

Yakima Voluntary Stewardship Plan Implementation

Biennial Report

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Executive Summary

This biennial report summarizes the progress of the Yakima County Voluntary Stewardship Program (VSP) Work Plan implementation. The Work Plan includes benchmarks and strategies to protect critical areas and promote agricultural viability. The VSP Program relies on voluntary producer participation and regular monitoring of program benchmarks under the oversight of the Yakima VSP Work Group that includes agricultural and environmental interests.

Critical areas include wetlands, fish and wildlife habitat conservation areas, critical aquifer recharge areas, flood hazard areas, and geologically hazardous areas. Critical areas intersect often with the more than 1.1 million acres of rangeland and irrigated farmland across unincorporated areas of the county in the VSP purview.

This biennial report has been prepared using guidance from the State of Washington Conservation Commission's VSP [Policy Advisory #05-18](#).

There are three primary topics:

- Agricultural Conditions and Viability
- Critical Area Conditions and Stewardship
- Outreach Goals and Status

Results by topic are summarized below; more details are included in the body of the report.

Agriculture Conditions and Viability

The agricultural land base has remained relatively stable countywide, and it has grown some since 2011 based on federal and state surveys and inventories.

Many conservation practices and voluntary enhancement projects have been implemented through private producer initiatives, federal programs, state programs, and initiatives of the two conservation districts that are the lead technical providers for the Yakima VSP Work Plan, i.e. the North and South Yakima Conservation Districts (NYCD/SYCD). Many conservation practices installed address both critical area protection and agricultural viability.

- The 2017 Census of Agriculture shows several hundred farms implementing grazing management, cover crops, and conservation tillage.
- The number of NRCS contracts for conservation practices from 2011 to 2016 equaled 335. Over 2017-2018, a shorter period of time, there have been about 82 contracts. Many address irrigation as well as other resource concerns. The contracts have a long-term benefit to critical areas and agricultural viability.
- The state's irrigated agriculture inventory shows thousands of acres have converted from less efficient irrigation systems to more efficient irrigation systems since 2011.
- Dozens of conservation practices have been implemented by NYCD and SYCD from 2011 to the present day for a variety of purposes addressing water resources, land and habitat, and others.

These 2011-2019 efforts build on ongoing efforts that started well before the 2011 VSP baseline.

Critical Areas Conditions and Stewardship

NYCD and SYCD have worked with other agencies and agricultural producers in Yakima County. A number of projects have occurred in tandem with VSP, which directly and indirectly contribute to critical area protection, water quality, fish habitat, ecosystem stewardship and riparian conditions in VSP program area (unincorporated lands where critical areas and agriculture intersect). Examples of coordination with state and federal agencies and leveraging of other programs that furthers VSP goals include:

- Yakima River Basin Adjudication
- Irrigation Efficiencies Grant Program
- Environmental Quality Incentives Program
- Lower Yakima Groundwater Management Planning
- Wenas Creek Fish Movement Study

Outreach Goals and Status

Both the NYCD and SYCD have initiated VSP Outreach through the development of program websites, and initial outreach to producers. A greater focus on outreach in the 2019-2021 biennium is anticipated since the VSP Work Plan was recently approved mid-way into the prior 2017-2019 biennium (fall 2018).

Biennial Report Overview

PURPOSE AND SCHEDULE

This document provides a biennial report addressing the status of the Yakima County VSP Work Plan (Work Plan) implementation. It is based on the State Conservation Commission's VSP [Policy Advisory #05-18](#).

Monitoring deadlines are determined based on when the County was funded for VSP. For Yakima County, the deadlines are:

- The 2-year biennial report is due August 30, 2019.
- The first 5-year status report is due in January 21, 2021.

ROLES

Both the NYCD and SYCD implement the Work Plan as Technical Providers on behalf of the Work Group. Yakima County is tasked with mapping. As appropriate, the Work Group would commission imagery interpretation, surveys, and convene an expert panel. Since the Work Plan was approved recently by the State Conservation Commission in October 27, 2017 new mapping and analysis has not been prepared. It is anticipated it would be prepared as part of the 5-year report.

Following is an excerpt from the Work Plan on Monitoring Roles in Section 8.2:

Compilation of monitoring, and submittal of reports to Conservation Commission will be the responsibility of the Work Group. ...Work Plan Exhibit 8-2 illustrates ongoing, annual, and biennial and five-year activities...

