# Year 2019 Report
# on
# Activities to Implement

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*Washington State's Water Quality Plan*
*to Control Nonpoint Source Pollution*

**August 2020**

# Purpose of Document

This *Year 2019 Report on Activities to Implement Washington State's Water Quality Plan to Control Nonpoint Source Pollution* is intended to meet the requirements of section 319 (h) (8) and (11) of the Federal Clean Water Act (CWA) (33 USC 1329). The report documents the activities and accomplishments of the State of Washington in achieving clean water, and the Department of Ecology's (Ecology) administration of the State's Nonpoint Source (NPS) Pollution Program. As described herein, Washington is making significant progress toward meeting the substantial on-the-ground and policy challenges presented by nonpoint water pollution.

# Chapter 1:
# The Path towards Clean Water

Nonpoint source (NPS) pollution in our waterways is the greatest water quality challenge facing Washington State today. Ecology's NPS strategy focuses on multiple different implementation paths to achieve clean water. However, no matter the approach, we continually strive for greater regulatory clarity and a comprehensive strategy that uses all available tools to control and prevent nonpoint sources of pollution and achieve compliance with water quality standards.

Ecology's efforts to manage NPS pollution are underlain by a foundation of strategic policies intended to foster and guide water quality protection efforts. Accordingly, this report highlights some of the policy level advances in our continual effort to map out the nonpoint source regulatory landscape, and subsequently navigate toward a more effective statewide nonpoint source program.

Ecology's nonpoint strategy focuses on promoting the implementation of effective best management practices (BMPs) that support compliance with the water quality standards and prevent pollution discharge. The primary tools Ecology uses to facilitate and guide on the ground implementation are:

- TMDLs and associated implementation plans
- TMDL alternatives (i.e. a watershed-based implementation plan)
- Straight to Implementation (STI) projects
- Ecology's Grant and Loan program and associated funding guidelines.

Additionally, Ecology also takes advantage of other opportunities and in order to achieve on-the-ground implementation when harmonizing social, financial, and technical resource conditions arise in a watershed. Current examples of this include the Clean Samish Initiative and the Whatcom County Clean Water Program. In both cases, we are building on the momentum of concern over shellfish bed closures to promote on the ground implementation of clean water BMPs. Likewise, Ecology's continued support of local Pollution Identification and Correction (PIC) programs will target watersheds in the Puget Sound area where a local entity has taken a key role in identifying pollution concerns and addressing pathogen and nutrient pollution from a variety of nonpoint sources, including on-site sewage systems, farm animals, pets, sewage from boats, and stormwater runoff.

This report also details the significant federal and state water quality protection investments made through our combined funding program. The grants and loans administered by this program are essential for advancing efforts to control NPS pollution. By facilitating the widespread implementation of effective BMPs, such as improved agricultural practices and riparian area restoration, this program is helping to create a paradigm shift in which NPS pollution control is viewed as important and customary by all contributing sectors.

Appendix B of this report lists the status of nonpoint related programmatic activities and measures outlined in Ecology's 2020 - 2021 Performance Partnership Agreement with EPA. The

status updates in this appendix (an excerpt from Ecology's PPA annual report to EPA for 2019) shows that Ecology is abiding by its commitments in the PPA. Appendix E of this report contains Ecology's 319 work plan for federal fiscal years 2019 and 2020. This work plan illustrates the large body of nonpoint related work that Ecology staff are successfully undertaking at this time.

Finally, one of Ecology's key nonpoint initiatives identified in the 2015 NPS plan is the development of Voluntary Clean Water Guidance for Agriculture. This guidance will identify BMPs that prevent water pollution and support the achievement of water quality standards in surface waters flowing through agricultural lands. Ecology anticipates that the first set of BMP guidance will be completed by June 30, 2022. This is two years later than the milestone date identified in the 2015 NPS Plan.

The guidance will underpin several areas of our nonpoint work. We will use to the guidance to update our nonpoint source pollution funding program guidelines, inform water quality cleanup plans, provide technical assistance, and to assist in our education and outreach efforts. We will recommend producers use the guidance during the farm planning process and when producers are identifying BMPs to implement on their land. Conservation districts can use the guidance to support recommendations to landowners and when developing water quality protection projects. It will also serve as a tool for developing education and outreach materials.

Incorporation of the BMP guidance represents the most significant update that we anticipate for the next iteration of the plan. Therefore, Ecology has requested that EPA extend the deadline for the final NPS plan submittal until December 31, 2022 so that the next update will include the first set of agricultural BMP guidance. Updates to the plan will focus mainly on the incorporation of agricultural BMP guidance. The draft plan will be made available for a public review and comment period during the summer of 2022. Ecology will then prepare a response to comments during the fall of 2022 prior to submitting the final plan to EPA in December 2022. Ecology has proposed that the current NPS plan remain in effect until EPA approves the updated NPS Plan. To that end, Ecology has updated Table 8 from the current nonpoint plan by creating proposed interim milestones and has included this table as Appendix A of the 2019 annual report. During this interim period, Ecology will measure progress against the goals and milestones through the Performance Partnership Agreement and associated semi-annual reports, the 319 annual report, biannual work plans and semi-annual reports for staff funded through 319 monies, and the GRTS reporting database. If additional information is needed regarding how Ecology will continue to implement the current nonpoint plan during the interim period, we will provide that information upon request.

# Chapter 2: How EPA's 2019 319 Grant to Washington State was Distributed

The first federal fiscal year (FFY) 2019 Section 319 allocation was applied towards SFY2020, and was again distributed among three major work plan elements within Ecology as in SFY2019.

## 2.1 Local Grant and Loan Funding

Money was allocated and disbursed under the current water quality financial assistance program as competitive grants to local governments, tribes, special purpose districts, and nonprofit groups during this last year. The application process for the Centennial Clean Water Fund, SRF, and 319 funding cycle is administered by the Financial Management Section of the Water Quality Program. Applicants requesting grants and loans for nonpoint projects are implementing activities in accordance with the Washington State Nonpoint Plan. EPA awarded $3,051,000 as the initial annual increment to this grant. Watershed projects were allocated $1,661,550 for pass through to nonpoint projects. The Water Quality Combined Funding Program SFY 2020 Final Offer List was published on June 28th, 2019. Overall, Ecology awarded a total of 32 nonpoint projects, of those 8 received 319 funds during SFY2020 for a total obligation of $1,635,124. The remaining $26,426 will be applied (liquidated) in support of four Buffer Incentive projects (see below: National Marine Fisheries Service (NMFS) Riparian Buffer Requirements) in the amount of $55,675. The total obligation is $1,690,799 for an over obligation of $29,249. This over obligation facilitates early project development and implementation and is a safe investment because it falls well below the historical sub project de-obligation amounts within five-year 319 Grants. The state Centennial fund provides backing to fulfill the over-obligation if de-obligations are less than anticipated.

## 2.2 Direct Implementation Fund

The Direct Implementation Fund (DIF) is designed to assist Ecology's regional offices to directly address priority nonpoint problems. The DIF program uses unspent/de-obligated dollars from competitive projects to implement on-the-ground practices that will provide a direct and demonstrable water quality benefit by addressing an acute pollution problem at a specific site. Examples include planting riparian buffers, installing livestock exclusion fencing, and waste storage facilities to remove livestock (and associated pollution) from surface waters.

Projects may be proposed for DIF by an Ecology regional office at any time. The project will go through a review process and, if approved, be placed in a queue for when funds are available. If funds become available without projects in the queue, the 319 coordinator may

notify all regional offices to solicit proposals. To qualify, the project must address: (1) Identified sources of nonpoint pollution causing the most significant harm to water quality; (2) Water bodies that are identified as not meeting water quality standards and/or have a strategic implementation plan (such as a completed TMDL, straight to implementation (STI) or other alternative watershed plan).; (3) An actual ability to fix the problem (i.e. can implement the desired change and are ready to proceed and reach completion). (4) All criteria established in the DIF funding guidelines (updated SFY2019). Ecology works closely with local partner organizations to facilitate implementation, leveraging both DIF and competitive grant programs.

## 2.3 Water Quality's Nonpoint Program Support

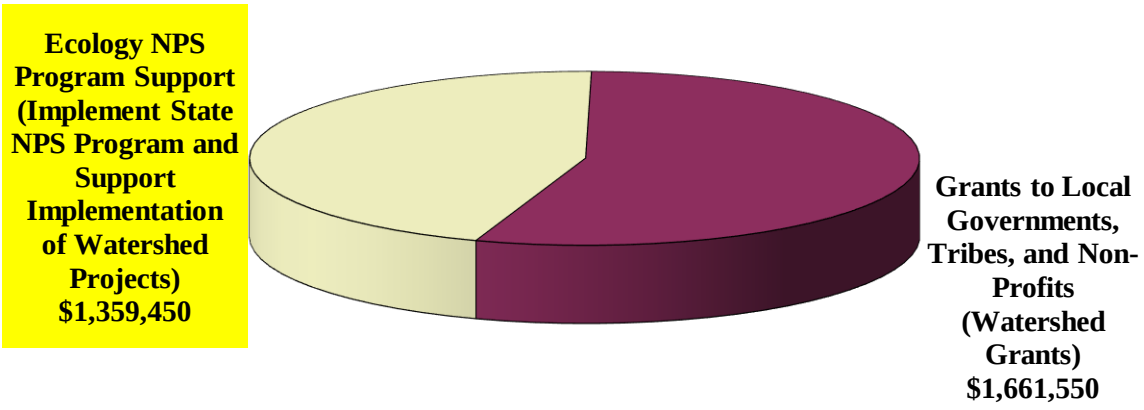
Ecology funded 9.70 staff FTEs in SFY2020 that support the state's nonpoint program with policy development, technical assistance, and project implementation oversight.

Overall, federal allocations were:

SFY 20 Allocation: $3,021,000

**Total EPA: $3,021,000**

**Figure 2.1 - 319 Federal Allocations SFY 2020**




The above figure shows the distribution of the federal allocation in SFY2020 (FFY19). Ecology applied 40 percent state matching funds using State Clean Water Fund dollars. Eight nonpoint projects were funded with federal 319 dollars, and nine state funded nonpoint projects were selected as match, for a total of seventeen projects to fulfill the program.

### 2.3.1 Water Quality Program Support Projects - (9.70 FTE @ $1,359,450)

1. **Nonpoint Policy and Plan Coordination (1.85 FTE)**

   Ecology is responsible for overseeing and coordinating overall nonpoint plan implementation activities. Part of that role entails management, monitoring overall status, compiling progress reports and reporting back to EPA, taking the lead in coordinating with other Ecology programs, facilitating inter-state agency work, implementing activities that have statewide applicability, and performing technical outreach about the plan with local governments, tribes, and special purpose districts. In addition, Ecology is responsible for statewide nonpoint policy and planning.

   Estimated cost of this work plan component – **$287,828.**

2. **Financial Administration (.95 FTE)**

   Staff of the Water Quality Program's Financial Management Section administer and manage all Section 319 grant funds and match funds passed through to local government entities, Indian tribes, and public not-for-profit groups. Staff ensures that funds are allocated to highest priority projects and are spent in a fiscally responsible manner. Staff also closely tracks projects tasks and data from initiation to completion.

   Estimated cost of this work plan component – **$120,382.**

3. **TMDL Nonpoint Education and Outreach- (.50 FTE)**

   Ecology initiates an education and outreach effort as part of every TMDL. The purpose is to ensure that people understand why we are doing a TMDL, what their responsibilities are likely to be, and how they can participate. A successful public process makes TMDL implementation more likely and more effective.

   Estimated cost of this work plan component – **$65,153.**

4. **TMDL Development and Implementation (1.20 FTEs)**

   The primary job of a TMDL lead is managing the development of the TMDL and supporting documents for successful submission to and approval by EPA. This element includes knowledge of TMDL concepts and procedures, and the ability to work effectively with diverse groups within and outside Ecology. Other products required from this work element include development of an implementation strategy (IS) to go along with the TMDL, a summary of public involvement, and a water quality (detailed) implementation plan (WQIP). Once these procedures are documented, the TMDL lead coordinates and initiates implementation activities to meet the allocations set in the TMDL. In some cases, the TMDL lead also manages local implementation grants.

Estimated cost of this work plan component – **$156,368.**

**5. Nonpoint Technical Assistance and Compliance (2.40 FTEs)**

The purpose of this work plan element is to provide technical assistance to landowners, as well as federal, state and local agencies, tribes, forests, and special purpose districts to ensure their activities, projects, and programs meet state water quality laws, regulations, and standards. Areas of technical assistance include forest practices, agricultural activities, riparian restoration, complaint management, inspections, and nonpoint source enforcement. This work plan element will apply in watersheds that implement nonpoint TMDLs, or in watersheds with plans that focus on protection of threatened waters or implementation activities to clean up waters.

Estimated cost of this work plan component – **$328,681.**

**6. TMDL and Effectiveness Monitoring (2.80 FTEs)**

This part of the plan designs and conducts monitoring studies to determine the effectiveness of nonpoint source management programs. Effectiveness monitoring, and ground water monitoring capture the success or failure of various voluntary and regulatory efforts. In addition, we will measure the effectiveness of specific implementation activities. Post TMDL monitoring is also conducted to verify that the pollutant controls result in the water body improving or meeting water quality standards. It tests the effectiveness of the implementation management programs/plans.

Estimated cost of this work plan component – **$401,038.**

Appendix E of this report summarizes the specific nonpoint related projects and tasks undertaken by Ecology staff funded by Section 319 dollars as part of the 319 Program 2019-2020 work plan**.**

## 2.4 Ecology's Integrated Grant and Loan Program

Ecology's Water Quality Combined Funding Program administers four major funding sources that provide grants and low-interest loans for projects to protect and improve water quality in Washington State. Ecology acts in partnership with local governments, special purpose districts, nonprofits (Section 319 only), and Indian tribes, by providing financial and administrative support for their water quality efforts. Ecology manages the four fund sources as one with common guidelines, one funding cycle, application form, and offer list.

### The Centennial Clean Water Fund (CCWF)

CCWF provides state sourced grants and low interest loans to fund activities to reduce nonpoint source pollution. In the SFY2020 funding cycle, a total of twenty-three projects, $5,485,880, were funded to control nonpoint sources of pollution, or to restore habitats affected by land uses that exacerbate nonpoint pollution problems.

### Section 319

Federal 319 grants provide funds to reduce nonpoint sources of water pollution. In the SFY2020 funding cycle, eight projects were funded with 319 funds for a total of $1,635,124 obligated from a total allocation of $1,661,550. The remaining $26,426 was applied to support four projects selected to receive our buffer incentive.

In summary thirty-one projects were funded with the combined resources of Centennial and federal 319 dollars this year. Ecology also administers two other grant and loan funding sources that contribute to reductions in nonpoint source pollution. Nine of these were selected to fulfill the state match to the federal 319 dollars, for a SFY2020 match dollar amount of $2,014,000. The total two-year projected match amount is $4,028.000 (to be adjusted based on the new increased SFY2021 award).

### The State Revolving Fund (SRF)

SRF provides low-interest loans for treatment facilities and for activities to reduce nonpoint sources of water pollution. The Green Project Reserves (GPR) with the possibility of forgivable principal normally boosts the number of SRF applications for nonpoint source activities and projects. In the SFY2020 funding cycle, one project was funded to control nonpoint pollution. The total obligation to date is $3,300,000 awarded to the city of Ilwaco for the Indian Creek Source Watershed Protection Plan.

### Stormwater Financial Assistance Program (SFAP)

The SFAP is designed to fund stormwater projects and activities that have been proven effective at reducing environmental degradation from stormwater, and go above-and-beyond permit requirements. Stormwater facilities and a limited suite of stormwater activities may be funded through SFAP. SFAP-eligible facility projects must reduce stormwater pollution from existing development, and will be reviewed by Ecology to ensure compliance with Ecology's design standards. In the SFY 2020 funding cycle, Thirty- Nine projects were funded with $33,000,000 in SFAP funds.

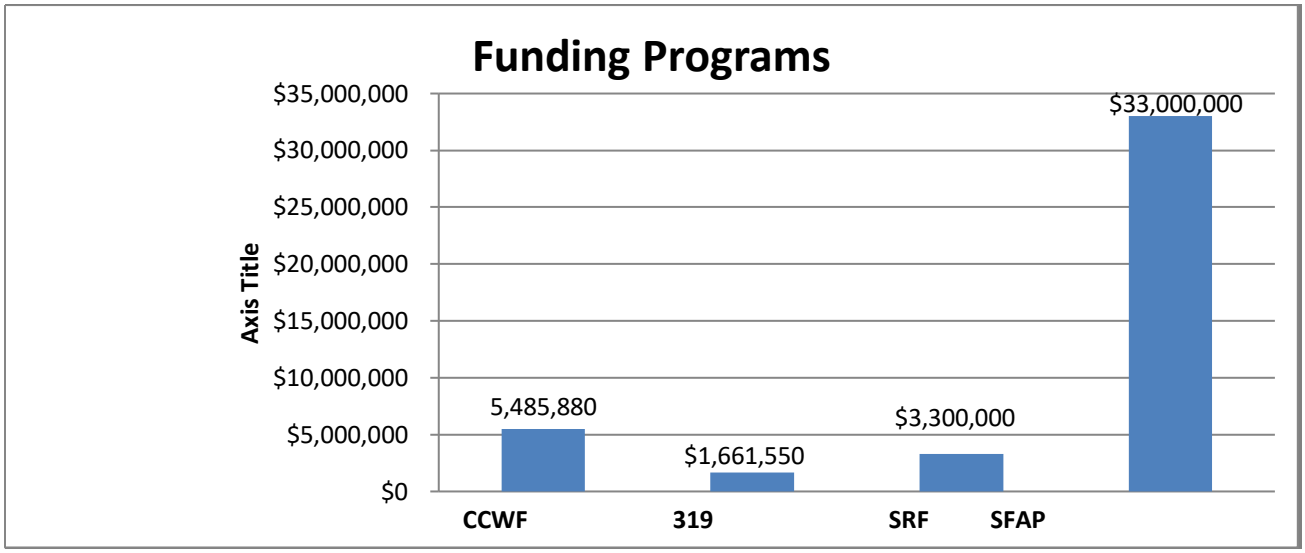
## National Marine Fisheries Service (NMFS) Riparian Buffer Requirements

The new buffer requirements initially caused a negative reaction among applicants for 319 project funding in SFY15. As an incentive to apply, Ecology offered 100 percent grant funding to implement the wider NMFS riparian buffer requirements. The incentive provided funding to pay full costs for the buffer implementation tasks in applications which ranked highest during the evaluation process. This incentive was intended to cover the 25 percent recipient match requirement to support site-specific planning, design, and implementation of riparian buffer planting projects, and associated livestock exclusion fencing only. All other BMPs and task activities were to be reimbursed at the normal 75 percent grant share with a 25 percent match required on the project level. In SFY2020 a total of $55,675 was made available for buffer incentive.

## Delayed Capital Budget

The Washington State Capital Budget delay of 2017 affected Ecology's activities in 2019 because it pushed back the negotiations of SFY2018 agreements. This meant that SFY2018 agreement negotiations occurred when SFY2019 agreement negotiations should have started, and so many SFY 2019 agreements were finalized in spring of 2019, rather than the usual timing in winter. The effective and expiration dates of these agreements are more broadly disbursed than normal. One nonpoint agreement for a land acquisition, funded by CWSRF, was further delayed because the original property was sold during the budget delay. This high priority project was on hold throughout 2019 to allow additional time for the sub-recipient to identify an equivalent opportunity to purchase land in the same watershed.

## 2.4.1 Total Washington State SFY2020 Grant and Loan Funds Awarded for Nonpoint Source Watershed Projects




*Total Washington State Grants and Loans*

Project descriptions for all fund sources follow on the next pages.

## 2.4.2 Nonpoint Water Quality Grants and Loans Awarded in SFY2020

| Application Number | Centennial Grant | Section 319 Grant | 319 Buffer Incentive | CWSRF Loan | Organization Name | Project Title | Short Description |
|---|---|---|---|---|---|---|---|
| **WQC-2020-Adopta-00032** | $0 | $135,521 | | $0 | Adopt A Stream Foundation | Allen - Grace Confluence: A Riparian Reforestation Project | Allen Creek is a salmon-bearing stream that is not meeting state water quality standards. AASF proposes to restore 4.2 acres of native vegetation along Allen Creek at its confluence with Grace Creek in Marysville, WA. AASF will remove invasive vegetation, install LWD, and plant native riparian trees to create 1,100 linear feet of restored forested buffer area. These restored buffers will improve water quality in a basin with existing TMDLs for low dissolved oxygen and high bacteria. |
| **WQC-2020-Adopta-00176** | $0 | $73,919 | | $0 | Adopt A Stream Foundation | Sammamish River Restoration at Swamp Creek | The Adopt A Stream Foundation (AASF) proposes to restore 4.75-acres of riparian vegetation along 900 feet of the Sammamish River in Kenmore, WA. Funds will be used to expanding the recently planted 2.5-acre riparian buffer installed by AASF in 2018-19 by an additional 2.25 acres and for the continued maintenance of the entire 4.75-acre site. The Sammamish River, a major tributary to Lake Washington, exceeds state water quality standards for temperature, dissolved oxygen, pH and bacteria. |

| Application Number | Centennial Grant | Section 319 Grant | 319 Buffer Incentive | CWSRF Loan | Organization Name | Project Title | Short Description |
|---|---|---|---|---|---|---|---|
| **WQC-2020-BellPW-00161** | $500,000 | $0 | | $0 | Bellingham city of - Public Works Department | Little Squalicum Estuary Water Quality Improvements | The project improves water quality in lower Little Squalicum Creek and nearshore Bellingham Bay by restoring an estuary in Little Squalicum Park on the perimeter of the City of Bellingham. The project area contains rare ecological features in an otherwise urban landscape surrounded by commercial, industrial, residential, and institutional land uses. The vegetated saltmarsh and riparian plantings will provide thermal protection and surface water filtration for freshwater and marine inputs. |
| **WQC-2020-BentCD-00080** | $162,000 | $0 | | $0 | Benton Conservation District | Groundwater Nitrate Contamination Focus Area: Badger Coulee, Benton County | This project will implement recommendations from the Benton County Groundwater Nitrate Community Action Plan (WQC-2-15-BentCD-00102) by focusing on Badger Coulee. Groundwater in this area is the primary source of drinking water for residents, yet it fails to meet safe drinking water standards. Technical assistance, water quality monitoring, and public health education will recruit additional landowners for future BMP implementation to protect groundwater quality from nitrate contamination. |
| **WQC-2020-CascCD-00033** | $244,725 | $0 | $14,264.63 | $0 | Cascadia Conservation District | Wenatchee Watershed Restoration and Clean Water Program | This project will reduce non-point source pollution within the WRIA 45 watershed by implementing a large scale riparian restoration plan, using a community clean water outreach and education |

| Application Number | Centennial Grant | Section 319 Grant | 319 Buffer Incentive | CWSRF Loan | Organization Name | Project Title | Short Description |
|---|---|---|---|---|---|---|---|
| | | | | | | | campaign, and providing technical assistance to landowners to take steps to reduce non-point source pollution and practice good stewardship. All portions of the project are consistent with actions recommended in locally developed TMDL water quality improvement reports and associated management plans. |
| **WQC-2020-ChCoNR-00132** | $100,874 | $0 | | $0 | Chelan County - Natural Resource Department | Lower Icicle Sediment Reduction and Riparian Restoration Project Phase 1 | The WICO property on Lower Icicle Creek has 700+ linear feet of denuded bank that is rapidly eroding and contributing large sediment inputs to the Icicle and Wenatchee Rivers. The property also flanks a side channel with high potential for floodplain restoration. This project consists of design and permitting for bank stabilization and riparian planting, conceptual design for side channel improvement on the WICO property, and project development on additional Icicle riverfront properties. |
| **WQC-2020-ChCoNR-00135** | $99,431 | $0 | | $0 | Chelan County - Natural Resource Department | Chumstick Watershed Riparian Restoration | This project is a multi-phased approach to addresses Category 4 temperature, DO and bacteria listings in the Chumstick Watershed. Tasks include site prep and riparian planting of 5 projects totaling 3.51 acres, site maintenance and monitoring following an established QAPP, outreach involving high school students from skill-based learning programs, and landowner outreach and |

| Application Number | Centennial Grant | Section 319 Grant | 319 Buffer Incentive | CWSRF Loan | Organization Name | Project Title | Short Description |
|---|---|---|---|---|---|---|---|
| | | | | | | | planning of new riparian projects. Our goal is to continue to work with Ecology to achieve our shared water cleanup goals. |
| **WQC-2020-ClaPUD-00160** | $250,000 | $0 | | $0 | Clark Public Utility District | McCormick Creek Restoration Project | The McCormick Creek Restoration Project will address multiple documented water quality impairments by re-establishing native vegetation in riparian corridors; removal and eradication of non-native invasive species, stabilizing stream bank. Large woody debris will be installed in the channel for structure and improve summer flows by reconnecting the stream with the floodplain improving storage during winter flooding and summer base flows in the summer. |
| **WQC-2020-ClCHHS-00011** | $180,000 | $0 | | $0 | Clallam County - Health and Human Services | Sequim Bay-Dungeness Watershed Pollution Identification and Correction | Sequim Bay-Dungeness Watershed Pollution Identification and Correction decreases bacteria entering marine waters from upland sources by investigating and correcting non-point pollution sources. Improved water quality should decrease adverse human health impacts and increase commercial and recreational shellfish harvest opportunities. Specifically, this project helps restore access to "downgraded" shellfish growing area in Dungeness Bay. |
| **WQC-2020-EKliCD-00018** | $249,986 | $0 | | $0 | Eastern Klickitat | WRIA 31 Implementation, | The WRIA 31 watershed has eight streams listed on the 303(d) list for elevated water temperatures. If funded, |

| Application Number | Centennial Grant | Section 319 Grant | 319 Buffer Incentive | CWSRF Loan | Organization Name | Project Title | Short Description |
|---|---|---|---|---|---|---|---|
| | | | | | Conservation District | Planning, and Monitoring | EKCD will provide technical assistance, planning, design, implement stream and wetland restoration projects and continue EKCD's 18-year baseline record of water quality monitoring. EKCD will conduct this work in accordance to the WRIA 31 Water Quality Maintenance and Monitoring Program in order to advance the programs goals as lined out by Klickitat County and DOE. |
| **WQC-2020-FoCrCD-00181** | $250,000 | $0 | | $0 | Foster Creek Conservation District | East Foster Creek Restoration to Improve Water Quality: Phase 2 | FCCD will continue to implement a multi-phased restoration effort spanning three large, connected properties in East Foster Creek to address temperature, pH and dissolved oxygen impairments. This project will: implement riparian buffer enhancement and instream restoration, complete planning for Phase 3 restoration efforts, monitor and maintain Phase 1 restoration efforts, implement a water quality technical assistance, education and outreach program, and conduct water quality monitoring. |
| **WQC-2020-GrHaCD-00074** | $208,500 | $0 | | $0 | Grays Harbor Conservation District | Restoration-based Water Quality Enhancement Strategy for Satsop/Wynoochee | This project will create a Restoration Strategy targeting water quality enhancement in the Satsop/Wynoochee Rivers. It will result in 1) analytical tools to identify and prioritize stream reaches where restoration-based approaches are predicted to improve water quality, and 2) specific prescriptions of reach-scale, |

| Application Number | Centennial Grant | Section 319 Grant | 319 Buffer Incentive | CWSRF Loan | Organization Name | Project Title | Short Description |
|---|---|---|---|---|---|---|---|
| | | | | | | | in-stream restoration techniques that will enhance temperature, sediment, and DO conditions. One reach-scale pilot project will be implemented to demonstrate Strategy effectiveness. |
| **WQC-2020-Ilwaco-00220** | $0 | $0 | | $3,300,000 | Ilwaco city of | Indian Creek Source Watershed Protection Plan | The goal of this project is to ensure the near term and future stability and productivity of the drinking water source for the City of Ilwaco, WA through the acquisition of land and timber rights and the development of a forest management plan for all timber within the Indian Creek source watershed. |
| **WQC-2020-JeCoPH-00036** | $374,308 | $0 | | $0 | Jefferson County Public Health | Jefferson County Foundational Monitoring & PIC | Jefferson County Public Health will implement a Foundational Monitoring program for the county Clean Water District utilizing existing Pollution Identification and Correction (PIC) methods to protect water quality from threats of non-point source pollution. The focus will be on establishing a consistent, district-wide program leveraging local funds to ensure critical shellfish beds and receiving waters remain fishable, "dig-able" and swimmable through regular monitoring of high priority areas. |
| **WQC-2020-KooCom-00165** | $0 | $159,691 | | $0 | Kooskooskie Commons | Improving Water Quality in Yellowhawk Creek and W. Little Walla Walla River | The Walla Walla Watershed TMDL listed Yellowhawk Creek and the West Little Walla Walla River (WLWWR) for temperature, and fecal coliform due to legacy agricultural practices. The |

| Application Number | Centennial Grant | Section 319 Grant | 319 Buffer Incentive | CWSRF Loan | Organization Name | Project Title | Short Description |
|---|---|---|---|---|---|---|---|
| | | | | | | | recipient will install riparian buffers, monitor water quality, perform public education, and explore land trust easements for long-term protection of riparian areas and water trust agreements to protect flows and cold-water inputs into Yellowhawk Creek and the West Little Walla Walla River. |
| **WQC-2020-LuInBC-00217** | $218,776 | $0 | | $0 | Lummi Indian Business Council | Smuggler's Slough and Kwina Slough Restoration Project | To restore water quality for Lummi Bay shellfish beds and ESA listed salmonids in WRIA 1, this project will: 1) develop preliminary designs for removing barriers and improving flow and water quality between the lower Nooksack River, Kwina Slough and Smuggler's Slough; 2) maintain or remove beaver dams and install up to 5 bever deceivers; 3) re-plant a 17.63-acre riparian buffer along 2.35 miles of slough channels; and 4) analyze the effectiveness of BMPs to address water quality problems. |
| **WQC-2020-MCFEG-00204** | $0 | $250,000 | $14,934.00 | $0 | Mid-Columbia Fisheries Enhancement Group | Mercer Creek Floodplain and Riparian Restoration | This project will reduce bacteria delivery and increase long-term shade in an Upper Yakima River tributary, Mercer Creek, by removing invasive crack willow, installing an inset floodplain, planting, fencing to exclude grazing, educating area residents about water quality, and developing a future water quality project. Mercer Creek is listed on Washington State's 303 d list for excessive bacterial loads and is included |

| Application Number | Centennial Grant | Section 319 Grant | 319 Buffer Incentive | CWSRF Loan | Organization Name | Project Title | Short Description |
|---|---|---|---|---|---|---|---|
| | | | | | | | in the 2005 Wilson Creek Sub-Basin Bacteria TMDL. |
| **WQC-2020-MSRF-00143** | $0 | $194,325 | | $0 | Methow Salmon Recovery Foundation | Methow Water Quality Restoration and Monitoring Project | Address temperature 303(d) listings in the Methow River watershed through coordinated riparian buffer establishment at seven prioritized sites, water quality effectiveness monitoring, adaptive management of projects, and public outreach and education. Implement a Methow Clean Water strategy to achieve compliance with water quality standards for temperature and provide critical support for a pending TMDL study. |
| **WQC-2020-NoYaCD-00003** | $362,226 | $0 | | $0 | North Yakima Conservation District | Naches River Basin Water Quality Restoration Project PHASE 2 | The Naches River Basin Water Quality Restoration Project PHASE 2 addresses a 303(d) stream temperature listing in the Naches River by implementing riparian vegetation recovery actions. This project will establish and enhance 50 acres of floodplain and riparian vegetation and begin establishing 75-foot buffers along 9,500 feet of the Naches River main stem and its side channels. It will also plan improvements on two new project sites within the Naches River basin. |
| **WQC-2020-OkanCD-00195** | $250,000 | $0 | | $0 | Okanogan Conservation District | Livestock BMPs for Riparian Restoration | The Okanogan Conservation District will protect 1,522 feet of stream, 4 acres of riparian area/wetland from water quality impacts by livestock with exclusion fence, off-site watering, and timber barriers. Timber barriers are an |

| Application Number | Centennial Grant | Section 319 Grant | 319 Buffer Incentive | CWSRF Loan | Organization Name | Project Title | Short Description |
|---|---|---|---|---|---|---|---|
| | | | | | | | innovative agricultural BMP to exclude range livestock from surface waters. Okanogan CD will monitor timber barriers and perform maintenance on 19 acres at four recently installed projects. Staff will develop 3 new riparian protection projects for funding opportunities. |
| **WQC-2020-PaloCD-00050** | $250,000 | $0 | | $0 | Palouse Conservation District | Cart before the horse: Restoring the North Fork Palouse River Watershed | Conservation programs in the North Fork Palouse River watershed have had moderate success at meeting needs of landowners while improving water quality. The Palouse Conservation District will address shortfalls by engaging landowners, community organizations, and local schools in the Cedar Creek, Silver Creek and Clear Creek sub-watersheds. These efforts will attempt to develop successful conservation programs, restore at least 7 acres of riparian areas, and monitor water quality improvements. |
| **WQC-2020-PaloCD-00128** | $500,000 | $0 | $14,153.70 | $0 | Palouse Conservation District | Direct Seed Partnership on the Palouse | Palouse Conservation District will implement 9,000 acres of direct seeding and 3 acres of riparian buffers to improve water quality in Whitman County. Cover crops will be direct seeded on 750 acres of fallow. Riparian restoration and direct seeding effects will be monitored. Outreach will focus on the Spring Flat Creek subwatershed to determine Best Management |

