

Yakima Delta Assessment

Presentation to the Yakima Basin Science and Management Conference
June 19, 2014

Rebecca Wassell

Mid-Columbia Fisheries Enhancement Group

becca@midcolumbiarfeg.com

(509)281-1311



Today's presentation

- Brief history
- Previous investigations
- Results of 2011 – 2013 assessment
- Public outreach
- Scope of work for current phase
- Questions for group

This project is funded by the Salmon Recovery Funding Board and the Integrated Plan. It relies heavily on the technical expertise of Benton Conservation District and a Technical Advisory Group – thank you!

6/25/39
Kiona
1220
cfs

CIH-206-45

Columbia River

Yakima River

Bateman Island





1940

13 Sept 40 - 54242

Nov 1964



Oct 6, 2012



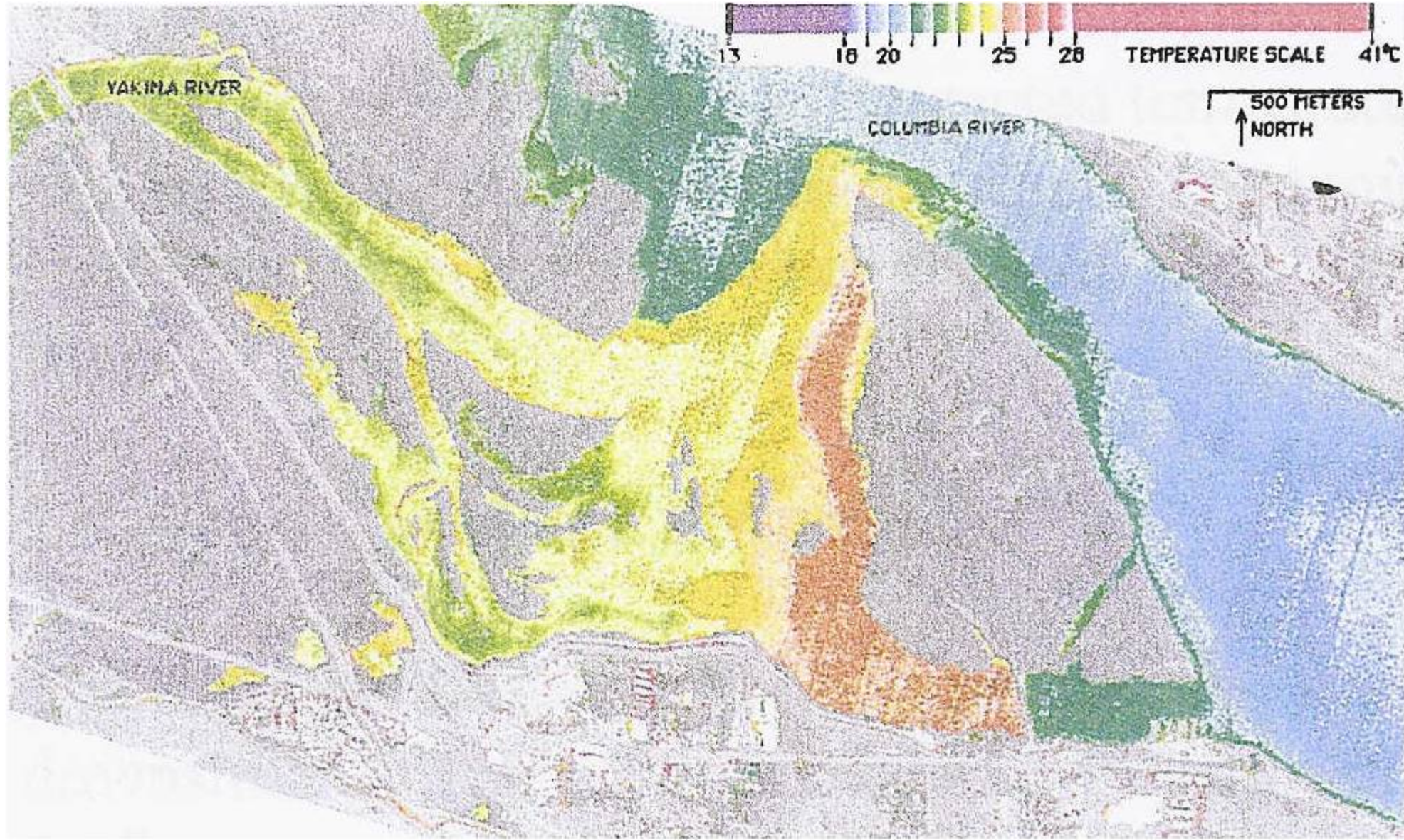
Recreation

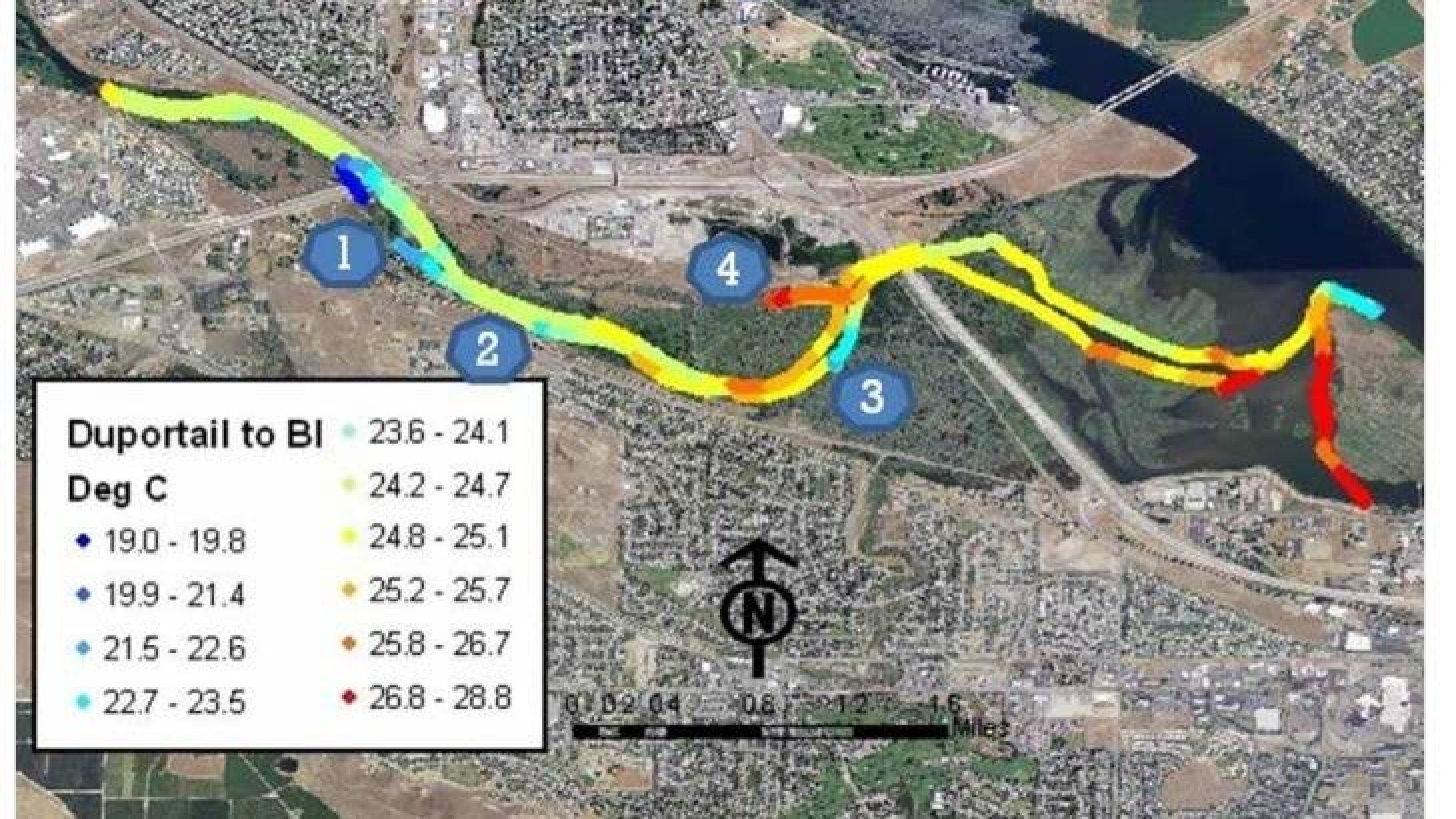


Business



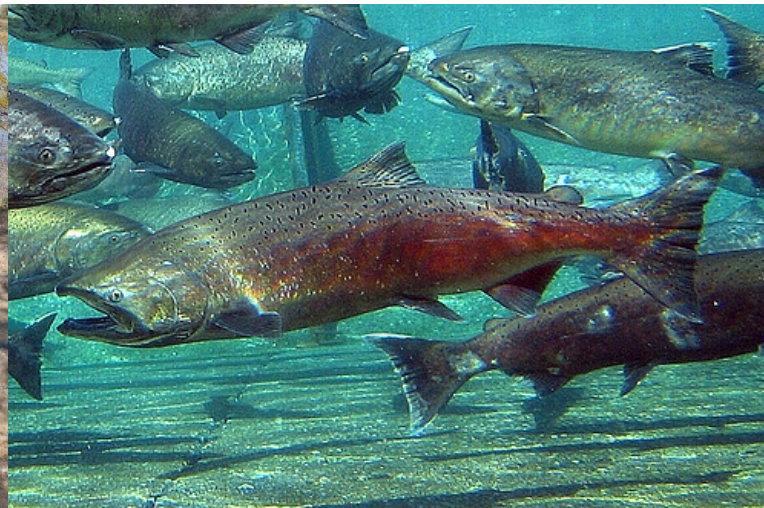
Previous work





Fisheries concerns

- Warm, slow water offers additional habitat for non-native warmwater predatory fish, which feed on juvenile migrating salmon.
- Elevated temperatures in the Yakima River delay adult salmon migration, reducing reproductive success.



Recent Assessment

- Surveyed to record which fish are around the island, and during which times.
- Mapped the elevations of the river bottoms.
- Installed loggers to record water temperature and dissolved oxygen.
- Created a computer model to predict how changes in the causeway would change flow, water temperature, and dissolved oxygen.

