# Kittitas County Voluntary Stewardship Program

**Watershed Group Meeting**
November 6, 2020 10AM to Noon
Armory, Kittitas Valley Event Center

*Or virtually via Zoom platform at:*
*https://zoom.us/j/96539870355?pwd=NnUyTkh2a1ZCbFU2SW81SUhrNVp5QT09*

*Meeting ID:* ***965 3987 0355*** *Passcode:* ***054793*** *Dial in:* ***1-253-215-8782*** *US (Tacoma)*

# Review Minutes

- Minutes – January 17, 2020

# Watershed Group Membership

- Term lengths
  - Past agreement was that current members would serve through successful submission of the 5-year progress report
- Membership
  - Recruitment

# Outreach Activities

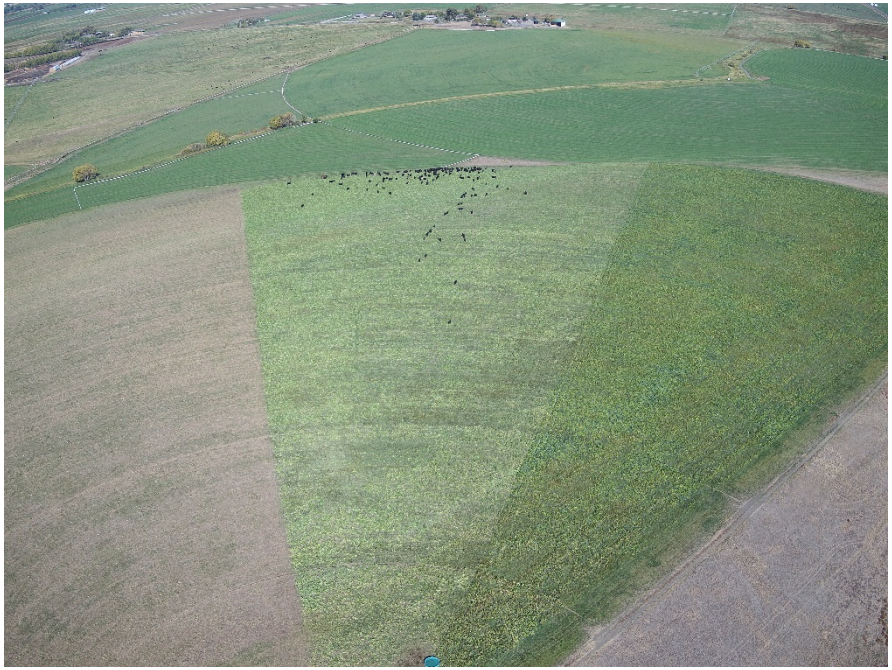
- On-Line Map and Inventory

# Outreach Activities

- Outreach plan status
  - Grower Meetings (Hay Growers, Saddle Mountain, KCCD/Farm Bureau, etc.)
  - Social Media
  - Website
  - Newsletter (12,814 in October 2020)
- Workshop – Soil Health February 20, 2020

# Cover Crop

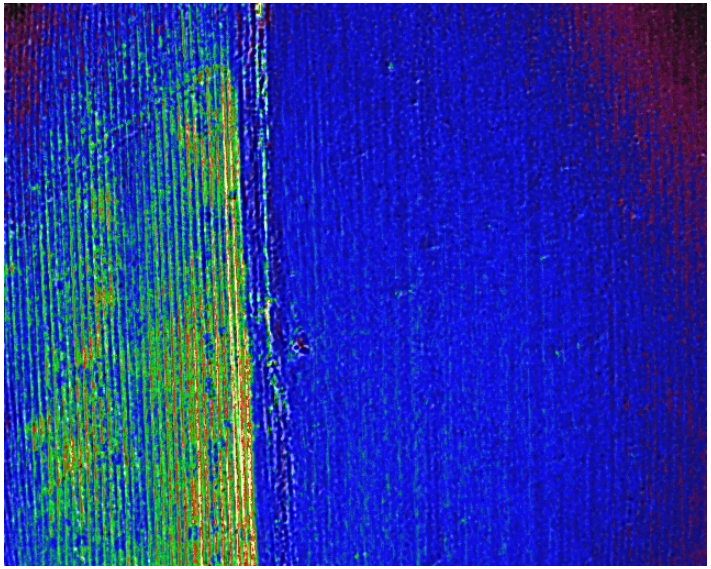
10-species mix was planted in July 2020
(Peas, beans, vetch, corn, sudan grass, millet, oats, collards, turnips, and sunflowers)



Livestock grazing is an important component of the cover crop implementation

# Technical Assistance

- Landowner Inventories
- Drone Technology



# Financial Assistance

- Individual Producer Opportunities
  - Integrated Plan Water Conservation Funds
    - Trust Water
  - Conservation Commission
    - Natural Resource Inventory Funds
      - Limited to $50,000/landowner
    - Irrigation Efficiencies Program
    - RCPP Contributions Grant
  - RCPP (EQIP) – 2021 Applications accepted through November 20, 2020
  - RCPP (CSP) – 2021 Applications accepted soon

# Financial Assistance

- USDA Natural Resources Conservation Service's Classic EQIP
  - CART is the new NRCS ranking tool
  - 2020 ranking resulted in 9 pre-approved projects and 8 contracts
    - Assistance with Cultural Resources surveys and reports
  - Classic EQIP applications accepted through November 20, 2020

# Financial Assistance

- Program Updates
  - RCPP
    - Yakima Basin Integrated Plan – Toppenish to Teanaway
      - Annual report completed
    - New round applications due November 30, 2020
      - Proposal with Yakama Nation ($7 million)
        - Kittitas County portion is $3.3 million for land management activities (~EQIP and CSP)
          - Irrigation Efficiencies and habitat projects

# Financial Assistance

- Program Updates
  - Fish Barrier Removal Board
    - Cooke Creek
      - Construction complete 2020
    - Coleman-Olmstead Creek
      - Construction to begin 11/9/2020
    - Parke Creek and Caribou Creek
      - Construction planned for 2021
  - Yakima Tributary Access & Habitat Program
    - Matching funds for FBRB & SRFB projects

# Financial Assistance

- Program Updates
  - Salmon Recovery Funding Board
    - Yakima Fish Passage Targeted Investment Projects (Naneum and Coleman Creeks)
    - The Ranch on Swauk Creek
    - Tjossem Ditch -- Improving Salmonid Survival
    - Upper Yakima River Cottonwood Assessment
  - Ecology
    - Yakima River Mile 160 Riparian Restoration
      - Riparian planting on 8 acres

# Financial Assistance

- Program Updates
  - NACD Urban Agriculture Conservation Initiative
    - Thorp School District's "Farm to School" Initiative Proposal

# Financial Assistance

- VSP Grant Funds
  - Habitat Improvement Projects
    - Not Cost Share (landowner agreement still required)
    - Matching other funding sources to provide greater incentive for landowners to adopt practices

# Reporting Requirements

- Workplan Goals (starts on page 56)
  - Goal #1: Protect and/or enhance wetland functions.
  - Goal #2: Protect and/or enhance fish and wildlife habitat conservation area functions.
  - Goal #3: Protect and/or enhance critical aquifer recharge area functions.
  - Goal #4: Protect and/or enhance geologically hazardous area functions.
  - Goal #5: Protect and/or enhance frequently flooded area (FFA) functions.

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

**Protection and/or enhancement:** Special emphasis on key functions provided by wetlands

| Key Functions | Wetland Functions |
|---|---|
| **Water Quality** | • Reduces downstream sediment load and erosion<br>• Provides water filtration<br>• Sequesters pollutants and nutrients |
| **Hydrology** | • Stores water to reduce flooding and contributes to base flows |
| **Habitat** | • Provides aquatic and woody vegetated habitat for fish and wildlife<br>• Provides off channel refuge during high flows and connections to fish bearing streams |

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

- Ancillary benefits from implemented stewardship practices (improved soil function/soil preservation, improved water availability, weed management, increased pollinators/beneficial organisms, and increased fertility)
- Reducing regulatory uncertainty 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 Stewardship Practices | Consistency with Existing Plans |
|---|---|---|
| Protect and/or voluntarily enhance acres managed using strategies that provide direct protections to wetlands and wetland buffers. | • Riparian Herbaceous Cover/Filter Strips<br>• Fencing<br>• Heavy Use Protection<br>• Stream Crossing<br>• Wetland Enhancement/Restoration | • Washington Department of Fish and Wildlife's Management Recommendations for Washington's Priority Habitats and Species: Riparian<br>• *Yakima River Basin Integrated Water Resource Management Plan (2012)* |
| Protect and/or enhance acres managed using strategies that promote water quality and hydrology functions by reducing erosion and improving water storage and filtration. | • Range Planting<br>• Managed Grazing<br>• Streambank and Shoreline Protection | • *Yakima River Basin Integrated Water Resource Management Plan (2012)*<br>• *Naneum, Wilson, and Cherry Creeks Watershed Phase I Assessment (2017)* |
| Protect and/or enhance acres managed using strategies that promote water quality and aquatic habitat functions by reducing inputs from runoff. | • Irrigation Water Management<br>• Sprinkler Systems<br>• Nutrient Management<br>• Riparian Herbaceous Cover/Filter Strips | • Existing water quality data and reports, such as Washington State Department of Ecology 303(d) list (see Appendix B-6 for 303d list and Appendix D for full list of TMDLs in the County) *Yakima Steelhead Recovery Plan (2009)*<br>• *Yakima River Basin Integrated Water* |