| Application Number | Centennial Grant | Section 319 Grant | 319 Buffer Incentive | CWSRF Loan | Organization Name | Project Title | Short Description |
|---|---|---|---|---|---|---|---|
| | | | | | | | Practices and engage landowners. Palouse-Rock Lake, Whitman and Pine Creek Conservation Districts will partner on the project. |
| **WQC-2020-PaloCD-00129** | $250,000 | $0 | | $0 | Palouse Conservation District | Paradise Creek Riparian Restoration | The South Fork Palouse River (SFPR) Total Maximum Daily Load (TMDL) and Water Quality Assessment Category 5 and 4A listings have specifically listed Paradise Creek as impaired for pH, temperature, dissolved oxygen, and bacteria. To address these issues, the Palouse Conservation District (PCD) has identified multiple project sites for riparian restoration throughout Paradise Creek. The PCD will maximize restoration efforts to control nonpoint source (NPS) pollution and stream temperature. |
| **WQC-2020-PiCoPW-00006** | $0 | $500,000 | | $0 | Pierce County - Public Works and Utility Department | Diru Creek Bank Stabilization Project at 72nd | This project is located near Puyallup, WA, and will stabilize eroding slopes and reverse channel incision along Diru Creek. Wooden bed-control structures will be constructed to help slow instream velocities, halt downcutting, and re-direct sediments to settle into a more stable and natural profile. The project will help Pierce County meet downstream Clarks Creek TMDL sediment goals and sediment-related issues affecting the Puyallup Tribe of Indian's Diru Creek Salmon Hatchery. |

| Application Number | Centennial Grant | Section 319 Grant | 319 Buffer Incentive | CWSRF Loan | Organization Name | Project Title | Short Description |
|---|---|---|---|---|---|---|---|
| **WQC-2020-SnohCD-00152** | $229,298 | $0 | | $0 | Snohomish Conservation District | Middle Pilchuck River Riparian Restoration Project | Snohomish Conservation District will plant 20 acres of riparian forest buffer on priority privately owned parcels along the Middle Pilchuck River. Water quality in the Pilchuck River threatens the survival of salmonids and other aquatic wildlife during low flow periods owing to high water temperatures and low dissolved oxygen. Restoration of riparian and shoreline conditions along the Pilchuck River, therefore, is a tier one (highest priority) salmon recovery target in the Snohomish basin. |
| **WQC-2020-SnohCD-00153** | $117,726 | $0 | | $0 | Snohomish Conservation District | Jennings Park Phase Two Riparian Restoration Project | The Snohomish Conservation District will restore 5-6 acres of riparian forest along Allen Creek at Jennings Park in Marysville. This project is the second phase of a two-phased restoration and community engagement initiative to improve water quality in Allen Creek, which is impaired for dissolved oxygen, pH, and fecal coliform bacteria. The District will expand upon the Ecology funding Phase One project by planting natives, hosting youth education, volunteer, and community engagement events. |
| **WQC-2020-SoSaSo-00068** | $0 | $156,584 | | $0 | Sound Salmon Solutions | Jones Creek Riparian Restoration | Sound Salmon Solutions (SSS) will partner with Adopt-A-Stream Foundation (AASF) to install large wood debris, control invasive vegetation and install native plants in a 100ft wide |

| Application Number | Centennial Grant | Section 319 Grant | 319 Buffer Incentive | CWSRF Loan | Organization Name | Project Title | Short Description |
|---|---|---|---|---|---|---|---|
| | | | | | | | riparian area along both banks of Jones Creek to address TMDL issues and improve salmon habitat. The community and students from local schools will participate in the restoration process, learning about the importance of healthy water quality to the Snohomish Watershed and greater Puget Sound region. |
| **WQC-2020-SoSaSo-00175** | $0 | $165,084 | | $0 | Sound Salmon Solutions | Segelsen Stillaguamish Riparian Restoration | Sound Salmon Solutions (SSS) will restore 10-acres of riparian habitat along 1,050-feet of Segelsen Creek, and 435-feet of the N. Fork Stillaguamish River by removing invasive weeds and replanting with native vegetation to increase shade and attenuate water temperatures that exceed state water quality standards. SSS will engage the community throughout the restoration process via student education, volunteer and outreach events. |
| **WQC-2020-Spokan-00149** | $22,500 | $0 | | $0 | Spokane city of | Spokane River Gorge Restoration - Post Plant Care | The Spokane River Gorge Restoration - Post Plant Care project will continue the post planting care of the 2016 Spokane Gorge Restoration project and its three year maintenance commitment to achieve a minimum 70% survivability rate. |
| **WQC-2020-TulaTr-00164** | $244,949 | $0 | | $0 | Tulalip Tribes | Water Temperature Mapping in the Snoqualmie and | This project will map water temperatures in portions of the Snoqualmie and Skykomish rivers using high-resolution thermal infrared imagery |

| Application Number | Centennial Grant | Section 319 Grant | 319 Buffer Incentive | CWSRF Loan | Organization Name | Project Title | Short Description |
|---|---|---|---|---|---|---|---|
| | | | | | | Skykomish River Basins | combined with a longitudinal drag-probe temperature survey. Products will include TIR imagery and longitudinal temperature profiles of the study area, data interpretation and comparative analysis of methods. This information will guide design, siting, and prioritization of habitat restoration and protection actions for mitigating high water temperatures. |
| **WQC-2020-UndeCD-00163** | $249,977 | $0 | $12,322.50 | $0 | Underwood Conservation District | White Salmon River Watershed Water Quality Implementation | UCD will conduct riparian planting, exclusion fencing, livestock best management practices (BMPs), streambank protection water quality monitoring, education, and technical assistance work in the White Salmon River watershed. Implementation work is focused on improving or restoring riparian function and addressing water quality concerns along streams and ditches. While this proposal includes the entire watershed, focus will be on streamside agricultural areas of the Trout Lake Valley. |
| **WQC-2020-WWCoCD-00151** | $170,604 | $0 | | $0 | Walla Walla County Conservation District | Canopy Cover Improvements on the Touchet River | The proposed grant would fund the planting of primary successional riparian species along a 3 mile stretch of the Touchet River to improve canopy cover and address water temperature and dissolved oxygen TMDLs. The presence and near mono culture of false indigo (Amorpha fruticosa) has reduced |

| Application Number | Centennial Grant | Section 319 Grant | 319 Buffer Incentive | CWSRF Loan | Organization Name | Project Title | Short Description |
|---|---|---|---|---|---|---|---|
| | | | | | | | diversity along the banks and limited the potential for taller shade trees to become established. False indigo would be controlled through chemical application prior to planting native vegetation. |
| **Totals** | **$5,485,880** | **$1,635,124** | **$55,675** | **$3,300,000** | | | |

## Watershed Plans that will be Implemented by SFY2020 Agreements

| Agreement | Plan Name |
|---|---|
| **WQC-2020-Adopta-00032** | Lower Snohomish River Tributaries Fecal Coliform Bacteria Total Maximum Daily Load Detailed Implementation Plan |
| **WQC-2020-Adopta-00176** | Swamp Creek Bacteria TMDL |
| **WQC-2020-BentCD-00080** | Benton County Groundwater Nitrate Community Action Plan |
| **WQC-2020-CascCD-00033** | Upper Columbia Salmon Recovery Plan |
| | Wenatchee River Watershed Dissolved Oxygen and pH TMDL Water Quality Implementation Plan |
| | Wenatchee Watershed Planning Phase 4-Detailed Implementation Plan |
| **WQC-2020-ChCoNR-00135** | The Wenatchee River Temperature TMDL report |
| **WQC-2020-ClaPUD-00160** | East Fork Lewis River Sub-basin Habitat Strategy |
| | Lewis Watershed Management Plan, |
| **WQC-2020-ClCHHS-00011** | Pollution Identification & Correction Plan for the Sequim Bay-Dungeness Watershed Clean Water District |
| **WQC-2020-EKliCD-00018** | Klickitat Lead Entity Salmon Recovery Strategy |
| | Water Quality Maintenance and Monitoring Program Interim Working Draft 2013 |
| **WQC-2020-FoCrCD-00181** | the Douglas County Voluntary Stewardship Program Work Plan |
| | Watershed Management Plan Moses Coulee and Foster Creek Watersheds WRIA 44 & 50 (2004) |
| **WQC-2020-GrHaCD-00074** | *developing a restoration strategy* |
| **WQC-2020-Ilwaco-00220** | Ilwaco Source Watershed Control Plan |
| **WQC-2020-JeCoPH-00036** | Puget Sound Action Agenda |
| | The Water Quality Monitoring Plan and Prioritized Work Plan |
| **WQC-2020-KooCom-00165** | Walla Walla River Basin Fecal Coliform Bacteria Total Maximum Daily Load, Water Quality Improvement Report |
| | Walla Walla River Tributaries Temperature TMDL Study |
| | Walla Walla Watershed Multi-perimeter TMDL |
| **WQC-2020-LuInBC-00217** | Lummi Nation Nonpoint Source Pollution Assessment Report |
| | WRIA 1 Salmonid Recovery Plan |
| **WQC-2020-MCFEG-00204** | Upper Yakima River Basin Suspended Sediment, Turbidity and Organochlorine Pesticide TMDL: Detailed Implementation Plan |
| | Wilson Creek Sub-basin Bacteria Total Maximum Daily Load (TMDL): Detailed Implementation Plan (DIP) |
| **WQC-2020-MSRF-00143** | A Biological Strategy to Protect and Restore Salmonid Habitat in the Upper Columbia Region |
| | Upper Columbia Salmon Recovery Plan |
| **WQC-2020-NoYaCD-00003** | Salmonid Habitat Limiting Factors Analysis - Yakima River Watershed |

| Agreement | Plan Name |
|---|---|
| | Yakima Subbasin Plan |
| | Yakima Steelhead Recovery Plan |
| | Yakima River Floodplain - Preliminary Restoration and Market Analysis |
| **WQC-2020-OkanCD-00195** | Lower Okanogan DDT PCB Water Quality Implementation Plan |
| | Okanogan Watershed Action Plan |
| | Voluntary Stewardship Program Work Plan |
| | WDFW Priority Habitat and Species Management Recommendations |
| **WQC-2020-PaloCD-00050** | NFPR Water Quality Implementation Plan |
| | Palouse Watershed Plan approved in WRIA 34 |
| | NFPR Fecal Coliform TMDL Submittal Report |
| | Palouse River Temperature TMDL |
| **WQC-2020-PaloCD-00128** | Palouse Watershed Plan approved in WRIA 34- Detailed Implementation Plan |
| **WQC-2020-PaloCD-00129** | Palouse Watershed Plan approved in WRIA 34 |
| | SFPR Watershed Fecal Coliform TMDL |
| **WQC-2020-PiCoPW-00006** | Clarks Creek Dissolved Oxygen and Sediment Total Maximum Daily Load Water Quality Improvement Report and Implementation Plan |
| | Pierce County Clarks Creek Restoration Plan (TMDL Implementation Plan, 2017) |
| | Pierce Countys Clear Creek and Clarks Creek Basin Plan |
| | Puyallup Tribe of Indian's Clarks Creek Sediment Reduction Action Plan |
| **WQC-2020-SnohCD-00152** | 2018 - 2022 Draft Puget Sound Action Agenda Implementation plan |
| | Action Plan for Riparian Protection and Restoration for the Stillaguamish Confluence, French Creek, and Lower/Middle Pilchuck River |
| | Lower Snohomish River Tributaries Fecal Coliform Bacteria TMDL Implementation Plan |
| | Snohomish River Basin Salmon Conservation Plan, Mainstem - Primary Restoration strategy group |
| **WQC-2020-SnohCD-00153** | 2018 - 2022 Draft Puget Sound Action Agenda Implementation plan |
| **WQC-2020-SoSaSo-00068** | Quilceda/Allen Watershed Plan |
| | Snohomish River Basin Salmon Conservation Plan |
| **WQC-2020-SoSaSo-00175** | Puget Sound Action Agenda |
| | Stillaguamish Multiparameter TMDL implementation Plan |
| | Stillaguamish Watershed Chinook Recovery Plan |
| **WQC-2020-TulaTr-00164** | King County, 2016 Hot Water and Low Flow The Summer of 2015 in the Snoqualmie Watershed |
| | Lower Skykomish River Reach-scale Plan |
| | Snohomish River Basin Salmon Conservation Plan |
| | Snoqualmie Watershed Water Quality Sythesis Report |

| Agreement | Plan Name |
|---|---|
| | The Skykomish River Temperature Total Maximum Daily Load Development: Water Quality Study Design |
| | Snoqualmie River Basin Temperature Total Maximum Daily Load Water Quality Improvement Report and Implementation Plan |
| **WQC-2020-UndeCD-00163** | The Washington State Conservation Commission's 2003 Limiting Factors Analysis for the White Salmon River Watershed |
| | The White Salmon River Watershed Action Plan |
| | USDA-NRCS 2000 White Salmon River Geomorphology Evaluation |

## 2.4.3 WA Load Reduction Estimates by Project in 2019

EPA has inquired about yearly fluctuations in the total load reduction estimates found in this section. Load reduction estimates may differ from year to year based on several factors. Significantly, Washington State implements many BMP projects that may not result in nitrogen, phosphorus, or sediment load reductions because they are intended to reduce temperature and/or fecal coliform—which STEPL cannot currently calculate. Temperature and fecal coliform impairments are of particular concern because of their impacts on shellfish and salmon. Ecology has therefore placed a high priority on implementing BMPs that address these pollutants. Further, implementation of BMPs that target temperature and fecal coliform help address tribal treaty rights at risk. While these efforts may not be adequately captured in the below table, we believe that they are good investments. We have also included a list of BMP implementations this year (see table in section 2.3). These two tables, taken together, provide a more accurate picture of implementation work funded during the past year, as well as, the resulting environmental benefits.

| Pollutant Type | State Project Number | Project Title | SUM(Load Reduction Estimate) | Unit of Measure |
|---|---|---|---|---|
| **Nitrogen** | WQC-2016-Adopta-0036 | Hayho Creek Riparian Enhancement Project | 1.30 | LBS/YR |
| | WQC-2016-ClaPUD-0037 | East Fork Lewis - Zimmerly Restoration Project | 63.33 | LBS/YR |
| | WQC-2016-KooCom-0008 | Improving Water Quality: Riparian Restoration on Lower Yellowhawk Creek | 24.80 | LBS/YR |

| Pollutant Type | State Project Number | Project Title | SUM(Load Reduction Estimate) | Unit of Measure |
|---|---|---|---|---|
| | WQC-2016-NoYaCD-0019 | Naches River Basin Water Quality Restoration Project | 19812.00 | LBS/YR |
| | WQC-2016-PaRoCD-0017 | Kamiak Creek Intensive Watershed Focus Project | 5264.50 | LBS/YR |
| | WQC-2017-FoCrCD-0006 | Douglas County Regional Direct Seed Program | 14.50 | LBS/YR |
| | WQC-2017-StePar*-000 | Snoqualmie River Restoration with Salmon-Safe Agricultural Landowners | 877.00 | LBS/YR |
| | WQC-2018-LCEP-00122 | Salmon Creek Stormwater OSPREY Project | 0.20 | LBS/YR |
| | WQC-2018-PaCoAn-0008 | Stringer Creek Riparian Restoration | 7.40 | LBS/YR |
| | WQC-2018-PaloCD-0011 | Palouse Direct Seed Partnership Implementation and Monitoring | 19354.60 | LBS/YR |
| | WQC-2018-PaloCD-0016 | Palouse Basin Water Quality Improvements | 1.90 | LBS/YR |
| | WQC-2018-PierCD-0016 | South Prairie Creek TMDL Response | 1.50 | LBS/YR |
| | WQC-2018-SFEG-00090 | Skagit River Rural Community Riparian Stewardship | 1.60 | LBS/YR |
| | WQC-2018-SkRiSC-0003 | Lower Skagit Tributaries Riparian Restoration | 101.90 | LBS/YR |
| | WQC-2018-TLC-00139 | Spokane River Watershed Riparian Restoration & Water Quality Education | 51.70 | LBS/YR |
| | WQC-2019-Adopta-0000 | Strawberry Fields Riparian Buffer Enhancement Part 2 | 16.70 | LBS/YR |

| Pollutant Type | State Project Number | Project Title | SUM(Load Reduction Estimate) | Unit of Measure |
|---|---|---|---|---|
| | WQC-2019-KitCCD*-000 | Upper Yakima River Restoration | 12.90 | LBS/YR |
| | WQC-2019-NookIT-0010 | South Fork Nooksack Temperature TMDL Implementation | 207.68 | LBS/YR |
| | WQC-2019-PaloCD-0016 | Palouse Basin BMP Implementation for Water Quality Improvement | 6.60 | LBS/YR |
| **Phosphorus** | WQC-2016-Adopta-0036 | Hayho Creek Riparian Enhancement Project | 0.10 | LBS/YR |
| | WQC-2016-ClaPUD-0037 | East Fork Lewis - Zimmerly Restoration Project | 4.73 | LBS/YR |
| | WQC-2016-KooCom-0008 | Improving Water Quality: Riparian Restoration on Lower Yellowhawk Creek | 9.10 | LBS/YR |
| | WQC-2016-NoYaCD-0019 | Naches River Basin Water Quality Restoration Project | 67288.00 | LBS/YR |
| | WQC-2016-PaRoCD-0017 | Kamiak Creek Intensive Watershed Focus Project | 2069.30 | LBS/YR |
| | WQC-2017-FoCrCD-0006 | Douglas County Regional Direct Seed Program | 20.40 | LBS/YR |
| | WQC-2017-StePar*-000 | Snoqualmie River Restoration with Salmon-Safe Agricultural Landowners | 161.80 | LBS/YR |
| | WQC-2018-LCEP-00122 | Salmon Creek Stormwater OSPREY Project | 0.10 | LBS/YR |
| | WQC-2018-PaCoAn-0008 | Stringer Creek Riparian Restoration | 2.90 | LBS/YR |

| Pollutant Type | State Project Number | Project Title | SUM(Load Reduction Estimate) | Unit of Measure |
|---|---|---|---|---|
| | WQC-2018-PaloCD-0011 | Palouse Direct Seed Partnership Implementation and Monitoring | 7470.00 | LBS/YR |
| | WQC-2018-PaloCD-0016 | Palouse Basin Water Quality Improvements | 0.70 | LBS/YR |
| | WQC-2018-PierCD-0016 | South Prairie Creek TMDL Response | 0.10 | LBS/YR |
| | WQC-2018-SFEG-00090 | Skagit River Rural Community Riparian Stewardship | 0.60 | LBS/YR |
| | WQC-2018-SkRiSC-0003 | Lower Skagit Tributaries Riparian Restoration | 7.50 | LBS/YR |
| | WQC-2018-TLC-00139 | Spokane River Watershed Riparian Restoration & Water Quality Education | 9.40 | LBS/YR |
| | WQC-2019-Adopta-0000 | Strawberry Fields Riparian Buffer Enhancement Part 2 | 1.20 | LBS/YR |
| | WQC-2019-KitCCD*-000 | Upper Yakima River Restoration | 1.60 | LBS/YR |
| | WQC-2019-NookIT-0010 | South Fork Nooksack Temperature TMDL Implementation | 46.90 | LBS/YR |
| | WQC-2019-PaloCD-0016 | Palouse Basin BMP Implementation for Water Quality Improvement | 1.90 | LBS/YR |
| **Sedimentation-Siltation** | WQC-2016-ClaPUD-0037 | East Fork Lewis - Zimmerly Restoration Project | 0.48 | LBS/YR |
| | WQC-2016-KooCom-0008 | Improving Water Quality: Riparian Restoration on Lower Yellowhawk Creek | 51.50 | TONS/YR |

| Pollutant Type | State Project Number | Project Title | SUM(Load Reduction Estimate) | Unit of Measure |
|---|---|---|---|---|
| | WQC-2016-NoYaCD-0019 | Naches River Basin Water Quality Restoration Project | 8423.00 | TONS/YR |
| | WQC-2016-PaRoCD-0017 | Kamiak Creek Intensive Watershed Focus Project | 1645.10 | TONS/YR |
| | WQC-2017-FoCrCD-0006 | Douglas County Regional Direct Seed Program | 22.40 | TONS/YR |
| | WQC-2017-StePar*-000 | Snoqualmie River Restoration with Salmon-Safe Agricultural Landowners | 3.94 | TONS/YR |
| | WQC-2018-PaCoAn-0008 | Stringer Creek Riparian Restoration | 5.50 | TONS/YR |
| | WQC-2018-PaloCD-0011 | Palouse Direct Seed Partnership Implementation and Monitoring | 5870.80 | TONS/YR |
| | WQC-2018-PaloCD-0016 | Palouse Basin Water Quality Improvements | 1.20 | TONS/YR |
| | WQC-2018-SFEG-00090 | Skagit River Rural Community Riparian Stewardship | 0.60 | TONS/YR |
| | WQC-2018-SkRiSC-0003 | Lower Skagit Tributaries Riparian Restoration | 0.70 | TONS/YR |
| | WQC-2018-TLC-00139 | Spokane River Watershed Riparian Restoration & Water Quality Education | 6.00 | TONS/YR |
| | WQC-2019-KitCCD*-000 | Upper Yakima River Restoration | 0.80 | TONS/YR |
| | WQC-2019-NookIT-0010 | South Fork Nooksack Temperature TMDL Implementation | 2.70 | TONS/YR |

| Pollutant Type | State Project Number | Project Title | SUM(Load Reduction Estimate) | Unit of Measure |
|---|---|---|---|---|
| | WQC-2019-PaloCD-0016 | Palouse Basin BMP Implementation for Water Quality Improvement | 1.40 | TONS/YR |

## 2.4.4 Washington's Best Management Practices Implemented in 2019

| BMP Type | State Project Number | Project Title | SUM (Number Installed) | Unit of Measure |
|---|---|---|---|---|
| **Channel Bank Vegetation** | WQC-2016-KooCom-0008 | Improving Water Quality: Riparian Restoration on Lower Yellowhawk Creek | 2,288.00 | FT |
| | WQC-2019-KitCCD*-000 | Upper Yakima River Restoration | 5,351.70 | FT |
| **Conservation Tillage Residue Management** | WQC-2017-FoCrCD-0006 | Douglas County Regional Direct Seed Program | 67,925.13 | AC |
| | WQC-2018-PaloCD-0011 | Palouse Direct Seed Partnership Implementation and Monitoring | 95,625.60 | AC |
| | WQC-2019-PaloCD-0007 | Matching: Thinking Outside the Fertilizer Box: Conservation on Union Flat Creek | 64,776.00 | AC |
| **Fence** | WQC-2017-OkanCD-0018 | Okanogan County Fire Non-Point Pollution Response | 160.00 | AC |
| | | | 18,560.00 | FT |
| **Filter Strip** | WQC-2018-PaloCD-0011 | Palouse Direct Seed Partnership Implementation and Monitoring | 142.80 | AC |
| | | | 124,488.00 | FT |
| **Invasive Species/Noxious Weed Control** | WQC-2016-Adopta-0036 | Hayho Creek Riparian Enhancement Project | 5.30 | AC |
| | | | 1,968.00 | FT |
| | WQC-2018-SoSaSo-0017 | Stillwater Natural Area Restoration Phase II | 70.12 | AC |
| | | | 7,540.00 | FT |
| | WQC-2018-SoSaSo-0022 | Grant Creek Restoration Phase I | 61.65 | AC |
| | | | 22,150.00 | FT |
| | WQC-2019-KCoNWC-0003 | King County Riparian Buffer Enhancement through Restoration and Stewardship | 51,862,122.00 | SQUARE FEET |
| | WQC-2019-KitCCD*-000 | Upper Yakima River Restoration | 23.70 | AC |
| | | | 24,120.00 | FT |
| | WQC-2019-OkHiAl-0020 | Triple Creek Water Quality Restoration Project, Phase 2 | 18.54 | AC |
| | | | 28,620.00 | FT |
| | WQC-2019-PaloCD-0016 | Palouse Basin BMP Implementation for Water Quality Improvement | 24.00 | AC |
| | | | 8,684.00 | FT |
| **Riparian Forest Buffer** | | | 8.81 | AC |

| BMP Type | State Project Number | Project Title | SUM (Number Installed) | Unit of Measure |
|---|---|---|---|---|
| | WQC-2016-Adopta-0036 | Hayho Creek Riparian Enhancement Project | 3,240.00 | FT |
| | WQC-2016-ClaPUD-0037 | East Fork Lewis - Zimmerly Restoration Project | 28.40 | AC |
| | | | 3,950.00 | FT |
| | WQC-2016-KooCom-0008 | Improving Water Quality: Riparian Restoration on Lower Yellowhawk Creek | 9.36 | AC |
| | | | 4,052.00 | FT |
| | WQC-2016-MSRF-00269 | Burned Area Emergency Response in Frazer Creek | 0.56 | AC |
| | WQC-2016-SnohCD-0009 | Monroe Wetland Park Restoration Project | 12.00 | AC |
| | | | 3,750.00 | FT |
| | WQC-2017-Adopta-0013 | Upper Catherine Creek Riparian Restoration | 31.10 | AC |
| | | | 8,113.40 | FT |
| | WQC-2017-OkanCD-0018 | Okanogan County Fire Non-Point Pollution Response | 2.40 | AC |
| | | | 6,280.00 | FT |
| | WQC-2017-StePar*-000 | Snoqualmie River Restoration with Salmon-Safe Agricultural Landowners | 105.60 | AC |
| | | | 52,430.00 | FT |
| | WQC-2018-SkRiSC-0003 | Lower Skagit Tributaries Riparian Restoration | 11.00 | AC |
| | WQC-2018-SoSaSo-0017 | Stillwater Natural Area Restoration Phase II | 28.60 | AC |
| | | | 1,560.00 | FT |
| | WQC-2018-SoSaSo-0022 | Grant Creek Restoration Phase I | 25.50 | AC |
| | | | 18,500.00 | FT |
| | WQC-2018-TLC-00139 | Spokane River Watershed Riparian Restoration & Water Quality Education | 69.30 | AC |
| | | | 39,450.00 | FT |
| | WQC-2019-Adopta-0000 | Strawberry Fields Riparian Buffer Enhancement Part 2 | 11.60 | AC |
| | | | 4,194.00 | FT |
| | WQC-2019-KitCCD*-000 | Upper Yakima River Restoration | 68.00 | AC |
| | | | 29,550.00 | FT |
| | WQC-2019-NookIT-0010 | South Fork Nooksack Temperature TMDL Implementation | 291.60 | AC |
| | | | 34,110.00 | FT |
| | WQC-2019-OkHiAl-0020 | Triple Creek Water Quality Restoration Project, Phase 2 | 7.20 | AC |
| | | | 28,620.00 | FT |
| | WQC-2019-PaloCD-0016 | Palouse Basin BMP Implementation for Water Quality Improvement | 4.92 | AC |
| | | | 2,320.00 | FT |

| BMP Type | State Project Number | Project Title | SUM (Number Installed) | Unit of Measure |
|---|---|---|---|---|
| | WQC-2019-SnohCD-0006 | North Creek Riparian Restoration Project | 4.00 | AC |
| | | | 1,600.00 | FT |
| **Stream Habitat Improvement and Management** | WQC-2017-OkanCD-0018 | Okanogan County Fire Non-Point Pollution Response | 0.08 | AC |
| | | | 80.00 | FT |
| | WQC-2019-KitCCD*-000 | Upper Yakima River Restoration | 3.10 | AC |
| | | | 22,930.00 | FT |
| | WQC-2019-OkHiAl-0020 | Triple Creek Water Quality Restoration Project, Phase 2 | 16.26 | AC |
| | | | 28,620.00 | FT |
| **Tree/Shrub Establishment** | WQC-2016-ClaPUD-0037 | East Fork Lewis - Zimmerly Restoration Project | 10.00 | AC |
| | WQC-2017-OkanCD-0018 | Okanogan County Fire Non-Point Pollution Response | 16.00 | AC |
| | | | 3,200.00 | FT |
| | WQC-2018-SoSaSo-0017 | Stillwater Natural Area Restoration Phase II | 11,012.00 | INDIVIDUAL UNITS |
| | WQC-2018-SoSaSo-0022 | Grant Creek Restoration Phase I | 12,140.00 | INDIVIDUAL UNITS |

## ULO Status

| CWA 319 Grant Balance (Unliquidated Obligations) as of March 31, 2020 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Project** | **Grant #** | **FY** | **Project** | **Period** | **Grant Award Amount (Fed)** | **Unspent Balance (ULO)** | **% ULO** |
| FA10 | C9-00044909 | 15 | 7/1/2015 | 6/30/2020 | $ 5,872,900.00 | $ 340,057.00 | 5.8% |
| FA11 | C9-00044910 | 17 | 7/1/2017 | 6/30/2022 | $ 6,139,000.00 | $ 2,513,303.00 | 40.9% |
| FA12 | C9-00044911 | 19 | 7/1/2019 | 6/20/2024 | $ 6,042,000.00 | $ 5,358,674.00 | 88.7% |

| CWA 319 Grant Balance (Unliquidated Obligations) | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Grant #** | **FY** | **Project** | **Period** | **Grant Award Amount (State)** | **Balance (ULO)** | **% ULO** |
| WA-FA10 | C9-00044909 | 15 | 7/1/2015 | 6/30/2020 | $ 3,915,267.00 | $ - | 0.0% |
| WA-FA11 | C9-00044910 | 17 | 7/1/2017 | 6/30/2022 | $ 4,117,334.00 | $ (595,080.00) | -14.5% |
| WA-FA12 | C9-00044911 | 19 | 7/1/2019 | 6/20/2024 | $ 4,028,000.00 | $ 4,028,000.00 | 100.0% |
| *Numbers are based on Grant amount awarded minus expenditures* | | | | | | | |

# Chapter 3: Implementation in Action

In 2019, Ecology continued our internal and external efforts to achieve nonpoint pollution reductions in accordance with the state Nonpoint Pollution Management Plan. In addition to providing on-going guidance to our own staff, we have continued to build on external partnerships and use our nonpoint authority to make progress in cleaning up the state's waters.

One of Ecology's key nonpoint initiatives identified in the 2015 NPS plan is the development of Voluntary Clean Water Guidance for Agriculture. This guidance will identify BMPs that prevent water pollution and support the achievement of water quality standards in surface waters flowing through agricultural lands. The first BMP chapter of the guidance addresses cropland tillage and crop residue management and was completed in February 2020. Ecology is now working on completing chapters for riparian buffers, pasture and rangeland management, and heavy use areas for livestock. These additional three chapters will complete the first set of agricultural BMP guidance that we are seeking to incorporate into the next NPS plan update.

In other areas, significant progress has occurred statewide in efforts to reduce nonpoint source pollution including:

- Multiple TMDL and TMDL-alternative development efforts, including the Puget Sound Nutrient Source Reduction Project.
- Implementing nonpoint TMDLs and alternative efforts through a combination of grants/loans and enforcement tools.
- Continued application of NMFS riparian buffers guidelines for Ecology-funded nonpoint grant and loan projects.[1]
- Ongoing coordination with important partners such as the WA Dept. of Agriculture, the Agriculture and Water Quality Advisory Committee, and the WA Forest Practices Board.
- Working with conservation districts, local governments, and nonprofit organizations on nonpoint education and outreach efforts.

For the remainder of this Chapter, the numbered section heading are goals specifically identified within the 2015 Nonpoint Management Plan, and the summaries under those headings described activities that occurred during calendar year 2019 in support of each goal.

[1] More information on Ecology's funding programs and guidelines can be found at: https://ecology.wa.gov/About-us/How-we-operate/Grants-loans/Find-a-grant-or-loan/Water-Quality-Combined-Funding-Program.

# 3.1 Clean-up impaired waters and meet water quality standards (Goal 1)

## **3.1.1** Development of Watershed Clean-Up Plans (TMDLs, TMDL alternatives and STI programs)

Between 2015 and 2019, Ecology completed TMDLs for 168 waterbody assessment units (AUs) 114 of which have been approved by EPA; however, there were no TMDLs approved by EPA in 2019. In the last few years, Ecology has not had any new AUs that have met the requirements for STI, although there are currently 141 AUs whose STI efforts continued to qualify for a Category 4B status in 2019. The TMDLs and TMDL alternatives currently being developed by Ecology include an implementation plan. These implementation plans are intended to address EPA's requirement that a watershed-based plan be completed in order for grant projects to be eligible for 319 funding. There are currently no completed TMDL alternatives, although several are in progress (see below for more information).

Significant continued work was done in 2019 on our WQ-27 priority projects, including the development of a milestones checklist to track progress and status for each of the water improvement projects (TMDLs, TMDL Alternatives, STIs). Most projects appear to be on track for completion by the 2022 deadline. The table below lists the status of each WQ-27 project, while Appendix F contains a detailed checklist for each project. Additional information about these projects is provided in the remaining portion of this section.

| **WQ-27 Projects in 2019** | **Status** |
|---|---|
| Whatcom Creek Bacteria TMDL | Field work in progress |
| South Fork Nooksack Temperature TMDL | Stakeholder review (submitted and approved in 2020) |
| Drayton Harbor Bacteria TMDL | New data being incorporated |
| Mid Yakima Bacteria TMDL | working through issues related to a change in criteria from fecal coliform to *E.* coli |
| Moxee Drain Temperature TMDL | Being converted to an STI or TMDL alternative |
| Wide Hollow Mulitparameter TMDL | Finishing up data collection, report |
| Alakali Flat STI | On track to start in 2021 |
| Almota & Little Almota STI | On track to start in 2020 |
| Hangman DP/pH Alternative | Field work completed |
| Little Spokane DO/pH TMDL | Report writing is on track |
| Pend Oreille Temperature TMDL | Awaiting EPA approval |
| Spring Flat STI | On track to start in 2020 |

| WQ-27 Projects in 2019 | Status |
|---|---|
| French Creek TMDL Alternative | Report writing paused pending additional discharge data |
| Padilla Bay FC TMDL | Technical report writing is on track |
| Pilchuck Temp/DO TMDL | Report writing on track |
| Sammamish TMDL Alternative | Project on pause, waiting on model development |
| Soos Creek MP TMDL | Model design and calibration in progress |
| Budd Inlet DO TMDL | Re-calibrating the model based on results of additional analysis. |
| Burnt Bridge Creek Alternative | Modeling of management scenarios in progress |
| Deschutes Multiparameter TMDL | EPA approved the temperature pieces. EPA disapproved the rest and is writing their TMDL per CWA requirements. |
| East Fork Lewis Alternative | Report/Plan writing on track |
| Lacamas Creek Alternative | Awaiting technical resources to initiate the project |
| Lower White River pH TMDL | Report writing on track |

## Northwest Regional Office

In the Northwest Regional Office and Bellingham Field Office, we continued improving impaired waters using a combination of TMDLs, TMDL Alternatives, and Watershed Evaluations.

