

Bateman Island Causeway Conceptual Design

Mid-Columbia Fisheries Enhancement Group • Benton Conservation District
Gray and Osborne • Northwest Hydraulic Consultants

With support from the Yakima Basin Integrated Plan, the Salmon Recovery Funding Board, and the volunteer efforts of a Technical Advisory Group and Stakeholder Committee.

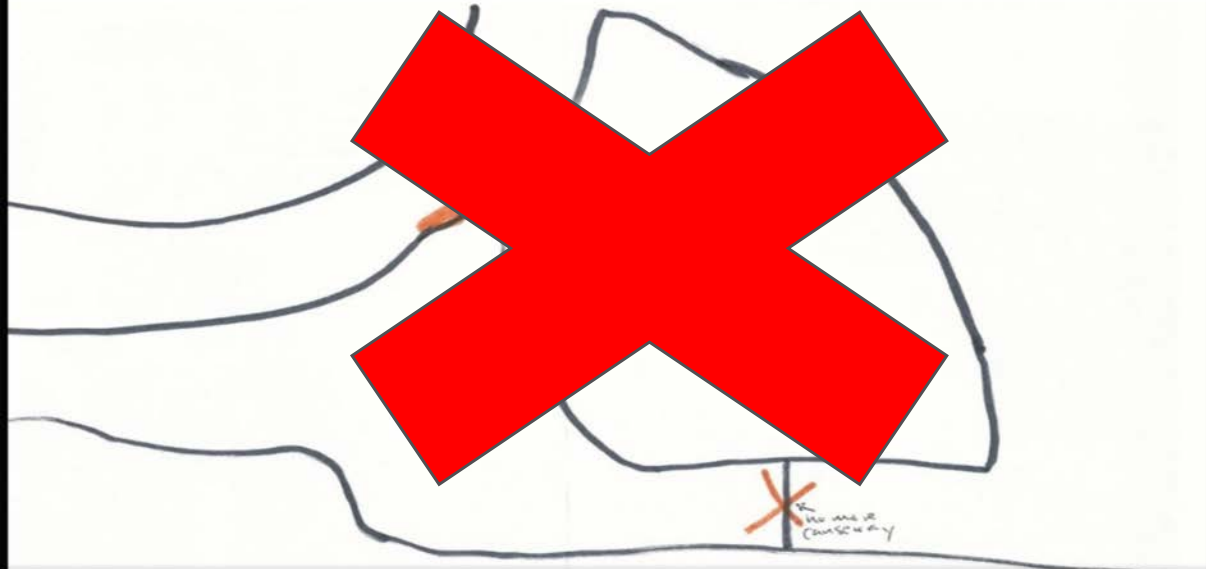


Columbia River

Yakima River



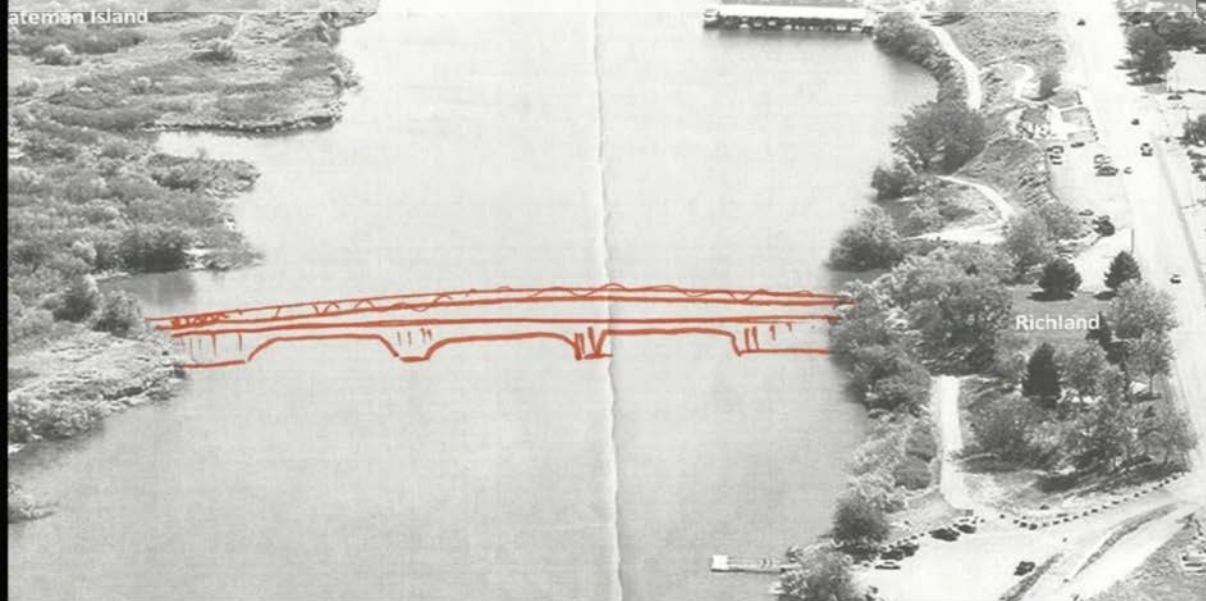
Alt. 2: Disconnect thalweg



