

Snoqualmie Fish, Farm, Flood Advisory Committee

Flood Overview: Opportunities and Challenges

Breakout Group Reports

January 8, 2014

FLOOD OVERVIEW: OPPORTUNITIES/CHALLENGES, Jan. 8, 2014

Small group members: Micah, Cindy, Jarvis, Sally (staff) PLUS Larry Pickering and Ward Roney (Guests)

Farm related:

Potential challenges:

- Frequent small flood impacts to fields and access, vs large infrequent floods impacts to whole infrastructure
- Floodplain regulations limit fill in floodplain
- No new houses in floodway (temp farm worker housing?)
- Bank and field erosion – and deposition of debris, silt on fields

Potential opportunities:

- Farm pads and elevated platforms
- Structure elevations – homes, barns
- Technical and financial assistance for other ways to make farms safer
- Flood fencing

Fish related:

Potential challenges:

- Scour from flows redirected by facilities
- Bank hardening and river containment by facilities including large repairs (rock jobs)
- Recreation safety/wood management protocols that can lead to wood removal
- Gravel dredging - Micah's perception was that given the extensive criteria which have to be met to remove gravel that it may be unlikely that this will occur in the Lower Snoq mainstem b/c it would be difficult to show that gravel removal would be effective strategy to reduce flood elevations in such a broad valley (Larry P said he agreed with this but that he was glad that it was at least being talked about)

Potential opportunities:

GROUP 1

- Acquisitions
- Levee and revetment setbacks to expand channel capacity and sediment storage and restore habitat
- Shared funding for acquisitions and setback projects that meet multiple (flood / fish) objectives
- NMFS Biological Opinion

DISCUSSION QUESTIONS FOR ADVISORY COMMITTEE:

During small group discussion, consider areas where:

- **you need additional information**, - explanation of how home elevations work and how county cost share works; study of how forest cover and legacy of logging over past ½ century has affected and is affecting flooding in Lower Snoq; need to document flows of last century of floods to see how they have changed or not; better information from individual farmers throughout the valley on how flooding has changed at their farm (e.g., velocities, timing, duration, etc) – could do a survey to gather this info; stormwater retrofit should be on list of factors to study in the hydrologic basin study
- **we already may have common ground**, - floods will not be contained or controlled in the Snoqualmie even if we do more extensive levee/revetment repairs, so we need to come up with a broad and comprehensive strategy (this is something that various different people said to me not just in the small group setting)
- **ideas for possible solutions**, - farmers need to adjust their type of farming to adapt to climate change; find housing for farmers and farm workers adjacent to floodplain (e.g., Duvall); find what leeway there is within CRS to allow for regulatory flexibility; pay Snohomish Co to lower their dikes so less water is backed up into the northern part of Snoqualmie valley; remove or elevate cross valley roads and/or roads along edges of floodplain to allow better conveyance; in terms of the county/FCD policies that determine when we repair a facility and the CIP decision criteria, elevate the value of ag land and ag infrastructure based on its food security value and regional economic value); county could acquire lands in APD for ecological purposes to protect from development and use as flood storage (e.g., wetlands, oxbows);
- **you have suggestions or additions to the challenges or opportunities list**
- **you have a priority area to focus our work on even if it is unclear how to move it forward**

FLOOD OVERVIEW: OPPORTUNITIES/CHALLENGES, Jan. 8, 2014

SMALL GROUP REPORT

Notetaker: Clint Loper (staff)

Group Members: Scott Powell, Bryan Holloway, Bobbi Lindemulder, Rick Bautista

Additional Participants: Claire Dyckman (staff)

DISCUSSION QUESTIONS FOR ADVISORY COMMITTEE:

During small group discussion, consider areas where:

- **you need additional information,**
 1. Further research on observations of increasing flooding, and on trends and climate predictions. Focus on:
 - a. Macro and micro (e.g., site) scale changes
 - b. Area-specific conditions, local impacts, e.g., at tributary confluences
 - c. “Small” floods, i.e. more frequent than typical low frequency flood planning events (such as 10- to 100-year)
 - d. Seasonal timing issues, such as whether springtime floods are increasing
 2. Research into scour issue noted on handout – is this really an issue?