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

| Key Stewardship Strategies | | | Critical Area Functions Protection Metrics (averaged CPPE Function Effects Score)[2] | | | | Critical Area Protections | | | | | Agricultural Viability | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | NRCS Code | Key Practices[1] | Soil | Hydrology | Water Quality | F&W Habitat | WET | HAB | CARA | GHA | FFA | Aims | CPPE Metric[2] |
| Water Management | 449 | Irrigation Water Management | 1.75 | 1.50 | 2.00 | 0.00 | • | • | • | • | | • Protect against erosion risk<br>• Protect soil function<br>• Improve water availability<br>• Reduce input costs | 1.00 |
| | 441 | Micro-irrigation | 0.50 | 2.00 | 1.60 | 1.00 | | | | | | | 0.85 |
| | 430 | Pipeline | 1.00 | 1.33 | 1.14 | 0.00 | | | | | | | 1.83 |
| | 442 | Sprinkler System | 1.25 | 2.67 | 1.55 | 1.00 | | | | | | | 1.27 |
| Nutrient Management | 590 | Nutrient Management | 0.83 | 0.00 | 3.50 | 0.00 | • | • | • | | | • Protect soil function<br>• Reduce invasive and nuisance species<br>• Reduce input costs | 0.30 |
| Pest Management | 595 | Pest Management | 2.00 | 0.00 | 4.00 | 2.00 | • | • | • | • | | • Protect soil function<br>• Reduce invasive and nuisance species<br>• Provide pollinator species/beneficial organisms habitat | 0.67 |
| Soil Management | 327 | Conservation Cover | 2.77 | 1.25 | 2.89 | 3.33 | • | • | | • | | • Protect against erosion risk<br>• Protect soil function<br>• Reduce invasive and nuisance species<br>• Provide pollinator species/beneficial organisms habitat<br>• Promote yield and fertility | -1.11 |
| | 329 | Residue Management, No-Till/Strip Till/Direct Seed | 3.25 | 0.80 | 2.00 | 1.67 | | | | | | | 1.22 |
| | 345 | Residue Management, Reduced Till | 2.75 | 1.33 | 2.20 | 1.67 | | | | | | | 0.67 |
| | 450 | Polyacrylamide Application | 2.00 | 1.00 | 1.17 | 0.00 | | | | | | | 1.13 |
| Range Management[3] | 550 | Range Planting | 3.10 | 0.75 | 1.33 | 2.67 | • | • | | • | • | • Protect against erosion risk<br>• Protect soil function<br>• Reduce invasive and nuisance species<br>• Promote yield and fertility | 1.14 |
| | 528 | Managed Grazing | 2.83 | 1.50 | 1.30 | 2.67 | | | | | | | 0.60 |
| | 614 | Watering Facility | 1.10 | 0.00 | 1.71 | 4.00 | | | | | | | 0.25 |
| Habitat Management | 395 | Stream Habitat Improvement and Management | 2.50 | 0.00 | 2.00 | 3.00 | • | • | | • | • | • Protect against erosion risk<br>• Protect soil function<br>• Reduce invasive and nuisance species<br>• Provide pollinator species/beneficial organisms habitat | -1.29 |
| | 390 | Riparian Herbaceous Cover | 2.79 | 0.33 | 2.50 | 3.50 | | | | | | | -0.40 |
| | 391 | Riparian Forest Buffer | 2.47 | 0.67 | 2.83 | 4.00 | | | | | | | -1.33 |
| | 612 | Tree/Shrub Establishment | 2.97 | 1.50 | 1.17 | 2.33 | | | | | | | -0.36 |
| | 645 | Upland Wildlife Habitat Management | 1.20 | -0.50 | 2.00 | 5.00 | | | | | | | -0.14 |
| | 657 | Wetland Restoration | 0.50 | 2.00 | 1.50 | 4.00 | | | | | | | -0.60 |
| Stream Enhancement | 580 | Streambank and Shoreline Protection | 2.00 | 0.00 | 1.25 | 1.50 | • | • | | • | | • Protect against erosion risk<br>• Protect soil function<br>• Reduce invasive and nuisance species<br>• Promote yield and fertility | -0.36 |
| | 584 | Channel Bed Stabilization | 1.00 | 2.00 | 1.00 | 1.25 | | | | | | | -0.43 |
| | 396 | Aquatic Organism Passage | 0.00 | 0.00 | 2.00 | 2.67 | | | | | | | -0.44 |
| | 587 | Structure for Water Control (fish screen) | 0.00 | 2.00 | 1.00 | 2.00 | | | | | | | -0.75 |

# Reporting Requirements

- Workplan Benchmarks (page 69)

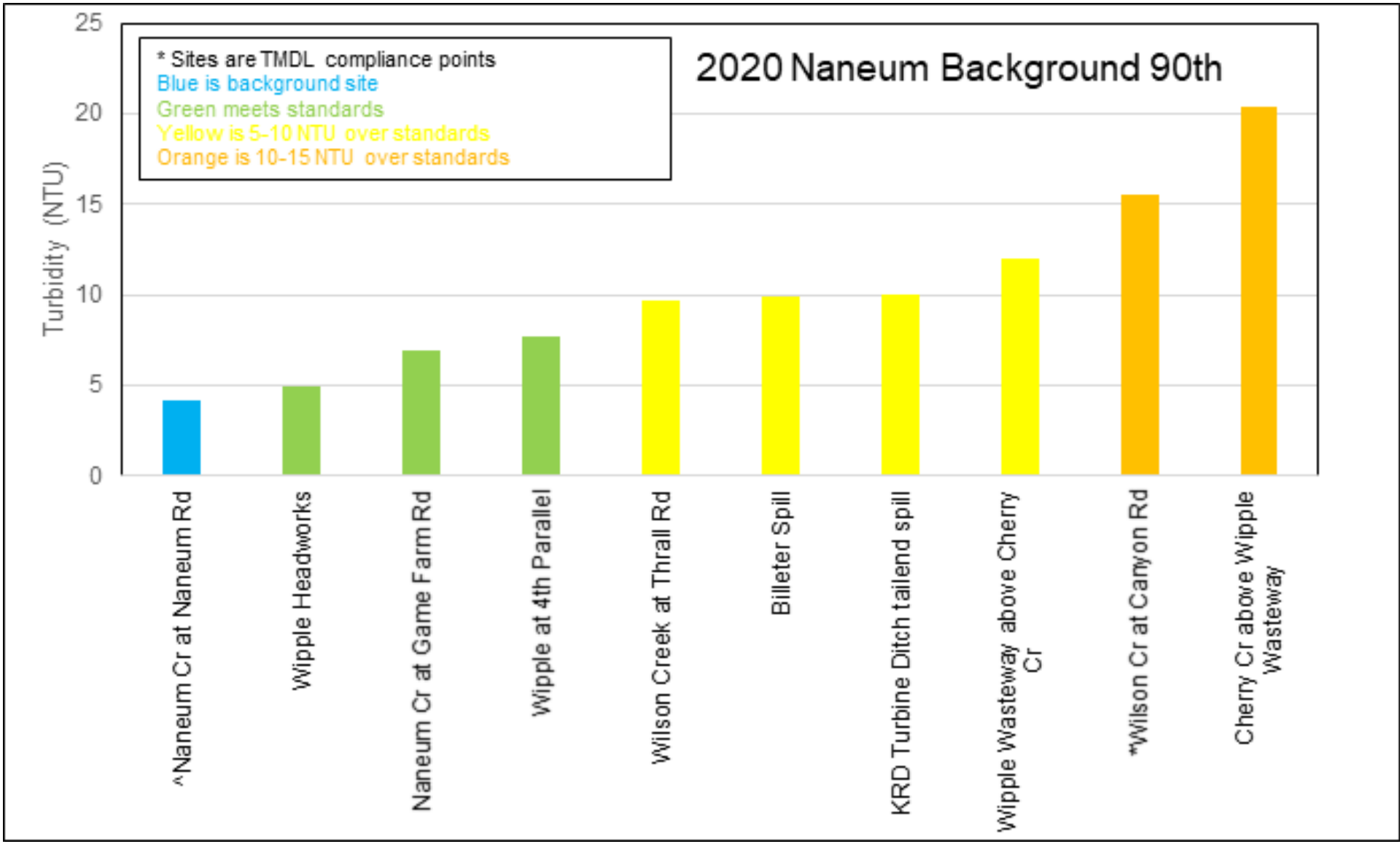
| Type | | NRCS Code | Practice Name | 2020 Protection Objective | 2020 Enhancement Objectives | 2011-2016 Reported Data | 17-20 Biennial Implementation | Total Implementation to Date (2011 to 2020) |
|---|---|---|---|---|---|---|---|---|
| Indirect Intersects | Water Management | 449 | Irrigation Water Management | **533 ac** | **8,521 ac** | 7,104 ac | 22,075 ac | **29,179 ac** |
| | | WQT01 | Irrigation system automation | | | | | |
| | | WQT07 | Regional weather networks for irrigation scheduling | | | | | |
| | | 442 | Sprinkler System | | | | | |
| | | 441 | MicroIrrigation | | | | | |
| | | 430 | Irrigation Pipeline | **6,686 ft** | **139,904 ft** | 148,569 ft | 117,432 ft | **266,001 ft** |
| | Nutrient Management | 590 | Nutrient Management | **76 ac** | **694 ac** | 720 ac | 18,113 ac | **18,917 ac** |
| | | AIR08 | Nitrification inhibitors or urease inhibitors | | | | | |
| | | WQL04 | Plant tissue tests and analysis to improve nitrogen management | | | | | |
| | | WQL07 | Split nitrogen applications, 50% after crop emergence or pasture green up | | | | | |
| | | WQL11 | Precision application technology to apply nutrients | | | | | |
| | | WQL24 | Apply enhanced efficiency fertilizer products | | | | | |
| | Pest Management | 595 | Pest Management | **164 ac** | **967 ac** | 1,406 ac | 5,717ac | **7,123 ac** |
| | | AIR04 | Use drift reducing nozzles, low pressures, lower boom height, and adjuvants to reduce pesticide drift | | | | | |
| | | AIR07 | GPS, targeted spray application (SmartSprayer), or other chemical application electronic control technology | | | | | |
| | | PLT19 | Herbicide resistant weed management | | | | | |
| | Soil Management | 327 | Conservation Cover | **886 ac** | **6,141 ac** | 8,438 ac | 4,637 ac | **13,075 ac** |
| | | 329 | No - Till | | | | | |
| | | 340 | Cover Crop | | | | | |
| | | ENR12 | Use of legume cover crops as a nitrogen source | | | | | |
| | | 345 | Reduced Till | | | | | |
| | | 450 | Polyacrylamide Application | | | | | |
| | Range Management | 550 | Range Planting | **225 ac** | **1,786 ac** | 2,147 ac | 1,984 ac | **4,131 ac** |
| | | 528 | Prescribe Grazing | | | | | |
| | | ANM09 | Grazing management to improve wildlife habitat | | | | | |
| | | 574 | Spring Development | **2 facilities** | **41 facilites** | 36 facilities | 6 facilites | **42 facilites** |
| | | 614 | Stock Water Facility | | | | | |
| Direct Intersects | Habitat Management | 395 | Stream Habitat Improvement and Management | **38 ac** | **570 ac** | 848 ac | 1 ac | **854 ac** |
| | | 390 | Herbaceous Cover | | | | | |
| | | 391 | Riparain Forest Buffer | | | | | |
| | | 612 | Tree/Shrub Establishment | | | | | |
| | | 645 | Upland Wildlife Habitat Management | | | | | |
| | | 657 | Wetland Restoration | | | | | |
| | Stream Enhancement | 580 | Streambank and Shoreline Protection | **172 ft** | **3,813 ft** | 3,813 ft | 823 ft | **4751 ft** |
| | | 584 | Channel Bed Stabilzation | | | | | |
| | | 396 | Aquatic Species Passage | **1 project** | **29 projects** | 17 projects | 21 projects | **38 projects** |
| | | 587 | Structure for Water Control (Fish Screen) | | | | | |