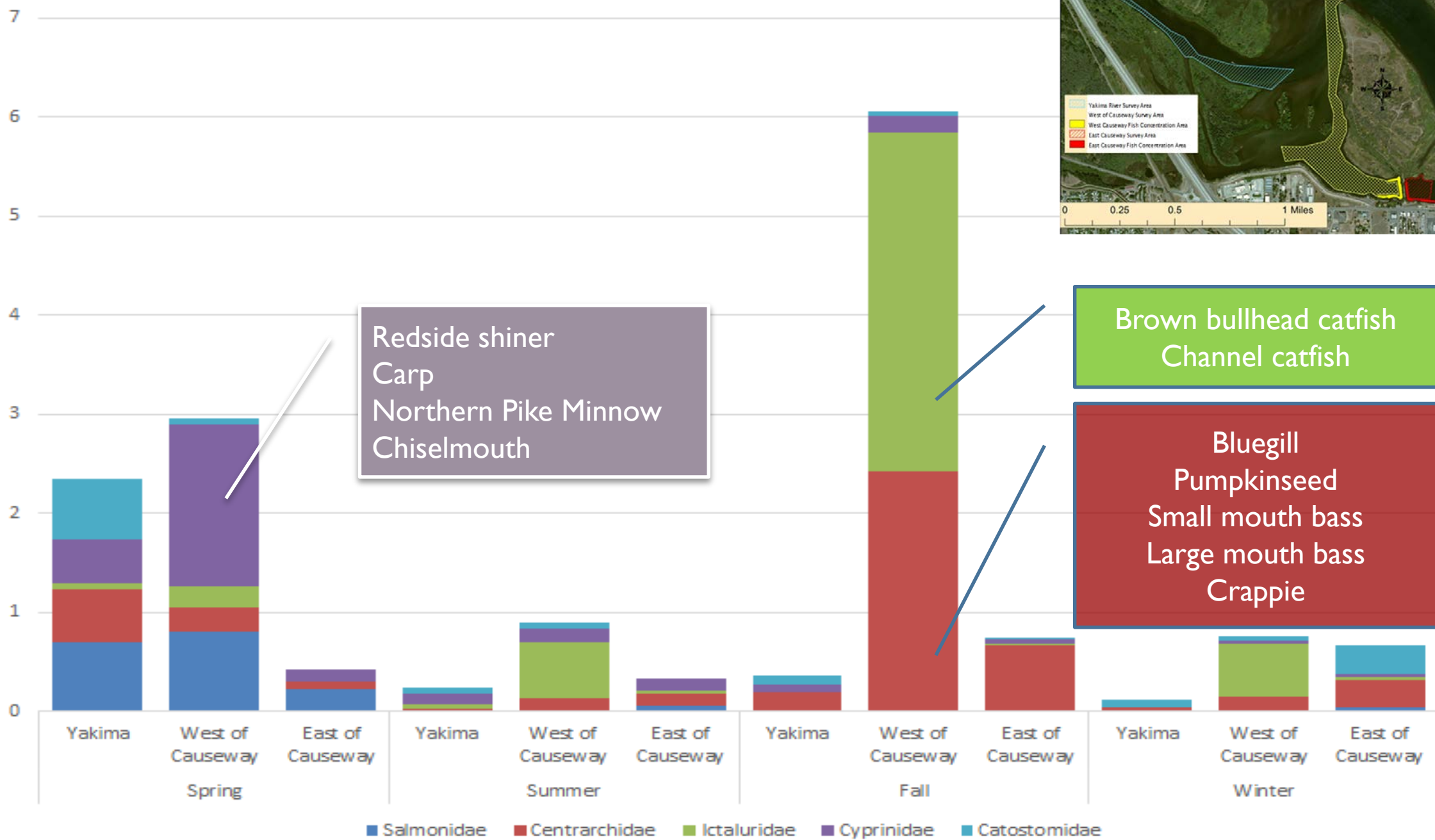
Fish surveys



2011 – 2013

Spring: April and May
Summer: late June – August
Fall: September – November
Winter: December– February

Catch per unit Effort



Redside shiner
Carp
Northern Pike Minnow
Chiselmouth

Brown bullhead catfish
Channel catfish

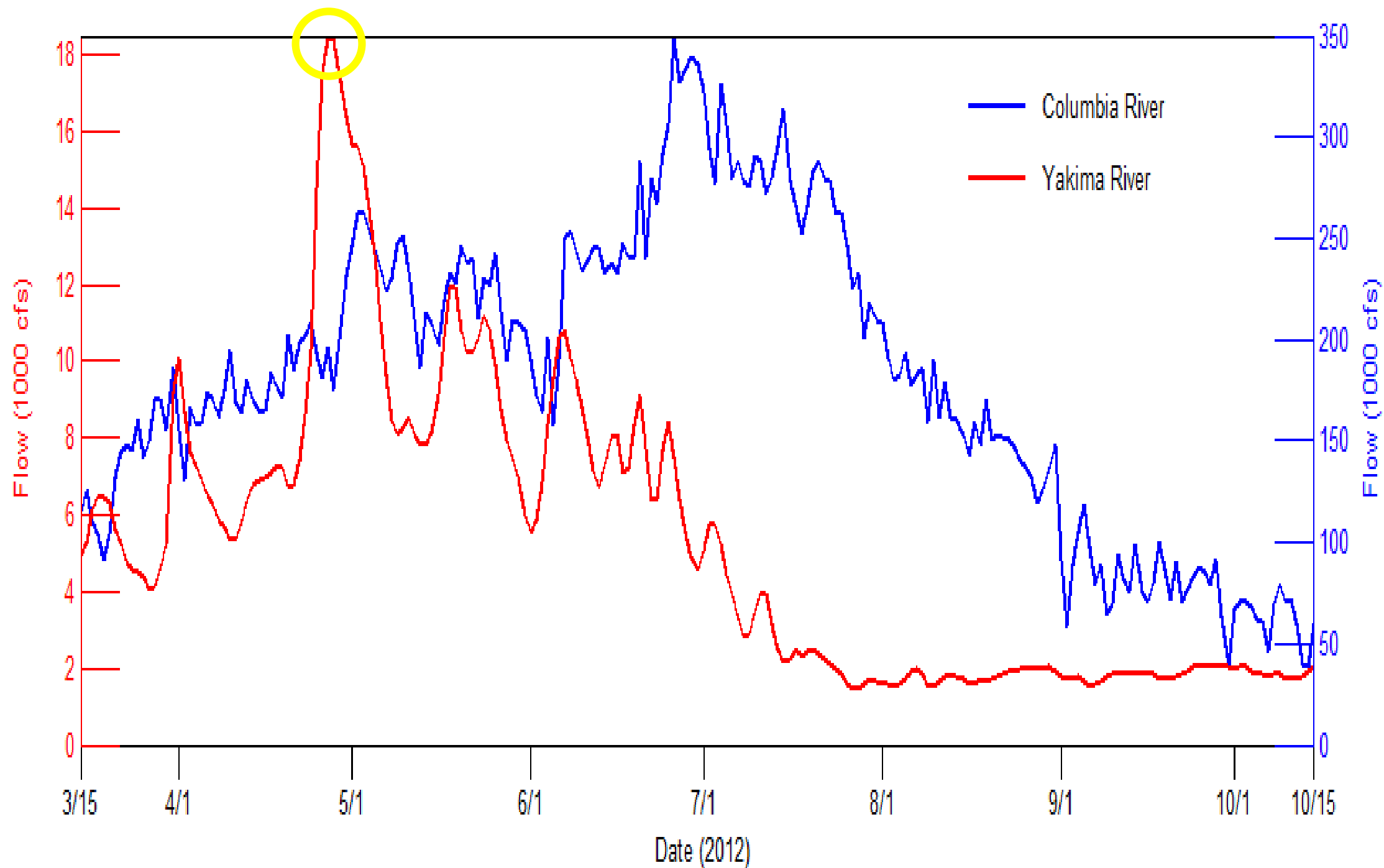
Bluegill
Pumpkinseed
Small mouth bass
Large mouth bass
Crappie

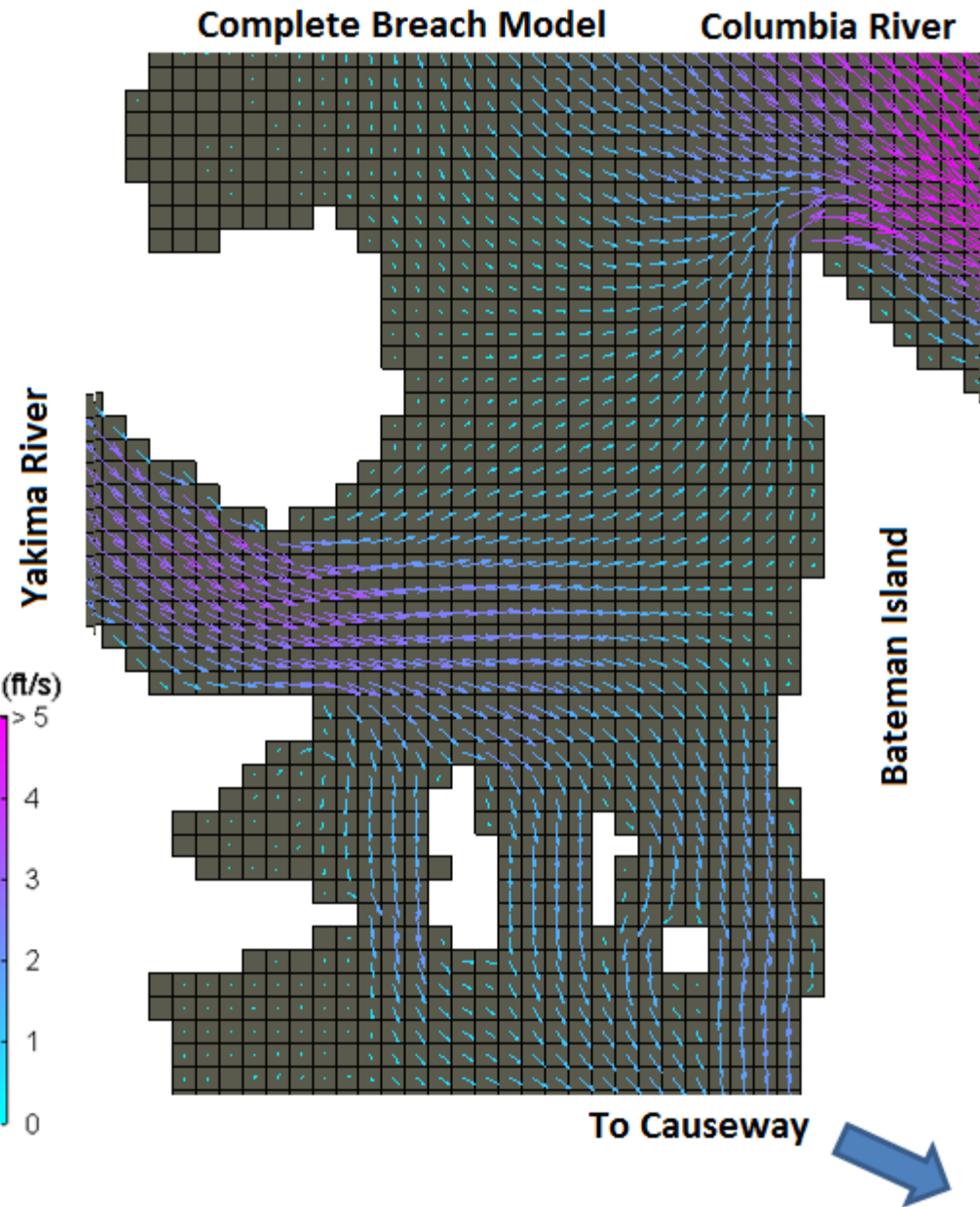
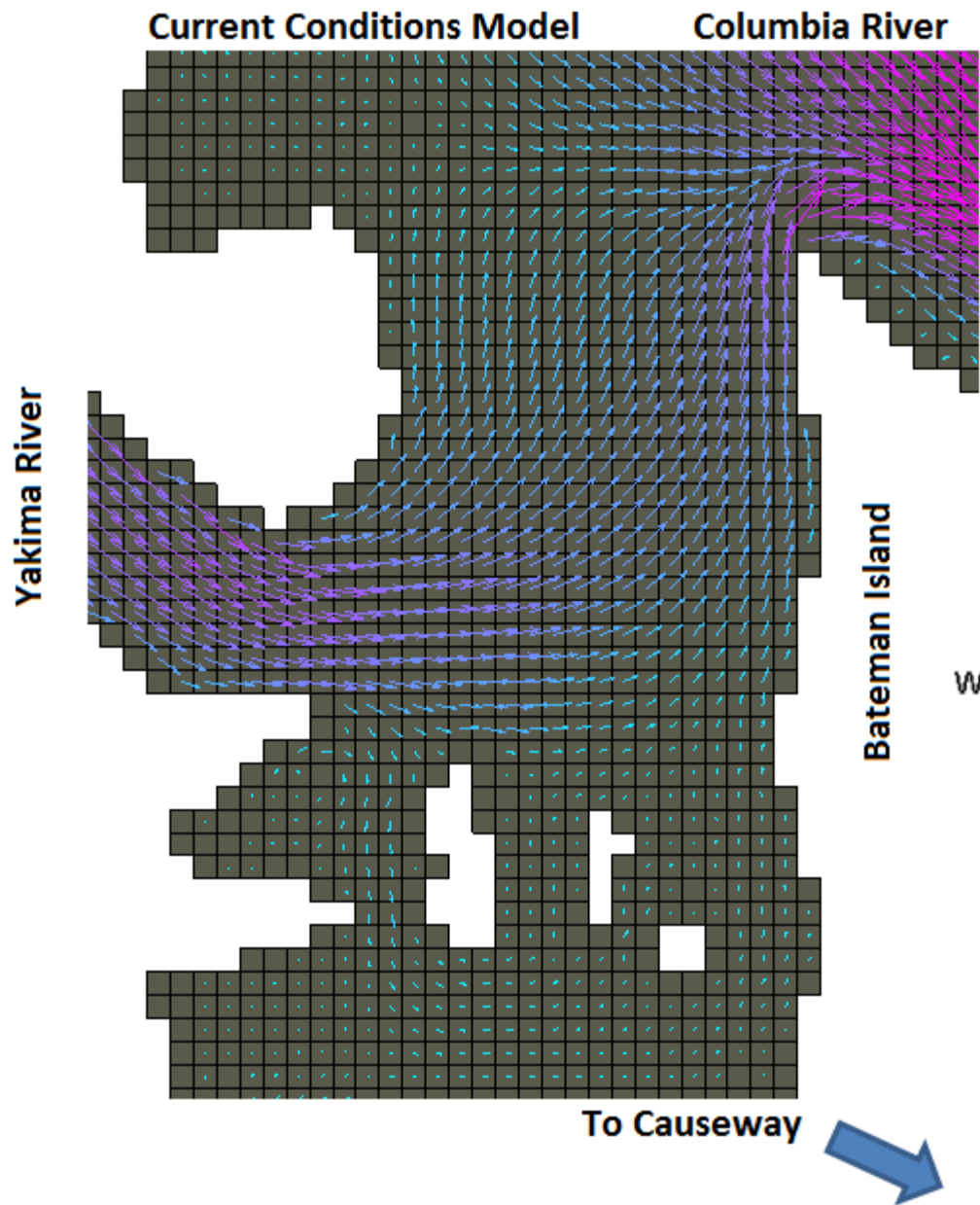


