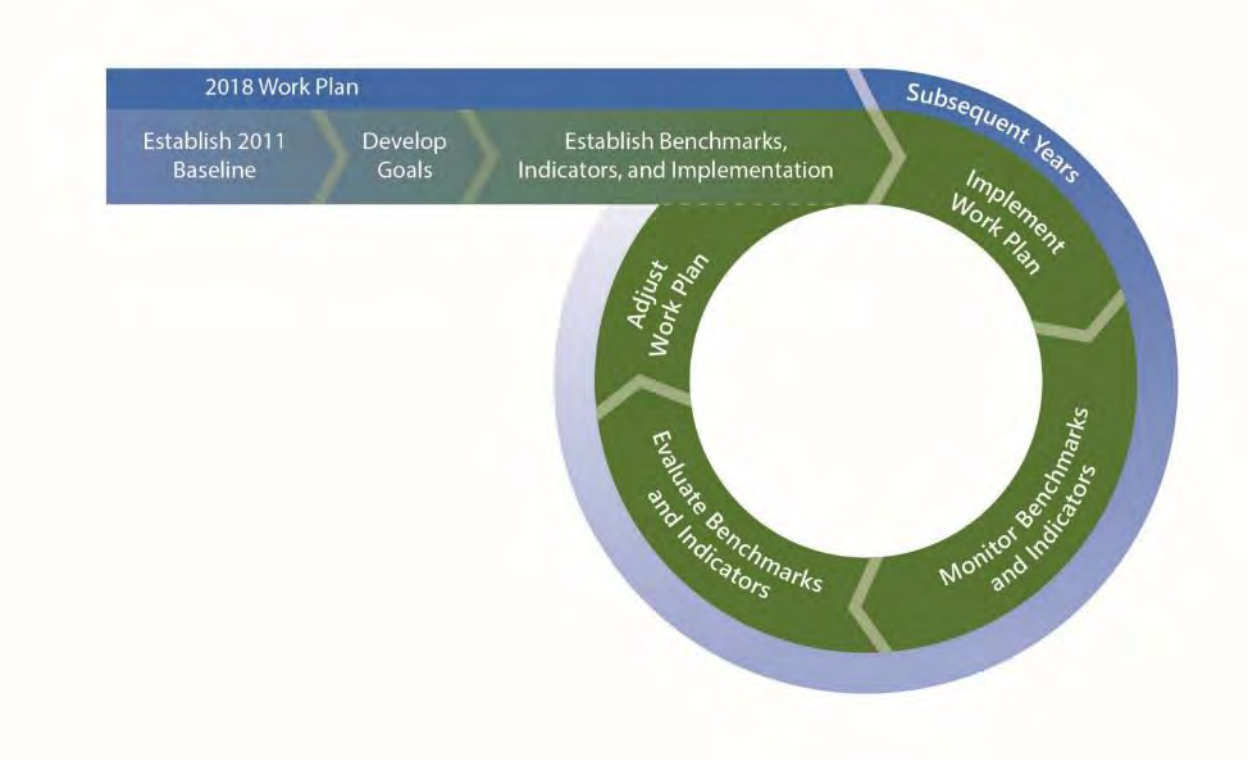
High-resolution change detection or other public available aerial imagery is described as a potential monitoring tool for habitat indicators. This Work Plan includes the following Guiding Principles to ensure imagery interpretation would be reported at a watershed scale, recognize the voluntary nature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

- Monitoring activities that involve imagery should focus on publicly-available imagery.
- Monitoring should be reported at the watershed scale, not the parcel scale.
- Imagery evaluation should include a random sampling of areas within the Work Plan's watershed analysis units.
- The Work Group will determine what entities are suited to interpreting the imagery, such as Washington State University or other educational or professional bodies. The entity should not have other roles in enforcement given the voluntary, watershed-scale of the Work Plan.
- It's important to note that changes to baseline conditions outside of VSP are likely to occur due to effects from climate change, natural events (e.g., wildfires), or other changes outside of the scope of VSP. Regarding agricultural viability, national and international trends in the market for agricultural products are beyond the control of the Work Plan.

5.4 Adaptive Management

Adaptive management typically consists of a monitoring system to identify changes in the environment coupled with a response system to adjust the activities based on performance results and review of indicators information. The adaptive management system would be applied if the performance review in Year 5 of implementation suggests the VSP program may not be protective of critical areas functions existing in 2011. The adaptive management system for the Pend Oreille County VSP 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 POCD. The compiled information is used to identify issues, refine objectives, and understand if benchmarks are effective in protecting or enhancing critical area functions and values.
2. **Update Benchmarks** – Based on the results of the assessment stage, updates to the protections and enhancement benchmarks could occur. These updates could represent changes to the level of participation necessary to meet a specific protection or enhancement standard. These updates could also reflect a change in the goals for a specific watershed or critical area function.
3. **Implement and Monitor** – The approved work plan is put into action, concurrently with monitoring focused on documenting the protection and enhancement of critical area functions and values. Monitoring data are collected on 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 POCD.
4. **Evaluate** – Participation data are evaluated relative to the protection and enhancement goals. Differences between targeted goals and results are identified and the causes for those differences 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 enhancement.

Changes to Baseline Conditions – Areas Outside of VSP Scope
It's important to note changes to baseline conditions outside of the scope of VSP are likely to occur due to effects from natural events such as those resulting from climate change, floods, and wild fires, 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, GMA-regulated conversions, forestry activities regulated by the Forest Practices Act, changes in eligibility for federal programs, changes in federal program funding contract conditions, technical mapping corrections, mapping errors, changes beyond a producer's control. These changes will not be counted against agriculture for VSP assessment purposes and will be documented through the reporting and adaptive management process.

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.

1. **Direct monitoring** of producer participation (Table 5-9)
    a. **Conservation acres monitoring**. Direct monitoring of stewardship participation in key conservation practices implemented is integral to the outreach strategy. Participation goals were developed based on agricultural activities, critical area functions, and the anticipated effects of implementing specific conservation practices. During outreach and implementation, conservation practices data will be frequently reviewed to determine if participation levels are adequate to meet the goals and benchmarks identified in Sections 5.1 and 5.2.
    b. **Sample verification.** In addition to monitoring conservation practices implemented, POCD will also monitor a randomly selected sample of 10% of the reported projects, including those that are self-reported/funded, to verify the performance of the stewardship practices in terms of implementation/application and maintenance, relying on the CPPE framework. The relative changes in functions affected from a given stewardship 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 annual projected level of stewardship practices implemented to meet the protection performance objectives, measures would be taken to

address the situation. Participation goals and objectives with potential adaptive management actions are described in Table 5-9. Based on stewardship practices data from 2011 – 2017, the level of participation has been far exceeding those necessary to meet the protection performance objectives.

   d. **Adaptive management process.** Table 5-10 includes a more detailed description of the adaptive management process for enrollment, including specific thresholds for each of the key practices.

2. **Indirect monitoring** of indicators of critical areas and their functions and values (Table 5-11)
   a. **Indicators**. Indicators, identified in Section 5.3, will be used to assess whether the stewardship practices implemented under VSP is having the anticipated effect of protecting and/or enhancing critical area functions and values. If goals are met, but indicators show a negative trend in critical area functions and values, it will be important to analyze whether this is related to agriculture 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 stewardship practices, higher participation 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 5-11 includes a description of how environmental indicators discussed in Section 5.3 will be used to refine the goals and benchmarks of the VSP over time.

POCD will commit to an annual effort to reach out to 15% of the landowners that operate the approximately 288 farms in the County, using the methods described in the Outreach Plan (Appendix B). 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.

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

Table 5-9
Producer Participation Goal and Adaptive Management for Low Participation

Participation Goal: Promote producer participation in voluntary stewardship of agricultural lands and critical areas to meet the protection and/or 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**
Sufficient active participation by commercial and non-commercial agricultural operators (farmers and ranchers) over 10 years that achieves the protection of critical area functions and values at a County-wide watershed level[1,2]	• Number of acres reported in key stewardship practices • Number of ISPs and VSP checklists submitted • Sufficient producer participation necessary to meet protection and enhancement benchmarks	Key practice not consistent with agricultural viability	Identify alternative practice that provides similar function and is agriculturally viable	VSP Coordinator	Monitored every year; Reported during the 2-year status reports and 5-year performance reports
		Incentives associated with key stewardship practice no longer available	Identify alternative funding or alternative practices that are more likely to be self-funded		
		Inadequate reporting of voluntary participation	Increase outreach to producers, small acreage landowners, and youth groups (e.g., 4-H) that provide a potential pathway for non-commercial producers		
		Change in agricultural practices that make key practices less applicable	Develop applicable practices that provide similar functions		
		Changes in agricultural economy that make self-funded stewardship practice implementation difficult	Identify alternative funding or other incentives		
Passive participation by commercial and non-commercial agricultural operators in VSP stewardship practices is maintained or increased over 10 years on agricultural land (including but not limited to those listed in Table 5-6 and Appendix D, Attachment 2)[3]	• Mapping and aerial photo evaluation and/or rapid watershed assessment of practices in place • Random sampling of farmers and ranchers in the field by technical assistance providers with willing landowners	Decline below the annual average enrollment rate identified in Table 5-10 in key stewardship practices	Increase outreach to producers, small acreage landowners, and youth groups (e.g., 4-H) that provide a potential pathway for non-commercial producers		
Technical assistance and outreach is provided to agricultural producers to encourage stewardship practices and VSP participation[2]	• Number of outreach and education events • Number of event attendees	Decline below the baseline annual average enrollment rate identified in Table 5-10 in key stewardship 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.
2. POCD will commit to an annual effort to reach out to 15% of the landowners that operate the approximately 288 farms in the County, using the methods described in the Outreach Plan (Appendix B).
3. Passive participation includes unreported stewardship activities.

Table 5-10
Adaptive Management Process for Stewardship Practices Participation

Type	Adaptive Management Objective	Protection Metric[1] (Annual)	Verification	Adaptive Management Trigger (120% of Protection Metric) (Annual)	Adaptive Management Action	Who Monitors	When
Livestock/Range Management	Watering Facility	1 project	10% verified through monitoring and visual recognition	0 projects	Outreach with producers/review approach	Conservation District	Every year
	Heavy Use Protection	0 acres		0.1 acres			
Forest Understory Management	Fuel Break	9 acres	10% verified through monitoring and visual recognition	11 acres			
	Brush Management						
	Woody Residue Treatment						
	Tree/Shrub Pruning						
	Forest Stand Improvement						
Pest Management	Pest Management	0.8 acres	10% verified through monitoring and visual recognition	0.9 acres			
Soil Management	Mulching	0.3 acres	10% verified through monitoring and visual recognition	0.3 acres			
	Access Road	147 feet		176 feet			
	Trails and Walkways						
	Grade Stabilization Structure	0 structures		0 structures			
Habitat Management	Riparian Forest Buffer	14 acres	10% verified through monitoring and visual recognition[2]	17 acres			
	Conservation Cover						
	Tree/Shrub Preparation and Establishment						
	Forage and Biomass Planting						
	Wetland Creation						
	Wetland Wildlife Habitat Management						
	Restoration/Management of Rare/Declining Habitats						
	Upland Wildlife Habitat Management						
	Critical Area Planting						
	Fish and Wildlife Structure	0.5 structures		0.6 structures			
	Pond						
	Streambank and Shoreline Protection	0 feet		0.5 feet			

Note:
1. Metric is calculated based on annual enrollment to meet benchmark values.
2. For forested wetlands, visual recognition will primarily be the method relied upon, as these areas may not be as accurately depicted by aerial imagery.

Table 5-11
Adaptive Management Process for Critical Area Functions and Values Protection and Enhancement

Adaptive Management Objective	Indicator Data Source	Performance Metric	Monitoring Method	Adaptive Management Action Threshold	Adaptive Management Action	Who Monitors	When	Party Responsible for Action
Ensure conservation practices employed with the goal of protecting or improving water quality 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 2 through 5 listings through Ecology's 303(d) Water Quality tools	Significant trends indicating a decrease in baseline water quality due to agriculture	• Determine whether water quality parameters are from agriculture or non-agriculture contributors • Survey with outreach to agricultural producers owners along affected watercourse, waterbody and/or CARA to determine percentage of participation in stewardship • Identify if participation in conservation practices is supporting goals • Identify conservation strategies with Work Group to target for implementation to support goal	Conservation District	Every 5 years	Conservation District and participating land owners
Ensure conservation practices employed with the goal of maintaining or improving storage capacity and groundwater recharge are effective	USGS flow gauges and public drinking water systems (Group A) or other well monitoring data	Changes in flows that are attributable to agricultural practices (as opposed to regional drought)	Tracking water level gauges through USGS flow gauges and well monitoring data	Significant trends indicating a decrease in baseline storage capacity and/or groundwater recharge due to agriculture	• Determine whether storage capacity and groundwater recharge issues are due to agriculture • Survey with outreach to agricultural producers along floodplains and within CARA to determine percentage of participation in stewardship • Identify if participation in conservation practices is supporting goals • Identify conservation practices with Work Group to target for implementation to support goal			
Ensure conservation practices employed with the goal of maintaining or improving soil functions are effective	USDA Natural Resources Inventory monitoring result	Changes in volume of soil and/or overall soil fertility relative to critical areas	Tracking soil data through USDA Natural Resources Inventory monitoring results, tracking sediment parameter within Ecology's 303(d) Water Quality tools	Significant trends indicating a decrease in baseline soil and/or soil fertility due to agriculture	• Determine whether soil issues are due to agriculture • Survey with outreach to agricultural producers to determine percentage of participation in stewardship • Identify if participation conservation practices is supporting goals • Identify conservation practices with Work Group to target for implementation to support goal			
Ensure conservation practices employed with the goal of protecting or improving habitat are effective[1]	WDFW Priority Habitats and Species data or other aerial and GIS based evaluation; USDA Natural Resources Inventory monitoring results and National Wetlands Inventory data	Changes in amount of FWHCA and wetlands	Tracking priority habitats and species data through the WDFW, and wetlands and other critical areas through other listed information sources; 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 in 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 participation in conservation practices is supporting goals • Identify conservation practices with Work Group to target for implementation to support goal			

Note:
1. For forested wetlands, visual recognition will primarily be the method relied upon, as these areas may not be accurately depicted by aerial imagery.

Pend Oreille County
photo credit: David Marcell

6 Implementation

6.1 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 practices, 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. The POCD 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 $220,000 each biennium for the County.

Table 6-1
Implementation Budget

Task	Activities	Who	Biennium Budgets[1]
Education, Outreach, and Technical Assistance	• Conduct outreach and develop education materials • Assist producers in developing stewardship plans • Facilitate VSP Checklist reporting • Identify and providing when available cost-share to leverage other conservation project funding	POCD/ VSP Coordinator	$87,500
Monitoring, Reporting, and Adaptive Management	• Annual monitoring and tracking • Develop adaptive management as needed • Prepare 2-year status reports • Prepare 5-year progress reports	POCD/ VSP Coordinator or contract services	$15,000[2]
Work Group Coordination	• Attend quarterly meetings • Coordinate report and adaptive management review and approvals	POCD/ VSP Coordinator	$7,500
		Total State Budget[3]	**$110,000**

Notes:

1. Assumes $110,000 of budget remaining for the 2017-2019 biennium following Work Plan approval.
2. Costs will be less in non-reporting years to support annual monitoring and tracking efforts. The majority of budget item will support costs during the 2-year and 5-year reporting years: 2019, 2021, and 2026.
3. The WSCC determines whether funds accepted by the County are adequate for continued implementation of the VSP program and the Pend Oreille County VSP Work Plan.

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

6.2 Agricultural Producers Participation, 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 Pend Oreille County VSP implementation:

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

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

The second participation objective is focused on increasing the number of conservation practices implemented by agricultural producers, helping to meet protection and/or enhancement performance goals outlined in Section 5. Achieving this objective includes offering technical assistance to producers with the development of individual farm stewardship plans 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. The VSP Overview and Checklist in Appendix A can also be used as an outreach tool, shared through a variety of methods including mailers, electronic survey, or one-on-one site visits. See Table 6-2 for additional outreach opportunities.

Results from these efforts will be tracked and documented, along with documenting 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.

POCD will continue to coordinate with local agencies to share data regarding habitat conditions, project implementation, and monitoring to the extent possible to continue successful implementation of ongoing plans and programs. In this data sharing, POCD will balance the need to collaborate and share data while following public disclosure restrictions for individual conservation plans. 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 conservation district 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.

Youth education and outreach is also an important aspect of conservation education and agricultural viability in the County and is also incorporated into adaptive management measures as shown in Table 5-9. Pend Oreille County and POCD have worked with the Washington State University extension and other partners, including the Kalispel Tribe, to implement youth education initiatives (e.g., 4-H groups). The County has also provided educational opportunities including classroom education in collaboration with the Public Utility District to present interactive watershed models.

Future youth education and outreach efforts will include applicable elements of the VSP program and resource conservation and stewardship principles in general, consistent with available funding.

6.2.1 Organization Leads, Technical Assistance, and Outreach

The POCD will lead the public-sector program participation efforts within its respective boundaries, supported by other agencies, such as Washington State Department of Agriculture, WDFW, Ecology, NRCS, and FSA, and others, with their respective programs and support from the private sector.

Technical assistance occurs in a variety of ways, including developing individual farm stewardship plans, 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. POCD will prepare biennial work plans that incorporate public-sector activities to be implemented to achieve VSP outreach and technical assistance objectives and identify plans for working with the private sector to capture information about practices put in place and presence of critical areas through its efforts. The POCD 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 B). 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.

A minimum of 15% 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
- The amount of agricultural 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

Table 6-2 identifies potential VSP outreach strategies, opportunities, and forums. Figure 6-1 provides a protocol on how the VSP Checklist (Appendix A) 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 E contains more detail for each program and links to the programs' webpages.

Local Resources for Native Plants

The POCD and Kalispel Tribe have partnered to offer local resources for native trees and shrubs that can be used in conservation projects. Tree and shrub seedlings are typically available in late winter/early spring. It is important to note planting time and using seed stock from different elevations are key to increase plant survival. Technical assistance is also provided for agricultural producers seeking guidance on conservation practice implementation and maintenance. Native plant species should be prioritized in conservation projects.

Photo Credit: Mike Lithgow, Kalispel Tribe Natural Resource Department

Table 6-2
VSP Outreach Opportunities

Venue	Description
Meetings	• Private-sector agricultural industry meetings • Agricultural associations • Local government (city and county)
Media	• POCD and private-sector agricultural industry websites, newsletters, and social media sites • Pend Oreille County website • WSCC news and announcement webpage • FSA newsletter • Washington State University newsletter • Articles, announcements, and advertisements with local newspapers • E-mail distribution lists • Outreach to future farmers and youth through YouTube channel and 4-H efforts
Others	• Informational booths and displays at fairs and agricultural conventions • Individual outreach, consistent with POCD policies • VSP Checklist

Figure 6-1
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.

Table 6-3
Public Sector Conservation Programs Summary

Lead	Description	Technical Assistance	Financial Assistance	Partnership Agreement	Contractor Easement
Natural Resources Conservation Service	Provides technical and financial assistance to help agricultural producers make and maintain conservation improvements on their land. Conservation easement programs and partnerships to leverage existing conservation efforts on farm lands are also offered.	●	●	●	●
Farm Service Agency	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	Works with conservation districts to provide voluntary, incentive-based programs for implementation of conservation practices and support through financial and technical assistance; administrative and operational oversight; program coordination; and promotion of conservation districts' activities and services.		●	●	
Washington State Department of Fish and Wildlife	Provides financial assistance for habitat projects that restore and/or preserve fish and wildlife habitat through funding opportunities such as the Aquatic Lands Enhancement Account Volunteer Cooperative Grant Program. WDFW private lands biologists may also provide technical assistance on habitat improvement projects.	●	●	●	●
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 Aquatic Lands Enhancement Account and Salmon Recovery Funding Board Grant Program.		●		
Washington State Department of 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.		●	●	
Pend Oreille Conservation District	Work through voluntary, incentive-based programs to assist landowners and agricultural operators with the conservation of natural resources throughout the POCD service area, including cost-share and watershed-based partnership programs such as the Regional Conservation Partnership Program.	●	●	●	

6.3 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:

- **Two-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. The 2-year reports are due by end of each biennium, so will be submitted in August 2019, 2021, 2023, 2025, and 2027 and beyond.
- **Five-year performance reports.** Developing and providing to Washington State 5-year progress reports on Work Plan performance in meeting goals and benchmarks. Based on a 2016 receipt of funding date, 5-year progress reports would be due in 2021, 2026, and beyond.

The timelines for this implementation process are shown in Table 6-4.

Table 6-4
Timelines for Implementation Process

Category	Schedule	Roles and Responsibilities
Periodic Evaluations (2-Year Status Reports due at the end of each biennium)	Finalize Work Plan in Fall 2018 (Deadline for Work Plan approval is December 15, 2018 per WSCC[1])	Work Group
	2019, 2021, 2023, 2025, 2027, et seq.	Work Group
Report on Goals and Benchmarks (5-Year Performance Reports based on 2016 receipt of funding)	Funding receipt date in 2016	Work Group oversees; POCD prepares report
	2021, 2026, et seq.	
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 (December 15, 2018; 2 year and 9 months). The deadline for approval via the State Advisory Committee process is March 14, 2019 (3 years).

The 2-year status and 5-year performance reports would be developed by POCD 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 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 that the reports are accurate and complete. POCD will also satisfy any other reporting requirements for VSP per RCW 36.70A.720.

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

- Monitoring will focus on the measurable benchmarks and indicators 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 not 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.

