

# Tolt River Corridor Plan

Flood Control District  
Executive Committee  
January 26, 2015



**King County**

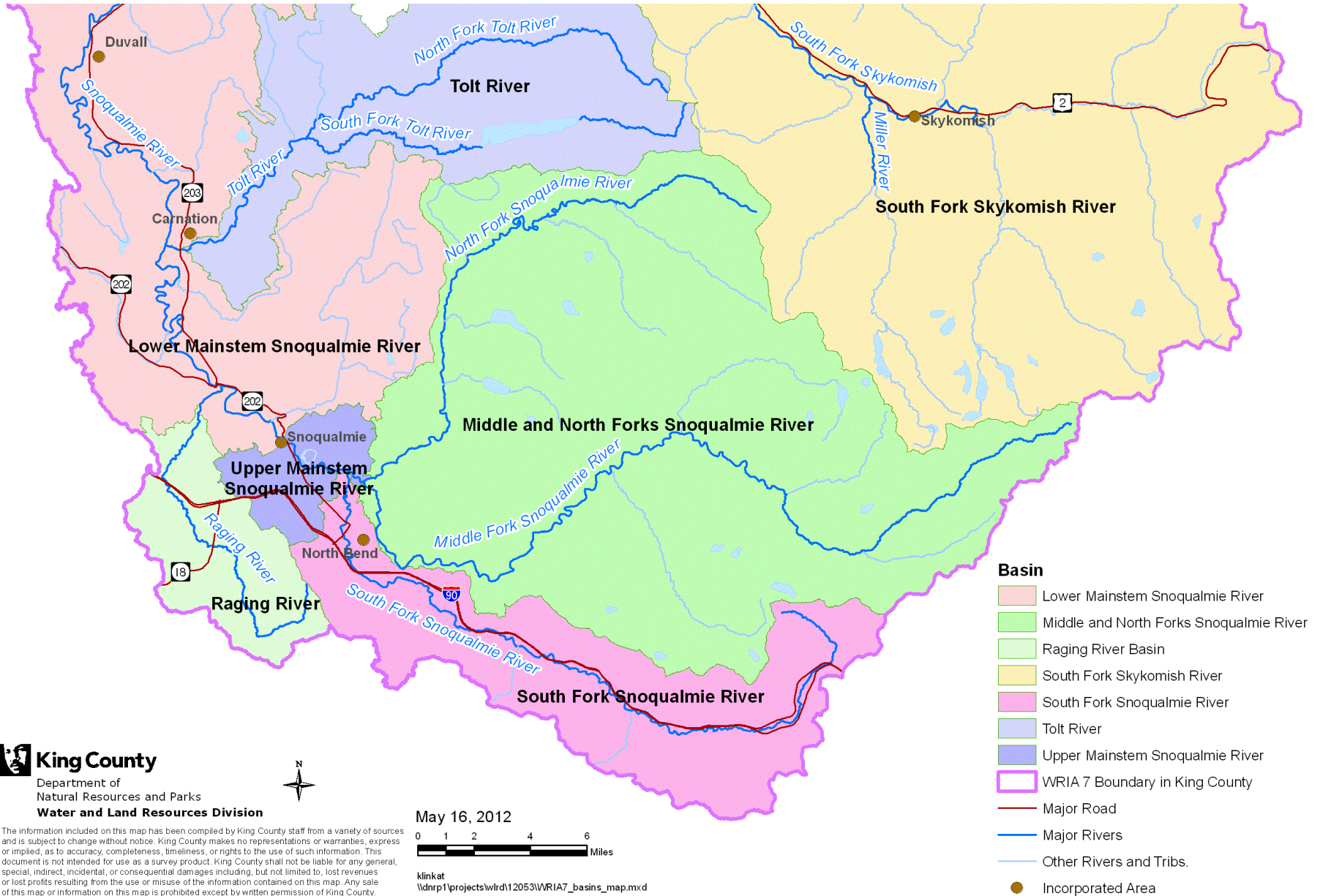


**KING COUNTY  
FLOOD CONTROL  
DISTRICT**

# Today's Presentation

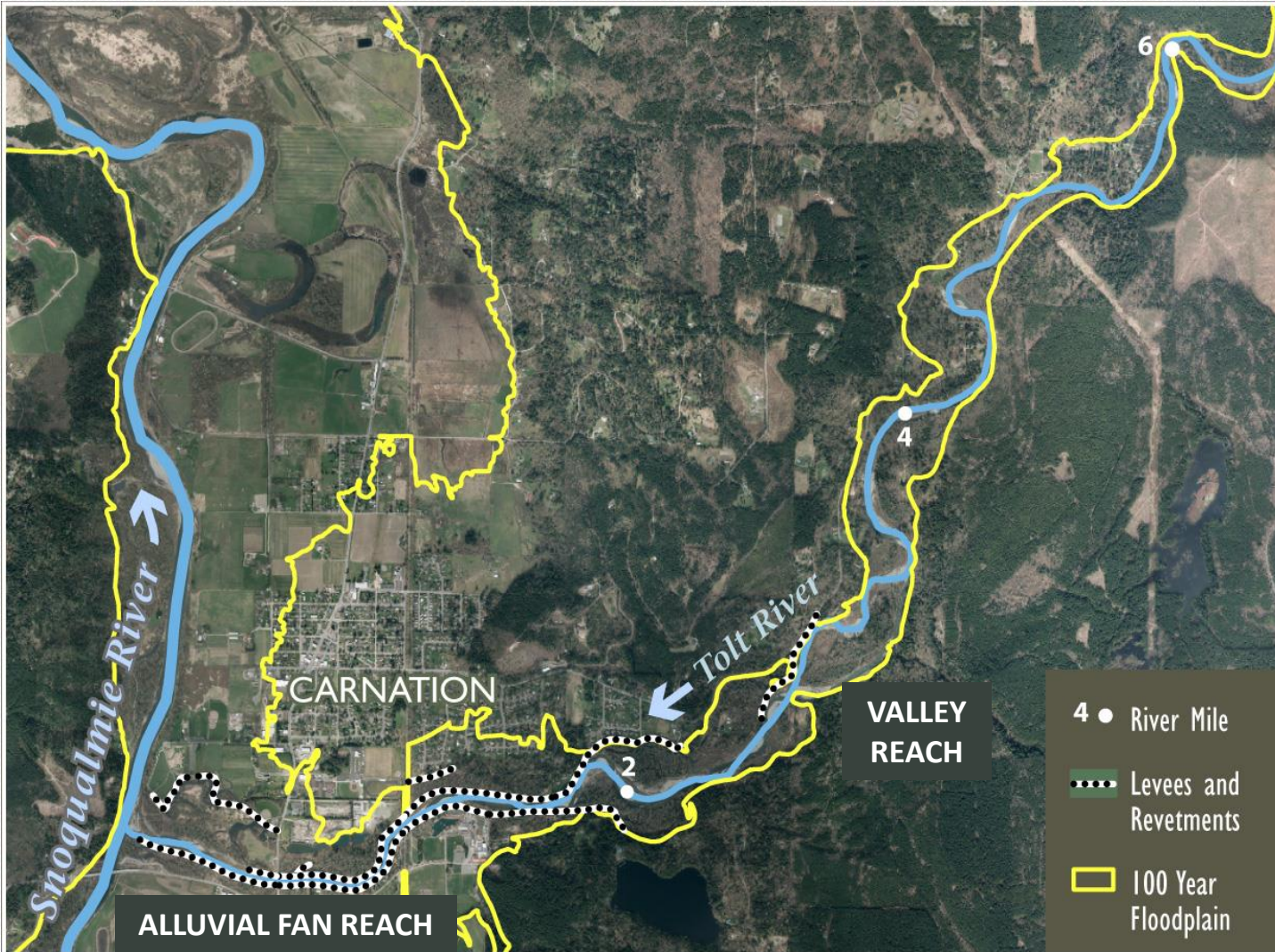
- Overview of Tolt River
- Status of Corridor Planning process
- Key findings to date
- Stakeholder input to date
- Next steps and decisions needed
  - Approve corridor framework
  - Goals, objectives, corridor approaches