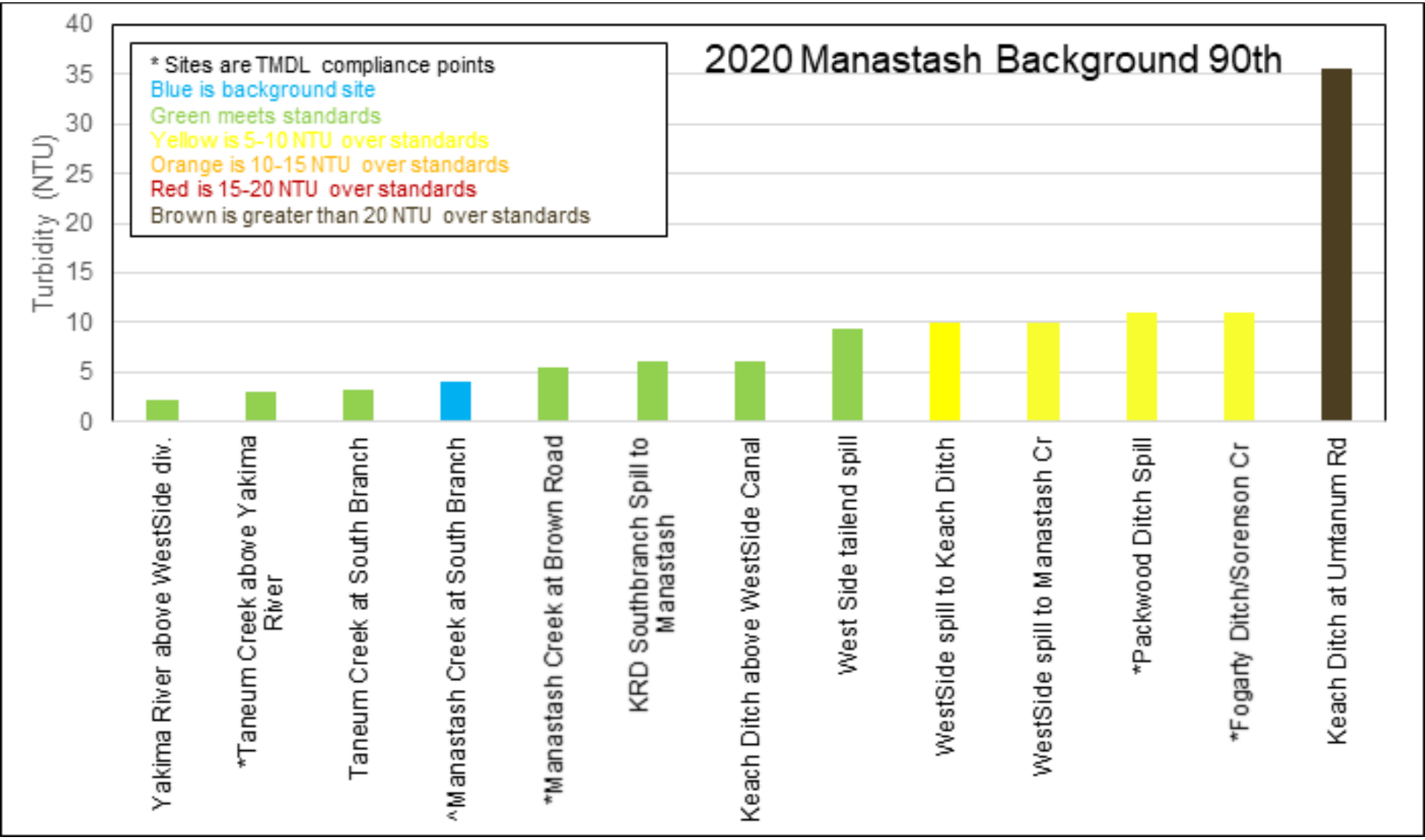
# Indicators

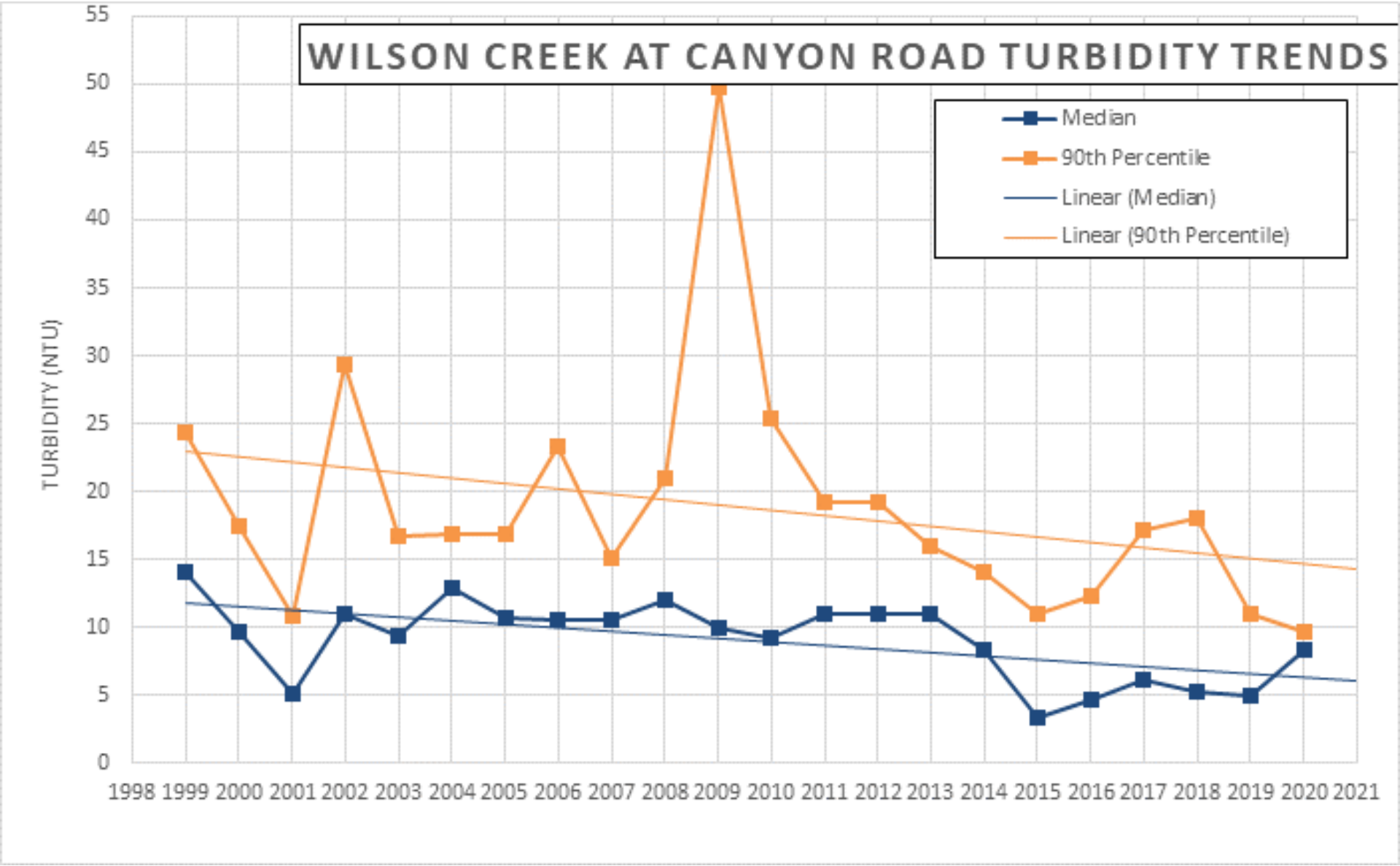
- Indicators may be used to identify resource trends and focus enhancement efforts on high priority areas or specific functions.
- Indicator data will be reviewed at least every 5 years to help focus technical assistance efforts and assess if the anticipated protection and/or enhancement of critical area functions is occurring.
- Indicators including in the Work Plan
  - Water quality indicators
  - Hydrology indicators
  - Soil function indicators
  - Habitat indicators

# Water quality indicators

- Category 2 through 5 303(d) listings, focused on parameters that potentially have an agricultural source.
  - Ecology Water Sampling completed in 2019
  - KCWP Water Quality Data 2020


* Sites are TMDL compliance points
Blue is background site
Green meets standards
Yellow is 5-10 NTU over standards
Orange is 10-15 NTU over standards
2020 Naneum Background 90th
Turbidity (NTU)
25
20
15
10
5
0
^Naneum Cr at Naneum Rd
Wipple Headworks
Naneum Cr at Game Farm Rd
Wipple at 4th Parallel
Wilson Creek at Thrall Rd
Billeter Spill
KRD Turbine Ditch tailend spill
Wipple Wasteway above Cherry Cr
*Wilson Cr at Canyon Rd
Cherry Cr above Wipple Wasteway


2020 Manastash Background 90th
* Sites are TMDL compliance points
Blue is background site
Green meets standards
Yellow is 5-10 NTU over standards
Orange is 10-15 NTU over standards
Red is 15-20 NTU over standards
Brown is greater than 20 NTU over standards
Turbidity (NTU)
0
5
10
15
20
25
30
35
40
Yakima River above WestSide div.
*Taneum Creek above Yakima River