### TMDLs

A number of TMDLs are currently in development: Padilla Bay Fecal Coliform, Pilchuck River Temperature/DO, Soos Creek Multiparameter, Whatcom Creek Fecal Coliform, Drayton Harbor Fecal Coliform, and the South Fork Nooksack Temperature TMDL.[2]

A reallocation of resources to implementation of the Lower Skagit Tributaries Temperature TMDL continued the delay in progress on the Padilla Bay FC TMDL. During 2019, nonpoint implementation specialists continued early-action work to identify and address livestock-related pollution sources, and added more detail on the location of FC pollution sources to the draft TMDL implementation plan. As of 2020, we have resumed work on the draft Padilla Bay FC TMDL and expect to hold detailed advisory group meetings in spring 2020. We expect the TMDL to be completed and submitted to EPA in summer/fall 2020.

[2] The South Fork Nooksack Temperature TMDL was submitted and approved by EPA in early 2020.

Complications modeling natural conditions in the Pilchuck River Temp/DO extended into 2019 but the improvements in the rigor of the model and quality of the draft implementation plan increased the confidence in our recommendations. We expect to begin our detailed TMDL advisory group meetings in spring 2020 and to submit the completed TMDL to EPA in summer 2020. As noted later in this report, we continue to promote early-action implementation by our water quality improvement partners working in the Pilchuck Watershed.

The Soos Creek Temperature/DO/Bioassessment TMDL continues to progress. Ecology's science wing is utilizing QUAL2Kw, Shade, and other models to assess the temperature and DO impacts of point and nonpoint sources in the watershed and an HSPF hydrodynamic model to determine the causes of impairment on benthic invertebrates. This is the first time Ecology is using HSPF modeling to develop a TMDL. Integrating HSPF into the bioassessment portion of the TMDL required Ecology to invest $50,000 of consultant support starting in late 2019 and early 2020. Ecology is also shifting technical resources to add another modeler/field specialist to the Soos Creek project to focus on the temperature/DO TMDL and allow our existing modeler to focus on modeling related to bioassessment. Because the original fieldwork did not include data collection on the Soos Creek Fish Hatchery, and because a new hatchery facility was constructed in 2019, Ecology is developing a QAPP for field work in summer 2020 to inform the temperature/DO portion of the TMDL. We are also adding boundary condition monitoring to better characterize the natural input of low DO groundwater from the extensive wetland complexes in headwater areas. During 2019, our new regional lead staff began reaching out to stakeholders in Soos Creek to promote early-action implementation.

Our Bellingham Field Office completed the South Fork Nooksack Temperature TMDL in 2019 and submitted it to EPA for approval in early 2020. EPA approved the TMDL on May 6, 2020.

### TMDL Alternatives

In order to speed the delivery of technical analysis and implementation solutions to local implementing agencies and the public, Ecology decided to complete the Sammamish River Temperature/DO study and the French Creek Temperature/DO study as TMDL Alternatives. Non-point sources are the primary problems in these watersheds and the final reports will include data analysis and advisory-group-based implementation plans. Field data collected for the Sammamish River Temperature/DO TMDL Alternative is complete and the NWRO is waiting for a modeler to become available.

We began work on the French Creek TMDL Alternative project in 2019 and discovered incompatibility issues when integrating Snohomish County's HSPF modeling with the WASP model. Our technical team has determined that the next best approach is to substitute the QUAL2KW model for WASP. The reallocation of modeling resources to the Soos Creek

Temp/DO TMDL noted earlier will require Ecology to summarize our current French Creek TMDL Alternative findings in a technical memo in mid-2020 and resume that work in the future.

Watershed modeling work on our third TMDL Alternative, the Duwamish River Pollutant Loading Analysis, continued in 2019 along with targeted inspections of industrial facilities. Ecology held two technical advisory group meetings and we hired a project coordinator to supplement our existing Duwamish TMDL Alternative team. We decided on the model to use for the TMDL alternative to describe hydrodynamic processes and contaminant fate in the receiving water and collaborated with King County to calibrate the PLA watershed model to assess toxic pollutant pathways.

### Puget Sound Nutrient Source Reduction Project

Ecology continued making significant progress on our Puget Sound Nutrient Source Reduction Project in 2019, and continued development of the Marine Water Quality Implementation Strategy for Puget Sound recovery under the National Estuary Program. We continued engaging regional stakeholders through a process called the Puget Sound Nutrient Forum (Forum) with the objective of having dialogue with the regulated community, tribes, and all levels of government, industry, academics, and local implementers about the effect of nutrient over-enrichment in the Sound and nutrient reduction solutions to improve marine water quality.

Ecology is developing this watershed based plan as an alternative to address low dissolved oxygen (DO) in Puget Sound caused by nutrient over-enrichment from regional human sources. We are engaging communities, tribes, stakeholders, and local implementing organizations, in discussions about the problems caused by nutrient over-enrichment and potential solutions at the Nutrient Forum. The Forum is a space for discussion, learning, and getting feedback from the public so that we learn together as Ecology develops a Puget Sound Nutrient Management Plan (expected by end of 2022) that will specify both point and nonpoint nutrient source reductions. Stakeholders at the Forum also provide input on the details of Salish Sea Model scenarios that our team of engineers and modelers are test.

This work will focus regional investments to control nutrients from point and non-point sources and help Puget Sound meet DO water quality criteria. More project information can be found here: https://ecology.wa.gov/Water-Shorelines/Puget-Sound/Helping-Puget-Sound/Reducing-Puget-Sound-nutrients.

Specific activities completed in 2019 include:

- Organized and hosted 7 Nutrient Forums. Forum topics included sharing results of 2018 Salish Sea modeling, learning from other states about nutrient reduction in their coastal

estuaries, providing input for 2019/2020 modeling scenarios, and announcing permitting decisions to control nutrients as wastewater treatment plants. We invited speakers who study or work on nutrient reduction programs, including the Nooksack-Fraser Transboundary Nitrogen project, the Tulalip Tribe, Snohomish Conservation District, Pierce County Public Works, and LOTT Alliance for Clean Water. Typically, 60-80 people attend Forums in person with about an equal amount of online participants who attend via WebEx broadcasts of each meeting to reduce travel barriers and maximize participation. 6 Forums will take place in 2020 to provide information and updates on nutrient permitting, receive input on elements of a 2022 Puget Sound Nutrient Management Plan, share updated modeling results, and provide an opportunity for input to the next phase of Salish Sea modeling.

- We continued to develop new communication materials, including blog posts, focus sheets, and webpage updates
- We started another year of Salish Sea modeling to evaluate scenarios that will help us better understand the significance of anthropogenic marine and watershed sources We chose those scenarios based on feedback from the Nutrient Forum. Our team of engineers and modelers are putting in a tremendous effort to evaluate: the spatial impacts of nutrient loading from marine point sources and watershed sources grouped by Puget Sound basin, the impact of seasonal versus annual nutrient reductions, future population growth, and combinations of marine and watershed nutrient reductions to meet water quality standards. We will publish the results of this latest modeling round in summer 2020 and begin the final scheduled year of modeling in fall 2020.
- We also led the development of the Puget Sound Partnership's Marine Water Quality Implementation Strategy (MWQ IS). This effort supports and informs the Puget Sound Action Agenda, and is funded in part by the National Estuary Program. A series of workshops were held in 2019 to develop: conceptual models that describe human sources of nutrient loads and the stress they create on marine water quality, strategies to reduce human source nitrogen loads, recommendations for implementation activities to reduce or eliminate human loads, and support for marine water quality science and monitoring in the Puget Sound Action Agenda and Science Work Plan.

During August we announced our preliminary determination that a Nutrients General Permit was the best tool to reduce nutrients from municipal wastewater treatment plants discharging directly to Puget Sound. We opened a public comment period and received feedback from stakeholders and Tribes, which informed our decision to move forward with a Nutrients General Permit that we announced in January 2020. This is arguably the most significant step towards reducing the burden of excess nutrients on marine water quality, however fully protecting Puget Sound will require both wastewater treatment improvements and correcting nonpoint source nutrient problems in watersheds. The 2022 Puget Sound Nutrient Management Plan we are working to

create, will lay out a plan to address both point and nonpoint nutrient sources that follows EPA's 9-key elements.

## Southwest Regional Office

### TMDLs

In 2019 the Southwest Regional Office (SWRO) continued to make progress on the Budd Inlet TMDL and began to draft supporting technical documents for the TMDL. Ecology's Environmental Assessment Program worked to finalize the Budd Inlet Model and began an additional peer review process. Ecology continues to coordinate with EPA as they work to rewrite sections of the Deschutes River TMDL that were disapproved in 2017. Ecology has supplied data, models, and consultation on various aspects of the TMDL. Work also continued on the Lower White River pH TMDL with a draft report completed and currently under review by watershed partners.

### TMDL alternatives

Ecology continued to lead the East Fork Lewis River Partnership, a TMDL alternative project started in 2018. Ecology worked with local, state, federal, and tribal governments, non-profits, and private landowners to develop goals, management measures, and implementation actions to address water quality impairments. In 2019, we drafted a water quality improvement plan that addresses EPA's nine minimum watershed planning elements for both bacteria and thermal pollution and we expect to finalize the report in 2020. Additionally, Ecology started developing the Burnt Bridge Creek Watershed Source Assessment to characterize bacteria, temperature, dissolved oxygen and pH impairments in the watershed. The Burnt Bridge Creek Source Assessment will be published by the end of 2020, with TMDL Alternative development and implementation planning starting in 2021.

## Central Regional Office

In 2019, the Central Regional Office (CRO) continued ongoing TMDL development work for Upper Naches-Cowiche Creek TMDL, Tieton- Lower Naches TMDL, and Wide Hollow Creeks TMDL. No new TMDL projects were initiated in 2019. An effectiveness monitoring project for the Upper Yakima Suspended Sediment TMDL was completed in 2019 and the report is pending. CRO staff have proposed delisting Myron Lake from the 303(d) list on the next Water Quality Assessment report (303(d)-305(b)). Staff continue work on the STI project for Giffen Lake. We have ended our work on the Moxee drain due to complex irrigation water management issues. We continue working on the TMDL alternative project for the Lower Yakima Pesticides Reduction.

## Eastern Regional Office

Ecology's Eastern Regional Office continues to focus on TMDL and STI implementation. We prioritized our resources in 2019 toward achieving on-the-ground actions that get to clean water rather than new TMDL development. That said, the Little Spokane River DO and pH TMDL was under development in 2019 and we expect to submit it to EPA in 2020. Straight-to-Implementation (STI) strategies were scoped for Spring Flat Creek, Almota Creek, and Alkali Flat Creek. We intend to initiate STI work for Spring Flat and Almota Creek in 2020.

Much of ERO's implementation work is guided by annual watershed evaluations. Every spring, Eastern regional staff perform watershed evaluations which help identify sources of water quality problems. These surveys assess the health of the streams, document where improvements have been made and identify new nonpoint pollution problems. Staff then follow up with landowners to offer technical and financial assistance to reduce sources of nonpoint pollution. This evaluation process is crucial to the work in the eastern region to identify water quality problems and work with landowners to make improvements that reduce pollution sources. Through these evaluations, priority pollution sites in specific TMDL and STI watersheds are identified. Priorities are set based on considerations of factors that include: apparent risk to water quality; available evidence of those risks; geographic location; availability of staff and partners to address problem sites, and sometimes the history of land management at a site. The eastern region identified nearly 200 problem reaches in 2019 and prioritized 24 of those for proactive help. Offers of technical and financial assistance have been made to the landowners. These sites are in varying stages of project development and implementation.

## TMDL and STI Development

### *Little Spokane River*

The Little Spokane River is a vital tributary to the Spokane River and is impaired by multiple pollutants. In 2012, EPA approved a TMDL on the Little Spokane River watershed for fecal coliform, temperature, and turbidity. A second TMDL is under development for the Little Spokane River to address dissolved oxygen, pH. A draft of the Little Spokane River TMDL was prepared in 2019. The draft includes an implementation plan that complements Spokane River and Hangman creek TMDLs that are currently being implemented. The Little Spokane TMDL implementation plan looks to address DO and pH by reducing phosphorus. There are few point sources in the Little Spokane River. Much of the work involves non-point implementation, including improving riparian condition (riparian buffers) and reducing farm field erosion that delivers sediment and bound nutrients to surface water.

In 2020, the eastern Region will take public comment on the draft. Once public comments are received and needed changes made, the final draft will be submitted to EPA for approval.

***Spring Flat Creek and Almota Creek***

In 2019, the Eastern Regional Office (ERO) also scoped three streams for STIs, our typical eastern Washington TMDL alternative. ERO plans to develop STI strategies in 2020 for two rural watersheds with non-point pollution issues. The non-point pollution is associated with agricultural land-use in the riparian areas. The STIs will address 12 category 5 and category 2 listed segments for temperature, dissolved oxygen, and bacteria.

## 3.1.2 Implementation of TMDLs, STIs, Nonpoint Enforcement Efforts

Ecology continues to promote water cleanup activities across Washington State with an emphasis in our TMDL, STI and TMDL Alternative watersheds. Each of our regional offices have chosen selected areas where we are attempting to increase the pace of BMP implementation to address nonpoint pollution. The following are focus watersheds for our regional staff's implementation efforts (focal issues in parentheses):

1. Samish River (bacteria TMDLs)
2. South Skagit Bay (bacteria TMDLs)
3. Nooksack River/Drayton Harbor drainages (bacteria TMDLs)
4. Upper Chehalis- Newaukum River (bacteria TMDLs)
5. Puyallup River- Boise, Pussyfoot and Second Creeks (bacteria TMDLs)
6. Key Peninsula (nonpoint enforcement- bacteria)
7. Henderson and Eld Inlets (bacteria TMDLs)
8. Hangman Creek (bacteria, dissolved oxygen, nutrients, pH, temperature, turbidity TMDLs)
9. North Fork and South Fork Palouse River (bacteria, temperature TMDLs)
10. Deadman/Meadow Creeks (bacteria, dissolved oxygen, pH, temperature STI)
11. Upper and lower Yakima River watersheds (sediment, bacteria, temperature TMDLs)

### Northwest Regional Office

Ecology's Northwest Office has nearly 50 TMDLs, TMDL Alternatives, and Watershed Evaluations in development or completed. It is a challenge to actively participate in each water cleanup effort. The primary tools for accomplishing implementation include the following strategies:

1. Participate in multiple salmon recovery forums (executive committee meetings, technical workgroups, implementation committees, etc.) to promote implementation in areas of shared interest (riparian plantings, cold water refuge creation, etc.).
2. Participate in stakeholder groups focused on TMDL implementation (e.g., Green the Green, a King County-led group that focuses on implementing the Green River Temperature TMDL, Pilchuck Working Group doing early implementation of our temperature/DO TMDL, Stillaguamish PIC Program, and Clean Samish Initiative).
3. Encourage and guide participation in Ecology's Combined Funding Program and subsequently manage those grants and loans.
4. Targeted monitoring, source identification, outreach/education, and technical assistance in Watershed Evaluation areas.
5. Augment nonpoint water cleanup efforts with TMDL-related NPDES permit requirements.

In 2019 staff from the Northwest Office participated directly or tangentially in King County's Fish, Farm, Flood 2.0 process, Snohomish County's Sustainable Land Strategy, and the Snohomish/Stillaguamish Local Integrating Organization activities to help promote more and better nonpoint implementation projects. In the area of grant project development, Ecology's outreach and technical assistance contributed to the submission of 15 applications to our Combined Funding Program to support our nonpoint cleanup efforts. Eight new water cleanup projects were prioritized for Ecology funding in FY 2021. All projects focused on or had a significant riparian restoration component contributing to the improvement of local water temperatures. All the unfunded projects were considered good investments (ranked scores over 743) but there were insufficient funds in our Centennial/319 funds. Watershed Evaluation and other targeted work is discussed in more detail below.

To support ORCA recovery, the Washington State legislature authorized the addition of two new full time permanent nonpoint water quality specialists in Ecology's NWRO. One position was hired in November 2019 and is focused solely on the Skagit Watershed. The second position will be hired in early 2020.

For the Lake Whatcom TMDL Implementation, Whatcom County continues to control non-point sources in Whatcom County by voluntarily applying relevant portions of the MS4 program required under their NPDES stormwater permit throughout the watershed.

### Clean Samish Initiative (CSI):

During 2019, one nonpoint compliance specialist working out of the Bellingham Field Office was Ecology's contact within the Clean Samish Initiative, working closely with partners from Skagit County Public Works, the Skagit Conservation District, and Washington State

Department of Agriculture to identify and correct sources of fecal coliform pollution in the Samish basin. Just south of Samish Bay, Padilla Bay is also a focus area for the Skagit County PIC program. Ecology also actively contacts landowners when sources of pollution are identified in Padilla Bay.

Working collaboratively with Skagit County staff, we made an effort in early 2019 to update our database with current site conditions for every known livestock property in the Samish basin, and quantify the data with numbers and types of livestock. Ecology and County staff regularly conduct source identification sampling and effectiveness monitoring, windshield surveys, and site visits jointly. This level of coordination helps to build trust and strong relationships among our PIC partners.

Sites prioritized for follow up during 2019 were previously identified by Clean Samish Initiative partners but lacked follow-up largely due to staff turnover during 2018, were identified as potential sources of bacteria pollution through new sampling investigations or aerial/roadside observations, or were subjects of complaints submitted through Ecology's Environmental Report Tracking System.

| **Ecology Inspectors-Contact Summary** | **Contacts with Property Owners** | **Warning Letter** | **NOV** |
|---|---|---|---|
| Samish | 50 | 3 | 0 |

Additional activities included:

- Worked with the Skagit Conservation District and landowners to ensure that BMPs implemented in the past continue to be maintained, and that adaptive management occurs when need to protect water quality.
- Coordinated water-sampling efforts with Skagit County, WSDA, Samish Tribe, and volunteers to track sources of fecal coliform pollution in the Samish and Padilla Bay Watersheds during runoff events.
- Coordinated with Washington Dept. of Agriculture (WSDA) and Skagit County on aerial surveys to identify high-risk site conditions that are not visible from public roads.
- Provided quarterly updates to the CSI executive committee and participated in the CSI Project Development Team, comprised mainly of field staff from Ecology and our partners from Skagit County, WSDA and Skagit CD.

## South Skagit Bay:

The South Skagit Bay Watershed Evaluation Planning effort was finalized in late 2017 after meetings with both the WA State Water Quality and Agricultural Advisory Committee and major agricultural, government, and business stakeholders in Skagit County. Coordination in the southern lobe of the evaluation area occurred as a team member of Stillaguamish PIC Phase II program.

In 2019 we continued enhancing relationships with our South Skagit Bay stakeholders and partners. Our watershed evaluation work in two small watersheds flowing into South Skagit Bay included a second wet season field condition evaluation to verify our high priority properties for offering direct technical assistance. Ecology staff from BFO and NWRO continued a water sampling program to characterize watershed bacteria levels and assist in identifying sources of pollutants. Outreach to stakeholders and the public continued included the following activities:

Ecology staff led or attended meetings on the following dates:

- March 2019 Lower Stillaguamish PIC Phase 2 Compliance Coordination team mtg.
- June 2019 – Lower Stillaguamish PIC Phase 2 Compliance Coordination team mtg.
- July 2019 – Project update/Year 2 proposal - Stillaguamish Watershed Council.
- September 2019 – Project update/Year 2 proposal - Skagit County Stakeholders.
- February 2020 – "Duck Shacks" coordination – Snohomish County stakeholders.

Additional activities included:

- Monthly ambient water quality sampling at 15 sites with additional source identification monitoring at 13 sites.
- Addition of storm event sampling at 8 sites began in October 2019. As of March 2020, four storm events were targeted in 2019 and four storm events were targeted in 2020.
- Organization of stakeholders on sanitary waste management at the "duck shacks" in Snohomish County.
- Nonpoint Specialists from Ecology's Bellevue and Bellingham offices continued performing roadside evaluations during the wet season and entering data and observations into the "Collector App."
- Properties with an elevated potential to pollute were highlighted for future technical assistance.
- Addition of another monitoring site to assist in bacterial pollution source tracing related to a local meat packing plant.

Going forward into 2020, we plan to update our communications plan to add outreach strategies in an effort to increase project awareness. Some of those strategies include, but are not limited to:

- Regular progress updates posted to our website and in presentations to stakeholders.
- Published articles in conservation district newsletters and local newspapers.
- Social media posts that partnering organizations could post on our behalf.

We expect to begin contacting prioritized properties to provide technical assistance in spring 2020 and continue characterizing local water quality through both regular monthly monitoring combined with storm event sampling at key locations.

### Lower Skagit Tributaries

The NWRO began a targeted effort to reinvigorate implementation of the Lower Skagit River Tributaries Temperature TMDL in summer 2019. Our goal is to greatly increase the pace of restoration activities and create a model for expanded and accelerated temperature TMDL implementation.

Reallocating our Padilla Bay resources to this project, we assembled an internal team to work with a variety of Skagit County partners through the remainder of 2019. We held 5 meetings attended by tribal, county, state and local conservation district, fisheries enhancement group, agricultural stakeholder groups and representatives, and others to develop what we called the "Lower Skagit Temperature TMDL Strategy." Two NWRO staff are guiding the initial implementation efforts in 2020 through:

- Participate and collaborate with Skagit education and outreach specialists to help coordinate and increase the number of landowners willing to participate in riparian restoration.
- Scope and preform initial efforts of a community based social marketing (CBSM) campaign to find messages that resonate locally and increase public awareness of the issue.
- Development and implementation of a QAPP for Summer 2020 field work to start identifying opportunities for cold-water refuge creation and summer baseflow augmentation in the East Fork Nookachamps Creek.
- Working to fulfill Skagit stakeholders desire to identify and prioritize restoration projects in conjunction with salmon recovery, agricultural, and flood management goals through a reach-scale planning effort similar to the successful Hansen Creek model. Develop a web-based Storymap to share information with the public regarding the problem, success stories, and goal of the project.

- Develop a database for implementation partners to share implementation projects, funding /project target areas, outreach efforts, and data sets.
- Development of an end-of-the-year report to the Puget Sound Partnership Leadership Council on progress made in 2020.

### Whatcom Clean Water Program:

In cooperation with Whatcom Clean Water Program (WCWP) partners, Ecology nonpoint staff worked in the Nooksack River, Jordan Creek, Sumas River, and Drayton harbor watersheds to identify and address nonpoint sources of pollution.

| Ecology Inspectors-Contact Summary | Contact with Property Owners | Warning Letter | NOV |
|---|---|---|---|
| Nooksack River/Portage Bay/Drayton Harbor | 76 | 1 | 0 |

During 2019, Ecology nonpoint staff coordinated closely with WCWP partner agencies to identify confirmed or suspected pollution sources, contact landowners, and improve livestock management practices in our watersheds. During winter, the focus was mostly on source identification and providing technical assistance to livestock operators. In early spring of 2019, Ecology participated in planning and carrying out the WCWP spring outreach and messaging strategy. Part of this strategy included nonpoint staff at BFO developing a postcard that was sent to all livestock owners in Whatcom and Skagit Counties.

Continuing to focus on outreach and education, over the summer nonpoint staff developed the BFO Nonpoint Education and Outreach Plan, which was approved by Ecology in August 2019. This was a strategic plan incorporating all our anticipated outreach in northwest Washington. As part of this effort, nonpoint staff also developed a fall postcard that was sent to all known livestock operators in Whatcom and Skagit counties, and attended several community events focused around agriculture and water quality. Both the spring and fall postcards in 2019 focused on improving pasture management, reducing mud, and preventing manure-related pollution. The summer and early fall of 2019 also saw considerable discussions within the WCWP around improving the clarity and efficiency of our internal referral process.

The WCWP partners kicked off the fall season with a fall pollution prevention strategy, focusing on inter-agency collaboration, outreach to landowners about preparing their properties for the coming rains to minimize the risk of discharging polluted runoff, and systematic surveys to take stock of the watersheds Ecology works in. From mid-August through mid-October, Ecology nonpoint staff and other WCWP field staff conducted “windshield surveys” of every watershed

leading to Portage Bay or Drayton Harbor. This effort identified previous unknown livestock sites, and tracked changes in conditions at previously identified sites.

Once the rains began in mid-October, the focus shifted to water quality monitoring, pollution source identification and landowner contacts. Around the end of 2018, nonpoint staff began to conduct "storm sampling" runs in four high-risk sub-watersheds that drain to Portage Bay (Kamm Creek, Anderson Creek, Bertrand Creek, and Jordan Creek). Staff carried this practice through 2019, and it was extremely helpful in tracking how pollution moves through the area during large rain events, and in narrowing the search for specific pollution sources.

In August 2018, BFO worked with our WCWP partners, British Columbia Ministry of Environment and Climate Change, and Ministry of Agriculture, under the title "Nooksack River Transboundary Technical Collaboration Group" (WTG), to implement our three-year plan to address high concentrations of fecal coliform bacteria crossing the border in Bertrand and Fishtrap creeks. We are implementing the Three-Year Work Plan approved in August 2018. BC Ministry of Environment monitored water quality, educated property owners, identified sources of pollution and begin implementing pollution prevention practices and conduct enforcement when necessary, all components of the Three-Year Plan.

## Southwest Regional Office

### Upper Chehalis- Stearns Creek:

In September 2018, the nonpoint team learned of a dry weather exceedance on Stearns Creek, a tributary to the Chehalis River outside to the town of Claquato. We coordinated extensively with WSDA Dairy Nutrient Management staff, the conservation district and Chehalis tribal staff, and conducted seven site visits with property owners. Nonpoint staff worked with landowners to identify sampling locations so the team could conduct sampling on various segments of Stearns Creek to identify potential sources of pollution. During July and August, the nonpoint team took 48 water quality samples to identify a trend in loading concentrations.

Through data analysis, the nonpoint team was able to show a reduction in bacteria concentrations due to engagement with landowners and discussing best management practices. Each visit the nonpoint team completed landowners were provided with results from last sampling event and a map of results for the area. When the project was completed, two landowners installed fencing to restrict cattle access, and one landowner agreed to receive technical assistance from the conversation district. The overall BMPs installed resulted in over 3,000 feet of fencing installed on Stearns Creek. Moreover, the Chehalis Tribe continues monitor the upstream and downstream locations on Stearns Creek and provides monthly data to Ecology. This sharing of this

information has been extremely successfully because it has allowed the nonpoint team to develop a trend analysis for the watershed area.

We presented these results at the Chehalis Habitat Workgroup meeting and SWRO Water Quality Program meeting.

### East Fork of the Lewis River

The nonpoint team has started conducting proactive investigation work in the East Fork Lewis River. Based on results from the 2017 sources assessment, the nonpoint team started conducting site visits at the parcel level in the upper headwaters of McCormick Creek. Using GIS mapping nonpoint staff have identified 18 parcels within 200 feet from the creek. The team completed 18 site visits during June, July and August with landowners. During the site visit the discuss with the property owner their current use of the property, if they have livestock or domestic animals, their septic system records on file with Clark Public Health and walk the property to view the creek from there parcel. Thus far, the nonpoint team has identified a major landowner in the watershed, Jones Landscaping and Berry Farm. He is president of the local irrigation district and has been able to provide networking information to landowners who use the East Fork for their crop production. Furthermore, the increased visibility of Ecology in the East Fork has led to an increase in complaints. The nonpoint team has responded to four complaints within the watershed boundaries.

In an effort to ensure that bacteria results were changing the nonpoint team conducting sampling during the rainy season on McCormick Creek. The team used the existing sampling locations identified in the source assessment. By conducting active sampling, the nonpoint team was able to use the results when talking with landowners about changing their land use practices.

Other work related to the East Fork included: a meeting with Farm Service Agency to discuss the CREP program and its implementation in Clark County, specifically the East Fork, a pilot project grant application workshop for groups interested in applying for 319 and centennial funding, a public town hall meeting to educate citizens on the East Fork watershed.

The nonpoint team has also met with the City of La Center officials to discuss bacteria concerns in Breeze and Jenny Creeks. We have also met with Clark County Public Works Clean Water Division monitoring staff where we, toured monthly ambient monitoring locations, and discussed the possibility of developing a pollution identification and correction program. The nonpoint team continues to collaborate with the TMDL staff on this project to ensure communication between internal and external staff remain consistent.

### Enumclaw Plateau (Boise Creek, Pussyfoot Creek, Second Creek and White River):

In 2017, 50 sites of concern, of varying risks, were identified throughout the Enumclaw Plateau draining to the White River. High risk sites were defined as ones containing livestock with unrestricted access to a creek, degraded stream banks, little to no buffer or riparian zone, no fencing, and close proximity of overgrazed pasture. Medium risk sites were defined as sites with livestock access directly to the headwaters of the creeks with little to no buffer, riparian zone, or fencing. Low risk sites were those with overgrazed pastures adjacent to ditches draining eventually to the creeks or river.

To date, all remaining High risk sites (8) have received at least one Technical Assistance letter and in some cases were the landowner was unresponsive, a second Technical Assistance letter was sent. Four landowners have either removed the livestock or no longer own the property. One landowner requested a joint site visit with Ecology and King Conservation District staff, which resulted in a Farm Plan. This landowner is currently working on implementing best management practices recommended in the Farm Plan. Two landowners have not responded and will receive a third Technical Assistance letter.

The remaining Medium and Low risk sites (30) will received a "First Contact" Technical Assistance letter in early 2020. Staff will continue to log any new sites of concern incidentally identified while conducting field surveys to observe progress of current sites.

### Henderson and Eld Inlets:

The Henderson and Eld Inlets in Thurston County contains three sites of concern from agriculturally-related complaints in 2018-2019. All three were referred to Thurston County and are currently in the process of being addressed.

### Key Peninsula:

The Key Peninsula area within Pierce County contains seven sites of concern identified in 2018.

Staff conducted field surveys in dry and wet weather to assess the current status of these sites: Four have been closed due to observed improvements; including livestock exclusion fencing, removal of junk vehicles near drainage, pasture management with rotational grazing, and mud management (no more mud bogging adjacent to creek). Three currently remain open; one is a multi-jurisdictional effort (marina), and two sheep farms are currently working with Pierce Conservation District on Farm Plans.

## Nonpoint Enforcement Efforts

In 2019, SWRO Nonpoint staff issued 2 formal enforcement actions for nonpoint pollution. Both of these were Notice of Violations for discharge of sediment to waters of the state, including salmon bearing streams. One was issued on February 27, 2019 to Golden Eagle Farms near Toledo, WA for sediment discharge from an agricultural property in the process of being converted from pasture to a blueberry farm without adequate erosion and sediment controls. The second was issued on May 14, 2019 to the City of Winlock for failure to implement and maintain erosion and sediment controls on City property, leading to the discharge of sediment into Deep Creek, a fish bearing tributary of the South Fork of the Chehalis River.

## Central Regional Office

Implementation activities continued support of the Upper Yakima Suspended Sediment TMDL in 2019. This work included continued efforts on technical assistance before considering potential enforcement actions. Implementation activities in the lower Yakima drainage for the Granger Drain bacteria TMDL continued in coordination with the Washington Department of Agriculture.

## Eastern Regional Office

Department of Ecology ERO staff continue to implement projects for the Walla Walla Watershed TMDL Water Quality Implementation Plan (PCBs, Chlorinated Pesticides, Fecal Coliform, Temperature, pH, & Dissolved Oxygen). Ecology partnered with the nonprofit, Kooskooskie Commons, to install riparian buffers with extensive plantings throughout the primarily residential Yellowhawk Creek, a complex area with many different stakeholders.

With multiple STI plans in place around the Snake River watershed, ERO has partnered with local conservation districts to further improve water quality. The Steptoe Creek STI was highlighted in the 2018 annual report with an administrative order issued to a livestock operation along the creek. A plan was implemented in partnership with the Palouse Conservation District in 2019 with all livestock exclusion fencing installed along nearly three miles of stream. The plan will continue to incorporate off-stream watering, livestock crossing, and corral implementation to further protect Steptoe Creek. In addition, plans for another approximately two miles of riparian restoration were developed for Steptoe Creek in 2019.

The Asotin Creek has seen significant improvement over the last few years since the completion of the Asotin Creek STI. In 2019, the Asotin County Conservation District implemented more livestock exclusion fencing and installed a livestock crossing bridge along the creek. Planting projects were also incorporated throughout Asotin Creek and its tributaries.

With the Deadman and Meadow Creek 4b projects, ERO staff have been collaborating with the Pomeroy Conservation District to implement projects in 2019 in Garfield County. Over a mile of exclusion fencing was installed along Meadow Creek and associated tributaries to reduce livestock impacts. A comprehensive plan was also developed by the conservation district in collaboration with Department of Ecology to protect water quality along the stream corridor of Deadman Creek that includes over 2.5 miles of exclusion fencing and off-stream watering.

ERO began scoping for watershed cleanup plans in the Spring Flat, Almota and Alkali Flat watersheds in 2019. These regions are primarily agriculturally driven, that have been dominated by livestock grazing and conventional tillage practices for decades. Ecology hopes to have plans drafted for Spring Flat and Almota watersheds in 2020.

### Priority Watershed -- Hangman Creek TMDL Implementation

Hangman Creek is a major tributary to the Spokane River and suffers from low oxygen, high nutrients, high temperatures, and very high levels of suspended sediment. It has been designated as a priority watershed in Ecology's Eastern Region for focusing resources to address sources of non-point pollution. In 2015, the Spokane RiverKeeper challenged EPAs approval of the 2009 Hangman Creek TMDL. In early 2018, the Department of Ecology settled with the RiverKeeper, agreeing to take certain implementation actions. Our agreement with the RiverKeeper is to study, identify and fix pollution sources, and track progress. Over 80% of the land-use in the watershed is agriculture, so addressing agricultural pollution is a significant aspect of the agreement. Elements of the RiverKeeper Agreement staff have been working on include the riparian assessment, watershed evaluation, site prioritization, landowner contact, offers for technical and financial assistance, and the education and outreach strategy. Ecology has also been developing a watershed-based plan to address the nonpoint pollution sources for the Hangman.

Per the Agreement, Ecology must identify and prioritize 10 tillage sites and 5 livestock sites for BMP implementation, annually for 10 years. In 2018 and 2019, 20 priority tillage sites and 10 priority livestock sites were contacted. Extensive technical assistance was provided to the landowners. To date, 12 of the 20 tillage sites and 5 of the 10 livestock sites are being actively addressed with partners. Actions at these sites include conservation tillage practices such as direct seed that result in a Soil Tillage Intensity Rating (STIR) of 30 or less. Once fully implemented these sites will represent more than 50 miles of stream restored and 10,000 acres of conservation tillage.