Alt. 3: Full breach



Alts. 5, 6, & 7: Partial breaches

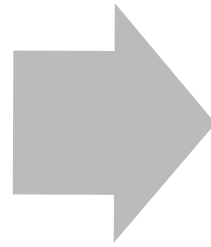


Alt. 8: Full breach & breakwater



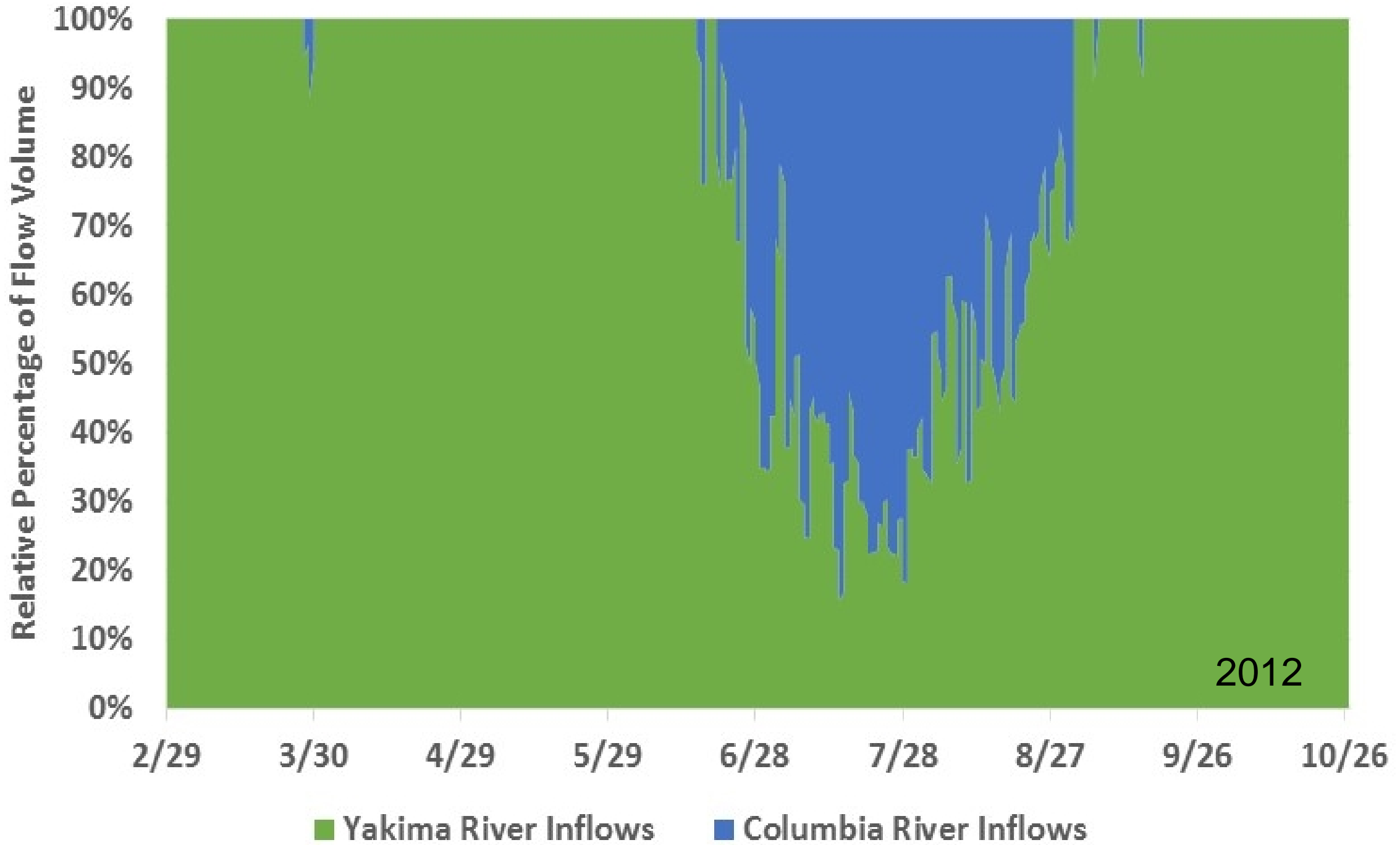
Comparing between alternatives

Changes in flow,
water temperature,