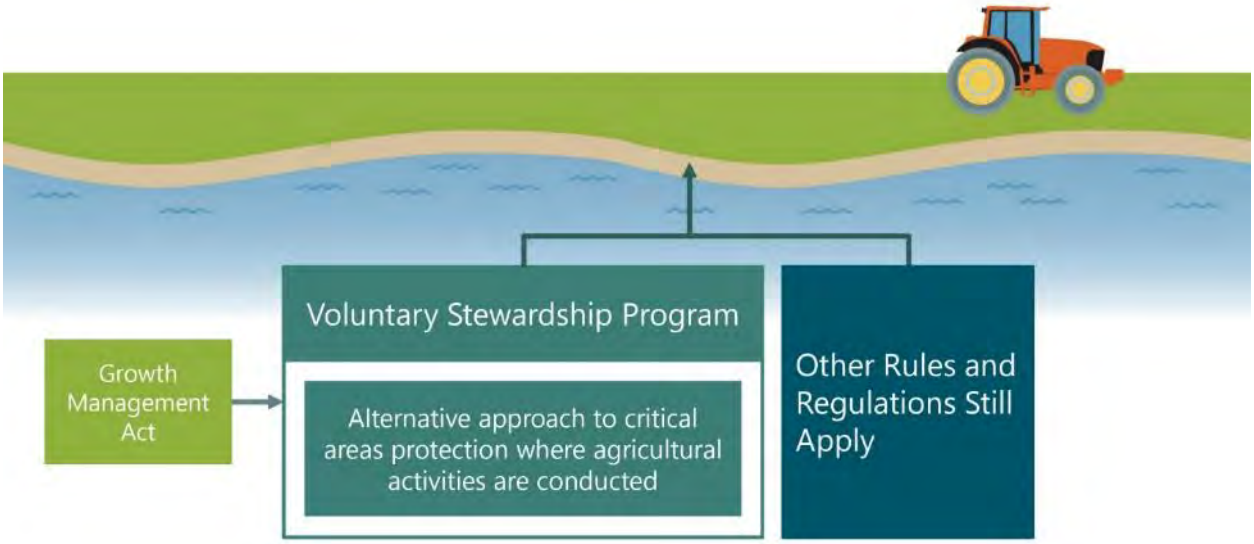
Work plans often need to adapt to changing conditions and observations of results that are not consistent with established goals. Adaptive management is the process for "continually improving management policies and practices by learning from the outcomes of the operational programs" (Nyberg 1999). If 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 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 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.

6.4 Regulatory Backstop

The VSP is provided as an alternative to protecting all designated critical areas intersecting 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. 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 E). 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.

Washington State Forest Practices Act
The Washington State Forest Practices Act was passed by the legislature in 1974 and is overseen by the Washington State Department of Natural Resources (see RCW 76.09). The purpose of the act is to protect public resources while maintaining forest industry viability. The act regulates forest management practices, including those conducted for agricultural purposes, and is an example of a regulation that would fall under the regulatory backstop of VSP. While it is not directly applicable to VSP, forest management practices must still comply with the rules and regulations of the Forest Practices Act.

Figure 6-2
Voluntary Stewardship Program Regulatory Backstop Diagram



7 References

Bellatty, J.M., 2011. Boundary Hydroelectric Project Certification-Order No. 8872 (FERC No. 2144). Washington State Department of Ecology. November 18, 2011.

Dames & Moore (Dames & Moore, Inc.) and CEG (Cosmopolitan Engineering Group), 1995. Initial Watershed Assessment: Water Resource Inventory Area 62 Pend Oreille River Watershed. Prepared in coordination with the Washington State Department of Ecology. May.

Donaldson, N., J. Defrancesco, M. Haagen, D. Barron, and R. Coleman, 1992. Soil Survey of Pend Oreille County Area, Washington. Prepared for the National Resource Conservation Service. October.

Knutson, K. L., and V. L. Naef, 1997. Management recommendations for Washington's priority habitats: riparian. Washington Department of Fish and Wildlife, Olympia. 181pp.

Little Spokane River and Middle Spokane River Planning Unit, 2006. Watershed Management Plan: Water Resource Inventory Area 55 – Little Spokane River & Water Resource Inventory Area 57 – Middle Spokane River. Prepared for: Spokane County. January 31, 2006.

NRCS (Natural Resources Conservation Service), 2017. Conservation Practice Physical Effect Data.

NRCS, 2018. Conservation Practices Applied in Pend Oreille County 2011 to 2018. April 3, 2018.

Nyberg, J.B., 1999. *An Introductory Guide to Adaptive Management for Project Leaders and Participants*. British Columbia Forest Service, Victoria, Canada. January 1999.

Paige, C., 2012. *A Landowner's Guide to Wildlife Friendly Fences*. Second Edition. Private Land Technical Assistance Program. Montana Fish, Wildlife, and Parks

Pend Oreille County, 2014. Pend Oreille County Comprehensive Plan. Adopted June 9, 2015. Updated 2014.

Pend Oreille County, 2015a. Updated Shoreline Master Program. Prepared by the Pend Oreille County Regional Partnership. October 30.

Pend Oreille County, 2015b. Updated Shoreline Master Program Appendix B: Inventory and Analysis Plan.

Pend Oreille County, 2015c. Updated Shoreline Master Program Appendix C: Restoration Plan.

Pend Oreille County, 2016a. Location of Agriculture in Pend Oreille County Map. Prepared by Pend Oreille County. Available at: https://pendoreilleco.org/wp-content/uploads/2016/02/Location_Of_Ag_Only-1.pdf.

Pend Oreille County, 2016b. Shoreline Bank Stabilization Guide: Box Canyon Reservoir and other water bodies in Pend Oreille County. April 2016.

Pend Oreille County and WDNR (Washington Department of Natural Resources), 2011. Community Wildfire Protection Plan 2010 Update. March 2011.

POCD (Pend Oreille Conservation District), 2017. FY2016 (7/1/17-6/30/18) Annual Work Plan: POCD.

PRISM (Prism Climate Group), 2012. 30-year Normals. PRISM Northwest Alliance for Computational Science and Engineering. Accessed February 20, 2018. Available at: http://prism.nacse.org/normals/.

Quinn, T., G. Wilhere and K. Krueger, 2018. *Riparian Ecosystems, Volume 1: Science Synthesis and Management Implications*. A Priority Habitats and Species Document of the Washington Department of Fish and Wildlife. Olympia.

R2 (R2 Resource Consultants, Inc.), 2014. Boundary Hydroelectric Project Tributary Management Plan. Prepared for Seattle City Light. February 2014.

Schultz, R., and R. Vancil, 2016. Voluntary Stewardship Program – An Alternative Approach for Protecting Critical Areas on Agricultural Lands While Maintaining the Viability of Agriculture. *Environmental Land Use Law* 42(1):9-15.

SCL (Seattle City Light), 2010. Boundary Hydroelectric Project (FERC No. 2144) Fish and Aquatics Management Plan. City of Seattle, Seattle City Light Department. March 2010.

SCL, 2009. Boundary Hydroelectric Project (FERC No. 2144) Terrestrial Resources Management Plan. City of Seattle, Seattle City Light Department. September 2009.

SCL and NHC (Northwest Hydraulic Consultants), 2013. Sullivan Creek Habitat and Geomorphic Assessment. August 2013.

Stevens, Ferry, and Pend Oreille Counties, 2016. Draft Colville National Forest Proposed Revised Land and Resource Management Plan. Forest Service. Prepared for the U.S. Department of Agriculture. January 2016.

USDA (United States Department of Agriculture), 2012. Census of Agriculture: County Profile – Pend Oreille County, Washington. Accessed February 20, 2018. Available at: https://www.agcensus.usda.gov/Publications/2012/Online_Resources/County_Profiles/Washington/.

U.S. Fish and Wildlife Service, 2015. Recovery plan for the coterminous United States population of bull trout (Salvelinus confluentus). Portland, Oregon. Xii + 179 pages.

WDFW (Washington Department of Fish and Wildlife), 1997. Management Recommendations for Washington's Priority Habitats: Riparian.

WDFW, 2010. Washington State Deer Management Plan: White-tailed Deer. Wildlife Program, Washington Department of Fish and Wildlife, Olympia. 124 pp.

WDFW, 2014a. Selkirk Elk Herd Plan. Wildlife Program, Washington Department of Fish and Wildlife, Olympia. 59pp.

WDFW, 2014b. Washington Department of Fish & Wildlife 2015-2021 Game Management Plan. Wildlife Management Program, Washington Department of Fish and Wildlife, Olympia. 162 pp.

WDFW, 2016. Washington State Mule Deer Management Plan, Wildlife Program, Washington Department of Fish and Wildlife, Olympia, WA, USA. 144 p.

WDFW, 2018. WDFW SalmonScape. Accessed February 20, 2018. Available at: http://apps.wdfw.wa.gov/salmonscape/.

Weibull, A., Ö. Östman, and Å. Granqvist, 2003. Species richness in agroecosystems: the effect of landscape, habitat and farm management. *Biodiversity and Conservation* 12(7):1335-1355.

Wiles, G. J., H. L. Allen, and G. E. Hayes. 2011. Wolf conservation and management plan for Washington. Washington Department of Fish and Wildlife, Olympia, Washington. 297 pp.WRIA 55/57 Watershed Implementation Team, 2008. Detailed Implementation Plan: Little and Middle Spokane River Basins, Water Resource Inventory Area 55/57. WRIA 55/57 Watershed Implementation Team. February 20, 2008.

Windrope, A., T. Quinn, K. Folkerts and T. Rentz, 2018. *Riparian Ecosystems, Volume 2: Management Recommendations.* A Priority Habitat and Species Document of the Washington Department of Fish and Wildlife. Olympia.

WSCC (Washington State Conservation Commission), 2017. VSP Statewide Advisory Committee and Conservation Commission Policy Advisory #01-17: The Confidentiality of Individual Stewardship Plans Under VSP Work Plans and Landowner Assessment Tools. August 2017. Available at: http://scc.wa.gov/wp-content/uploads/2017/08/VSP-SAC-Policy-Advisory-01-17.Aug-2017.pdf.

WSDA (Washington State Department of Agriculture), 2011. WSDA Crop Data Layer 2011.

Appendix A
VSP Overview and Checklist Materials

Appendix A-1
VSP Informational Flyer

Pend Oreille County

Voluntary Stewardship Program (VSP)

VSP Coordinator:
David Marcel, Pend Oreille Conservation District
(509) 447-1155, davidm@pocd.org

What is VSP?

VSP is a non-regulatory, incentive-based approach to protecting critical areas on agricultural lands, while maintaining agricultural viability. VSP provides the opportunity for farmers to continue agricultural operations without regulation under Pend Oreille County's Development Regulations (Chapter XX.36 Environmentally Sensitive Areas) by promoting voluntary conservation practices that producers can implement to protect critical areas and maintain and enhance agricultural viability. 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.

Under VSP, critical areas on lands where agricultural activities are conducted are protected under this voluntary program through conservation practices. Lands used for non-agricultural purposes continue to be regulated under Pend Oreille County's Development Regulations.

VSP Work Plan

Pend Oreille County developed a VSP Work Plan for use by farmers that is tailored to the region and local producers. The VSP Work Plan was developed by the Pend Oreille County Work Group convened by the County and comprised of agricultural producers, representatives from the Kalispel Tribe of Indians, local government elected officials and staff, agency representatives, and interest groups. The VSP Work Plan identifies conservation practices that are or can be implemented by producers and identifies future goals and benchmarks for continued protection and enhancement of the County's critical areas.

Photo credit: Travis Hanson

What are Critical Areas?

The five critical areas in protected under state law (RCW 36.70A.030) include:

- wetlands
- fish and wildlife habitat conservation areas
- frequently flooded areas
- critical aquifer recharge areas
- geologically hazardous areas

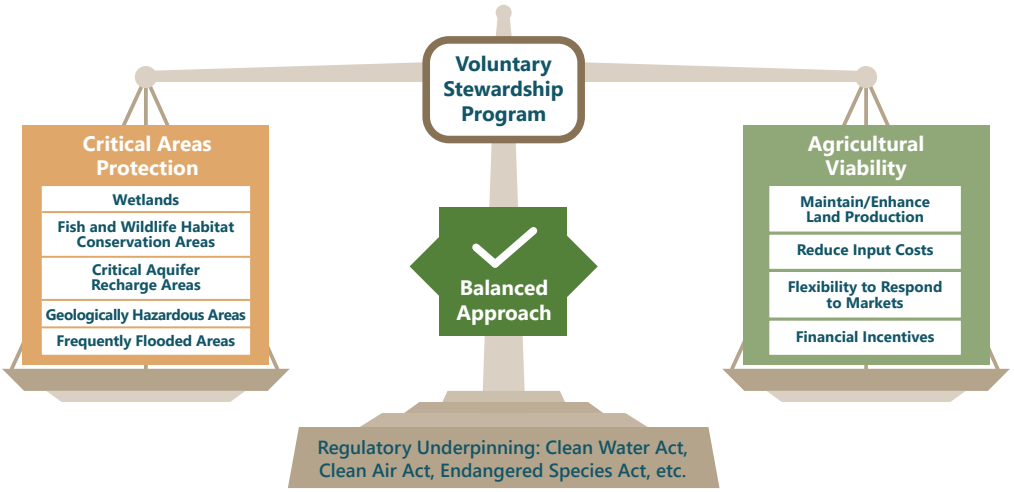
The key functions and values provided Pend Oreille County's critical areas can be summarized into four major functions, which include: 1) water quality, 2) hydrology, 3) soil, and 4) fish and wildlife habitat. Each critical area provides one or more of these key functions and values.

To find out if you have critical areas on your property, check the Pend Oreille County VSP webpage or VSP Work Plan maps. If you have any questions, you can contact the Pend Oreille Conservation District for more information.

Photo credit: Ecology

Pend Oreille Conservation District

For more information on VSP in Pend Oreille County, visit:
pendoreilleco.org/your-government/community-development/vsp/ or
pocd.org/voluntary-stewardship-program



What Does VSP Participation Look Like?

Many farmers and ranchers in Pend Oreille County are already conducting conservation practices that promote agricultural viability while also providing protections to critical areas. Agricultural producers have flexibility in how they participate in VSP, ranging from continuing current agricultural operations without sharing conservation practices with the Conservation District to developing and implementing an individual stewardship plan with additional conservation practices and annually sharing practices implemented with the Conservation District. Producers do not have to be part of a federal program to be involved in VSP.

How Do I Get Involved in VSP?

To get involved in VSP, producers are asked to share conservation practices implemented on your land with the VSP Coordinator. Additionally, producers can consider if additional conservation practices might be implemented on their property that benefit critical areas and maintain agricultural viability. Conservation practices information shared by producers with the Pend Oreille Conservation District will be reported for VSP at the watershed and County scales, with reported information kept confidential.

Contact David Marcell at the Pend Oreille County Conservation District for more information on ways to participate in VSP: *davidm@pocd.org, (509) 447-1155*

Photo credit: Travis Hanson

Help keep critical areas protection voluntary.

Working together, farmers and ranchers can use voluntary efforts to avoid additional regulatory controls.

Appendix A-2
VSP Overview and Checklist

Appendix A-2

Pend Oreille County Voluntary Stewardship Program

Overview and Checklist

October 2018

Funded by Washington State Conservation Commission

Voluntary Stewardship Program Overview

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 continue agricultural practices without regulation under Pend Oreille County's Development Regulations by promoting voluntary conservation and practices by producers that protect critical areas and maintain and enhance agricultural viability.

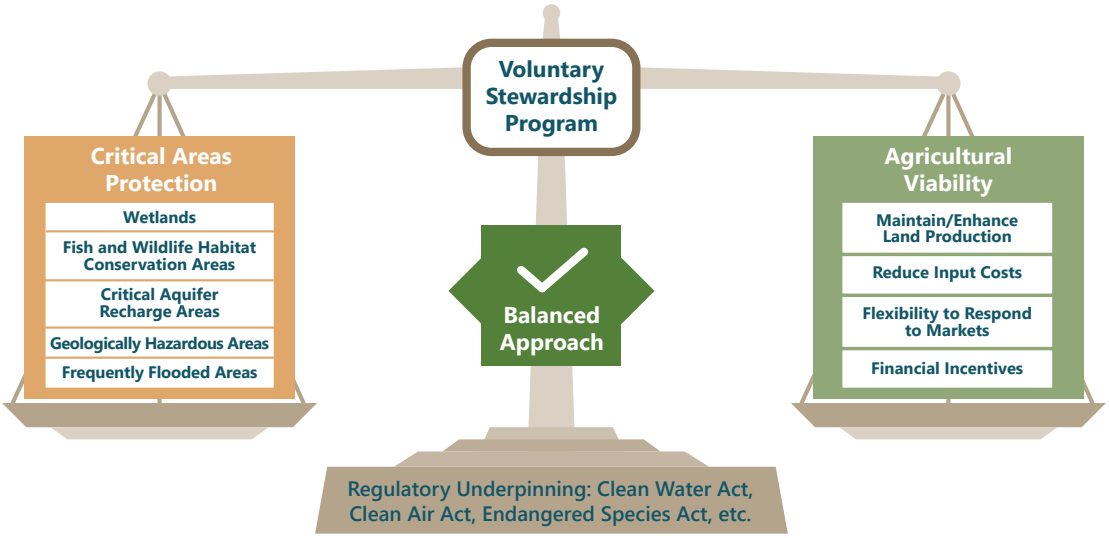
VSP is allowed under a recent change in the Growth Management Act and provides an alternative to traditional approaches to critical areas protection, such as protection buffers. VSP is intended to balance critical areas protection and agricultural viability at the County level through voluntary actions by agricultural producers, as illustrated in Figure 1. 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.

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 lands where agricultural activities are conducted are managed under this voluntary program. Lands used for non-agricultural purposes are regulated under Pend Oreille County's Development Regulations.

Figure 1
Balanced Approach of Critical Areas Protection and Agricultural Viability



VSP Work Plan Background and Purpose

The guiding document for the VSP is the Work Plan. The Pend Oreille County VSP Work Plan (Work Plan) was developed by the Pend Oreille County VSP Work Group, which was convened by the County and comprises agricultural producers, local government-elected officials and staff, and agency representatives. This document provides an overview of the VSP Work Plan and a VSP Checklist. The Work Plan includes detailed information intended to fulfill the state requirements outlined under the Revised Code of Washington (RCW) 36.70A.720(1), which includes several elements, such as protection and enhancement goals, measurable benchmarks, and an implementation, reporting, and tracking framework. See below for a description of the VSP Work Plan organization.

One of the main goals of the Work Plan is to identify conservation practices that are implemented under existing programs or voluntarily implemented through producer-funded practices, and identify future goals and benchmarks for continued protection and enhancement of the County's critical area functions and values.

Failure of the Work Plan in meeting protection goals will trigger a regulatory approach to protecting critical areas under the Growth Management Act, such as applying buffers and setbacks along streams or wetlands. Additionally, the regulatory approach for protecting critical areas on agricultural lands would not have the equally important VSP goal of maintaining and enhancing agricultural viability. Neither would it necessarily encourage outreach or technical assistance for agricultural operators. Therefore, producer participation is encouraged, through implementing conversation practices, to help ensure the success of VSP.

Pend Oreille County VSP Work Plan Organization

Detailed information outlining the background, existing conditions, goals and benchmarks, and implementation is found in the Pend Oreille County VSP Work Plan. See below for an overview of what is included in the Work Plan:

- **Introduction:** Background on VSP regulation and how it applies to Pend Oreille County.
- **Regional Setting:** Overview of Pend Oreille County conditions, including description of critical areas and associated key functions.
- **Baseline Conditions:** Description of county-wide critical areas presence and functions and values as of 2011 (effective date of VSP; see Frequently Asked Questions).
- **Protection and Enhancement Strategies:** Description of currently implemented conservation practices that protect and enhance critical areas functions and values.
- **Goals, Benchmarks, and Adaptive Management:** Description of VSP goals for each critical area, measurable benchmarks, and indicators and methods for adaptive management.
- **Implementation:** Detailed plan outlining implementation of VSP actions by the VSP Coordinator and Work Group.
- **Appendices:** Additional detailed information referenced by the above sections.

Work Plan Implementation

Agricultural producers are continually improving agricultural practices, applying new science and technology, and implementing conservation practices that reduce agricultural impacts on critical areas, while maintaining and increasing the viability of farms and ranches and the larger Pend Oreille County agricultural economy.

Work Plan implementation is expected to continue largely through producer-funded activities, existing programs, and organizations that provide technical support to producers. Many producers are already implementing conservation actions throughout the County that are protecting critical areas and supporting agricultural viability. VSP aims to:

1. Better identify and document producer-funded and other conservation practices implemented since 2011
2. Increase agricultural producer participation in implementing conservation practices

Stewardship Activities and Conservation Practices

Examples of practices that protect critical area functions and values and promoting agricultural viability include:

- Forest Understory Management
- Grazing Management
- Fencing
- Weed Management
- Pest Management

See the VSP Checklist for additional examples of voluntary stewardship practices and resources for additional information and potential incentive funding.

To meet the goals of the Work Plan, VSP implementation will include agricultural producer participation and outreach, technical assistance, program performance tracking and reporting, and adaptive management. Commodity groups, the Pend Oreille Conservation District, and others can help in performing these responsibilities.

VSP Checklist

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

Participation in Programs

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

Privacy Note: Information collected by producers using this checklist will be used to quantify, at the County-level, stewardship measures that have been implemented, associated critical area protections and enhancements, and agricultural viability benefits. VSP Checklists can also assist producers in developing an "individual stewardship plan" in coordination with the Pend Oreille Conservation District. "Individual stewardship plans" that a conservation district helps a producer develop are confidential and exempt from disclosure, similar to farm plans developed by conservation districts. Conservation practices information shared by producers with the Conservation District will be reported for VSP at the watershed and County scales.

Pend Oreille County Voluntary Stewardship Program Checklist

This Voluntary Stewardship Program (VSP) checklist is intended to help farmers and ranchers contribute to the goals and benchmarks of the Pend Oreille County VSP Work Plan. Many farmers and ranchers in the County are already conducting conservation practices that promote agricultural viability while also providing protections to critical area functions.

Help keep critical areas protection voluntary.

Working together, farmers and ranchers can use voluntary efforts to avoid additional regulatory controls.

This VSP checklist intends to:

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

Conservation Practices on Your Farm or Ranch

Conservation 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 conservation practice or other standard. Conservation practices may fall under multiple categories; please include each implemented practice **only once**.

Privacy Note:
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. VSP Checklists can also assist producers in developing an "individual stewardship plan" in coordination with Pend Oreille Conservation District. "Individual stewardship plans" that a conservation district helps a producer develop are confidential and exempt from disclosure, similar to farm plans developed by conservation districts. Conservation practices information shared by producers with the Pend Oreille Conservation District will be reported for VSP at the watershed and County scales.