Implementation partners include the Spokane RiverKeeper, Spokane Conservation District, Spokane Tribe of Indians, Spokane County Parks Department, the Lands Council, and Spokane Falls Trout Unlimited. The education and outreach strategy final draft was completed in 2019, and is planned for 2020 implementation.

Additionally, the Spokane Conservation District was recently awarded approximately $1.75 million in grant and loan funds that will assist with addressing non-point issues in the Hangman Creek Watershed. The funds look to provide low interest loans for no-till or direct seed equipment for farmers, water quality education, and cost-share for riparian restoration and conservation tillage.

***Hangman Creek Direct Implementation Fund Pilot***

Ecology and partners have also been working on a unique way to use de-obligated 319 funds to make major water quality improvements in the Hangman Creek Watershed. In 2019, Ecology worked to target the implementation funds toward four of the most severe non-point pollution problems in the watershed. Plans were completed to use an additional $135,000 in funding will to implement BMPs at these problem sites identified by Ecology during watershed evaluations. Livestock pollution is the concern at three of the sites and one site has severe erosion from tillage practices. More than four miles of livestock exclusion fence will be installed and approximately 25 acres of riparian area will be restored in 2020.

## Eastern Region Watershed Evaluations

In order to effectively implement non-point improvements in eastern Washington TMDLs, Eastern regional staff every spring perform watershed evaluations which help identify sources of water quality problems. These surveys assess the health of the streams, document where improvements have been made and identify new nonpoint pollution problems. Staff then follow up with landowners to offer technical and financial assistance to reduce sources of nonpoint pollution. This evaluation process is crucial to the work in the eastern region to identify water quality problems and work with landowners to make improvements that reduce pollution sources.

In 2019, the eastern regional staff focused on five main watersheds or areas where data shows water pollution problems are present. Staff focused on evaluating livestock grazing and agricultural tilling impacts to steams. This includes sloughing stream banks, bare ground from over grazing, manure piles, rills or gullies, turbid runoff, farming in stream corridors, and an overall lack of riparian vegetation.

Evaluations were conducted in the following areas:

- Direct Whitman County Tributaries to the Snake River (Steptoe, Wawawai, Penawawa, Alkali Flat
- Palouse River including Union Flat Creek
- Hangman Creek

Staff identified more than 200 pollution problem sites and contacted a total of 24 landowners as the next step follow up from the watershed evaluations. More specifically, five livestock and ten tillage sites were contacted in the Hangman, and nine other livestock sites within the tributaries to the Snake River and the Palouse River watershed were contacted. Extensive technical assistance and planning work with these landowners was coordinated to local partners in 2019. Staff continue to work with these landowners to meet and discuss practical conservation practices for implementation to work towards greater water quality.

### 3.1.3 Complaint Response

During 2019, Ecology responded to nonpoint source pollution related complaints received by our agency. Complaints, and follow-up to complaints, were tracked in the agency's Environmental Reporting and Tracking System (ERTS). Ecology received a variety of complaints on a wide range of activities including:

- Livestock
- Dairy/Waste
- Debris/Garbage
- Mud/silt/sediment/turbidity
- Herbicide/pesticide application
- Fertilizer
- Manure

The NWRO Bellevue nonpoint field specialist working through March 2019 responded to 14 ERTS complaints or problems observed through personal observations. This position became vacant and filling it took much of the rest of the year. Our second assigned nonpoint field specialist responded to two ERTS complaints leading one compliance effort in the Snoqualmie Watershed to control sediment and bacteria discharges to a tributary of the Snoqualmie River. Much of our second nonpoint specialist's time focused on identifying and documenting nonpoint BMPs needed in Padilla Bay watersheds in support of the fecal coliform TMDL under development there. The NWRO Bellingham nonpoint field staff specialists responded to nine ERTS complaints, three in Skagit County and six in Whatcom County.

SWRO Nonpoint staff responded to 88 ERTS complaints in 2019. These involved a combination of concerns about water quality, agriculture, livestock, sediment and other types of discharges. SWRO staff often coordinated with our local, state, and federal partner agencies in the investigation and response. Three of these resulted in formal enforcement, with Ecology issuing Notice of Violation letters.

During 2019, the Eastern Region responded to more than 50 nonpoint source pollution related complaints received by our agency. Complaints, and follow-up to complaints, were tracked in the agency's Environmental Reporting and Tracking System (ERTS). Ecology received a variety of complaints on a wide range of activities including:

- Livestock
- Tillage Pollution
- Stream Dredging
- Dairy Waste
- Debris and Garbage
- Mud/silt/sediment/turbidity
- Herbicide/pesticide application
- Fertilizer
- Manure
- Yard Waste

The eastern region uses a similar approach to complaint response as it does our watershed evaluation work. We first verify the complaint in the field by confirming the water quality problem. We then document the water quality problems and reach out to the owner of the site offering technical and financial assistance to implement appropriate fixes. Our regulatory tools serve as a backstop if water quality pollution problems cannot be address with proactive assistance. For instance, ERO received four complaints regarding stream dredging in 2019. These complaints involved more than two miles of streams dredged in order to reduce riparian soil moisture so farms can continue to till to the edge of streambanks. Staff worked with landowners to plan buffers along dredged streams to both mitigate the water quality impacts of the dredging and reduce the need for future dredging activities.

### 3.1.4 PIC Programs and Regulatory Backstop for PIC Programs

Locally led PIC programs identify and address pathogen and nutrient pollution from a variety of nonpoint sources, including on-site sewage systems, farm animals, pets, sewage from boats, and stormwater runoff. Ecology staff typically participate in regularly scheduled PIC advisory group meetings and outreach events. As needed, Ecology provides a regulatory enforcement backstop for counties to help implement the agriculture-related components of their programs.

During 2019, Ecology inspectors and/or TMDL Leads coordinated with PIC programs in the following counties:

- Mason
- Pierce

- Snohomish (Stillaguamish PIC Phase II)
- King (Poverty Bay, Quartermaster Harbor)
- Skagit (Samish River/Bay)
- Whatcom (Whatcom Clean Water Program)
- Island
- San Juan
- Clallam
- Thurston

### Northwest Regional Office

Northwest Region is most heavily invested in the Stillaguamish Phase II PIC, Whatcom Clean Water Program, and Clean Samish Initiative where both nonpoint specialists and TMDL Leads participate regularly. We also provide limited support (as needed) to the Poverty Bay, Vashon Quartermaster Harbor, Island, and Kitsap PIC programs.

### Southwest Regional Office

Ecology's Southwest Regional nonpoint staff work closely with PIC Programs in Pierce, Thurston, and Clallam counties by participating in periodic meetings with local partners to strategize how to/who should respond and address ERTS complaints. Additionally, water quality monitoring data may also lead efforts to proactively focus in areas where water quality standards are not being met.

## 3.1.5 Support Market-Based Programs that Help Meet WQ Standards and Support Compliance with State Law

### Farmed Smart

The Farmed Smart Certification program was developed by the Pacific Northwest Direct Seed Association (PNDSA) and a conservation farming technical stakeholder committee comprised of farmers, conservation districts, Ecology, researchers with Natural Resource Conservation Service (NRCS), and Washington State University. It is a voluntary program that promotes growing dryland crops in an environmentally friendly and sustainable way.

Certified farms have the flexibility to choose which practices best fit producers' needs while protecting environmental values. Certified farms are applying agricultural practices including:

- Planting practices like direct seed significantly reduce erosion and keeps soil in the fields.
- Buffers and grass filter strips on streams and rivers to protect water quality and aquatic habitat.
- Precision agriculture technology reduces chemical and fertilizer use and reduces the potential for those chemicals to reach water systems.

Ecology entered into a MOU with PNDSA in 2016, which provides that certified farms have safe harbor from formal water quality enforcement actions as authorized by the state Water Pollution Control Act RCW 90.48.

The following website has additional information about the program: http://www.directseed.org

### 3.1.6 Support No Discharge Zone Designation for Puget Sound

In 2019, Ecology continued to implement the Puget Sound No Discharge Zone (NDZ) rule, which was adopted on April 9, 2018 and became effective May 10, 2018 (Chapter 173-228 WAC). More information on the 2018 rulemaking can be found at: https://ecology.wa.gov/Regulations-Permits/Laws,-rules,-rulemaking/Rulemaking/WAC-173-228 The NDZ includes marine waters of Washington State inward from the line between New Dungeness Lighthouse and the Discovery Island Lighthouse to the Canadian border, and fresh waters of Lake Washington, Lake Union, and the connecting waters between and to Puget Sound.

The NDZ means that vessels cannot discharge sewage wastewater (toilet water/blackwater) anywhere within the zone, whether treated or not. All boats and vessels have to store their sewage until they can safely dispose of it at an onshore or mobile pumpout facility, or hold it until it can be discharged in the open ocean beyond three miles from shore. Certain commercial vessels have until May 10, 2023 to comply due to the more extensive retrofits and costs. These include tug boats, commercial fishing boats, small commercial passenger vessels and NOAA research and survey vessels.

Ecology leads two committees to implement the NDZ, and continues to work closely with committee partners to get the word out on the NDZ. The NDZ Education and Outreach Committee focused on distributing messages and resources that had been prepared when the NDZ rule was being developed. In 2019, Ecology, with input from the NDZ Education and Outreach Committee, prepared a Request for Proposal and awarded the contract for social marketing research work needed to inform the development of a coordinated multi-media campaign creating a more effective branding identify for the NDZ going forward. Ecology and its partners also attended various boating events across the Puget Sound and distributed a range of outreach materials such as rack cards, fact sheets, fuel bibs, and personally communicated with boaters about the NDZ requirements. The NDZ Enforcement Committee has been focusing on coordinating with partners on enforcement mechanisms and reporting response.

More information about the Puget Sound NDZ, including guidance for recreational and commercial boaters, can be found at: https://ecology.wa.gov/Water-Shorelines/Puget-Sound/No-discharge-zone

## 3.1.7 Support implementation of other state authorities and promote consistency with the WQ Standards

### Support implementation of the Dairy Nutrient Management Program; Ecology and WSDA continue to work on the gaps identified in the Dairy Nutrient Management Act

The Department of Ecology (Ecology) and Washington State Department of Agriculture (WSDA) continued to operate under a Memorandum of Understanding (MOU) to address livestock related water quality issues. The MOU was established as a coordinating document because Ecology and WSDA have overlapping regulatory responsibilities for water quality compliance related to livestock activities.

In 2019, Ecology staff from the SWRO worked with WSDA staff to develop a process to refer former dairy facilities that have cancelled their milking license from WSDA to Ecology Nonpoint staff for follow-up technical assistance to ensure management of livestock and manure on the sites is adequate to protect nearby surface water. Additionally, Ecology staff joined WSDA during over-flights of dairy facilities in the region to review and coordinate our watershed clean up and protection efforts.

## 3.1.8 Support education and outreach and support for voluntary programs.

One notable education and outreach (E & O) tool that Ecology utilizes is an interactive map which shows the public the active and completed water quality protection projects throughout the state that have received financial support through Ecology's combined funding Program. This map can be viewed at: https://fortress.wa.gov/ecy/eaglmap/.

Ecology continually plans and implements education and outreach efforts focused on nonpoint source pollution management. Below is a list of events in which Southwest Regional Office Nonpoint staff participated in during 2019. This is but one example of the nonpoint related E& O activities completed by Ecology staff. Various other E & O activities are noted throughout the updates in Sections 3.1 and 3.3 and are not repeated here for the sake of brevity.

1) Washington State Environmental Health Conference in Yakima, WA
2) Small Acreage Conference, WSU Extension Vancouver, WA
3) Thomas Jefferson Middle School Career Day, Vancouver, WA
4) Vancouver Watershed Congress, Vancouver, WA
5) Pacific Coast Shellfish Grower's Tour, Willapa Bay, Hood Canal & Puget Sound WA
6) Grays Harbor Stream Team presentation, Aberdeen, WA
7) Voluntary Stewardship Program Meeting, Chehalis WA

8) Grays Harbor Marine Resource Committee Meeting Aberdeen, WA
9) Chehalis Habitat Workgroup Meeting Oakville, WA
10) Voluntary Stewardship Program Meeting Lacey, WA
11) Southwest Local Workgroup Meeting Ridgefield, WA
12) Washington State Conservation District Annual Meeting, Tacoma, WA
13) Pierce CD Starting or Growing Your Farm Workshop, Key Peninsula, WA
14) Lower Hood Canal Watershed Coalition Meeting, Belfair, WA
15) King County Fair, Enumclaw, WA
16) 6th Annual STEM Event, Enumclaw, WA
17) Nisqually River Education Project Water Quality Monitoring Training, Tumwater, WA
18) Coastal Marine Resources Committee Summit, Forks, WA

### Implementation of forest practices rules statewide; periodic reviews of the Forest Practices Rules adaptive management program and the Clean Water Act Assurances

Ecology helps ensure that the Forest Practices Rules are effective in protecting water quality and meet federal and state water quality standards. These rules help protect streams, wetlands, and other bodies of water in or near forest areas and in-stream fish habitat.

Ecology provides:

- Field inspectors to help the Department of Natural Resources ensure rules are followed.
- Forest practices effectiveness monitoring and policy analysts who participate in the Forest Practices' adaptive management program.[3]

The Forest Practices Rules provide standards to:

- Preserve trees in streamside areas to keep the water cool.
- Improve in-stream fish habitat by providing woody debris and controlling pesticide use near water bodies.
- Encourage proper construction and care of forest roads to prevent silt from entering water.

In 2019 we had six regional staff act as field inspectors. Inspectors engaged in the following activities to support the implementation and enforcement of the forest practice rules:

[3] Covered below in section 3.2.2.

- Participated in field review and data collection of forest practice activities to determine compliance with the rules. Inspectors worked throughout all six DNR Regions. Prior to field visits inspectors conducted in-office FPA reviews.
- Reviewed individual forest practice applications.
- Reviewed and provided input on Compliance Monitoring Program reports and documents and participated in site-compliance inspections.
- Participated in meetings and work sessions to implement a stream typing prioritization plan and procedures for coordinating between landowners and reviewers prior to stream protocol surveys.
- Performed field inspections of selected streams, providing concurrence or recommendations for alternate points to be used to define where fish habitat exists, and where the end of perennial water occurs in order to apply different harvest prescriptions.
- Provided staff to assist DNR in evaluating readiness of counties to assume jurisdiction for forest practices within their urban growth boundaries.
- Collaboratively participated with DNR, and WDFW staff and representatives of affected Indian tribes, to identify the need for and participate in multidisciplinary ID teams and field inspections for conducting site-specific evaluation of compliance with the forest practices rules.

## 3.2 Ensure Clear Standards (Goal 2):

### 3.2.1 Identify BMPs and measures designed to comply with the WQ Standards and contribute to the protection of beneficial uses of the receiving waters, and ensure compliance with state and federal law. Utilize best available science.

#### Agricultural BMP Guidance

The development of clear, standalone, clean water BMP guidance for agricultural sources is a key enhancement for our nonpoint source (NPS) pollution program. The guidance's focus is on inventorying existing BMPs, refining those BMPs (if needed), and then assembling the BMPs into combinations that adequately address all sources of pollutants for a particular land use.

Ecology's goal is to run a process that interested parties and stakeholders believe is fair, inclusive, and respectful, that will result in robust, scientifically-based guidance which farmers will be amenable to implement, that will meet water quality standards by preventing pollution discharge at the parcel level. In 2019 we made significant progress on the guidance as described below.

Representatives from the National Resource Conservation Service (NRCS), conservation districts, Washington State Department of Agriculture, United States Department of Agriculture, Washington State University, agriculture producer groups, environmental groups, the Environmental Protection Agency, the State Conservation Commission, and the Northwest Indian Fisheries Commission are a part of the advisory group that we are working with to develop the guidance.

Advisory Group:

- Bob Amrine-Lewis County Conservation District, District Manager
- Jennifer Boie-Palouse Conservation District, Director
- Jack Field Washington Cattle Feeders Association, Executive Director
- Evan Sheffels Washington Farm Bureau, Associate Director of Government Relations
- Jay Gordon Washington State Dairy Federation, Policy Director
- Sarah Ryan Washington Cattlemen's Association, Executive Vice President
- Tracy Eriksen Palouse Farmer
- Ron Scheibe Asotin County Agricultural Producer
- Bruce Wishart Puget Soundkeeper Alliance
- Jerry White Spokane Riverkeeper
- Tracy Hanger USDA-NRCS, Washington State Agronomist
- Nick Peak EPA, Agriculture Advisor

- Randy Honcoop Raspberry Farmer
- David R. Huggins USDA-ARS, Northwest Sustainable Agroecosystems Research unit
- Jana Compton, Ph.D. Ecologist, US Environmental Protection Agency
- Gary Bahr (WSDA) Washington State Department of Agriculture, Office of Director-Natural Resources Assessment
- Brian Cochrane Washington State Conservation Commission, Habitat and Monitoring Coordinator
- Joan Wu, Ph.D., PE Washington State University
- Ash Roorbach Northwest Indian Fisheries Commission, Forest Practices Coordinator
- Allen Casey USDA-NRCS, Plant Materials Center Team Leader
- Josh Monaghan King Conservation District, Senior Program Manager for Planning and Strategic Initiative Programs
- Nichole Embertson, Ph.D. Whatcom Conservation District, Science and Planning Coordinator-Sustainable Livestock Production Program
- William Pan, Ph.D. Washington State University
- Dr. Steven Fransen, Ph.D. Washington State University, Irrigated Agriculture Research and Extension Center
- Harold Crose Grant County Conservation District, Resource Conservationist
- Bob Vadas-WDFW

We held ten advisory group meetings in 2019. During 2019 we worked on completing a draft of the introduction and tillage and residue management chapter. Multiple iterations of these parts of the guidance were provided to the advisory groups. We received input and feedback, and edited the guidance to address issues and comments provided by the group. We released a draft of the introduction and tillage and residue management chapter to the general public for comment in early 2020.

We also started work on riparian buffers and livestock pasture and rangeland BMPs. In 2019, we made the following progress on developing guidance for riparian buffers on agricultural lands:

- We completed a project plan outlining the process for developing the riparian buffer guidance.
- We completed an extensive literature search and draft bibliography focused on the effectiveness of buffers at preventing the delivery of sediment, nitrogen, phosphorus, pathogens, heat, and toxics into streams from agricultural related activities. We also made substantial progress on developing an annotated bibliography of each for the primary literature sources in the bibliography (i.e. a detailed summary for each journal article).
- For each of the pollutant groups listed above, we developed summaries of the factors (i.e. related to soils, climate, hydrological, land use, vegetation, etc.) influencing pollutant removal effectiveness by buffers.

- We completed a preliminary meta-analysis for sediment removal using data extracted from primary literature sources. This analysis was used to develop estimates for buffers that would remove 95% of sediment for different soil types, soil slopes, and slope forms.
- We completed a preliminary meta-analysis of temperature related studies and developed estimates for buffers that would inhibit warming of streams.
- We held several meetings with the advisory group and discussed the project plan, bibliography, factors summaries, and the results of the sediment meta-analysis.

Related to livestock BMPs, in 2019 we developed a detailed research plan and process for guidance development, presented the research plan to the effectiveness committee, conducted research into the impacts of grazing on riparian areas and water quality and stream processes and presented preliminary findings to the advisory team. We also conducted preliminary research on best management practices to address livestock impacts to streambanks and riparian areas and developed a working draft of the pasture and rangeland guidance which includes sections that correspond to the research plan and key research questions.

When we update the Nonpoint Plan, we will include completed volumes of the guidance.

### Forest Practices

Under Washington state law (Chapter 90.48 RCW) forest practices rules are to be developed to achieve compliance with the state water quality standards and the federal Clean Water Act (CWA). Ecology established Clean Water Act assurances (CWA assurances) for the state's forest practices program in 1999 as part of the Forests and Fish Report (FFR).

The CWA assurances established that the state's forest practices rules and programs, as updated through a formal adaptive management program, would be used as the primary mechanism for bringing and maintaining forested watersheds into compliance with the state water quality standards.

Taken in total, the forest practices program provides a substantial framework for bringing forest practices into compliance with the water quality standards. In 2009, as part of a review of the forestry program, Ecology concluded it is in the best interests of water quality, and is consistent with legislative intent, to work together with cooperating agencies and stakeholders to make needed improvements to the existing program. Ecology therefore conditionally extended the CWA assurances (which were set to expire in 2019) with the intent to stimulate the needed improvements to the forest practices and adaptive management programs.

Ecology, in consultation with key stakeholders, established specific corrective milestones. The extension of these assurances was conditioned on meeting these administrative and research milestones by the specific target dates described. These milestones serve as a corrective action plan necessary to retain the assurances into the foreseeable future.

Progress towards completing the remaining corrective milestones has remained slower than intended but continues to move forward. The causes of not meeting the scheduled target dates include, new and competing priorities; such as, the additional work related to ensuring forestry is not increasing the risk of mass wasting, work on a large proposal to establish separate requirements for small forest landowners, and a renewed focus on developing field methods for identifying points on streams that represent the end of fish habitat (with fish habitat receiving higher protection under the rules).

On December 2, 2019 Director Bellon sent a letter to the Forest Practices Board (available upon request) granting a second extension for two years (ending December 2021) based on the completion or near completion of two key Type N research projects providing enough information for the board to consider new rulemaking with regard to riparian buffers on non-fish bearing waters. Additionally, by the end of 2019 a more permanent funding sources was put in place for the Adaptive Management Program, guaranteeing continued research by CEMR.

**The table in Appendix C shows the corrective milestones and their status as communicated to the Washington Forest Practices Board at their May 2019 meeting**.

# 3.3 Develop and Strengthen Partnerships (Goal 3)

## 3.3.1 Strengthen Relationships and Receive Input from Stakeholders

Ecology recognizes the need for strong partnerships and input from stakeholders to effectively implement our nonpoint source program. Many of those efforts are detailed in other sections of this report. We are looking to highlight our activities related to key groups and partners:

### Agriculture and Water Quality Advisory Committee

Director Maia Bellon established the Agriculture and Water Quality Advisory Committee to provide her with a direct line to producers and producer groups. The committee provides input to help guide her efforts to improve Ecology's relationship with the agricultural community and change how we do our work to better respond to concerns from producers.

A broad array of agriculture interests participate on our committee to support a healthy industry and protect clean water. The committee has open dialogue about issues affecting the industry and how they intersect with our work to prevent water pollution.

This committee provides an open forum for agriculture producers and environmental interest groups to meet our staff and learn about our work. They provide valuable feedback as we tackle the challenge of insuring that working lands keep working in an environmentally friendly way.

In 2019, the committee met on March 21st, and October 17th. The committee has been successful at further improving our agencies relationship with agriculture and creating a more positive environment to implement our nonpoint program including increased acceptance and support for our watershed evaluation and TMDL implementation work, and support for the creation of the Voluntary Clean Water Guidance for agriculture. During the March meeting the agenda included presentations and discussions on the following topics:

- Voluntary Clean Water Guidance for Agriculture
- Watershed Evaluations
- Property Access Laws

At the October meeting topics included:

- Cattle Feeder Operations
- Voluntary Clean Water Guidance
- Watershed Evaluations

For detailed information on each meeting and the work of the committee please see:

https://ecology.wa.gov/About-us/Our-role-in-the-community/Partnerships-committees/Agriculture-and-Water-Quality-Advisory-Committee

### Financial Assistance Council (FAC) and Water Quality Partnership (WQP)

The FAC and WQP continue to be key forums for informing stakeholders on our nonpoint program. These groups continue to be successful in helping us coordinate and build relationships with key stakeholders.

FAC meetings were held on March 20th, July 31th, and November 13th, 2019. For more information on the FAC meetings please visit: https://ecology.wa.gov/About-us/Our-role-in-the-community/Partnerships-committees/Water-Quality-Financial-Assistance-Council

WQP meetings were held on April 11th, June 27th, and October 10th, 2019. For more information on the WQP meetings please visit: https://www.ezview.wa.gov/site/alias__1962/view_our_committees_water_quality_partnership/37053/water_quality_partnership.aspx

### Puget Sound Nutrient Forum (Forum) and Marine WQ Implementation Strategy (MWQ IS)

Both of these efforts focus on building and strengthening relationships with regional stakeholders, tribes, the regulated community, industry, and the public. Nutrient management

efforts in other large U.S. coastal estuaries have emphasized the importance of focused stakeholder engagement to build a common understanding of nutrient over-enrichment problems and potential solutions. We believe that a successful outcome for Puget Sound will rely in large part upon this engagement process, and the feedback we have received from attendees has been largely positive.

We held 7 Forums in 2019 and have another 6 Forums planned for 2020. For more information on the Forum meetings please visit:
https://www.ezview.wa.gov/DesktopDefault.aspx?alias=1962&pageid=37106

The MWQ IS effort began picking up speed in the last half of 2018 with selection of the Core and Interdisciplinary teams (including subject matter experts in wastewater, agriculture and aquaculture, stormwater, urban planning, and nonpoint implementation) and the first of five workshops.

### 3.3.2 Strengthen Relationships with Federal and State Agencies and Local Governments and Special Purpose Districts

We continued to strengthen partnerships with federal and state agencies, as well as, local governments and special purpose districts. Examples of coordination efforts with local governments and special purpose districts (highlighted above), include working with local government PIC programs, working with Conservation Districts (CDs) during our eastern region's watershed assessments and implementation efforts, collaborating with CDs in support of PNDSA's Farmed Smart Certification Program, partnering with local heath jurisdictions, counties, and CDs on the Clean Samish Initiative and Whatcom Clean Water Program.

Examples of coordination with CDs include:

- The Snohomish CD completed development of the Conservation Action Map to help document TMDL implementation actions and expand our tools for educating the public and motivating them to engage in water cleanup activities. Like the District's Better Ground web-based tool, also developed to help implement Ecology TMDLs, this tool will be expanded for use by all Puget Sound Conservation Districts in 2020.
- Asotin County CD continues to partner with Ecology to water quality improvements along several streams in their district. Because of a positive working relationship and great water quality progress already being made, we are able to use a straight to implementation (STI) approach to make progress on meeting water quality standards on several streams in Asotin County, including Asotin Creek. We were able to get right to work improving water quality and fish habitat. The district has received funding to implement BMPs that are effective at addressing pollution problems in their district. Their extensive riparian buffer and direct seed work has transformed these STI

watersheds, dramatically improving water quality and habitat for ESA listed fish. In 2019, the Asotin County CD completed several non-point projects including an effort to protect two miles of mainstem Asotin Creek with fencing and a livestock crossing bridge. Thousands of trees and shrubs were also planted in the riparian area.

- Moses Lake was closed in the summer of 2018 to recreation due to toxic algae blooms. High levels of toxicity were also recorded and the lake needed to be posted with warnings in the summer of 2019. Many residents have voiced their frustration with the poor water quality in the lake. In partnership with Grant County Conservation District, we have formed the Moses Lake Watershed Council. The Council meets at least quarterly to pursue nutrient reduction strategies and look for immediate on-the-ground actions that can be implemented to reduce nutrient pollution to the lake. We have funded the development of a Lake Management Plan to reduce nutrient loading. At this time, it is uncertain as to whether or not this plan will be equivalent to a watershed-based plan. We have also identified livestock pollution issues along the lake and worked to fund BMPs such as fencing and stockwater along the lake. A Carp Removal Pilot project has also been funded to evaluate strategies to remove invasive Carp. Carp stir up lake bottom sediments and resuspend nutrients in the water column. They also damage shoreline aquatic vegetation.
- National Water Quality Initiative – Is a partnership effort between the Palouse CD, Ecology, and NRCS. Union Flat Creek has been selected for an intensive monitoring and implementation effort. Ecology is providing funding to the Palouse CD to help implement this exciting new effort on the Palouse. In 2019, Ecology, NRCS, and the Palouse CD met to launch as well as report on this initiative. Monitoring and non-point BMP implementation work is underway.
- Kamiache Creek and Thorn Creek Paired Water Quality Study – The Palouse-Rock Lake and the Palouse CDs partnered with the Ecology to fund conservation tillage and buffer projects in the Kamiache Creek watershed and then monitor to see if we could tell a difference in water quality between Kamiache Creek and nearby stream that did not conservation tillage and buffer projects implemented. In addition to cost-share funding, Ecology provided EAP resources. The results of the study demonstrated that sediment delivery can be significantly reduced in the Palouse region through the implementation of conservation tillage in combination with buffers. In 2019, the Department of Ecology worked with the Palouse-Rock Lake CD and the Palouse CD to dedicate additional implementation funds toward Thorn Creek, a significant source of sediment pollution.
- The East Fork Lewis River Partnership continues to grow as partners collaborate on issues to address bacteria and temperature concerns in the watershed. During 2019, several organizations interested in reducing bacteria in the East Fork joined forces to start developing a pollution identification and correction program for the East Fork Lewis River watershed. The group is submitting a grant application for 319 funding for 2020.

- Prioritizing efforts in the Enumclaw Plateau to address the Puyallup Fecal Coliform TMDL has resulted in a partnership with King CD and the King County Livestock Program to assess the impacts agricultural activities may have on water quality in the Lower White River and its tributaries (Boise, Pussyfoot, and Second Creeks). In addition, an interagency team, convened by Ecology, consists of the local, state, federal, and tribal representatives. This team discusses water quality data, potential sources, and corrective actions needed to reduce FC contributions.
- Shellfish Protection Districts-Partnerships with WSDOH, County DOH, County Stormwater Management Services, local CD, and residents
    - Key Peninsula: Burley Lagoon, Filucy Bay, Rocky Bay, Vaughn Bay
    - Henderson Inlet & Nisqually Reach
    - Anna's Bay

### RCPP

Ecology staff are active partners in the Greater Spokane watershed and Palouse watershed RCPP efforts. The Regional Conservation Partnership Program (RCPP) promotes coordination of NRCS conservation activities and Environmental Quality Incentives Program (EQIP) funding. Partners provide both time and funding to expand the collective ability to address on-farm, watershed, and regional natural resource concerns. RCPP projects are five year efforts that look to fund millions of dollars of conservation work.

In 2019, more than a dozen riparian restoration and conservation tillage projects were implemented. We received confirmation in 2019 that the Palouse RCPP project would be extended for an additional 5 years and 11 million dollars. We also requested an extension for the Spokane project in 2019 and have not yet heard from NRCS regarding that request. These partnerships can be very successful. Over the last five years (including 2019), the Palouse RCPP has implemented 330 acres of riparian buffers (113% of deliverables complete); 51,000 acres of conservation tillage (133% of deliverables complete); and 500 acres of conservation easements on working farmland through ACEP RCPP and 540 acres of permanent Palouse prairie protection (180% of deliverable complete).

Ecology has agreements with both Spokane and Palouse RCPP partnerships to prioritize sites Ecology identifies through watershed evaluations. In essence, If Ecology identifies the pollution problem through its prioritization process, these sites move to the front of the line for technical assistance and RCPP funding.

Additionally, in 2019 Ecology continued supporting the Lower Yakima Valley Yakima GWMA (Groundwater Management Area) as a member of the GWMA Advisory Committee (see

https://ecology.wa.gov/Water-Shorelines/Water-quality/Groundwater/Protecting-aquifers/Lower-Yakima-Valley-groundwater) and field staff attended CD board meetings across the state.

At the state level, in addition to coordination with the state Department of Agriculture (MOU) and the Department of Natural Resources (Forest Practices) as detailed above, we continued to work with the state Department of Health on shellfish issues and in support of PIC programs, supported the Puget Sound Partnership's Puget Sound Action Agenda, and supported the State Conservation Commission in our role as a commission member.

In 2019, Ecology continued to work toward strengthening our partnership with the USDA Natural Resources Conservation Service (NRCS). NRCS staff have participated on our Voluntary Clean Water Guidance advisory group. As highlighted above we worked with NRCS and Palouse CD to expand the NWQI to Union Flat Creek.

Furthermore, we have continued to partner on two Regional Conservation Partnership Program (RCPP) projects, the Palouse River and the Spokane River funded by NRCS.

Finally, Ecology continues to participate on the NRCS State Technical Advisory Committee.

### 3.3.3 Strengthen Relationships with Tribes

Coordination between tribal, state, and local governments is important to the successful management of resources, including water quality. We have met with tribal natural resources staff at a meeting hosted by the NWIFC (Coordinated Tribal water quality program meetings) to discuss the Puget Sound Nutrient Strategy. Letters have been sent to tribes regarding the process, and inviting them to participate in the development of the Clean Water Guidance for Agriculture. An employee with the NWIFC is a member of the Voluntary Clean Water Guidance advisory group.

We responded to the Swinomish Tribes request that we focus resources on implementing the Skagit River Temperature TMDL by convening an advisory group to help develop the Lower Skagit Tributaries Temperature TMDL Strategy (discussed earlier in section 3.1.2). We share an interest in achieving water quality improvements in the Skagit watershed that support healthy populations of salmon. To do this we need to increase the pace of efforts to implement riparian restoration that would improve water temperatures.

Ecology approved and provided grant funding in 2019 to the Tulalip Tribes to do research on the thermal challenges in the lower Skykomish River and the upper Middle Fork Snoqualmie River. The project not only creates a new partnership with the USGS to collect and apply traditional FLIR analysis, but also explores the use new unmanned aerial thermal observation tools. The lower Snoqualmie and Lower Skykomish Rivers are both important Chinook Salmon and Steelhead spawning and rearing areas.

The Confederated Tribes of the Chehalis River Environmental Program staff and the SWRO nonpoint team have collaborated on finding and fixing sources of pollution in the Chehalis River watershed. The water quality staff for the tribe conducts routine water quality monitoring of the watershed. The tribe has shared exceedances with the nonpoint team, who then conducts a watershed assessment of the area to identify sources of pollution and ways to correct it.

The Muckleshoot Indian Tribe Fisheries staff continue to coordinate with Ecology's nonpoint and TMDL staff to identify sources of high bacteria in the Enumclaw Plateau by conducting water quality monitoring at two sites within the Boise Creek watershed.

## 3.4 Monitor waters for nonpoint source impairments, and program effectiveness (Goal 4)

### 3.4.1 Continue Monitoring Efforts/ Effectiveness Monitoring

Water Quality Program staff continued to perform ambient stream monitoring to support several Watershed Evaluation projects. Routine monthly characterization sampling or targeted storm event sampling were key components of Ecology activities in the Whatcom Clean Water Program and the South Skagit Bay Watershed Evaluation to identify nonpoint sources of pollution. Working in tandem with our NPDES permitting program, eleven cities and two counties were required to do additional ambient sampling for fecal coliform bacteria. These monitoring efforts complimented the existing sampling networks performed by Snohomish, Island, King, and Skagit Counties, along with sampling done by the Stillaguamish Tribe of Indians.