# Snoqualmie/ SF Skykomish Watershed





# Planning Area



# Corridor Plan Overview

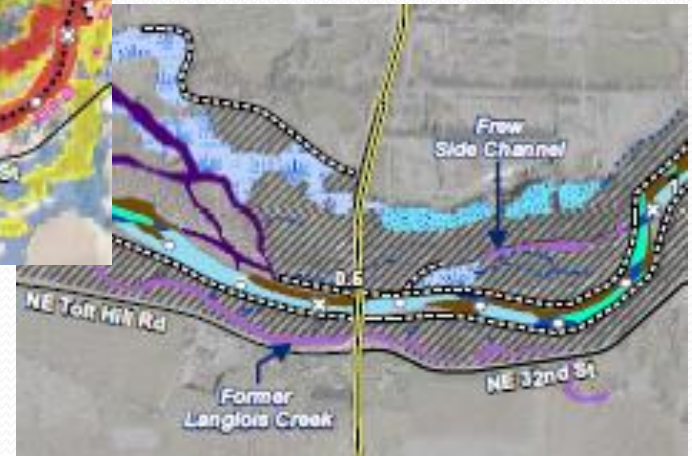
## What is a corridor plan?



*Existing and Future Conditions*



*Flood and River Process Hazards*



*Habitat Conditions and Recovery Potential*



# Corridor Plan Approach

- Scope and goals based on Flood Plan and County policies
- Characterize existing and potential future conditions
- Set objectives and range of management approaches
- Develop and evaluate alternatives
  - 50+ year planning horizon
  - Long-term: What will it take to “be done?”
  - Near-term: Priority actions for 6-10 year CIP
- Recommend long-term strategy and near-term actions

# Key Conditions and Problems

- Flooding
  - Deep and fast flow areas
  - Homes access cut off
- Channel Migration
  - Lateral migration
  - Avulsions
  - Breach hazards
- Landslides
- Impaired Habitat