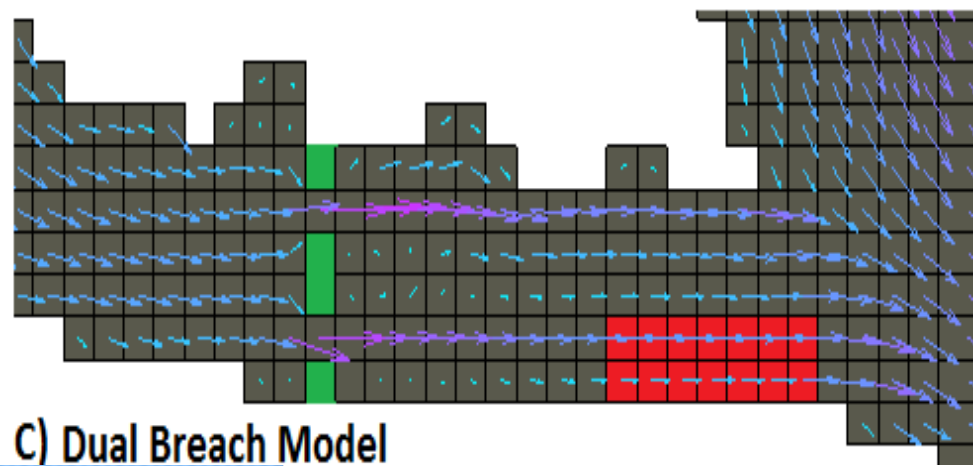
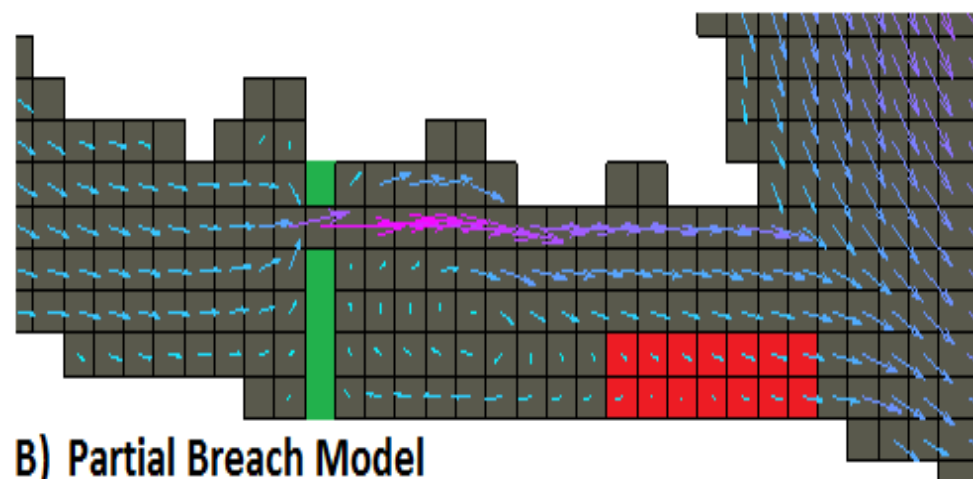
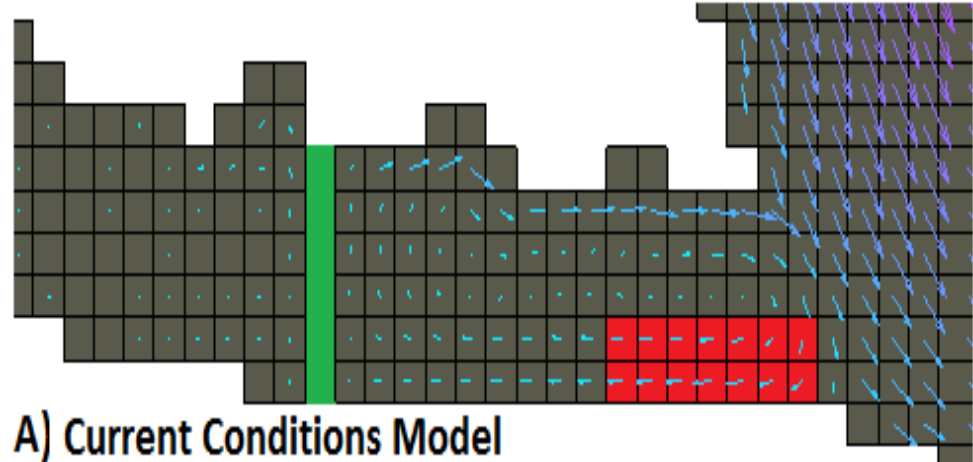
Causeway Breach Scenarios

- 0%, 16%, 32%, 50% and 100% open

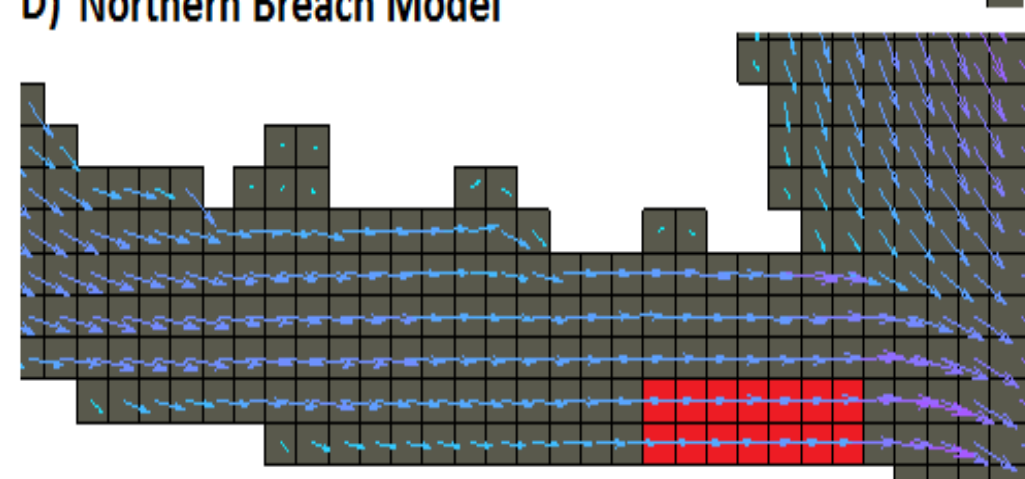
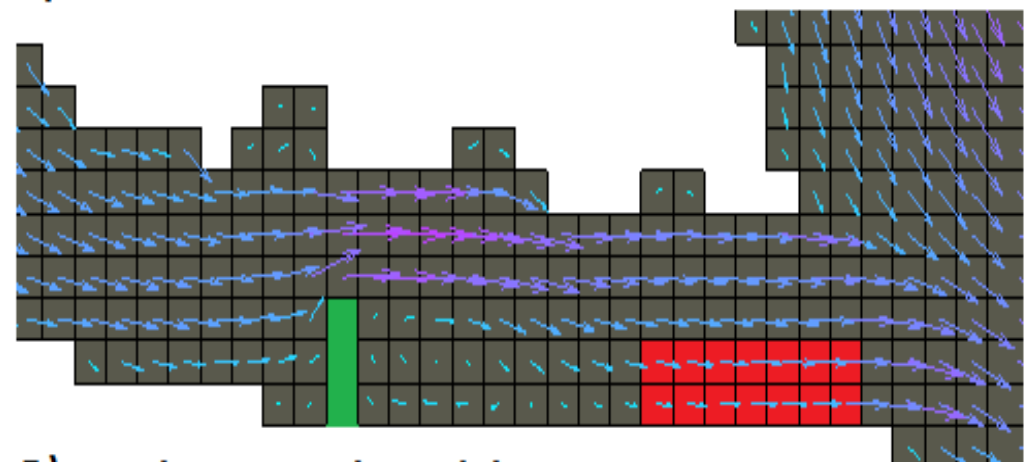
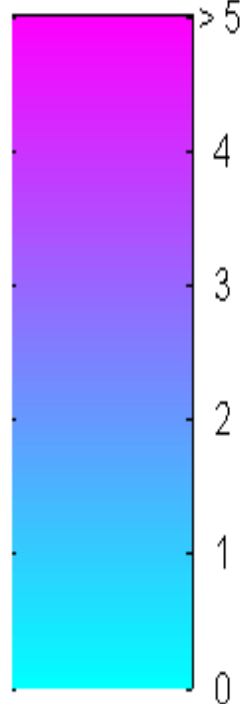