and sediment
transport



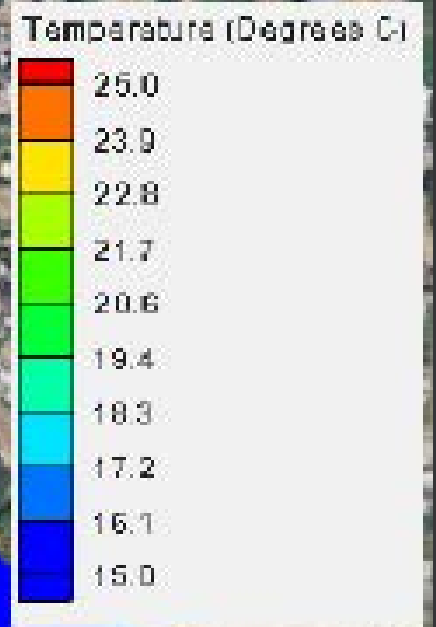
Impact on passage,
predation, cultural
resources, and
recreational and
commercial uses



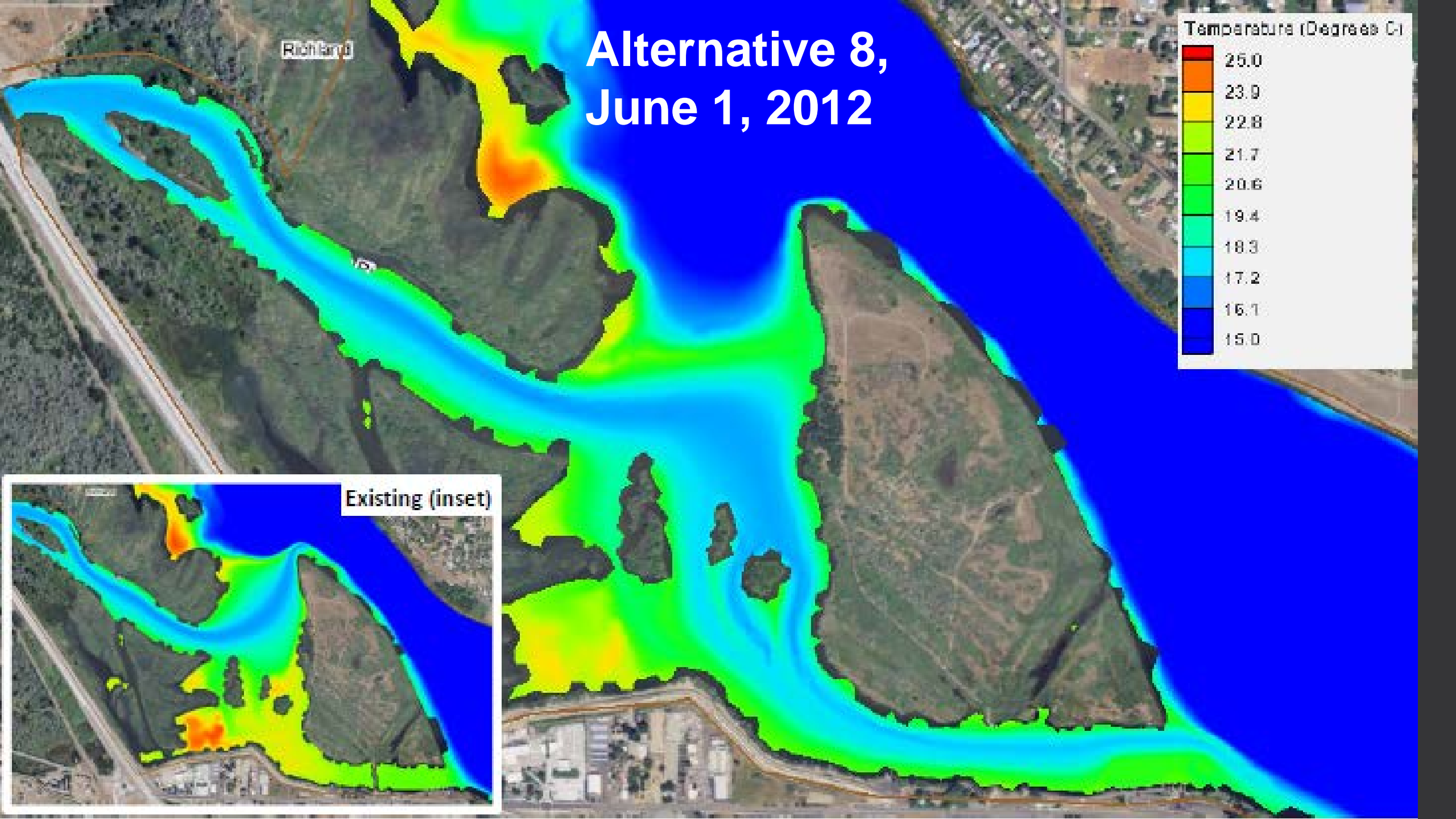
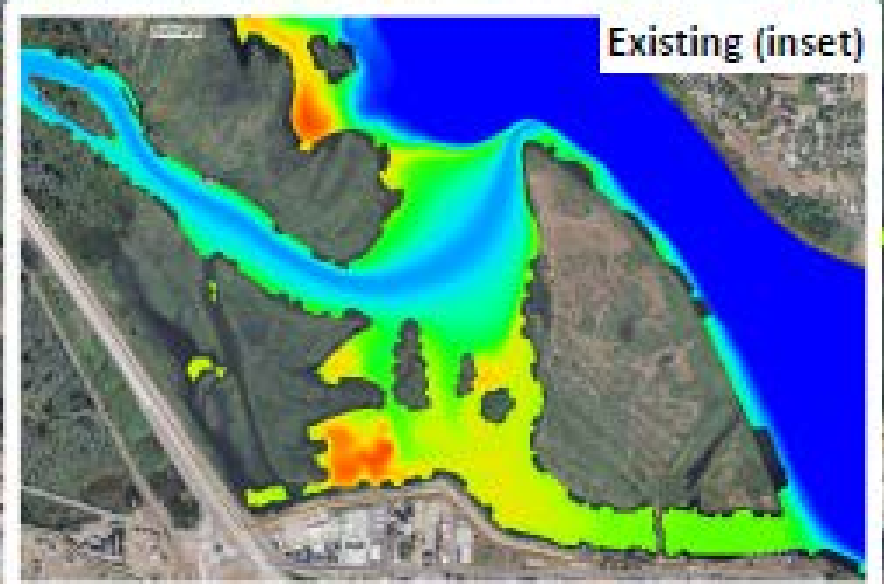