*Levee breach (Tolt 1.1)*



*SR 203 overtopping isolates Carnation*



*Channel migration (San Souci)*



# January 5, 2015



*Tolt River Road inundated*



*Frew levee overtopping*



*Flooding and erosion threatened homes*



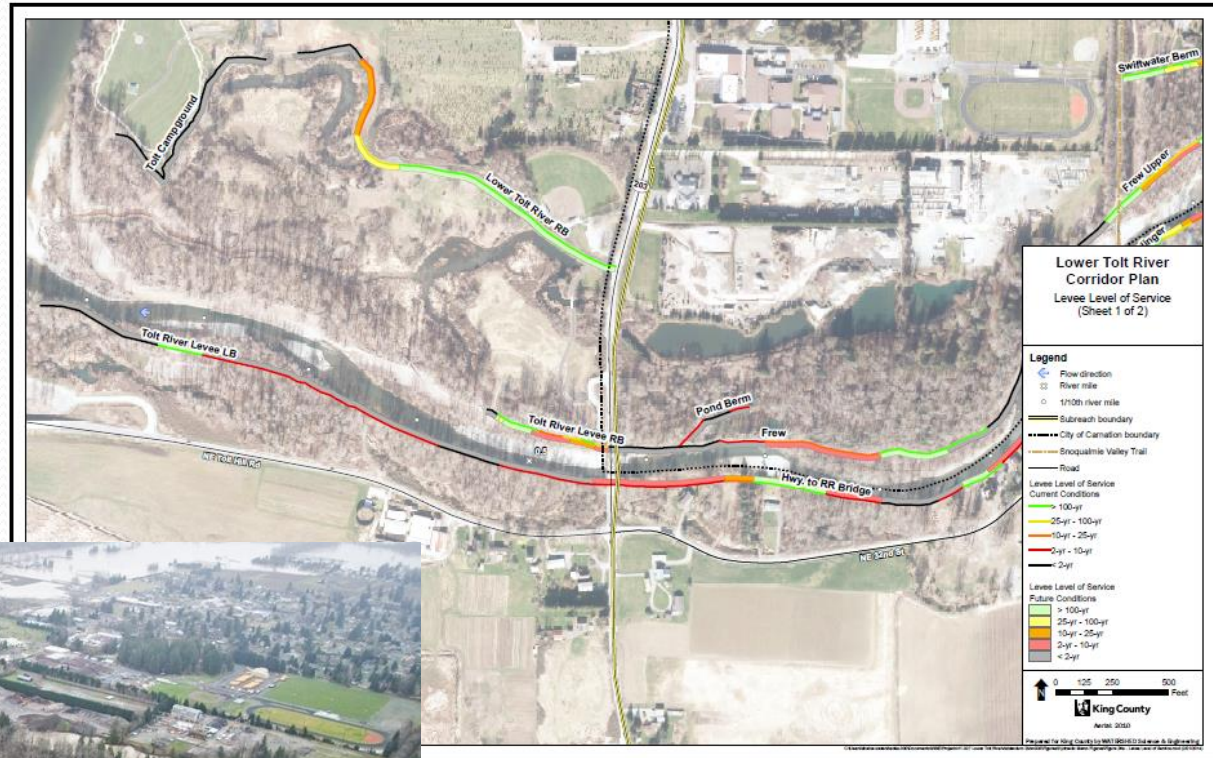
*Tolt Hill Road inundated*



# Alluvial Fan Reach

## Key Risks

- Flood hazards
- Breach hazards
- Risks to transportation



Mapping of levee level of service

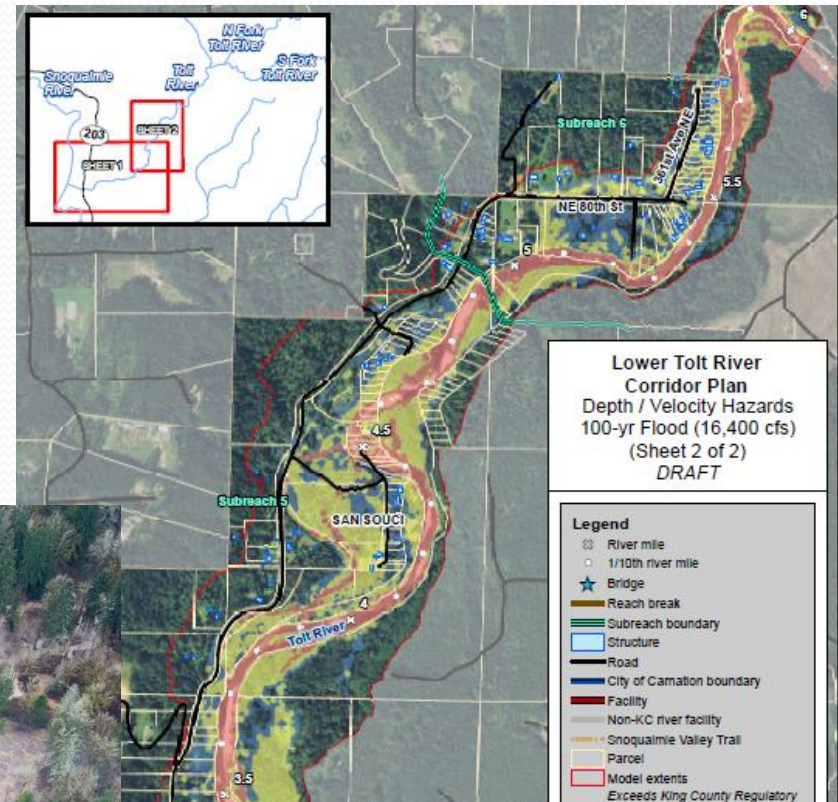
Levee breach and SR 203 flooding, Jan. 2009



# Valley Reach

## Key Risks

- Channel migration and avulsion hazards
- Deep and fast flow hazards
- Isolation and restricted access