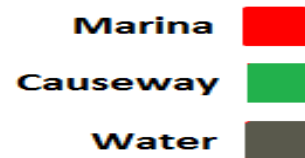


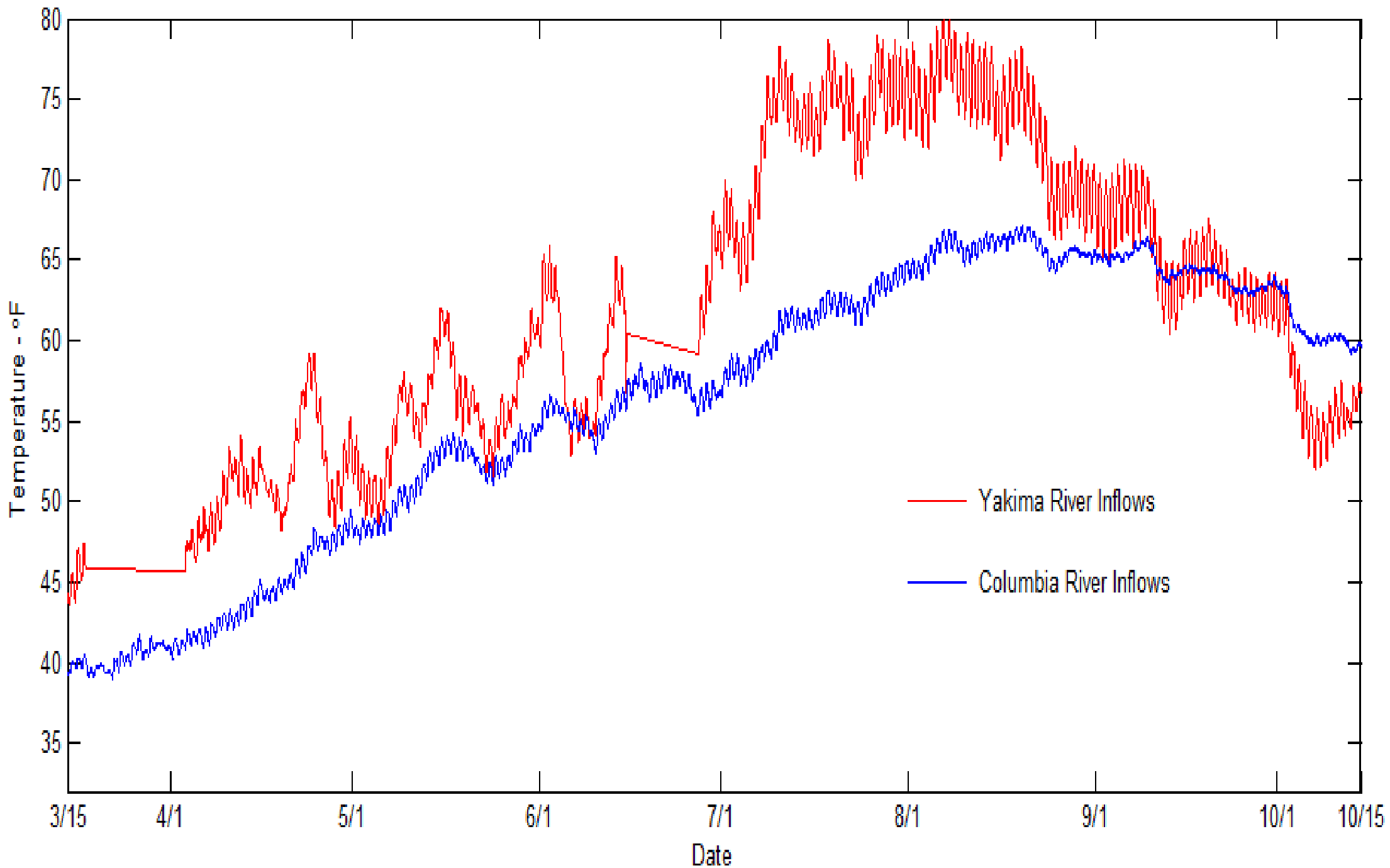


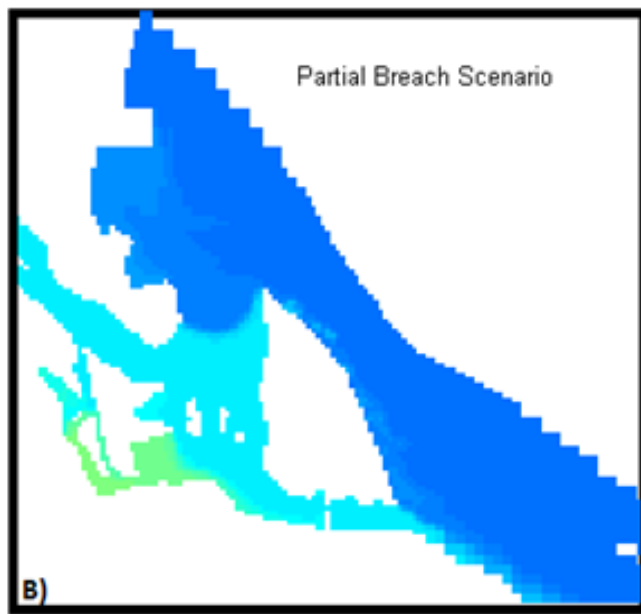
Water Velocity (ft/s)



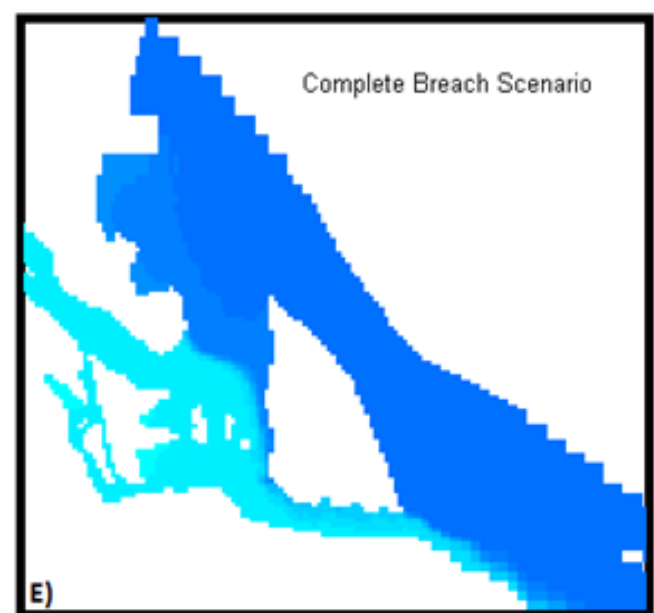
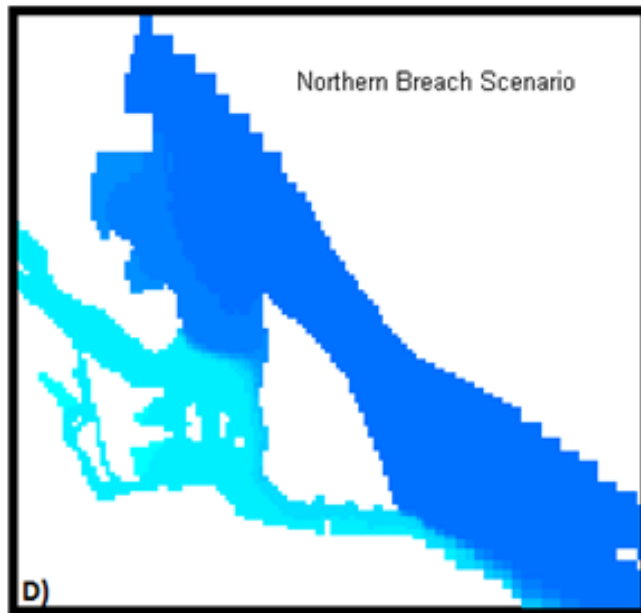
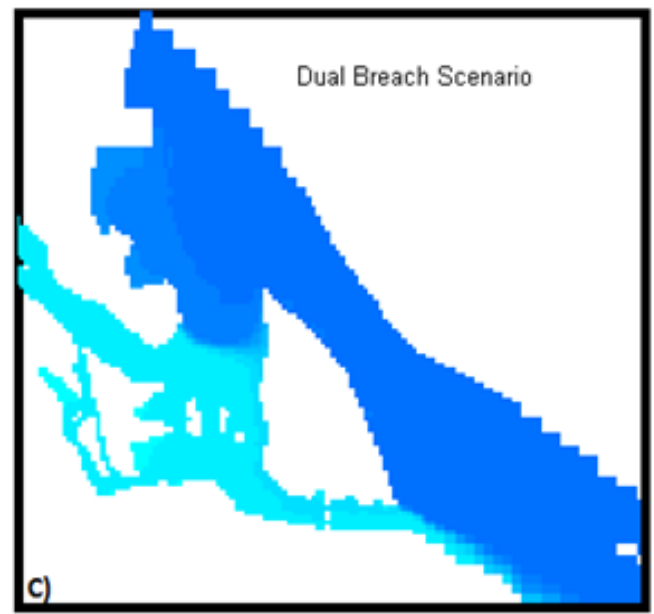
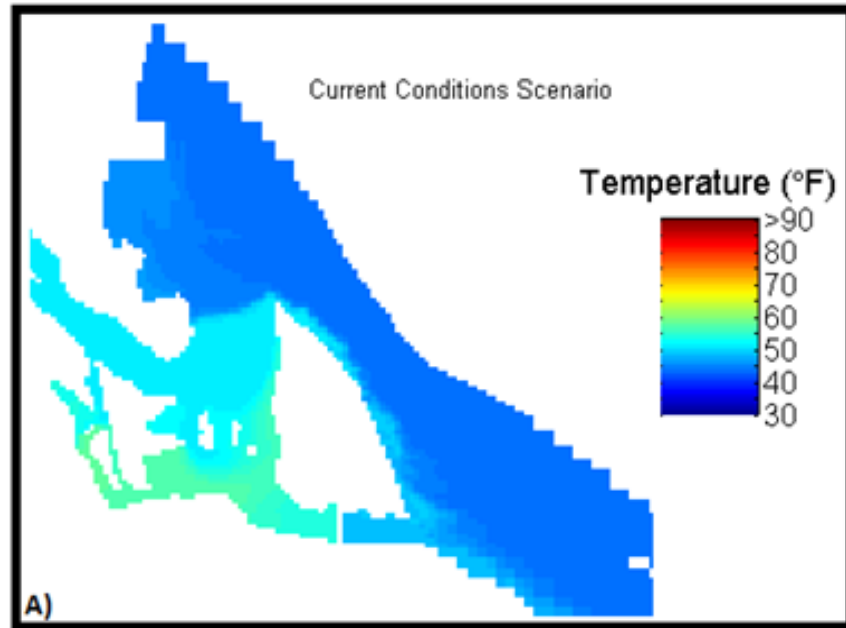
Modeled based upon April 27,
2012 flow conditions