Alternative 8, June 1, 2012

Richland

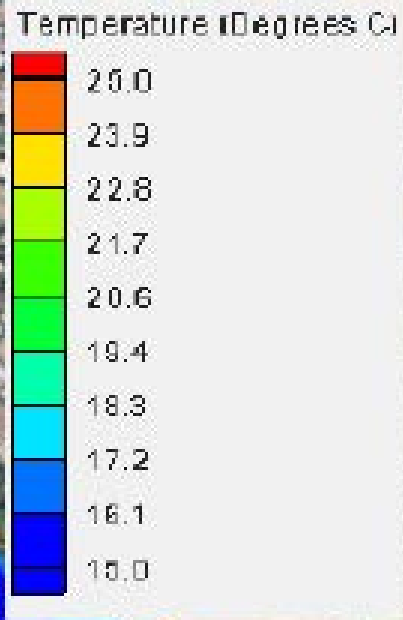


Existing (inset)

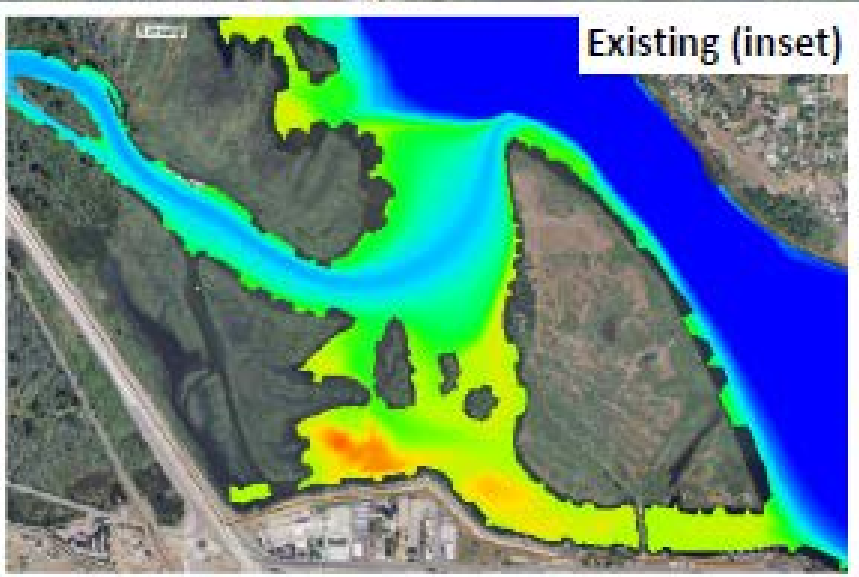


Alternative 8, June 3, 2012

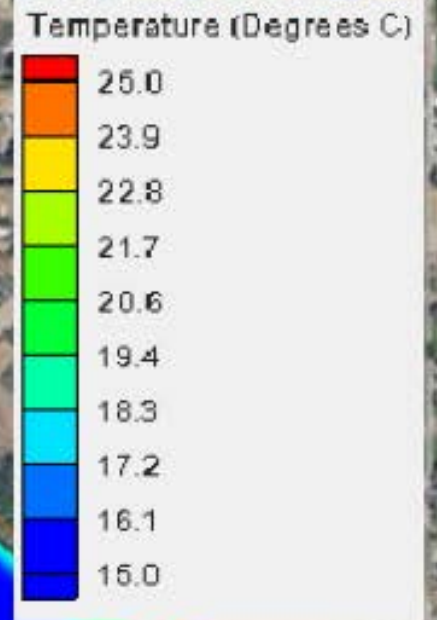
Richland



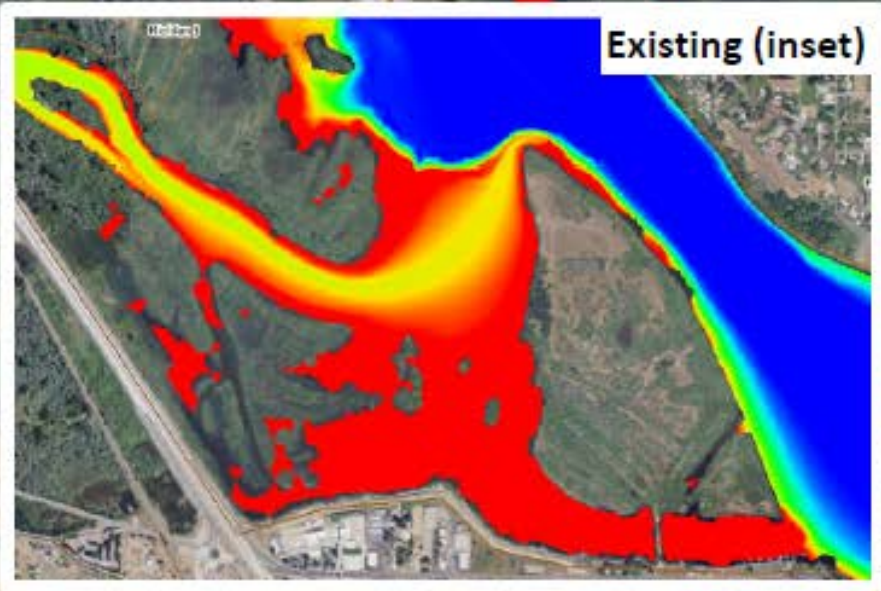
Existing (inset)



Alternative 8, July 8, 2012



Richland





Source: plan.critfc.org

Number of summer days when downstream temperature > upstream

Alternative	Measured just above confluence			Measured in reopened causeway channel	
	2012	2014		2012	2014
Alt. 1 - Existing Conditions	38	38		N/A	N/A
Alt. 6 - 130 foot Breach	28	36		54	34
Alt. 7 - 200 foot Breach	30	35		46	32
Alt. 5 - 260 foot Breach	18	26		31	26
Alt. 3 - 560 foot Full Breach	14	24		28	25
Alt. 8 – 560 foot Breach + Breakwater	16	28		32	25



Source: Michael Porter, YN

Maximum Spring (March 15 – May 31) 7-DADMax Temperature

Alternative	Measured in channel west of island	
	2012	2014
Alt. 1 - Existing Conditions	19.6 °C	21.1 °C
Alt. 6 - 130 foot Breach	17.7 °C	18.7 °C
Alt. 7 - 200 foot Breach	17.6 °C	18.6 °C
Alt. 5 - 260 foot Breach	17.6 °C	18.5 °C
Alt. 3 - 560 foot Full Breach	17.6 °C	18.5 °C
Alt. 8 – 560 foot Breach + Breakwater	17.6 °C	18.5 °C

