Technical Advisory Group Meeting #1
Meeting Report

April 5, 2016, Puyallup Library

The first meeting of the Technical Advisory Group (TAG) for the Farming in the Floodplain Project (FFP) was held on April 5, 2016 at the Puyallup Library. About 25 people participated, including Clear Creek area farmers, Pierce County staff, Farming in the Floodplain Project staff, and regional technical experts. The meeting was led by PCC Farmland Trust and by ESA, the technical contractors working on the project.

Topics discussed at the meeting included the purpose and structure of the FFP; agriculture in the Clear Creek area; agricultural viability; concerns, opportunities, and information needs in the Clear Creek area; and observed trends and projections in the Puget Sound area and the Puyallup Watershed.

Members of the newly-formed Clear Creek Farmers Collective (CCFC) presented information on their collective and its position on the Farming in the Floodplain Project and on Pierce County's proposed Clear Creek levee project. The CCFC represents 21 farmers and residents who own approximately 212 acres of land and who do not want to sell their property to the County. CCFC members presented a list of requests for the technical work in the FFP, including:

- a redesign of the proposed Clear Creek levee project that would not include any of the farmland owned by members of the CCFC;
- an evaluation of drainage patterns and ditches in the Clear Creek area;
- an analysis of the status of the existing tidegates at the mouth of Clear Creek;
- preliminary research needed to establish water rights for farms in the area; and
- assistance in reaching a compromise allowing for the construction of agriculturally-specific and flood-conscious structures in the Clear Creek area.

Information, questions, and conversations at the TAG meeting will be used by ESA to inform an Existing Conditions Report. Ideas for future technical work, including those presented by the Clear Creek Farmers Collective, will be used to develop the scope of work for the next phase of technical analysis scheduled to begin in August 2016.

Discussions at the TAG meeting are summarized below.

Agricultural Viability

The TAG discussed how agricultural viability should be defined and what the critical components of agricultural viability are.

TAG members explained that farmers deal in **risks**. In any given year, some crops work out and others don't. Farmers need to determine the acceptable level of risk and what their threshold is. Farmers in Clear Creek feel that they already have enough risks to manage.

In the Clear Creek area, **water** is a critical component of agricultural viability. Farms in Clear Creek are viable in part because they have so much water. A high water table is a benefit for some farmers because they need less irrigation. However, excessive water causes flooding and drainage issues, both of which detract from agricultural viability.

Flooding is particularly damaging to farms planting perennials. For farms that do not plant perennials, flooding doesn't necessarily affect farming in the off-season. But flooding can damage farm infrastructure, such as barns. And flooding can keep farmers from getting back onto their fields if the water doesn't recede quickly enough. Farmers at the TAG meeting stated that there is a big difference between being flooded and being wet due to poor drainage conditions. TAG members felt that they can cope with current flooding conditions from Clear Creek, but are concerned that opening the area to floodwaters from the Puyallup River could cause their farms to be inundated by more water more frequently. In the Clear Creek area, agricultural viability also depends on the tide gates being properly maintained and functioning.

TAG members were clear that **drainage** is currently one of the main limiting factors for agricultural viability in the Clear Creek area. Poor drainage keeps certain fields in the Clear Creek area from being planted at all. In other fields, poor drainage can lead to conditions that are too wet to plant cover crops, which reduce the amount of sediment moving into the drainage system, help absorb winter rains, and improve soil fertility. The intrusion of reed canary grass and lack of maintenance are two of the main factors causing drainage problems in the area. To address drainage problems, farmers in the Clear Creek area need Drainage District 10 to be well supported and to have the ability to get permits for their maintenance activities. Increased runoff from upstream areas due to development has also contributed to drainage problems.

Lack of farmland is another limiting factor for agricultural viability in the Clear Creek area. Having small parcels available in farm areas is key for allowing farmers to expand their farms. Farms in the area are shrinking because of development. TAG members said that there is no minimum parcel size for farming – it depends on the farmer and their techniques. Being located adjacent to other farms allows for resource and information sharing, among other benefits for agricultural viability. Transportation access to leased fields is also an important factor.