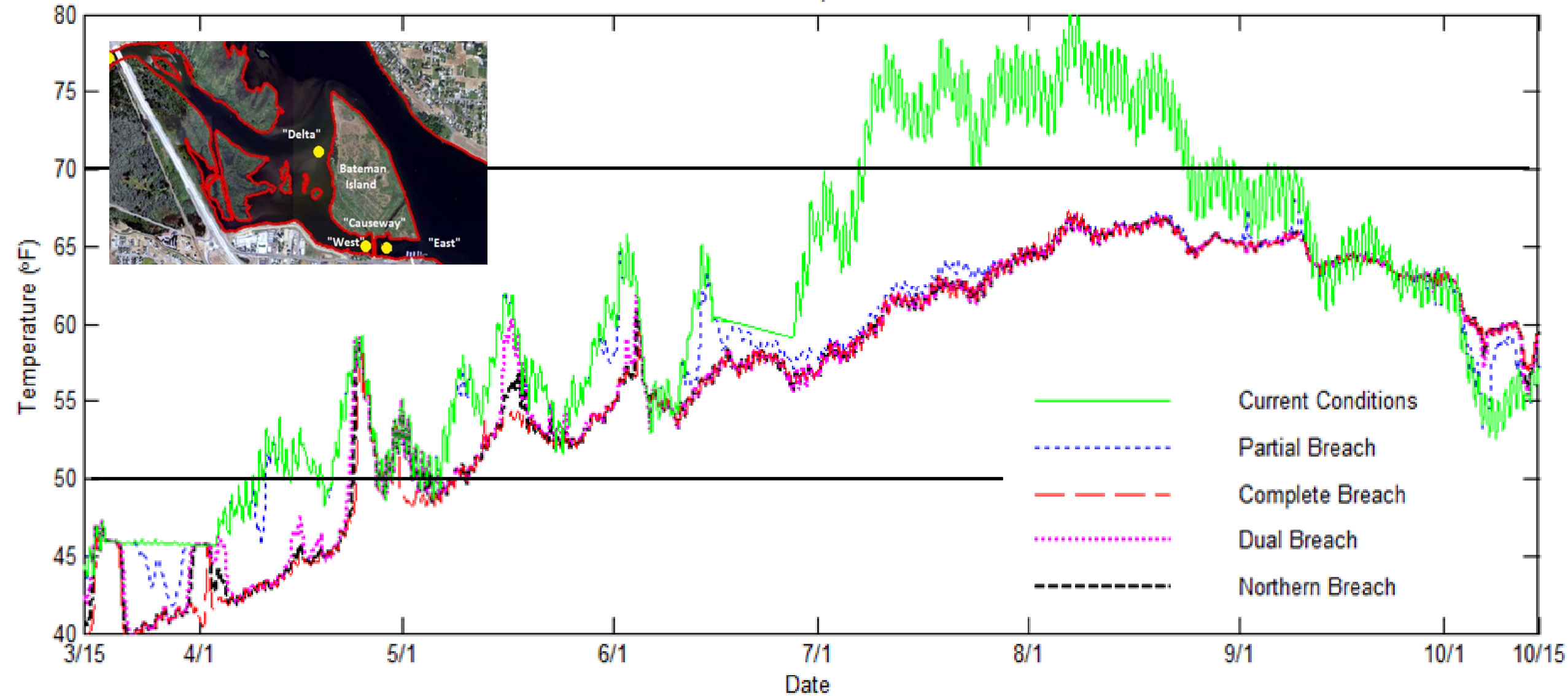




April 15, 2012

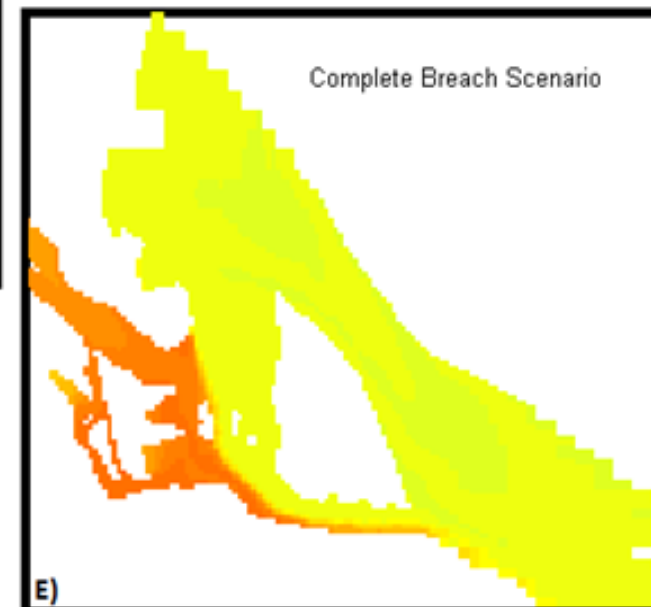
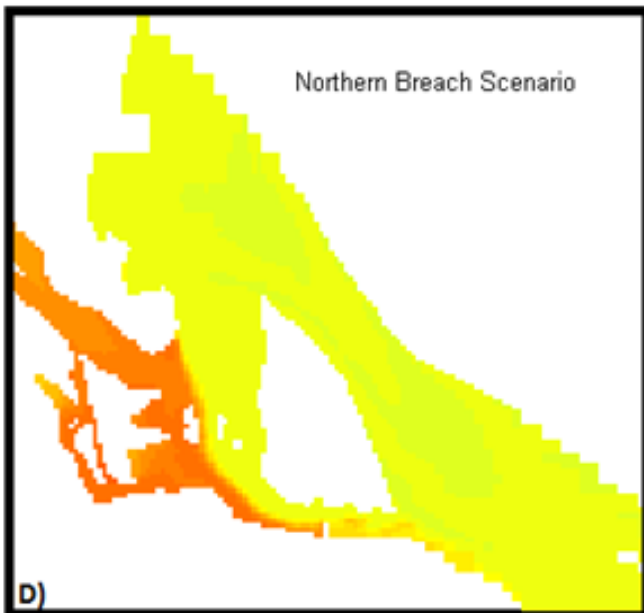
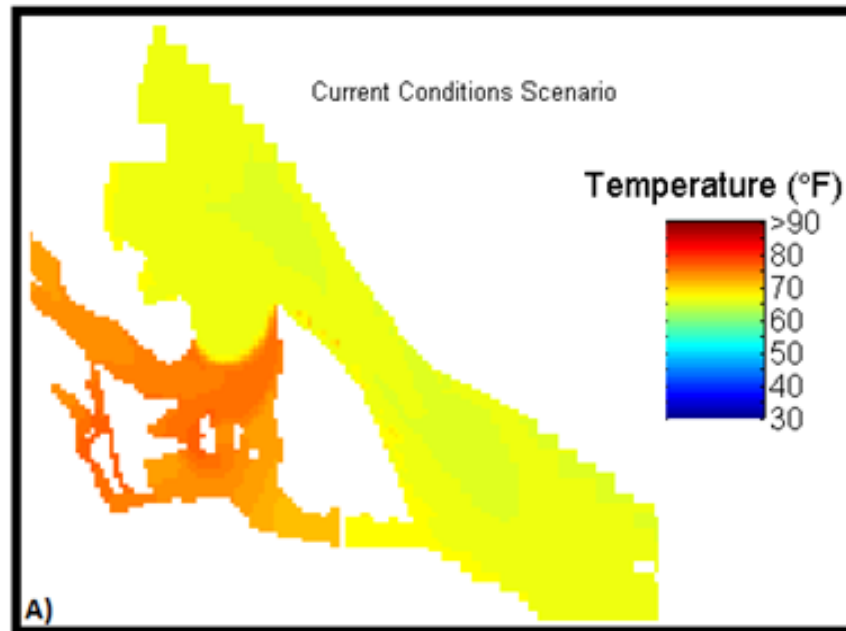
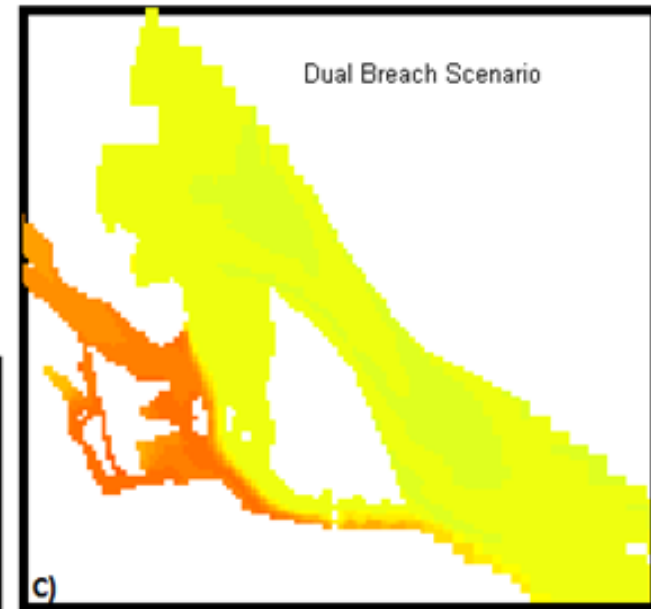
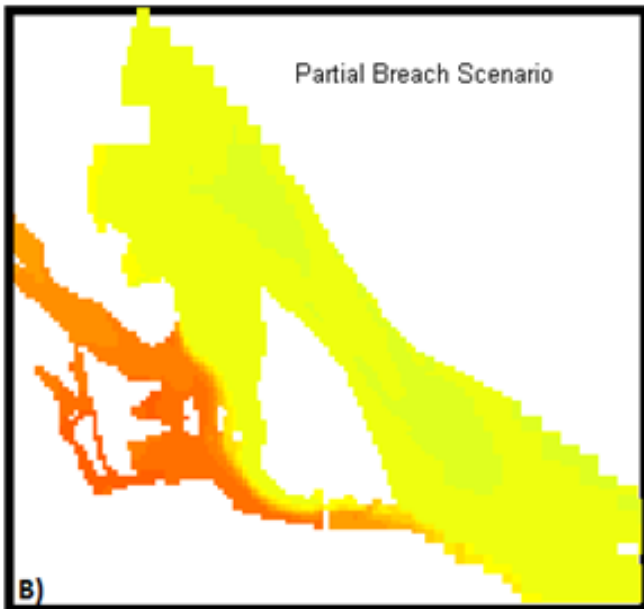