For more information about VSP, please visit:
http://www.pocd.org/voluntary-stewardship-program
Or email:
davidm@pocd.org

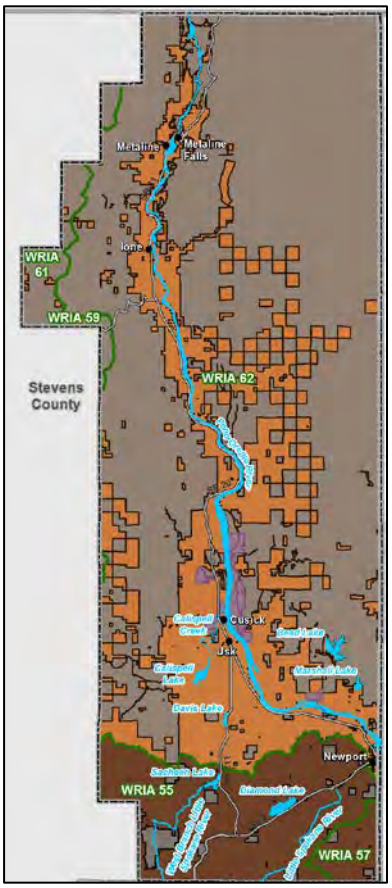
General Location (Voluntary information)

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

- ☐ Pend Oreille (WRIAs 59, 61, and 62)
- ☐ Spokane (WRIAs 55 and 57)

Do you know of any Critical Areas on your property?

- ☐ Yes
- ☐ No



Land Management and Agricultural Viability

What types of land management or agricultural viability concerns do you have on your property?	
☐ Forest understory management	☐ Erosion/landslide risks
☐ Wildfire risk	☐ Flooding
☐ Weed and pest management	☐ Other(s) - please list:

Weed Management

Photo credit: David Marcell

Noxious weed management efforts are being conducted with Weed Board funds that are available throughout the County in coordination with the Pend Oreille Conservation District re-seeding efforts.

Forest Understory Management

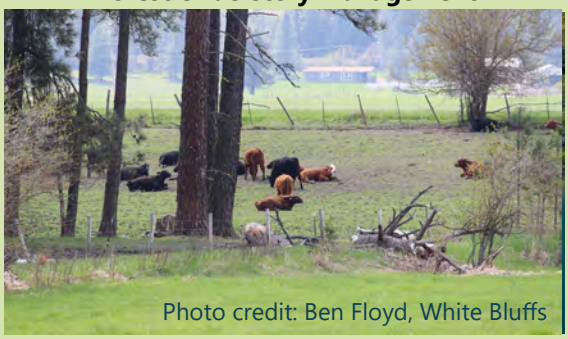


Photo credit: Ben Floyd, White Bluffs

Forest understory management is a key practice for maintaining grazing access and conditions in forested rangelands while also reducing wildfire hazards, improving soil composition, and providing habitat and forage access to wildlife.

What conservation practices are being implemented on your farm or ranch?

Example Conservation Practices	I do this	I'm interested in this	Does not apply	Not interested	Average units/year (acres/feet/other)
Livestock/Range Management					
Reseeding Mixed-Use Pasture Land	○	○	○	○	
Prescribed Grazing	○	○	○	○	
Heavy Use Protection	○	○	○	○	
Pumping Plant	○	○	○	○	
Spring Development and Watering Facilities	○	○	○	○	
Fencing	○	○	○	○	
Other(s): _____	○	○	○	○	
Forest Understory Management					
Woody Residue/Forest Slash Treatment	○	○	○	○	
Tree/Shrub Pruning	○	○	○	○	
Forest Stand Improvement	○	○	○	○	
Other(s): _____	○	○	○	○	
Nutrient and Pest Management					
Pest Management	○	○	○	○	
Nutrient Management	○	○	○	○	
Other(s): _____	○	○	○	○	
Soil Management					
Deep Tillage	○	○	○	○	
Conservation Crop Rotation	○	○	○	○	
Cover Crop	○	○	○	○	
Other(s): _____	○	○	○	○	
Irrigation Management					
Irrigation System, Sprinkler or Microirrigation	○	○	○	○	
Irrigation Water Management	○	○	○	○	
Other(s): _____	○	○	○	○	
Habitat Management					
Riparian Forest Buffer	○	○	○	○	
Access Control	○	○	○	○	
Tree/Shrub Site Preparation	○	○	○	○	
Structure for Water Control	○	○	○	○	
Tree/Shrub Establishment	○	○	○	○	
Upland Wildlife Habitat Management	○	○	○	○	
Fish and Wildlife Structure	○	○	○	○	
Streambank and Shoreline Protection	○	○	○	○	
Other(s): _____	○	○	○	○	

Additional Information and Assistance

If you have questions or would like more information on how to get involved, contact the VSP Coordinator or visit the Pend Oreille County VSP website at http://www.pocd.org/voluntary-stewardship-program. Critical areas exist throughout the County. You can direct questions about the presence of critical areas on your property to the Pend Oreille County VSP Coordinator by using the contact information below. You can also visit the VSP website for critical area maps for Pend Oreille County.

Pend Oreille County Conservation District Technical Assistance Provider:

David Marcell, District Manager and VSP Coordinator
davidm@pocd.org
509-447-1155
121 N Washington Ave
Newport, WA 99156

Other Resources:

- Pend Oreille County: https://pendoreilleco.org/
- Washington State Farm Bureau: https://wsfb.com/
- Washington Cattlemen's Association: http://www.washingtoncattlemen.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/pendoreille/

Pend Oreille County

Voluntary Stewardship Program
Overview and Checklist

Prepared by Anchor QEA, LLC for the
Pend Oreille County Work Group

Funded by the Washington State
Conservation Commission

Pend Oreille County VSP Coordinator

David Marcell, Pend Oreille Conservation District
davidm@pocd.org
(509) 447-1155
121 N Washington Ave
Newport, WA 99156
http://www.pocd.org/voluntary-stewardship-program

Appendix A-3
Frequently Asked Questions

Appendix A-3

Frequently Asked Questions

What are critical areas?

Critical areas perform key functions that enhance our environment (e.g., water quality and fish and wildlife habitat) and provide protection from hazards (e.g., flood, erosion, or landslide hazards). Critical areas that are specifically defined and managed under the Growth Management Act include wetlands, fish and wildlife habitat conservation areas, critical aquifer recharge areas, geologically hazardous areas, and frequently flooded areas.

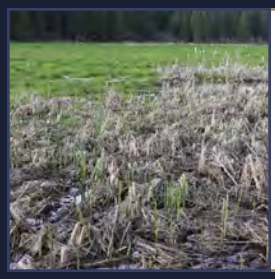
The four primary functions provided by the County's critical areas include:

- **Water quality function** through filtration and retention of fine sediments, excessive nutrients, and other pollutants, as well as temperature regulation through canopy shade
- **Hydrology** through the delivery, movement, and storage of water
- **Soil function** through the preservation of soil and the quality of the underground living ecosystem, which preserves plants, animals, and human life
- **Habitat** through the natural environments in which a species or populations can live

Are there critical areas on my land?

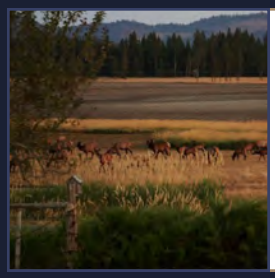
Critical areas are designated through the County Development Regulations. Each critical area has specific characteristics used for identification. Additionally, critical areas maps can be used to help identify where critical areas may occur; however, presence of critical areas is determined on an individual site basis.

Critical Areas



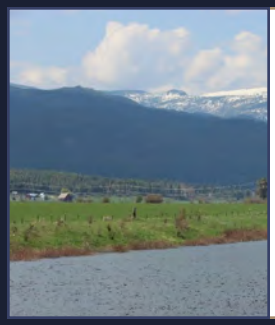
Wetlands

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



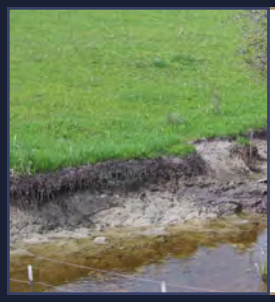
Fish and Wildlife Habitat Conservation Areas

Lands and waters that provide habitat to support fish and wildlife species throughout their life stages.



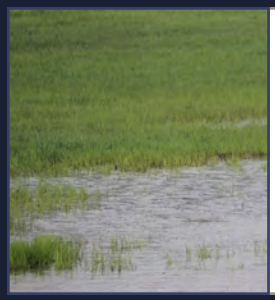
Critical Aquifer Recharge Areas

Areas that have a critical recharging effect on aquifers used for drinking water, including aquifers vulnerable to contamination.



Geologically Hazardous Areas

Areas susceptible to erosion, sliding, and other geological events. Geologic hazards related to agricultural activities are primarily associated with erosion from summer wildfires.



Frequently Flooded Areas

Includes floodplains and floodways, and often includes the low-lying areas adjacent to rivers and lakes that are prone to inundation during heavy rains and snowmelt.

What is meant by "Baseline Conditions"?

The effective date of the VSP legislation is July 22, 2011. This date identifies the baseline for protecting critical areas functions and maintaining agricultural viability that will be the comparison for determining the success of the Work Plan during implementation.

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

VSP requires creation of measurable benchmarks that will protect and enhance critical area functions and values through voluntary actions by agricultural producers while maintaining agricultural viability.

- **Protection:** Prevention of the degradation of functions and values of baseline conditions.
- **Enhancement:** Improvement of the processes, structure, and functions of baseline conditions for ecosystems and habitats associated with critical areas.

What are the differences between VSP and the Development Regulations?

VSP is a 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 Growth Management Act as an alternative to traditional approaches to critical areas protection required under the County's Development Regulations, such as protection buffers. See the comparison chart between VSP and Development Regulations requirements in the table below.

What does it mean to "Maintain Agricultural Viability"?

To receive approval, the Work Plan must protect critical areas while maintaining and enhancing agricultural viability (RCW 36.70A.725). Agricultural viability in the County can include regional and individual agricultural elements:

- **At a regional level,** agricultural viability is the regional support system sustaining production and providing the services, conditions, land base, and infrastructure for individual farms and ranches to succeed.
- **At a farm or ranch level,** agricultural viability rests mostly on the productivity of the land and the ability of the operator to balance input costs with sales and market conditions. In the County, a main farm-level agricultural viability concern is land productivity, which can be impacted by soil erosion and soil quality (moisture and nutrient management).

Balancing critical areas protection while maintaining agricultural viability means protection activities have to be conducted in a manner that keeps land in production, provides producers with the flexibility to implement conservation practices that fit with their business goals, and provides certainty for future business decisions.

Development Regulations	VSP
Protective regulatory provisions, such as buffers and enforcement	Voluntary participation in stewardship practices and plans
Preserve functions and values of the natural environment, or safeguard the public from hazards to health and safety (WAC 365-196-830)	Prevent degradation of critical area functions and values existing as of July 22, 2011 (RCW 36.70A.703(8))
Site-by-site basis	Collective, watershed-scale
Watershed scale monitoring and site-by-site enforcement	Watershed-scale monitoring to demonstrate that objective benchmarks of critical area protection are met for areas of intersect with each of the five critical area types; progress reports every 5 years

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

Failure of the VSP Work Plan will trigger a regulatory approach to critical areas protection under the Growth Management Act, which includes mandated regulation on critical areas, such as buffers and setbacks. Additionally, regulation of critical areas on agricultural lands through the Growth Management Act does not take agricultural viability into account and does not encourage outreach or technical assistance for agricultural operators. Therefore, agricultural operators are encouraged to participate in the program to ensure VSP succeeds.

What does participation look like?

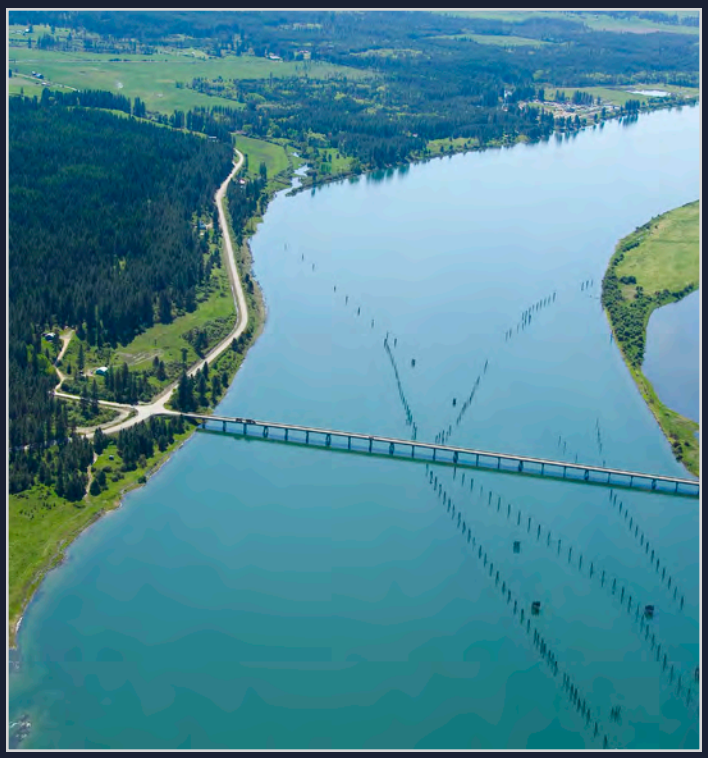
VSP participation includes tracking conservation practices that protect and enhance critical areas functions and values at a farm and ranch level through the VSP Checklist. There are many ways that agricultural producers can get involved, either through existing Conservation District, Natural Resources Conservation Service, or other publicly-funded programs, or through self-funded improvements. Producers do not have to be part of a federal program to be involved in VSP. 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).

Is there funding to support VSP?

The VSP received statewide funding for the 2017 to 2019 biennium. However, future funding is contingent on additional appropriations by the state. Other funding sources, such as local conservation district funding, federal funding through farm bills or other programs, and private funding, can also be used to support VSP protection and enhancement goals.

How do I get involved in VSP?

To participate in VSP, complete the attached VSP checklist and share your checklist findings with the VSP Coordinator. Additionally, to increase involvement in VSP, consider reaching out to your commodity group representative and share ideas on new practices. If you have any questions or would like more information on how to get involved, contact the VSP Coordinator at the Pend Oreille County Conservation District.



Appendix B
Outreach Plan

Appendix B: Pend Oreille County Voluntary Stewardship Program Outreach Plan

Introduction

The Pend Oreille County Voluntary Stewardship Program (VSP) Outreach Plan provides a summary of outreach and public participation measures that were conducted during VSP Work Plan development to ensure that the agricultural community and other interested parties were involved in all aspects of the Pend Oreille County VSP. Outreach and public participation measures will continue to be conducted throughout implementation as funding and resources are available.

Public Involvement During Work Plan Development

Work Group Formation

The Pend Oreille County VSP development process was initiated in late 2015. Pend Oreille County (the County) and the Pend Oreille Conservation District (POCD) conducted extensive outreach to seek input and participation in the Work Group from tribes, agencies, stakeholders, and agricultural producers, including invitation letters and post card mailers, as summarized in Table 1. The first VSP meeting was held on January 27, 2016. Information on the background, process, and future meetings was presented. In total, 11 VSP Work Group meetings were held, including four in 2016 and five in 2018.

Additional public outreach efforts included two public meetings hosted by the County and POCD on June 20, 2018, in Usk and Cusick to invite input on the VSP Work Plan and discuss the implementation process. Public outreach for these meetings included mailing post cards to landowners, posting flyers in public spaces, and running ads in the local newspaper, the Newport Miner. Attachment B-1 includes meeting notes from the public meetings.

Table 1
Work Group Formation Public Outreach Summary

Type	Date	Description
VSP Contact List Created	2015	An extensive contact list was compiled made up of watershed planning groups, existing lead entities, local integrating organizations, and members of the Kalispel Tribe of Indians.
VSP Post Card Mailer	2015	The County mailed a post card to the VSP Contact List inviting participation in the VSP process and announcing the January 27, 2016 informational meeting date.
VSP Announcement Letter	2015	An invitation letter was mailed to local stakeholders in the agricultural, environmental, and tribal communities inviting participation in the VSP process and announcing the January 27, 2016 informational meeting date.

Type	Date	Description
VSP Discussion Guide	NA	A VSP discussion guide was prepared and distributed prior to the January 27, 2016 public meeting providing background information and potential meeting topics for consideration.
VSP Initial Public Meeting	January 27, 2016	A public meeting was held to discuss of the background and process of the VSP, request Work Group members, and announce future meetings.
Additional 2016 VSP Meetings	February – May 2016	Additional meetings held to discuss baseline conditions, critical areas mapping products, review existing data collection efforts, agricultural profile and conservation programs and practices, and VSP program elements.
2018 VSP Work Group Meetings	March 6, April 5, May 1 and June 5, 2018	After a hiatus, the VSP development process was reinitiated, with the Work Group being formally organized, baseline conditions and maps, conservation practices, and draft work plan chapters developed and reviewed by the workgroup members.
Public Meeting	June 20, 2018	Public meeting sponsored by the VSP Work Group to receive public input on the draft VSP work plan.

Work Group Members

Through the outreach efforts mentioned above, the Pend Oreille County VSP Work Group was formed and officially approved by the Commissioner Chair on May 1, 2018. VSP Work Group and Advisory members are listed in Table 2.

Table 2
Work Group Members and Advisory Members

Work Group Members	Advisory Members
Amanda Parrish, The Lands Council Andy Huddleston, Pend Oreille County Planning David Marcell, POCD John Floyd, Small Acreage Landowner and POCD Board Jon Driver, Farm Credit Services and Hay Producer Karen Skoog, Pend Oreille County Larry Cordes, Cattle and Hay Producer Michele Masuen, Poultry and Hay Producer Mike Jensen, WSU Extension Mike Lithgow, Kalispel Tribe Ron Meyer, Hay Producer Sharon Sorby, Pend Oreille County Weed Board Ted Davis, Hay Producer Travis Hanson, Cattle and Hay Producer	Sandy Dotts, WDFW

Public Participation and Outreach

The Work Group welcomed the participation of interested parties at all meetings. The interested parties list was included with Work Group meeting announcement emails. The following agencies, tribes, and stakeholders were included when creating a mailing list for outreach during Work Group formation and maintained as a part of the VSP interested parties list:

- Landowners
- Cattlemen's Association
- Washington State Farm Bureau
- Washington Department of Fish and Wildlife
- Northeast Washington Hay Growers Association
- Washington Farm Services Agency

All meeting dates, meeting notes, and draft Work Plan materials were made available to the public on the County's VSP webpage at:
https://pendoreilleco.org/your-government/community-development/vsp/

Table 3 summarizes the public participation and outreach activities that were conducted during the Work Plan development process.

Table 3
Public Participation and Outreach Summary

Type	Date	Description
Websites	Ongoing	All background documents and meeting materials were made available to the public on the County and POCD websites: • https://pendoreilleco.org/your-government/community-development/vsp/ • https://www.pocd.org/voluntary-stewardship-program
Agricultural Viability Workshop	April 2018	A workshop to receive feedback on strengths, weaknesses, opportunities, and threats for agriculture in Pend Oreille County was facilitated at the April work group meeting. Feedback was incorporated into Table 3-4 of the VSP Work Plan.
VSP Overview and Checklist Materials	April – May 2018	The Work Group prepared VSP overview and checklist materials included in Appendix A of the Work Plan and made them available on the County's VSP website. Materials include the *VSP Informational Flyer* (A-1), *Pend Oreille County VSP Overview and Checklist* (Appendix A-2), and *Frequently Asked Questions* document (Appendix A-3).
Public Review Period	June 7-30, 2018	The Draft VSP Work Plan was provided for public review and comment. Public comments were received and considered by the Work Group prior to Work Plan submittal to the State Technical Panel

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. The County will commit to an annual effort to reach out to 15% of the landowners that operate the approximately 288 farms in the County, using the methods described in this Outreach Plan. 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. Tables 4 and 5 provide planned and potential public outreach strategies. Figure 1 provides a protocol on how the VSP Overview and Checklist (Appendix A) will be used and illustrates the process from outreach to implementation.

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
- 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

Table 4
Planned Public Communication and Outreach Activities

Type	Description
Maintain and update email list	The County created an email list containing all interested parties (e.g., Work Group, Technical Committee, public) for the VSP Work Plan process. All meeting notices and materials as well as documents will continue to be provided to the email list during implementation. Anyone may subscribe to the email list by contacting Andy Huddleston at ahuddleston@pendoreille.org or David Marcell at davidm@pocd.org.
Update website and media	The County and POCD have created webpages specifically for the VSP and will continually update it with meeting notices and materials as well as documents. Additional information will be added for the implementation phase. POCD also has social media, including Facebook, on which they frequently engage with the public. These resources can be found at: • https://pendoreilleco.org/your-government/community-development/vsp/ • https://www.pocd.org/voluntary-stewardship-program • https://www.facebook.com/pocd.org/
VSP Informational Flyer	The VSP Informational Flyer (Appendix A-1) was completed along with the VSP Overview and Checklist to provide landowners an introduction to VSP and how to get involved.
VSP Overview and Checklist	VSP Overview and Checklist materials were completed as part of the VSP Work Plan (see Appendix A). The checklist in Appendix A-2 will help facilitate

Type	Description
	participation in VSP and tracking of currently ongoing conservation practices. The checklist may potentially be converted to an online fillable document in the future.
Frequently Asked Questions	A Frequently Asked Questions document is included in Appendix A-3 to answer some of the more general questions that landowners may have regarding VSP.
Individual Stewardship Plans	POCD will work with landowners to help them prepare stewardship plans for their farms and support with implementation of these plans. POCD works with a local Natural Resources Conservation Service (NRCS) conservation planner to provide technical assistance to landowners during implementation.
Reporting on conservation practices	POCD will work with the NRCS and the Farm Service Agency to annually collect information related to ongoing and new practices implemented on individual farms. Additionally, POCD will 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. POCD will continue to train staff on NRCS formulas and logging conservation practices in the multi-data spreadsheet tracking tool described in Section 5 of the Work Plan.
Educational Opportunities	Educational opportunities focused on particular critical area concerns and agricultural practices are available to producers at their convenience, for booths at the fair or farmers markets. POCD's educational offerings are described on the POCD education page developed with Dana Bowers: https://www.pocd.org/ The County and POCD have worked with the WSU extension and other partners, including the Kalispel Tribe, to implement youth education initiatives (e.g., 4-H groups). The County has also provided educational opportunities including classroom education in collaboration with the Public Utility District to present interactive watershed models. Future youth education and outreach efforts will include applicable elements of the VSP program and resource conservation and stewardship principles in general, consistent with available funding.
Tours	POCD-led tours are opportunities to share information with producers, partners and the public. Tours may include on-farm testing/demonstration and field trials.