*Mapping of deep and fast flow areas*

*Valley reach,  
January 2015*



# Key Findings

- Levees unstable, do not contain floodwaters
- 60 homes in high risk areas
- 40 homes isolated at 2-year flow
- Hwy 203 and Tolt River Road subject to inundation and potential channel migration hazards
- Gravel build up worsening conditions
- Habitat impaired, especially in lower 2 river miles

# Goals and Provisional Objectives

## Goal 1

### **Reduce risks from flood and channel migration hazards**

- Consider future sediment accumulation and climate change
- Reduce levee breach hazards
- Mitigate risks from channel migration and avulsion hazards
- Consider risks over a long time horizon



# Goals and Provisional Objectives

## Goal 2

### **Reduce long-term costs of flood hazard management**

- Implement sustainable solutions
- Reduce facility maintenance and repair costs

# Goals and Provisional Objectives

## Goal 3

### **Improve salmonid habitat and restore natural river processes**

- Protect and improve floodplain habitats and off-channel connections
- Protect and improve instream aquatic habitat
- Protect and improve riparian habitat



# Goals and Provisional Objectives

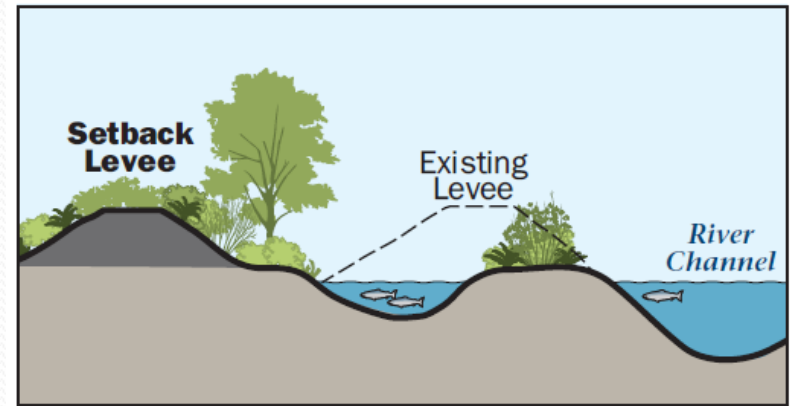
## Goal 4

**Incorporate stakeholder and community input into the Corridor Planning process.**

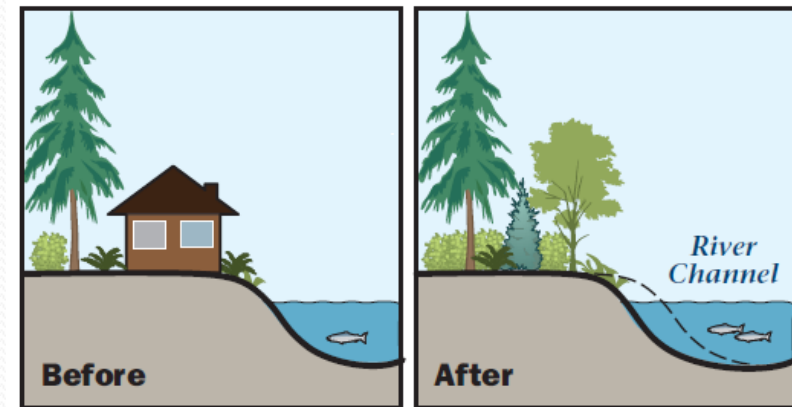
- Involve the community and stakeholders and incorporate their input
- Provide equitable outcomes to all in the community

# Floodplain management tools

- Levee setbacks
- Maintain and repair existing levees and revetments
- Home buyouts and open space acquisition
- Remove existing levees and revetments
- Raise or reconstruct levees and revetments in their current location