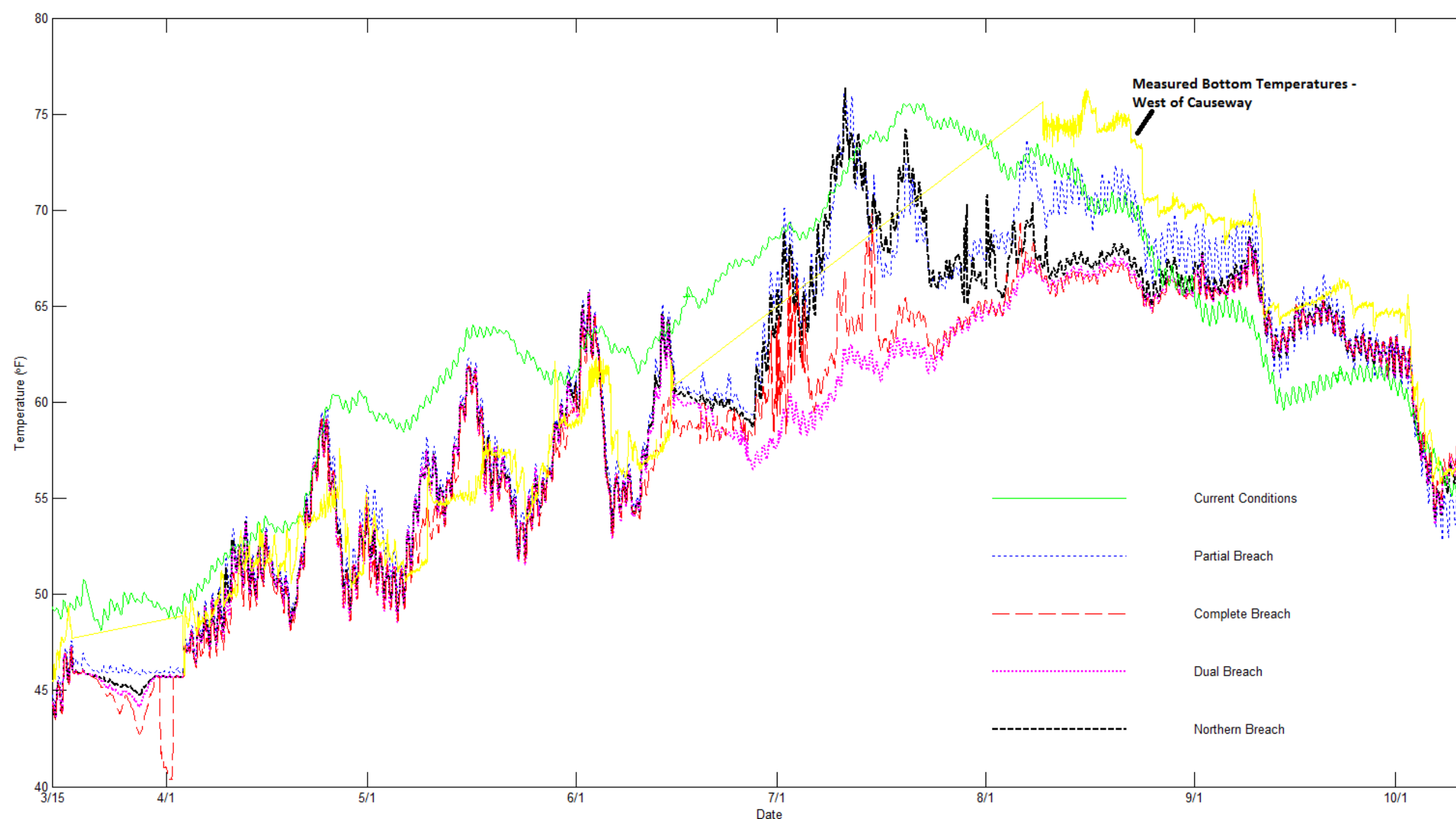
Delta Temperature



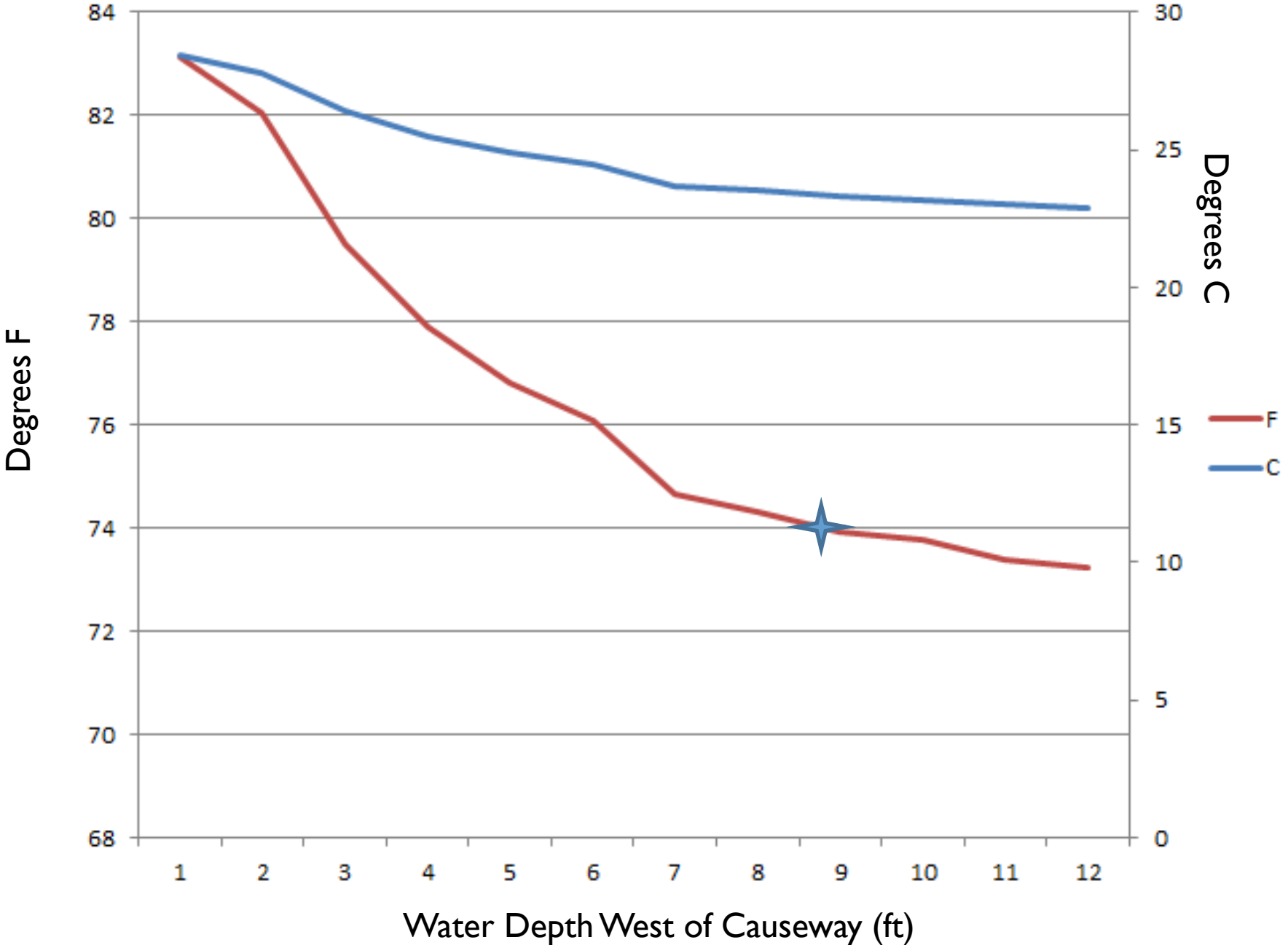


August 15, 2012





July 26, 2012 Sunny, hot day. Air temp 91 F



Upcoming scope of work

- Work with stakeholders,
- Improved calibration of temperature modeling,
- Hydrodynamic and sediment transport modeling, and
- Development of 3 conceptual alternatives and cost estimates.

Please Read

The Bateman Island Causeway does not allow water to flow along the south side of Bateman Island. Yakima River water backs up to the west of the island, and in summer, the area is very warm. Salmon can not travel through the warm, slow water.

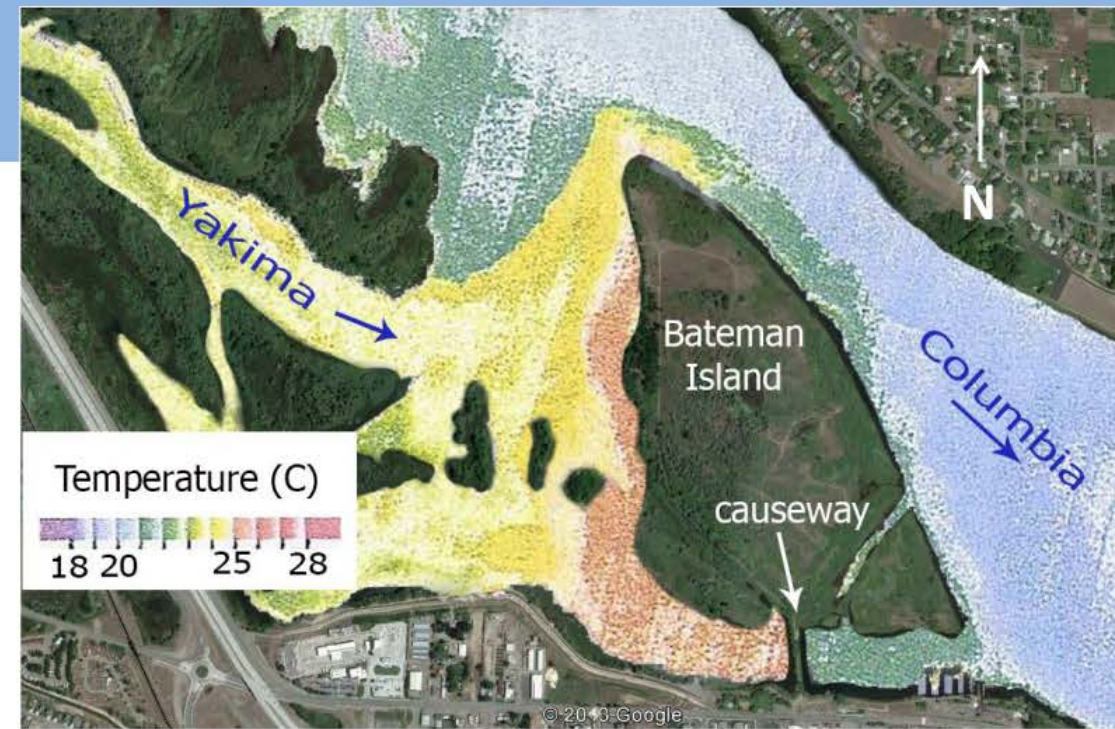
Changes to the causeway are being considered, and may include bridges or culverts. This could change boating, fishing and hiking conditions.