In 2019 Ecology committed to beginning Effectiveness Monitoring for the Snohomish Tributaries Fecal Coliform TMDL. Our agency and local partners have invested considerable effort encouraging the use of best management practices (BMPs) for livestock as well as bacteria control strategies for municipal separate stormwater systems. Working in partnership with Ecology's Environmental Assessment Program (EAP), our NWRO began collecting and mapping BMP data from Snohomish County, Snohomish Conservation District, several nonprofit organizations, and seven cities. We expect monitoring at selected sites to begin in 2020.

In 2019 the second year of the Newaukum River long term effectiveness study was completed.

The Newaukum River effectiveness monitoring study was developed cooperatively with local stakeholder groups. The study compares water quality results with implementation actions over time in three HUC12 watersheds. A project web site (https://ecology.wa.gov/Research-Data/Monitoring-assessment/Water-quality-improvement-effectiveness-monitoring) was developed to support local stakeholders and provide a near real-time updates of activities.

Ecology's effectiveness monitoring effort in Boise, Pussyfoot, and Second Creeks began July 2019. The purpose of the monitoring effort is to a) provide information on general status/trends over the 10-year implementation period, b) provide enhanced monitoring at intervals to inform adaptive management and c) provide source tracing resources to aid nonpoint staff in their corrective action efforts. The project is being led by SWRO monitoring staff, with the assistance by EAP. The project has already provided valuable insights as to the general location of pollution sources and possible/likely contributing land uses. Results so far suggest continued pollution from livestock throughout the Enumclaw Plateau, which is corroborated by monitoring staff's observations of nearby land uses in the field. Monitoring staff identify hot spots and refer these to the nonpoint staff for follow up and tracking.

Currently EAP has several active effectiveness monitoring projects across the state. These include studies in Deschutes River in Thurston County, Railroad Creek in Chelan County, and the Yakima River in eastern Washington, as well as Puyallup River in Pierce County and Boise, Pussyfoot, and Second creeks in Enumclaw, King County. All projects are long-term and are expected to continue until the waterbodies meet state water quality standards. In 2020, EAP will began a one year monitoring study in the Snohomish River watershed to assess the effectiveness of the 1996 TMDL at reducing bacteria levels in the tributary streams. The water quality program has been actively compiling implementation information that will be used in the final report. A project web site is expected to be completed to support local stakeholder groups.

The Environmental Assessment Program (EAP) continues to develop a Quality Assurance Monitoring Plan (QAMP) for assessing effectiveness of pollution control plans in Washington State. The QAMP will include all standard operating procedures for collecting, analyzing, and reporting of data that will be collected for effectiveness monitoring studies. It will also outline the framework for both a statewide and watershed level study design for assessing both programmatic and regional effectiveness of actions and plans. The statewide design will assess programmatic effectiveness using a statistical survey design that is compatible with EAPs watershed health and EPA's national water quality survey. The target population for this design are all 303(d) category 4A and 4B listed streams in Washington State.

# 3.5 Administering the Nonpoint Source Program effectively and efficiently as possible (Goal 5)

## 3.5.1 Align the nonpoint program with other relevant programs

### Critical Aquifer Recharge Areas

In 2019, two key developments occurred associated with efforts to protect critical aquifer recharge areas. The first involved Ecology's completion of a needs assessment for protecting critical aquifer recharge areas with stakeholders by soliciting comments using the Ecomments application online. We received many useful comments and recommendations. Staff also met

with and received comments from the Department of Commerce Growth Management Services and the Department of Health Office of Drinking Water. Staff reviewed these comments and completed the first review draft, which is now undergoing internal review (March 2020). This is a major complex revision that has to account for new laws and rules, the establishment of the Voluntary Stewardship Program, water law changes and the need to consider water availability as well as groundwater quality, updated Best Available Science, Growth Management Hearings Board Cases and Court Cases; Local Jurisdiction needs for information resources; and updating almost all links.

The second development was that Department of Health Wastewater Division was working on revising the Onsite Sewage System (OSS) rule that governs individual septics at residences that have a design capacity up to 3500 gallons per day. Ecology is on the Rule Committee that met for a year to discuss changes to the rule. Ecology reviewed the nitrate balance spreadsheet that WDOH is using to determine limits on loading when using alternative treatment technologies that reduce nitrogen. WDOH increased the minimum land area for most soil types, which decreases the density of loading. Ecology estimated the loading to groundwater, given WDOH assumptions, and proposed rule language to address higher risk loading by requiring environmental impact assessments for sensitive areas, including groundwater with known nitrate issues, lakes at risk from nutrients, and shellfish beds at risk from fecal coliform. The rule is expected to go out for formal public comment in the spring/summer of 2020.

Ecology continues to work with local jurisdictions on their Critical Aquifer Recharge Area plans and ordinances on request when resources allow.

## 3.5.2 Promote Accountability

### Nonpoint & Implementation & TMDL Tracking System

In support of Ecology's efforts to address nonpoint sources of pollution and develop and implement TMDLs, field staff routinely conduct windshield surveys in priority watersheds to assess conditions that may be negatively affecting water quality. These staff also respond to water quality related environmental complaints from the public.

When field staff conduct windshield surveys and complaint responses, they typically collect a variety of site information such a field notes and photographs. These efforts also require staff to manage additional information such as communications with property owners and related documents such as letter or other correspondences. To meet both staff and programmatic needs to better collect, store and track nonpoint data in a consistent and streamlined manner and manage data in a way that can be integrated with other water quality efforts such as TMDLs, the Program invested in the development of a state-wide system to collect and store nonpoint data.

The state-wide system includes the following components:

1. Mobile applications to view, collect and submit data in the field via cloud-based services
2. Web application to view, manage, track and report data
3. Internal database to store all records/data

Key nonpoint data to be collected and managed includes:

- Field observations and notes
- Photographs (geo-located)
- Communications with property owners
- Best management practice implemented

Benefits of this system are:

- Streamlined data collection in the field & reduction in equipment needed
- Increased data quality and consistency (across all regional offices)
- Simplified data management including data automation
- Field access to important information
- Ability to input, store and manage all nonpoint data in a single Ecology database
- Centralized location for pulling nonpoint data and information
- Improved ability to track efforts, produce reports and evaluate progress
- Increased ability to utilize, integrate and synthesize data e.g. spatial information
- Elimination of the need for long-term, cloud-based data storage

The Water Quality Program has completed and deployed the mobile applications needed to collect, submit and view data in the field (using mobile devices) and also released a working version of the web-application to view, edit, add and manage data in a desktop environment. Enhancements to the web application are planned in the coming year, which will include additional data tracking and reporting functionalities. Future focus will be on deploying the systems to all Ecology regional nonpoint staff and product use training.

### 3.5.3 Administer grants and loans

Chapter 2 of this report includes information on our program administration and identifies funded activities and BMPs related to our Section 319 Grant. Please review that chapter for more information on the progress we made on Goal 5. Additionally, information has been reported through the Grants Reporting and Tracking System (GRTS). There is also an interactive map that captures where we have SFY21 combined funding projects (for grant applications submitted in 2019):

https://public.tableau.com/profile/emma.kluzniok#!/vizhome/WaterQualityCombinedFundingProgramSFY21DraftOfferList/2021DraftList

### 3.5.4 Coordinated Strategic Investment

The mission of the coordinated strategic investment effort is to create an interagency forum to increase coordination and collaboration among Washington State grant programs that benefit water quality and salmon recovery while recognizing the unique roles and authorities of each agency.

The goal is to enhance communication and collaboration among state agency water quality and salmon recovery grant program managers by:

- Sharing grant guidelines, policies and best practices where possible;
- Aligning grant program data, metrics, reporting, and timelines when possible;
- To search for ways that agencies can help grant recipients save time, conserve resources, and improve project management by improving coordination across elements and phases of a common project, or, projects in the same reach or bay (this includes state, federal and NGO grant sources).

Specific efforts or achievements over this past year include:

- Quarterly coordination meetings and we regularly report out to respective agency's executive leadership teams regarding our efforts.
- Identified, through an iterative process, those areas of our respective grant/loan programs for which we can coordinate our efforts to ensure our customers – recipients of state/federal funds – experience consistency among the funding programs.
- Sharing of annual funding lists from partner agencies and programs to review for overlap and ultimately coordinated use of resources.
- FundFunder.wa.gov. A compilation of all state/federal grant and loan programs that fund Water or Salmon Recovery. This past year the workgroup finalized Washington Water and Salmon Fund Finder (WWSFF), a single portal that is filterable and sortable, and is housed at fundfinder.wa.gov. The front page is hosted by Office of Chief Information Officer and provides entry to available Washington state water and salmon funding opportunities and a front splash page with a link to workgroup participants, and a workgroup library.
- Align Guidance Policies. We are currently engaged in reviewing the RCO Acquisition Manual for consistency. ECY-WQP is facilitating an internal acquisition workgroup that is using RCO acquisition manual as a starting point for ECY funding programs (for all ECY environmental programs that do land acquisition). We will eventually adopt portions of the RCO manual that pertains to each funding program.
- Mapping of Investments. Goal is to map annual project lists on a single ArcGIS map.

# Chapter 4: Conclusions

In 2019, the State of Washington made considerable progress in protecting water quality from nonpoint source pollution. However, as EPA is well aware, water quality protection efforts inherently face significant ongoing social, financial and technical challenges. Fortunately, in Washington State one of our greatest strengths is that we have dedicated staff and partners who are committed to working collaboratively to reduce the scope and scale of NPS pollution. This cooperative, solution-oriented environment encourages innovation and adaptation in addressing both longstanding and emerging water quality challenges.

Throughout our NPS management strategy, there is a focus on implementation and clear standards. Moreover, there is an increased emphasis on greater regulatory clarity around what actions are necessary to prevent pollutants from reaching state waters and ensure compliance with the water quality standards.

We are continuing to better refine the right balance of technical assistance, financial assistance, and the use of enforcement tools. For example, watershed evaluations are becoming more standardized around the state and we are utilizing this proactive approach to not only eliminate pollution sources, but also educate the public about the role they play in protecting water quality to the benefit of their communities.

The enormity of the NPS pollution problem in Washington State requires that we continually strive to improve our programs, policies, and tools. The many advancements outlined in this report show that we are on the right track. The clean water guidance for agriculture is moving forward with a goal of producing guidance on the first set of BMPs to be completed in early 2021. This process has gained the support and participation of a diverse group of stakeholders. Moving forward, this guidance will serve as an important asset in efforts to reduce NPS pollution form agricultural sources. Our funding program continues to be successful, responsibly managed and a model for using public dollars to facilitate the most effective BMP implementations. Finally, we are taking key actions to protect water quality in the Puget Sound from nutrient and bacteria pollution. We made significant progress in establishing a no discharge zone in the Puget Sound. Additionally, we continued Puget Sound Nutrient Source Reduction Project as a strategy to control nutrient discharges to Puget Sound.

Nevertheless, we can and will do more to advance water quality protection in Washington State. We know that opportunities exist to build on our successes: we can better communicate our strategy and goals to the public; we can further refine the tools we use to document and track water quality problems in watersheds; we can improve the strategies we use to achieve clean water goals in priority watersheds; and we can better communicate the successes achieved by our NPS management program in order to facilitate further acceptance and adoption of effective NPS pollution controls throughout the state. In all these regards, the continued financial and technical

support we receive from EPA has been and will remain critical to supporting both the staff and the actions needed to implement our Nonpoint Source Management Plan and achieve clean water goals throughout the State of Washington.

# Appendix A: Goals for the 2015 Statewide Nonpoint Source Pollution Management Plan with Milestones Revised in 2020

Ecology has requested that EPA extend the deadline for the NPS plan submittal until December 31, 2021 so that the next update will include the first set of agricultural BMP guidance. We have proposed that the current NPS plan remain in effect until EPA approves the updated NPS Plan. To that end, we have updated Table 8 from the current nonpoint plan by creating interim milestones to cover the next two years (outputs and milestones proposed for replacement are shown in strikethrough). Over the next two years we will focus on completing the first set of Voluntary Clean Water Guidance Chapters. Our goal is to have them completed to by June 2021 to incorporate them into plan updated we anticipate submitting by December 31, 2021. That plan update represents a second significant area of work to be completed during the next two years. During 2021 we anticipate dedicating significant resources to completing that update and its associated public involvement process.

Another important area of work during the next two years is updating the Forest Practices Rules. In 2019 we granted a two year extension to the Clean Water Act Assurances (until December 31, 2021). This extension was provided to allow time to address deficiencies in the rules to protect small non-fish-bearing headwater streams that were identified through the adaptive management process. In order to extend the Clean Water Act Assurances beyond 2021, Ecology will need to see the program is on a clear path to making rule changes that will support cool, clean water in fishless headwater streams.

Several areas of work will continue over the next two years. Our grants and loans program is a cornerstone of the nonpoint program. We will continue to provide information on our grants and loans programs in chapter two of subsequent annual reports. We will also continue to develop and implement TMDLs and STIs/TMDL Alternatives. Developing and implementing these clean-up plans is our primary strategy for cleaning up nonpoint pollution. Additionally, our nonpoint field staff will continue to provide a regulatory backstop to several local PIC programs. We will continue to report on this work. Finally, we will continue to build relationships with local partners, tribes and stakeholders. Strong partnerships are critical to making better progress in addressing nonpoint source pollution.

| Goal 1: Clean-up impaired waters and meet water quality standards. | | | |
|---|---|---|---|
| *Objectives* | *Strategies* | *Measurable Outputs* | ***Interim** Measurable Milestones* |
| Provide incentives to drive implementation of watershed based plans. | Provide grants and loans to applicants for projects that will meet WQ Standards, ensure compliance with state law and implement a watershed based plan. | • Number and types of BMPs implemented. Number of sites where complete suites of BMPs were implemented. | Provide funding to an average of 24 nonpoint projects per year |
| Develop and implement watershed clean-up plans (TMDLs and STI projects). | Complete TMDLs and STI individual work plans that include all elements of a watershed based plan. | • Number of TMDLs and STI workplans completed.<br>• Number of watershed evaluations completed.<br>• Number of sites identified as having nonpoint source pollution problems.<br>• Number of these sites that now have BMPs that protect water quality<br>• Number and type of BMPs implemented to address nonpoint sources of pollution.<br>• Watersheds where we are doing effectiveness monitoring and results of that effectiveness monitoring | ~~Complete 265 TMDLs/STI by 2020 (average 53 per year).~~<br><br>161 TMDLs were completed by 2020, 114 of which were approved.<br><br>Complete 265 TMDLs/STIs by the end of 2021. These TMDLs/STIs will come from the following list of watershed initiatives scheduled to be completed by 2022 in our WQ-27 national program measure:<br><br>• Little Spokane DO/pH TMDL<br><br>• Hangman Creek DO/pH Alternative<br><br>• Alkali Flat Creek STI<br><br>• Spring Flat Creek STI<br><br>• Almota and Little Almota Creek STI |

| Goal 1: Clean-up impaired waters and meet water quality standards. | | | |
|---|---|---|---|
| *Objectives* | *Strategies* | *Measurable Outputs* | ***Interim** Measurable Milestones* |
| | | | • Padilla Bay Fecal Coliform TMDL<br><br>• Sammish River Temperature/DO Alternative<br><br>• Soos Creek Temperature/DO/Aquatic Habitat TMDL<br><br>• Pilchuck Temperature/DO TMDL<br><br>• French Creek Temperature/DO Alternative<br><br>• Lower White River pH TMDL<br><br>• Burnt Bridge Creek Watershed Multiparameter Alternative<br><br>• East Fork Lewis River Watershed Multiparameter Alternative<br><br>• Drayton Harbor Tributaries Bacteria TMDL<br><br>• Whatcom Creek Bacteria TMDL<br><br>• Mid Yakima River Basin Bacteria TMDL |

| Goal 1: Clean-up impaired waters and meet water quality standards. | | | |
|---|---|---|---|
| *Objectives* | *Strategies* | *Measurable Outputs* | ***Interim** Measurable Milestones* |
| | | | • Wide Hollow Creek Multiparameter TMDL |
| | Implement TMDLs and STIs. | | |
| | Completing watershed evaluations.<br><br>• Identify sites with nonpoint pollution sources.<br>• Implement BMPs (stormwater, septic, forestry, agricultural) that ensure compliance with the WQ Standards. | | Focus on a minimum of 8 priority watersheds to implement our nonpoint strategy per year.<br><br>~~In the 8 watersheds implement 10% of the STI/TMDL per year.~~ |
| | If working in agricultural areas, implement the key changes to Ecology's Watershed evaluation process as recommended by the Agriculture and Water Quality Advisory Committee. | | |
| Respond to complaints received. | Resolve complaints received by confirming whether a water quality problem exists and implementing BMPs as necessary. | • Number of complaints received, and responded to by Ecology.<br>• Number of complaints resolved. | Respond to 100% of complaints received. |
| Support local PIC Programs that help meet WQ Standards and promote compliance with state law | • Ecology and DOH will provide technical and policy support to develop PIC programs as necessary.<br>• Ecology will provide a regulatory backstop for PIC programs as necessary. | • Number of PIC programs developed.<br>• Number and type of BMPs implemented to address nonpoint sources of pollution. | |
| Support market based programs that help meet WQ Standards and support compliance with state law. | Support water quality trading programs that address WQ Standards and promote compliance with state law.<br><br>• Continue to coordinate with regional partners in Idaho, Oregon and EPA | • Number and type of BMPs implemented to address nonpoint sources of pollution in these programs.<br>• Conservation Commission report completed. | |

| Goal 1: Clean-up impaired waters and meet water quality standards. | | | |
|---|---|---|---|
| *Objectives* | *Strategies* | *Measurable Outputs* | ***Interim** Measurable Milestones* |
| | Region 10 as water quality trading markets emerge in the Pacific Northwest.<br>• Coordinate with State Conservation Commission to complete its project of determining whether there are potential credit purchasers.(add bill number)<br>• Provide technical and policy support to develop water quality trading programs as necessary. | • Number of NPDES Permits using water quality trading as a method to meet their permit limits. | |
| | Support certification/certainty programs address WQ Standards and promote compliance with state law.<br><br>• Support the implementation of the Farmed Smart certification program.<br>• Continue to coordinate with the Pacific Northwest Direct Seed Association on the Farmed Smart Certification.<br>• Work with other groups interested in similar certification or certainty programs. | • Number of acres enrolled in the Farmed Smart program.<br>• Number of certification or certainty programs developed with Ecology support.<br>• Number of BMPs implemented to address nonpoint sources of pollution. | |
| Support no discharge zone designation for the Puget Sound. | Complete final petition to EPA. | • Marine waters with no discharge zone designation. | ~~Submit final petition to EPA by 2020 or earlier~~. Completed no discharge zone designation in 2018. Implementation is proceeding as described in Chapter 3 of this report. |
| Work to coordinate our nonpoint program with state initiatives. | Support the Governor's Results Washington<br>Support the Washington Shellfish Initiative<br>Support the Puget Sound Action Agenda<br>Support the Marine Resources Advisory Council and efforts to address ocean acidification.<br>Support Salmon Recovery in Washington | | |

| Goal 1: Clean-up impaired waters and meet water quality standards. | | | |
|---|---|---|---|
| *Objectives* | *Strategies* | *Measurable Outputs* | ***Interim** Measurable Milestones* |
| | Support Chemical Action Plans (CAP) Development | | |
| Support implementation of other state authorities and promote consistency with the WQ Standards. | Support the implementation of forest practice rules statewide.<br>Support implementation of the Dairy Nutrient Management Program.<br>Ecology and WSDA continue to work on the gaps identified in the Dairy Nutrient Management Act.<br>Support DOH and LHJ implementation of OSS laws. | • Periodic reviews of the Forest Practices Rules adaptive management program and the Clean Water Act Assurances performed.<br>• MOU between Ecology and WSDA is followed and updated as necessary.<br>• Continue to fund projects that will address failing OSS. | |
| Support education and outreach and support for voluntary programs. | Use public education and outreach to build support of Ecology's nonpoint program by explaining nonpoint problems in clear and engaging language and pictures.<br><br>Support partners' education and outreach programs and voluntary programs | • Number of workshops.<br>• Number of students/attendees.<br>• Number of outreach tools used to explain nonpoint issues. | |

| Goal 2: Ensure clear standards | | | |
|---|---|---|---|
| *Objectives* | *Strategies* | *Measurable Outputs* | *Interim Measurable Milestones* |
| Identify BMPs and measures that are designed to comply with the WQ Standards and contribute to the protection of beneficial uses of the receiving waters, and ensure compliance with state and federal law.<br><br>Utilize best available science. | Support updates to the forest practice rules based on adaptive management process.<br>Support updates to stormwater manuals.<br>Continue work to provide information about what BMPs or suites of BMPs Ecology considers provide presumed compliance with state water quality laws.<br>Support DOH in updates to Washington's OSS rules if needed. | • Number and type of efforts Ecology initiates or participates in to achieve this goal.<br>• Completed BMP guidance in the form of manuals, compendiums or other guidance documents for each category of nonpoint pollution. | ~~• Complete gaps analysis as outlined in Chapter 6 by the end of 2016.~~<br>~~• Develop a process to address gaps in BMP guidance for agricultural activities by June 15, 2016.~~<br>Completion of the first set of Agricultural BMP guidance by June 30, 2022, which we anticipate including: cropland tillage and residue management, riparian buffers, pasture and rangeland management, and livestock heavy use areas (practices to be completed may change).<br><br>Forest Practices Board initiates a rule to update the forest practices regulations by December 31, 2021.<br><br>~~Complete guidance for all categories of nonpoint pollution where gaps have been identified by June, 30, 2020.~~ |

| Goal: 3 Develop and strengthen partnerships | | | |
|---|---|---|---|
| *Objectives* | *Strategies* | *Measurable Outputs* | *Interim Measurable Milestones* |
| Strengthen relationships and receive input from stakeholders. | Continue using the Agriculture and Water Quality Advisory Committee to receive input and recommendations from agriculture stakeholders, environmental stakeholders and tribes on agriculture related issues.<br>Continue using the Financial Assistance Council to receive input from stakeholders on Ecology administrated grants and loans.<br>Continue using the Water Quality Partnership to maintain a dialogue with key interests on our nonpoint source pollution work. | • Ideas generated by these groups are used by Ecology to improve its work, to improve communication and understanding, and to help Ecology put improved policy and procedural changes into practice.<br>• Number of meetings at which Ecology solicits ideas for improvement. | ~~Hold a minimum of 4 meetings per year for each group~~.<br><br>Hold a minimum of 1 meeting per year for each group |
| Strengthen relationships with federal and state agencies, and local governments and special purpose districts. | Coordinate with local governments and special purpose districts including conservation districts, and local heath districts.<br>Coordinate with other state agencies<br>• Implement MOA with Department of Agriculture<br>• Support DNRs implementation of the forest practices rules.<br>• Continue to meet with state agencies to better coordinate work. Examples of agencies that we will coordinate with include the SCC, WDFW, Commerce, RCO, DOH, and PSP,<br>Coordinate with state and federal land managers to ensure they meet the WQ Standards and prevent nonpoint pollution from reaching state waters.<br>Coordinate with federal agencies.<br>Coordinate with Interagency Team to receive input on how to improve the Water Quality Assessment and TMDL programs in Washington. | • Regional staff meet with CDs to talk about regional nonpoint priorities.<br>• Meetings with the other resources agencies on water quality and better aligning programs to meet water quality standards. | ~~Hold a minimum of 4 meetings with NRCS.~~<br><br>Hold a minimum of one meeting with NRCS. |

| | | | |
|---|---|---|---|
| Strengthen relationships with Tribes. | Coordinate with tribes. Invite tribes to provide input on nonpoint policy development early in the process. | | |
| Strengthen relationships with producer groups and agricultural producers. | Find opportunities to meet with producer groups and producers to explain nonpoint issues. | • Number of producer groups Ecology staff met with.<br>• Increased implementation rates of BMPs that ensure compliance with the water quality standards as a result of meetings with producer groups and producers. | |

| Goal 4: Monitor waters for nonpoint source impairments, and program effectiveness. | | | |
|---|---|---|---|
| *Objectives* | *Strategies* | *Measurable Outcomes* | *Interim Measurable Milestones* |
| Continue monitoring efforts. | • Perform monitoring in locations and using methods that help Ecology make management decisions.<br>• Ensure all Ecology monitoring efforts are supported with up-to-date QAPPs.<br>• Ensure all Ecology funded monitoring efforts are supported with up-to-date QAPPs and work with partners to ensure the use of QAPPs for monitoring efforts and studies that will be used by Ecology. | • All projects (both Ecology projects and external projects) are guided by QAPPs.<br>• All QAPPs are approved by Ecology environmental assessment program before data collection begins. | 100% of Ecology led projects have an approved QAPP. |
| Effectiveness Monitoring. | Ensure adequate implementation data is collected prior to starting effectiveness monitoring. | • Number of effectiveness monitoring projects performed in which there is adequate implementation data to determine whether or not our efforts are driving a change in water quality. | ~~Initiate 3 effectiveness monitoring studies per year in TMDL/STI watersheds.~~<br><br>Initiate at least one effectiveness monitoring study per year in TMDL/STI watersheds. |

| Goal 5: Ecology will administer its Nonpoint Source Program as effectively and efficiently as possible. | | | |
|---|---|---|---|
| *Objectives* | *Strategies* | *Measurable Outcomes* | *Interim Measurable Milestones* |
| Align the nonpoint program with other relevant programs. | Align the nonpoint program with the following programs:<br>• TMDL<br>• CZARA<br>• Point source program<br>• National estuary program. | • Annual Section 319 project reports document accomplishments in aligning programs. | |
| Promote accountability. | Develop TMDL and nonpoint implementation tracking system.<br>Continue support of EAGL.<br>Continue using BMP approval form to track specific BMP implementation metrics.<br>Work with partners to collect consistent implementation data.<br>Information about projects funded with 319 funds entered into GRTS. | • TMDL/nonpoint implementation tracking system completed.<br>• Grants Reporting Tracking System (GRTS) data entered by EPA deadlines.<br>• Ecology identifies gaps in implementation data. | • ~~Initiate work on a TMDL/nonpoint implementation tracking system by the end of 2016~~.<br><br>Version 1 of the nonpoint implementation tracking system is complete<br><br>Achieve the following estimated reductions per year:<br>○ 14,000 lbs. of phosphorous.<br>○ 8,000 tons of sediment.<br>○ 40,000 lbs. of nitrogen.<br><br>70 OSS repair/ replacement projects completed by SRF/ Centennial funded local loan programs. |
| Keep the nonpoint program up-to-date. | Update plan as necessary but at least once every five years. | • A Nonpoint plan updated ~~in 2020 or before~~ with the first set of Agricultural BMP guidance. | ~~One updated plan submitted to EPA in 2020.~~<br><br>Draft updates to NPS plan completed by summer 2022. |

| | | | |
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| | | | Public review and comment period completed by fall 2022.<br><br>Updated final NPS plan submitted to EPA by December 31, 2022. |
| | Complete interim updates as necessary. | • Interim updates completed to new certainty programs or other accomplishments as soon as they are achieved. | |
| Administer grants and loans. | Oversight of grants and loans ensures that projects proposed are completed and that public money is spent appropriately. | • Final project reports document that project was completed.<br>• Projects are closed out as soon as possible after completion. | |

# Appendix B: Status Report for July 1-December 31, 2019: Nonpoint Pollution Management Program Activities and Measures listed in the 2020-2021 Performance Partnership Agreement

Activities and Measures

1A. **Ecology will implement the Ecology actions identified in the 2015 Water Quality Management Plan to Control Nonpoint Source Pollution (also known as the Washington State Nonpoint Plan), depending on available funds. Ecology will submit an annual end-of-year report around April 1 of each calendar year. The EPA will use this report, along with other materials, as the basis for determining continued eligibility for future CWA Section 319 grants. (CWA §319(h)(8), EPA's Nonpoint Source Program and Grants Guidelines for States and Territories issued April 12, 2013).**

1A Status Update: *Ecology is implementing the plan. We submitted the annual progress report on April 19, 2019*.

**1B. Ecology will submit a Washington State Nonpoint Plan update to the EPA by July 2020. Ecology will update Chapter 9: Goals and Strategies, and add an appendix with completed volumes of the Voluntary Clean Water Guidance. Ecology and the EPA will work together on identifying any other areas of the Washington State Nonpoint Plan that should be updated during this cycle.**

1B Status Update: *Ecology has started to work with EPA on coordinating on updating the nonpoint plan. Ecology anticipates requesting an extension to update the nonpoint plan until after we have made more progress on the Voluntary Clean Water Guidance for Agriculture. In the interim we anticipate requesting that EPA allows us to update, and extend the goals and strategies table found in Chapter 9. We anticipate including those updates in our 2020 annual 319 report*.

**1C. Ecology and EPA will submit and award the CWA Section 319 grant on a biennial basis rather than an annual basis. For the years in which Ecology applies for the grant, Ecology will submit a grant proposal no later than March 31 and the EPA will process the grant and provide funding no later than July 1 of that same year.**

1C Status Update: *Ecology and EPA are following this procedure. Ecology and EPA are following this procedure. Ecology's CWA 319 biennial award application for SFY 20/21 was initiated per direction of the EPA PO on 3/29/2019. The new workplan was initiated on 4/17/2019 and submitted to EPA RG10 via* grants.gov *on 5/17/2019. It was approved by the EPA PO with a request for additional*

*Travel information. The Travel add was provided the EPA PO on 6/11/2019. The Add was caused by new people in the EPA RG10 Awards Office. EPA PO involvement was constant throughout the development. Ecology has been implementing the grant since 7/1/2019 based on an approved pre-award authorization for C9-00044911 provided by the EPA PO on 6/27/2019. Ecology received its first award in the amount of $3,021,000 on 8/28/2019. On 2/18/20, the EPA PO provided the amount of $3,148,000 as the second award increment to this grant. This represents an increase of $127,000 above projections. An amended workplan will be prepared in April/May 2020 to capture and record the distribution of the increased funding. The next 319 application will be created in March 2021 for submittal to EPA in April 2021, or as directed, based on the timing of the Federal Budget*.

**1D. Ecology will submit semi-annual CWA Section 319 grant progress reports by August 31 and March 1 of each year, which cover the previous half of the state fiscal year.**

1D Status Update: *Reports from 19 individuals supported by 319 funds during the period January 1, 2019 through June 30, 2019 were solicited, assembled, and uploaded into GRTS on July 29, 2019. An annual report was also sent to the grant's Project Officer April 19, 2019.*

*A second set of 17 Individual reports were uploaded in Mid-February 2020. These reports covered the period of July 1, 2019 through December 31, 2019*.

**1E. EPA will continue to track the progress and decisions of the Forest Practices Board committees and workgroups, particularly the Timber, Fish and Wildlife Policy Committee and the Cooperative Monitoring, Evaluation and Research Committee. Ecology and the EPA will continue to work with Washington State Department of Natural Resources and other agencies to ensure forest practices rules are implemented to comply with the habitat conservation plan, state water quality standards, and the Clean Water Act. EPA will provide assistance where feasible to assist Ecology and the Adaptive Management Program to achieve this objective.**

1E Status Update: *Ecology continues to fulfill its responsibilities for this activity. Since the last PPA reporting period the Department of Ecology sent a letter to the Forest Practices Board informing them that she was going to extend the Clean Water Act Assurances until December 31, 2021. This extension would provide time for the Board to reach agreement on a new rule to better protect temperature*.

**1F. Ecology will enter the data for all 319 projects, including load reduction estimates as applicable into the Grants Reporting and Tracking System (GRTS). Mandatory yearly load reduction data is due February 15 each year. Ecology will enter all other data for funded projects. Ecology will enter this data no later than April 1 each year. (EPA Program Activity Measure (PAM) WQ-9).**

1F Status Update: *Ecology reported 2019 load reductions in February 2020. All SFY 2020 agreements will be entered into GRTs by April 1, 2020*.

**1G. Ecology will continue to work with the EPA to develop success stories. Ecology and EPA will meet at least once per year to discuss potential success stories and identify if past success stories need to be modified. The stories will show progress toward, or achievement of, water quality standards under the EPA PAM WQ-10 guidance, as a result of Nonpoint Source (NPS) implementation measures. The EPA will assist Ecology with entering success stories into GRTS.**

1G Status Update: *Ecology staff coordinated with EPA on identifying potential success story watersheds during the second half of 2019. Based on that work, Ecology anticipates creating 1-3 success stories during 2020*.

**1H. Ecology will coordinate with EPA on the implementation of the Washington State Nonpoint Plan. Key areas of focus include work on the voluntary Clean Water Guidance for Agriculture (guidance on best management practices), support for the nonpoint compliance work of inspectors and other regional staff (complaint response, priority watershed clean-up projects and enforcement actions), and refinement of internal guidance on how we conduct nonpoint compliance work to improve consistency between regions. This work is funded by a combination of grants from EPA including Section 319 and NEP.**

1H Status Update: *Ecology has completed the nonpoint compliance deskbook and is working to support internal consistency in its use and ensuring field staff are trained to use the deskbook. Ecology nonpoint compliance staff are working in several priority watersheds (including the Nooksack River, Samish River, East Fork of the Lewis River, Newaukum River, Puyallup River, Drayton Harbor, Portage Bay, Skagit River, Hangman Creek, Palouse River, and Snake River watersheds). Ecology also responds to complaints across the state.*

*We are continuing to work on producing the Clean Water Guidance for Agriculture. During the second half of 2019 Ecology worked to finalize a draft of the tillage and residue management chapter. Ecology also continued work on riparian buffers, and livestock pasture and rangeland BMPs chapters.*

**1I. The EPA will actively support Ecology as it implements its nonpoint strategy. The EPA will make sure their strategies in other areas such as the NEP program do not conflict with the nonpoint efforts and the Washington State's Nonpoint Plan to the extent practicable.**

1I Status Update: *EPA should continue efforts to connect the NEP program and 319 work internally. Ecology is continuing to work toward aligning the NEP work with addressing dissolved oxygen 303(d) listings in Puget Sound*.