- *Ongoing activities by NYCD/SYCD include conservation practices and voluntary enhancement with willing landowners and VSP Participation events.*
- *Annually, NYCD/SYCD will evaluate the Tracking Tool statistical output to describe conservation practices and voluntary enhancement projects entered during the prior year and present it to the Work Group. Annually, NYCD/SYCD will prepare a report describing VSP implementation based on the technical assistance agreements with willing landowners and any other grants or programs that implement VSP efforts.*
- *Biennially and every five years, Yakima County would conduct mapping and the Work Group would commission imagery interpretation, surveys, and convene an expert panel on fish and wildlife conditions.*

Work Plan Exhibit 8-2. Adaptive Monitoring Matrix



Ongoing

- Conservation Practices and Voluntary Enhancement Projects with Willing Landowners
- VSP Participation Events / Activities



Annual Monitoring

Type 1

- Tracking Tool: Conservation Practices and Voluntary Enhancement Projects
- Annual Agency Reports



Biennial and 5-Year Monitoring

Type 2

- Mapping & Imagery Interpretation
- Producer Survey (Field Sample, Phone, Online)
- Convene Expert Panel (On a Critical Area System)

Photo Credits: NYCD, SYCD; BERK Consulting

Biennial Report

The Biennial Report requirements are listed below and are based on the goals of the VSP in the Growth Management Act (GMA).

BIENNIAL REPORT CONTENT REQUIREMENTS

Following from the goals listed in RCW 36.70A.700(2), the biennial report should include a summary of how plan implementation is affecting each of the following:

1. The protection and enhancement of critical areas within the area where agricultural activities are conducted;
2. The maintenance and improvement of the long-term viability of agriculture;
3. Reducing the conversion of farmland to other uses;
4. The maximization of the use of voluntary incentive programs to encourage good riparian and ecosystem stewardship as an alternative to historic approaches used to protect critical areas;
5. The leveraging of existing resources by relying upon existing work and plans in counties and local watersheds, as well as existing state and federal programs to the maximum extent practicable to achieve program goals;
6. Ongoing efforts to encourage and foster a spirit of cooperation and partnership among county, tribal, environmental, and agricultural interests to better assure the program success;
7. Ongoing efforts to improve compliance with other laws designed to protect water quality and fish habitat; and
8. A description of efforts showing how relying upon voluntary stewardship practices as the primary method of protecting critical areas and does not require the cessation of agricultural activities.

These report content requirements are grouped into the following report topics:

- Agricultural Conditions and Viability
- Critical Area Conditions and Stewardship
- Outreach Goals and Status

AGRICULTURE CONDITIONS AND VIABILITY

This section addresses agricultural land conditions and how that relates to viability including the following topics:

- 2. Viability of agriculture
- 3. Reducing the conversion of farmland to other uses
- 8. Describe voluntary stewardship practices do not require the cessation of agricultural activities

Agricultural Land Base

The Census of Agriculture estimates the amount of cropland and rangeland some of which fall in city limits, the Yakama Reservation, or federal lands as well as other unincorporated county lands; see Exhibit 1. The 2017 Census of Agriculture shows a slight increase of 965 acres between 2012 and 2017. The year 2012 is the closest to the VSP baseline year of 2011. The increase since 2011 could be larger.

Exhibit 1. Census of Agriculture Acres: 2002-2017

	2002	2007	2012	2017
Farm Operations – Rangeland	1,317,728	1,304,776	1,473,647	1,437,510
Agricultural Land – Cropland	361,256	344,505	306,851	343,953
Total	1,678,984	1,649,281	1,780,498	1,781,463

Source: Census of Agriculture 2017

The State of Washington Department of Agriculture (WSDA) has produced an estimate of agriculture, consisting largely of irrigated cropland across the county. The estimates in Exhibit 2 exclude cities but include the Yakama Reservation. The estimates do not address rangeland. As noted below the table and in the Work Plan the estimates likely undercount pastureland. It is a comparison point for the overall status of the agricultural land base in the county.

The Work Plan included inventory information as of 2016. Excluding developed land, the increase in irrigated cropland between 2016 to 2018 is about 1,400 acres or less than 1%. If measuring from 2011, the change has been about 25,000 acres or an increase of 7%.

Developed land is removed from production and represents less than 1% of the agricultural base. While there has been an increase in developed acres that converted from agriculture to non-agriculture, there has been a net increase in agriculture and the land base appears stable overall.