Taneum Creek at South Branch
^Manastash Creek at South Branch
*Manastash Creek at Brown Road
KRD Southbranch Spill to Manastash
Keach Ditch above WestSide Canal
West Side tailend spill
WestSide spill to Keach Ditch
WestSide spill to Manastash Cr
*Packwood Ditch Spill
*Fogarty Ditch/Sorenson Cr
Keach Ditch at Umtanum Rd


WILSON CREEK AT CANYON ROAD TURBIDITY TRENDS
Median
90th Percentile
Linear (Median)
Linear (90th Percentile)
TURBIDITY (NTU)
0
5
10
15
20
25
30
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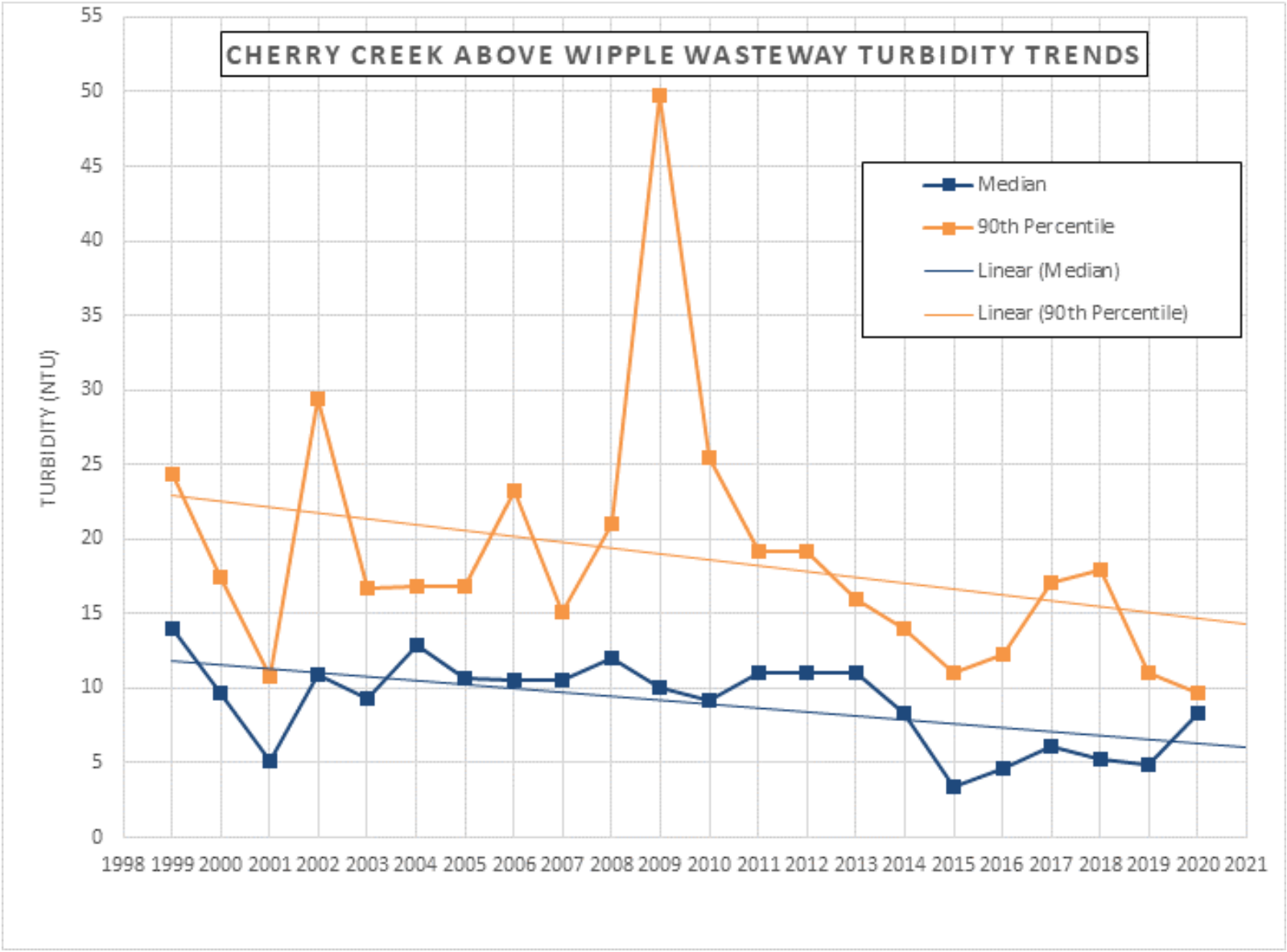
55
1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021


CHERRY CREEK ABOVE WIPPLE WASTEWAY TURBIDITY TRENDS
TURBIDITY (NTU)
0
5
10
15
20
25
30
35
40
45
50
55
1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
Median
90th Percentile
Linear (Median)
Linear (90th Percentile)

# Hydrology

- **Hydrology indicators** will include tracking flow gauges through the U.S. Geological Survey (USGS), Washington State Department of Ecology, U.S. Bureau of Reclamation, Kittitas Reclamation District (KRD), or other agencies.
  - USGS water data is available online at https://www2.usgs.gov/water/
  - Washington State Department of Ecology water data is available online at https://fortress.wa.gov/ecy/eap/flows/regions/state.asp
  - U.S. Bureau of Reclamation has gauges along the mainstem Yakima River, and water monitoring sites can be found online at https://www.usbr.gov/pn/hydromet/yakima/yaktea.html
  - KRD monitoring occurs mostly on irrigation canals.
  - Groundwater monitoring wells are also present in Kittitas County to monitor groundwater quantity.