- **we already may have common ground,**

None specifically noted.

- **ideas for possible solutions,**
 1. Expand cost-share programs to include post-flood response such as debris clean-up, regarding eroded fields
 2. Extend KC Solid Waste free disposal time frame after floods
 3. Create a “strong and continuing ADAP program.” Consider establishing a drainage district

GROUP 2

4. Better coordinate with Snohomish County on solutions for the north APD/ Duvall and County line area. Consider cost-sharing on actions in Snohomish County that would reduce flooding in King County.
5. Implement actions and regulatory flexibility to the maximum extent possible without compromising the County's CRS rating
6. Prioritize flood risk reduction actions in the valley based on the type of ag being protected

- **you have suggestions or additions to the challenges or opportunities list**

Challenges

1. Ag field drainage
2. Soil saturation constrains in-ground flood storage

- **you have a priority area to focus our work on even if it is unclear how to move it forward**

None noted

FLOOD OVERVIEW: OPPORTUNITIES/CHALLENGES, Jan. 8, 2014

Kollin (staff), Siri, Heather, David R., Josh M.—
plus Josh Kubo, Alan Painter (guests)

DISCUSSION QUESTIONS FOR ADVISORY COMMITTEE:

During small group discussion, consider areas where:

- **you need additional information,**
- 3. How much flexibility is there for increasing new farm infrastructure (housing and other stuff) and still be in compliance with the CRS and state law? What is the tipping point where we cause the County to lose its current rating?
- 4. Farm roads-Need to more clarity on what is and isn't allowed. It seems like guidance is constantly changing. Can we bring in gravel to fill pot holes and such? When is repairing a gravel farm road fill?
- 5. Forestry and other upper river (above falls) operations need to be evaluated for their possible impact on flooding.
- 6. What is the relative risk of bank erosion and field erosion in different parts of the valley?
- 7. How does KC deal with all the silage bunkers when evaluating floodplain capacity/fill associated with farm pads and the like? In essence it could be a very large area of 'temporary fill'. Many farms have them (from the old dairies) but don't use them. What would happen if I tried to use it now? How do you or can you account for that?
- 8. What is the need for farm worker housing? How many people are we talking about?
- 9. Would like an inventory of all vacant parcels (not farms) in the APD and figure out if each one could get a farm pad and house.

- **we already may have common ground,**

None that I noted.

- **ideas for possible solutions,**
- 7. Raise every farm house in the valley. Sounds like there are ~100 houses. At \$100k per house, that would only be 10 million. Entirely doable.
- 8. Address every cross road in the valley—put on trestle, etc. Remove the fill associated with the road.
- 9. Reconnect all the oxbows so that they can slow flood waters out. (*Note Siri and I responded to this. Indicating that it is not really a solution since they generally are connected in any moderate high water event—less than a 1year flood.*)

GROUP 3

10. Actively pump water out of the floodplain—shallow groundwater—between floods in order to dry out the floodplain and to allow it act as a sponge. Siri noted that she has watched the gauge data and recently noticed some high water (not flood) events decrease in flood crest as the crest moved downstream from 3 forks to Duvall, though water inputs should have been increasing. In essence floodplain was dry and was capable of soaking up more water than they typically see.
11. Put a farm pad on every farm.
12. Change current priority framework for when KC will work on a revetment so that criteria protecting farm land are equal to the economic criteria.
13. If KC will not make farmland revetments a priority, could KC create a streamlined process that would allow for a farmer to fix, rebuild, build a revetment.