Exhibit 2. WSDA Crop Group Acres: 2011-2018

CROP GROUP	2011	2016	2017	2018	2018-2016	2018-2011
Berry	235	425	425	418	-7	183
Cereal Grain	80,979	77,227	78,311	77,139	-88	-3,840
Commercial Tree	13	27	27	26	-1	14
Developed	0	0	0	4,379	4,379	4,379
Flower Bulb	18	5	17	0	-5	-18

CROP GROUP	2011	2016	2017	2018	2018-2016	2018-2011
Green Manure	276	121	121	21	-100	-255
Hay/Silage	35,933	40,541	40,038	42,087	1,546	6,154
Herb	33,490	41,565	42,525	44,000	2,435	10,510
Melon	22	71	71	71	0	48
Nursery	909	951	945	930	-20	21
Oilseed	1,609	1,128	1,122	1,125	-3	-484
Orchard	71,181	70,955	71,015	70,668	-287	-513
Other*	83,008	101,200	100,147	55,698	-45,502	-27,310
Pasture**	0	0	0	40,108	40,108	40,108
Seed	801	1,436	1,436	1,484	48	683
Turfgrass	904	863	863	848	-15	-56
Vegetable	8,418	6,744	6,745	6,227	-517	-2,192
Vineyard	20,093	18,977	18,571	18,936	-41	-1,157
Total:	337,887	362,236	362,381	364,164	1,928	26,277
Developed (part of Other)	2,971	3,847	3,908	4,379	532	1,408
Total Excluding Developed	334,917	358,389	358,472	359,786	1,396	24,869

Notes: The Work Plan considered 2016 information to be equivalent to a 2011 baseline due to improvements in accuracy of mapping.

*Other includes: Alkali Bee Bed, Fallow, Research Station, CRP/Conservation, Fallow, Idle, Unknown, Developed, Pasture, Wildlife Feed

**In 2011 through 2017, Pasture was included in "Other". In 2018 it is called out separately. It is based on WSDA estimates and spatial mapping; however, it may be low by about 100,000 acres based on other estimates of pastureland that are higher (W.F. Hendrix, 2017; see Work Plan Appendix E).

Source: WSDA 2019, BERK 2019.

Yakima County permits building and land use applications some of which occur on lands in agricultural use. Some of the permits were likely issued on lands identified as developed by WSDA. Additional research could be conducted with the Yakima County Planning Department to address trends, and results could be included in the 5-year report.

Agricultural Conservation /Stewardship Practices

Conservation practices and other enhancement projects conducted with willing landowners support agriculture viability as well as critical area protection; these practices and projects have not caused a cessation of agriculture, and rather have increased over time as the agricultural land base has also increased. As described in the "Critical Area Conditions and Stewardship" section, producers who have completed the individual stewardship checklist have improved production while also achieving desired outcomes to conserve water, improve water quality, or others.

Countywide Census of Agriculture

The Work Plan included 2012 Census of Agriculture information regarding selected conservation practices. The newly released 2017 Census of Agriculture countywide shows some increased practices (alley cropping, no-till tillage, and cover crops) and some decreased practices (rotational grazing). See Exhibit 3.

Exhibit 3. Selected Agricultural Conservation Practices, 2012 and 2017

PRACTICE	2012 COUNT (FARMS)	2017 COUNT (FARMS)
Practiced alley cropping or silvopasture	0	23
Harvested biomass for use in renewable energy	18	5
Practiced rotational or management- intensive grazing	366	359
Conservation easement	27	27
Conservation tillage, no-till	155	199
Cover crop planted	240	269
Total Number of Farms	3,143	2,952

Source: U.S. Census of Agriculture, 2012 and 2017

NRCS Countywide

The Work Plan identified 335 NRCS contracts from 2011 to 2016 for conservation practices. Following that period from 2017-2018 there have been 82 contracts. Practices varied but included irrigation, conservation cover, and others. The contracts have a long-term benefit to critical areas and agricultural viability.

Exhibit 4. NRCS Conservation Practices 2017-2018

LOCATION AND PRACTICE	CONTRACTS
Yakima Service Center	12
Irrigation Pipeline	3
Irrigation Water Management	1
Pumping Plant	3
Sprinkler System	3
Structure for Water Control	2
Zillah Service Center	34
Agricultural Energy Management Plan - Written	2
Conservation Cover	1
Farmstead Energy Improvement	1
High Tunnel System	1
Irrigation Pipeline	7
Irrigation System, Micro-irrigation	2
Irrigation System, Sprinkler	1
Irrigation Water Management	9
Pumping Plant	4
Sprinkler System	5
Structure for Water Control	1
<i>Total Excluding Yakama Tribal Office</i>	<i>46</i>
Yakama Tribal Office	36
Critical Area Planting	1
Dike	1
Fence	1

LOCATION AND PRACTICE	CONTRACTS
Forest Stand Improvement	2
Heavy Use Area Protection	1
Irrigation Pipeline	4
Irrigation System, Micro-irrigation	1
Irrigation Water Management	1
Livestock Pipeline	1
Open Channel	1
Pumping Plant	2
Spring Development	1
Sprinkler System	2
Stream Habitat Improvement and Management	5
Streambank and Shoreline Protection	8
Structure for Water Control	1
Tree/Shrub Establishment	2
Watering Facility	1
Grand Total	82

Source: NRCS, BERK 2019.