Table 5
Potential Community Meetings or Other Outreach Opportunities

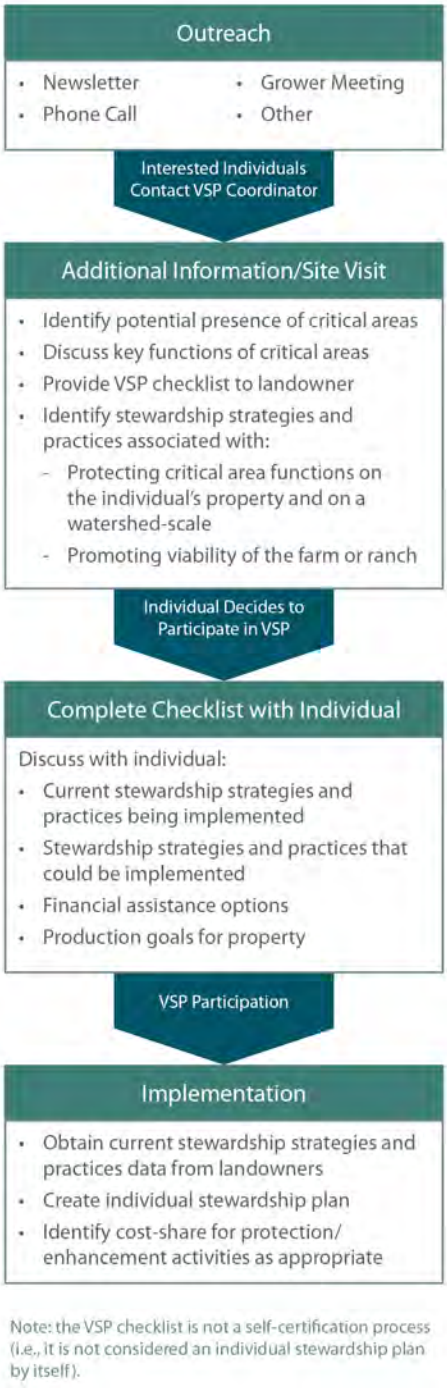
Outreach Opportunity	Description
POCD Meetings	POCD hosts monthly board meetings that are available to the public.
POCD Newsletter	POCD publishes newsletters to provide information and outreach to producers and post Work Group meeting announcements.
County Fair	Host a booth to provide information on the VSP to a broad range for people.
Farmers Markets	Host a booth to provide information on the VSP to a broad range for people.
Association Meetings	Give presentations at association meetings.
Work Group Member Outreach	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, Kalispel Tribe, and Agricultural Groups

POCD will coordinate with the following agencies and groups to help with outreach and implementation:

- Natural Resources Conservation Service
- Kalispel Tribe
- Pend Oreille County Noxious Weed Board
- Washington Department of Fish and Wildlife
- WSU Extension

Figure 6-1
VSP Checklist Use Protocol



Note: Based on flowchart developed by the Franklin Conservation District for the Franklin County VSP Work Plan.

Appendix B-1
Meeting Notes

Pend Oreille County VSP Public Meeting Notes, June 20, 2018

Two public meetings were held recently to discuss the draft Pend Oreille County VSP Work Plan. They were held on June 20, 2018, in Newport and Cusick, Washington. Postcards were sent out by mail and emails were also sent out to a list of interested parties and others that were on the County's Noxious Weed Board's distribution list. White Bluffs Consulting presented information about the Draft Work Plan at each of these meetings. Five workgroup members and a few members of the public attended these meetings.

- A producer mentioned that on Highway 20 on either side of McLeod Creek, the birds can't nest there like they use to due to canary reed grass growth.
- A landowner asked about whether something could be done about water quality for ducks and geese on a property where water flows through where cows are grazing. *Yes, it is a possible project opportunity to talk to the Conservation District about.*
- Do you have to be designated officially as a farm to receive help? *No, you do not need to have your property designated as a farm; just need to have agricultural activities occurring and an opportunity to benefit a critical area.*
- How many producers do we need involved so this process is successful? *We are hopeful to have at least half of the producers participate in the first 5 to 6 years into implementation and ideally we would like all or nearly all participate in one form or another.*
- Land values are going up and it is harder to be able to afford to buy vineyards, orchards, and other farm ground. Taxes are going up too. The younger generations seem to not want to continue farming. *VSP can help with agriculture viability along with critical areas protection, and help with compliance with some regulatory requirements too.*
- We have to keep this land producing our own food or what are we going to do in the future? *This VSP program will provide more flexibility for producers than the alternative regulatory approach.*
- The elk have become a problem in this area with eating the hay and have become too invasive. The turkeys are a problem too, with getting into hay.

At the conclusion of these meetings, attendees were encouraged to review the draft VSP Work Plan and to stay involved. Those who attend these public meetings will be included on the VSP email distribution list as interested parties.

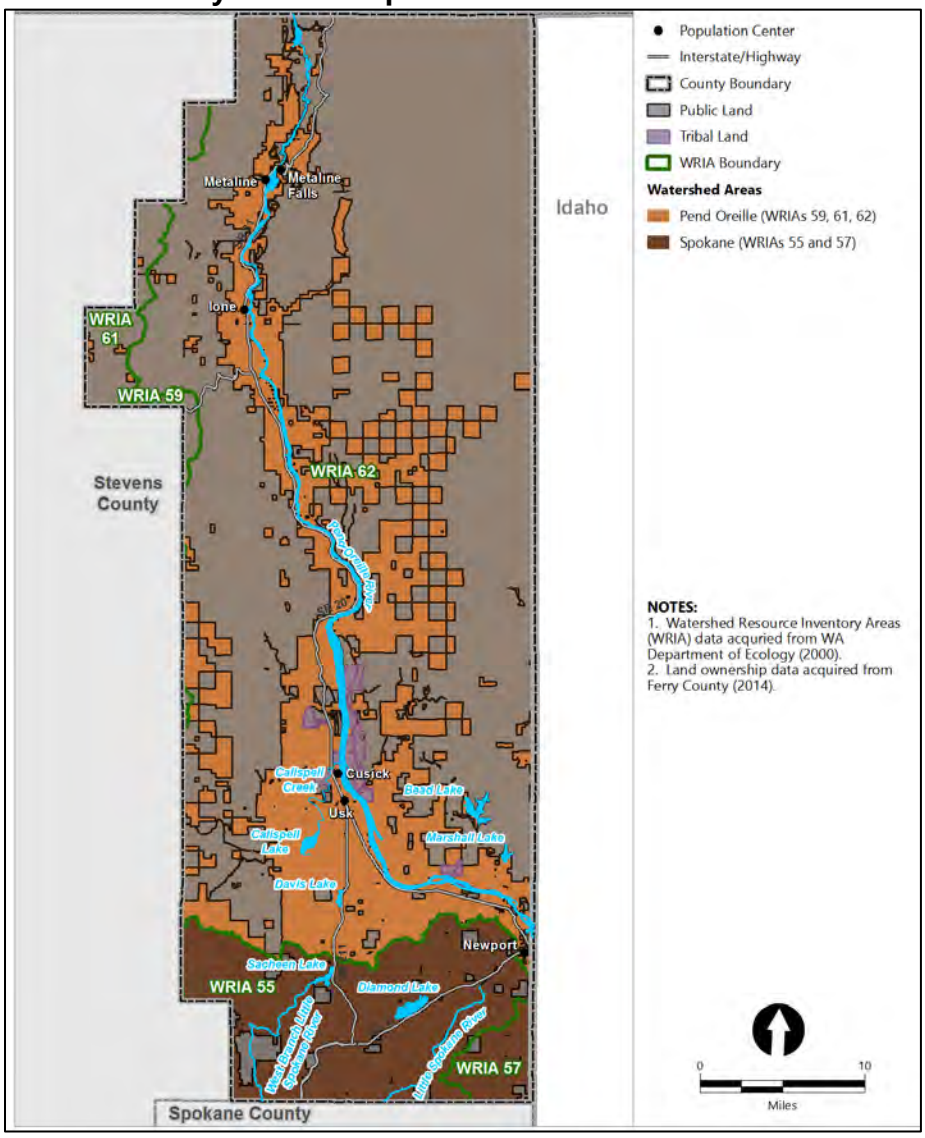
Appendix C
Baseline Conditions Summary

Appendix C-1: Watershed Analysis Units

Two watershed analysis units were identified to develop a more localized planning approach during implementation of the Pend Oreille County Voluntary Stewardship (VSP) Work Plan (Work Plan; Figure 1). Although the Work Plan and the goals and benchmarks discussed in Section 5 of the Work Plan apply County-wide, the watershed analysis units will help realize more localized watershed objectives during implementation. These watershed analysis units are defined by the following Water Resource Inventory Area (WRIA) boundaries:

- Pend Oreille (WRIAs 59, 61, and 62)
- Spokane (WRIAs 55 and 57)

Figure 1
Watershed Analysis Units Map



Attachment 1 includes a summary table of countywide critical areas data and individual tables for each of the watershed analysis units (Pend Oreille and Spokane).

Pend Oreille Watershed Analysis Unit

The Pend Oreille watershed analysis unit includes the area of the county north of the City of Newport to the northern border with Canada. The Pend Oreille River intersects the entire watershed. Other surface waters within the watershed include Calispell Creek, and Bead, Calispell, Davis, and Marshall Lakes. The Pend Oreille Watershed unit primarily includes the Pend Oreille Watershed (WRIA 62). Small areas of the Upper Lake Roosevelt Watershed (WRIA 61) and Colville Watershed (WRIA 59) are found in the westernmost part of the County, within this unit.

Profile

Water Resources

The Pend Oreille watershed analysis unit includes the area of the county north of the City of Newport. Major tributaries include the Pend Oreille River and Calispell Creek. Precipitation in the unit ranges from 20 to 65 inches, increasing in precipitation in the higher elevations further north in the county. Groundwater is generally located in bedrock with limited availability in this watershed (Ecology 2012).

Soils and Terrain

The Pend Oreille unit soils occurring on private agricultural lands are primarily composed of loam with intermittent rock outcroppings. The central and northern portion of the county are characterized by glacially modified foothills and mountains with deep, narrow valleys associated with the Okanogan Highlands (Donaldson et al. 1992). The majority of soils in this unit are used as rangeland.

Agricultural Landcover and Primary Crops/Products

Approximately 26% of the Pend Oreille unit is composed of agricultural landcover (private lands), primarily rangeland.

Landcover	Acres	Percent
Total Watershed Area	**771,363**	**NA**
Agricultural Landcover	**201,436**	**26%**
Irrigated	332	<1%
Dryland	10,751	5%
Range	190,353	95%

Location of Critical Areas

Fish and Wildlife Habitat Conservation Areas (HCAs) are mapped as Priority Habitat and Species (PHS) within the Pend Oreille unit. Approximately 17% of private agricultural lands include mapped non-game species PHS areas and approximately 13% include game species PHS areas which are described below:

- Lynx habitat intersects approximately 31,028 acres of agricultural lands
- Game species PHS habitat, primarily mammals such as elk, moose, mule deer, northwest white-tailed deer, and Rocky Mountain elk, occur on approximately 100,953 acres of agricultural lands
- Large waterfowl concentrations habitat areas surround Calispell Lake, Calispell Creek, and the Pend Oreille River in the south-central part of the unit near the community of Usk

Water Erosion Areas ranging from severe to very severe intersect approximately 16% of agricultural lands within the Pend Oreille unit.

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

Critical Areas	Areas within Agricultural Lands[1]							
	Irrigated		Dryland		Rangeland		Total	
	Acres	*Percent*	*Acres*	*Percent*	*Acres*	*Percent*	*Acres*	*Percent*
Wetlands	221	<1%	6,481	1%	8,296	1%	14,998	2%
HCAs – Non-game Species	0	0%	33	<1%	31,001	4%	31,034	4%
HCAs – Game Species	38	<1%	3,225	<1%	97,690	13%	100,953	13%
CARAs	0	0%	118	<1%	2,121	<1%	2,239	<1%
Geologic Hazards[2]	1	<1%	510	<1%	125,311	16%	125,823	16%
Frequently Flooded Areas	193	<1%	6,969	1%	10,959	1%	18,120	2%

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 19% of the agricultural area in this community.

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 Pend Oreille unit are associated with the Pend Oreille River and its tributaries. In this unit, the Pend Oreille River along various reaches is listed on the Washington State Department of Ecology 303(d) List as Category 5 for temperature, pH, and aldrin; associated tributaries along the river are listed for dissolved oxygen, pH, and temperature; and Sullivan Lake in the northern part of the County is listed for polychlorinated biphenyls (PCBs) (Ecology 2018). • Riparian vegetation includes a mix of native and introduced trees and shrubs (WDFW 1997). These areas provide stream cover, which reduces temperatures and helps to filter surface and groundwater inputs. There are riparian habitat areas mapped along surface water features throughout the unit.
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 are a prominent feature in the Pend Oreille unit, providing a variety of riparian and wetland habitat. Wetlands are primarily present immediately adjacent to the Pend Oreille River and around Calispell Lake. Riparian and wetland vegetation provides cover and food inputs for aquatic species. • **Wildlife and habitat**: Priority species occurrences in the Pend Oreille unit include common loon and waterfowl concentrations. Game species include moose, mountain goat, mule deer, northwest white-tailed deer, and Rocky Mountain elk. Game species habitat is located throughout the unit.
Soil and Hydrology Functions
• Surface water flows through this area for irrigation supply and creates wetland and stream-like habitat as water moves through topographic lows. • Groundwater recharge rates are generally low due to climate and geology and mostly occur during winter season when the County experiences the most precipitation (Ecology 2012). • Soils are characterized as loams and sands with severe water erosion susceptibility occurring throughout most of 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 Pend Oreille 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 Pend Oreille unit, which can affect soil health and agricultural viability, and erosion has 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 Conservation Practices
• Protect and/or enhance riparian and wetland habitat, which is prevalent near waterbodies such as the Pend Oreille River and associated tributaries and lakes • Protect and/or enhance habitat areas, including PHS-listed habitat such as old-growth/mature forest, riparian zones, and game species habitat • Protect soils from water and wind erosion, particularly in severe water erosion potential areas adjacent to the Pend Oreille River[1] • Implement water conservation measures to provide long-term reliable and predictable water supplies for human uses, balanced with habitat and water quality needs • Protect and manage surface and groundwater resources to ensure adequate recharge and water quality in deep and shallow aquifers	• Stream buffer • Streambank stabilization • Forest slash treatment • Prescribed grazing • Tree and shrub planting • Conservation cover • Irrigation water management • Nutrient management • Pest management

Notes:
1. Watershed recommendation described in the *Pend Oreille County Bank Stabilization Guide (Pend Oreille County 2015)*

Spokane Watershed Analysis Unit

The Spokane watershed analysis unit includes a portion of the West Branch Little Spokane River in the southwest, and a portion of the Little Spokane River in the southeast. Major waterbodies in this unit include Sacheen Lake and Diamond Lake.

The Spokane unit comprises the southern WRIA boundaries of the County. Drainages within this unit include a portion of the Little Spokane (WRIA 55) and the Middle Spokane (WRIA 57).

Profile

Water Resources
The Spokane unit includes the southernmost area of the County. Major tributaries include the Little Spokane River and the West Branch Little Spokane River. Precipitation in the unit ranges from 17 to 40 inches, with the higher precipitation levels occurring in mountainous regions in the western and southeastern edges of the unit. Groundwater is generally located in bedrock with limited availability in this watershed (Ecology 2015).
Soils and Terrain
The Spokane unit is characterized by extensive outwash and glaciolacustrine terraces (Donaldson et al. 1992). Land use is dominated by forest and agriculture. The Spokane unit soils occurring on private agricultural lands are primarily composed of loam and sand with areas of the upland rock outcroppings. Similar to the Pend Oreille unit, the majority of soils in this unit are used as rangeland.

Agricultural Landcover and Primary Crops/Products

Approximately 91% of the Spokane unit is composed of agricultural landcover (private lands), primarily rangeland.

Landcover	Acres	Percent
Total Watershed Area	**118,074**	**NA**
Agricultural Landcover	**106,917**	**91%**
Irrigated	574	<1%
Dryland	4,353	4%
Range	101,990	95%

Location of Critical Areas

Fish and Wildlife HCAs are mapped as PHS within the Spokane unit and occur on approximately 31% of private agricultural lands, as described below:

- Old-growth/mature forest PHS habitat occurs on 16 acres of agricultural lands
- Riparian zones PHS habitat occurs on 2,199 acres of agricultural lands
- Game species PHS habitat, primarily moose and white-tailed deer habitat, occurs on 34,901 acres of agricultural lands

Water Erosion Areas ranging from severe to very severe intersect approximately 58% of agricultural lands within the Pend Oreille unit.

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

Critical Areas	Areas within Agricultural Lands[1]							
	Irrigated		Dryland		Rangeland		Total	
	Acres	*Percent*	*Acres*	*Percent*	*Acres*	*Percent*	*Acres*	*Percent*
Wetlands	66	<1%	735	<1%	3,345	3%	4,145	4%
HCAs – Non-game Species	0	0%	0	0%	0	0%	0	0%
HCAs – Game Species	292	<1%	1,882	2%	32,727	28%	34,901	30%
CARAs	0	0%	0	0%	261	<1%	261	<1%
Geologic Hazards[2]	52	<1%	1,519	1%	66,140	57%	67,711	58%
Frequently Flooded Areas	11	<1%	65	<1%	1,437	1%	1,513	1%

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 78% of the agricultural area in this community.

Critical Area Functions

Critical area functions, including water quality, habitat, soil, and hydrology, are discussed for the Spokane unit 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 Spokane unit are primarily associated with the West Branch Little Spokane and Little Spokane River. Wetlands and lakes between these features help filter surface and groundwater inputs. In this unit, the West Branch Little Spokane and Little Spokane River are listed on the Washington State Department of Ecology 303(d) List as Category 5 for dissolved oxygen (Ecology 2018).
- Riparian vegetation includes a mix of native and introduced trees and shrubs (WDFW 1997). These areas provide stream cover, which reduces temperatures and helps to filter surface and groundwater inputs. There are riparian habitat areas mapped along surface water features throughout the unit.

Habitat Function

- **Upland and riparian habitat:** Upland and riparian habitat in agricultural areas primarily occurs in the margins between fields and adjacent to stream.
- **Aquatic habitat:** Streams and lakes are a prominent feature in the Spokane unit, providing a variety of riparian and wetland habitat. Wetlands are primarily present immediately adjacent to the West Branch Little Spokane and Spokane Rivers and their tributaries. Riparian and wetland vegetation provides cover and food inputs for aquatic species.
- **Wildlife and habitat**: Priority game species occurrences in the Spokane unit include wood duck, elk, and moose. Game species habitat is concentrated in the west and south portions of the unit.

Soil and Hydrology Functions

- Surface water moves flow through this area for irrigation supply. In 2006, only about 6% of water allocated for agricultural was estimated to actually be used (WRIA 55/57 Watershed Implementation Team, 2008).
- Groundwater recharge rates are generally low due to climate and geology and mostly occur during winter season when the County experiences the most precipitation (Ecology 2015).
- Soils are characterized as loams, sands, and areas of rock outcrop with severe water erosion susceptibility.

Indirect Effects of Agriculture on Critical Area Functions

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

Severe water and wind erosion susceptibility areas are designated across the Spokane unit, which can affect soil health and agricultural viability, and erosion has been identified as a management concern for this area. Water erosion is a concern in steeper slope areas or 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 riparian habitat and promote voluntary riparian and wetland habitat planting and restoration projects, including on the West Branch Little Spokane and Little Spokane Rivers where water quality issues are present (e.g., low dissolved oxygen levels)[1] • Protect and/or enhance habitat areas, including PHS-listed habitat such as riparian zones and game species habitat in the west and south portions of the Spokane unit • Protect soils from water and wind erosion, particularly in severe water erosion potential areas • Implement conservation, reuse, and reclaimed water strategies, including agriculture irrigation conservation[1] • Protect groundwater recharge areas near Diamond and Sacheen Lakes	• Stream habitat improvement and management • Critical area planting • Fish and wildlife structure • Prescribed grazing • Conservation cover • Nutrient management • Irrigation water management • Pest management • Fencing

Note:

1. Planning unit goal described in the *WRIA 55/57 Watershed Management Plan* (WRIA 55/57 Watershed Implementation Team, 2008).

References

Donaldson, N.C., J.T. Defrancesco, and M.E. Haagen, D.W. Barron, and R.G. Coleman, 1992. Soil Survey of Pend Oreille County Area, Washington. Prepared by the United States Department of Agriculture, Soil Conservation Service in cooperation with United States Department of Agriculture, Forest Service, Washington State Department of Natural Resources, and Washington State University Agricultural Research Center. October 1992.

Ecology (Washington State Department of Ecology), 2012. Focus on Water Availability. Pend Oreille Watershed, WRIA 62. Publication Number: 11-11-066 1 08/11. Revised August 2012.

Ecology, 2015. Focus on Water Availability. Little Spokane Watershed, WRIA 55. Publication Number: 11-11-059 08/12. Revised February 2015.

Ecology (Washington State Department of Ecology), 2018. Washington State Water Quality Atlas. Cited: May 14, 2018. Available from: https://fortress.wa.gov/ecy/wqamapviewer/map.aspx

WDFW (Washington Department of Fish and Wildlife), 1997. Management Recommendations for Washington's Priority Habitats: Riparian.

WRIA 55/57 Watershed Implementation Team, 2008. Detailed Implementation Plan: Little and Middle Spokane River Basins, Water Resource Inventory Area 55/57. WRIA 55/57 Watershed Implementation Team. February 20, 2008.