**1J. Ecology and the EPA will work to review and update the remaining conditions of Washington's Coastal Nonpoint Source Control Program.**

1J Status Update: *Ecology continued to meet with EPA and NOAA regarding the coastal program and completing an update of the federal approval decision rational document during 2019. Ecology provided all requested information and a draft decision rational document has been completed. Ecology is awaiting EPA and NOAA to complete their internal review process and move forward with the draft federal approval decision rational document*.

**1K. Ecology will engage in EPA led NEP or Puget Sound Action Agenda efforts that interface with the State's Nonpoint Strategy and Nonpoint Plan. This includes being the Puget Sound Stormwater Strategic Initiative Lead and Watershed Lead Organization under the NEP program.**

1K Status Update: *We are actively working with the Shellfish and Stormwater Implementation Workgroups to ensure consistency with our 319 work. Ecology is helping move the Marine Water Quality Initiative work forward*.

**1L. The EPA will provide technical expertise to Ecology's process to develop voluntary Clean Water Guidance for Agriculture.**

*1L Status Update: EPA has provided two staff to participate in this process.*

# Appendix C

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
*PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000*
*711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341*

Memorandum

April 22, 2019

TO: Forest Practices Board

FROM: Mark Hicks, Ecology Forest Practices Lead

SUBJECT: Clean Water Act Milestone Update

The Washington State Department of Ecology (Ecology) committed to provide the Forest Practices Board (Board) with periodic updates on progress being made to meet milestones established for retaining the Clean Water Act 303(d) Assurances (Assurances) for the Forest Practices Rules (Title 222 WAC) and associated programs. The last update to the Board was in August 2018.

Under state law (RCW 90.48.420(1)) the adoption of "forest practices rules pertaining to water quality by the forest practices board shall be accomplished after reaching agreement with the director of the department *(Ecology)* or the director's designee on the board… so that compliance with such forest practice[s] rules will achieve compliance with water pollution control laws". This directive is integral to meeting legislative intent to use the Forest Practices Rules affecting water quality protection to satisfy requirements of section 208, 209, and 305 of the federal Clean Water Act, as regards silvicultural activities (RCW 90.48.425) and to achieve compliance with all applicable requirements of federal and state law with respect to nonpoint sources of water pollution from forest practices" (RCW 76.09.010(2)). The Forest and Fish Report (FFR), adopted by the Board under direction of RCW 77.85, includes the goal to meet the requirements of the Clean Water Act for water quality on non-federal forest lands and using the adaptive management program to revise the rules as needed. The FFR, with this goal and the performance target of meeting the state standards, was subsequently incorporated into the state

Forest Practices Habitat Conservation Plan (FPHCP Introduction and Implementation Agreement clause

10.1).

The Assurances were originally granted in 1999 as part of the FFR and spell out the terms and conditions of how Section 303(d) of the federal Clean Water Act will be applied to lands subject to the FFR. The Assurances establish that the state's forest practices rules and programs, as updated through a formal Adaptive Management Program (AMP), will be used as the primary mechanism for bringing and maintaining forested watersheds in compliance with the state water quality standards. Those original Assurances were to last for only a ten year period. After conducting a review of the program and hearing from stakeholders that they were committed to its' success, Ecology conditionally extended the assurances for another ten years. This extension was given in good faith but was conditioned on the program meeting a list of milestones that included process improvements and performance objectives.

The 2009 milestones were established to create a framework for making steady progress in gathering information critical for assessing the effectiveness of the rules in protecting water quality as mandated by state law. Equally important was the intention to stimulate changes that would result in a more effective research program to test and adjust the rules consistent with adaptive management.

Ecology's regular updates to the Board have served as a way to report progress and to identify challenges. The updates have also provided the Board with an opportunity to make necessary changes or course corrections to keep the milestones on schedule and to protect the integrity of the program. Ecology appreciates that the Board has continually been receptive to the concerns we have expressed. Unfortunately, key milestones have languished because of limited cooperator resources and project funding, disagreement amongst stakeholders who need to be in consensus in order for projects to move forward, and the addition of new and competing priorities and assignments from the Board.

The Assurances are based on the premise that given the mandates in state law (RCW 76.09.370(7)) Ecology and the EPA can rely on the AMP to use sound scientific principles to test the effectiveness of the FFR-based rules in meeting water quality standards, and "to make adjustments as quickly as possible to forest practices" if they are ineffective. It has been almost 20 years since the Assurances were first granted, but the effectiveness of the rules remains largely untested. When the ten year conditional extension was granted, Ecology understood meeting the corrective milestones would be a challenge. But delays in completing many of these milestone projects now precludes them from being completed before the 2024 sunset date for Forest and Fish Support Account (FFSA) funding. This further puts at risk completion of the milestones.

Ecology acknowledges our attempt to use the corrective milestones to stimulate program improvements has been ineffective. The science-based Adaptive Management Program struggles with inefficiency and stakeholder conflict. Even with hiring more contractors and outside experts, it has been a struggle to move projects forward at pace.

Ecology appreciates the Board's desire to reinvigorate the program through a meeting of the principals, and to use fiscal and performance audits of the program to look for improvement. With less than a year remaining of the ten year extended Assurances, Ecology looks to the Board and cooperators to make process improvements to the Adaptive Management Program and ensure the successful use of the Type N studies. Ecology will need certainty the AMP can be relied on to meet the expectations originally set by the legislature.

Enclosed are two tables showing the milestones and their current status. Points of note are highlighted in red and reflect changes since our last briefing:

- Table 1 shows the non-CMER project milestones. These milestones are implemented outside of the Cooperative Monitoring, Evaluation, and Research (CMER) program and are largely within the control of the Forest Practices Operations Section of the Department of Natural Resources (DNR) or the Timber Fish and Wildlife Policy Committee (Policy).
- Table 2 shows the CMER Research Milestones.

Ecology is pleased to report that several overdue milestones were completed or begun during this reporting period. These include:

- Completing a study plan for conducting a small forest landowner road survey
- Approving a final report for the Buffer Integrity-Shade Effectiveness study
- Implementation the Eastside Type N Effectiveness Monitoring study at half the study sites

Also of note, Ecology has eliminate the milestones for conducting the planned Mass Wasting Landscape-Scale Effectiveness in recognition of unreasonable technical challenges.

Please contact me if you have any questions or concerns (360) 407-6477.

Enclosure

**Table 1. Summary Non-CMER Project Milestones and their current status.**

| *Non-CMER Project Milestones* | | |
|---|---|---|
| | **Summarized Description of Milestone** | **Status as of April 2019[1]** |
| 2009 | July 2009: CMER budget and work plan will reflect CWA priorities. | **Completed**<br>October 2010 |
| | September 2009: Identify a strategy to secure stable, adequate, long-term funding for the AMP. | **Completed**<br>October 2010<br><br>AMP funding to be substantially reduced in 2024 without legislative action |
| | October 2009: Complete Charter for the Compliance Monitoring Stakeholder Guidance Committee. | **Completed**<br>December2009 |
| | December 2009: Initiate a process for flagging CMER projects that are having trouble with their design or implementation. | **Completed**<br>November 2010<br><br>Process not being used in Policy or CMER. |
| | December 2009: Compliance Monitoring Program to develop plans and timelines for assessing compliance with rule elements such as water typing, shade, wetlands, haul roads and channel migration zones. | **Completed**<br>March 2010 |
| | December 2009: Evaluate the existing process for resolving field disputes and identify improvements that can be made within existing statutory authorities and review times. | **Completed**<br>November 2010 |
| | December 2009: Complete training sessions on the AMP protocols and standards for CMER, and Policy and offer to provide this training to the Board. Identify and implement changes to improve performance or clarity at the soonest practical time. | **Completed**<br>May 2016 |
| 2010 | January 2010: Ensure opportunities during regional RMAP annual reviews to obtain input from Ecology, WDFW, and tribes on road work priorities. | **Completed**<br>September 2011 |
| | February 2010: Develop a prioritization strategy for water type modification review. | **Completed**<br>March 2013 |

| *Non-CMER Project Milestones* | | |
|---|---|---|
| | **Summarized Description of Milestone** | **Status as of April 2019[1]** |
| | March 2010: Establish online guidance that clarifies existing policies and procedures pertaining to water typing. | **Completed**<br>March 2013 |

| *Non-CMER Project Milestones* | | |
|---|---|---|
| | **Summarized Description of Milestone** | **Status as of April 2019[1]** |
| | June 2010: Review existing procedures and recommended any improvements needed to effectively track compliance at the individual landowner level. | **Completed**<br><br>November 2010 |
| | June 2010: Establish a framework for certification and refresher courses for all participants responsible for regulatory or CMP assessments. | **Completed**<br><br>September 2013 |
| | July 2010: Assess primary issues associated with riparian noncompliance (using the CMP data) and formulate a program of training, guidance, and enforcement believed capable of substantially increasing the compliance rate. | **Completed**<br><br>August 2012 |
| | July 2010: Ecology in Partnership with DNR and in Consultation with the SFL advisory committee will develop a plan for evaluating the risk posed by SFL roads for the delivery of sediment to waters of the state. | **Completed**<br><br>December 2018 |
| | July 2010: Develop a strategy to examine the effectiveness of the Type N rules in protecting water quality at the soonest possible time that includes: a) Rank and fund Type N studies as highest priorities for research, b) Resolve issue with identifying the uppermost point of perennial flow by July 2012, and c) Complete a comprehensive literature review examining effect of buffering headwater streams by September 2012. | **Not Progressing**<br><br>Board directed a technical workgroup to develop Board Manual revisions. Policy agreed to use the dry-season survey method year-round rather than having wet season default distances. No further action has occurred and a map-based method is still needed. To be addressed after water typing Board Manual work is completed in 2019. This could be completed in 2021. |

| *Non-CMER Project Milestones* | | |
|---|---|---|
| | **Summarized Description of Milestone** | **Status as of April 2019[1]** |
| | October 2010: Conduct an initial assessment of trends in compliance and enforcement actions taken at the individual landowner level. | **Completed**<br>November 2010 |
| | October 2010: Design a sampling plan to gather baseline information sufficient to reasonably assess the success of alternate plan process. | **Completed**<br>December 2014 |
| | December 2010: Initiate process of obtaining an independent review of the Adaptive Management Program. | **Off Track**<br><br>Policy has periodically noted the need for this review and failed attempts have been made by DNR to get State Auditor to do the work. A new attempt is underway with hope to get an audit before 2022. |
| 2011 | December 2011: Complete an evaluation of the relative success of the water type change review strategy. | **Completed**<br>March 2013 |
| | December 2011: Provide more complete summary information on progress of industrial landowner RMAPs. | **Completed**<br>September 2011 |
| 2012 | October 2012: Reassess if the procedures being used to track enforcement actions at the individual land owner level provides sufficient information to potentially remove assurances or otherwise take corrective action. | **Completed**<br>June 2012 |
| | Initiate a program to assess compliance with the Unstable Slopes rules. | **Completed**<br>October 2017 |

| *Non-CMER Project Milestones* | | |
|---|---|---|
| | **Summarized Description of Milestone** | **Status as of April 2019[1]** |
| 2013 | November 2013: Prepare a summary report that assesses the progress of SFLs in bringing their roads into compliance with road best management practices, and any general risk to water quality posed by relying on the checklist RMAP process for SFLs. | **Off Track**<br><br>State, Tribal, and Small Landowner caucus staff cooperatively developed a plan to conduct online and field surveys to inform the condition of SFL roads. Implementation is intended to begin in 2019. Completion expected in 2020. |

**Table 2. Summary CMER Research Milestones and their current status.**

| *CMER Research Milestones* | | |
|---|---|---|
| **Description of Milestone** | | **Status as of April 2019[1]** |
| 2009 | Complete: Hardwood Conversion – Temperature Case Study (Completed as data report) | **Completed**<br>June 2010 |
| | Study Design: Wetland Mitigation Effectiveness | **Completed**<br>October 2010 |
| 2010 | Study Design: Type N Experimental in Incompetent Lithology | **Completed**<br>August 2011 |
| | Complete: Mass Wasting Prescription-Scale Monitoring | **Completed**<br>June 2012 |
| | Scope: Mass Wasting Landscape-Scale Effectiveness | **Milestone Eliminated**<br><br>UPSAG by consensus opposes doing this study due to concerns over the technical and logistical complexity of developing comparative mass wasting rates. They also question the value in deriving these estimates. Given their well stated concerns, and that other CMER studies will have more direct value to water quality protection, Ecology is removing this milestone. |
| | Scope: Eastside Type N Effectiveness | **Completed**<br>November 2013 |

| *CMER Research Milestones* | | |
|---|---|---|
| **Description of Milestone** | | **Status as of April 2019[1]** |
| 2011 | Complete: Solar Radiation/Effective Shade | **Completed**<br>June 2012 |
| | Complete: Bull Trout Overlay Temperature | **Completed**<br>May 2014 |
| | Implement: Type N Experimental in Incompetent Lithology | **Completed**<br>October 2017 |
| | Study Design: Mass Wasting Landscape-Scale Effectiveness | **Milestone Eliminated**<br>Discussed above for 2010 Scoping. |
| 2012 | Complete: Buffer Integrity-Shade Effectiveness | **Completed**<br>November 2018 |

| *CMER Research Milestones* | | |
|---|---|---|
| **Description of Milestone** | | **Status as of April 2019[1]** |
| | Literature Synthesis: Forested Wetlands Literature Synthesis | **Completed**<br>January 2015 |
| | Scoping: Examine the effectiveness of the RILs in representing slopes at risk of mass wasting. | **Completed**<br>April 2017 |
| | Study Design: Eastside Type N Effectiveness | **Completed**<br>March 2018 |
| 2013 | Scoping: Forested Wetlands Effectiveness Study | **Completed**<br>December 2016 |
| | Wetlands Program Research Strategy | **Completed**<br>January 2015 |
| | Scope: Road Prescription-Scale Effectiveness Monitoring | **Completed**<br>March 2016 |

| *CMER Research Milestones* | | |
|---|---|---|
| **Description of Milestone** | | **Status as of April 2019[1]** |
| | Study Design: Examine the effectiveness of the RILs in representing slopes at risk of mass wasting. | **Underway**<br><br>Study is being designed and implemented in five phases with the first phase sent to ISPR January 2018 and is now in SAG response review and likely to be completed in 2019. Study design for final phase estimated for 2023. |
| | Implement: Eastside Type N Effectiveness | **Underway**<br><br>Began implementing study on half of the planned number of sites in October 2018 while still trying to secure sites in the east Cascades. Full study should be in implementation by late 2019. |
| 2014 | Complete: Type N Experimental in Basalt Lithology | **Completed**<br>August 2017 |
| | Study Design: Road Prescription-Scale Effectiveness Monitoring | **Completed**<br>**February 2017**<br><br>Unexpected permit delayed the start of study to Spring 2019. Projected completion estimated for 2026. |

| *CMER Research Milestones* | | |
|---|---|---|
| **Description of Milestone** | | **Status as of April 2019[1]** |
| | Scope: Type F Experimental Buffer Treatment | **Complete**<br>December 2015<br><br>Completion of study scheduled for 2028. |

| *CMER Research Milestones* | | |
|---|---|---|
| **Description of Milestone** | | **Status as of April 2019[1]** |
| | Implementation: Examine the effectiveness of the RILs in representing slopes at risk of mass wasting | **Earlier Stage Underway**<br>See discussion above for 2013 Study Design. Phase 1 implementation to likely to being in 2020. Projected completion of study in 2025. |
| | Study Design: Forested Wetlands Effectiveness Study | **Underway**<br>Draft for first phase of implementation in ISPR review. Second phase study design likely to be completed in 2021. Projected completion of study in 2028. |
| 2015 | Complete: First Cycle of Extensive Temperature Monitoring | **Underway**<br>In post-ISPR review at CMER with project completion expected in 2019. |
| | Scope: Watershed Scale Assess. of Cumulative Effects | **Off Track**<br>Project intended to follow other effectiveness monitoring studies which are behind schedule. Policy scheduled study to begin in 2026. |
| | Scope: Amphibians in Intermittent Streams (Phase III) | **Not Progressing**<br><br>Ecology asked that the Type N Basalt study, once completed, be examined to inform the need for this study. Ecology intends this study address the question of whether harvesting, particularly clearcutting, along portions of streams that go seasonally dry has a greater detrimental effect on stream associated amphibians.<br><br>Policy scheduled start of study for 2020. |

| *CMER Research Milestones* | | |
|---|---|---|
| **Description of Milestone** | | **Status as of April 2019[1]** |
| 2017 | Study design: Watershed Scale Assess. of Cumulative Effects | **Off Track**<br>Discussed above for 2015 scoping. Study design scheduled for 2027. |
| | Study Design: Amphibians in Intermittent Streams (Phase III) | **Off Track**<br>Discussed above for 2015 scoping. Study design scheduled for 2021. |
| 2018 | Complete: Roads Sub-basin Effectiveness | **Not Progressing**<br>Project to be re-scoped in 2027 with completion in 2031. |
| | Implement: Watershed Scale Assess. of Cumulative Effects | **Off Track**<br>Discussed above for 2015 scoping.<br>Implementation scheduled to start 2028. |
| | Complete: Type N Experimental in Incompetent Lithology | **On Track**<br>Projected completion in 2019. |
| 2019 | Complete: Eastside Type N Effectiveness | **Earlier Stage Underway**<br>Discussed for 2013 implementation.<br>Projected completion in 2026. |

**Status terminology:**

**"Completed"** - milestone has been satisfied (includes those both on schedule and late).

**"On Track"** - work is occurring that appears likely to satisfy milestone on schedule.

**"Underway"** - work towards milestone is actively proceeding, but likely off schedule.

**"Earlier Stage Underway"** – project initiated, but is at an earlier stage (off schedule) then the listed milestone.

**"Not Progressing"** - no work has begun, or work initiated has effectively stopped.

**"Off Track"** - 1) No work has begun and inadequate time remains, 2) key stakeholders are not interested in completing the milestone, or 3) attempt at solution was inadequate and no further effort at developing an acceptable solution is planned.

# Appendix D

**Statement of Maintenance of Effort (MOE) related to Section 319(h)**

**MOE Base Level**: Based on available Ecology data from 1985 and 1986, the average level of annual pass through awards for nonpoint source control projects focused on improving water quality was $480,254. Projects were funded using state Referendum 39 funds.

**MOE Maintenance**: Ongoing pass through funding for nonpoint source projects focused on restoration and protection of water quality has far exceeded the MOE Base Level, mostly through resources provided through the Washington State Centennial Clean Water Fund and the Clean Water State Revolving Fund (CWSRF).

Between 1988 and 2017 Ecology has awarded an average of $4 million per year in state nonpoint source project funding. These funds were not used as Section 319 or other federal match.

In State Fiscal Year 2019 Ecology offered $856,759 in state funds not used as Section 319 or other federal match from our Centennial Grant Program and $21,202,047 from Clean Water State Revolving Fund non-federal funds.

| **Maintenance of Effort (MOE) List for State Fiscal Year 2019 per CWA Section 319(h)(9)** | | | | | | |
|---|---|---|---|---|---|---|
| **Final Non Point and On-Site Projects Excluding 319 Matching Projects** | | | | | | |
| **Applicant** | **Project Title** | **Project Category** | **County** | **Centennial Grant** | **CWSRF Standard Loan** | **Short Description** |
| Lummi Indian Business Council | Fine Sediment Reduction by Flood-plain Connect- | Non Point Source Activity | Skagit | $406,112 | $0 | Fine sediment is a major limiting factor to Puget Sound Chinook in the Nooksack watershed. To reduce fine sediment impacts, the project goals are to reconnect the South Fork Nooksack River mainstem to its left floodplain during 1-year or greater discharges, increase pool habitat with woody cover, reduce the input of fine sediment to the mainstem from the Elk Flats slide on |

| Maintenance of Effort (MOE) List for State Fiscal Year 2019 per CWA Section 319(h)(9) | | | | | | |
|---|---|---|---|---|---|---|
| **Final Non Point and On-Site Projects Excluding 319 Matching Projects** | | | | | | |
| **Applicant** | **Project Title** | **Project Category** | **County** | **Centennial Grant** | **CWSRF Standard Loan** | **Short Description** |
| | ivity in the SF Nook-sack River | | | | | the right bank river bend, and reduce the in-channel storage of fine sediment downstream from the Elk Flats slide. |
| Skagit County - Public Works Dept. | Maddox Creek Culvert Removal and Stream Enhancem ent | Non Point Source Activity | Skagit | $450,647 | $0 | Sediment is dumped into the Maddox Creek watershed through a perched culvert installed in preparation of development in the area, but development never occurred. The culvert is unused and is increasing the rate of fine sediment input while blocking documented salmonids from moving upstream in the system. Skagit County in partnership with the City of Mount Vernon proposes removing the culvert to provide water quality benefits and improve rearing habitat. |
| Nisqually Indian Tribe | Mashel River and Ohop Creek Water-Quality Protection | Non Point Source Activity | Pierce | $0 | $14,243,752 | This project will acquire for permanent ecosystem services based management and restoration 5,221 acres of timberlands and 42 miles of stream and tributary shoreline in the Nisqually Watershed's Mashel River sub-basin and 2,560 acres of timberlands and 26 miles of stream and tributary shoreline in the watershed's Ohop Creek sub-basin. |
| Clark County - Public Health Dept. | Regional Clean Water Loan Program expansion to | On-Site Sewage System | Statewid e | $0 | $6,000,000 | Grow Regional Clean Water Loan Program (RLP) into 20+ county partnership with nonprofit lender to offer financial assistance via affordable loans for failing onsite septic systems. RLP reduces barriers to regulatory compliance and improves surface/groundwater quality benefitting public health, ecosystem health, shellfish harvesting. Proposal adds counties in Eastern WA/Columbia River Basin, deepens support to Puget |

| Maintenance of Effort (MOE) List for State Fiscal Year 2019 per CWA Section 319(h)(9) | | | | | | |
|---|---|---|---|---|---|---|
| **Final Non Point and On-Site Projects Excluding 319 Matching Projects** | | | | | | |
| **Applicant** | **Project Title** | **Project Category** | **County** | **Centennial Grant** | **CWSRF Standard Loan** | **Short Description** |
| | improve water quality. | | | | | Sound/Coastal Counties, and increases lending capital for low-income households. |
| Skagit County - Health Dept. | Skagit County Non-point Septic Repair Fund | On-Site Sewage System | Skagit | $0 | $750,000 | The purpose of this project is to continue Skagit County's county-wide non-point local loan repair fund. This project provides loans to qualified property owners for the repair of failing individual on-site septic systems in the Shellfish Protection District, including Marine Recovery Areas (MRAs), Sensitive Areas (SAs), or contribute directly or indirectly to poor water quality in water ways that lead to shellfish beds in the Puget Sound as well as recreational waters in Skagit County. |
| Grant/Loan Total Offered SFY 2019 | | | | $856,759 | $21,202,047 | |

# Appendix E

## 319 Work Plan Commitments FFY 2019/2020

| +Tasks | Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| Direct NPS Policy in support of expenditures of grant allocations. | Develop, coordinate, and implement timely policy. | 6/30/20<br>6/30/21 | X | x | *Tables 1- 8 , 2015 NPS Plan* | *Ben Rau* |
| Management of nonpoint policy and programs | Updated policy as needed and coordinate with FMS | 6/30/20<br>6/30/21 | X | x | | |
| Development/direct statewide nonpoint strategies | Appoint staff and develop new strategies as needed | 6/30/21 | | x | | |
| Coordinate the use of funds to support Internal, DIF, and External activities and sub-grants. | Work with EPA, WMS, and FMS to affect coordination and distribution to WQP and EAP. | 3/31/20<br>6/30/21 | X | x | Table 8, 2015 NPS Plan | Ron McBride |
| Manage the 319 FA11 and 12 until close 6/2022 and FA12 until close 2024. Focus on Grant allocations and expenditures. | Conduct quarterly fiscal reviews, fiscal tracking and reporting, Coordinate with EPA for modifications. | 6/30/20<br>6/30/21 | X | X | | |
| Semiannual reports in July/Jan annually support upload into GRTS by FMS. | Solicit, Review, Assemble-provide reports to FMS for uploading to GRTS | 3/31/20<br>3/31/21 | X | X | | |

## 319 Work Plan Commitments FFY 2019/2020

| +Tasks | Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| Year-end report to EPA: prepare Chapter #2 (Financials; Load Reductions; and, BMPs | Complete Ch 2. Provide to P. Lizon. | 3/31/20<br><br>3/31/21 | X | x | Table 8, 2015 NPS Plan | Ron McBride |
| Develop 319 Grant for FFY 2021/22 | Develop Grant; coordinate;<br><br>Grant Submitted through fiscal- grants.gov | 4/30/21 | | X | | |
| Develop grant amendments as required | Submit amendments as needed | Ongoing | X | X | | |

## 319 Work Plan Commitments FFY 2019/2020

| +Tasks | Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| 319 reporting | Submit annual report to EPA | 04/20200<br>04/2021 | X | x | *Tables 1 – 8 of the 2015 NPS Plan* | *Patrick Lizon* |
| Ag. BMP Project | Develop portions of the Clean Water Practices primarily riparian buffer (BMP) for Agriculture guidance document | 06/2020 | X | | | |
| | Conduct internal training and assistance to TMDL leads on BMPs and TMDL implementation | Ongoing<br>6/2021 | X | X | | |
| Nonpoint strategy and implementation development | Work on urban, agriculture, compliance and TMDL nonpoint issues | Ongoing<br>6/2021 | X | X | | |
| | Work on TMDL implementation plans, Straight to Implementation Projects and NPS clean up strategies | Ongoing<br>6/2021 | X | X | | |
| | Coordinate with our Financial Management Section on updates to funding guidelines | 06/20<br>06/2021 | X | X | | |
| | Coordinate regions' nonpoint enforcement actions and DIF | Ongoing<br>6/2021 | X | X | | |
| | Coordinate with State AG's office on nonpoint policy and enforcement issues | Ongoing<br>6/2021 | X | X | | |

## 319 Work Plan Commitments FFY 2019/2020

| +Tasks | Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| Nonpoint strategy and implementation development | Support development and implementation of certification and certainty programs as needed | Ongoing<br>6/2021 | X | X | *Tables 1 – 8 of the 2015 NPS Plan* | *Patrick Lizon* |
| | Update State NPS Management Plan | 12/31/20 | X | | | |
| Education/outreach | Present nonpoint plan and BMP strategy to internal and external audiences | Ongoing<br>6/2021 | X | X | | |
| | Lead NP workgroup for Ecology staff | Ongoing<br>6/2021 | X | X | | |
| | Help update website and other materials to support nonpoint plan implementation | Ongoing<br>6/2021 | X | X | | |
| | Coordinate with Partners (State Agencies; Federal Agencies; and local government/agencies) | Ongoing<br>6/2021 | X | X | | |

## 319 Work Plan Commitments FFY 2019/2020

| +Tasks | Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| Clean Water Best Management Practice Guidance for Agricultural | Develop BMP guidance for major agricultural sectors found in Washington state with a near-term focus on pasture and rangeland grazing practices to protect water quality. Support an external stakeholder feedback process by presenting information, providing draft guidance materials for feedback and communicating progress and decisions. | Ongoing<br><br>6/30/21 | X | X | Tables 3, 6, and 8 of the 2015 NPS Plan | Ron Cummings |
| Nonpoint Data Management System – Field Data Collection App for Mobile Devices, Web Application and Database | Finalize development of mobile application used to conduct site evaluations and inspections using mobile devices and cloud based services. | 9/2019 | X | | | |
| | Finalize development of a database and web application to store and view field collected data such as site observations, photographs, and field notes and organize other associated information. . | 9/2019 | X | | | |
| | Field test and deploy mobile application and web application to all Ecology Regional Offices for state-wide use. | 9/2019 | X | | | |
| | Provide application use and business rule training to field staff and managers. | 9/2019 | X | | | |

## 319 Work Plan Commitments FFY 2019/2020

| +Tasks | Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| Nonpoint strategy, Implementation development, and Enforcement | Develop approaches to address urban, rural and agriculture sources of nonpoint pollution to support compliance and TMDL implementation efforts. | Ongoing<br><br>6/03/21 | X | X | Tables 3, 6, and 8 of the 2015 NPS Plan | Ron Cummings |
| | Work on TMDL implementation plans and NPS clean up strategies | Ongoing | X | X | | |
| | Coordinate nonpoint enforcement actions among Ecology regional offices. | Ongoing | X | X | | |
| | Coordinate nonpoint enforcement actions with WSDA when needed. | Ongoing | X | X | | |
| | Enhance state law enforcement protocols and guidance to address nonpoint pollution | Ongoing | X | X | | |
| Support Governor's Shellfish Coordination Group/ Washington Shellfish Initiative | Continue discussions to increase coordination among agencies to address nonpoint pollution affecting shellfish growing areas | Ongoing | X | X | | |
| | Develop strategies to focus inspections, financial resources, and clean-up efforts to address pollution sources affecting shellfish growing areas | Ongoing | X | X | | |
| | Investigate legislative options to address pollution sources or develop other initiatives to focus efforts toward reducing nonpoint pollution | Ongoing | X | X | | |

## 319 Work Plan Commitments FFY 2019/2020

| +Tasks | Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| Watershed Financial Management | Work with Project Managers and Recipients to assist in meeting reporting requirements and review and approve payments for approximately 15 projects. | Ongoing<br><br>2021 | X | X | *Table 8 of the 2015 NPS Plan* | Laurie Webster |
| Development and Administration | New agreements (approximately 4 per year).<br><br>Amendments (approximately 3 per year)<br><br>Closeouts (approximately 5 per year). | Ongoing<br><br>2021 | X | X | | |
| Semiannual reports | 319 Progress Reports | 2 each year for two years<br><br>2021 | X | X | | |

## 319 Work Plan Commitments FFY 2019/2020

| +Tasks | Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| Preparation of, and support for, the SFY2019 and SFY2020 funding application processes | Process applications data, and associated evaluations data, for projects seeking 319 funding for State Fiscal Year 2021and State Fiscal Year 2022 funding cycles.<br><br>Create SFY 2021 Offer and Applicant lists by 6/30/2019, Create State Fiscal Year 2022 Offer and Applicant lists by 6/30/2020. | 6/30/20<br><br>6/30/21 | X | X | *Table 8 of the 2015 NPS Plan* | *Brian Brada* |
| Coordinate and provide any needed tech support for STEPL load reduction reporting tool and processes as needed | Support recipients and program coordinator with STEPL load reduction estimation software during the Load Reduction Reporting period for each year, on an as-needed and ongoing basis. | 6/30/20<br><br>6/30/21 | X | X | | |

## 319 Work Plan Commitments FFY 2019/2020

| +Tasks | Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| Track projects and organizations seeking funding. Coordinate that data with active agreements' data for ad-hoc reporting purposes and in support of regular 319 program management. | Maintain and produce data from the WQFAA database, EAGL database, and other sources, to build needed reports and information about 319 funding and funded projects, as needed. | 6/30/20<br><br>6/30/21 | X | X | *Table 8 of the 2015 NPS Plan* | Brian Brada |
| Support development of mapping and mapping tools, both in the Ecology Administration of Grants Loans (EAGL) system and outside it, of 319 projects and funding alongside all funded projects | Work on design and development teams for EAGL to ensure proper data is available for mapping of 319 funding and projects. Create map products via that 319 data as needed. | 6/30/20<br><br>6/30/21 | X | X | | |

## 319 Work Plan Commitments FFY 2019/2020

| +Tasks | Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| Design and implement tools for collecting data for EPA reporting elements. | Reporting all required elements in GRTS database. | Ongoing<br>6/30/21 | X | x | *Tables 1 through 8 of 2015 NPS Plan* | *Eliza Keeley-Arnold* |
| Manage 319 sub award data. | Compile project and spending information for management purposes. | Ongoing<br>6/30/21 | X | x | | |
| Develop and execute all SFY 2019 and 2020 recipient grant agreements. | Develop list of new nonpoint funded projects and ensure agreements comply with 319 requirements. | 1/31/20<br>1/31/21 | X | x | | |
| Coordinate Funding Guidelines revisions. | Work with Watershed Management Section to update policy and revise funding guidelines. | 5/30/20<br>5/30/21 | X | x | | |
| Semiannual reports (Individual and sub-recipient data). | Solicit, review, assemble then input progress reports from 319 and matching pass-through grant recipients into GRTS database. Upload individual progress reports from Ecology staff. | 2/28/20<br>2/28/21<br>8/31/20<br>8/31/21 | X | x | | |
| Year-end report (Annual Report, CH2, data) | Provide summary of pass-through grant progress including agreement negotiation status, load reductions, and best management practices implemented. | 3/31/20<br>3/31/21 | X | x | | |

## 319 Work Plan Commitments FFY 2019/2020

| +Tasks | Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| Load reduction and best management practice implementation reports. | Solicit, review, assemble then input load reduction reports from 319 and matching recipients into GRTS database. | 2/28/2020<br><br>2/28/2021 | X | x | *Tables 1 through 8 of 2015 NPS Plan* | *Eliza Keeley-Arnold* |
| Help with EPA grant closeout | Ensure all final payments, progress reports, and final project reports for pass-through grants are submitted to Ecology and EPA. | 09/30/20<br><br>09/30/21 | X | x | | |

## 319 Work Plan Commitments FFY 2019/2020

| +Tasks | Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| Puget Sound Nutrient Forum Coordination | Coordinate workshops for stakeholder engagement in Puget Sound Nutrient Source Reduction Project and total maximum daily load (TMDL) alternative process. | 6/30/21 | X | x | *Tables 1-8 of the 2015 NPS Plan* | Kelly Ferron |
| | Develop outreach materials for Forum, to include focus sheets, webpages, and blog posts. | 6/30/21 | X | x | | |
| | Educate stakeholders on strategies and tools to identify nonpoint pollution problems. | 6/30/21 | X | x | | |
| Nonpoint outreach material development | Develop nonpoint pollution prevention materials, to include focus sheets, flyers, guidance documents, mailers. | 6/30/21 | X | x | | |
| | Review and refine nonpoint outreach materials with state regional offices. | 6/30/21 | X | x | | |
| | Implement outreach activities to support priority work of Watershed planning unit. | 6/30/21 | X | x | | |
| Web editor for nonpoint website pages. | Review, edit, and publish web content. | 6/30/21 | X | x | | |
| Nonpoint strategy development for Puget Sound Nutrient Source Reduction Project | Provide technical assistance to regional staff on water quality regulations and implement Puget Sound Nutrient Reduction nonpoint strategy | 6/30/21 | X | x | | |
| | Ensure consistency in outreach and approach to reducing nonpoint pollution across regions. | 6/30/21 | X | x | | |