About 46 contracts were associated with offices in Yakima and Zillah and 36 are associated with the NRCS office on the Yakama Reservation. As noted in the Work Plan, the Conservation Districts collaborate with the NRCS and provide services to the Reservation and would continue to do so.

Countywide Irrigation Efficiencies – Irrigated Cropland

The WSDA cropland inventory includes information about the transition from some types of irrigation to others. There has been an increase in more efficient forms of irrigation between 2011 and 2018. There has been an increase in more efficient forms of irrigation, e.g. micro-sprinklers, and a decrease in less efficient forms of irrigation, e.g. rill.

These results build on transitions to more efficient irrigation before the VSP program came into being. Prior to 2011, NYCD led efforts in the Moxee basin that changed over 7,500 acres from furrow irrigation to drip irrigation.

Exhibit 5. WSDA Agriculture Inventory of Irrigation Practices: Excluding Golf Courses, Driving Ranges, and Developed Land: 2011-2018

IRRIGATION TYPE	2011	2018	CHANGE: 2018-2011
Big Gun	435	719	284
Big Gun/Center Pivot	205	115	(90)
Big Gun/Sprinkler	24	121	97
Big Gun/Wheel Line	63	251	188
Center Pivot	24,815	33,692	8,877
Center Pivot/Rill	2,875	2,812	(63)

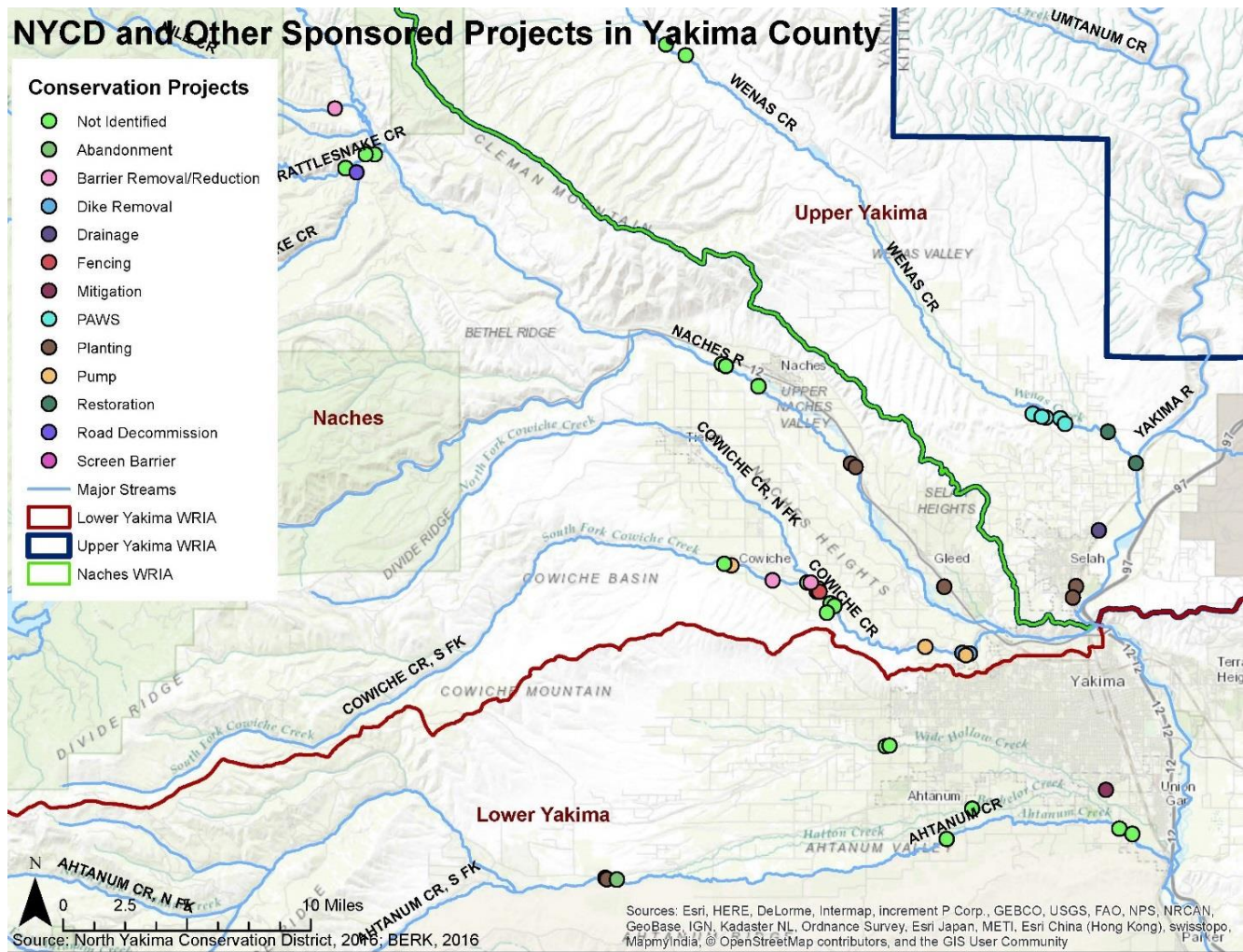
IRRIGATION TYPE	2011	2018	CHANGE: 2018-2011
Center Pivot/Sprinkler	3,860	8,001	4,141
Center Pivot/Sprinkler/Wheel Line	236	105	(131)
Center Pivot/Wheel Line	1,088	976	(112)
Drip	35,423	48,261	12,838
Drip/Big Gun		32	32
Drip/Micro-Sprinkler		1,435	1,435
Drip/Rill	58	2	(56)
Drip/Sprinkler	1,509	2,742	1,233
Drip/Wheel Line	34		(34)
Flood	8,964	10,232	1,269
Hand	1	41	41
Micro Sprinkler	1,124	24,464	23,341
None	65,156	75,154	9,998
None/Rill		14	14
Rill	51,268	41,612	(9,657)
Rill/Sprinkler	1,206	414	(792)
Rill/Sprinkler/Wheel Line		32	32
Rill/Wheel Line	636	581	(55)
Sprinkler	92,975	68,635	(24,340)
Sprinkler/Wheel Line	838	1,043	204
Unknown	452	67	(384)
Wheel Line	40,854	37,421	(3,433)
Blank	22		(22)
Grand Total	334,120	358,974	24,854