Attachment 1

- Watershed Analysis Units: GIS Data Summary Tables

Appendix C-1
Watershed Analysis Units

Table C1-1
Pend Oreille County Baseline

Landcover	Acres
Total Area	**910,217**
Private	316,131
Public	587,876
Tribe	6,210
Agricultural Landcover (Private)	**308,353**
Irrigated	907
Dryland	15,104
Rangeland	292,343
Total Streams (miles) (Private)	**1,753**

Critical Areas	Miles within Agricultural Lands - Private Ownership			
	Irrigated	Dryland	Rangeland	Total
	Miles	*Miles*	*Miles*	*Miles*
Streams Total	4	52	1,637	1,693
Shorelines of the State	0	0	32	32
Fish Use or Potential Fish Use	2	18	350	370
No Fish Use	1	21	1032	1054
Unknown	0	12	224	237
Priority Habitats and Species - Fish Distribution	**0**	**3**	**219**	**223**
Bass	**0**	**0**	**8**	**8**
Largemouth	0	0	8	8
Smallmouth	0	0	0	0
Salmon	**0**	**0**	**15**	**15**
Trout	**0**	**3**	**219**	**223**
Brook	0	2	164	167
Brown	0	0	11	12
Bull	0	1	69	70
Cutthroat	0	2	160	162
Rainbow	0	2	170	173
Steelhead	0	0	12	12
Whitefish	**0**	**0**	**5**	**5**
Walleye	**0**	**0**	**1**	**1**

Critical Areas	Areas within Agricultural Lands - Private Ownership			
	Irrigated	Dryland	Rangeland	Total
	Acres	*Acres*	*Acres*	*Acres*
Wetlands (all types)	287	7,215	11,641	19,143
Freshwater Emergent Wetland	286	7,177	7,049	14,512
Freshwater Forested/Shrub Wetland	1	23	3,673	3,697
Lake/Pond	1	15	867	883
Riverine	0	0	39	40
Other	0	1	12	13

Table C1-1
Pend Oreille County Baseline

Priority Habitats and Species	341	6,578	155,875	162,794
PHS (Non-game Species)	0	33	31,001	31,034
Birds	0	0	10	10
Common Loon	0	0	10	10
Mammals	0	33	30,995	31,028
Lynx	0	33	30,995	31,028
Old-growth/Mature Forest	0	0	16	16
Riparian Zones	10	442	7,193	7,646
Waterfowl Concentrations	0	1,051	2,517	3,568

Table C1-1
Pend Oreille County Baseline

PHS (Game Species)	330	5,107	130,417	135,854
Birds	0	0	117	117
Cavity-nesting Ducks	0	0	25	25
Harlequin Duck	0	0	0	0
Wood Duck	0	0	92	92
Mammals	330	5,107	130,392	135,830
Elk	0	181	4,785	4,966
Marten	0	0	0	0
Moose	42	430	41,431	41,904
Mountain Goat	0	0	196	196
Mule Deer	0	0	5,179	5,179
Northwest White-tailed Deer	288	4,556	56,487	61,332
Rocky Mountain Elk	38	1,000	46,895	47,934
Wellhead Protection Areas	0	118	2,383	2,501
Water Erosion Potential (Severe to Very Severe)	53	2,029	191,451	193,533
Wind Erosion Potential (1 to 4)	685	7,310	226,292	234,286
Frequently Flooded Areas	204	7,033	12,396	19,633

Table C1-2
Pend Oreille Planning Area

Landcover	Acres
Total Area	**771,363**
Private	207,220
Public	557,933
Tribe	6,210
Agricultural Landcover (Private)	**201,436**
Irrigated	332
Dryland	10,751
Rangeland	190,353
Total Streams (miles) (Private)	**1,073**

Critical Areas	Areas within Agricultural Lands - Private Ownership			
	Irrigated	Dryland	Rangeland	Total
	Miles	*Miles*	*Miles*	*Miles*
Streams Total	1	30	997	1,028
Shorelines of the State	0	0	13	13
Fish Use or Potential Fish Use	0	11	243	254
No Fish Use	0	14	624	638
Unknown	0	5	117	122

Critical Areas	Areas within Agricultural Lands - Private Ownership			
	Irrigated	Dryland	Rangeland	Total
	Acres	*Acres*	*Acres*	*Acres*
Wetlands (all types)	221	6,481	8,296	14,998
Freshwater Emergent Wetland	221	6,446	5,087	11,754
Freshwater Forested/Shrub Wetland	0	20	2,574	2,594
Lake/Pond	0	14	608	622
Riverine	0	0	15	15
Other	0	1	12	13
Priority Habitats and Species	46	4,681	122,177	126,904
PHS (Non-game Species)	0	33	31,001	31,034
Birds	0	0	10	10
Common Loon	0	0	10	10
Mammals	0	33	30,995	31,028
Lynx	0	33	30,995	31,028
Old-growth/Mature Forest	0	0	0	0
Riparian Zones	8	424	5,015	5,447
Waterfowl Concentrations	0	1,051	2,517	3,568

Table C1-2
Pend Oreille Planning Area

PHS (Game Species)	38	3,225	97,690	100,953
Birds	0	0	25	25
Cavity-nesting Ducks	0	0	25	25
Harlequin Duck	0	0	0	0
Wood Duck	0	0	0	0
Mammals	38	3,225	97,665	100,929
Elk	0	181	4,785	4,966
Marten	0	0	0	0
Moose	0	81	24,062	24,143
Mountain Goat	0	0	196	196
Mule Deer	0	0	5,179	5,179
Northwest White-tailed Deer	38	3,023	41,130	44,191
Rocky Mountain Elk	38	1,000	46,895	47,934
Wellhead Protection Areas	0	118	2,121	2,239
Water Erosion Potential (Severe to Very Severe)	1	510	125,311	125,823
Wind Erosion Potential (1 to 4)	111	3,260	139,489	142,860
Frequently Flooded Areas	193	6,969	10,959	18,120

Table C1-3
Spokane Planning Area

Landcover	Acres
Total Area	**118,074**
Private	108,910
Public	9,164
Tribe	0
Agricultural Landcover (Private)	**106,917**
Irrigated	574
Dryland	4,353
Rangeland	101,990
Total Streams (miles) (Private)	**680**

Critical Areas	Areas within Agricultural Lands - Private Ownership			
	Irrigated	Dryland	Rangeland	Total
	Miles	*Miles*	*Miles*	*Miles*
Streams Total	3	22	639	664
Shorelines of the State	0	0	19	19
Fish Use or Potential Fish Use	1	8	106	115
No Fish Use	1	7	408	416
Unknown	0	7	107	114

Critical Areas	Areas within Agricultural Lands - Private Ownership			
	Irrigated	Dryland	Rangeland	Total
	Acres	*Acres*	*Acres*	*Acres*
Wetlands (all types)	66	735	3,345	4,145
Freshwater Emergent Wetland	65	731	1,962	2,758
Freshwater Forested/Shrub Wetland	1	3	1,099	1,102
Lake/Pond	0	1	259	260
Riverine	0	0	25	25
Other	0	0	0	0
Priority Habitats and Species	295	1,897	33,698	35,890
PHS (Non-game Species)	0	0	0	0
Birds	0	0	0	0
Common Loon	0	0	0	0
Mammals	0	0	0	0
Lynx	0	0	0	0
Old-growth/Mature Forest	0	0	16	16
Riparian Zones	3	18	2,178	2,199
Waterfowl Concentrations	0	0	0	0

Table C1-3
Spokane Planning Area

PHS (Game Species)	292	1,882	32,727	34,901
Birds	0	0	92	92
Cavity-nesting Ducks	0	0	0	0
Harlequin Duck	0	0	0	0
Wood Duck	0	0	92	92
Mammals	292	1,882	32,727	34,901
Elk	0	0	0	0
Marten	0	0	0	0
Moose	42	349	17,369	17,760
Mountain Goat	0	0	0	0
Mule Deer	0	0	0	0
Northwest White-tailed Deer	250	1,533	15,358	17,141
Rocky Mountain Elk	0	0	0	0
Wellhead Protection Areas	0	0	261	261
Water Erosion Potential (Severe to Very Severe)	52	1,519	66,140	67,711
Wind Erosion Potential (1 to 4)	573	4,050	86,803	91,426
Frequently Flooded Areas	11	65	1,437	1,513

Appendix C-2
Pend Oreille County Environmentally Sensitive Areas Ordinance Designations and Definitions

Appendix C-2: Pend Oreille County Critical Areas Designations and Definitions

Pend Oreille County Development Regulations, Environmentally Sensitive Areas (Chapter XX.36)

General Provisions

Environmentally sensitive areas, also known as critical areas, in Pend Oreille County are categorized as follows:

1. Wetlands
2. Geologically Hazardous Areas (GHAs)
3. Fish and Wildlife Habitat Areas (HCAs)
4. Frequently Flooded Areas (FFAs)
5. Critical Aquifer Recharge Areas (CARAs)

"Environmentally sensitive areas" and "critical areas" are used interchangeably in the Pend Oreille County Development Regulations, however, these areas will be referred to in the Voluntary Stewardship Program (VSP) Work Plan and appendices only as "critical areas" to be consistent with the Growth Management Act.

Wetlands

Identification and Designation (xx.36.040)

Wetlands include areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Identification of wetlands and the delineation of their boundaries are done in accordance with the approved federal wetland delineation manual and applicable regional supplements. All areas within Pend Oreille County meeting the wetland designation criteria above are designated critical areas.

Maps and References

The Pend Oreille County Community Development Department provides critical areas maps on the VSP webpage at:
https://pendoreilleco.org/your-government/community-development/vsp/

Geologically Hazardous Areas

Identification and Designation (xx.36.050)

GHAs include erosion, landslide, seismic, mine, and volcanic hazards, or other geological events and are defined as follows:

- Geological Erosion Hazard Areas:
  - At least those identified by the U.S. Department of Agriculture Soil Conservation Service as having "moderate to severe", "severe," or "very severe" rill and inter-rill erosion hazard.
  - Erosion hazard areas are those areas that:
    - Are impacted by shore land and/or stream bank erosion
    - Are within a river's channel migration zone
- Landslide Hazard Areas:
  - Areas potentially subject to landslides based on a combination of geologic, topographic and hydrological factors. They include any areas susceptible because of any combination of bedrock, soil, slope (gradient), slope aspect, structure, hydrology, or other factors.
- Seismic Hazard Areas:
  - Areas subject to severe risk of damage as a result of earthquake induced ground shaking, slope failure, settlement, soil liquefaction, lateral spreading, or surface faulting. One indicator of potential for future earthquake damage is a record of earthquake damage in the past. Ground shaking is the primary cause of earthquake damage in Washington.
- Mine Hazard Areas:
  - Areas underlain by or affected by mine workings such as adits, gangways, tunnels, drifts, or airshafts, and those areas of probable sink holes, gas releases, or subsidence due to mine workings.
- Volcanic Hazard Areas:
  - Areas subject to pyroclastic flows, lava flows, debris avalanche, and inundation by debris flows, lahars, mudflows, or related flooding resulting from volcanic activity.
- Other Hazard Areas:
  - Geologically hazardous areas shall also include areas determined to be susceptible to other geological events including mass wasting, debris flows, rock falls, and differential settlement.

Fish and Wildlife Habitat Conservation Areas

Identification and Designation (xx.36.060)

Fish and wildlife habitat conservation areas include:

- Areas with which state or federally designated endangered, threatened, and sensitive species have a primary association;
- Priority Habitat and Species Areas identified by the Washington State Department of Fish and Wildlife;
- Habitats and species designated by the County as being of local importance and warranting protection, based on the provisions of Best Available Science;
- Natural area preserves and natural resource conservation areas as defined, established, and managed by the Washington State Department of Natural Resources (DNR);
- Areas of rare plant species and high quality ecosystems as identified by the DNR through the National Heritage Program;
- Naturally occurring ponds less than 20 acres and their submerged aquatic beds that provide fish or wildlife habitat.
- Land identified by the County as being essential for the preservation of connections between habitat areas and open spaces.

Maps and References

The County may use the maps and references included in the VSP Work Plan Section 5. As described in the Development Regulations, it shall be the responsibility of the property owner and project sponsor to identify all fish and wildlife habitat conservation areas on their property.

Frequently Flooded Areas

Identification and Designation (xx.36.070)

Frequently flooded areas include:

- Areas of special flood hazard identified by the Federal Emergency Management Agency in a scientific and engineering report entitled "The Flood Insurance Study – Pend Oreille County, Washington and Incorporated Areas," dated March 4, 2002, and any revisions thereto. The Flood Insurance Study is on file at the County Courthouse.
- Land in the flood plain within a community subject to a one-percent or greater chance of flooding in any given year.

Maps and References

The County may use the following maps and references:

- The Federal Emergency Management Act Flood Insurance Rate Map (FIRM), and any revisions thereto. The FIRM is on file at the County Courthouse.

Critical Aquifer Recharge Areas

Identification and Designation (xx.36.080)

Critical Aquifer Recharge Areas were evaluated using the DRASTIC[1] method resulting in the following groundwater protection scheme:

- Areas 161 or greater on the DRASTIC index (high to very high susceptibility) will be referred to as Critical Aquifer Recharge Areas.

Maps and References

Pend Oreille County has been mapped to show where the water is more or less vulnerable to contamination. The Aquifer Recharge maps along with the associated report, ("Evaluation of Groundwater Pollution Susceptibility in Pend Oreille County using the DRASTIC Method") were completed by Eastern Washington University's Department of Geology and can be found at the Planning Department.

Note: As noted in the Work Plan, critical areas that will continue to be reviewed under the County's CAO include GHAs for landslide or seismic hazards (erosion hazards have primary applicability in the VSP context), and any structures that are proposed within agricultural lands for any of the five critical areas, whether they support agricultural activities or not.

References

Pend Oreille County, 2015. *Development Regulations*. December 22, 2015. Available at: https://pendoreilleco.org/your-government/community-development/county-planning/

[1] The DRASTIC method stands for the following: (D) depth to water, (R) net recharge, (A) aquifer media, (S) soil media, (T) topography, (I) impact to the vadose zone, (C) hydraulic conductivity.

Appendix C-3
Baseline Conditions Summary Methods and Data Sources

Appendix C-3: 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 Pend Oreille County will measure progress in implementing the 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 Pend Oreille County VSP Work Plan, Section 5: Goals, Benchmarks, and Adaptive Management.

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

Methods for Establishing Baseline Conditions

The 2011 baseline conditions summary prepared for this appendix 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.** This was based primarily 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 was primarily relied upon for additional data on rangelands. Three major agricultural land categories were characterized within Pend Oreille County: 1) rangeland; 2) irrigated crops; and 3) dryland crops. These categories are associated with different crops, agricultural activities, stewardship strategies and practices, and intersections with critical areas.
- **Critical areas assessment** was based on:
  - Critical areas designations included in the County's Critical Areas Ordinance (CAO; 2016) (see Appendix C-2 for CAO summary).
  - Data sources for planning-level critical areas mapping (Appendix A: Map Folio) and critical area/agricultural intersections summaries (Appendix C-3: Critical Areas Data Summary Tables) ranged from 2000 to 2018. See Table 1 for a complete list of data sources.

- **Privately owned lands.** These were used when assessing critical area intersections with agricultural lands. The VSP does not apply to:
  - Agricultural activities occurring on public lands through leases or other agreements
  - Agricultural activities occurring on tribe-owned lands unless they are "fee lands" and taxable by Pend Oreille County (Fee lands within the Kalispel Reservation are subject to County regulations and subject to VSP where agricultural activities are conducted.)
- **Use of maps.** Data sources and the maps were used to assess the potential presence of critical areas within Pend Oreille County and intersection with agricultural lands and 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
Watershed Resource Inventory Area	2000	Washington State Department of Ecology
Special Flood Hazard Areas	2002	Federal Emergency Management Agency
National Wetland Inventory Data	2018	U.S. Fish and Wildlife Service
USDA Agricultural Landcover	2011	United States Department of Agriculture
WSDA Agricultural Landcover	2011	Washington State Department of Agriculture
PRISM Climate Group Precipitation Data	2012	Oregon State University
Land Ownership (parcels)	2016	Pend Oreille County
Public Lands (Public Lands Inventory)	2014	Washington State Recreation and Conservation Office
Streams and Rivers Data	2015	Washington State Department of Natural Resources
Water Erosion Potential	2015	Natural Resources Conservation Service
Wellhead Protection Area	2015	Washington Department of Health
Wind Erosion Susceptibility	2015	Natural Resources Conservation Service
Public Lands (Gap Analysis Program)	2016	U.S. Geological Survey
Public Lands (Non-DNR Major Public Lands)	2016	Washington State Department of Natural Resources
Priority Habitat and Species & Fish Use Data	2018	Washington Department of Fish and Wildlife

Appendix C-4
Pend Oreille County Water Quality 303(d) Listings (2018)

Appendix C-4
Pend Oreille County Water Quality 303(d) Listings (2018)
Category 4 and 5 Parameters with Potential Intersects with Agricultural Activities

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

Source: Washington Department of Ecology Water Quality Assessment Data accessed 4/12/2018

Appendix D
Methods and Initial Results

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

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

- **Table 1: CPPE Resource Concerns for Pend Oreille County** summarizes the resource concerns identified as applicable to Pend Oreille 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: Pend Oreille 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: Pend Oreille County Practice Toolbox with CPPE Averaged Function Scores** provides an overview of NRCS conservation practices currently implemented in Pend Oreille County, showing quantitative scores and additional applicable and key practices (scores greater than 3) for each function category.

Table 1
CPPE Resource Concerns for Pend Oreille County

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

Application for Future Practices

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

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

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

Initial Results (2011 to 2017)

To track performance from implemented conservation practices from 2011 to 2017, 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 account for the varied disenrollment rates based on some of these categories of practices.

Table 2
Calculating Disenrollment for Conservation Practices

Assumed Range of Disenrollment/Discontinuation	Conservation Practice Category	Example Practices
None	**Easements and Infrastructure** • Permanent conservation practices	• Permanent easements • Major infrastructure
Lower 0 to 3%	**Conservation Investments** • High barriers to entry/exit – Conservation investments – Maintenance cost – Effectiveness • Increases land productivity • Lowers cost	• Direct habitat management • Livestock infrastructure (watering facilities) • Forest understory management • Access road and trails • Pest management
Higher 3 to 7%	**Conservation Actions** • Low barriers to entry/exit – Easily removed • Reduced land in production • Rotational use – Market driven rotation • Reliance on unstable conservation funding or incentives (e.g., Conservation Resource Program)	• Heavy use areas • Mulching

Figures 1 through 4 illustrate the functional indicator results from 2011 to 2017 based on reported practices enrolled/implemented and estimated discontinuation of practices within that period. Figures 1 through 4 indicate a net gain in function over time for soil health, hydrology, water quality, and habitat.

Figure 1
Soil Health Functional Indictors: 2011 to 2017 NRCS Practice Enrollments

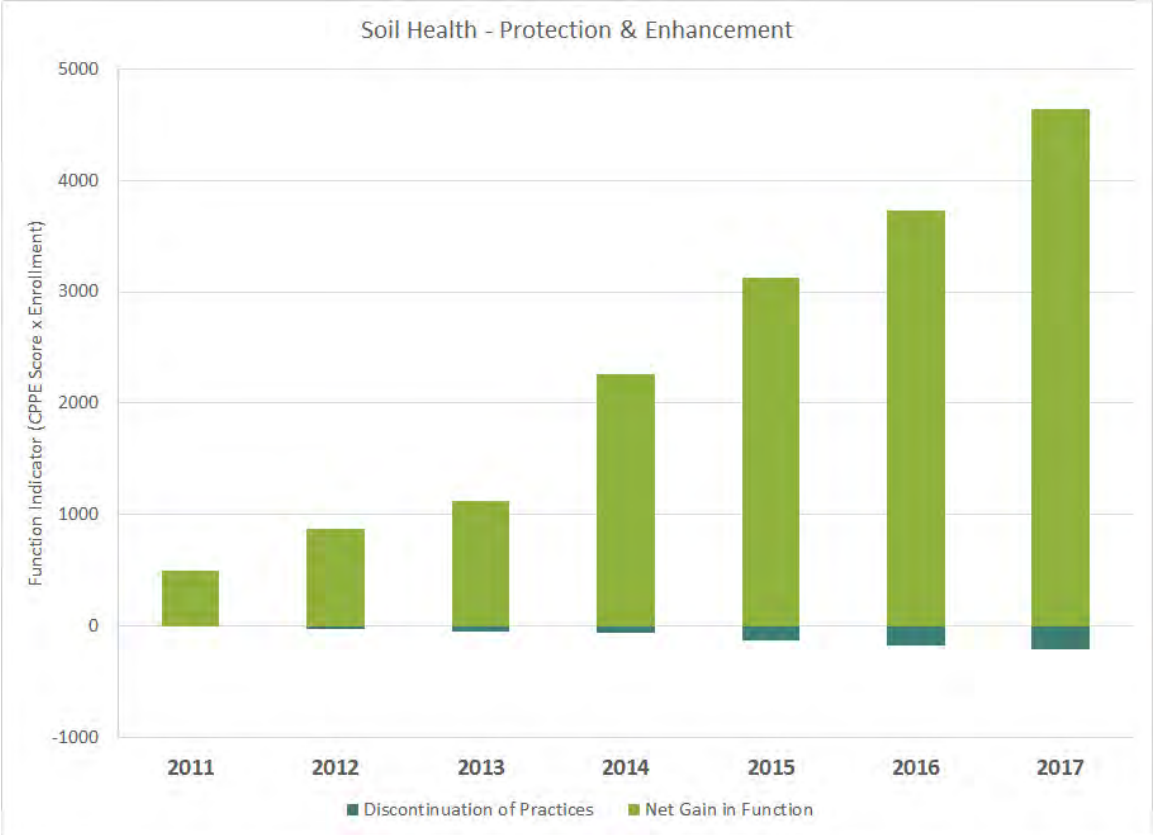


Figure 2
Hydrology Functional Indictors: 2011 to 2017 NRCS Practice Enrollments

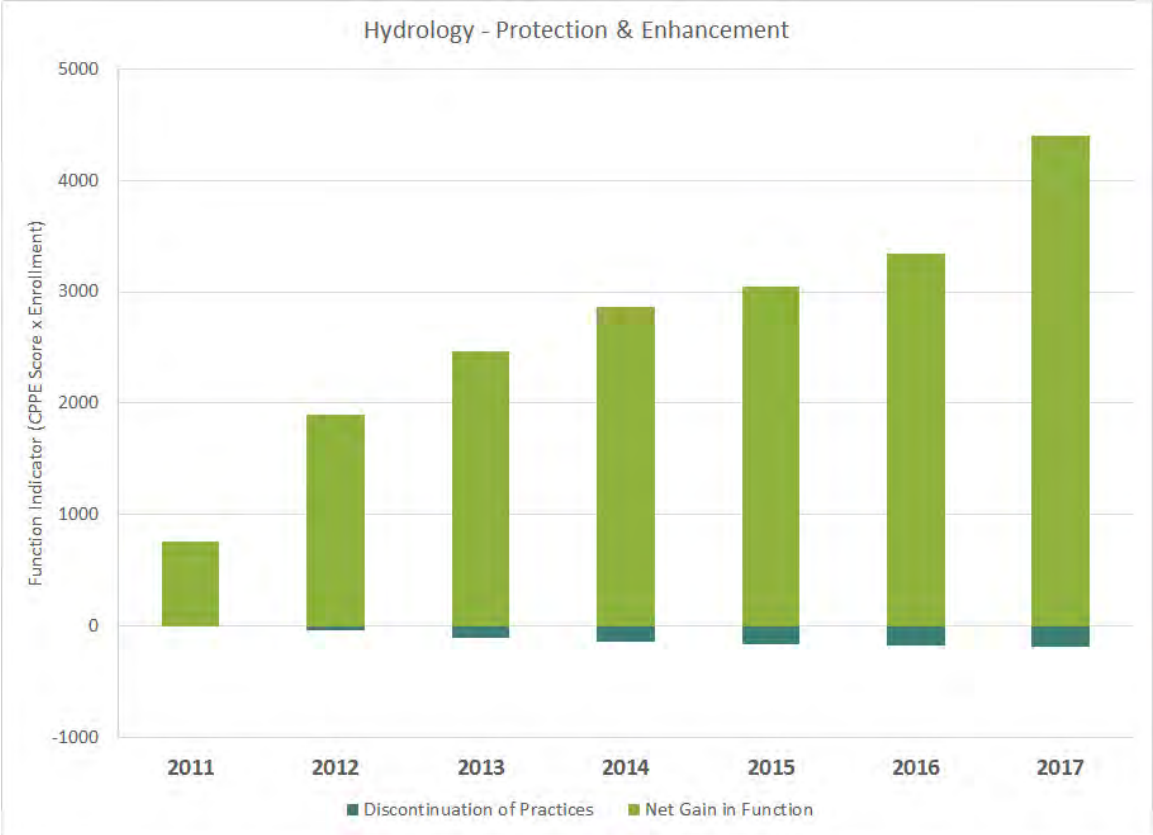


Figure 3
Water Quality Functional Indictors: 2011 to 2017 NRCS Practice Enrollments