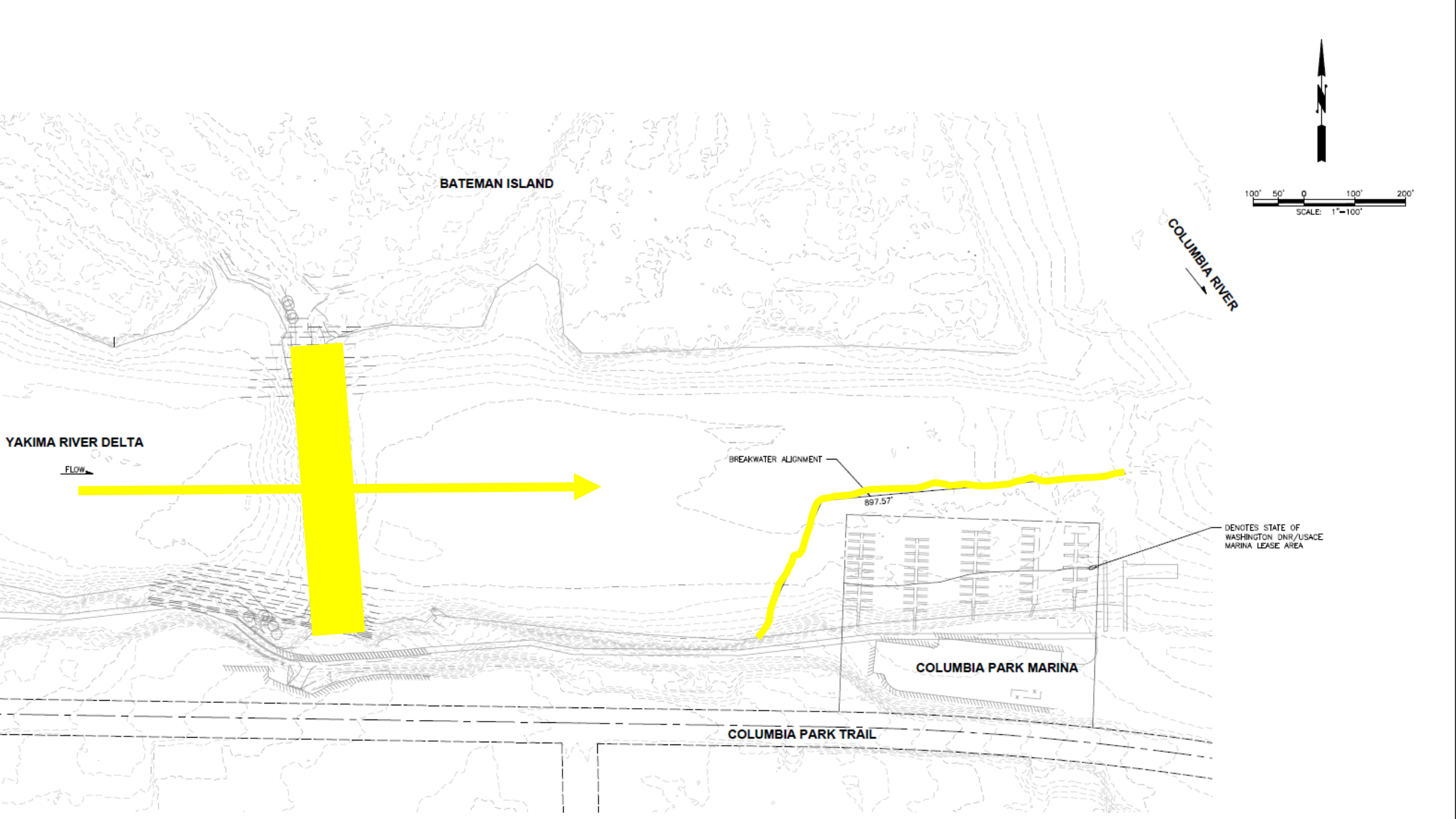
Sediment



Time required for full erosion at each area after full breach

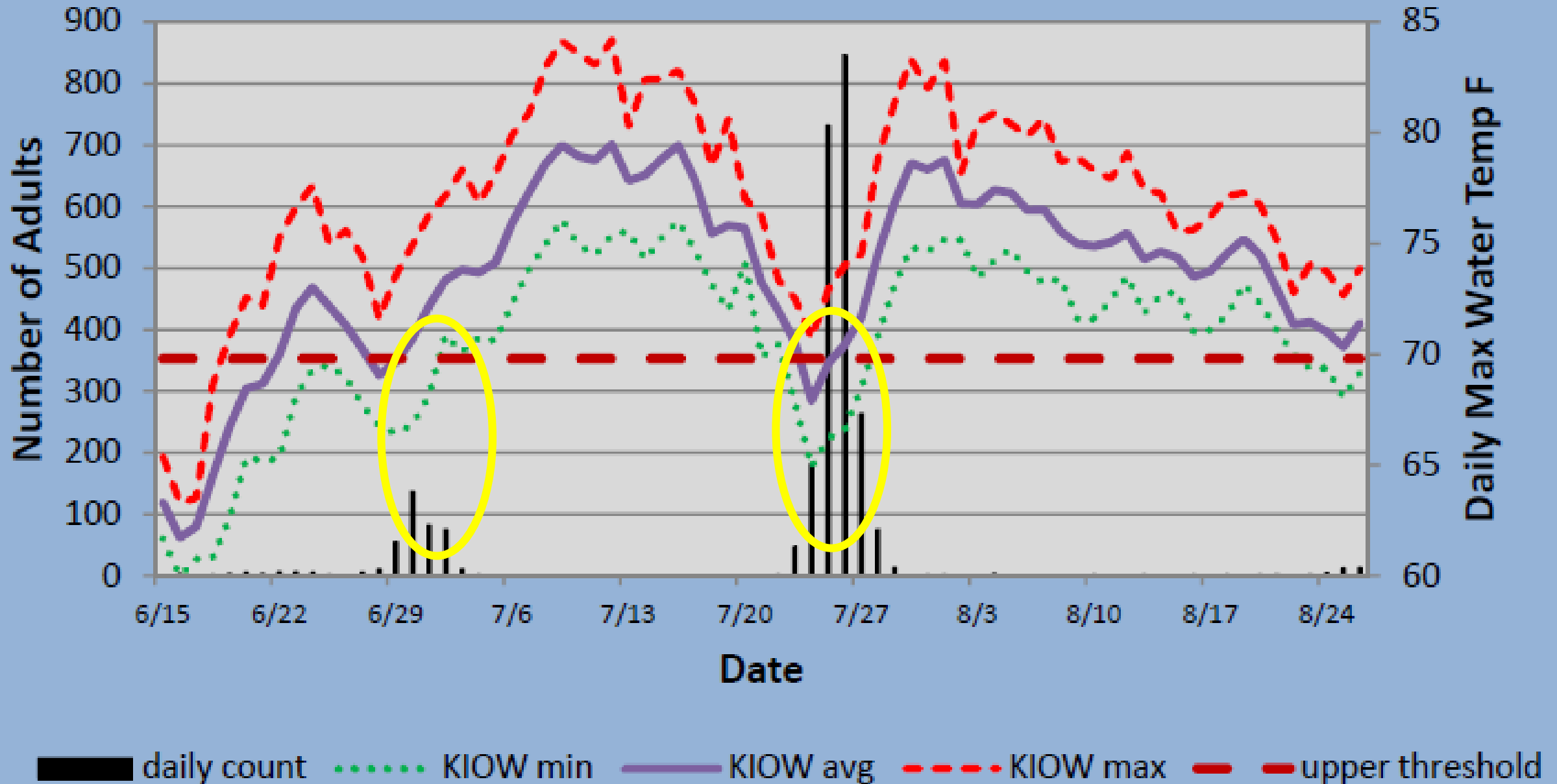
Area	Low Flow	Mid Flow	High Flow
	weeks	weeks	weeks
Area 6: North of Yakima Inflow	11.9	0.7	0.2
Area 5: Yakima River	no movement	1.1	0.3
Area 1: West Side of Island	112	6.2	1.8
Area 4: Small Channel South	no movement	184.7	10.2
Area 3: West of Causeway	57.9	3.5	1.0