Source: WSDA, 2018.

North Yakima Conservation District (NYCD)

NYCD conservation practices and enhancement projects were identified in the Work Plan through 2016 and are illustrated on the map below. A few projects have been completed since 2016 in similar categories as the ones illustrated on the map.

Exhibit 6. Example Conservation: North Yakima Conservation District and Other Sponsors, 2011 – 2016



Source: NYCD, BERK Consulting 2016

Some projects on the map above have been documented in the Habitat Work Schedule data system, including these that NYCD led:

- Ahtanum Creek Restoration Survey and Design 2015-2017
- Lower Wenas Creek Floodplain Restoration with Beaver Dam Analogs (Post Assisted Willow Structures – PAWS): 2014-2017

South Yakima Conservation District (SYCD)

The Work Plan reported 44 conservation practices from 2011-2016 implemented by the SYCD. This information is updated below through mid-2019.

SYCD conservation practices from 2011 to 2019 (to date) are listed below in Exhibit 7. Since the Work Plan was prepared, the number of practices increased from 44 to 73.

Exhibit 7. SYCD Conservation Projects, Number Installed, 2011 – 2019

BASIN/YEAR	NUMBER
Granger	6
2012	1
2013	2
2017	3
Sulphur	42
2011	8
2012	7
2013	8
2014	2
2015	11
2017	1
2019	5
Rest of Lower Yakima WRIA 37	25
2012	2
2013	4
2015	5
2016	2
2017	4
2018	2
2019	6
Grand Total	73

Source: SYCD, BERK 2019.

Practices installed through SYCD coordination with producers involved irrigation, waste transfer and storage, and others. The purposes of the practices are to address many conditions, primarily ground and surface water protection, soil erosion, and water use efficiency. The purposes of the practices exceed the number of practices installed because there are multiple purposes for some practices.

Exhibit 8. SYCD Conservation Projects Purposes of Practices and Problems Addressed

PURPOSE OF PRACTICE / PROBLEM ADDRESSED	NUMBER
Surface and Ground Water Quality	
Ground and Surface Water Protection	15
Pollution Transport to Surface Waters.	1
Surface and Groundwater Protection from Chemicals	1
Water Quality Degradation	2
Water Quality Degradation Surface and Ground	1
Water Quality Degradation Surface and Groundwater Protection from Chemicals	12
Water Quality Degradation Surface Waters	1
Soil Quality	
Nutrients	13
Organic Matter Depletion	1

PURPOSE OF PRACTICE / PROBLEM ADDRESSED	NUMBER
Pathogens	11
Pathogens Organic Matter Depletion	2
Salts	1
Soil Erosion	13
Soil Health	1
Irrigation and Water Use	
Improved Water Use Efficiency	3
Inefficient Use of Irrigation Water	1
Insufficient Water	1
Irrigation Water Management	15
Water Use Efficiency	7
Other	
Forage	1
Livestock Limitation	1
Plant Productivity	1
Seeps	1
Water ponding	1

Source: SYCD, BERK 2019.