# Hydrology

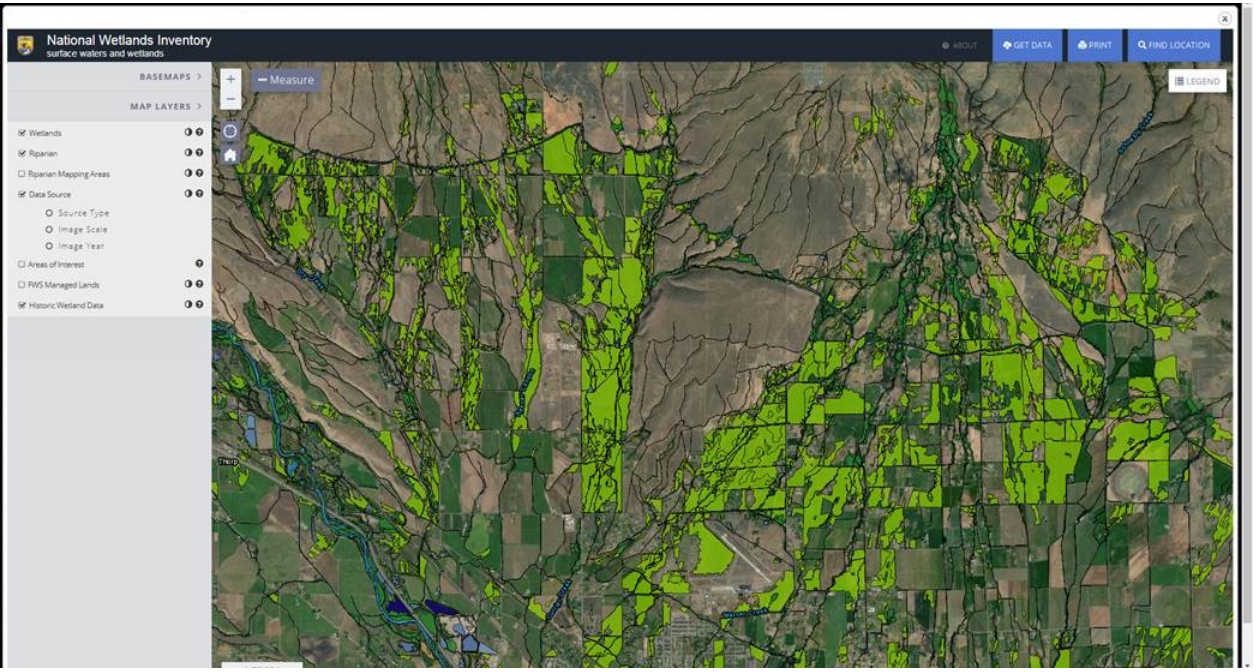
- Manastash Creek
  - Streamflow gauge installed
  - Flow measurements continue - September 2020 set record for lowest flow (6.48 cfs) measured in Manastash Creek in KCCD records
- Swauk Creek
  - Flow measurements for projects
  - Trust Water Analysis

# Soil Function

- Include USDA Natural Resources Inventory (NRI) monitoring results related to erosion and soil functions and fertility. This monitoring should focus on locations within or adjacent to critical areas in relation to erosion issues, allowing for more natural erosion rates upland of critical areas. Interactive data viewers at the State level are available online at https://www.nrcs.usda.gov/wps/portal/nrcs/rca/national/technical/nra/rca/ida/

# Indicators

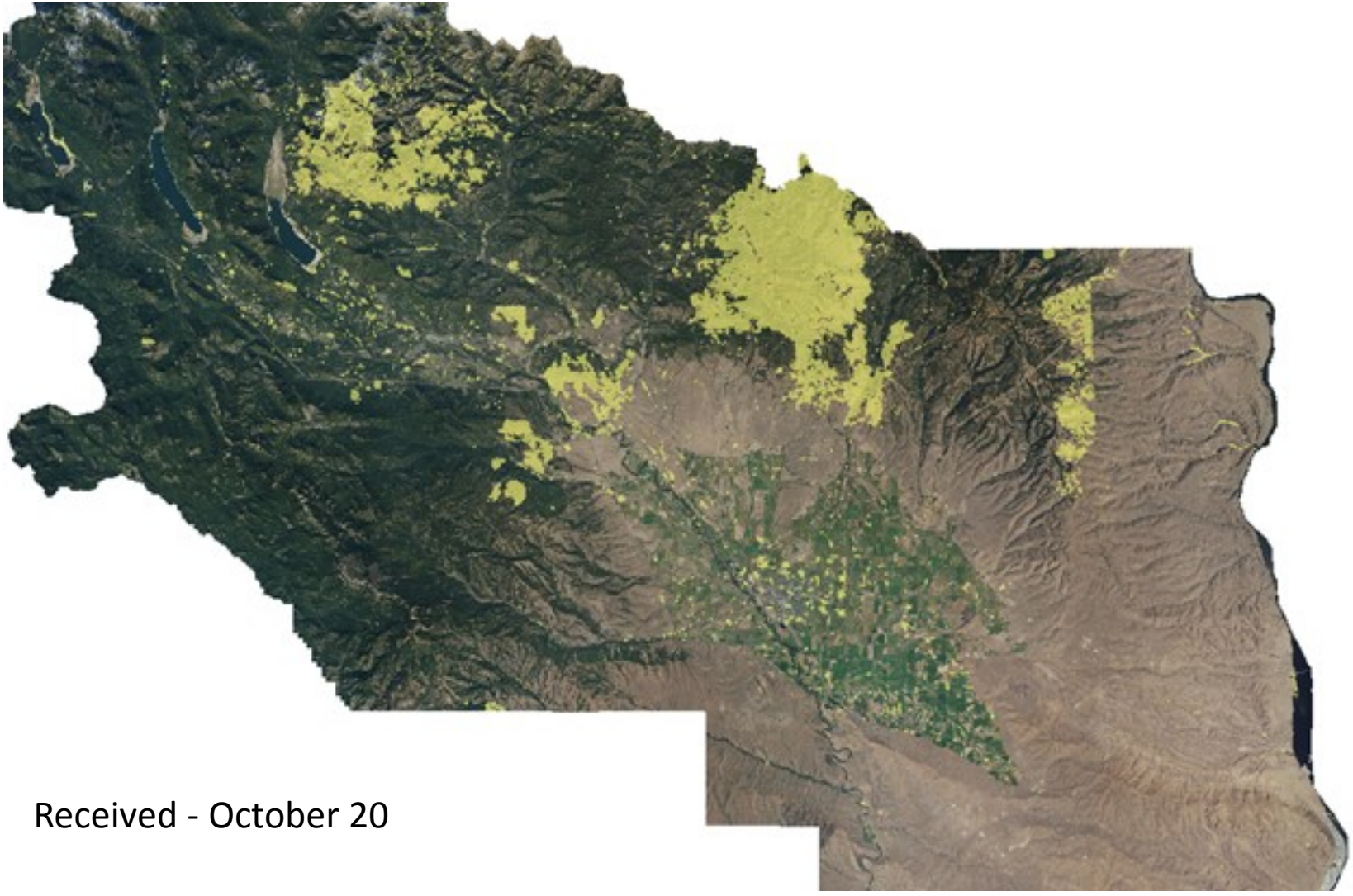
- **Habitat indicators**
- Evaluation of publicly available aerial imagery to assess critical area resource protections (primarily HCAs and **wetlands**). Imagery evaluation will include a random sampling of areas within the Work Plan's community planning areas. Analysis results will be summarized in the reporting at Community Area and County scales.
- Priority habitats and species data available WDFW will also be evaluated. Washington Department of Fish and Wildlife's **High Resolution Change Detection** program, LiDAR, or other GIS approaches for habitat assessment, if this information is made available to Kittitas County.
- Fish abundance and distribution can be monitored and track using passive integrated transponder (PIT) tag array, redd count, radio telemetry, and screw trap data. Once data are obtained, analysis will be needed to determine if agricultural activities are the cause of any identified degradations




