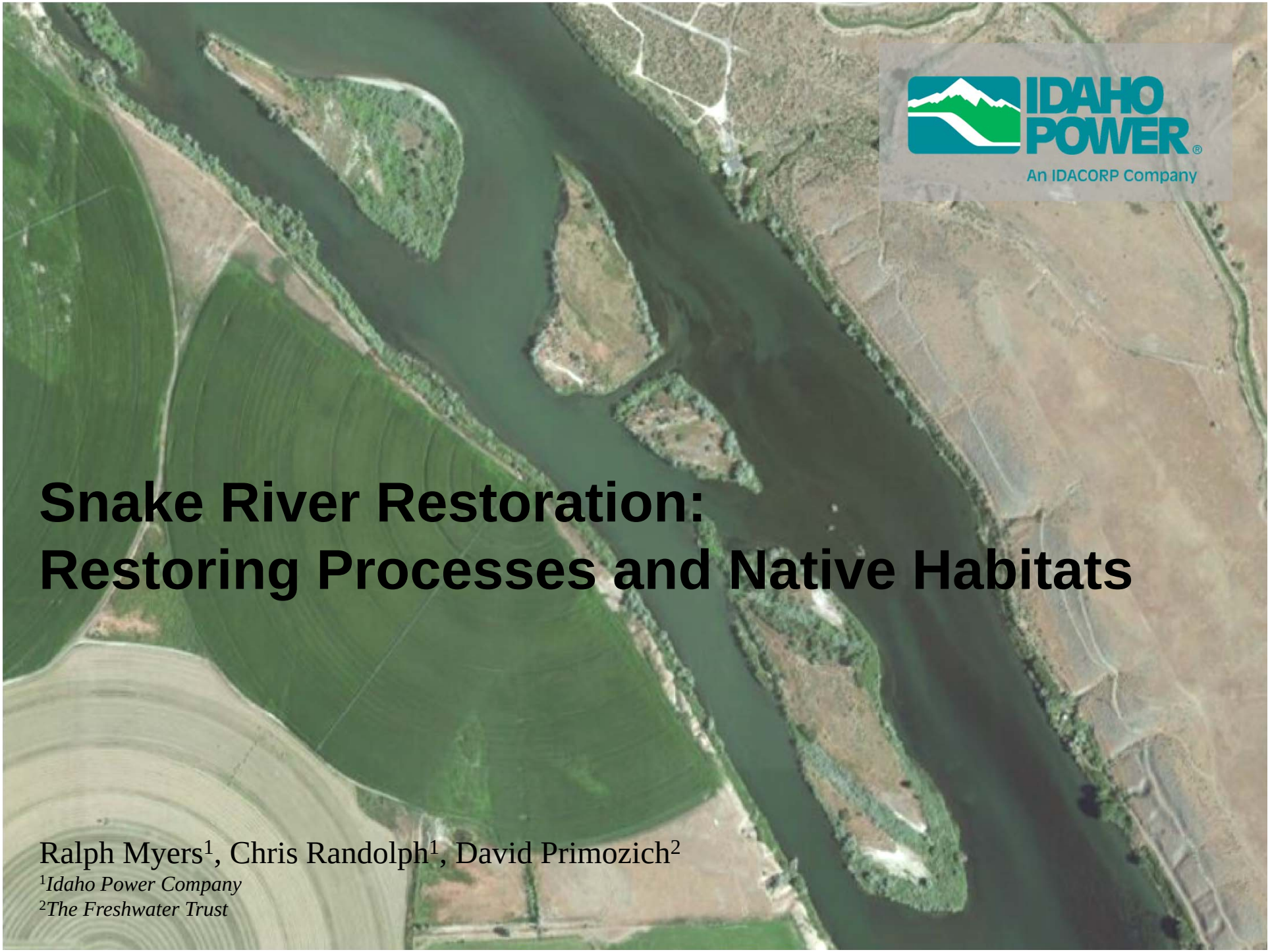
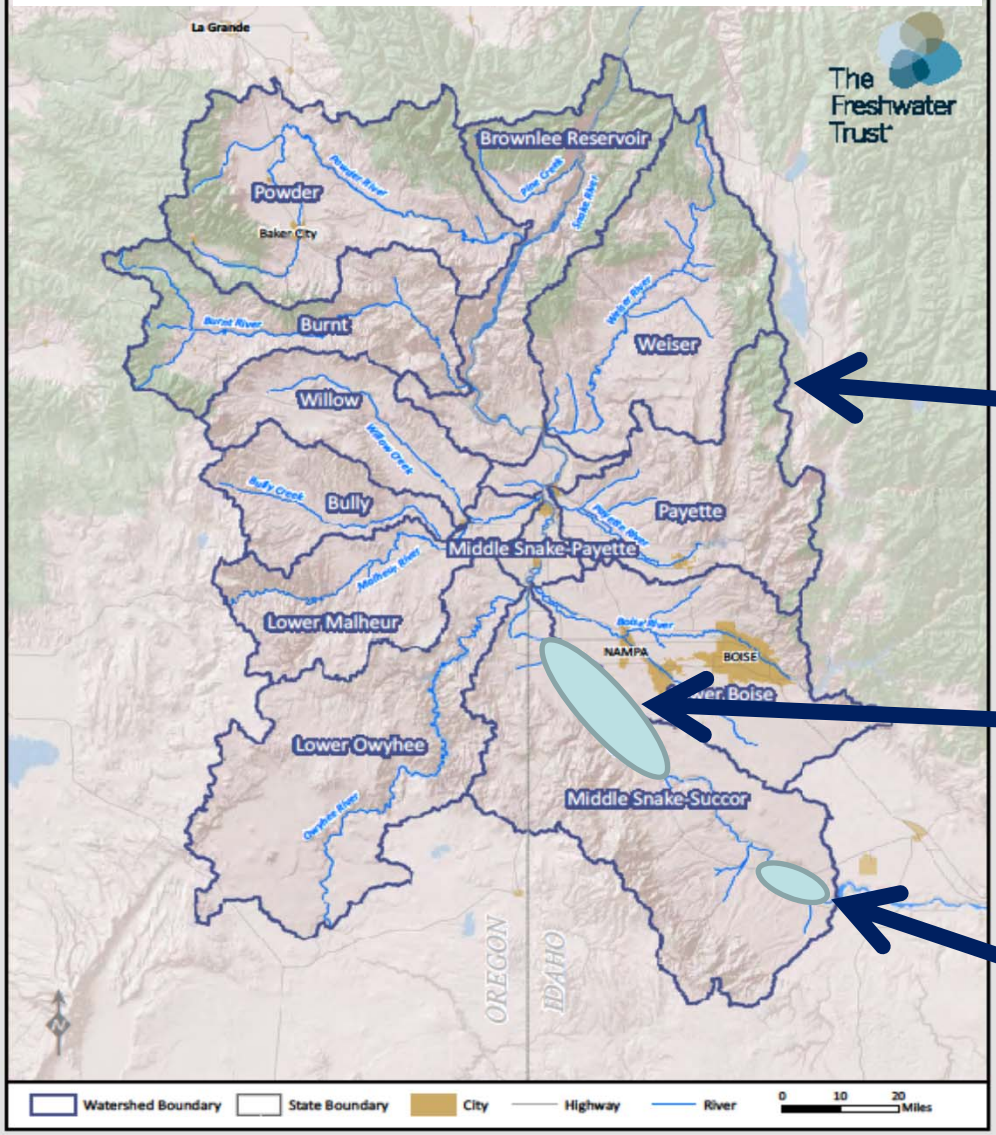