The SYCD has posted the stewardship checklist on its website and has collected about eight complete responses. This is another source of resource concerns and results of conservation practices installed.

Exhibit 9. Summary of Stewardship Checklist Responses – SYCD 2019

FEATURE	DESCRIPTION
Respondents in VSP Area	Eight completed; one partially completed
Basin	Lower Yakima
Critical Areas Intersect	CARA (all); FWHCA* and Floodplains (one); Geologic Hazards (Steep Slopes; one)
Agricultural Activities	Beef, Dairy, Cereal/Grain, Hay/Silage, Vineyard
Other Programs	NRCS Conservation Plan, Vinewise, Global GAP

* Fish and Wildlife Habitat Conservation Areas (FWHCA)
Source: SYCD, BERK 2019.

In terms of practices that the producers are implementing since 2011, respondents are doing more water efficiencies, water quality, land management, and soil health conservation practices. Few practices have declined. The amount of installed practices are partial and only based on those who provided the information. Most did not supply amounts.

Exhibit 10. Stewardship Checklist – Conservation Practice Implementation since 2011

PRACTICES	MORE OF	LESS OF	INTEREST	UNIT	AMOUNT (PARTIAL ENTRY)
Water Efficiencies/Management Practices					
GPS for field mapping and guiding equipment	2			Acres	800
Irrigation Pipeline (NRCS #430)	8			Feet	500
Irrigation System, Micro-irrigation , Drip (NRCS #441)				Acres	25
Irrigation System, Sprinkler, Solid Set, Wheeline (NRCS #442)	8			Acres	152
Irrigation System, Tailwater Recovery (NRCS #447)	6	1		Number	16
Irrigation Water Management, including Soil and Plant Moisture Monitoring (NRCS #449)	4			Acres	406
Pond Lining - Irrigation (NRCS #521)	2			Number	1
Water Quantity Enhancements: Center Pivot low energy precise application (LEPA) (NRCS WQT 11)	2			Number	5
Well Water Testing (NRCS #355)	2			Number	3
Residue and Tillage Management and Nutrient Management	2				
Other: Grazing Management	1				
Other: Irrigation Delivery Pipelines	1				
Other: Soil Moisture Monitoring	1				
Water Quality and Livestock Management					
Access Control to exclude animals, people, vehicles, and/or equipment from an area (NRCS #472)	4			Acres	14
Composting Facility (NRCS #317)	1			Number	2
Concrete Settling Basins (NRCS #632)		1		Number	
Fencing (NRCS #382)	2			Feet	
Manure Transfer (piping from pond to field) (NRCS #634)	2			Number	5
Mechanical Separators (NRCS #632)	2			Number	3
Underground Outlet (NRCS #620)				Feet	1,000
Waste Storage Structure (NRCS #313)	3			Number	8
Watering Facility (NRCS #614)	1		1	Number	
Water Well for livestock, fire control, wildlife, and other agricultural uses (NRCS #642)	1			Number	4
Other Lower Yakima Groundwater Management Area best management practices	8			Number	9
Other: Install new WSP Liner in 2019					
Land Management and Habitat					
Access Control to exclude animals, people, vehicles, and/or equipment from an area (NRCS #472)	5			Acres	9

PRACTICES	MORE OF	LESS OF	INTEREST	UNIT	AMOUNT (PARTIAL ENTRY)
Brush Management to manage or remove woody plants that are invasive or noxious (NRCS #314)	4			Acres	3
Conservation Cover to provide vegetative cover, reduce soil erosion and sedimentation (NRCS #327)	3			Acres	6
Conservation Tillage (NRCS #345)	2			Acres	
Field Border to provide wildlife food and cover, protect soil and water quality (NRCS #386)	1			Feet	
Herbaceous Weed Control (NRCS #315)	2	2		Acres	3
Integrated Pest Management to control noxious weeds and invasive plants (NRCS #595)	4			Acres	912
Livestock Pipeline to convey water for livestock or wildlife (NRCS #516)	1			Feet	
Structures for wildlife: Raptor and bat nesting box for predator patrol (NRCS #649)	2			Number	
Windbreak (NRCS #380/650)	1			Feet	
Soil Health and Erosion Control					
Access Road: position away from water bodies and water courses; locate and build to control or reduce erosion (NRCS #560)	3			Feet	
Conservation Cover to provide permanent vegetative cover, reduce soil erosion and sedimentation (NRCS #327)	3			Acres	3
Cover Crop for seasonal cover and other conservation purposes (NRCS #340)	2			Acres	
Irrigation Water Management (NRCS #449)	6			Acres	906
Nutrient Management to conserve nutrients, minimize pollution (NRCS #590)	6			Acres	606
Mulching to control erosion and conserve soil moisture (NRCS #484)	1			Acres	
Residue and Tillage Management (NRCS #329, 345)	3			Acres	
Other: permanent cover crop in grape rows reduce soil erosion and water run off					

