

Farming in the Floodplain Project

Draft Watershed-Scale Study Plan

Purpose of the Study Plan

The purpose of this Study Plan is to direct watershed-scale work to be conducted by the technical consultant for the Farming in the Floodplain Project (FFP) work over the next several years. The work will be funded by the Floodplains by Design 2019-2021 grant.

Other Components of Farming in the Floodplain Project

The Study Plan is not comprehensive of all work being done as part of the FFP. In addition to the watershed-scale work detailed in the Study Plan, the FFP will include:

- Participation in the Floodplains for the Future Integrated Management Group, Leads Group, and various Disappearing Task Groups and the Drainage Task Force; coordination with the Drainage Network Analysis; and attendance at Pierce County Agriculture Advisory Committee meetings by Jordan Jobe (the FFP Project Manager)
- Farmer and landowner engagement at the Clear Creek scale and the watershed scale, led by Sarah Wilcox (the Landowner Engagement consultant to FFP)
- Development of an Agricultural Resilience Action Plan for the Clear Creek area

Study Plan

The focus of the Study Plan is to increase the understanding of the physical conditions that affect agriculture in the Puyallup Watershed. The Study Plan has been informed by a Gap Analysis of information on those physical conditions. The Gap Analysis found that there is a lot of information available about physical conditions (such as flood risk, sediment, and hydrology), but it hasn't been synthesized and applied to agriculture. Therefore, the Study Plan has been designed to allow for that synthesis and to provide flexibility to address the questions that arise throughout the process.

The Study Plan includes the following components:

- An **Existing Conditions Report** that will synthesize existing information about physical conditions in the Puyallup Watershed and apply it to agricultural interests.
- Three to five **technical memos** providing a higher level of detail on topics that are prioritized for additional analysis or development of new data. The technical memos will allow the FFP to share information and receive input on key topics as the Existing Conditions Report is in process. Technical memos will include:
 - **Historic River Management Actions and Sediment Management Options Technical Memo**
 - **Soil Compaction Technical Memo**
 - **Agriculture, Ecosystem Processes, and Ecosystem Services Technical Memo**
 - **Up to two additional technical memos** to be determined during the course of developing the Existing Conditions Report

The **Historic River Management Actions and Sediment Management Options Technical Memo** will describe historic actions taken to manage sediment in the Puyallup River and its tributaries. The memo

will describe the impacts of those actions, their effectiveness, and why they stopped. It will also describe which levees were built at what times and what their expected level of protection is (as of a certain date, which varies by levee). The memo will also explore potential sediment management options for the watershed moving forward. It will describe what policy changes would be required for various sediment management options and what the impacts and effectiveness could be. The memo will describe innovative sediment management techniques adopted in other areas. For both historic actions and potential future options, the memo will discuss the Puyallup River itself as well as agricultural ditches.

The **Soil Compaction Technical Memo** will explore whether soil compaction is affecting drainage and other aspects of agricultural viability in the Puyallup Watershed. Soil compaction, sometimes called the plow pan, is considered by some to be a major contribution to drainage problems in some areas of the watershed, but no resources on compaction in the Puyallup Watershed have been identified. The memo will identify areas where soil compaction has been observed. Field work may potentially be conducted to identify the depth and thickness of compacted soil. The memo will describe approaches to address soil compaction and improve soil health.

The **Agriculture, Ecosystem Processes, and Ecosystem Services Technical Memo** will discuss the intersections between agriculture and ecosystem services. It will delineate the ecosystem processes that resilient agriculture relies upon as well as the ecosystem services agriculture provides.