Snake River Restoration: Restoring Processes and Native Habitats

Ralph Myers[1], Chris Randolph[1], David Primozich[2]
[1]*Idaho Power Company*
[2]*The Freshwater Trust*

Snake River Stewardship Program

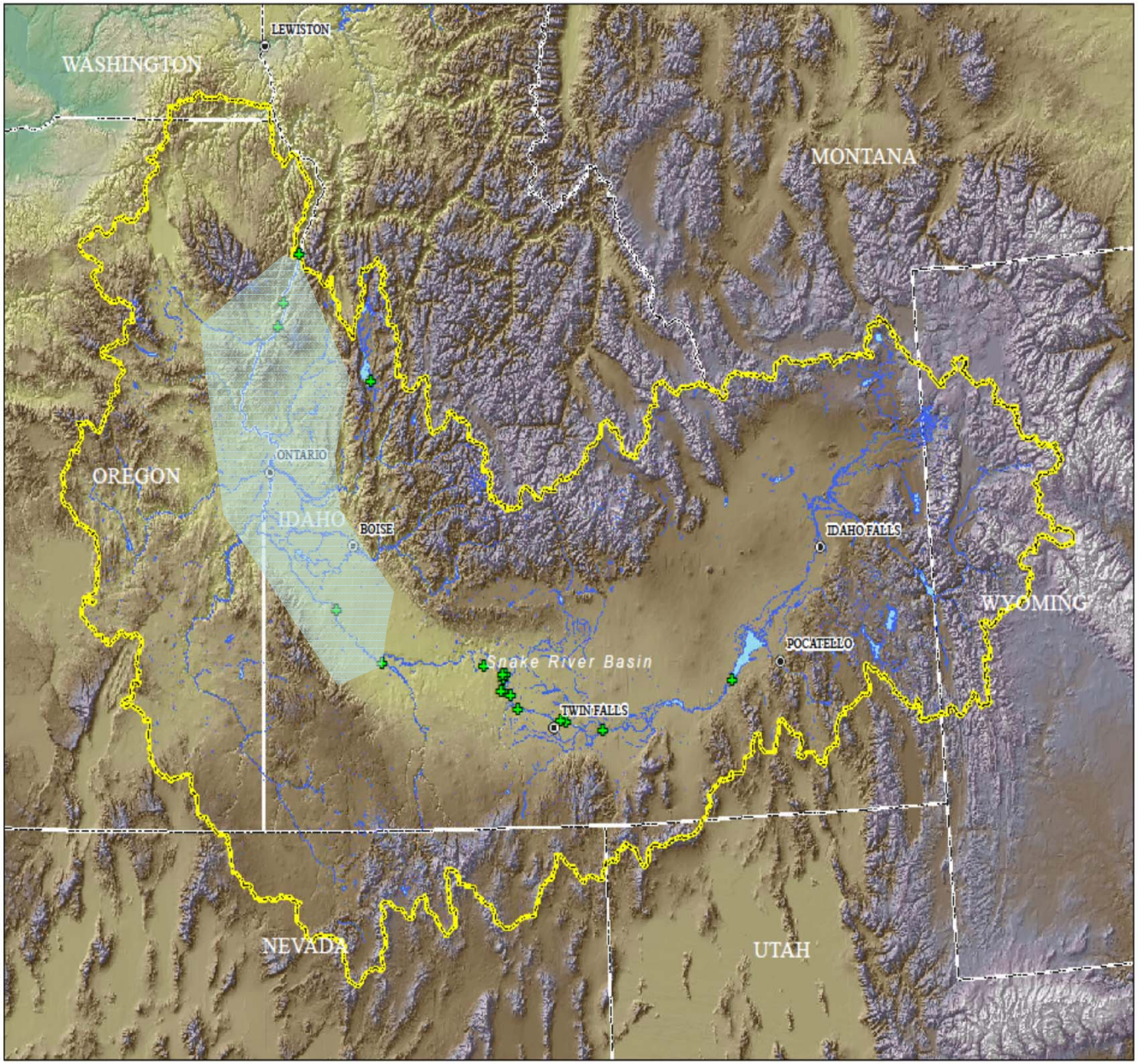


Addresses water quality and habitat issues by restoring both in-river processes and function, and pollutant inputs

1) Tributary Riparian Component (reduce pollutant inputs)

2) In-river Component (modify in-river processes)

3) Grandview Irrigation Upgrade Component (reduce pollutant inputs)