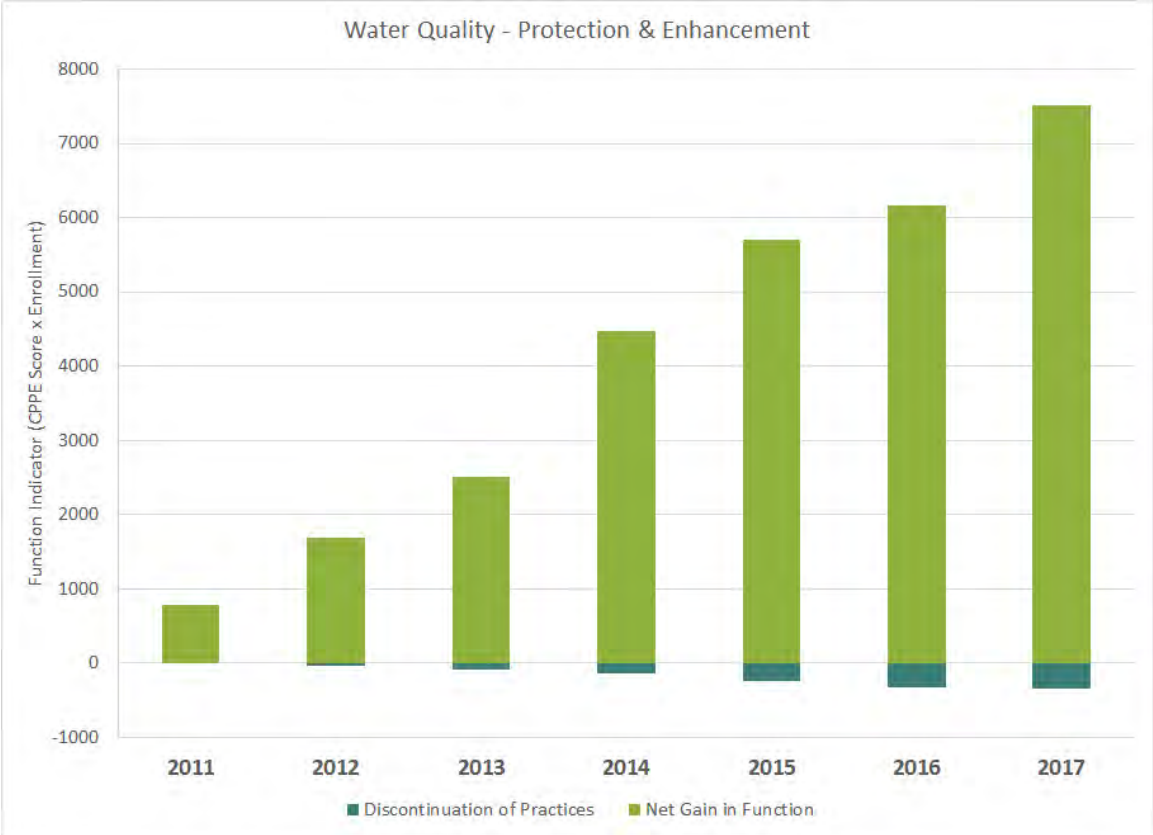
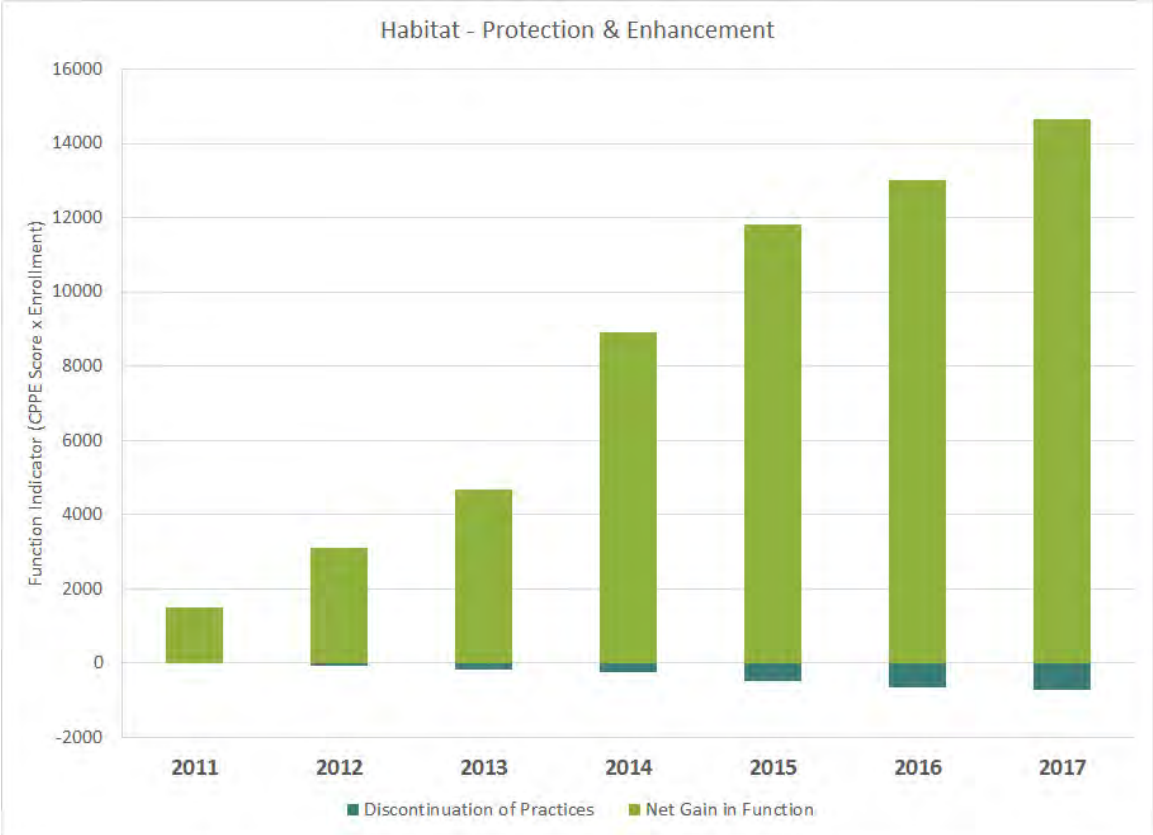


Figure 4
Habitat Functional Indictors: 2011 to 2017 NRCS Practice Enrollments



Reference

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

Attachment 1
Pend Oreille County CPPE Resource Concerns and Scores

Appendix D

Attachment 1: Pend Oreille County CPPE Resource Concerns and Scores

Ferry County VSP Work Plan	Code	Soil Erosion – Sheet and Rill	Soil Erosion – Wind	Soil Erosion – Ephemeral Gully	Soil Erosion – Classic Gully	Soil Erosion – Streambank/ Shoreline/ Conveyance	Soil Erosion Average	Soil Condition – Organic Matter Depletion	Soil Condition – Compaction	Soil Condition – Subsidence	Soil Condition – Contaminants: Salts or Other Chemicals	Soil Condition Average	Soil Function	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
Access Control	472	3	1	4	4	5	3.40	1	4	0	0	2.50	2.95	1	1	2	0	0	3	1.75	1	0	1	1	0	0	1	1	3	3	1	1	1.44	3	3	1	1	2.00
Access Road	560	1	0	1	1	0	1.00	0	2	0	0	2.00	1.50	0	1	0	0	2	0	1.50	0	0	0	0	0	0	0	0	1	0	0	0	1.00	0	0	0	-1	-1.00
Agrichemical Handling Facility	309	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0.00	5	5	5	5	0	0	0	0	0	0	0	0	5.00	0	0	0	0	0.00
Air Filtration and Scrubbing	371	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0.00
Alley Cropping	311	5	5	5	3	0	4.50	5	2	0	1	2.67	3.58	1	1	2	3	3	0	2.00	3	1	3	1	1	1	3	1	3	0	1	1	1.73	2	2	0	3	2.33
Amending Soil Properties with Gypsum Products	333	1	1	0	0	0	1.00	1	0	0	1	1.00	1.00	0	1	0	0	1	0	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0.00
Amendments for Treatment of Agricultural Waste	591	0	0	0	0	0	0.00	1	0	0	0	0.50	0.25	0	0	0	0	1	0	0.50	0	0	2	2	2	2	2	2	0	0	2	2	2.00	0	0	0	0	0.00
Anaerobic Digester	366	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0.00	0	0	2	0	0	0	2	0	0	0	0	0	0.67	0	0	0	0	0.00
Animal Mortality Facility	316	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0.00	0	0	2	2	0	0	2	2	0	0	0	0	2.00	0	0	0	0	0.00
Anionic Polyacrylamide (PAM) Erosion Control	450	2	2	2	0	0	2.00	0	2	0	0	2.00	2.00	0	0	0	0	1	1	1.00	2	-1	2	-1	0	0	0	0	4	0	1	0	1.17	0	0	0	0	0.00
Aquaculture Ponds	397	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0.00	0	0	-2	-2	0	0	-2	0	0	-2	0	0	-2.00	0	0	1	0	1.00
Aquatic Organism Passage	396	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	2	0	0	2.00	0	2	1	5	2.67
Bedding	310	2	0	0	0	0	2.00	-1	-1	0	1	-0.33	0.83	0	5	0	0	0	-1	2.00	-2	1	-2	1	-2	1	-2	1	-1	0	-2	1	-0.55	0	0	0	0	0.00
Bivalve Aquaculture Gear and Biofouling Control	400	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0.00	0	0	2	0	0	0	2	0	0	0	0	0	2.00	0	0	2	0	2.00
Brush Management	314	1	1	1	1	0	1.00	0	0	0	0	0.00	0.50	0	1	0	0	0	2	1.50	-1	0	0	0	0	0	0	0	2	0	0	0	0.50	2	2	0	1	1.67
Building Envelope Improvement	672	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0.00
Channel Bed Stabilization	584	0	0	0	2	2	2.00	0	0	0	0	0.00	1.00	2	2	0	0	0	0	2.00	0	0	0	0	0	0	0	0	1	1	0	0	1.00	1	1	1	2	1.25
Clearing & Snagging	326	0	0	0	0	2	2.00	0	0	0	0	0.00	1.00	0	2	0	0	0	0	2.00	0	0	0	0	0	0	0	0	-2	-1	0	0	-1.50	-2	-2	-1	-2	-1.75
Combustion System Improvement	372	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0.00
Composting Facility	317	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0.00	0	0	2	2	0	0	2	2	0	0	0	0	2.00	0	0	0	0	0.00
Conservation Cover	327	4	4	1	1	1	2.20	5	3	0	2	3.33	2.77	1	2	1	1	0	0	1.25	2	2	4	4	5	2	1	2	4	0	0	0	2.89	4	4	0	2	3.33
Conservation Crop Rotation	328	4	4	0	0	0	4.00	4	1	0	2	2.33	3.17	1	2	1	0	2	2	1.60	2	2	2	2	1	2	1	0	2	0	0	0	1.75	2	2	0	2	2.00
Constructed Wetland	656	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0	2	0	0	0	0	2.00	2	1	4	1	1	1	4	3	5	0	4	1	2.25	3	3	0	2	2.00
Contour Buffer Strips	332	3	0	0	0	0	3.00	2	0	0	0	2.00	2.50	-2	1	-1	0	0	0	-0.67	2	0	2	-1	1	-1	1	-1	2	0	0	0	0.56	2	2	0	2	2.00
Contour Farming	330	2	0	0	0	0	2.00	1	0	0	0	1.00	1.50	-2	1	-1	0	0	1	-0.25	1	-1	2	-1	1	-1	1	0	2	0	0	0	0.50	0	0	0	0	0.00
Contour Orchard and Other Perennial Crops	331	4	0	1	0	0	2.50	2	0	0	0	2.00	2.25	-2	1	-1	0	1	2	0.20	1	-1	2	-1	1	-1	0	0	2	0	0	0	0.43	0	0	0	0	0.00
Controlled Traffic Farming	334	0	0	0	0	0	0.00	0	4	0	0	4.00	2.00	0	0	0	0	1	1	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0.00
Cover Crop	340	4	4	3	0	0	3.67	2	2	0	1	1.25	2.46	1	2	1	0	1	2	1.40	2	2	2	2	0	1	1	2	2	0	0	0	1.75	2	2	0	2	2.00
Critical Area Planting	342	5	5	5	4	4	4.60	5	2	0	1	2.67	3.63	0	0	0	0	0	0	0.00	0	0	2	1	0	0	0	0	4	0	0	0	2.33	2	2	0	2	2.00
Cross Wind Ridges	588	0	4	0	0	0	4.00	1	0	0	0	1.00	2.50	0	0	0	0	0	0	0.00	1	0	1	0	1	0	0	0	1	0	0	0	1.00	0	0	0	0	0.00
Cross Wind Trap Strips	589C	0	4	0	0	0	4.00	2	0	0	0	2.00	3.00	0	0	0	0	0	0	0.00	2	0	2	0	1	0	0	0	1	0	0	0	1.50	0	2	0	2	2.00
Dam	402	0	0	0	2	1	1.50	0	0	0	-1	-1.00	0.25	-2	2	-1	0	2	0	0.25	0	0	0	-1	0	0	-2	0	2	0	0	0	-0.25	2	2	1	2	1.75
Dam, Diversion	348	0	0	0	0	-1	-1.00	0	0	0	0	0.00	-0.50	0	2	0	0	2	2	2.00	0	0	0	0	0	0	0	0	0	-2	0	0	-2.00	-2	-2	-2	-2	-2.00
Deep Tillage	324	0	0	0	0	0	0.00	-4	5	-1	2	0.50	0.25	-2	0	2	0	2	2	1.00	0	0	1	-2	1	0	0	0	0	0	0	0	0.00	0	0	0	0	0.00
Denitrifying Bioreactor	605	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0.00	0	0	3	1	0	0	0	0	0	0	0	0	2.00	0	0	0	0	0.00
Dike	356	0	0	0	1	-2	-0.50	0	0	0	0	0.00	-0.25	-1	2	-1	0	0	0	0.00	2	2	0	0	0	0	0	0	0	0	0	0	1.33	-2	-2	1	1	-0.50
Diversion	362	1	0	2	2	1	1.50	0	0	0	0	0.00	0.75	-1	2	2	0	2	2	1.40	1	1	0	-1	0	0	1	0	2	0	1	0	0.71	0	0	0	0	0.00
Drainage Water Management	554	0	2	0	0	0	2.00	2	-1	2	0	1.00	1.50	1	-2	2	0	0	0	0.33	2	2	1	-1	0	0	1	1	0	0	2	0	0.89	0	0	2	2	2.00
Dry Hydrant	432	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0	0	0	0	-1	-1	-1.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0.00
Dust Control from Animal Activity on Open Lot Surfaces	375	0	2	0	0	0	2.00	0	0	0	0	0.00	1.00	0	0	0	0	0	0	0.00	0	0	1	0	1	0	1	0	0	0	0	0	1.00	0	0	0	0	0.00
Dust Control on Unpaved Roads and Surfaces	373	1	2	0	0	0	1.50	0	0	0	-1	-1.00	0.25	0	0	0	0	0	0	0.00	0	0	-1	0	-1	0	0	0	1	0	-1	0	-0.50	0	0	0	0	0.00
Early Successional Habitat Development/Mgt.	647	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	-2	0	0	-1.00	4	4	0	4	4.00
Emergency Animal Mortality Management	368	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0.00	0	0	2	2	0	0	2	2	0	0	0	0	2.00	0	0	0	0	0.00
Farmstead Energy Improvement	374	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	-2	0	0	-2.00	0	0	0	0	0.00
Feed Management	592	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0.00	0	0	2	2	1	0	1	1	0	0	0	0	1.40	0	0	0	0	0.00
Fence	382	1	0	0	0	0	1.00	0	1	0	0	1.00	1.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	2	0	0	0	0	0	2.00	0	0	0	0	0.00
Field Border	386	4	4	1	0	1	2.50	4	2	0	0	2.00	2.25	0	1	0	0	0	0	1.00	2	2	1	1	0	1	1	0	2	0	0	0	1.43	2	2	0	2	2.00
Field Operations Emissions Reduction	376	1	3	0	0	0	2.00	0	0	0	0	0.00	1.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0.00
Filter Strip	393	0	0	0	0	0	0.00	5	0	0	0	5.00	2.50	0	0	0	0	0	0	0.00	2	1	5	2	1	1	3	1	5	0	4	1	2.36	2	2	0	2	2.00
Firebreak	394	-1	-1	-1	-1	0	-0.80	-2	-2	0	0	-2.00	-1.40	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	-1	0	0	0	-1.00	0	0	0	-1	-1.00
Fish Raceway or Tank	398	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0.00	0	0	-1	-1	-1	0	-1	-1	0	-1	0	0	-1.00	0	0	0	0	0.00
Fishpond Management	399	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0.00	0	0	0	-2	0	0	0	0	0	0	0	0	-2.00	4	4	2	4	3.50
Forage and Biomass Planting	512	1	1	0	0	0	1.00	1	2	0	0	1.50	1.25	0	1	0	0	0	0	1.00	1	0	1	0	0	0	1	0	1	0	1	0	1.00	1	1	0	0	1.00
Forage Harvest Management	511	1	1	0	0	0	1.00	1	3	0	0	2.00	1.50	0	0	0	0	1	1	1.00	2	0	1	0	0	0	1	0	0	0	1	0	1.25	1	1	0	0	1.00
Forest Stand Improvement	666	1	0	1	1	0	0.75	1	-1	0	0	0.00	0.38	0	0	0	0	0	3	3.00	0	0	1	2	1	0	1	1	0	1	1	1	0.75	3	1	0	3	2.33
Forest Trails and Landings	655	-1	0	-1	-1	0	-0.75	-1	1	0	0	0.00	-0.38	0	0	0	0	0	0	0.00	0	0	1	0	0	0	0	0	0	0	0	0	0.50	1	1	0	-1	0.33
Fuel Break	383	-1	-1	-1	-1	0	-1.00	-3	-1	0	0	-2.00	-1.50	0	0	-1	0	0	0	-1.00	-1	-1	0	0	0	0	0	0	-1	0	0	0	-1.00	1	-1	0	0	0.40
Grade Stabilization Structure	410	0	0	0	2	2	2.00	0	0	0	0	0.00	1.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	2	0	0	0	1.00	2	2	1	0	1.67
Grassed Waterway	412	0	0	5	4	1	3.33	3	0	0	-1	1.00	2.17	0	3	2	0	0	0	2.50	2	0	2	0	0	0	1	0	2	0	1	0	1.33	1	1	1	1	1.00
Grazing Land Mechanical Treatment	548	1	1	0	0	0	1.00	1	0	0	0	1.00	1.00	0	2	0	0	0	2	2.00	0	0	1	0	0	0	1	0	5	0	0	0	2.33	0	0	0	0	0.00
Groundwater Testing	355	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0.00
Heavy Use Area Protection	561	2	2	2	2	0	2.00	0	1	0	0	0.50	1.25	0	-1	0	0	0	0	-1.00	0	0	1	0	0	0	2	0	2	0	0	0	1.67	0	0	0	0	0.00
Hedgerow Planting	422	0	1	0	0	0	1.00	2	1	0	0	1.50	1.25	0	0	0	2	0	0	2.00	1	0	2	0	0	0	0	0	0	1	0	0	1.33	4	4	0	4	4.00
Herbaceous Weed Control	315	4	4	2	2	4	3.20	0	0	0	0	0.00	1.60	0	0	0	0	2	0	2.00	-1	0	0	0	0	0	0	0	0	0	0	0	-0.25	2	2	0	1	1.67
Herbaceous Wind Barriers	603	0	4	0	0	0	4.00	2	0	0	0	2.00	3.00	0	0	0	0	0	3	3.00	1	0	1	0	0	0	0	0	1	0	0	0	1.00	2	2	0	2	2.00
High Tunnel System	325	0	0	-1	0	0	-1.00	1	0	0	0	1.00	0.00	0	-3	0	0	0	-1	-2.00	0	0	0	0	0	0	0	0	-1	0	0	0	-1.00	0	0	0	0	0.00
Hillside Ditch	423	2	0	2	2	1	1.75	0	0	0	0	0.00	0.88	0	4	0	0	0	1	2.50	1	0	-1	-1	0	0	-2	0	2	0	-1	0	-0.25	0	0	1	0	1.00
Integrated Pest Management	595	2	2	2	2	0	2.00	2	2	0	0	2.00	2.00	0	1	0	0	0	0	1.00	5	5	0	0	0	0	0	0	2	0	0	0	4.00	2	0	2	0	2.00
Irrigation Canal or Lateral	320	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0	2	-2	0	5	0	1.67	0	0	-2	0	0	0	-2	0	0	0	0	0	-1.33	0	0	1	0	1.00
Irrigation Ditch Lining	428	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	1	0	-1	0	5	0	1.67	0	0	1	1	1	2	-1	1	1	0	-1	1	0.60	0	0	1	0	1.00
Irrigation Field Ditch	388	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0	1	-1	0	5	0	1.25	0	0	0	0	0	0	-1	0	0	0	1	0	0.00	0	0	1	0	1.00
Irrigation Land Leveling	464	1	0	1	0	0	1.00	-2	-2	0	-1	-1.67	-0.33	0	1	2	0	4	0	2.33	2	2	2	2	0	2	2	2	1	0	1	1	1.70	0	0	0	0	0.00
Irrigation Pipeline	430	0	0	0	2	0	2.00	0	0	0	0	0.00	1.00	1	0	1	0	2	0	1.33	0	0	1	0	1	2	1	1	1	0	0	1	1.14	0	0	0	0	0.00
Irrigation Reservoir	436	0	0	0	2	1	1.50	0	0	0	0	0.00	0.75	-1	2	-1	0	2	0	0.50	0	0	0	-1	0	0	0	0	2	0	0	0	0.50	2	-1	2	-1	0.50
Irrigation System, Microirrigation	441	0	0	0	0	0	0.00	0	0	0	1	1.00	0.50	2	2	2	0	2	0	2.00	2	2	2	2	0	2	2	1	1	0	1	1	1.60	0	0	1	0	1.00
Irrigation System, Surface & Subsurface	443	0	1	0	-1	-1	-0.33	0	-1	0	0	-0.50	-0.42	1	1	1	0	2	0	1.25	1	1	1	1	1	1	1	1	0	0	1	1	1.00	0	0	1	0	1.00
Irrigation System, Tailwater Recovery	447	0	0	1	1	1	1.00	0	-1	0	-1	-1.00	0.00	-1	1	-1	0	2	0	0.25	2	2	2	-1	1	-1	1	0	1	0	4	-1	0.73	0	0	1	0	1.00
Irrigation Water Management	449	0	2	0	0	0	2.00	1	0	0	2	1.50	1.75	0	0	1	0	2	0	1.50	2	2	2	2	2	2	2	2	2	0	2	2	2.00	0	0	0	0	0.00
Karst Sinkhole Treatment	527	0	0	4	4	0	4.00	0	0	0	2	2.00	3.00	0	-2	0	0	0	0	-2.00	2	2	2	2	0	2	2	2	2	0	0	2	2.00	0	0	0	0	0.00
Land Clearing	460	0	0	0	0	0	0.00	-3	-1	0	0	-2.00	-1.00	0	-1	0	0	0	0	-1.00	-1	0	-1	0	0	0	-1	0	-1	-2	-1	0	-1.00	-2	-2	0	-2	-2.00
Land Reclamation, Abandoned Mined Land	543	4	4	4	1	0	3.25	3	1	0	4	2.67	2.96	0	3	0	0	0	0	3.00	0	0	0	0	1	1	3	0	4	0	0	1	2.00	2	2	0	1	1.67
Land Reclamation, Currently Mined Land	544	4	4	4	1	0	3.25	3	1	0	4	2.67	2.96	0	3	0	0	0	0	3.00	0	0	0	0	1	1	3	0	4	0	0	1	2.00	2	2	0	1	1.67
Land Reclamation, Landslide Treatment	453	2	2	2	0	0	2.00	2	0	0	0	0.67	1.33	2	0	2	0	0	0	2.00	0	0	0	0	0	0	1	0	4	0	4	0	3.00	2	2	0	0	2.00
Land Reclamation, Toxic Discharge Control	455	2	2	2	0	0	2.00	0	0	0	2	2.00	2.00	2	1	2	0	0	0	1.67	0	0	0	0	0	2	0	0	0	0	4	2	2.67	2	2	0	0	2.00
Land Smoothing	466	0	0	1	0	0	0.50	-2	-2	0	-1	-1.67	-0.58	2	2	2	0	2	2	2.00	1	1	1	2	0	0	0	0	1	0	1	0	1.17	0	0	0	-1	-1.00
Lighting System Improvement	670	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0.00
Lined Waterway or Outlet	468	0	0	5	2	0	3.50	0	0	0	0	0.00	1.75	2	2	2	0	0	0	2.00	0	0	0	2	0	0	0	0	2	0	0	0	2.00	-2	1	0	0	-0.50
Livestock Pipeline	516	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0.00
Livestock Shelter Structure	576	0	0	0	0	3	3.00	0	0	0	0	0.00	1.50	0	0	0	0	0	0	0.00	0	0	3	0	0	0	2	0	2	0	0	0	2.33	0	0	0	0	0.00
Mine Shaft & Adit Closing	457	0	0	0	0	0	0.00	0	0	2	0	2.00	1.00	0	0	2	0	0	0	2.00	0	0	0	0	0	2	0	0	0	0	2	1	1.67	0	0	0	2	2.00
Mole Drain	482	1	0	1	0	-1	0.20	-2	1	-2	2	-0.25	-0.03	2	2	2	0	0	0	1.20	1	1	-4	2	-2	2	0	2	1	0	0	2	0.56	0	0	0	0	0.00
Monitoring Well	353	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0.00
Mulching	484	4	4	0	0	0	4.00	1	0	0	1	1.00	2.50	-1	1	-1	0	2	2	0.60	2	0	2	-1	1	-1	0	0	2	0	0	0	0.83	1	1	0	0	1.00
Multi-Story Cropping	379	1	1	1	1	0	1.00	5	2	1	1	2.25	1.63	1	1	1	0	0	0	1.00	3	1	1	0	1	0	1	1	1	0	1	1	1.10	3	1	0	1	1.67
Nutrient Management	590	0	0	0	0	0	0.00	2	-1	0	4	1.67	0.83	0	0	0	0	0	0	0.00	0	0	5	5	3	3	4	4	0	0	2	2	3.50	0	0	0	0	0.00
Obstruction Removal	500	0	0	0	0	0	0.00	1	-1	0	0	0.00	0.00	0	0	0	2	0	0	2.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	-2	0	0	-2.00
On-Farm Secondary Containment Facility	319	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	5	5	5.00	0	0	0	0	0.00
Open Channel	582	0	0	0	0	2	2.00	0	0	0	0	0.00	1.00	1	5	2	0	0	0	2.67	0	0	-1	0	0	0	0	0	0	0	-1	0	-0.67	0	0	-2	0	-0.50
Pond	378	0	0	0	2	1	1.50	0	0	0	-1	-1.00	0.25	-2	2	-1	0	2	2	0.60	0	0	2	-1	0	0	-2	0	2	0	0	0	0.20	2	2	4	2	2.50
Pond Sealing or Lining, Concrete	522	0	0	0	0	0	0.00	0	0	0	1	1.00	0.50	1	0	2	0	2	2	1.75	0	0	2	2	0	3	0	2	0	0	0	1	2.00	0	0	1	0	1.00
Pond Sealing or Lining, Compacted Soil Treatment	520	0	0	0	0	0	0.00	0	0	0	1	1.00	0.50	1	0	2	0	2	2	1.75	0	0	2	2	0	3	0	2	0	0	0	1	2.00	0	0	1	0	1.00
Pond Sealing or Lining, Flexible Membrane	521A	0	0	0	0	0	0.00	0	0	0	1	1.00	0.50	1	0	2	0	2	2	1.75	0	0	2	2	0	3	0	2	0	0	0	1	2.00	0	0	1	0	1.00
Precision Land Forming	462	0	0	2	4	0	2.00	-2	-1	0	1	-0.67	0.67	2	2	2	0	0	2	2.00	1	1	1	2	0	1	0	1	1	0	1	1	1.11	0	0	0	0	0.00
Prescribed Burning	338	2	2	1	1	1	1.40	1	0	-1	-1	-0.33	0.53	0	1	0	0	0	0	1.00	0	0	2	1	0	0	0	0	1	0	1	0	1.25	2	2	0	4	2.67
Prescribed Grazing	528	4	4	3	1	3	3.00	4	2	0	2	2.67	2.83	0	1	0	0	0	2	1.50	2	1	1	1	2	1	1	1	2	1	0	0	1.30	2	2	0	4	2.67
Pumping Plant	533	0	0	0	0	0	0.00	0	0	2	0	2.00	1.00	2	2	2	0	2	2	2.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0.00
Range Planting	550	4	4	4	2	2	3.20	4	4	0	1	3.00	3.10	0	0	0	1	0	2	0.75	2	2	1	1	1	1	1	1	2	1	2	1	1.33	2	2	0	4	2.67
Recreation Area Improvement	562	1	1	1	1	1	1.00	1	1	0	0	1.00	1.00	0	1	0	0	0	0	1.00	1	1	0	0	0	0	0	0	1	0	0	0	1.00	1	1	0	-1	0.33
Recreation Land Grading and Shaping	566	0	0	0	4	2	1.20	1	0	0	0	0.50	0.85	0	2	0	0	0	0	2.00	0	0	0	0	0	0	0	0	2	0	0	0	2.00	-2	-2	0	-2	-2.00
Residue and Tillage Management, No Till	329	4	5	0	0	0	4.50	2	2	0	0	2.00	3.25	-1	2	-1	0	2	2	0.80	4	0	2	-1	0	0	1	0	4	0	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	2.75	0	1	0	0	1	2	1.33	4	0	2	0	1	0	1	0	3	0	0	0	2.20	2	2	0	1	1.67