# Wetlands

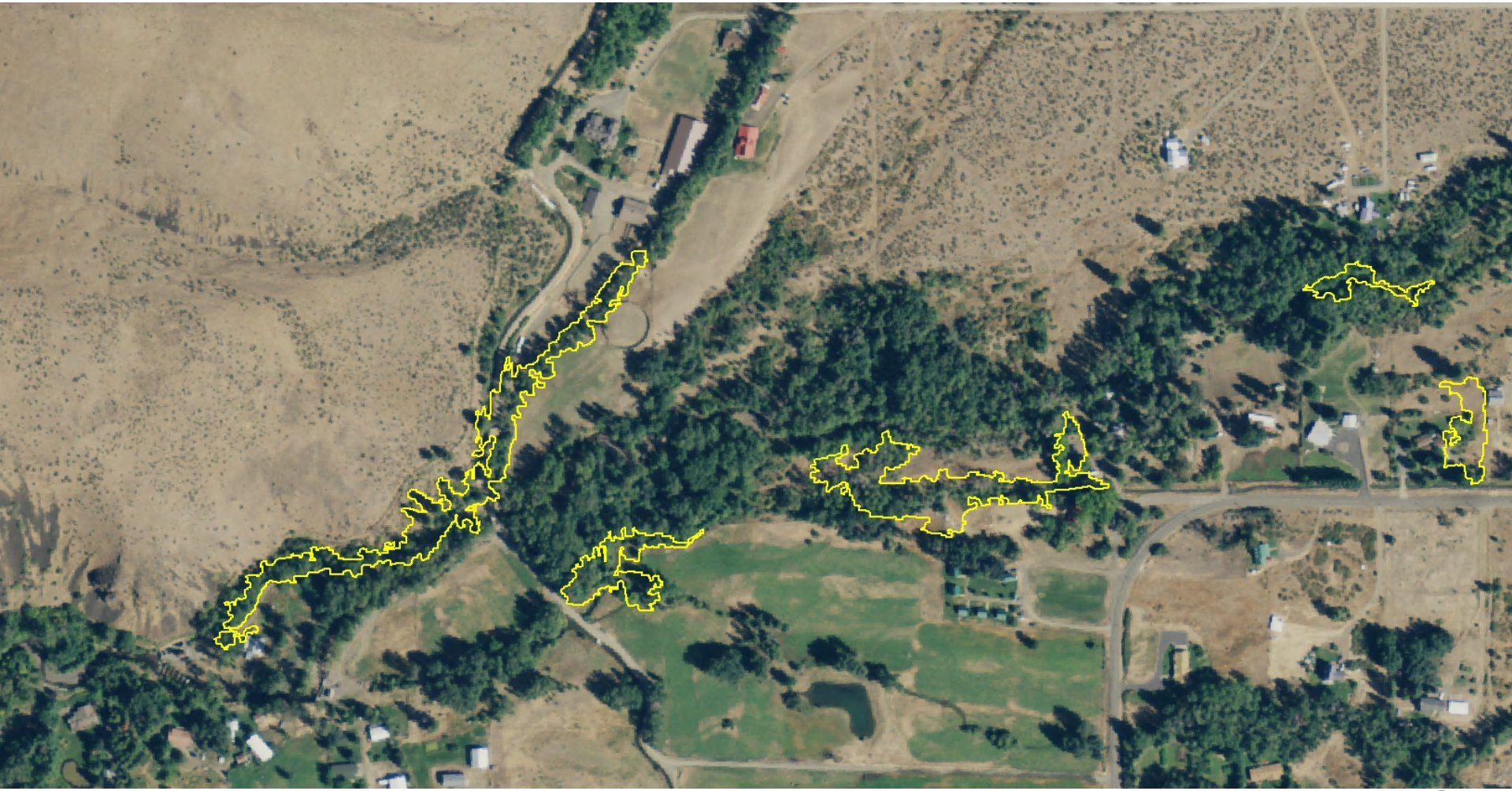
- 2017
- 1981

# High Resolution Change Detection

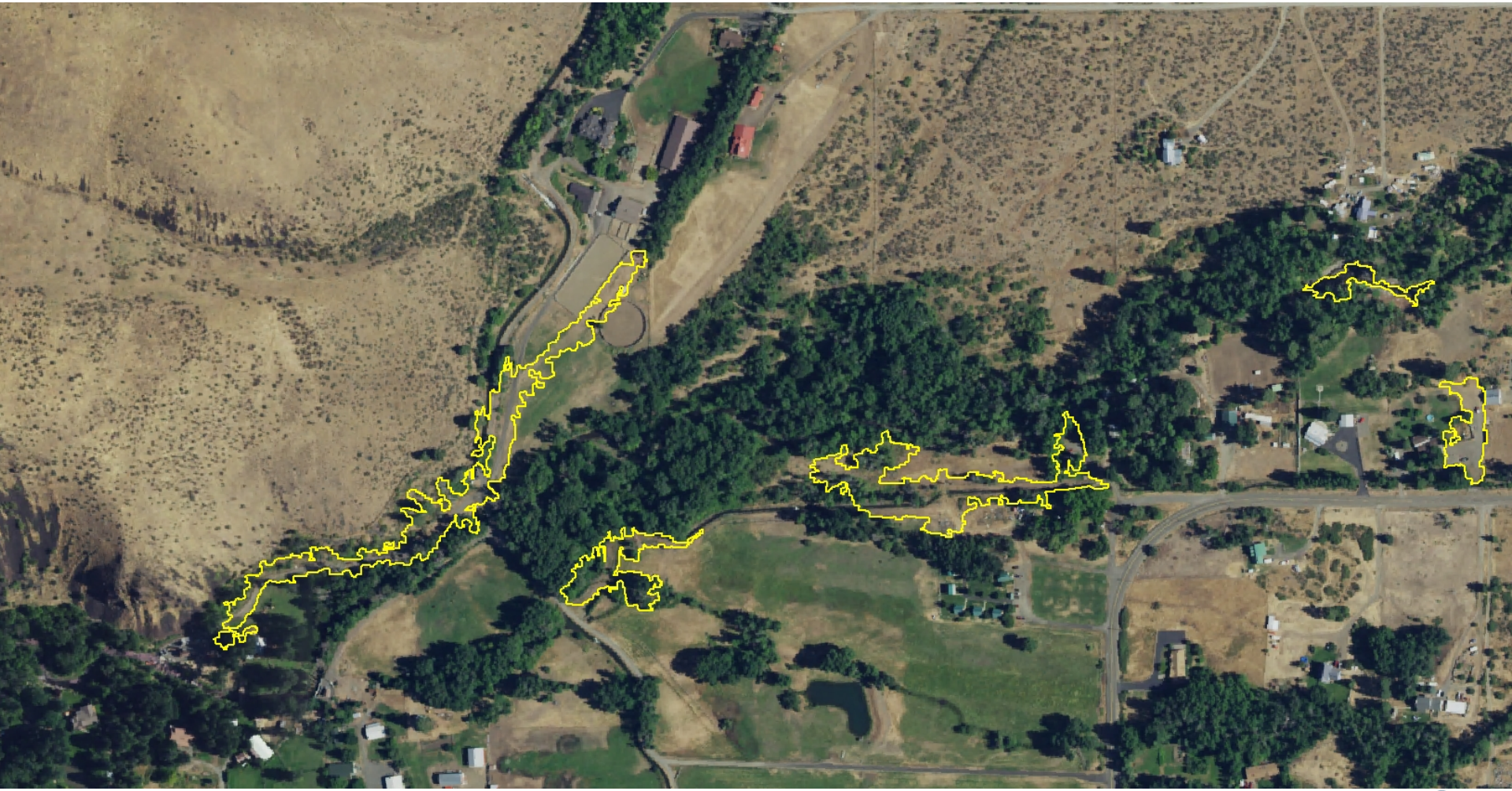


Received - October 20

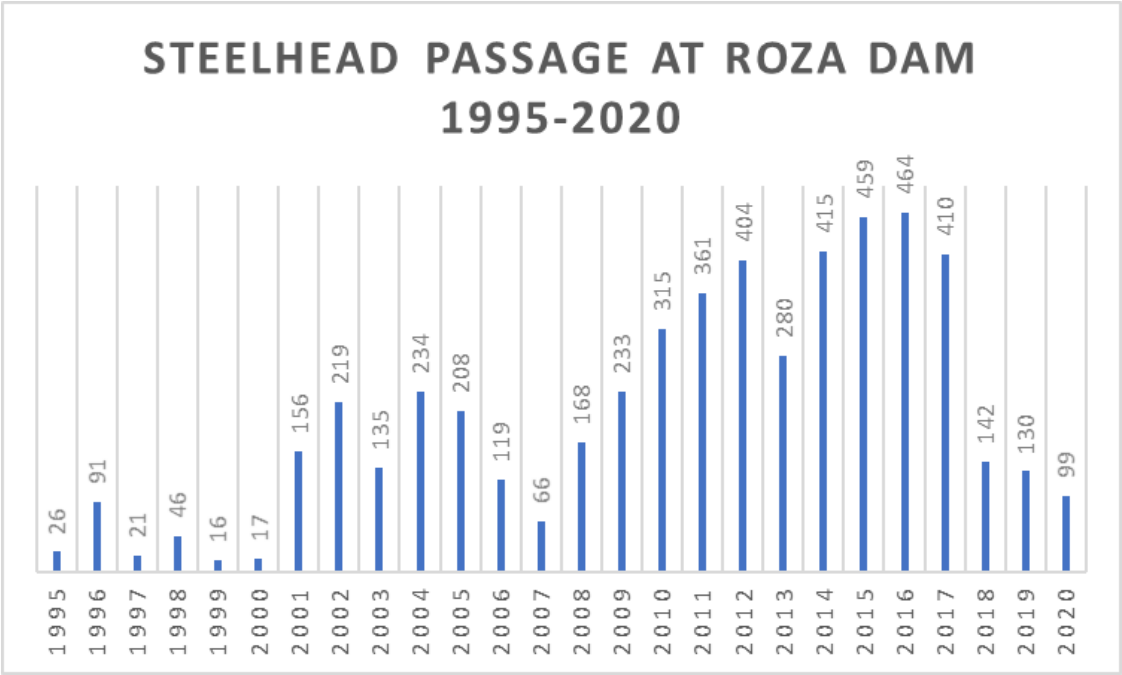
# 2011



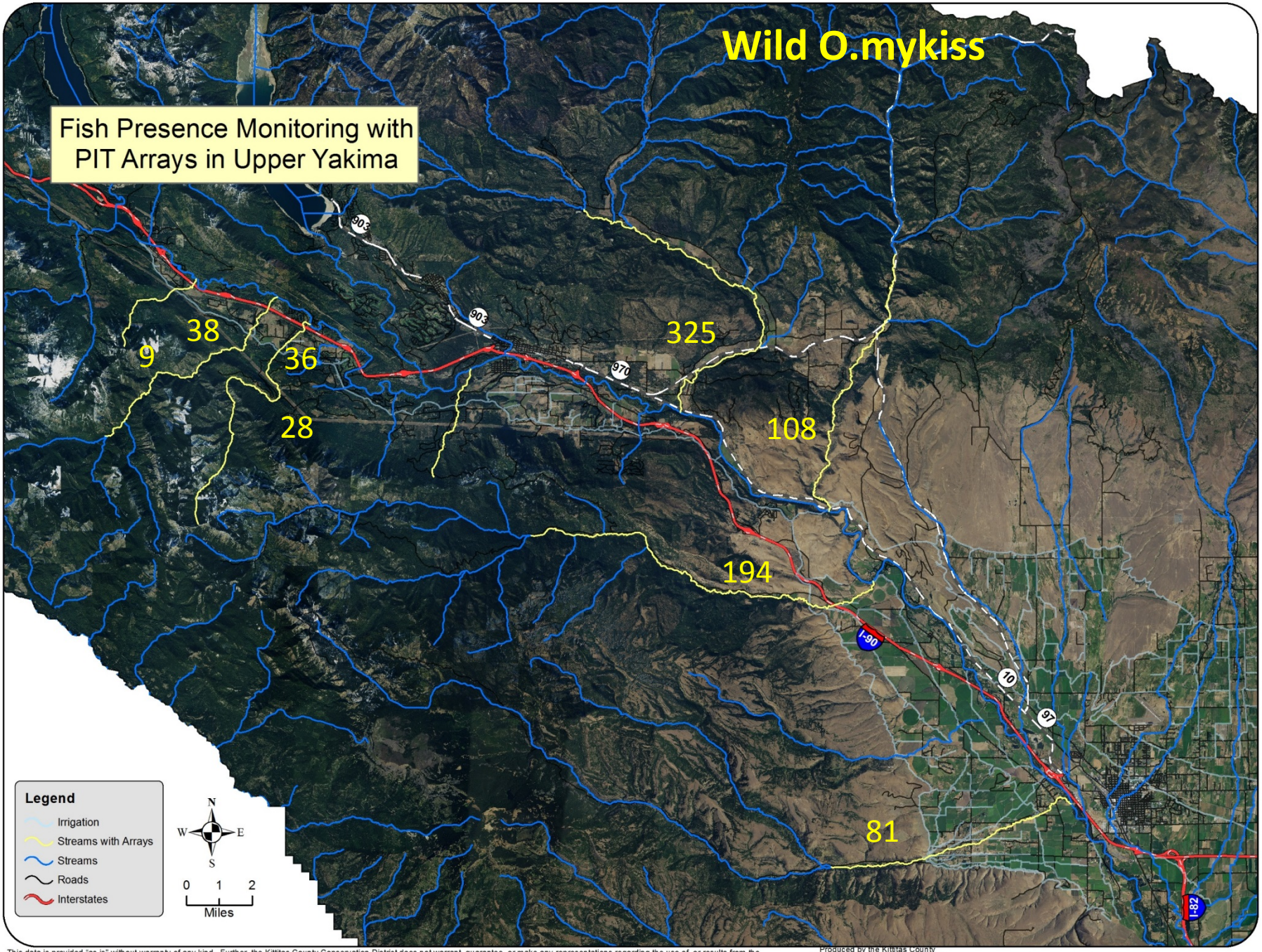
# 2017



# Fish Abundance and Distribution

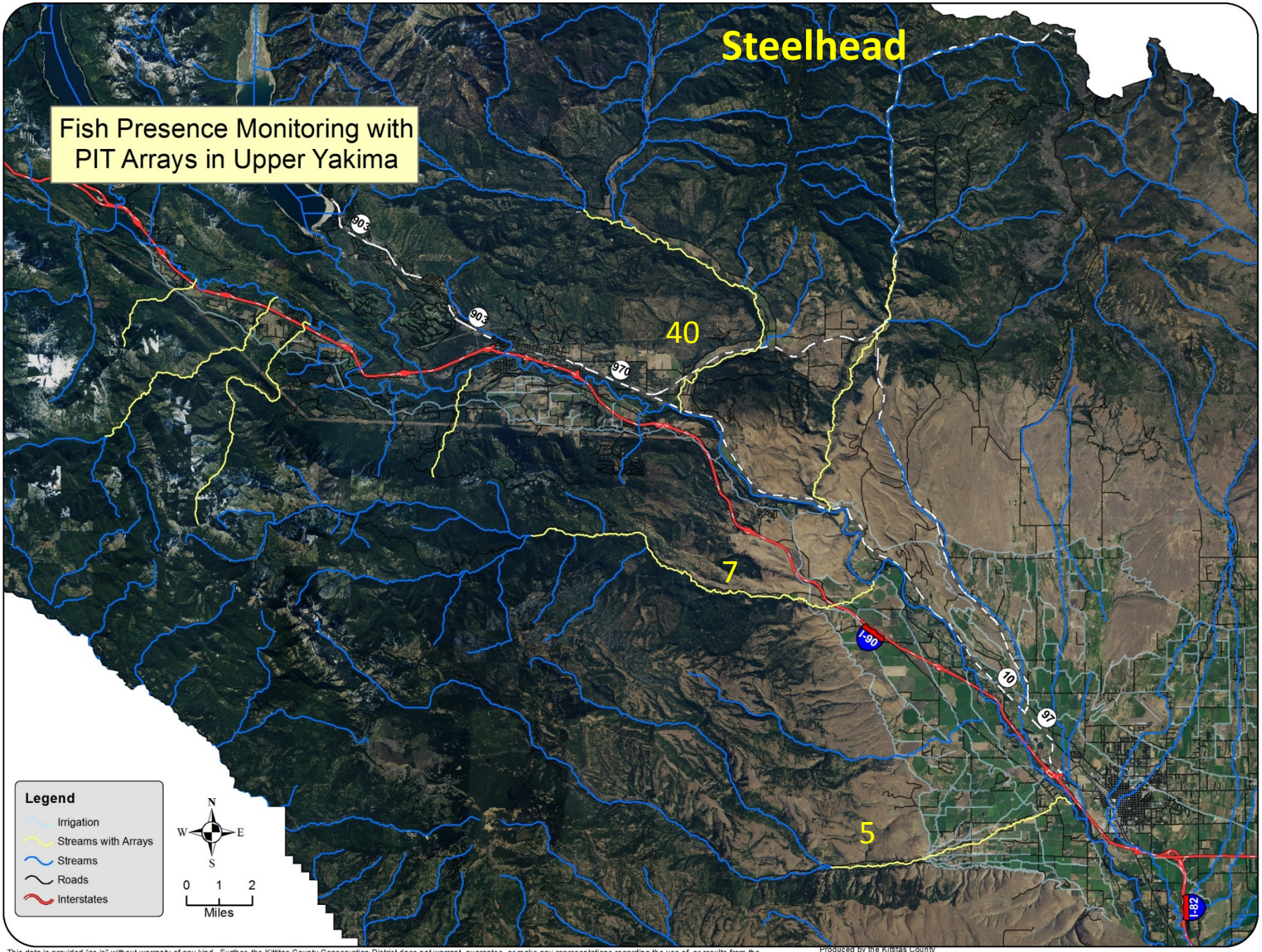



According to most recent status review for the species, additional tributary habitat restoration will be needed to achieve recovery (NMFS 2016). Cycles of increasing and decreasing abundance have generally mirrored those across the Columbia Basin and are related to a combination of drought and changing ocean conditions. The most recent downturn in adult abundance is thought to be driven primarily by marine environmental conditions and a decline in ocean productivity (NMFS 2020).