Snake River Watershed Basins

Legend

- Watershed
- State Boundary
- IPCo Hydro Facility

Area

Snake River Basin : 77,915 sq miles

Perennial Stream Miles

Snake River Basin : 35,886 miles

N

0 12.5 25 50 75 100 Miles

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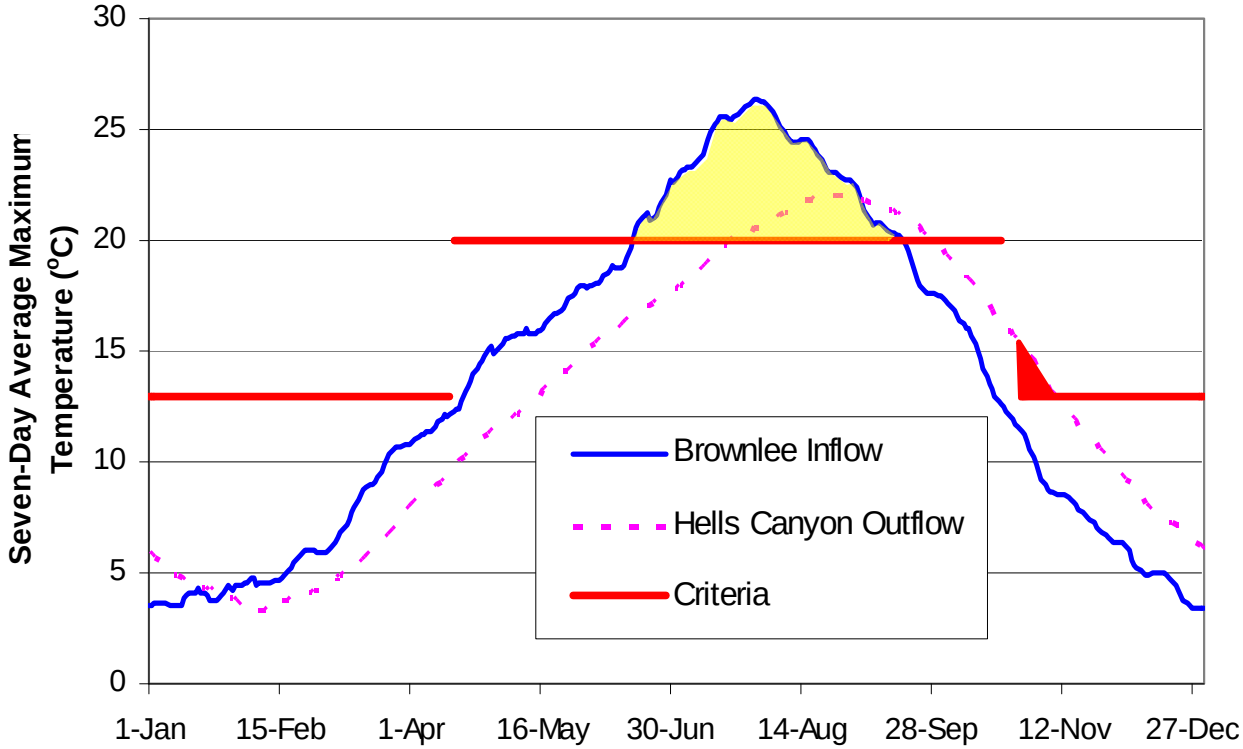
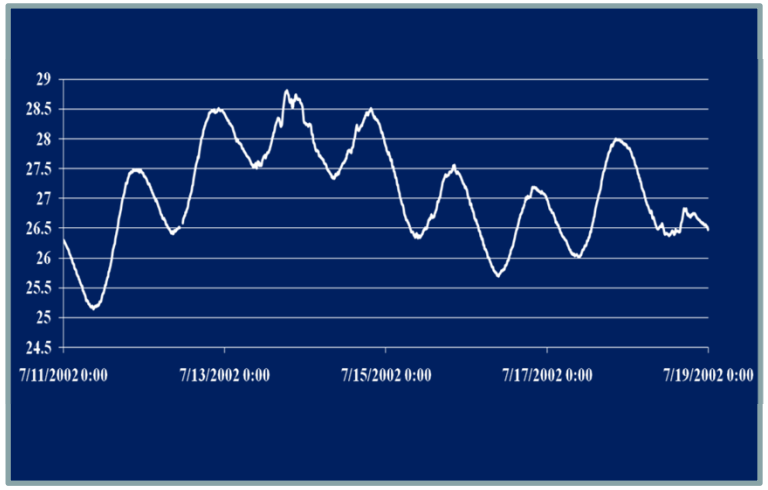
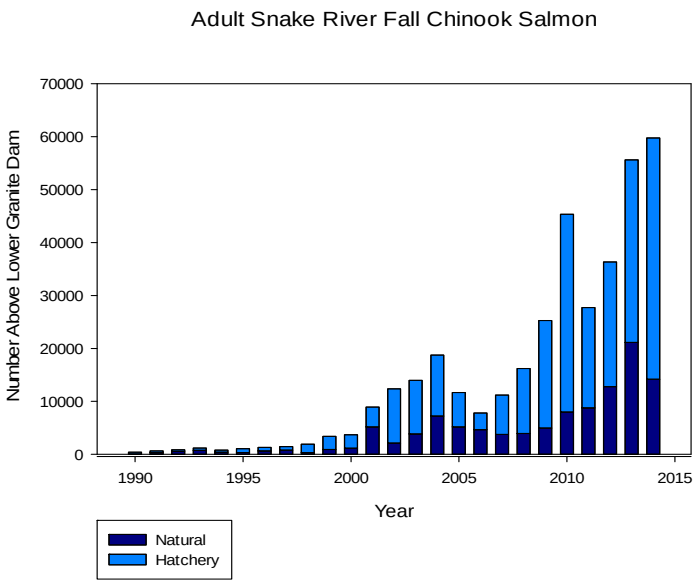
The Regulatory Opportunity for Restoration

Relicensing of the Hells Canyon Complex
-Original license in 1955
-Original license expired in 2005
-New license requires Clean Water Act § 401 certification
- certifies that releases meet water quality standards
- must meet both Idaho and Oregon standards

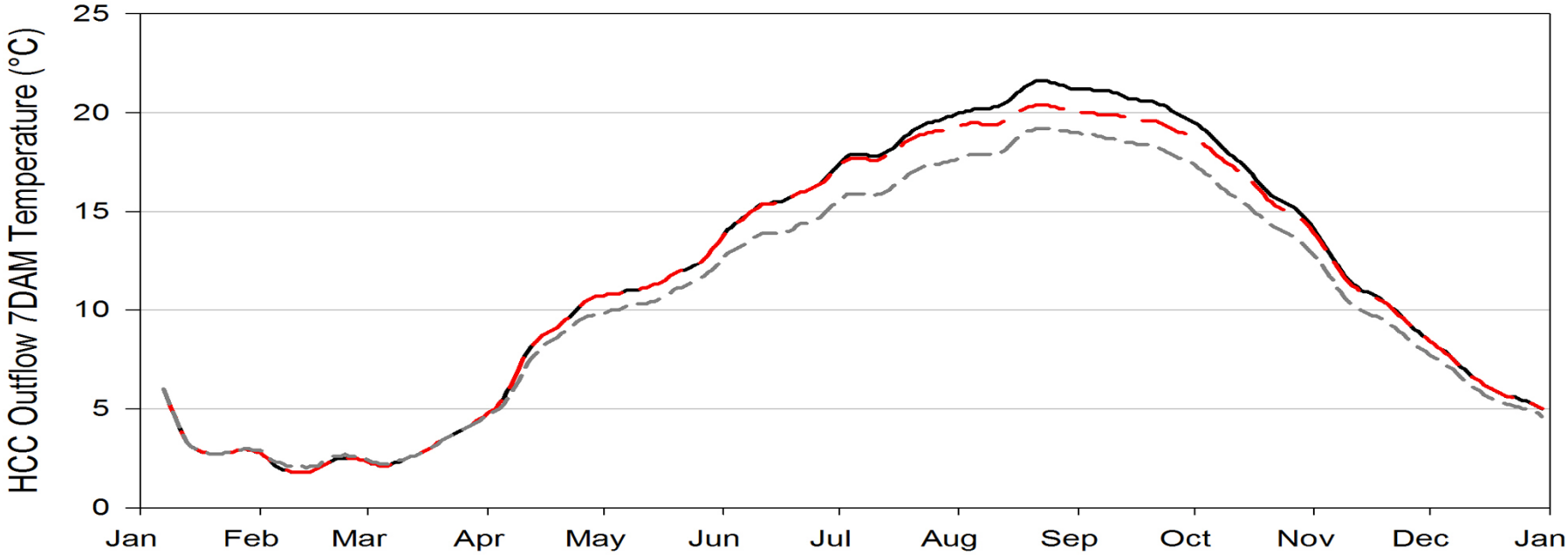


Fish conditions relative to the temperature exceedences





How to maximize benefits



Why do we need to alter in-river features to restore function ?