How would changing the causeway impact your use of the area?

Please attend an upcoming public meeting, call (509)281-1311, or email yakima@midcolumbiarfeg.com to let us know.



Visit www.midcolumbiarfeg.com for project information.



Public Meetings

Tuesday, April 8, 2014 Friday, April 11, 2014
6:30pm – 8:30pm 10am – 12pm

Kennewick Public Library
1620 S. Union Street
Kennewick, WA 99338



What would you like to see?

Please draw in and explain your ideas for how to cross the Yakima River between the City of Richland and Bateman Island.

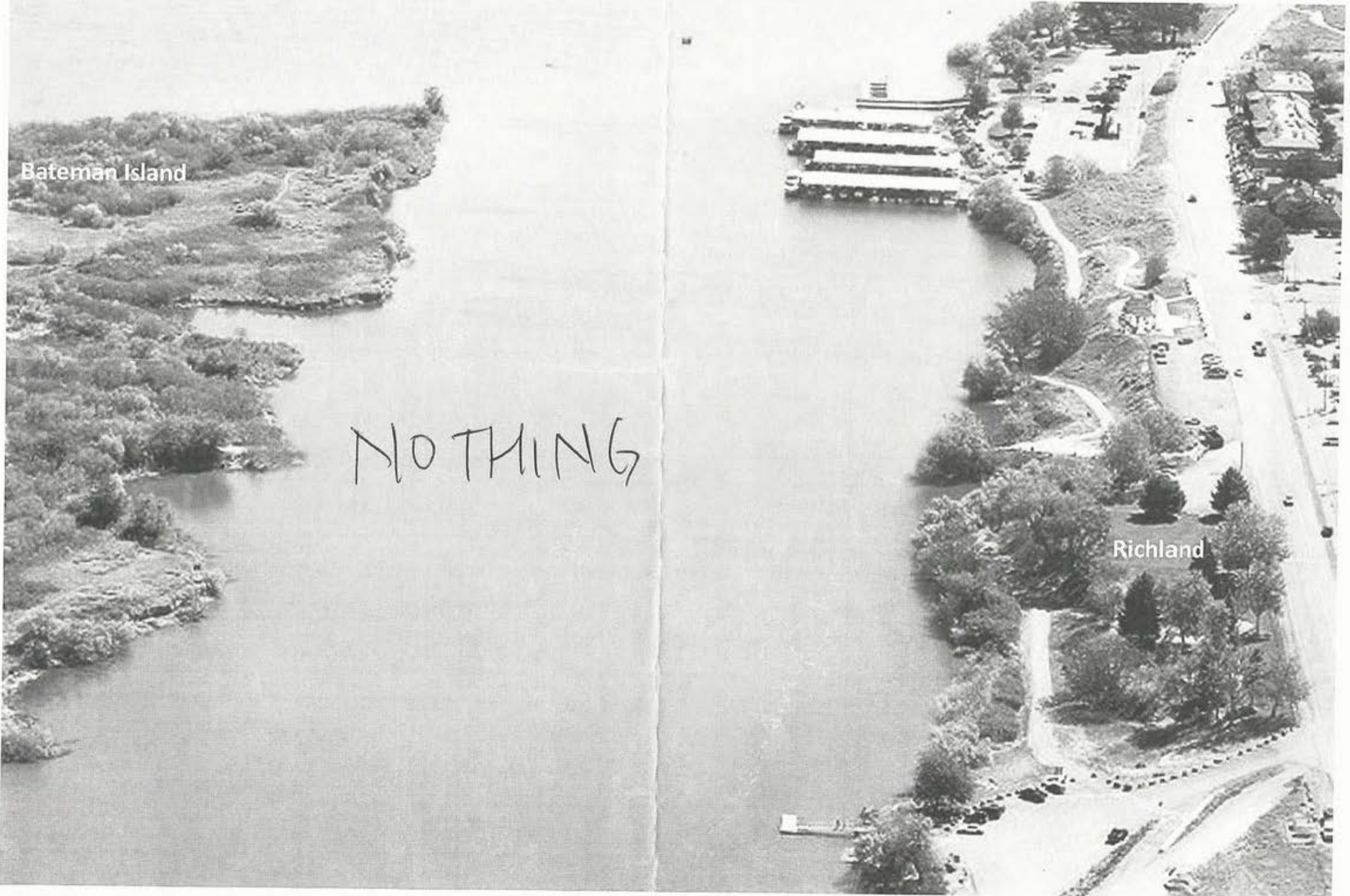
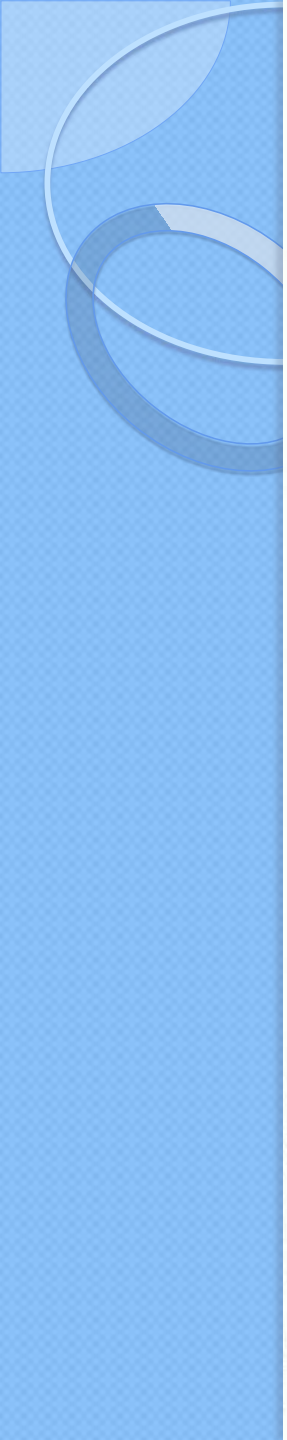
Your name and your email address or phone number: _____