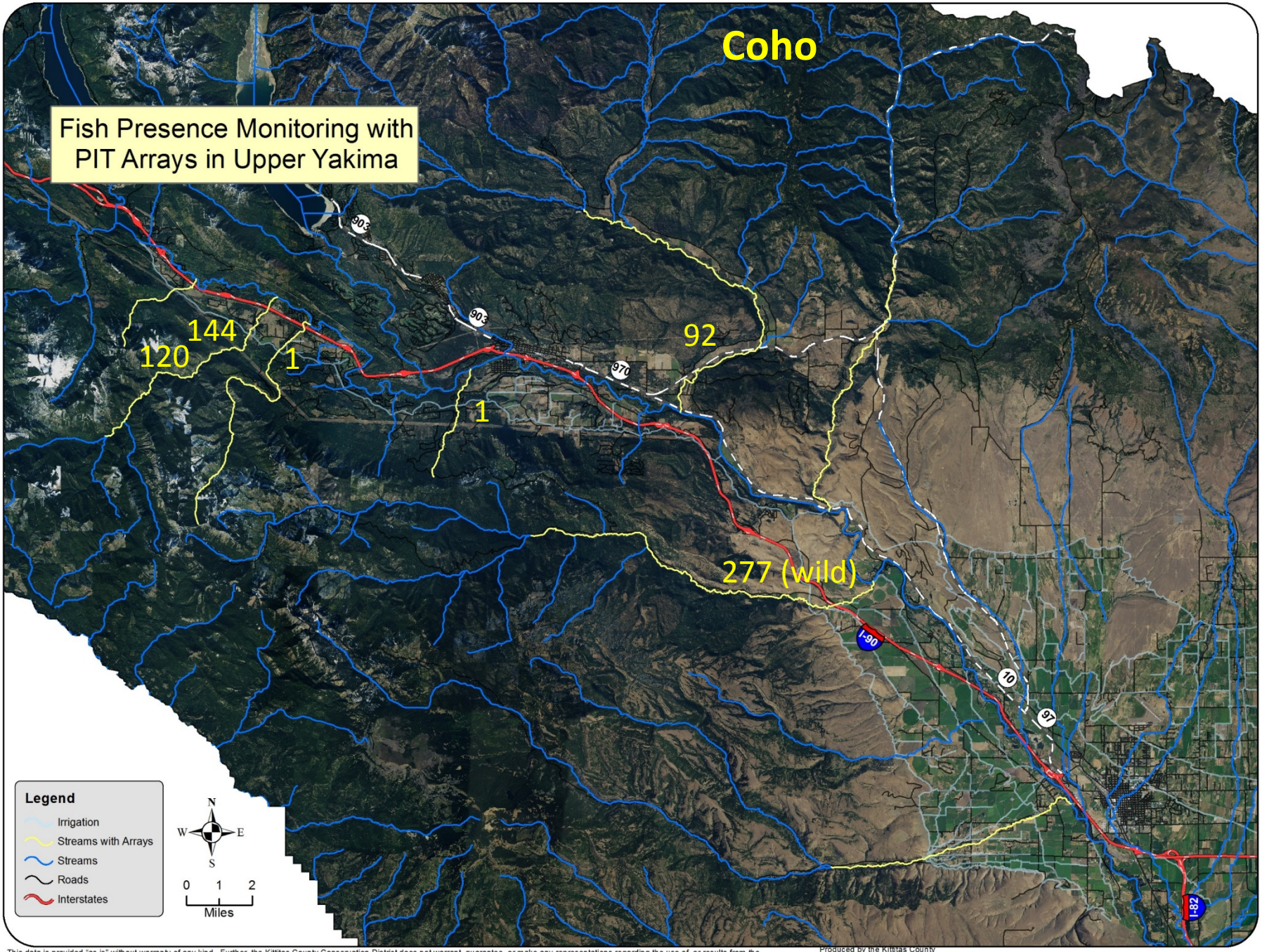



Produced by the Kittitas County Conservation District on 10/07/2019






Produced by the Kittitas County Conservation District on 10/07/2019






Produced by the Kittitas County Conservation District on 10/07/2019

# Fish Abundance and Distribution

- Coho Redd Surveys (fall 2019)
  - Preliminary Data (definite)
    - Badger Creek/Wipple Wasteway – 25
    - Cherry Creek – 6
    - Cooke Creek – 1
    - Wilson Creek – 2
    - Naneum Creek – 3
    - Taneum Creek – 7
    - Teanaway River - 1
  - Preliminary Data (possible)
    - Badger, Coleman, Cooke, Mercer, Reecer, Taneum, Wilson

# Outreach and Participation Goals

- Page 76

**Participation Goal:** Promote producer participation in voluntary stewardship of agricultural lands and critical areas to meet the protection and enhancement benchmarks and protect critical areas functions and values at a County-wide watershed level.

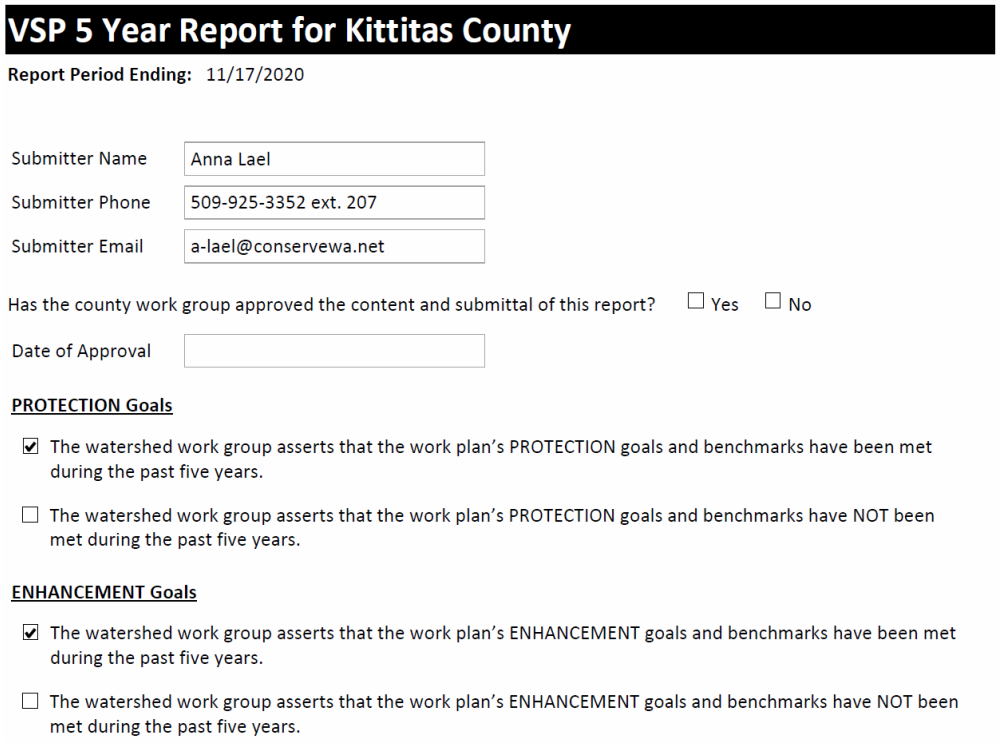
| Objectives/Benchmarks | Performance Metric/Monitoring Method | Potential Cause | Adaptive Management Action | Who Monitors | When |
|---|---|---|---|---|---|
| Sufficient active participation by commercial and non-commercial agricultural operators (farmers and ranchers) over 10 years that achieves the protection of critical area functions and values at a County-wide watershed level.[1] | • Number of acres reported in key stewardship practices<br>• Number of Self-Assessment Checklists submitted<br>• Sufficient producer participation necessary to meet protection and enhancement benchmarks | Key practice not consistent with agricultural viability | Identify alternative practices that provide similar function and are agriculturally viable | VSP Coordinator (KCCD) | Monitored every year<br>Reported during the Two-year status reports and<br>Five-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 | | |
| | | Change in agricultural practices that make key practices less applicable | Develop applicable practices that provide similar function | | |
| | | Changes in agricultural economy that make self-funded stewardship practice implementation difficult | Identify alternative funding or other incentives | | |
| Passive participation by commercial and noncommercial 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 C, Attachment 2).[2] | • Mapping and aerial photo evaluation and/or rapid watershed assessment of practices in place<br>• Random sampling of farmers and ranchers in the field by technical assistance providers with willing landowners | Decrease in passive participation in VSP | Increase outreach to producers | | |
| Technical assistance and outreach is provided to agricultural producers to encourage stewardship practices and VSP participation. | • Number of outreach and education events<br>• Number of event attendees | Decrease in either active or passive participation in VSP | Increase outreach to producers | | |

# Reporting Requirements

- Reporting Template
  - Beta release is close on August 27
  - Walk through of template on September 3
  - First download of template September 17
    (but followed by message not to enter data as changes coming)
  - First version to enter data into October 9
  - Additional changes being made - asked to pause on October 15
  - Revised versions on October 20 and 27

# Reporting Requirements

- Reporting Template



**VSP 5 Year Report for Kittitas County**

**Report Period Ending:** 11/17/2020

| | |
|---|---|
| Submitter Name | Anna Lael |
| Submitter Phone | 509-925-3352 ext. 207 |
| Submitter Email | a-lael@conservewa.net |

Has the county work group approved the content and submittal of this report? ☐ Yes ☐ No

Date of Approval

**PROTECTION Goals**

☑ The watershed work group asserts that the work plan's PROTECTION goals and benchmarks have been met during the past five years.

☐ The watershed work group asserts that the work plan's PROTECTION goals and benchmarks have NOT been met during the past five years.

**ENHANCEMENT Goals**

☑ The watershed work group asserts that the work plan's ENHANCEMENT goals and benchmarks have been met during the past five years.

☐ The watershed work group asserts that the work plan's ENHANCEMENT goals and benchmarks have NOT been met during the past five years.

# Action Register

- 5-Year Report Deadline November 17, 2020
- Watershed Group Member Terms