14,500 years ago

-Channel was shaped by Bonneville Flood

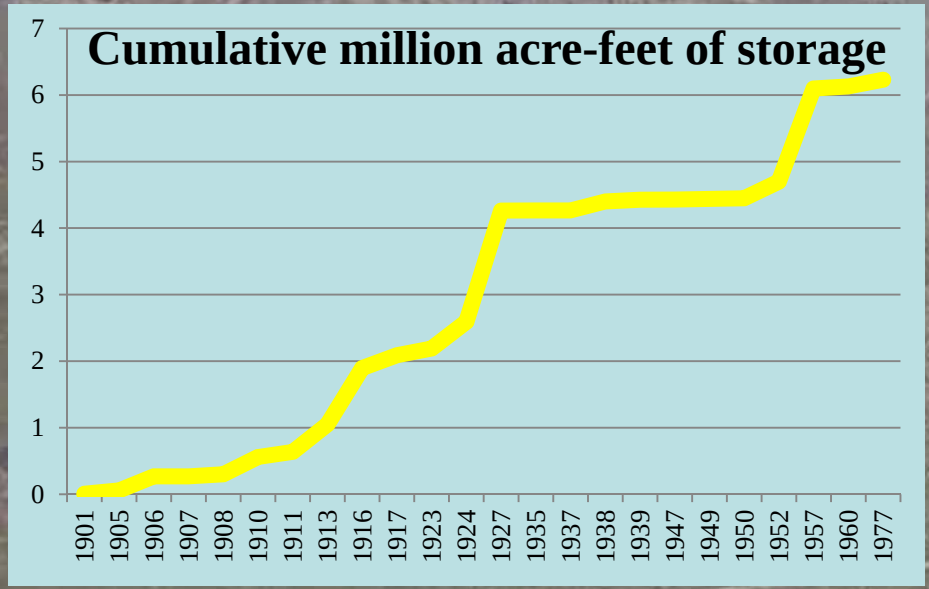
- Peak flows estimated at 35 million cfs

- Water velocities estimated to be 100 feet per second

Pre- 1900

-Channel maintained by large snowmelt events

-Habitats functioning in a way that supports native aquatic species



Current conditions (past 100 years

-Less frequent high spring flows

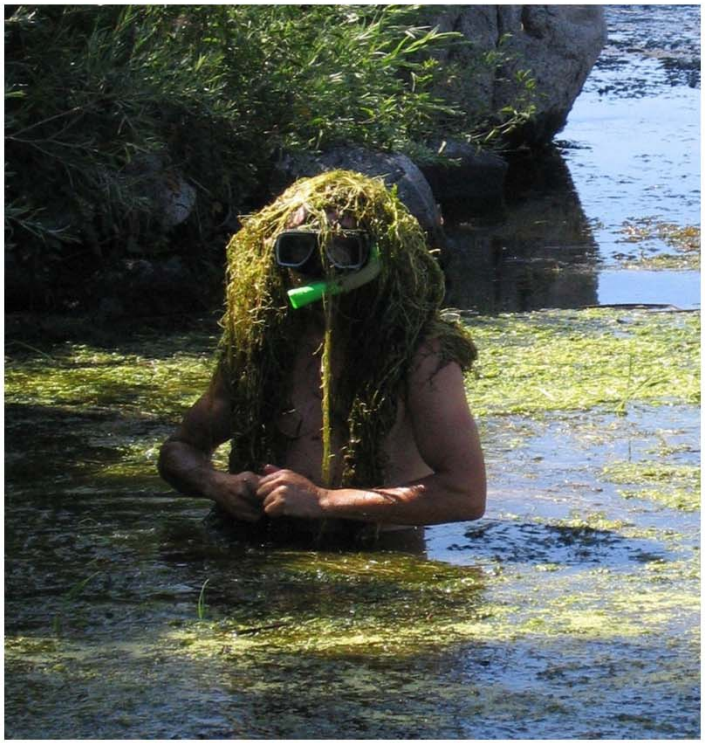
-Generally lower peak flows

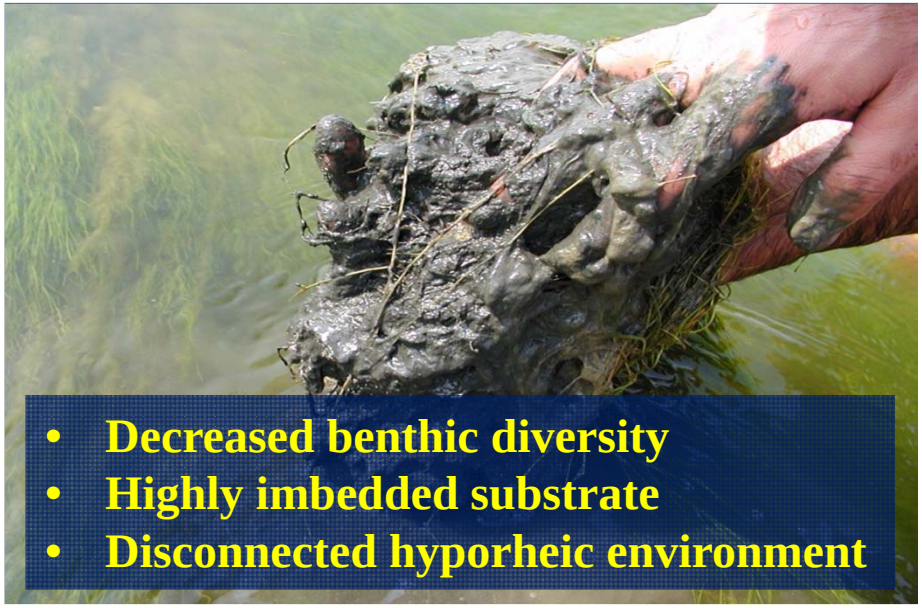
-Altered sediment and nutrient transport and processing