Source: SYCD, BERK, 2019.

Producers provided thoughts on practice results and reasons they implemented them:

- Irrigation water use decrease with no crop quality or yield decrease.
- Less water usage more precise application control.
- More consistent and better canopy growth.
- Closed an open irrigation ditch; created an underground outlet to protect surface water and ground water from potential nutrient contamination.
- Tailwater flooding stopped with rill to solid set sprinkler conversion.

- Better waste storage control and protect the ground water from nutrient leaching.

CRITICAL AREAS CONDITIONS AND STEWARDSHIP

This section addresses the following biennial report topics:

- 1. The protection and enhancement of critical areas within the area where agricultural activities are conducted;
- 4. The maximization of the use of voluntary incentive programs to encourage good riparian and ecosystem stewardship as an alternative to historic approaches used to protect critical areas;
- 5. The leveraging of existing resources by relying upon existing work and plans in counties and local watersheds, as well as existing state and federal programs to the maximum extent practicable to achieve program goals;
- 7. Ongoing efforts to improve compliance with other laws designed to protect water quality and fish habitat;

NYCD and SYCD have both worked with other agencies and agricultural producers in Yakima County. There are a number of projects happening in tandem with VSP, which directly and indirectly contribute to critical area protection, water quality, fish habitat, ecosystem stewardship and riparian conditions in the area covered by VSP. Below are descriptions of those projects and activities which contribute towards the protection and enhancements of critical areas within the area where agricultural activities are conducted and ongoing agricultural land stewardship.

Yakima River Basin Adjudication

The Work Plan identifies the state role in water rights as part of the regulatory backstop and references water rights and water banking in its Agriculture viability aims.

In May, 2019, the Yakima County Superior Court completed the adjudication process for the Yakima River basin, including Yakima, Benton, and Kittitas counties, as well as a small portion of Klickitat County. The final adjudication, or decree, defines the relative priorities of all surface water fights in the Yakima basin under Washington's "first in time, first in right" water law doctrine. This impacts 2,300 water rights in the basin, and as pointed out on the Department of Ecology's website, it will help to settle past conflict, reduce future conflict, protect confirmed rights, and increase value of adjudicated water rights holders.

More information and the full adjudication can be found here: <https://ecology.wa.gov/Water-Shorelines/Water-supply/Water-rights/Adjudications>.

Irrigation Efficiencies Grant Program (IEGP)

Irrigation efficiencies are referenced in the Work Plan as means to limit runoff and potentially address slope stability. The NYCD and SYCD have programs to address irrigation efficiencies.

The Irrigation Efficiencies Grant Program is administered by the Washington State Conservation Commission and incentivizes irrigation improvements on salmon bearing streams. Water rights holders receive financial assistance for upgrading to more efficient irrigation systems, up to 85% of total project costs, which is administered via the conservation districts. This program has been used in the past in Yakima County and could be used in the future.

Environmental Quality Incentives Program (EQIP)

The Environmental Quality Incentives Program is a federal program for Washington State to incentivize conservation practices and activities on agricultural land, primarily resulting in higher irrigation efficiencies. EQIP provides financial and technical assistance to producers in order to address natural resource concerns and help to improve environmental conditions, such as water and air quality. Agricultural producers and owners of cropland, rangeland, pastureland, non-industrial private forestland, and other farm or ranch lands, are eligible to apply. Some owner types, such as beginning and limited resource farmers and tribes, are eligible for larger advance payments and reimbursements.

Those producers participating in EQIP and implementing conservation practices as part of EQIP also contribute to the goals and benchmarks set forth in the Work Plan.

There are a number of other specifications to participate in the program, all of which can be found on the following site: <https://www.nrcs.usda.gov/wps/portal/nrcs/main/wa/programs/financial/eqip/>.