2014 Sockeye Run, Prosser Dam



Next steps

- Continued public involvement
- Permitting
- Funding

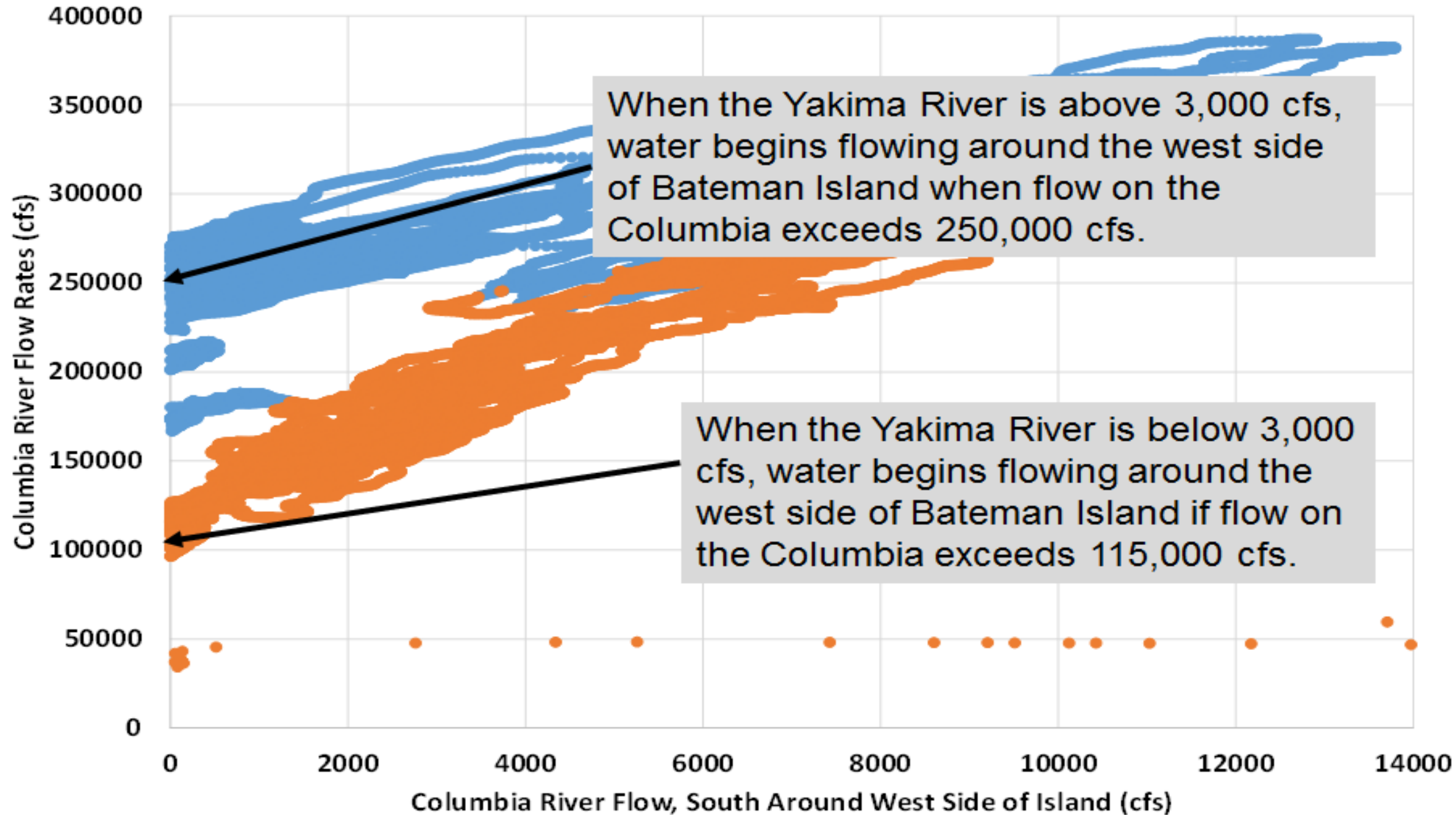


<ftp://ftp.g-o.com/outgoing/MCFEG/Bateman%20Island%20Causeway%20Modifications/>

Username: goftp

Password: @go.ftp#





When the Yakima River is above 3,000 cfs, water begins flowing around the west side of Bateman Island when flow on the Columbia exceeds 250,000 cfs.

When the Yakima River is below 3,000 cfs, water begins flowing around the west side of Bateman Island if flow on the Columbia exceeds 115,000 cfs.

● When Yakima > 3000 cfs ● When Yakima < 3000 cfs

Percent of Total Flow Volume at Causeway Channel by Source (March through October)

Alternative	Yakima River Inflows		Columbia River Inflows	
	2012	2014	2012	2014
6 - 130' Breach	100%	99%	0%	1%
7 - 200' Breach	95%	93%	5%	7%
5 - 260' Breach	76%	83%	24%	17%
3 - Full Breach	72%	81%	28%	19%
8 – Full breach + Breakwater	75%	80%	25%	20%