Appendix D

Attachment 1: Pend Oreille County CPPE Resource Concerns and Scores

Ferry County VSP Work Plan	Code	Soil Erosion – Sheet and Rill	Soil Erosion – Wind	Soil Erosion – Ephemeral Gully	Soil Erosion – Classic Gully	Soil Erosion – Streambank/ Shoreline/ Conveyance	Soil Erosion Average	Soil Condition – Organic Matter Depletion	Soil Condition – Compaction	Soil Condition – Subsidence	Soil Condition – Contaminants: Salts or Other Chemicals	Soil Condition Average	Soil Function
Restoration and Management of Rare or Declining Habitats	643	2	2	2	0	0	2.00	0	0	0	-1	-1.00	0.50
Riparian Forest Buffer	391	3	2	1	3	4	2.60	4	2	0	1	2.33	2.47
Riparian Herbaceous Cover	390	2	2	1	0	4	2.25	4	4	0	2	3.33	2.79
Road/Trail/Landing Closure and Treatment	654	5	1	5	5	4	4.00	5	2	0	0	2.33	3.17
Rock Barrier	555	5	0	5	1	1	3.00	0	0	0	0	0.00	1.50
Roof Runoff Structure	558	1	0	3	1	1	1.50	0	0	0	0	0.00	0.75
Roofs and Covers	367	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00
Row Arrangement	557	3	1	3	0	0	2.33	1	0	0	1	1.00	1.67
Salinity and Sodic Soil Management	610	0	0	0	0	0	0.00	0	0	0	2	2.00	1.00
Saturated Buffer	604	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00
Sediment Basin	350	0	0	2	2	0	1.33	0	0	0	0	0.00	0.67
Shallow Water Development and Management	646	0	0	0	0	0	0.00	1	0	0	1	1.00	0.50
Short Term Storage of Animal Waste and Byproducts	318	0	0	0	0	0	0.00	1	1	0	0	1.00	0.50
Silvopasture Establishment	381	4	3	3	2	2	2.80	3	0	0	0	3.00	2.90
Spoil Spreading	572	0	0	0	0	0	0.00	1	-1	0	0	0.00	0.00
Spring Development	574	0	0	0	1	1	1.00	0	-1	0	0	-1.00	0.00
Sprinkler System	442	0	2	0	0	0	2.00	0	-1	0	2	0.50	1.25
Stormwater Runoff Control	570	0	0	2	0	3	2.50	0	1	0	0	1.00	1.75
Streambank and Shoreline Protection	580	0	0	0	0	4	4.00	0	0	0	0	0.00	2.00
Stream Crossing	578	0	0	0	0	2	2.00	0	0	0	0	0.00	1.00
Stream Habitat Improvement and Management	395	0	0	0	0	5	5.00	0	0	0	0	0.00	2.50
Stripcropping	585	4	4	0	0	0	4.00	2	0	0	0	2.00	3.00
Structure for Water Control	587	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00
Structures for Wildlife	649	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00
Subsurface Drain	606	4	-1	4	1	1	1.80	-2	2	-2	2	0.00	0.90
Surface Drainage, Field Ditch	607	1	-1	2	0	0	0.67	-2	1	-1	2	0.00	0.33
Surface Drainage, Main or Lateral	608	0	-1	2	0	0	0.50	0	0	0	0	0.00	0.25
Surface Roughening	609	0	3	0	0	0	3.00	0	0	0	0	0.00	1.50
Terrace	600	5	1	4	2	1	2.60	2	-1	0	0	0.50	1.55
Trails and Walkways	575	1	1	1	4	2	1.80	0	2	0	0	2.00	1.90
Tree/Shrub Establishment	612	5	5	4	2	2	3.60	4	2	0	1	2.33	2.97
Tree/Shrub Site Preparation	490	-1	-1	-2	-1	0	-1.25	-2	-1	0	0	-1.50	-1.38
Tree/Shrub Pruning	660	1	0	0	0	0	1.00	1	0	0	0	1.00	1.00
Underground Outlet	620	0	0	5	4	-1	2.67	0	0	0	0	0.00	1.33
Upland Wildlife Habitat Management	645	3	3	3	2	1	2.40	0	0	0	0	0.00	1.20
Vegetated Treatment Area	635	4	4	0	0	0	4.00	3	3	0	-2	1.33	2.67
Vegetative Barrier	601	4	1	1	0	0	2.00	0	0	0	-2	-2.00	0.00
Vertical Drain	630	0	0	0	1	0	1.00	0	0	0	0	0.00	0.50
Waste Facility Closure	360	0	0	0	0	0	0.00	0	0	0	2	2.00	1.00
Waste Recycling	633	0	0	0	0	0	0.00	1	0	0	0	1.00	0.50
Waste Separation Facility (no)	632	0	0	0	0	0	0.00	1	0	0	0	0.50	0.25
Waste Storage Facility	313	0	0	0	0	0	0.00	1	1	0	1	1.00	0.50
Waste Transfer	634	-1	-1	-1	0	0	-1.00	0	-1	0	0	-1.00	-1.00
Waste Treatment	629	0	0	0	0	0	0.00	1	1	0	0	1.00	0.50
Waste Treatment Lagoon	359	0	0	0	0	0	0.00	1	1	0	0	1.00	0.50
Water and Sediment Control Basin	638	0	0	2	2	0	2.00	0	0	0	0	0.00	1.00
Water Harvesting Catchment	636	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00
Watering Facility	614	2	2	2	1	4	2.20	0	0	0	0	0.00	1.10
Water Well	642	2	2	2	0	0	2.00	0	0	0	1	1.00	1.50
Wateringspreading	640	0	0	0	-1	0	-1.00	1	0	0	1	1.00	0.00
Well Decommissioning	351	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00
Wetland Creation	658	0	0	0	0	0	0.00	2	0	0	0	2.00	1.00
Wetland Enhancement	659	0	0	0	0	0	0.00	1	0	0	0	1.00	0.50
Wetland Restoration	657	0	0	0	0	0	0.00	1	0	0	0	1.00	0.50
Wetland Wildlife Habitat Management	644	0	0	0	0	0	0.00	0	0	0	0	0.00	0.00
Windbreak/Shelterbelt Establishment	380	1	5	2	0	0	2.67	4	2	0	1	2.33	2.50
Windbreak/Shelterbelt Renovation	650	1	5	2	0	0	2.67	4	2	0	1	2.33	2.50
Woody Residue Treatment	384	1	1	1	1	0	1.00	-1	-2	0	0	-1.50	-0.25

Ferry County VSP Work Plan	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	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
Restoration and Management of Rare or Declining Habitats	643	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	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	-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	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	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	-1	1	0	0	3	1.00	0	0	2	2	2	0	2	0	1	0	0	1	1.80	0	0	0	0	0.00
Roofs and Covers	367	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	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	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	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	-2	2	-2	0	0	0	-0.67	2	-1	5	-1	2	-1	2	-1	4	0	2	-1	1.00	-1	-1	1	0	-0.33
Shallow Water Development and Management	646	0	2	0	0	0	1	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	0.00	0	0	4	2	2	1	2	2	0	0	0	1	2.00	0	0	0	0	0.00
Silvopasture Establishment	381	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	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	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	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	-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	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	0	0	0.00	0	0	1	0	0	0	-3	0	2	0	0	0	0.50	0	0	0	0	0.00
Stream Habitat Improvement and Management	395	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	1	-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	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	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	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	2	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	2	2	2	0	2	2	2.00	0	0	-2	1	-2	2	-2	2	-1	0	-2	2	-0.22	0	0	0	0	0.00
Surface Roughening	609	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	-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	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	2	0	2	1	0	1	1.50	1	1	1	1	1	1	1	1	3	1	1	1	1.17	1	3	0	3	2.33
Tree/Shrub Site Preparation	490	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	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	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	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	0	-2	0	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	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	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	0.00	0	0	2	2	0	1	0	2	0	0	0	0	1.75	0	0	0	0	0.00
Waste Recycling	633	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	1	0	1.00	0	0	2	2	2	2	2	2	0	0	2	2	2.00	0	0	0	0	0.00
Waste Storage Facility	313	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	0	0	0	0	1	1	1.00	0	0	2	2	2	2	2	2	0	0	0	1	1.50	0	0	0	0	0.00
Waste Treatment	629	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	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	-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	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	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	0	2	0	0	2	0	2.00	0	0	0	0	0	0	0	0	0	0	0	0	-1.00	0	0	2	0	2.00
Wateringspreading	640	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	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	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	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	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	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	0	2	0	0	5	5	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	0	2	0	0	5	5	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	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

Note: Highlighted hydrology score was customized per County input: spraying invasive weeds without adding a subsequent acceptable vegetation replacement can negatively affect hydrology and other floodplain functions (through soil loss). The Noxious Weed board has a process it follows to evaluate site conditions and historical modifications, consider different treatment options and associated risks and benefits, and then apply the treatments that work best with the conditions.