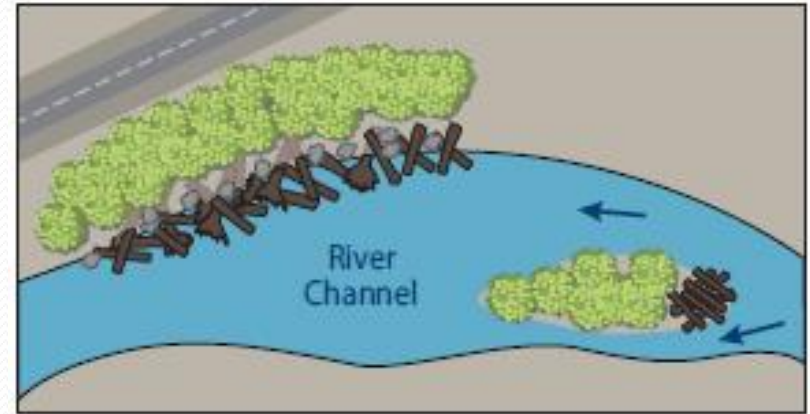
*Levee Setback*



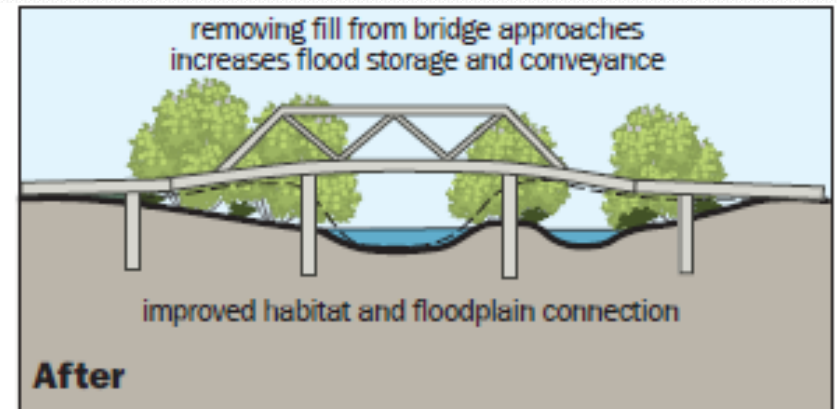
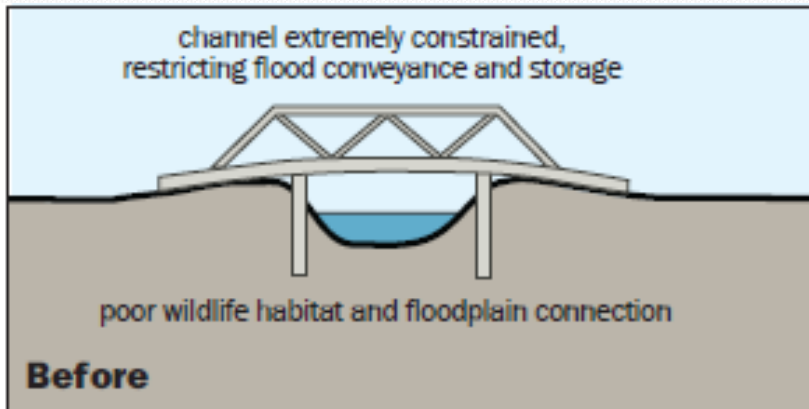
*Home Buyout*

# Floodplain management tools

- Bridge and road modifications
- Gravel removal
- Land use management
- New in-stream wood structures