## 319 Work Plan Commitments FFY 2019/2020

| Tasks: Wilson Creek TMDL Implementation Plan | Milestones: Coordinate with local entities for implementation | Completion Date: 6/30/20 | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| Provide outreach to local irrigation districts and City of Ellensburg on TMDL implementation. | Continue to meet with stakeholders from local irrigation districts and City of Ellensburg to reduce Fecal Coliform from Wilson Creek, thereby reducing Wilson Creek's Fecal Coliform contribution to the Upper Yakima River | Ongoing | X | X | *Tables 1, 3, 6, ND 8 OF THE 2015 NPS Plan* | *Lloyd Stevens Jr.* |
| Implement Wilson Creek Detailed Implementation Plan. | Continue to assess WQ data provided by local irrigation districts and the City of Ellensburg to determine progress in reducing Fecal Coliform levels. | Ongoing | X | X | | |
| Achieve Fecal Coliform/Turbidity TMDL Compliance. | **WRIA 39, Upper Yakima River.** Continue working toward achievement of load allocations. | Ongoing | X | X | | |
| Semiannual 319 reports | Solicit, Review, Assemble-provide | 3/31/20 | X | X | | |
| Year-end 319 report | | 6/31/20 | X | X | | |

## 319 Work Plan Commitments FFY 2019/2020

| **Tasks: Granger Drain Implementation Plan** | **Milestones: Coordinate with local entities for implementation.** | **Completion Date 6/30/20** | **Year 1** | **Year 2** | **Nonpoint Plan #** | **Responsible Staff** |
|---|---|---|---|---|---|---|
| Provide outreach to SVID and Roza Irrigation Districts for TMDL Implementation | Continue to meet with stakeholders from SVID and Roza Irrigation Districts to reduce Fecal Coliform contributions to the Lower Yakima River. | Ongoing | X | X | *Tables 3, 5, &11 of the 2015 NPS Plan* | *Lloyd Stevens Jr.* |
| Implement Granger Drain Detailed Implementation Plan. | Continue to assess WQ data provided by to SVID and Roza Irrigation Districts to determine progress in reducing Fecal Coliform levels | Ongoing | X | | | |
| Achieve Fecal Coliform/Turbidity TMDL Compliance. | **WRIA 37, Lower Yakima River.** Continue working toward achievement of load allocations. | Ongoing | X | X | | |
| Semiannual 319 reports | Solicit, Review, Assemble-provide | 3/31/20 | X | X | | |
| Year-end 319 report | | 6/31/20 | X | X | | |
| Develop | Develop | Ongoing | X | X | | |

## 319 Work Plan Commitments FFY 2019/2020

| +Tasks | Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| Reduce Nonpoint source impacts to surface water-<br><br>Respond to complaints and provide necessary follow-up through to TA and necessary enforcement.<br><br>Conduct annual watershed assessments in specifically selected watersheds within region. Follow up with technical assistance letters and outreach efforts. Track progress with landowners and implementation.<br><br>Provide technical assistance, education and outreach efforts for regional audience including partners, other agencies, schools and colleges, and public events. | Develop and implement. | 6/30/20<br><br>6/30/21 | X | x | *Tables 3, 5, &11 of the 2015 NPS Plan* | Megan Gilmore<br><br>(Vacant) |
| Manage grants and loans –<br><br>Provide necessary assistance to Walla Walla Stevens, Ferry and Pend Oreille CD's and partners. Follow up with effectiveness monitoring plans. Assist CD's with new grant proposals. Conduct project site visits.<br><br>Review and rank grant applications and grant proposals, track existing grants and service through agency's EAGL system while coordinating with fiscal staff. | Updated | 6/30/20<br><br>6/30/21 | X | X | | |

## 319 Work Plan Commitments FFY 2019/2020

| +Tasks | Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| Development of new grant agreements and project proposals. | Develop new | 6/30/20<br>6/30/21 | X | x | *Tables 3, 5, &11 of the 2015 NPS Plan* | Megan Gilmore<br>(Vacant) |
| Coordinate with other nonpoint staff to provide technical and outreach support. Provide GIS support to non-point unit. Continue with development of in-house application software as necessary to improve efficiency of data collection and records keeping. | Work with | 6/30/20<br>6/30/21 | X | X | | |
| Manage and implement TMDL's for Colville, Chamokane (STI) and Walla Walla watersheds as necessary. | Conduct | 6/30/20<br>6/30/21 | X | x | | |
| Semiannual reports | Assemble-provide | 6/30/20<br>6/30/21 | X | x | | |

## 319 Work Plan Commitments FFY 2019-2021

| +Tasks | Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| Provide hydrogeology support as a member of the Forest and Fish Team within the SWRO. Assist regional Water Quality Program staff, other Ecology, and other State Agency staff with water quality concerns in the Southwest Region. | Assist regional SWRO staff with hydrology support and on approximately 30 complex issues concerning water quality. | 6/30/21 | X | x | *Tables 4, 7, and 8 of the 2015 NPS Plan.* | *Chris Johnson* |
| Compliance Monitoring Program field visits (reviews) requested by Washington Department of Natural Resources (WADNR). | Participate in approximately 30 compliance monitoring field visits annually. | 6/30/121 | X | X | | |
| Stream typing classification requests as assigned by the Forest Practices Division at WADNR. | Review approximately 120 new Water Type Modifications. | 6/30/21 | | X | | |
| Technical Assistance field visits (Inter-discplinary Field Team reviews) as requested by the Forest Practices Divion at WADNR. | Conduct approximately 75 Inter-disciplinary Field Reviews as requested by DNR. | 5/30/19<br>5/30/21 | X | X | | |
| Review forest practice applications, alternate plans, emergency timber harvest applications, long-term plans, geotechnical reports, habitat conservation plans, and other timber management plans for water quality considerations. | Conduct office reviews of approximately 100 Forest Practice Applications (FPA), Pre / Post field reviews. | 2/15/19<br>2/15/21 | X | X | | |

## 319 Work Plan Commitments FFY 2019/2020

| +Tasks | Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| Perform forest Road Maintenance & Abandonment Plan (RMAP) reviews / inspections for water quality considerations under the Forest Practices (FP) plans. | Conduct approximately 30 Forest Practices reviews/inspections/ technical assistance visits (State and Large Private) RMAP, Pre-application reviews. | 2/1/19<br><br>2/1/21 | x | X | *Tables 4, 7, and 8 of the 2015 NPS Plan.* | *Chris Johnson* |
| Provide technical assistance as requested, to the U.S. Forest Service, U.S. Fish and Wildlife Service, Bonneville Power Administration, National Oceanic and Atmospheric Administration (NOAA) Fisheries, Indian Tribes, state agency, and private landowners on forest practice issues such as erosion & sediment control, forest road construction, maintenance, and riparian temperature concerns. | Conduct 12 technical reviews for Federal Compliance under to meet Federal Clean Water Act Assurances. | 3/31/19<br><br>3/31/21 | x | X | | |
| Develop and recommend water-quality enforcement actions to regional management as related to forestry violations. Use the Washington Department of Ecology's SW Region inspection report for all recommended actions. | Develop a number of enforcement actions as required for regional management related Forest Practices Violations. | 4/30/21 | x | X | | |
| Review and provide comment (as necessary) on forest practice agency policies, State Environmental Policy Act (SEPA) documents, and inter-and intra-agency actions, as requested. | Prepare comments on forest practices policy issues as required. Estimate 24 SEPA reviews. | Ongoing | x | X | | |

## 319 Work Plan Commitments FFY 2019/2020

| +Tasks | Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| Task 1:<br><br>Serve as Ecology's representative and voting member on the state's Cooperative Monitoring, Evaluation, and Research Committee | 1) Prepare for and participate in monthly CMER meetings.<br>2) Assist in the design and review of research projects examining the effectiveness of Forestry Rules.<br>3) Put a priority focus on participating in science issues focused on the water quality impacts of the forestry rules within CMER and its' CMER Science Advisory Groups<br>4) Assist in long term planning and biennial budget development to ensure the program is keeping projects needed to test water quality protection as priorities. | Ongoing<br><br>6/30/21 | X | X | *Table 3 & 7 2015 NPS Plan* | ~~*Mark Hicks*~~<br><br>*Brandon Austin* |
| Task 2:<br><br>Provide support and serve as back-up for Ecology's representative on the Timber Fish and Wildlife Policy Committee | 1) Attend monthly Policy meetings.<br>2) Help state caucus members prepare for Policy and Board Meetings (including through twice monthly pre-meetings).<br>3) Develop material that may facilitate Policy-level agreements on issues relating to water quality protection and the state adaptive management program. | Ongoing | X | X | | |

## 319 Work Plan Commitments FFY 2019/2020

| +Tasks | 1) Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| Task 3:<br><br>Develop and oversee the implementation of Corrective Milestones designed to improve the state's forestry program | 2) Track ongoing efforts to meet Ecology's CWA-based corrective milestones.<br>3) Work with cooperators to take the steps necessary to complete corrective milestones.<br>4) Provide status updates on progress in meeting the milestones to the Forest Practices Board (twice yearly), the TFW Policy Committee (as needed), Ecology upper management, and EPA Region 10 (as requested).<br>5) Assist Ecology in determining if sufficient basis exists to continue the CWA Assurances past December 2019 | Ongoing | X | | *Table 3 & 7 2015 NPS Plan* | ~~*Mark Hicks*~~<br><br>*Brandon Austin* |
| Task 4:<br><br>Coordinate agreements and the resolution of field-based concerns on forest lands with federal resource agencies. | 1) Coordinate agency reviews of forest management plans and federal best management practices guidelines.<br>2) Ensure consistent and coordinated engagement between Ecology field staff and federal land managers (primarily USFS and BPA) on issues of non-point source water quality protection.<br>3) Serve as intermediary between USFS and other state agencies on issues related to adherence with state laws and regulations. | Ongoing | X | X | | |

## 319 Work Plan Commitments FFY 2019/2020

| +Tasks | Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| Nonpoint pollution site visits/ evaluations with a focus on shellfish growing areas. | Respond to approximately 25 ERTS complaints or referrals by internal/ external agency officials and the public at large. Increase coordination response between WA Dept. of Health and local Environmental Health jurisdictions. | 6/30/19 | x | x | *Tables 1, 6 and 8 of the 2015 NPS Plan* | *Jennifer Riedmayer* |
| Provide technical assistance to agricultural pollution sites of water quality concern identified by Ecology and refer landowners to conservation district or NRCS staff to ensure shellfish growing areas are protected. | Track sites of concern status through coordination with landowner or conservation district staff. Continue to work in areas that receive shellfish funding to provide technical assistance to agricultural producers to improve water quality concerns. | On-going<br><br>6/30/21 | x | x | | |
| Outreach and Education, with a focus on shellfish growing area protection. | Attend local partner meetings including conservation district, public health, NRCS local workgroup, and Marine Resource Committee meetings throughout the Pacific Watershed drainages. | On-going<br><br>6/30/21 | x | x | | |
| East Fork of the Lewis River TMDL Alternative Implementation | Work in concert with Clark CD, NRCS, Clark County Public Works, Clark County Public Health, WSU Small Farms Program, and other nonprofits to provide technical assistance to private landowners whose property have identified water quality concerns. Landowners will work with partner organizations to implement BMPs and improve water quality standards. | On-going<br><br>6/30/21 | x | x | | |

## 319 Work Plan Commitments FFY 2019/2020

| +Tasks | Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| Upper Chehalis River TMDL/ Newaukum Watershed Assessment | Continue to work with Lewis CD, WA Dept. of Agriculture, WDFW, Lewis County Public Works and Environmental Health and the Confederate Tribes of the Chehalis to monitor sites of water quality concern in tributaries to reduce impact from agricultural pollution. | On-going<br><br>6/30/21 | x | x | *Tables 1, 6 and 8 of the 2015 NPS Plan* | *Jennifer Riedmayer* |
| Collect water quality samples and analyze them in priority watersheds to assist with source identification and correction in areas where shellfish growing areas are impacted. | Complete bracket sampling in target watershed during wet and dry weather to identify sources of exceedance. (Estimated: 25 samples) | On-going | x | X | | |

## 319 Work Plan Commitments FFY 2019/2020

| +Tasks | Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| As the Senior nonpoint lead and section expert, this position will focus on the program priority concerning shellfish resources in support of the Washington Shellfish Initiative. Extensive coordination with the shellfish industry, government agencies, the tribes, elected officials, and the public will occur related to the protection of shellfish resources. Providing outreach and education about appropriate best management practices and land uses protective of shellfish will occur at public meetings, local government, district boards, and other events. | Meeting attendance and participation. | Ongoing<br><br>(6/30/21) | X | x | *Tables 1, 3, 5,6, and 8 of the 2015 NPS Plan* | *Shawn Ultican*<br><br>*(319 funds cover approximately 0.20 of this FTE)* |
| This position also responds to and investigates complex or highly technical complaints or violations about land uses causing nonpoint pollution adversely impacting shellfish resources. Options for response may include encouraging voluntary compliance, providing technical assistance, or enacting enforcement. Working with landowners about the impacts of livestock management to shellfish and implementing effective best management practices (**BMP**) on various sites are the main activities. Coordination with Ecology staff or other jurisdictions will be required to resolve issues, including negotiating agreements. Shellfish recovery plan participation, responding to Conservation District referrals, and complaint investigation are additional activities that may be required. | Water quality complaint response and documentation. Documented within Ecology's Environmental Report Tracking System (ERTS) | Ongoing<br><br>(6/30/21) | X | X | | |

## 319 Work Plan Commitments FFY 2019/2020

| +Tasks | Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| Pollution identification and correction (**PIC**) may require sampling sites for bacterial pollution and analysis of data. Makes technical and scientific recommendations regarding the development, coordination and implementation of environmental technical assistance programs involving pollution prevention, pollution control, and/or natural resource protection. Provides technical assistance on nonpoint concerns including water quality sampling and the policies, laws and regulations concerning water quality through presentations, letters, telephone or other communication method. Assistance on water quality studies, including sampling of sites for water quality parameters, may be required. | Work with local health departments to develop an Ecology regulatory backstop for water quality issues affecting shellfish. | Ongoing<br><br>(6/30/21) | X | x | *Tables 1, 3, 5,6, and 8 of the 2015 NPS Plan* | *Shawn Ultican* |
| Nonpoint pollution site visits/ evaluations. Conduct site visits and investigation in response to complaints or documented water quality problems. | Estimate at least 30 site visits per year | Ongoing<br><br>(6/30/21) | X | X | | |
| Provide technical assistance to owners or residents at sites of water quality concern identified by Ecology, and refer to local Conservation District or National Resources Conservation Service staff (**NRCS**) for further assistance when applicable. | Track technical assistance provided by Ecology staff or partner agencies. | Ongoing<br><br>(6/30/21) | X | X | | |

## 319 Work Plan Commitments FFY 2019/2020

| +Tasks | Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| Outreach and Education | Track education and outreach events offered by Ecology or involving participation by Ecology staff. (Estimate at least 4 events per year) | Ongoing (6/30/21) | X | x | *Tables 1, 3, 5,6, and 8 of the 2015 NPS Plan* | *Shawn Ultican* |
| East Fork of the Lewis River TMDL Alternative Implementation. | Continue working with local organizations, state agencies, and nonprofits to identify sites of water quality concern, provide appropriate technical assistance, and correct pollution sources. | Ongoing (6/30/21) | X | x | | |
| Upper Chehalis River TMDL/ Newaukum Watershed Assessment | Continue working with local organizations, state agencies, and the Confederated Tribes of the Chehalis to identify sites of water quality concern, provide appropriate technical assistance, and correct pollution sources. | Ongoing (6/30/21) | X | X | | |
| Collect water quality samples and analyze them in priority watersheds to assist with source identification and correction. | Complete sampling in target watersheds to identify sources of pollution. (Estimated: 25 samples) | On-going | X | X | | |

## 319 Work Plan Commitments FFY 2019/2020

| +Tasks | Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| Hard Rock Forested Headwater Stream Study | Complete field work of post-harvest year 10. | 10/30/19 | x | | *Tables #3 & 4 of the 2015 NPS Plan* | *William Ehinger* |
| | Complete Independent Scientific Peer Review of Phase 2 report. | 6/30/20 | x | | | |
| Soft Rock Forested Headwater Stream Study | Complete post-harvest year 5 data collection | 10/30/20 | X | x | | |
| | Complete Independent Scientific Peer Review of Phase 1 (first two years post-harvest) report. | 6/30/20 | X | x | | |
| Intensively Monitored Watersheds | Conduct water quality and stream discharge measurements | 6/30/21 | x | X | | |
| | Complete annual assessments for the Monitoring Panel's review | 12/31/19<br><br>12/31/20 | x | x | | |

## 319 Work Plan Commitments FFY 2019/2020

| +Tasks | Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| 1- Automation of data processing and quality assurance review of Ecology's freshwater river and stream water quality monitoring network results. | Automate processing and quality assurance review of selected continuous data for river and stream water quality monitoring network parameters (e.g. pH, conductivity, DO, turbidity and nitrate) | 12-30-19 | X | | *Table 8 of the 2015 NPS Plan* | X-Christopher Moore |
| | Automate processing and quality assurance review of selected discrete data for river and stream water quality monitoring network parameters (e.g. pH, conductivity, DO, turbidity and nitrate) | 6-31-20 | X | | | |
| 2- Automate publishing Ecology's river and stream water quality monitoring network results to the Environmental Information Management (EIM) System to facilitate public access to the data and use in the CWA water quality assessment. | Develop automated process to extract transform and load continuous river and stream monitoring network results from EAP-MPA to EIM | 12-31-20 | | x | | |
| | Develop automated process to extract transform and load discrete river and stream monitoring network results from EAP-MPA to EIM | 06-31-21 | | x | | |

## 319 Work Plan Commitments FFY 2019/2020

| +Tasks | Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| Conduct Freshwater Ambient Water Quality Monitoring – ERO | • Monthly Eastern WA ambient water quality monitoring.<br>• Annual continuous temperature monitoring. | Ongoing 6/30/21<br><br>Ongoing | x | x | *Tables 3, 4 & 8 of the 2015 NPS Plan* | *Andy Albrecht* |
| Assist with implementation of Non-point water quality studies in Hangman Creek Watershed. | Data entry and EIM Data Entry Review. | 9/30/19 | x | | | |
| Ambient Freshwater Biological Monitoring (Annual biological monitoring occurs between June 15 and October 15) | • Eastern Region Field Work 2019<br>• Eastern Region Field Work 2020 | Ongoing 6/30/21<br><br>Ongoing | X | x | | |

## 319 Work Plan Commitments FFY 2019/2020

| +Tasks | Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| Conduct Freshwater Ambient Water Quality Monitoring – CRO | • Monthly South Central WA ambient water quality monitoring.<br>• Annual continuous temperature monitoring | Ongoing<br><br>Ongoing | x | x | *Table #8 of the 2015 NPS Plan* | *Dan Dugger* |
| Ambient Freshwater Biological Monitoring (Annual biological monitoring occurs between July 15 and October 15) | • Central Region Field Work 2019<br>• Central Region Field Work 2020 | Ongoing<br><br>Ongoing | X | x | | |
| Walla Walla TMDL Effectiveness Monitoring Report | • Report published<br>• Technical assistance | 12/31/2019<br><br>Ongoing | X | X | | |
| QAPP and Document Review and Consultation | • QAPP and document reviews for Ecology funded grant recipients. | Ongoing | X | X | | |

## 319 Work Plan Commitments FFY 2019/2020

| +Tasks | Milestones | Completion Date | Year 1 | Year 2 | Nonpoint Plan # | Responsible Staff |
|---|---|---|---|---|---|---|
| Analyze results of 2018/2019 SBA (Sumas-Blaine Aquifer) monitoring and prepare draft report. | Complete draft report. | 9/30/19 | X | | *Tables 1, 3,5 and 8 of the 2015 NPS Plan* | *Eric Daiber* |
| Coordinate with stakeholders on SBA monitoring. | Present findings of SBA groundwater monitoring to local stakeholders. | 11/30/19 | X | | | |
| Complete follow-up SBA groundwater monitoring study. | Complete final report. | 12/31/19 | X | | | |
| Manage long-term SBA groundwater monitoring project. | Obtain access to 25 private wells in Lynden area; complete groundwater sample collection. | 3/31/21 | | x | | |
| Design a Sumas-Blaine Aquifer (SBA) purpose built groundwater monitoring network to enhance data collection across the aquifer. | Develop strategic plan for long-term groundwater assessment. | 6/30/21 | | X | | |
| Participate in scientific studies of nitrogen loading to the aquifer and transport in the SBA area | Contribute to planning, monitoring, analyzing data with academic and other entities. | Ongoing 6/30/21 | X | x | | |

# Appendix F

Milestones Checklists for WQ-27 Projects (status as of late 2019)

Water Quality Improvement Project Tracking: 11/6/19

| Project Name: Alkali Flat Creek STI<br>WQ-27? ☒ Yes ☐ No<br>TMDL Alternative ☐ STI ☒ | WQP Project Lead: Stephen Ranson<br>EAP Counterpart (if applicable): Currently N/A |
|---|---|
| **TMDL Alternative** | **Straight to Implementation (STI)** |
| <u>Project Planning</u><br>☐ Project Schedule and Project Plan Drafted<br>☐Advisory Group Formed or Coordination with External Partners Completed<br>☐Webpage Developed<br>☐QAPP Completed<br>☐N/A | ☐Draft Internal STI Work Plan<br>☐Website Developed<br>☐Work Plan Under Review by HQ<br>☐Work Plan Approved by HQ<br>☐EPA Submittal (if WQ-27)<br>☒Comments Has not yet begun, expecting to start 2021 |
| <u>Data Collection (if applicable)</u><br>☐Field Work In Progress [Data Collection]<br>☐N/A<br>☐Field Work Completed<br>☐N/A<br>☐EAP Data Summary Completed<br>☐N/A | |
| <u>Model Development (if applicable)</u><br>☐Model Design and Calibration In Progress<br>☐N/A<br>☐Model Design and Calibration Complete<br>☐N/A<br>☐Modeling of Management Scenarios<br>☐N/A In Progress<br>☐EAP Technical Report Complete<br>☐N/A | |
| <u>Report or Plan Writing</u><br>☐In Progress-Report/Plan Writing On Track<br>☐In Progress-Stalled<br>☐ Additional data collection: Explain why here<br>☐ Additional modeling | |

| | |
|---|---|
| ☐ Addressing policy issue: Identify policy issue<br>☐Not Currently Active: Provide explanation here (e.g. lack of resources)<br>☐Draft Report/Plan Complete<br>☐Headquarters Policy/EAP Technical Review In Progress<br>☐Headquarters Policy Review Complete<br>☐Draft Report Waiting on Publication (if applicable)<br>☐EPA Submittal (if WQ-27) | |
| ☐Implementing BMPs/Implementation—Enter Staff Assigned | ☐Implementing BMPs/Implementation<br>Enter Staff Assigned |

## Water Quality Improvement Project Tracking: 11/7/19

| |
|---|
| Project Name: Budd Inlet Dissolved Oxygen TMDL WQ-27? ☒ Yes ☐ No |
| WQP Project Lead: Leanne Weiss EAP Counterpart: Anise Ahmed |
| Project Planning<br>☒Project Schedule and Project Plan Drafted<br>☒TMDL Advisory Group Formed<br>☒Webpage Developed<br>☒QAPP Completed |
| Data Collection<br>☒Field Work In Progress [Data Collection]<br>☒Field Work Completed<br>☒EAP Data Summary Completed |
| Model Development<br>☒Model Design and Calibration In Progress<br>☒Model Design and Calibration Complete<br>☒Modeling In Progress [Testing Wasteload and Load Allocations]<br>☐EAP Technical Report Complete |
| TMDL Writing (includes Implementation Plan)<br>☒In Progress-Report Writing On Track<br>☐In Progress-Stalled<br>☐ Additional data collection: Explain why here.<br>☐ Addressing policy issue: Identify policy issues here.<br>☐ Additional modeling-e.g. testing additional allocation options<br>☐Not Currently Active: Provide explanation here (e.g. lack of resources).<br>☐Draft TMDL Complete<br>☐Headquarters Policy Review/EAP Technical Review In Progress<br>☐Headquarters Policy Review/EAP Technical Review Complete |

| |
|---|
| ☐Draft TMDL Waiting on Publication |
| Formal Public Participation for TMDL<br>☐Public Comment Period In Progress<br>☐Public Comment Period Complete<br>☐Response to Comments Completed<br>☐TMDL Amended to Include Response to Comments |
| EPA<br>☐Submitted to EPA<br>☐Waiting for EPA approval<br>☐Approved by EPA |
| Other<br>☐TMDL Stalled: Provide explanation here<br>☐Implementing BMPs/Implementation: Enter Staff Assigned |

## Water Quality Improvement Project Tracking: 11/7/19

| |
|---|
| Project Name: Drayton Harbor Bacteria TMDL WQ-27? ☒ Yes ☐ No |
| WQP Project Lead: Doug Allen-temp EAP Counterpart: TBD |
| Project Planning<br>☒Project Schedule and Project Plan Drafted<br>☒TMDL Advisory Group Formed<br>☒Webpage Developed<br>☒QAPP Completed |
| Data Collection<br>☒Field Work In Progress [Data Collection]<br>☐Field Work Completed<br>☐EAP Data Summary Completed |
| Model Development<br>☐Model Design and Calibration In Progress<br>☐Model Design and Calibration Complete<br>☐Modeling In Progress [Testing Wasteload and Load Allocations]<br>☐EAP Technical Report Complete |
| TMDL Writing (includes Implementation Plan)<br>☐In Progress-Report Writing On Track<br>☒In Progress-Stalled<br>☒ Additional data collection: New data incorporation requested from EAP, still waiting on EAP<br>☐ Addressing policy issue: Identify policy issues here.<br>☐ Additional modeling-e.g. testing additional allocation options<br>☐Not Currently Active: Provide explanation here (e.g. lack of resources).<br>☐Draft TMDL Complete |

| |
|---|
| ☐Headquarters Policy Review/EAP Technical Review In Progress<br>☐Headquarters Policy Review/EAP Technical Review Complete<br>☐Draft TMDL Waiting on Publication |
| Formal Public Participation for TMDL<br>☐Public Comment Period In Progress<br>☐Public Comment Period Complete<br>☐Response to Comments Completed<br>☐TMDL Amended to Include Response to Comments |
| EPA<br>☐Submitted to EPA<br>☐Waiting for EPA approval<br>☐Approved by EPA |
| Other<br>☒TMDL Stalled: Written once and went out for public review several years ago, now lots of new external data to incorporate, DOH is collecting data<br>☐Implementing BMPs/Implementation: Enter Staff Assigned |

## Water Quality Improvement Project Tracking: 11/6/19

| Project Name: French Creek Temp/DO<br>WQ-27? ☒ Yes ☐ No<br>TMDL Alternative ☒ STI ☐ | WQP Project Lead: Heather Khan<br>EAP Counterpart (if applicable): Nuri Mathieu |
|---|---|
| **TMDL Alternative** | **Straight to Implementation (STI)** |
| Project Planning<br>☒ Project Schedule and Project Plan Drafted<br>☒Advisory Group Formed or Coordination with External Partners Completed<br>☒Webpage Developed<br>☒QAPP Completed<br>☐N/A | ☐Draft Internal STI Work Plan<br>☐Website Developed<br>☐Work Plan Under Review by HQ<br>☐Work Plan Approved by HQ<br>☐EPA Submittal (if WQ-27)<br>☐Comments Enter comments here |
| Data Collection (if applicable)<br>☒Field Work In Progress [Data Collection]<br>☐N/A<br>☒Field Work Completed<br>☐N/A<br>☐EAP Data Summary Completed<br>☐N/A | |
| Model Development (if applicable)<br>☒Model Design and Calibration In Progress<br>☐N/A | |

| | |
|---|---|
| ☐Model Design and Calibration Complete<br>☐N/A<br>☐Modeling of Management Scenarios<br>☐N/A In Progress<br>☐EAP Technical Report Complete<br>☐N/A | |
| Report or Plan Writing<br>☐In Progress-Report/Plan Writing On Track<br>☐In Progress-Stalled<br>☐ Additional data collection: Explain why here<br>☐ Additional modeling<br>☐ Addressing policy issue: Identify policy issue<br>☐Not Currently Active: Pilchuck is Heather's primary focus so this is lower priority<br>☐Draft Report/Plan Complete<br>☐Headquarters Policy/EAP Technical Review In Progress<br>☐Headquarters Policy Review Complete<br>☐Draft Report Waiting on Publication (if applicable)<br>☐EPA Submittal (if WQ-27) | |
| ☐Implementing BMPs/Implementation—Enter Staff Assigned | ☐Implementing BMPs/Implementation<br>Enter Staff Assigned |

## Water Quality Improvement Project Tracking: 11/7/19

| |
|---|
| Project Name: Mid Yakima Bacteria TMDL WQ-27? ☒ Yes ☐ No |
| WQP Project Lead: Cole Provence EAP Counterpart: |
| Project Planning<br>☐Project Schedule and Project Plan Drafted<br>☐TMDL Advisory Group Formed<br>☐Webpage Developed<br>☐QAPP Completed |
| Data Collection<br>☐Field Work In Progress [Data Collection]<br>☐Field Work Completed<br>☐EAP Data Summary Completed |
| Model Development<br>☐Model Design and Calibration In Progress<br>☐Model Design and Calibration Complete<br>☐Modeling In Progress [Testing Wasteload and Load Allocations] |

| |
|---|
| ☐EAP Technical Report Complete |
| TMDL Writing (includes Implementation Plan)<br>☐In Progress-Report Writing On Track<br>☐In Progress-Stalled<br>☐ Additional data collection: Explain why here.<br>☐ Addressing policy issue: Identify policy issues here.<br>☐ Additional modeling-e.g. testing additional allocation options<br>☐Not Currently Active: Provide explanation here (e.g. lack of resources).<br>☐Draft TMDL Complete<br>☐Headquarters Policy Review/EAP Technical Review In Progress<br>☐Headquarters Policy Review/EAP Technical Review Complete<br>☐Draft TMDL Waiting on Publication |
| Formal Public Participation for TMDL<br>☐Public Comment Period In Progress<br>☐Public Comment Period Complete<br>☐Response to Comments Completed<br>☐TMDL Amended to Include Response to Comments |
| EPA<br>☐Submitted to EPA<br>☐Waiting for EPA approval<br>☐Approved by EPA |
| Other<br>☒TMDL Stalled: Lack of EAP resources, standards change to E. Coli, probable restart…<br>☐Implementing BMPs/Implementation: Enter Staff Assigned |

## Water Quality Improvement Project Tracking: 11/6/19

| | |
|---|---|
| Project Name: Almota & Little Almota STI<br>WQ-27? ☒ Yes ☐ No<br>TMDL Alternative ☐ STI ☒ | WQP Project Lead: Stephen Ranson<br>EAP Counterpart (if applicable): currently N/A |
| **TMDL Alternative** | **Straight to Implementation (STI)** |
| Project Planning<br>☐ Project Schedule and Project Plan Drafted<br>☐Advisory Group Formed or Coordination with External Partners Completed<br>☐Webpage Developed<br>☐QAPP Completed<br>☐N/A | ☐Draft Internal STI Work Plan<br>☐Website Developed<br>☐Work Plan Under Review by HQ<br>☐Work Plan Approved by HQ<br>☐EPA Submittal (if WQ-27)<br>☐Comments Not yet begun, planned to start late 2020 |
| Data Collection (if applicable) | |

| | |
|---|---|
| ☐Field Work In Progress [Data Collection]<br>☐N/A<br>☐Field Work Completed<br>☐N/A<br>☐EAP Data Summary Completed<br>☐N/A | |
| <u>Model Development (if applicable)</u><br>☐Model Design and Calibration In Progress<br>☐N/A<br>☐Model Design and Calibration Complete<br>☐N/A<br>☐Modeling of Management Scenarios<br>☐N/A In Progress<br>☐EAP Technical Report Complete<br>☐N/A | |
| <u>Report or Plan Writing</u><br>☐In Progress-Report/Plan Writing On Track<br>☐In Progress-Stalled<br>☐ Additional data collection: Explain why here<br>☐ Additional modeling<br>☐ Addressing policy issue: Identify policy issue<br>☐Not Currently Active: Provide explanation here (e.g. lack of resources)<br>☐Draft Report/Plan Complete<br>☐Headquarters Policy/EAP Technical Review In Progress<br>☐Headquarters Policy Review Complete<br>☐Draft Report Waiting on Publication (if applicable)<br>☐EPA Submittal (if WQ-27) | |
| ☐Implementing BMPs/Implementation —Enter Staff Assigned<br>☐Comments Enter comments here | ☐<u>Implementing BMPs/Implementation</u><br>Enter Staff Assigned |

## Water Quality Improvement Project Tracking: 11/7/19

| | |
|---|---|
| Project Name: Burnt Bridge Creek<br>WQ-27? ☒ Yes ☐ No<br>TMDL Alternative ☒ STI ☐ | WQP Project Lead: Devan Rostorfer<br>EAP Counterpart (if applicable): Sheelagh McCarthy |

| **TMDL Alternative** | **Straight to Implementation (STI)** |
|---|---|
| Project Planning<br>☒ Project Schedule and Project Plan Drafted<br>☐Advisory Group Formed or Coordination with External Partners Completed<br>☐Webpage Developed<br>☒QAPP Completed<br>☐N/A | ☐Draft Internal STI Work Plan<br>☐Website Developed<br>☐Work Plan Under Review by HQ<br>☐Work Plan Approved by HQ<br>☐EPA Submittal (if WQ-27)<br>☐Comments Enter comments here |
| Data Collection (if applicable)<br>☒Field Work In Progress [Data Collection]<br>☐N/A<br>☒Field Work Completed<br>☐N/A<br>☐EAP Data Summary Completed<br>☐N/A | |
| Model Development (if applicable)<br>☒Model Design and Calibration In Progress<br>☐N/A<br>☒Model Design and Calibration Complete<br>☐N/A<br>☒Modeling of Management Scenarios<br>☐N/A In Progress<br>☐EAP Technical Report Complete<br>☐N/A | |
| Report or Plan Writing<br>☐In Progress-Report/Plan Writing On Track<br>☐In Progress-Stalled<br>☐ Additional data collection: Explain why here<br>☐ Additional modeling<br>☐ Addressing policy issue: Identify policy issue<br>☐Not Currently Active: Provide explanation here (e.g. lack of resources)<br>☐Draft Report/Plan Complete<br>☐Headquarters Policy/EAP Technical Review In Progress<br>☐Headquarters Policy Review Complete<br>☐Draft Report Waiting on Publication (if applicable)<br>☐EPA Submittal (if WQ-27) | |

| | |
|---|---|
| ☐Implementing BMPs/Implementation—Enter Staff Assigned | ☐Implementing BMPs/Implementation Enter Staff Assigned |