Attachment 2
Pend Oreille County Practice Toolbox with CPPE Averaged Function Scores

Appendix D

Attachment 2: Pend Oreille County Methods and Results Practice Toolbox with CPPE Averaged Function Scores

		Direct Effect Scores					Average CPPE Scores		Function Effects: Average CPPE Scores				Critical Areas					Agricultural Viability					
NRCS Practice Code	Conservation Practice	Wetlands	Fish/Wildlife Habitat Conservation Areas	Critical Aquifer Recharge Areas	Geologically Hazardous Areas (Erosion)	Frequently Flooded Areas	Soil Erosion	Soil Condition	Soil Health[1]	Hydrology	Water Quality	Habitat	WET	FFA	CARA	GHA	HCA	Soil Health	Prevent Soil Loss	Moisture Management	Weed/ Pest Management	Pollinator/ Beneficial Organisms	Yield/ Fertility Management
313	Waste Storage Facility	0.92	0.00	1.20	0.00	0.75	0.00	1.00	0.50	1.00	1.75	0.00			x								
315	Herbaceous Weed Control	1.14	1.67	0.00	3.20	1.32	3.20	0.00	1.60	2.00	-0.25	1.67					x				x		
325	Seasonal High Tunnel	-1.00	0.00	0.00	-1.00	-0.60	1.00	0.00	0.50	0.00	0.00	0.00					x			x			
326	Clearing and Snagging	-0.42	-1.75	0.00	2.00	0.15	2.00	0.00	1.00	2.00	-1.50	-1.75				x					x		
327	Conservation Cover	2.49	3.33	2.00	2.20	2.60	2.20	3.33	2.77	1.25	2.89	3.33	x	x		x	x	x	x		x	x	
328	Conservation Crop Rotate	1.78	2.00	1.20	4.00	2.34	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	1.49	1.67	-0.20	4.50	2.19	4.50	2.00	3.25	0.80	2.00	1.67	x	x	x	x	x	x	x	x			x
340	Cover Crop	1.72	2.00	1.40	3.67	2.01	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	1.44	2.00	0.20	4.60	2.32	4.60	2.67	3.63	0.00	2.33	2.00				x							
345	Residue Management - Mulch Till	1.73	1.67	0.00	4.00	2.14	4.00	1.50	2.75	1.33	2.20	1.67	x	x	x	x	x	x	x	x			x
367	Roofs and Covers	0.00	0.00	0.40	0.00	0.00	0.00	0.00	0.00	-1.00	1.00	0.00											
378	Pond	1.10	2.50	-0.20	1.50	0.76	1.50	-1.00	0.25	0.60	0.20	2.50	x				x		x		x	x	
380	Windbreak/Shelterbreak	2.41	3.00	0.20	2.67	2.45	2.67	2.33	2.50	2.83	1.40	3.00	x	x		x	x	x	x	x	x	x	x
382	Fence	0.67	0.00	0.00	1.00	0.80	1.00	1.00	1.00	0.00	2.00	0.00	x			x	x		x			x	
383	Fuel Break	-0.53	0.40	-0.20	-1.00	-0.92	-1.00	-2.00	-1.50	-1.00	-1.00	0.40									x		
384	Woody Residue Treatment	0.67	0.00	0.00	1.00	0.30	1.00	-1.50	-0.25	1.00	1.00	0.00									x		
386	Field Border	1.48	2.00	0.80	2.50	1.79	2.50	2.00	2.25	1.00	1.43	2.00	x	x	x	x	x		x	x			x
390	Riparian Herbaceous Cover	2.11	3.50	2.20	2.25	2.38	2.25	3.33	2.79	0.33	2.50	3.50	x	x		x	x		x		x	x	
391	Riparian Forest Buffer	2.50	4.00	1.80	2.60	2.49	2.60	2.33	2.47	0.67	2.83	4.00	x	x		x	x		x		x	x	
393	Filter Strip	1.45	2.00	1.20	0.00	1.87	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	1.67	3.00	0.00	5.00	2.00	5.00	0.00	2.50	0.00	2.00	3.00	x	x		x	x		x		x	x	
396	Aquatic Organism Passage	1.56	2.67	0.00	0.00	0.93	0.00	0.00	0.00	0.00	2.00	2.67	x	x			x					x	
422	Hedgerow Planting	2.44	4.00	0.00	1.00	1.97	1.00	1.50	1.25	2.00	1.33	4.00	x	x	x	x	x		x	x			x
430	Irrigation Pipeline	0.83	0.00	0.80	2.00	0.90	2.00	0.00	1.00	1.33	1.14	0.00			x				x				x
441	Irrigation system, microirrigation (No)	1.53	1.00	1.60	0.00	1.12	0.00	1.00	0.50	2.00	1.60	1.00	x		x	x	x		x	x			x
442	Sprinkler System	1.74	1.00	1.40	2.00	1.54	2.00	0.50	1.25	2.67	1.55	1.00	x		x	x	x	x	x	x			x
449	Irrigation Water Management	1.17	0.00	2.00	2.00	1.40	2.00	1.50	1.75	1.50	2.00	0.00	x		x	x	x						
450	Anionic Polyacrylamide (PAM) Application	0.72	0.00	-0.40	2.00	1.23	2.00	2.00	2.00	1.00	1.17	0.00				x				x			
472	Access Control	1.73	2.00	0.60	3.40	2.22	3.40	2.50	2.95	1.75	1.44	2.00	x	x	x	x	x	x	x		x	x	x
484	Mulching	0.81	1.00	-0.40	4.00	1.49	4.00	1.00	2.50	0.60	0.83	1.00				x	x	x	x	x	x		
490	Tree/Shrub Site Preparation	0.50	0.00	-0.20	-1.25	-0.25	-1.25	-1.50	-1.38	2.00	-0.50	0.00	x	x		x	x				x	x	
512	Pasture and Hayland Seeding	1.00	1.00	0.00	1.00	1.10	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	0.00	0.00	0.00	0.00	0.00			x	x	x						x
528	Prescribed Grazing	1.82	2.67	0.80	3.00	2.23	3.00	2.67	2.83	1.50	1.30	2.67	x	x	x	x	x		x				x
533	Pumping Plant	0.67	0.00	0.00	0.00	0.80	0.00	2.00	1.00	2.00	0.00	0.00		x					x		x		x
550	Range Planting	1.58	2.67	1.20	3.20	2.19	3.20	3.00	3.10	0.75	1.33	2.67				x	x	x	x		x	x	x
560	Access Road	0.50	-1.00	0.00	1.00	0.90	1.00	2.00	1.50	1.50	1.00	-1.00				x	x	x	x		x	x	x
561	Heavy Use Area Protection	0.22	0.00	0.00	2.00	0.63	2.00	0.50	1.25	-1.00	1.67	0.00				x	x		x				
574	Spring Development	2.02	3.00	0.00	1.00	1.21	1.00	-1.00	0.00	1.80	1.25	3.00		x					x		x		x
578	Stream Crossing	0.17	0.00	0.40	2.00	0.50	2.00	0.00	1.00	0.00	0.50	0.00	x	x		x	x		x				
580	Streambank and Shoreline Protection	0.92	1.50	0.00	4.00	1.35	4.00	0.00	2.00	0.00	1.25	1.50				x			x				
584	Channel Bed Stabilization	1.42	1.25	0.00	2.00	1.25	2.00	0.00	1.00	2.00	1.00	1.25				x			x				
587	Structure for Water Control	1.67	2.00	0.00	0.00	1.00	0.00	0.00	0.00	2.00	1.00	2.00			x					x			
590	Nutrient Management	1.17	0.00	2.80	0.00	1.03	0.00	1.67	0.83	0.00	3.50	0.00			x		x	x					x
595	Pest Management	2.33	2.00	1.00	2.00	2.20	2.00	2.00	2.00	1.00	4.00	2.00		x	x		x	x			x	x	
600	Terrace	0.72	1.00	-1.60	2.60	1.05	2.60	0.50	1.55	0.80	0.36	1.00				x			x				
601	Vegetative Barrier	0.87	1.00	0.00	2.00	0.52	2.00	-2.00	0.00	0.00	1.60	1.00	x	x	x	x	x		x	x			x
612	Tree/Shrub Establishment	1.67	2.33	1.00	3.60	2.19	3.60	2.33	2.97	1.50	1.17	2.33	x		x	x	x		x			x	
612	Tree Planting	1.67	2.33	1.00	3.60	2.19	3.60	2.33	2.97	1.50	1.17	2.33	x		x	x	x		x			x	
614	Watering Facility	1.90	4.00	0.20	2.20	1.58	2.20	0.00	1.10	0.00	1.71	4.00					x						x
642	Water Well	1.00	2.00	0.00	2.00	1.20	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	4.00	0.00	2.00	1.40	2.00	-1.00	0.50	0.00	2.00	4.00					x				x	x	
644	Wetland Wildlife Habitat Management	2.67	4.00	0.00	0.00	1.60	0.00	0.00	0.00	2.00	2.00	4.00	x				x		x		x	x	
645	Upland Wildlife Habitat Management	2.17	5.00	0.00	2.40	1.78	2.40	0.00	1.20	-0.50	2.00	5.00					x		x		x	x	
647	Early Successional Habitat Development/Management	1.00	4.00	0.00	0.00	0.60	0.00	0.00	0.00	0.00	-1.00	4.00					x				x	x	
659	Wetland Enhancement	2.50	4.00	0.40	0.00	1.70	0.00	1.00	0.50	2.00	1.50	4.00	x				x		x		x	x	

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

Appendix E
Existing and Related Plans, Programs, and Regulations

Appendix E: Existing and Related Plans, Programs, and Regulations

Existing Conservation Programs

As described in the Voluntary Stewardship Program (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 within Pend Oreille County.

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

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

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

Table 1
Federal Conservation Programs

Lead	Description	Program	Details
Natural Resources Conservation Service (NRCS)	NRCS provides technical and financial assistance to help agricultural producers make and maintain conservation improvements on their land. NRCS also offers conservation easement programs and partnerships to leverage existing conservation efforts on farm lands.	**Environmental Quality Incentives Program (EQIP)**[1]	Voluntary program providing financial and technical assistance for agricultural producers to plan and implement conservation practices improving soil, water, plant, animal, air, and related natural resources.
		Conservation Stewardship Program (CSP)[2]	Voluntary program providing technical assistance for agricultural and forest landowners to develop plans for conservation, management, and enhancement activities.
		Agricultural Conservation Easement Program (ACEP)[3]	Provides conservation partners with financial and technical assistance through agricultural land easements to restore, protect, and enhance wetlands.
		Agricultural Water Enhancement Program (AWEP)[4]	Voluntary program providing financial and technical assistance to agricultural producers for implementing agricultural water-enhancement activities.
		Wildlife Habitat Incentive Program (WHIP)[5]	Voluntary program for wildlife habitat conservation and enhancement on agricultural land, nonindustrial private forest land, and Native American land.
Farm Service Agency (FSA)	FSA oversees several voluntary, conservation-related programs that work to address several agriculture-related conservation measures.	**Conservation Reserve Program (CRP)**[6]	Voluntary reserve program to conserve 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.

[1] www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/eqip/
[2] www.nrcs.usda.gov/csp
[3] www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/easements/acep/
[4] www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/awep/
[5] www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/whip/
[6] www.fsa.usda.gov/programs-and-services/conservation-programs/conservation-reserve-program/

Lead	Description	Program	Details
		Conservation Reserve Enhancement Program (CREP)[7]	Similar to the CRP, this voluntary program targets high-priority conservation issues. The contract period is typically 10 to 15 years.
United States Environmental Protection Agency (USEPA)	The USEPA writes and enforces environmental laws. It conducts environmental assessments, research, and education to maintain national standards under these environmental laws.	**Clean Water Act: Section 319 Nonpoint Source Management Program**[8]	Under Section 319, states, territories, and tribes receive grant money that supports a wide variety of activities that improve and protect water quality.

Table 2
State and Local Conservation Programs

Lead	Description	Program(s)	Details
Washington State Conservation Commission (WSCC)	WSCC works with conservation districts (CDs) to provide voluntary, incentive-based programs for implementation of conservation practices. WSCC supports the CDs through financial and technical assistance; administrative and operational oversight; program coordination; and promotion of CDs activities and services.	**Coordinated Resource Management (CRM) Program**[9]	Voluntary and locally led program for landowners seeking to resolve land-use and natural resource issues through local coalitions and consensus building.
		Irrigation Efficiencies Grant Program (IEGP)[10]	Provides financial incentives to landowners willing to install irrigation systems that save water.
		Natural Resource Investments (non-shellfish) Grants[11]	Grant program for landowners to complete natural resource enhancement projects necessary to improve water quality in non-shellfish growing areas.
		Office of Farmland Preservation (OFP)[12]	The OFP identifies and addresses farmland loss through agriculture conservation easement programs, providing technical assistance, developing farm transition programs, and providing data and analysis on trends.

[7] www.fsa.usda.gov/FSA/webapp?area=home&subject=lown&topic=cep
[8] https://www.epa.gov/nps/319-grant-program-states-and-territories
[9] http://scc.wa.gov/crm/
[10] http://scc.wa.gov/iegp/
[11] http://scc.wa.gov/nri/
[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 through funding opportunities.	**Aquatic Lands Enhancement Account (ALEA)**[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.	**Aquatic Lands Enhancement Account (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.
Washington State Department of Ecology (Ecology)	Ecology provides funding for water-quality improvement and protection projects, including grant and loan programs and voluntary partnership programs.	**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.

[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] https://www.rco.wa.gov/grants/alea.shtml
[18] https://www.rco.wa.gov/boards/srfb.shtml
[19] https://www.rco.wa.gov/grants/farmland.shtml
[20] https://ecology.wa.gov/About-us/How-we-operate/Grants-loans/Find-a-grant-or-loan/Water-Quality-Combined-Funding-Program
[21] http://www.directseed.org/certification/

Lead	Description	Program(s)	Details
		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.
Pend Oreille Conservation District (POCD)	POCD provides voluntary, incentive-based programs to assist landowners and agricultural operators with the conservation of natural resources including cost-share and technical assistance for implementing a range of management and farm conservation plans.	**Technical Assistance Programs**[23]	POCD provides technical assistance to landowners for resource concerns through its annual operating grant. Through its engineering grant, POCD provides engineered designs and plans designed to NRCS standards. Through its Natural Resource Investments grant program, POCD provides technical assistance on water quality improvement best management practices. POCD also collaborates with the Pend Oreille Public Utility District on its Cottonwood PLANTING program, an erosion protection and education program. Other POCD programs, or those provided separately by or in collaboration with other agencies or the Kalispel Tribe include technical and financial assistance for various conservation practices. Promoting FireWIse principles is one of these programs.
Washington State University (WSU) Extension	The WSU Extension program connects agricultural and natural resource stakeholders and industries, as well as the general 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**[24]	Program providing technical assistance, research, and education to producers.

[22] https://ecology.wa.gov/About-us/Our-role-in-the-community/Partnerships-committees/Voluntary-Clean-Water-Guidance-for-Agriculture-Adv
[23] http://www.pocd.org/
[24] http://extension.wsu.edu/pendoreille/

Lead	Description	Program(s)	Details
Washington State Department of Natural Resources (DNR)	DNR offers financial and technical assistance with thinning, pruning, slash treatment, and forest management planning.	**Forest Fuel Reduction Assistance**[25]	Program providing technical and financial assistance to Small Private Forest landowners to reduce the risk of wildlife and improve forest health.

[25] https://www.dnr.wa.gov/programs-and-services/wildfire/wildfire-preparedness/forest-fuel-reduction

Related Plans and Programs

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

The County includes portions of three watersheds, or Water Resource Inventory Areas (WRIAs). The majority of Pend Oreille County is in the Pend Oreille Watershed (WRIA 62). Little Spokane Watershed (WRIA 55) is in the southern part of the County, and a small portion of Middle Spokane Watershed (WRIA 57) is in the southeast corner.

There are nine Washington State Department of Ecology Total Maximum Daily Loads (TMDLs) in Pend Oreille County.

- Colville River Watershed Bacteria TMDL[26]
- Pend Oreille River Total Dissolved Gas TMDL[27]
- Spokane River Dissolved Oxygen TMDL[28]
- Little Spokane River Watershed Fecal Coliform Bacteria, Temperature, and Turbidity TMDL[29]
- Spokane River Dissolved Metals TMDL[30]
- Dragoon Creek BOD TMDL[31]
- Colville National Forest Temperature, Bacteria, and pH TMDL[32]
- Pend Oreille River Watershed Temperature TMDL[33]
- Little Spokane River Dissolved Oxygen and pH TMDL[34]

[26] https://fortress.wa.gov/ecy/publications/SummaryPages/0310030.html
[27] https://fortress.wa.gov/ecy/publications/documents/0703003.pdf
[28] https://fortress.wa.gov/ecy/publications/summarypages/0710073.html
[29] https://fortress.wa.gov/ecy/publications/summarypages/1110075.html
[30] https://fortress.wa.gov/ecy/publications/summarypages/9949.html
[31] https://fortress.wa.gov/ecy/publications/summarypages/9310209.html
[32] https://fortress.wa.gov/ecy/publications/summarypages/0510047.html
[33] https://fortress.wa.gov/ecy/publications/summarypages/1010065.html
[34] https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-improvement/Total-Maximum-Daily-Load-process/Directory-of-improvement-projects/Little-Spokane-River-DO-and-pH-TMDL

Table 3
Summary of Planning Documents

Plan or Program	Date	Author/Agency	Description
State and Local Management Plans and Programs			
Pend Oreille County Shoreline Master Program (SMP)	2015	Pend Oreille County	The SMP includes shoreline goals and policies for management and protection of shorelines of the state located within the County.
Pend Oreille County SMP Restoration Plan	2015	Pend Oreille County	The restoration plan includes goals and policies for the restoration of impaired shorelines. The plan identifies sites with potential restoration opportunities and programmatic restoration activities including low-impact agricultural and farming.
Pend Oreille County Bank Stabilization Guide	2016	Pend Oreille County	The Bank Stabilization Guide provides guidance for bank shoreline stabilization projects along Pend Oreille County waterbodies, incorporating provisions of the County Shoreline Master Program.
Pend Oreille County Community Wildfire Protection Plan (CWPP)	2011	Pend Oreille County and Washington State Department of Natural Resources	The CWPP guides countywide wildfire hazard mitigation using the best available science and local and regional knowledge.
FY2016 (7/1/17-6/30/18) Annual Work Plan: Pend Oreille Conservation District	2017	Pend Oreille Conservation District	The Pend Oreille Conservation District Annual Work Plan identifies local natural resource priorities, goals, and objectives for the protection and enhancement of critical areas.
Watershed Management Plan: WRIA 55 & WRIA 57	2006	Spokane County	The WRIA 55 & WRIA 57 Watershed Management Plan is intended to provide a framework for the management of water resources in the watersheds.
Detailed Implementation Plan: WRIA 55 & WRIA 57	2008	WRIA 55/57 Watershed Implementation Team	The Detailed Implementation plan includes detailed strategies for addressing water resource concerns documented in the WRIA 55 & 57 Watershed Management Plan.
Colville National Forest Proposed Revised Land and Resource Management Plan	2016	Stevens, Ferry, and Pend Oreille Counties	The Colville National Forest Land and Resource Management Plan provides direction for programs and other strategies to maintain a healthy and diverse forest.
Sullivan Creek Habitat and Geomorphic Assessment	2013	Seattle City Light	This assessment analyzes habitat conditions in and around Sullivan Creek and gives recommendations for actions that could improve aquatic and shoreline habitat.
Boundary Hydroelectric Project Tributary Management Plan	2014	Seattle City Light	This tributary management plan focuses on implementing aquatic habitat improvement measures in tributaries off of the Boundary Reservoir, especially for salmonid recovery.

Plan or Program	Date	Author/Agency	Description
State and Local Management Plans and Programs			
Boundary Hydroelectric Project Fish and Aquatics Management Plan	2010	Seattle City Light	This plan was prepared to support a comprehensive protection, mitigation, and enhancement program for the Boundary Hydroelectric Project to benefit native salmonids and their habitat.
Boundary Hydroelectric Project Terrestrial Resources Management Plan	2009	Seattle City Light	This plan was prepared to support a comprehensive protection, mitigation, and enhancement program for the Boundary Hydroelectric Project to benefit plant and terrestrial wildlife resources.
Boundary Hydroelectric Project Water Quality Certification	2011	Washington State Department of Ecology (Ecology)	This Section 401 Certification documents conditions of the project area and water quality standards that must be met to comply with the permit.
Recovery Plan for the Coterminous United States Population of Bull Trout	2015	U.S. Fish and Wildlife Service (USFWS)	This plan analyzes the life history, status, and threats to bull trout and includes a strategic plan for recovery of bull trout throughout the country by managing threats and conserving populations.
Management Recommendations for Washington's Priority Habitats: Riparian	1997	Washington Department of Fish and Wildlife (WDFW)	The riparian habitat management plan provides statewide riparian management recommendations based on the best-available science.
Washington State Deer Management Plan: White-tailed Deer	2010	WDFW	This wildlife management plan provides natural history, status, management issues, and recommendations for strategies to benefit White-tailed deer in the state.
Wolf Conservation and Management Plan	2011	WDFW	The Wolf Conservation and Management Plan guides recovery and management of gray wolves in the state. There has been confirmed presence of grey wolf packs in Pend Oreille County.
Selkirk Elk Herd Management Plan	2014	WDFW	This wildlife management plan provides direction for managing the Selkirk elk herd that is present in parts of Pend Oreille County.
Washington Department of Fish and Wildlife 2015-2021 Game Management Plan	2014	WDFW	The Game Management Plan guides the Washington Department of Fish and Wildlife's management of hunted wildlife from 2015-2021.
Washington State Mule Deer Management Plan	2016	WDFW	This wildlife management plan provides natural history, status, management issues, and recommendations for strategies to benefit mule deer in the state.
Periodic Status Review for the Greater Sage-grouse	2016	WDFW	This review documents population and habitat status of sage-grouse management

Plan or Program	Date	Author/Agency	Description
State and Local Management Plans and Programs			
			activities and recommendations for sage-grouse recovery efforts.
Riparian Ecosystems Volumes 1 & 2 (draft)	2018	WDFW	The riparian habitat management plan provides statewide riparian management recommendations based on best available science.
A Landowner's Guide to Wildlife Friendly Fences	2012	Montana Fish, Wildlife, and Parks	This document provides guidance for installing wildlife-friendly fencing, fence alternatives, and predator deterrence.

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 Growth Management Act. 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.[35] Continued compliance with these regulations provides 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.

[35] 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)[36]	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 landowners from converting wetlands to cropland. The "sodbuster" provision requires participating parties to maintain a specified level of conservation.
Clean Water Act (CWA)[37]	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 to 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)[38]		The SDWA protects public drinking water supplies in the United States, including sole-source aquifers. The USEPA provides technical and financial resources under the Clean Water State Revolving Fund (CWSRF) for improving water quality, protecting drinking water sources, and controlling nonpoint source pollution.	The SDWA is designed to protect critical aquifer recharge areas, an important source for drinking water that is vulnerable to contamination.
National Pollution Discharge Elimination System (NPDES)[39]		NPDES is promulgated under the CWA to regulate discharges to waters of the United States from animal feeding operations.	Regulated discharges to waters of the United States helps to protect water quality in critical areas, including wetlands and fish and wildlife habitat conservation areas.

[36] https://www.fsa.usda.gov/programs-and-services/farm-bill/index
[37] https://www.epa.gov/laws-regulations/summary-clean-water-act
[38] https://www.epa.gov/sdwa
[39] https://www.epa.gov/npdes

Regulation(s)	Agency	Description	VSP Intersect
Endangered Species Act (ESA)[40][41]	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)[42]	USEPA	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)[43]	USEPA	NESHAP regulates hazardous air pollutant emissions, including from new and existing facilities that manufacture organic pesticide active ingredients used in herbicides, insecticides, and fungicides.	These regulations are intended to reduce or eliminate hazardous air pollutant emissions with the potential to spread via aerial application to critical areas, including wetlands and fish and wildlife habitat conservation areas.

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

Table 5
State and Local Regulations that Apply to Agriculture

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

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

Regulation(s)	Agency	Description	VSP Intersect
Title 220	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 Chapter 220-410 defines game management areas, including the Game Management Units in Pend Oreille County. • WAC Chapter 220-620 describes the volunteer cooperative fish and wildlife enhancement program. • WAC Chapter 220-660 includes the Washington State Hydraulic Code which regulates in-water construction activities (hydraulic projects) through Hydraulic Project Approvals. • WAC Chapter 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 Chapters 246-290 and 246-291 includes rules for Group A and B public water supplies and water systems, respectively. These include regulations for using greywater for irrigation purposes.
Pend Oreille County Regulations			
Shoreline Regulations xx.34	Pend Oreille County	The Pend Oreille County Shoreline Regulations are promulgated under the Development Regulations (2015)	• The Shoreline Master Program covers new or additional uses within shorelines of the state (defined as 200 feet from ordinary high water) and does not limit or modify existing or ongoing agricultural practices. The VSP applies to critical areas both inside and outside of the shoreline jurisdiction. • Section 34.060, Development Standards, exempts some existing agricultural uses and activities from critical areas regulations in accordance with the provisions of RCW.90.58.065.
Environmentally Sensitive Areas xx.36	Pend Oreille County	The Pend Oreille County Environmentally Sensitive Areas Code is promulgated under the Development Regulations (2015).	• New farming activities must comply with required Setbacks and Buffers, and fencing must be installed to prevent livestock from entering jurisdictional wetlands and associated buffers.

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