*Wood Structures*



*Bridge Improvement*

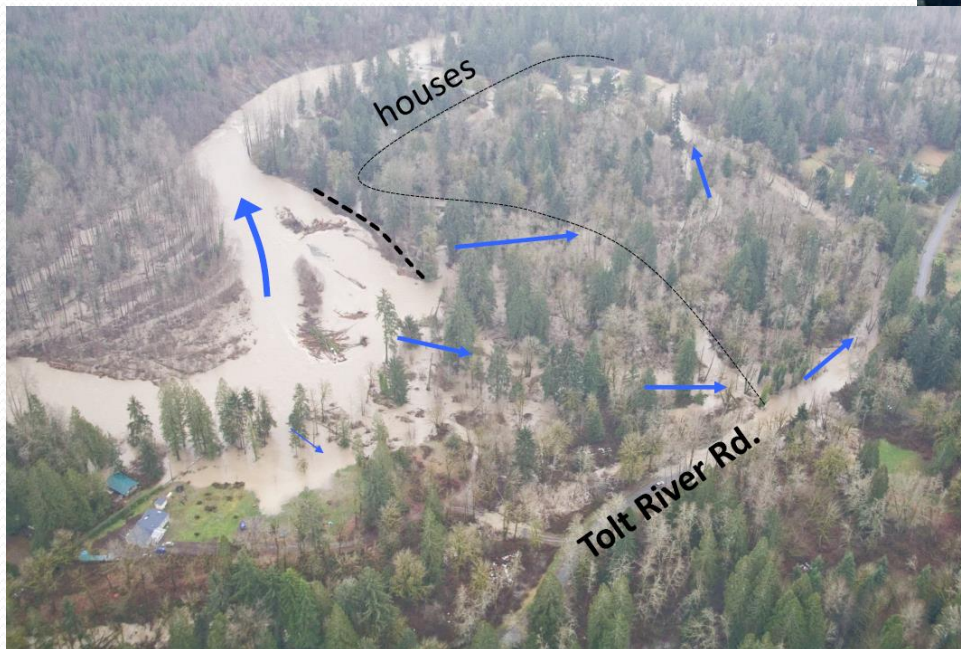


# Approach 1. Encourage natural river processes

- Levee setbacks
- Extensive home buyouts in the most hazardous areas
- Allow the river to naturally store and convey flood waters and sediment



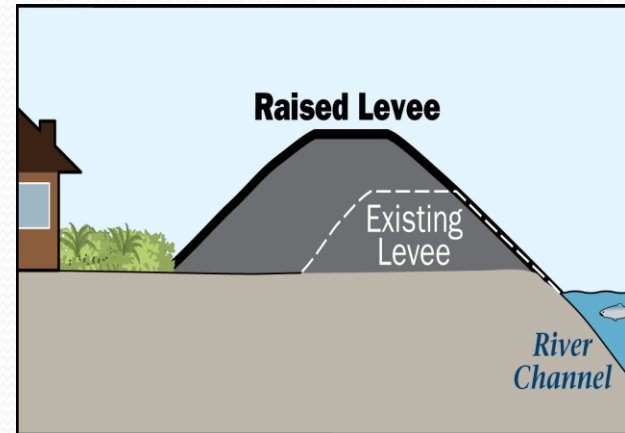
*Lower Tolt River Floodplain  
Reconnection Project*



*San Souci  
neighborhood  
Jan. 2009*

## Approach 2. Prevent flooding and channel migration

- Rebuild levees and roads in their current locations to higher standards
- Limit natural flooding processes



*Example of levee reconstruction adjacent to river (Green River)*

## Approach 3. Continue Existing Management Practices



*Tolt River emergency repair  
Jan. 2009*

- Repair damages after they occur
- Make limited improvements



# Community and Stakeholder Input

- Many “one on one” meetings, site visits
  - Residents
  - Large landowners – Remlinger, Girl Scout Camp
  - City of Carnation
  - Snoqualmie Tribe
  - Snoqualmie Forum
- Jan. 15 stakeholder workshop and public meeting
- Have discussed goals, objectives, approaches, tools

# Community and Stakeholder Input

We have heard...

- Support for general approach
  - Use of technical information
  - Extensive public engagement
  - Stakeholder working sessions
- Significant interest and comments on:
  - Gravel management
  - Buyouts
  - Off-site impacts of projects
  - Multi-objective projects

# Next Steps

## Approve framework (Jan – Feb 2015)

- Goals, objectives, approaches
- Flood Control District decision

## Develop alternatives and recommended plan (2<sup>nd</sup>-3<sup>rd</sup> quarter 2015)

- Public input
- Flood Control District decision

## Final corridor plan

- Flood Control District decision (4<sup>th</sup> quarter 2015)
- County Council adoption (4<sup>th</sup> quarter 2015?)



**Jan. 26, 2015  
Executive  
Committee**

**Tolt River  
Corridor Plan**



**Questions? Discussion?**

Clint Loper

Snoqualmie Basin Supervisor

[clint.loper@kingcounty.gov](mailto:clint.loper@kingcounty.gov)

(206) 477-4757