Soils are a critical factor in agricultural viability. The Clear Creek area has world class soil. Other factors important to agricultural viability include an ability to build farm structures, proximity to markets, being located in a safe community, and having the ability to own land. The ability to irrigate greatly enhances

agricultural viability. Lack of water rights and reliance on wells are limiting factors for many farms in the Clear Creek area.

Opportunities and Information Needs

TAG members identified several opportunities for projects in the Clear Creek area. Designing a flood risk reduction and habitat enhancement project that preserves farmland in the area presents an opportunity to create a habitat area that connects the public with habitat and with local farms. It would be an opportunity to highlight Pierce County as an agricultural district in Washington. TAG members also saw an opportunity for this process to lead to better dialog between Pierce County and the farm community.

The group discussed questions and information needs for the Clear Creek area. Questions raised include:

- How frequently did Drainage District 10 use to dredge the ditches?
- How do the tide gates work? How should they work? Who owns them and who is responsible for them? How were the gates working during different flood events?
- How often is the river high enough to raise or lower the tide gates?
- What are the flooding scenarios with properly functioning tide gates and with gates removed? How would different culvert sizes affect these scenarios?
- Is there a way to make the tide gates fish friendly?
- Is there a way to alleviate runoff from the developments upstream of the Clear Creek area? Can the quantity of hardscaping upstream and the amount of surface water discharge it causes be quantified? Are there projects that could be done upstream to reduce stormwater? Has any research been done on adding storage upstream?
- What are the limits of the existing hydrologic and hydraulic modeling? What more needs to be done to understand the system?
- How many floodgates would be needed on a levee constructed in the area? What would be required for maintenance?
- What is the current capacity of the channel? What do we need to plan for when considering future sediment and gravel conditions? How much gravel do we expect to see coming down the river? How does that impact the prospects for a levee project in the area? Is there any dredging planned?
- Will the Canyon Road project add more surface water runoff to the Clear Creek area? How will that project's impacts be mitigated?
- What were the historic sediment maintenance practices in the area? What are the current practices? What is needed to manage the existing sediment conditions? What are the sediment sources?
- Will future sediment deposits and floodwaters carry a greater risk of toxicity on farm fields? Could they threaten the organic certification of farms? Will there be food safety concerns?
- What would the weight of an earthen levee be? What would it do to the groundwater table? How would that affect flow and drainage?

- Could the drainage district expand or change the route of its ditches? What permits would that require?
- What habitat areas already exist in the Clear Creek area? How much habitat is needed?
- Is there any Pierce County fund that could be used to provide assistance to the drainage district?
- How safe is the River Road levee? If another levee is constructed in the Clear Creek area, many farmers and residents would be between the two levees. What would happen if one overtopped? More information is needed about the flood risk. There has been mixed messaging from the county on this topic.
- Why are flood regulations different in Fife than in the Clear Creek area?
- How would the height of the proposed Clear Creek levee be affected by climate change projects?
- Could some of Drainage District 10's water be diverted to Clarks Creek to alleviate some of the drainage pressure in Clear Creek?

Existing Conditions Report

ESA provided information on what will be included in the Existing Conditions Report (ECR). The report will be available in July. TAG members suggested that the ECR could also include information on economics and historic information. The ECR could discuss groundwater, including past versus current conditions and changes in groundwater levels. TAG members were also interested in information about the type of agriculture going on and how it affects drainage.

Trends and Projections

Guillaume Mauger of the Climate Impacts Group at the University of Washington presented information on observed trends and projections in the Puget Sound region and Puyallup Watershed. Key points from the presentation and discussion included:

- Temperature and precipitation in the Puget Sound region both vary annually. There is an upward trend in temperature but not in precipitation.
- Projected conditions that would increase flooding in the area include sea level rise, heavier rainfall events, and reduced snowpack.
- Sea level rise will move the saltwater wedge up the Puyallup system. Sea level rise will also make it harder for the system to drain.
- Sediment moves into the river system during heavy rainfall events. More heavy rainfall events are anticipated, so the system is projected to move more sediment. Sea level rise will make it harder to flush that sediment out of the system.
- Lower summer flows and higher winter flows are predicted. Lower summer flows will cause the water temperature in the river to be higher.
- Pineapple express events are the most risky for Clear Creek farmers.
- A TAG member mentioned that the Puyallup system didn't have the same groundwater problems that other watersheds in Western Washington had during the 2015 drought.