-Habitat fragmentation

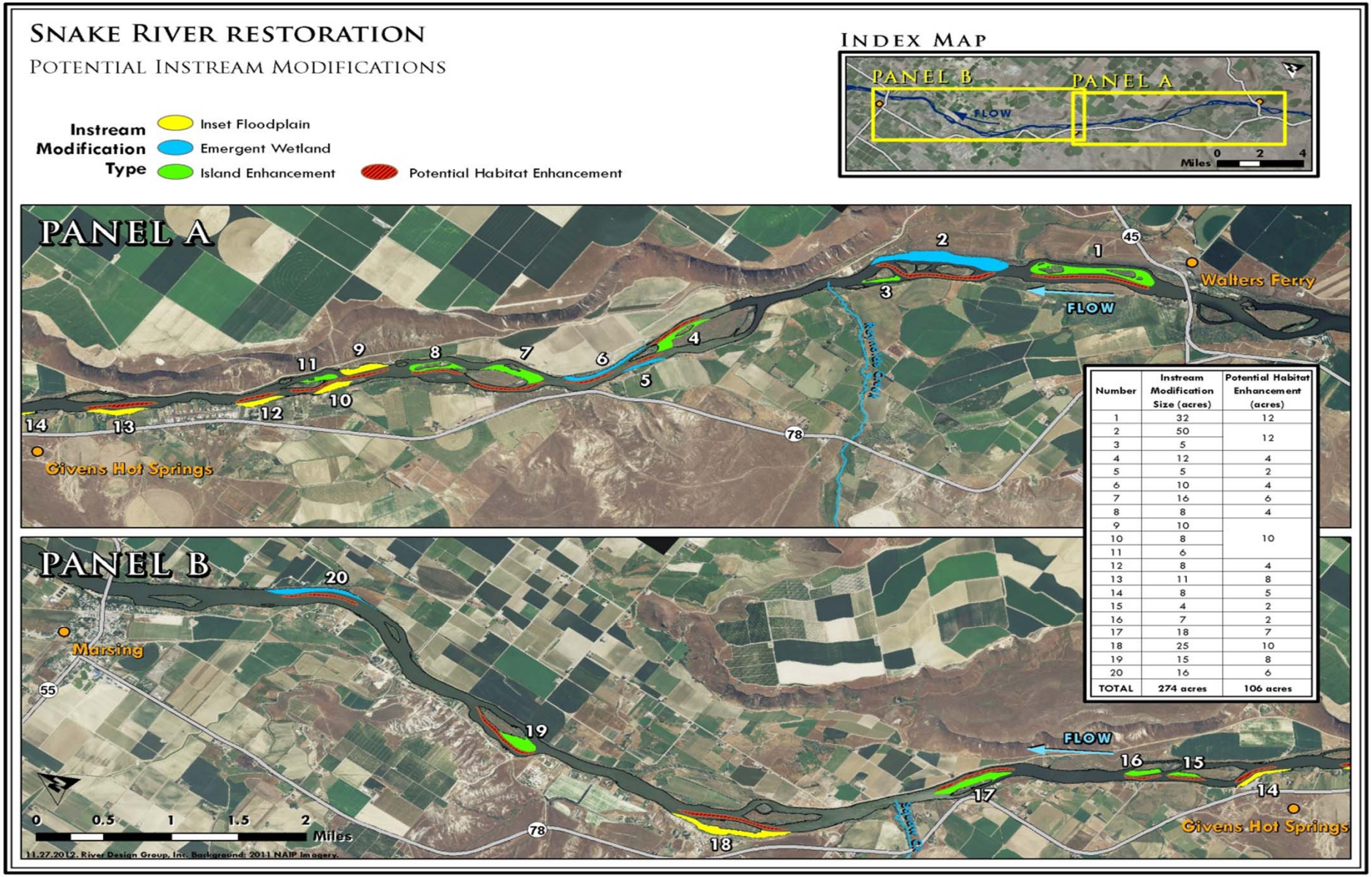
Bigger flows or smaller river

Evidence of the need for action



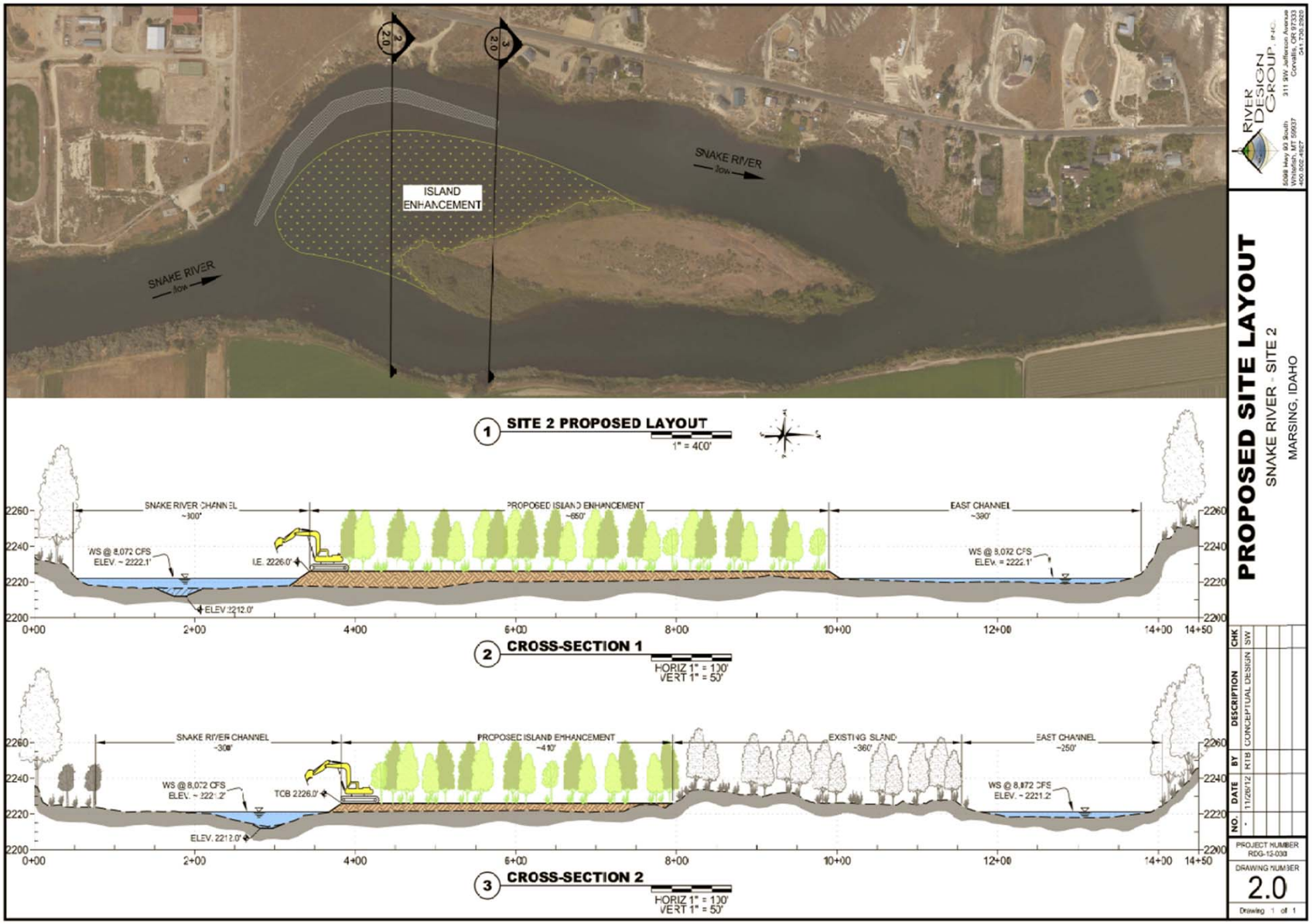


In-River Component: Restore function and native species habitat through physical alteration of the river channel