- **you have suggestions or additions to the challenges or opportunities list**

Challenges

3. Need to allow for new farm houses in the floodplain/floodway.
 - a. This is especially the case for farmers with animals. The farmer needs to be nearby and can't live far away—have done that and it doesn't work. Stuff happens in the middle of the night and you need to be on site. Need to be nearby.
 - b. KC doesn't always maintain roads—especially now with so many roads in the valley being listed as a service level 5 road. Many of the valley roads were not plowed in recent snow events. This made getting to farm very difficult. Had 2 greenhouses collapse due to snow accumulation and inability to get to site.
 - c. Cost of land adjacent, but outside of APD is very high. Not a great option to live near floodplain farm (*could be looked as a possible opportunity if KC was to work to make such land cheaper for farmers in some way*)
4. New Food Safety Rules. They will require more and more facilities to comply with the FDA rules. Are the flood regs going to support/allow for new vegetable washing facilities? These facilities cannot be located in only a few parts of the valley. They need to be very close to the farm in order to not damage crops like lettuce which needs to be cooled off in a water bath. Seems like the proposed food safety rules are on a collision course for the flood reg restrictions. Rinsing vegies is the bare minimum of need, likely also need larger processing facilities.
5. It is not clear that revetments are the solution that Ag interests think they are. There is concern that there is too rosy an image about how much protection revetments really provide. Concerned about a false sense of security.

- **you have a priority area to focus our work on even if it is unclear how to move it forward**

None that I noted—clearly some of the challenges could fit in here though.

FLOOD OVERVIEW: OPPORTUNITIES/CHALLENGES, Jan. 8, 2014

**Kaje (staff), Reinlasoder (staff), Carlson, Thomas, Williams
and Matt Canfield (guest)**

Farm related:

Potential challenges:

- Frequent small flood impacts to fields and access, vs large infrequent floods impacts to whole infrastructure
- Floodplain regulations limit fill in floodplain
- No new houses in floodway (temp farm worker housing?)
- Bank and field erosion – and deposition of debris, silt on fields
- Carlson indicated that house raising was slow and difficult. A third house was not raised because it did not meet the damage threshold for King County funding.
- Thomas wondered if the BiOp might make it more difficult to raise houses today.

Potential opportunities:

- Farm pads and elevated platforms
 - Carlson indicated that building farm pads was easier than home elevations and King County was a helpful partner.
- Structure elevations – homes, barns
 - Carlson mentioned raising two of their three houses. One was paid for out of pocket in the 90s and the second was in 2006 or 2007 (see challenges for additional details)
 - Thomas – would be good to have easier permitting for elevating structures.
 - Kaje noted that the process is much easier to his knowledge today as a result of the flood-farm taskforce a few years ago.
- Technical and financial assistance for other ways to make farms safer
- Flood fencing
- The flood wall nature of cross valley roads (Woodinville-Duvall), NE 124th Street and Carnation Farm Road) was mentioned. There was discussion about the asphalt/chipseal overlays on

GROUP 4

Woodinville-Duvall potentially holding back more flood waters. The group thought culverts or additional water passage under the roads would alleviate flooding upstream.

- It was mentioned that locals/citizens could be part of a real time flood data reporting system using mobile devices to better understand the behavior of floods as they are happening.

Fish related:

Potential challenges:

- Scour from flows redirected by facilities
- Bank hardening and river containment by facilities including large repairs (rock jobs)
- Recreation safety/wood management protocols that can lead to wood removal
- Gravel dredging
 - Carlson wondered if gravel could be removed at confluence of Raging and Snoqualmie. Williams responded that having gravel feed into the system is critical for Chinook spawning.

Potential opportunities:

- Acquisitions
- Levee and revetment setbacks to expand channel capacity and sediment storage and restore habitat
- Shared funding for acquisitions and setback projects that meet multiple (flood / fish) objectives
- NMFS Biological Opinion

DISCUSSION QUESTIONS FOR ADVISORY COMMITTEE:

During small group discussion, consider areas where:

- you need additional information,
 - Is industrial forestry increasing flooding?
- we already may have common ground,
 - raising houses

GROUP 4

- improved forest practices and improving duff layer in the forest
- ideas for possible solutions,
 - Thomas – easier permitting
 - All – flood water pass through related to cross valley roads
 - Citizen flood reporting for expanded data collection
 - Improved on-site/jurisdiction stormwater management, especially cities
 - Groundwater injection in the uplands/forested area
- you have suggestions or additions to the challenges or opportunities list
- you have a priority area to focus our work on even if it is unclear how to move it forward