The number of participants in the EQIP program in Yakima County with planned implementation dates during 2015-2018 equaled 100; about 82 have been planned for the years 2017-2019. Most projects have been used for irrigation related activities. Many of these overlap the information on NRCS activities in Exhibit 4 that cover the 2017-2018 period.

Lower Yakima Groundwater Management Planning

The Lower Yakima Valley Groundwater Management Area (GWMA) was established in 2012 with the purpose of reducing the nitrate contamination concentrations in groundwater below state drinking water standards. A 2017 USGS study found that 20 percent of the wells consistently exceeded the drinking water standard (USGS 2018).

At its final meeting on June 20, 2019, the Lower Yakima Valley presented its Final GWMA Program to the Department of Ecology as required under WAC 173-100-120. After certification by the State of Washington Department of Ecology, the Program would be implemented:

<https://www.yakimacounty.us/541/Groundwater-Management-Area>

WAC 173-100-100 (6) (b) requires that the GWMA Program include a monitoring system for evaluating the effectiveness of the program. A groundwater monitoring program has begun with a network of wells to measure baseline water quality conditions representative of the GWMA. Well Locations were selected based on points that evenly distribute well locations throughout GWMA. Results showed 55% of wells tested below nitrate levels (10 mg/L). To create a trend, more data is needed, and funding is being sought to collect more sample data. A summary presentation as of June 2019 is available:

<https://www.yakimacounty.us/DocumentCenter/View/21633/GWAC-Presentation---Monitoring-Well-Report-Overview---2019620-v20-1>.

Many of the conservation practices implemented by producers and funded in part by the SYCD address groundwater quality and protection of the critical aquifer recharge area. See Exhibit 8 and Exhibit 10.

Wenas Creek Fish Movement Study

The NYCD, State of Washington Department of Fish and Wildlife (WDFW), United States Fish and Wildlife Service (USFWS), Yakama Nation Fisheries, and the Wenas Irrigation District (WID) are performing a fish movement study on Wenas Creek, which is partially funded under VSP. The study is intended to understand downstream fish passage concerns that include barriers issues so that long term impacts to fish passage can be addressed through programs like VSP.

The study used Passive Integrated Transponder (PIT) tagged juvenile Coho salmon as a surrogate for juvenile steelhead; the fish were monitored after release.



Crews install PIT antennas on Wenas Creek. Source: NYCD.

OUTREACH GOALS AND STATUS

This section addresses the following biennial report topic:

- 6. Ongoing efforts to encourage and foster a spirit of cooperation and partnership among county, tribal, environmental, and agricultural interests to better assure the program success;

Work Group

The VSP Work Group is made up of agriculture and environmental interests, including commodity groups, environmental conservation groups, Yakama Nation, the State of Washington Department of Fish and Wildlife, NYCD, and SYCD. During the preparation of the Work Plan, the Work Group met about eighteen times during 2016-2017.

After Work Plan approval, the Work Group met again in April and May 2019 to review operating rules for the Work Group including procedures for calling a meeting and to review monitoring report guidance, and new agriculture guidance. An outline of this biennial report was reviewed. The Work Group agreed to meet again to approve the biennial report in August 2019. Thereafter, the Work Group intends to meet quarterly.

NYCD: Outreach and Engagement

NYCD has developed a VSP website. NYCD highlighted the VSP program in their newsletter that circulated to over 54,000 households within the NYCD boundary this summer. The NYCD has also advertised for a Voluntary Stewardship Program Coordinator to work with private landowners towards the conservation and wise stewardship of natural resources in the district.

A focus of the district initially in the 2017-2019 biennium has been Wenas Creek, considered a priority basin in the VSP nomination process. The fish movement study effort is a VSP-funded activity supported by the NYCD and other agencies. NYCD anticipates continued focus in that basin. Other basins have also been the subject of conservation practices and enhancement projects as illustrated in Exhibit 6.

The NYCD is considering a partnership with the Kittitas Conservation District to make effective use of funding and leverage VSP resources. Each Conservation District will maintain its duties to implement the respective county Work Plans.

SYCD: Outreach and Engagement

SYCD has developed a VSP website. The stewardship checklist has been posted, and responses received as described in Exhibit 9.

The SYCD has provided technical assistance and cost-shares for about 73 conservation practices since 2011; see Exhibit 7. These have helped advance VSP. Areas of focus have included the Granger and Sulphur sub-basins as well as other parts of the Lower Yakima Watershed Resource Inventory Area (WRIA).

Future Outreach

The Work Group is planning 2019-2021 outreach strategies at this time. Additional outreach would occur to help meet Work Plan benchmarks by the time of the 5-year report.

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