## Water Quality Improvement Project Tracking: 11/7/19

| Project Name: Moxee Drain Temp Alt<br>WQ-27? ☒ Yes ☐ No<br>TMDL Alternative ☒ STI ☐ | WQP Project Lead: Laine Young<br>EAP Counterpart (if applicable): N/A |
|---|---|
| **TMDL Alternative** | **Straight to Implementation (STI)** |
| Project Planning<br>☒ Project Schedule and Project Plan Drafted<br>☐Advisory Group Formed or Coordination with External Partners Completed<br>☐Webpage Developed<br>☐QAPP Completed<br>☒N/A | ☐Draft Internal STI Work Plan<br>☐Website Developed<br>☐Work Plan Under Review by HQ<br>☐Work Plan Approved by HQ<br>☐EPA Submittal (if WQ-27)<br>☐Comments Enter comments here |
| Data Collection (if applicable)<br>☐Field Work In Progress [Data Collection]<br>☒N/A<br>☐Field Work Completed<br>☒N/A<br>☐EAP Data Summary Completed<br>☒N/A | |
| Model Development (if applicable)<br>☐Model Design and Calibration In Progress<br>☒N/A<br>☐Model Design and Calibration Complete<br>☒N/A<br>☐Modeling of Management Scenarios<br>☒N/A In Progress<br>☐EAP Technical Report Complete<br>☒N/A | |
| Report or Plan Writing<br>☒In Progress-Report/Plan Writing On Track<br>☐In Progress-Stalled<br>☐ Additional data collection: Explain why here<br>☐ Additional modeling<br>☐ Addressing policy issue: Identify policy issue | |

| | |
|---|---|
| ☐Not Currently Active: presence of NPDES dischargers makes conversion to TMDL alt necessary<br>☐Draft Report/Plan Complete<br>☐Headquarters Policy/EAP Technical Review In Progress<br>☐Headquarters Policy Review Complete<br>☐Draft Report Waiting on Publication (if applicable)<br>☐EPA Submittal (if WQ-27) | |
| ☐Implementing BMPs/Implementation—Enter Staff Assigned | ☐Implementing BMPs/Implementation<br>Enter Staff Assigned |

## Water Quality Improvement Project Tracking: 11/6/19

| |
|---|
| Project Name: Padilla Bay FC TMDL WQ-27? ☒ Yes ☐ No |
| WQP Project Lead: Scott Bohling EAP Counterpart: Sheelagh McCarthy |
| Project Planning<br>☒Project Schedule and Project Plan Drafted<br>☒TMDL Advisory Group Formed<br>☒Webpage Developed<br>☒QAPP Completed |
| Data Collection<br>☒Field Work In Progress [Data Collection]<br>☒Field Work Completed<br>☒EAP Data Summary Completed |
| Model Development<br>☒Model Design and Calibration In Progress<br>☒Model Design and Calibration Complete<br>☒Modeling In Progress [Testing Wasteload and Load Allocations]<br>☒EAP Technical Report Complete-internal review |
| TMDL Writing (includes Implementation Plan)<br>☐In Progress-Report Writing On Track<br>☒In Progress-Stalled<br>☐ Additional data collection: Explain why here.<br>☐ Addressing policy issue: Scott is focused heavily on Skagit Temperature TMDL implementation<br>☐ Additional modeling-e.g. testing additional allocation options<br>☐Not Currently Active: Provide explanation here (e.g. lack of resources).<br>☐Draft TMDL Complete<br>☐Headquarters Policy Review/EAP Technical Review In Progress |

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|---|
| ☐Headquarters Policy Review/EAP Technical Review Complete<br>☐Draft TMDL Waiting on Publication |
| Formal Public Participation for TMDL<br>☐Public Comment Period In Progress<br>☐Public Comment Period Complete<br>☐Response to Comments Completed<br>☐TMDL Amended to Include Response to Comments |
| EPA<br>☐Submitted to EPA<br>☐Waiting for EPA approval<br>☐Approved by EPA |
| Other<br>☐TMDL Stalled: Mak is currently working on Padilla Implementation plan<br>☐Implementing BMPs/Implementation: Lea Shields doing fieldwork |

## Water Quality Improvement Project Tracking: 11/7/19

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|---|
| Project Name: South Fork Nooksack Temperature<br>WQ-27? ☒ Yes ☐ No |
| WQP Project Lead: Doug Allen-temp EAP Counterpart: Teizeen Mohamedali |
| Project Planning<br>☒Project Schedule and Project Plan Drafted<br>☒TMDL Advisory Group Formed<br>☒Webpage Developed<br>☒QAPP Completed |
| Data Collection<br>☒Field Work In Progress [Data Collection]<br>☒Field Work Completed<br>☐EAP Data Summary Completed |
| Model Development<br>☒Model Design and Calibration In Progress<br>☒Model Design and Calibration Complete<br>☒Modeling In Progress [Testing Wasteload and Load Allocations]<br>☐EAP Technical Report Complete |
| TMDL Writing (includes Implementation Plan)<br>☐In Progress-Report Writing On Track<br>☐In Progress-Stalled<br>☐ Additional data collection: Explain why here.<br>☐ Addressing policy issue: Identify policy issues here.<br>☐ Additional modeling-e.g. testing additional allocation options<br>☐Not Currently Active: Provide explanation here (e.g. lack of resources). |

| |
|---|
| ☒Draft TMDL Complete<br>☒Headquarters Policy Review/EAP Technical Review In Progress<br>☒Headquarters Policy Review/EAP Technical Review Complete<br>☒Draft TMDL Waiting on Publication |
| Formal Public Participation for TMDL<br>☒Public Comment Period In Progress<br>☒Public Comment Period Complete<br>☒Response to Comments Completed<br>☒TMDL Amended to Include Response to Comments |
| EPA<br>☐Submitted to EPA<br>☐Waiting for EPA approval<br>☐Approved by EPA |
| Other<br>☒TMDL Stalled: has gone through HQ review, HQ needs to prep for submission<br>☐Implementing BMPs/Implementation: Enter Staff Assigned |

## Water Quality Improvement Project Tracking: 11/7/19

| |
|---|
| Project Name: Deschutes TMDL WQ-27? ☒ Yes ☐ No |
| WQP Project Lead: Andrew Kolosseus EAP Counterpart: Anise Ahmed |
| Project Planning<br>☒Project Schedule and Project Plan Drafted<br>☒TMDL Advisory Group Formed<br>☒Webpage Developed<br>☒QAPP Completed |
| Data Collection<br>☒Field Work In Progress [Data Collection]<br>☒Field Work Completed<br>☒EAP Data Summary Completed |
| Model Development<br>☒Model Design and Calibration In Progress<br>☒Model Design and Calibration Complete<br>☒Modeling In Progress [Testing Wasteload and Load Allocations]<br>☐EAP Technical Report Complete |
| TMDL Writing (includes Implementation Plan)<br>☒In Progress-Report Writing On Track<br>☐In Progress-Stalled<br>☐ Additional data collection: Explain why here.<br>☐ Addressing policy issue: Identify policy issues here.<br>☐ Additional modeling-e.g. testing additional allocation options |

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|---|
| ☐Not Currently Active: Provide explanation here (e.g. lack of resources).<br>☒Draft TMDL Complete<br>☒Headquarters Policy Review/EAP Technical Review In Progress<br>☒Headquarters Policy Review/EAP Technical Review Complete<br>☒Draft TMDL Waiting on Publication |
| Formal Public Participation for TMDL<br>☒Public Comment Period In Progress<br>☒Public Comment Period Complete<br>☒Response to Comments Completed<br>☒TMDL Amended to Include Response to Comments |
| EPA<br>☒Submitted to EPA<br>☒Waiting for EPA approval<br>☒Approved by EPA |
| Other<br>☒TMDL Stalled: EPA approved the temperature pieces. EPA disapproved the rest and is writing their TMDL per CWA requirements.<br>☐Implementing BMPs/Implementation: Enter Staff Assigned |

## Water Quality Improvement Project Tracking: 11/6/19

| Project Name: Hangman Creek DO/pH<br>WQ-27? ☒ Yes ☐ No<br>TMDL Alternative ☒ STI ☐ | WQP Project Lead: Mitch Redfern<br>EAP Counterpart (if applicable): Tighe Stuart |
|---|---|
| **TMDL Alternative** | **Straight to Implementation (STI)** |
| Project Planning<br>☒ Project Schedule and Project Plan Drafted<br>☒Advisory Group Formed or Coordination with External Partners Completed<br>☒Webpage Developed<br>☒QAPP Completed<br>☐N/A | ☐Draft Internal STI Work Plan<br>☐Website Developed<br>☐Work Plan Under Review by HQ<br>☐Work Plan Approved by HQ<br>☐EPA Submittal (if WQ-27)<br>☐Comments Enter comments here |
| Data Collection (if applicable)<br>☒Field Work In Progress [Data Collection]<br>☐N/A<br>☒Field Work Completed<br>☐N/A<br>☐EAP Data Summary Completed<br>☐N/A | |

| | |
|---|---|
| Model Development (if applicable)<br>☐Model Design and Calibration In Progress<br>☐N/A<br>☐Model Design and Calibration Complete<br>☐N/A<br>☐Modeling of Management Scenarios<br>☐N/A In Progress<br>☐EAP Technical Report Complete<br>☐N/A | |
| Report or Plan Writing<br>☐In Progress-Report/Plan Writing On Track<br>☐In Progress-Stalled<br>☐ Additional data collection: Explain why here<br>☐ Additional modeling<br>☐ Addressing policy issue: Identify policy issue<br>☐Not Currently Active: Tighe's primary focus right now is the Little Spokane and wrapping that up, this will be next on his list.<br>☐Draft Report/Plan Complete<br>☐Headquarters Policy/EAP Technical Review In Progress<br>☐Headquarters Policy Review Complete<br>☐Draft Report Waiting on Publication (if applicable)<br>☐EPA Submittal (if WQ-27) | |
| ☐Implementing BMPs/Implementation—Enter Staff Assigned | ☐Implementing BMPs/Implementation<br>Enter Staff Assigned |

## Water Quality Improvement Project Tracking: 11/6/19

| |
|---|
| Project Name: Pilchuck Temp/DO TMDL WQ-27? ☒ Yes ☐ No |
| WQP Project Lead: Heather Khan EAP Counterpart: Nuri Mathieu |
| Project Planning<br>☒Project Schedule and Project Plan Drafted<br>☒TMDL Advisory Group Formed<br>☒Webpage Developed<br>☒QAPP Completed |
| Data Collection<br>☒Field Work In Progress [Data Collection]<br>☒Field Work Completed<br>☒EAP Data Summary Completed |

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|---|
| Model Development<br>☒Model Design and Calibration In Progress<br>☒Model Design and Calibration Complete<br>☒Modeling In Progress [Testing Wasteload and Load Allocations]<br>☒EAP Technical Report Complete |
| TMDL Writing (includes Implementation Plan)<br>☒In Progress-Report Writing On Track<br>☐In Progress-Stalled<br>☐ Additional data collection: Explain why here.<br>☐ Addressing policy issue: Identify policy issues here.<br>☐ Additional modeling-e.g. testing additional allocation options<br>☐Not Currently Active: Provide explanation here (e.g. lack of resources).<br>☐Draft TMDL Complete<br>☐Headquarters Policy Review/EAP Technical Review In Progress<br>☐Headquarters Policy Review/EAP Technical Review Complete<br>☐Draft TMDL Waiting on Publication |
| Formal Public Participation for TMDL<br>☐Public Comment Period In Progress<br>☐Public Comment Period Complete<br>☐Response to Comments Completed<br>☐TMDL Amended to Include Response to Comments |
| EPA<br>☐Submitted to EPA<br>☐Waiting for EPA approval<br>☐Approved by EPA |
| Other<br>☐TMDL Stalled: Double checking WLAs with EPA<br>☐Implementing BMPs/Implementation: Enter Staff Assigned |

## Water Quality Improvement Project Tracking: 11/7/19

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|---|
| Project Name: Whatcom Creek Bacteria TMDL WQ-27? ☒ Yes ☐ No |
| WQP Project Lead: Doug Allen-temp EAP Counterpart: Sheelagh McCarthy |
| Project Planning<br>☒Project Schedule and Project Plan Drafted<br>☒TMDL Advisory Group Formed<br>☒Webpage Developed<br>☒QAPP Completed |
| Data Collection<br>☒Field Work In Progress [Data Collection]-recollection, EAP is working with City of Bellingham to incorporate data collected since 2003 |

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|---|
| ☐Field Work Completed<br>☐EAP Data Summary Completed |
| Model Development<br>☐Model Design and Calibration In Progress<br>☐Model Design and Calibration Complete<br>☐Modeling In Progress [Testing Wasteload and Load Allocations]<br>☐EAP Technical Report Complete |
| TMDL Writing (includes Implementation Plan)<br>☐In Progress-Report Writing On Track<br>☐In Progress-Stalled<br>☐ Additional data collection: Explain why here.<br>☐ Addressing policy issue: Identify policy issues here.<br>☐ Additional modeling-e.g. testing additional allocation options<br>☐Not Currently Active: Provide explanation here (e.g. lack of resources).<br>☐Draft TMDL Complete<br>☐Headquarters Policy Review/EAP Technical Review In Progress<br>☐Headquarters Policy Review/EAP Technical Review Complete<br>☐Draft TMDL Waiting on Publication |
| Formal Public Participation for TMDL<br>☐Public Comment Period In Progress<br>☐Public Comment Period Complete<br>☐Response to Comments Completed<br>☐TMDL Amended to Include Response to Comments |
| EPA<br>☐Submitted to EPA<br>☐Waiting for EPA approval<br>☐Approved by EPA |
| Other<br>☐TMDL Stalled: Provide explanation here<br>☐Implementing BMPs/Implementation: Enter Staff Assigned |

## Water Quality Improvement Project Tracking: 11/7/19

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|---|
| Project Name: Wide Hollow MP TMDL WQ-27? ☒ Yes ☐ No |
| WQP Project Lead: Laine Young EAP Counterpart: Jim Carroll |
| Project Planning<br>☐Project Schedule and Project Plan Drafted (needs check-in with Laine)<br>☐TMDL Advisory Group Formed<br>☐Webpage Developed<br>☒QAPP Completed |
| Data Collection |

| |
|---|
| ☒Field Work In Progress [Data Collection]<br>☒Field Work Completed<br>☒EAP Data Summary Completed |
| Model Development<br>☒Model Design and Calibration In Progress<br>☒Model Design and Calibration Complete<br>☒Modeling In Progress [Testing Wasteload and Load Allocations]<br>☒EAP Technical Report Complete |
| TMDL Writing (includes Implementation Plan)<br>☐In Progress-Report Writing On Track<br>☐In Progress-Stalled<br>☐ Additional data collection: Explain why here.<br>☐ Addressing policy issue: Identify policy issues here.<br>☒ Additional modeling-e.g. testing additional allocation options<br>☐Not Currently Active: load allocations need development and verification<br>☐Draft TMDL Complete<br>☐Headquarters Policy Review/EAP Technical Review In Progress<br>☐Headquarters Policy Review/EAP Technical Review Complete<br>☐Draft TMDL Waiting on Publication |
| Formal Public Participation for TMDL<br>☐Public Comment Period In Progress<br>☐Public Comment Period Complete<br>☐Response to Comments Completed<br>☐TMDL Amended to Include Response to Comments |
| EPA<br>☐Submitted to EPA<br>☐Waiting for EPA approval<br>☐Approved by EPA |
| Other<br>☐TMDL Stalled: EAP technical report in review<br>☐Implementing BMPs/Implementation: Enter Staff Assigned |

## Water Quality Improvement Project Tracking: 11/7/19

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|---|---|
| Project Name: E.F. Lewis River<br>WQ-27? ☒ Yes ☐ No<br>TMDL Alternative ☒ STI ☐ | WQP Project Lead: Devan Rostorfer<br>EAP Counterpart (if applicable): Sheelagh McCarthy |
| **TMDL Alternative** | **Straight to Implementation (STI)** |
| Project Planning | |

| | |
|---|---|
| ☒ Project Schedule and Project Plan Drafted<br>☒Advisory Group Formed or Coordination with External Partners Completed<br>☒Webpage Developed<br>☒QAPP Completed<br>☐N/A | ☐Draft Internal STI Work Plan<br>☐Website Developed<br>☐Work Plan Under Review by HQ<br>☐Work Plan Approved by HQ<br>☐EPA Submittal (if WQ-27)<br>☐Comments Enter comments here |
| <u>Data Collection (if applicable)</u><br>☒Field Work In Progress [Data Collection]<br>☐N/A<br>☒Field Work Completed<br>☐N/A<br>☒EAP Data Summary Completed<br>☐N/A | |
| <u>Model Development (if applicable)</u><br>☐Model Design and Calibration In Progress<br>☒N/A<br>☐Model Design and Calibration Complete<br>☒N/A<br>☐Modeling of Management Scenarios<br>☒N/A In Progress<br>☐EAP Technical Report Complete<br>☒N/A | |
| <u>Report or Plan Writing</u><br>☒In Progress-Report/Plan Writing On Track<br>☐In Progress-Stalled<br>☐ Additional data collection: Explain why here<br>☐ Additional modeling<br>☐ Addressing policy issue: Identify policy issue<br>☐Not Currently Active: Provide explanation here (e.g. lack of resources)<br>☒Draft Report/Plan Complete<br>☒Headquarters Policy/EAP Technical Review In Progress<br>☐Headquarters Policy Review Complete<br>☐Draft Report Waiting on Publication (if applicable)<br>☐EPA Submittal (if WQ-27) | |
| ☐Implementing BMPs/Implementation—Devan Rostorfer (TMDL), Shawn Ultican (nonpoint), Jennifer Riedmayer (nonpoint) | ☐<u>Implementing BMPs/Implementation</u><br>Enter Staff Assigned |

# Water Quality Improvement Project Tracking: 11/6/19

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|---|
| Project Name: Little Spokane DO/pH TMDL WQ-27? ☒ Yes ☐ No |
| WQP Project Lead: Curtis Johnson EAP Counterpart: Tighe Stuart |
| Project Planning<br>☒Project Schedule and Project Plan Drafted<br>☒TMDL Advisory Group Formed<br>☒Webpage Developed<br>☒QAPP Completed |
| Data Collection<br>☒Field Work In Progress [Data Collection]<br>☒Field Work Completed<br>☒EAP Data Summary Completed |
| Model Development<br>☒Model Design and Calibration In Progress<br>☒Model Design and Calibration Complete<br>☒Modeling In Progress [Testing Wasteload and Load Allocations]<br>☒EAP Technical Report Complete |
| TMDL Writing (includes Implementation Plan)<br>☒In Progress-Report Writing On Track<br>☐In Progress-Stalled<br>☐ Additional data collection: Explain why here.<br>☐ Addressing policy issue: Identify policy issues here.<br>☐ Additional modeling-e.g. testing additional allocation options<br>☐Not Currently Active: Provide explanation here (e.g. lack of resources).<br>☐Draft TMDL Complete<br>☐Headquarters Policy Review/EAP Technical Review In Progress<br>☐Headquarters Policy Review/EAP Technical Review Complete<br>☐Draft TMDL Waiting on Publication |
| Formal Public Participation for TMDL<br>☐Public Comment Period In Progress<br>☐Public Comment Period Complete<br>☐Response to Comments Completed<br>☐TMDL Amended to Include Response to Comments |
| EPA<br>☐Submitted to EPA<br>☐Waiting for EPA approval<br>☐Approved by EPA |
| Other<br>☐TMDL Stalled: Provide explanation here<br>☐Implementing BMPs/Implementation: Enter Staff Assigned |

Water Quality Improvement Project Tracking: 11/6/19

| Project Name:<br>WQ-27? ☒ Yes ☐ No<br>TMDL Alternative ☒ STI ☐ | WQP Project Lead: Cleo Neculae<br>EAP Counterpart (if applicable):<br>TBD-currently transitioning |
|---|---|
| **TMDL Alternative** | **Straight to Implementation (STI)** |
| <u>Project Planning</u><br>☒ Project Schedule and Project Plan Drafted<br>☒Advisory Group Formed or Coordination with External Partners Completed<br>☒Webpage Developed<br>☒QAPP Completed<br>☐N/A | ☐Draft Internal STI Work Plan<br>☐Website Developed<br>☐Work Plan Under Review by HQ<br>☐Work Plan Approved by HQ<br>☐EPA Submittal (if WQ-27)<br>☐Comments Enter comments here |
| <u>Data Collection (if applicable)</u><br>☒Field Work In Progress [Data Collection]<br>☐N/A<br>☒Field Work Completed<br>☐N/A<br>☐EAP Data Summary Completed<br>☐N/A | |
| <u>Model Development (if applicable)</u><br>☐Model Design and Calibration In Progress<br>☐N/A<br>☐Model Design and Calibration Complete<br>☐N/A<br>☐Modeling of Management Scenarios<br>☐N/A In Progress<br>☐EAP Technical Report Complete<br>☐N/A | |
| <u>Report or Plan Writing</u><br>☐In Progress-Report/Plan Writing On Track<br>☐In Progress-Stalled<br>☐ Additional data collection: Explain why here<br>☐ Additional modeling<br>☐ Addressing policy issue: Identify policy issue<br>☒Not Currently Active: Project stalled-waiting on model development<br>☐Draft Report/Plan Complete<br>☐Headquarters Policy/EAP Technical Review In Progress | |

| | |
|---|---|
| ☐Headquarters Policy Review Complete<br>☐Draft Report Waiting on Publication (if applicable)<br>☐EPA Submittal (if WQ-27) | |
| ☐Implementing BMPs/Implementation—Enter Staff Assigned | ☐Implementing BMPs/Implementation<br>Enter Staff Assigned |

## Water Quality Improvement Project Tracking: 11/7/19

| Project Name: Lacamas River<br>WQ-27? ☐ Yes ☒ No<br>TMDL Alternative ☒ STI ☐ | WQP Project Lead: Devan Rostorfer<br>EAP Counterpart (if applicable): Not assigned |
|---|---|
| **TMDL Alternative** | **Straight to Implementation (STI)** |
| Project Planning<br>☐ Project Schedule and Project Plan Drafted<br>☐Advisory Group Formed or Coordination with External Partners Completed<br>☐Webpage Developed<br>☐QAPP Completed<br>☐N/A | ☐Draft Internal STI Work Plan<br>☐Website Developed<br>☐Work Plan Under Review by HQ<br>☐Work Plan Approved by HQ<br>☐EPA Submittal (if WQ-27)<br>☐Comments Enter comments here |
| Data Collection (if applicable)<br>☐Field Work In Progress [Data Collection]<br>☐N/A<br>☐Field Work Completed<br>☐N/A<br>☐EAP Data Summary Completed<br>☐N/A | |
| Model Development (if applicable)<br>☐Model Design and Calibration In Progress<br>☐N/A<br>☐Model Design and Calibration Complete<br>☐N/A<br>☐Modeling of Management Scenarios<br>☐N/A In Progress<br>☐EAP Technical Report Complete<br>☐N/A | |
| Report or Plan Writing<br>☐In Progress-Report/Plan Writing On Track<br>☐In Progress-Stalled | |

| | |
|---|---|
| ☐ Additional data collection: Explain why here<br>☐ Additional modeling<br>☐ Addressing policy issue: Identify policy issue<br>☒Not Currently Active: Proposing at 2019 Soiree for FY20 scoping. If accepted, scoping would take place FY21 and project would begin FY22. EAP's analysis of previously collected data needed to inform TMDL alternative.<br>☐Draft Report/Plan Complete<br>☐Headquarters Policy/EAP Technical Review In Progress<br>☐Headquarters Policy Review Complete<br>☐Draft Report Waiting on Publication (if applicable)<br>☐EPA Submittal (if WQ-27) | |
| ☐Implementing BMPs/Implementation—Enter Staff Assigned | ☐Implementing BMPs/Implementation<br>Enter Staff Assigned |

## Water Quality Improvement Project Tracking: 11/6/19

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|---|
| Project Name: Pend Oreille Temperature TMDL WQ-27? ☒ Yes ☐ No |
| WQP Project Lead: Curtis Johnson EAP Counterpart: TBD |
| Project Planning<br>☒Project Schedule and Project Plan Drafted<br>☒TMDL Advisory Group Formed<br>☒Webpage Developed<br>☒QAPP Completed |
| Data Collection<br>☒Field Work In Progress [Data Collection]<br>☒Field Work Completed<br>☒EAP Data Summary Completed |
| Model Development<br>☒Model Design and Calibration In Progress<br>☒Model Design and Calibration Complete<br>☒Modeling In Progress [Testing Wasteload and Load Allocations]<br>☒EAP Technical Report Complete |
| TMDL Writing (includes Implementation Plan)<br>☒In Progress-Report Writing On Track<br>☐In Progress-Stalled<br>☐ Additional data collection: Explain why here.<br>☐ Addressing policy issue: Identify policy issues here. |

| |
|---|
| ☐ Additional modeling-e.g. testing additional allocation options<br>☐Not Currently Active: Provide explanation here (e.g. lack of resources).<br>☒Draft TMDL Complete<br>☒Headquarters Policy Review/EAP Technical Review In Progress<br>☒Headquarters Policy Review/EAP Technical Review Complete<br>☒Draft TMDL Waiting on Publication |
| Formal Public Participation for TMDL<br>☒Public Comment Period In Progress<br>☒Public Comment Period Complete<br>☒Response to Comments Completed<br>☒TMDL Amended to Include Response to Comments |
| EPA<br>☒Submitted to EPA<br>☒Waiting for EPA approval<br>☐Approved by EPA |
| Other<br>☐TMDL Stalled: Provide explanation here<br>☐Implementing BMPs/Implementation: Enter Staff Assigned |

## Water Quality Improvement Project Tracking: 11/6/19

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|---|
| Project Name: Soos Creek Temp, DO, Bioassessment TMDL<br>WQ-27? ☒ Yes ☐ No |
| WQP Project Lead: Cleo Neculae EAP Counterpart: Teizeen Mohamedali |
| Project Planning<br>☒Project Schedule and Project Plan Drafted<br>☒TMDL Advisory Group Formed<br>☒Webpage Developed<br>☒QAPP Completed |
| Data Collection<br>☒Field Work In Progress [Data Collection]<br>☒Field Work Completed<br>☒EAP Data Summary Completed-Ralph will verify |
| Model Development<br>☒Model Design and Calibration In Progress<br>☐Model Design and Calibration Complete<br>☐Modeling In Progress [Testing Wasteload and Load Allocations]<br>☐EAP Technical Report Complete |
| TMDL Writing (includes Implementation Plan)<br>☐In Progress-Report Writing On Track<br>☐In Progress-Stalled |

| |
|---|
| ☐ Additional data collection: Explain why here.<br>☐ Addressing policy issue: Identify policy issues here.<br>☐ Additional modeling-e.g. testing additional allocation options<br>☐Not Currently Active: Provide explanation here (e.g. lack of resources).<br>☐Draft TMDL Complete<br>☐Headquarters Policy Review/EAP Technical Review In Progress<br>☐Headquarters Policy Review/EAP Technical Review Complete<br>☐Draft TMDL Waiting on Publication |
| Formal Public Participation for TMDL<br>☐Public Comment Period In Progress<br>☐Public Comment Period Complete<br>☐Response to Comments Completed<br>☐TMDL Amended to Include Response to Comments |
| EPA<br>☐Submitted to EPA<br>☐Waiting for EPA approval<br>☐Approved by EPA |
| Other<br>☐TMDL Stalled: Evaluating Soos Creek fish hatchery WLA issues. Working with assessment group on standards change<br>☐Implementing BMPs/Implementation: Enter Staff Assigned |

## Water Quality Improvement Project Tracking: 11/7/19

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|---|
| Project Name: Lower White River pH TMDL WQ-27? ☒ Yes ☐ No |
| WQP Project Lead: Donovan Gray EAP Counterpart: Nuri Mathieu |
| Project Planning<br>☒Project Schedule and Project Plan Drafted<br>☒TMDL Advisory Group Formed<br>☒Webpage Developed<br>☒QAPP Completed |
| Data Collection<br>☒Field Work In Progress [Data Collection]<br>☒Field Work Completed<br>☒EAP Data Summary Completed |
| Model Development<br>☒Model Design and Calibration In Progress<br>☒Model Design and Calibration Complete<br>☒Modeling In Progress [Testing Wasteload and Load Allocations]<br>☐EAP Technical Report Complete |
| TMDL Writing (includes Implementation Plan) |

| |
|---|
| ☒In Progress-Report Writing On Track<br>☐In Progress-Stalled<br>☐ Additional data collection: Explain why here.<br>☐ Addressing policy issue: Identify policy issues here.<br>☐ Additional modeling-e.g. testing additional allocation options<br>☐Not Currently Active: Provide explanation here (e.g. lack of resources).<br>☒Draft TMDL Complete<br>☒Headquarters Policy Review/EAP Technical Review In Progress<br>☐Headquarters Policy Review/EAP Technical Review Complete<br>☐Draft TMDL Waiting on Publication |
| Formal Public Participation for TMDL<br>☐Public Comment Period In Progress<br>☐Public Comment Period Complete<br>☐Response to Comments Completed<br>☐TMDL Amended to Include Response to Comments |
| EPA<br>☐Submitted to EPA<br>☐Waiting for EPA approval<br>☐Approved by EPA |
| Other<br>☐TMDL Stalled: Provide explanation here<br>☐Implementing BMPs/Implementation: Enter Staff Assigned |

## Water Quality Improvement Project Tracking: 11/6/19

| | |
|---|---|
| Project Name: Spring Flat Creek STI<br>WQ-27? ☒ Yes ☐ No<br>TMDL Alternative ☐ STI ☒ | WQP Project Lead: Mitch Redfern<br>EAP Counterpart (if applicable): currently N/A |
| **TMDL Alternative** | **Straight to Implementation (STI)** |
| Project Planning<br>☐ Project Schedule and Project Plan Drafted<br>☐Advisory Group Formed or Coordination with External Partners Completed<br>☐Webpage Developed<br>☐QAPP Completed<br>☐N/A | ☐Draft Internal STI Work Plan<br>☐Website Developed<br>☐Work Plan Under Review by HQ<br>☐Work Plan Approved by HQ<br>☐EPA Submittal (if WQ-27)<br>☒Comments Not yet begun, planned to start late 2020/early 2021 |
| Data Collection (if applicable)<br>☐Field Work In Progress [Data Collection]<br>☐N/A | |

| | |
|---|---|
| ☐Field Work Completed<br>☐N/A<br>☐EAP Data Summary Completed<br>☐N/A | |
| Model Development (if applicable)<br>☐Model Design and Calibration In Progress<br>☐N/A<br>☐Model Design and Calibration Complete<br>☐N/A<br>☐Modeling of Management Scenarios<br>☐N/A In Progress<br>☐EAP Technical Report Complete<br>☐N/A | |
| Report or Plan Writing<br>☐In Progress-Report/Plan Writing On Track<br>☐In Progress-Stalled<br>☐ Additional data collection: Explain why here<br>☐ Additional modeling<br>☐ Addressing policy issue: Identify policy issue<br>☐Not Currently Active: Provide explanation here (e.g. lack of resources)<br>☐Draft Report/Plan Complete<br>☐Headquarters Policy/EAP Technical Review In Progress<br>☐Headquarters Policy Review Complete<br>☐Draft Report Waiting on Publication (if applicable)<br>☐EPA Submittal (if WQ-27) | |
| ☐Implementing BMPs/Implementation—Enter Staff Assigned | ☐Implementing BMPs/Implementation<br>Enter Staff Assigned |

## Water Quality Improvement Project Tracking-**March 2020**

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|---|---|
| Project Name: Puget Sound Nutrient Source Reduction Project<br>WQ-27? ☒ Yes ☐ No<br>TMDL Alternative ☒ STI ☐ | WQP Project Lead: Dustin Bilhimer<br>EAP Counterpart (if applicable): Cristiana F-K, ~~Greg Pelletier~~ |
| **TMDL Alternative** | **Straight to Implementation (STI)** |
| Project Planning | |

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|---|---|
| ☒ Project Schedule and Project Plan Drafted<br>☒Advisory Group Formed or Coordination with External Partners Completed<br>☒Webpage Developed<br>☒QAPP Completed<br>☐N/A | ☐Draft Internal STI Work Plan<br>☐Website Developed<br>☐Work Plan Under Review by HQ<br>☐Work Plan Approved by HQ<br>☐EPA Submittal (if WQ-27)<br>☐Comments Enter comments here |
| <u>Data Collection (if applicable)</u><br>☒Field Work In Progress [Data Collection]<br>☐N/A<br>☒Field Work Completed<br>☐N/A<br>☒EAP Data Summary Completed<br>☐N/A | |
| <u>Model Development (if applicable)</u><br>☒Model Design and Calibration In Progress<br>☐N/A<br>☒Model Design and Calibration Complete<br>☐N/A<br>☒Modeling of Management Scenarios<br>☐N/A In Progress<br>☐EAP Technical Report Complete<br>☐N/A | |
| <u>Report or Plan Writing</u><br>☐In Progress-Report/Plan Writing On Track<br>☐In Progress-Stalled<br>☐ Additional data collection: Explain why here<br>☐ Additional modeling<br>☐ Addressing policy issue: Identify policy issue<br>☐Not Currently Active: Provide explanation here (e.g. lack of resources)<br>☐Draft Report/Plan Complete<br>☐Headquarters Policy/EAP Technical Review In Progress<br>☐Headquarters Policy Review Complete<br>☐Draft Report Waiting on Publication (if applicable)<br>☐EPA Submittal (if WQ-27) | |
| ☐Implementing BMPs/Implementation—Enter Staff Assigned | ☐<u>Implementing BMPs/Implementation</u><br><br>Enter Staff Assigned |