Bateman Island

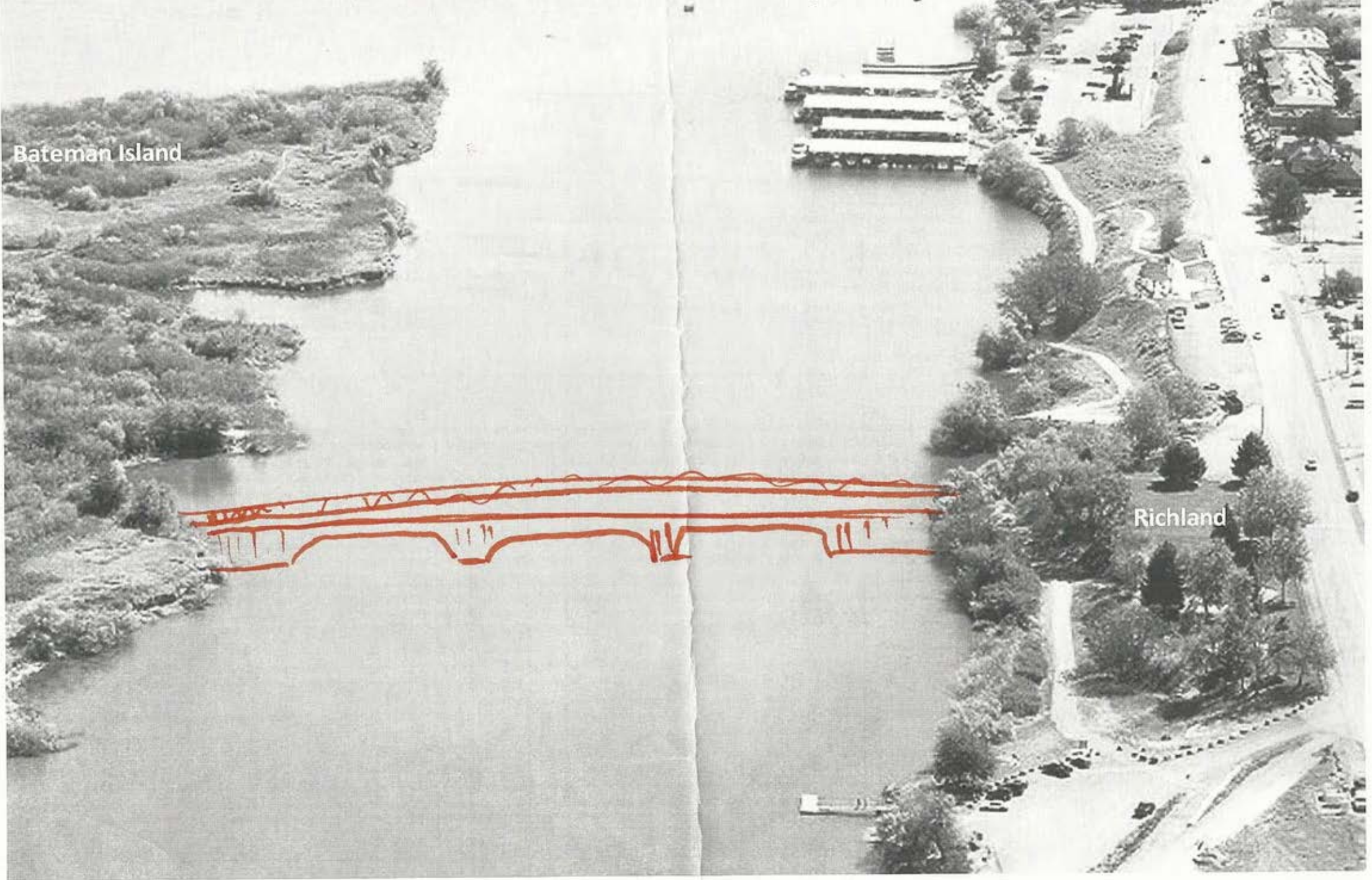
NO THING

Richland



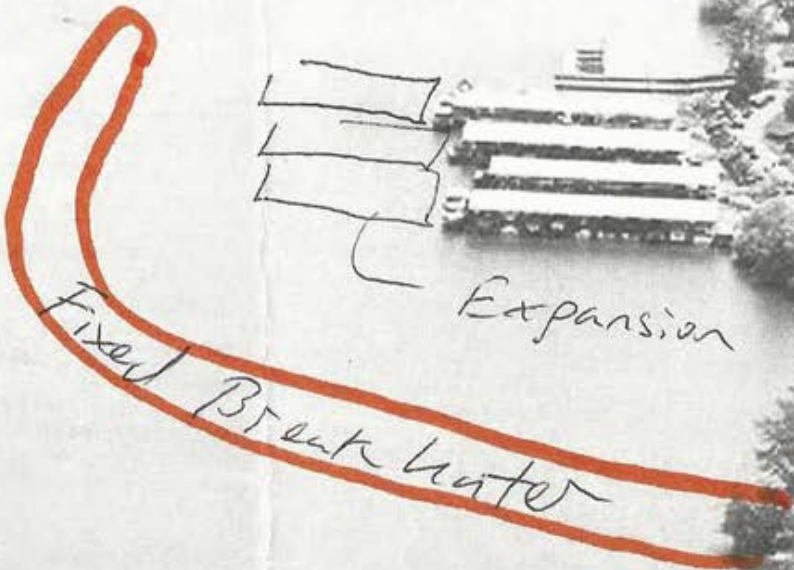
Bateman Island

Richland



Bateman Island

Expansion

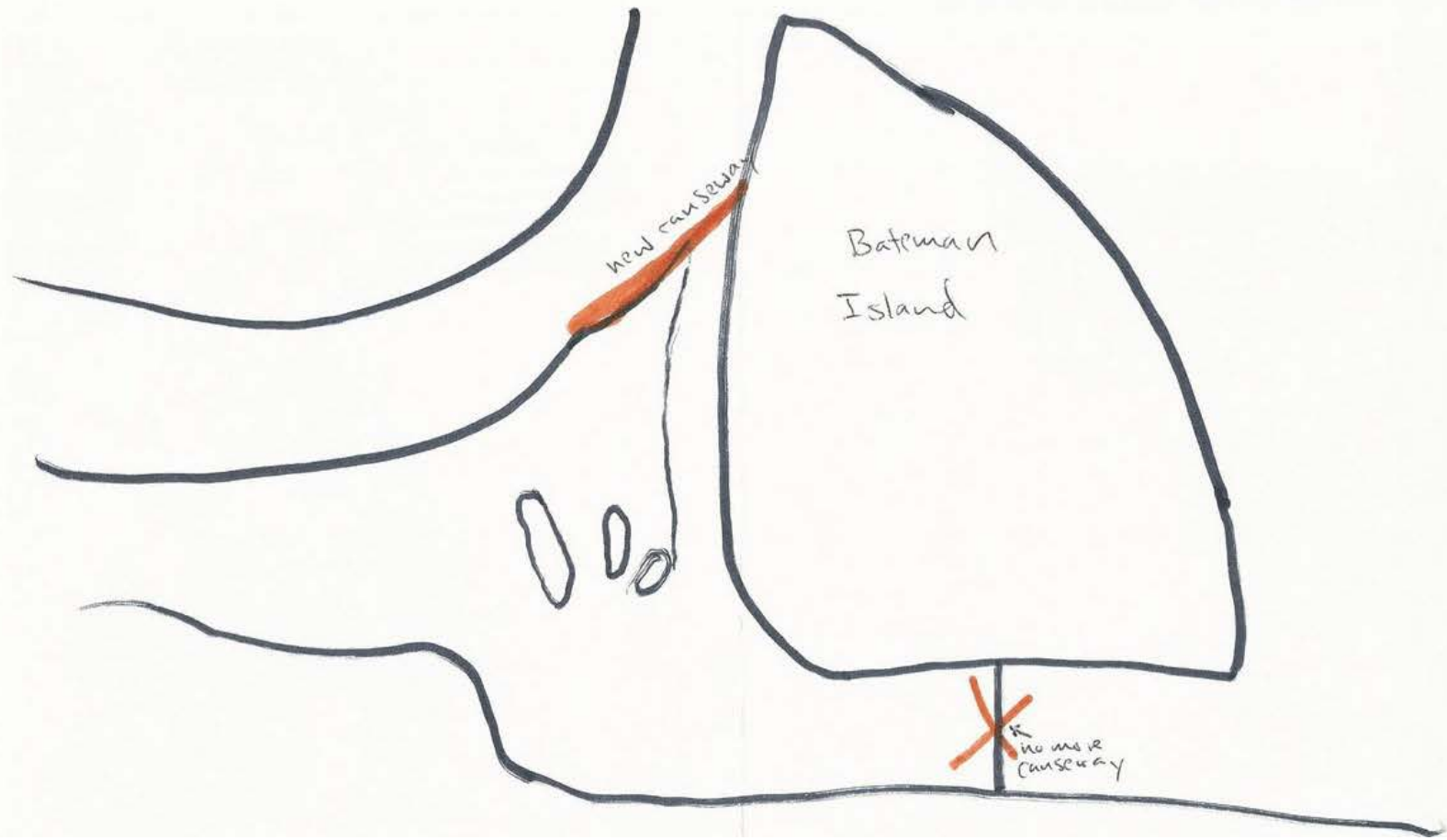


Fixed Breakwater

Richland

Bridge 20' Clear For Boats





new causeway


Bateman
Island

~~no more
causeway~~



1940

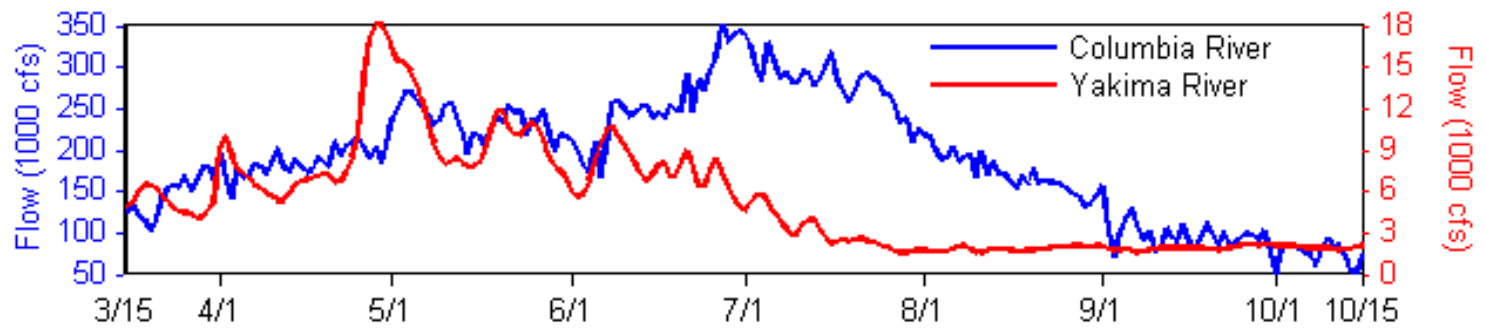
13 Sept 40 - 54242



Mid-Columbia Fisheries Enhancement Group and Benton Conservation District are asking

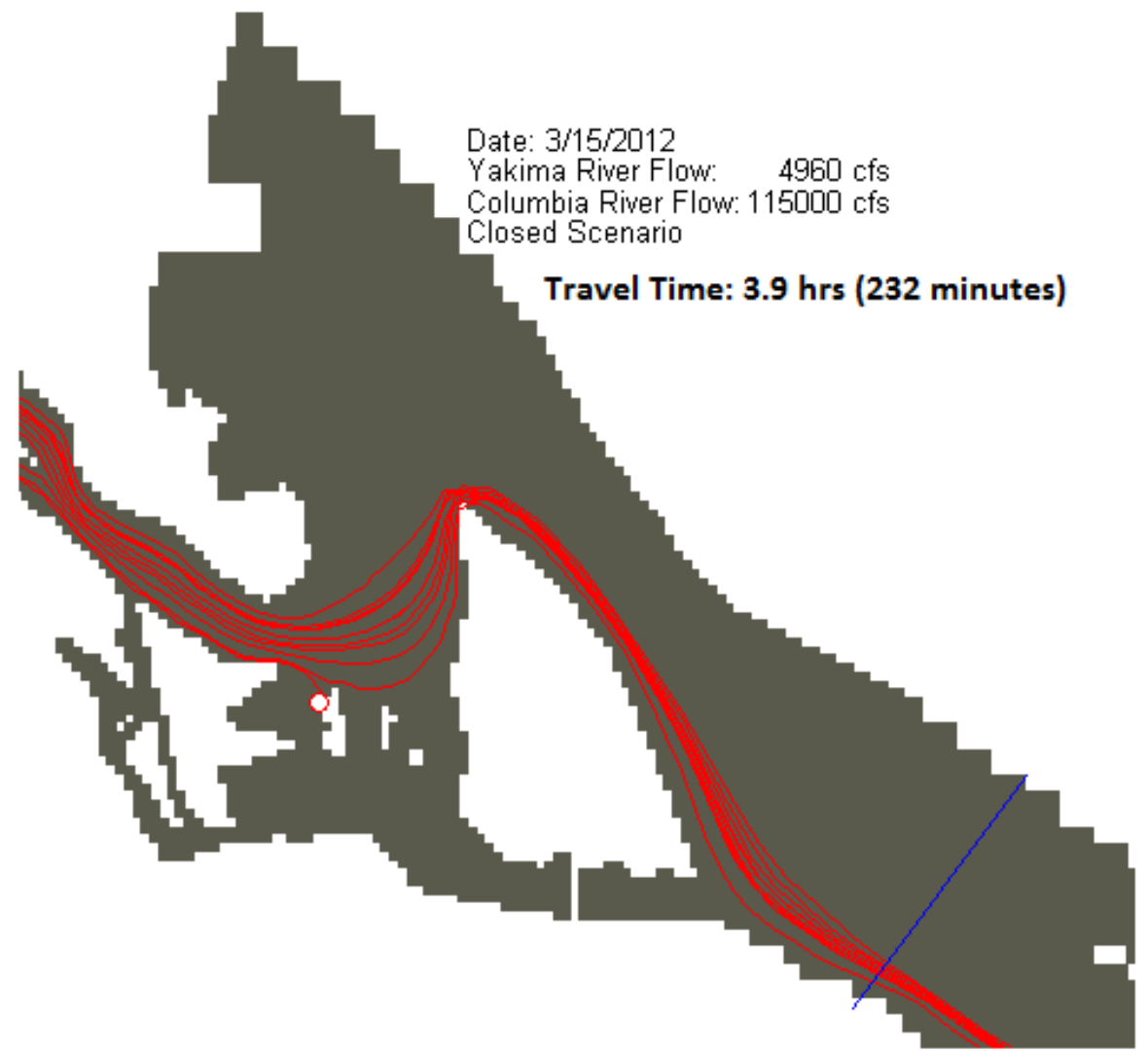
- *How would changes to the causeway affect your use of the area?*
- *What would be the best or worst way to modify the causeway?*
- *What further data do we need about fish utilization?*
- *How artificial can this solution be?*

March, 2014	Hired engineering firm to create conceptual designs of causeway modifications.
April – June, 2014	Public input – form committee of stakeholders.
July – September, 2014	Develop preliminary range of alternatives.
October – November, 2014	Review preliminary range of alternatives with agencies and stakeholders.
January – February, 2015	Perform scour and flood modeling. Revise alternatives and develop cost estimates.
March – May, 2015	Review alternatives with agencies and stakeholders
June, 2015	Complete design report.



Date: 3/15/2012
 Yakima River Flow: 4960 cfs
 Columbia River Flow: 115000 cfs
 Closed Scenario

Travel Time: 3.9 hrs (232 minutes)



Date: 3/15/2012
 Yakima River Flow: 4960 cfs
 Columbia River Flow: 115000 cfs
 Open Scenario

Travel Time: 4.3 hrs (260 Minutes)