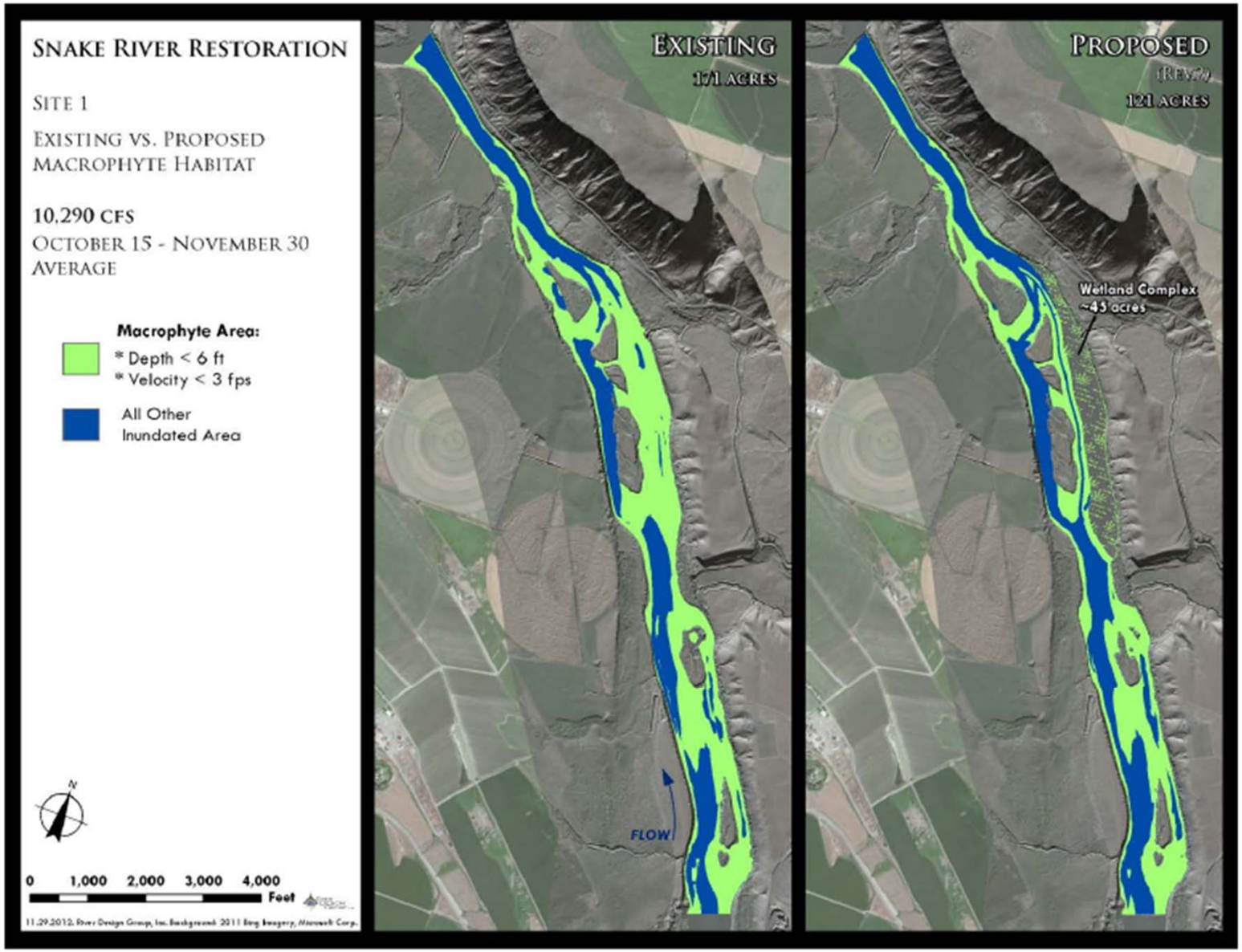


Number	Instream Modification Size (acres)	Potential Habitat Enhancement (acres)
1	32	12
2	50	12
3	5	
4	12	4
5	5	2
6	10	4
7	16	6
8	8	4
9	10	10
10	8	
11	6	
12	8	4
13	11	8
14	8	5
15	4	2
16	7	2
17	18	7
18	25	10
19	15	8
20	16	6
TOTAL	274 acres	106 acres

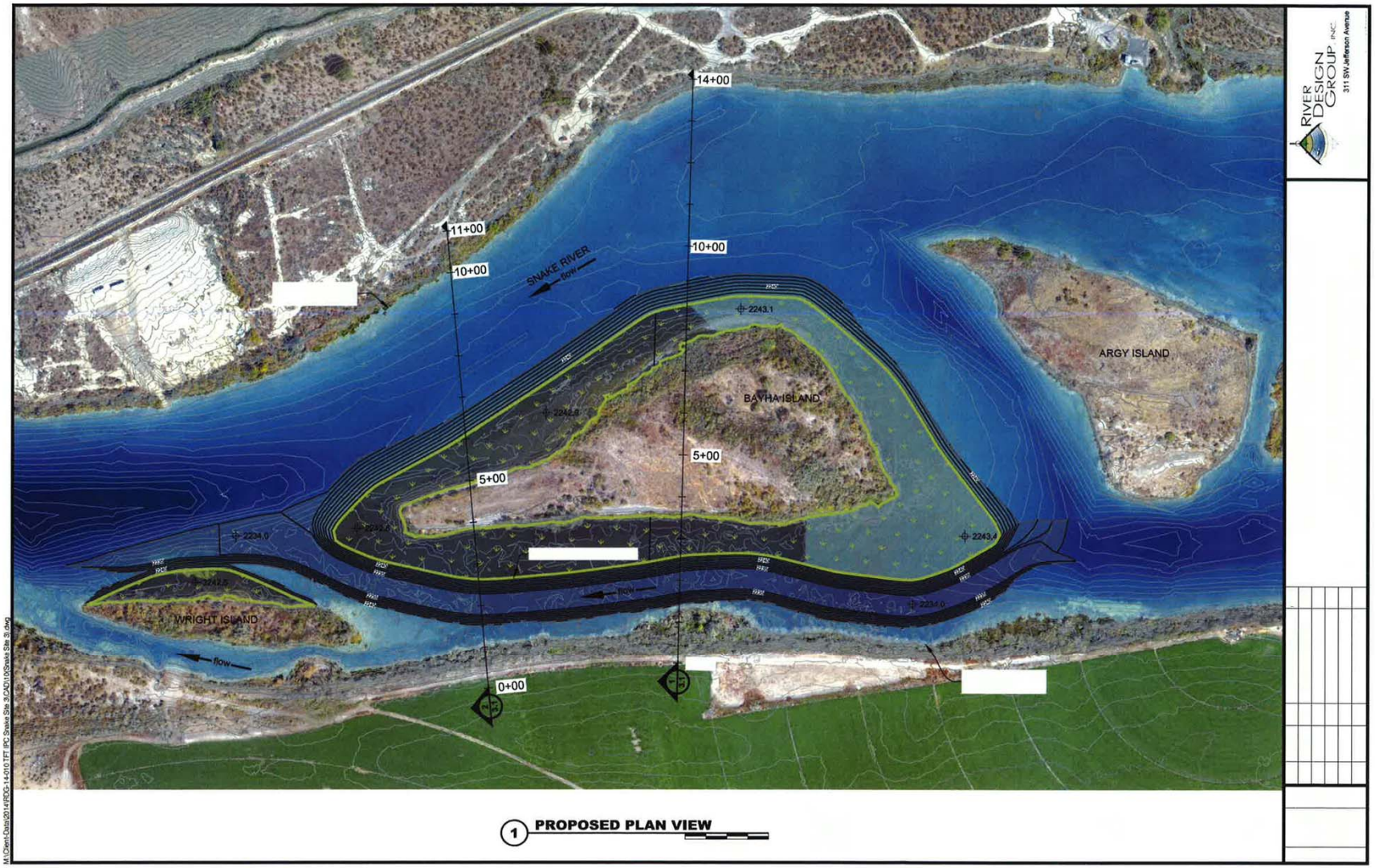
Island Enhancement Modification



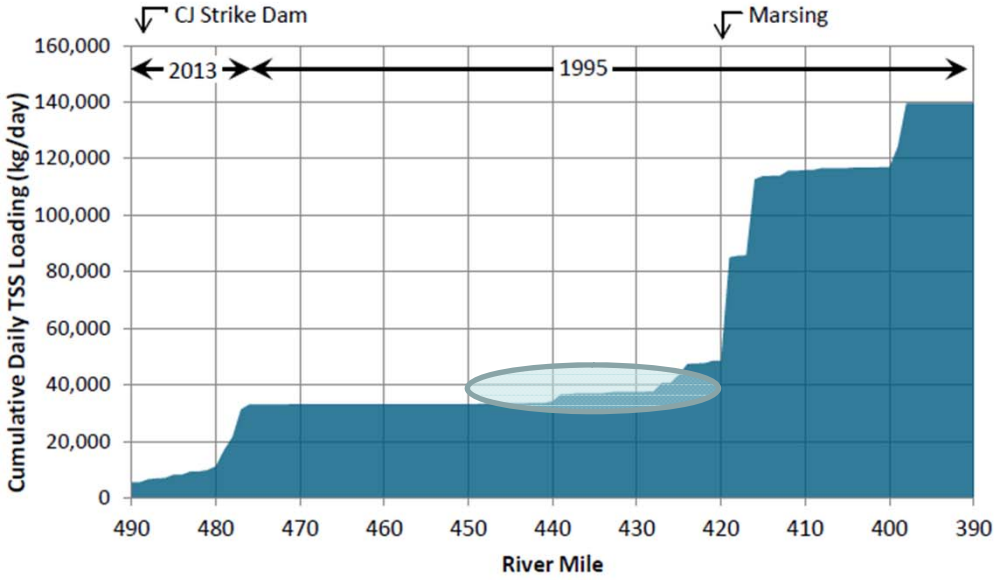
Habitat Modeling



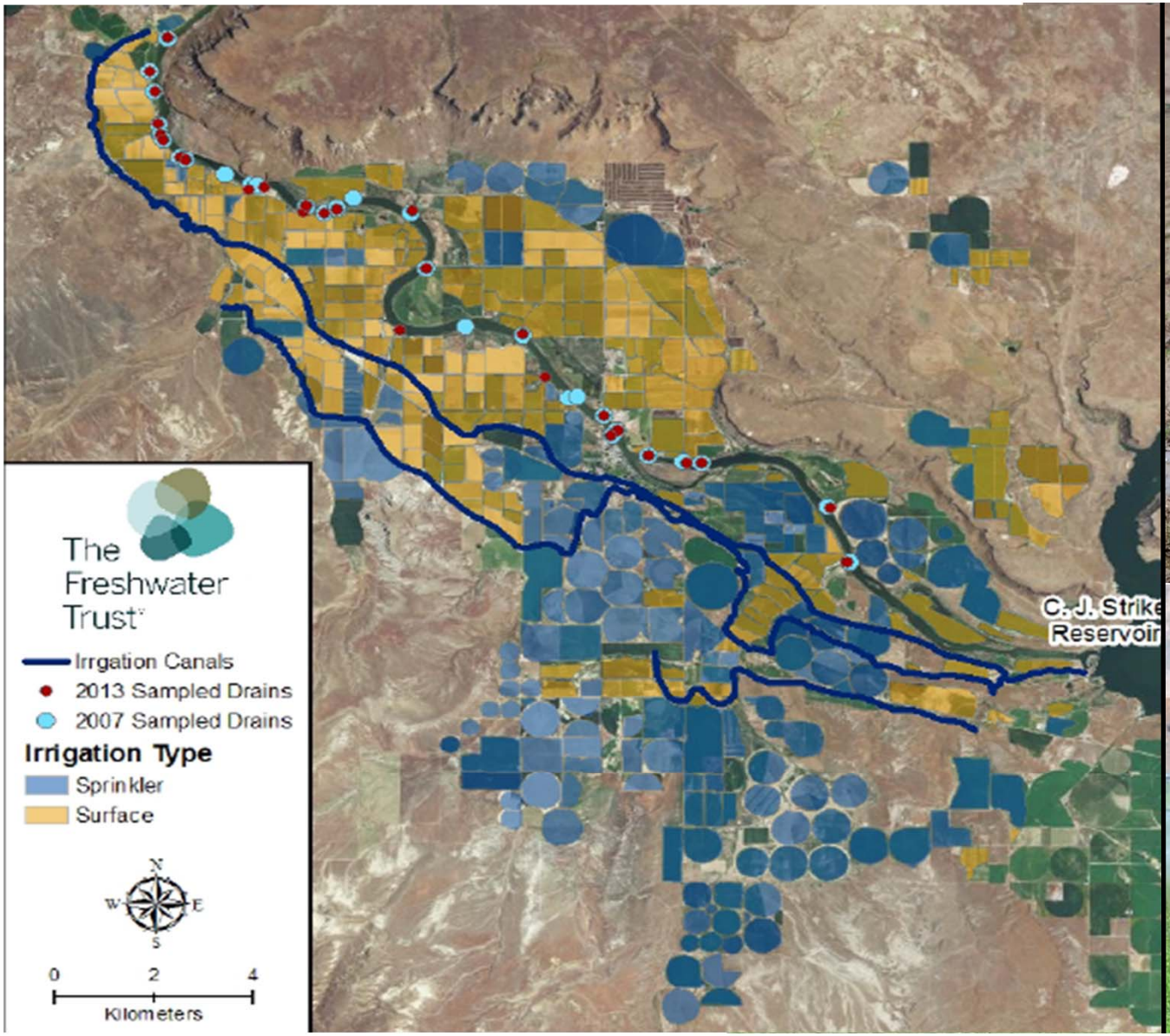
Bayha Island Research Project

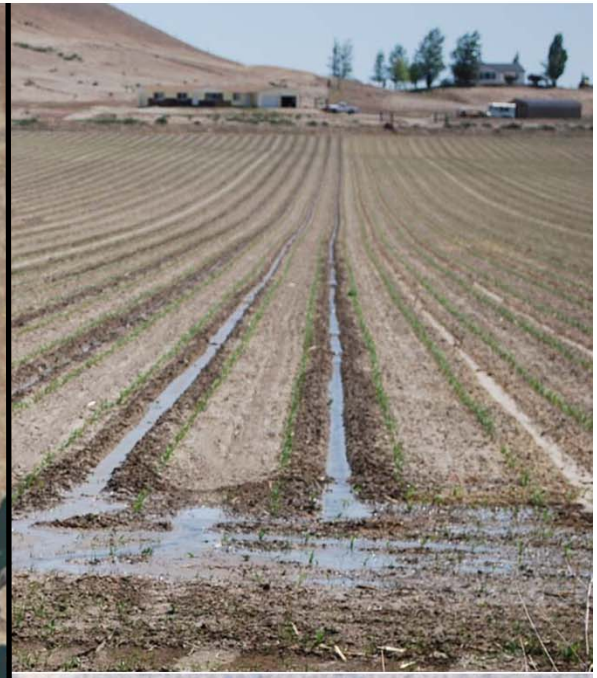


Addressing excess sediment inputs

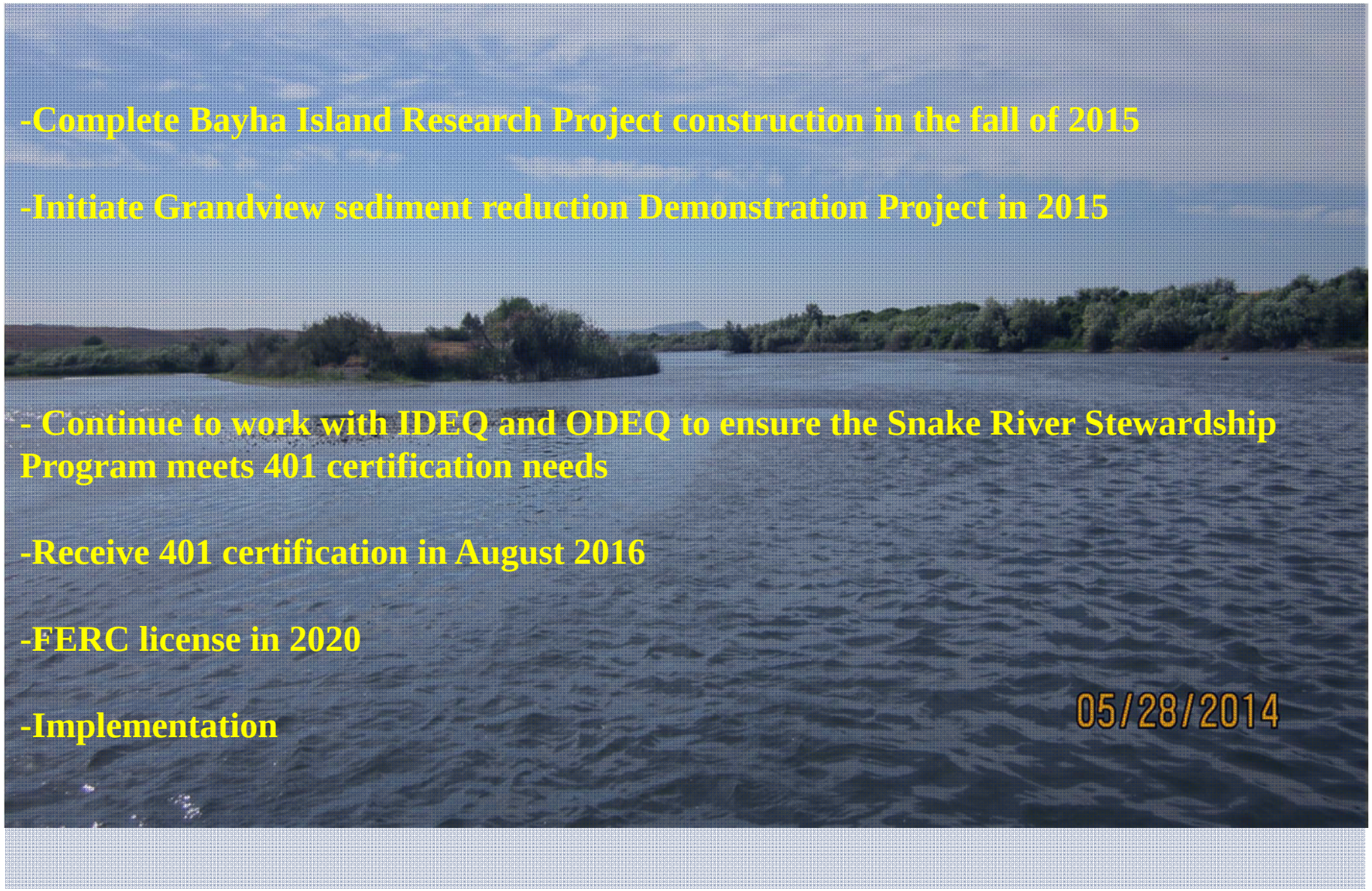


Grandview Irrigation Upgrade Component





Next Steps



-Complete Bayha Island Research Project construction in the fall of 2015

-Initiate Grandview sediment reduction Demonstration Project in 2015

- Continue to work with IDEQ and ODEQ to ensure the Snake River Stewardship Program meets 401 certification needs

-Receive 401 certification in August 2016

-FERC license in 2020

-Implementation

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