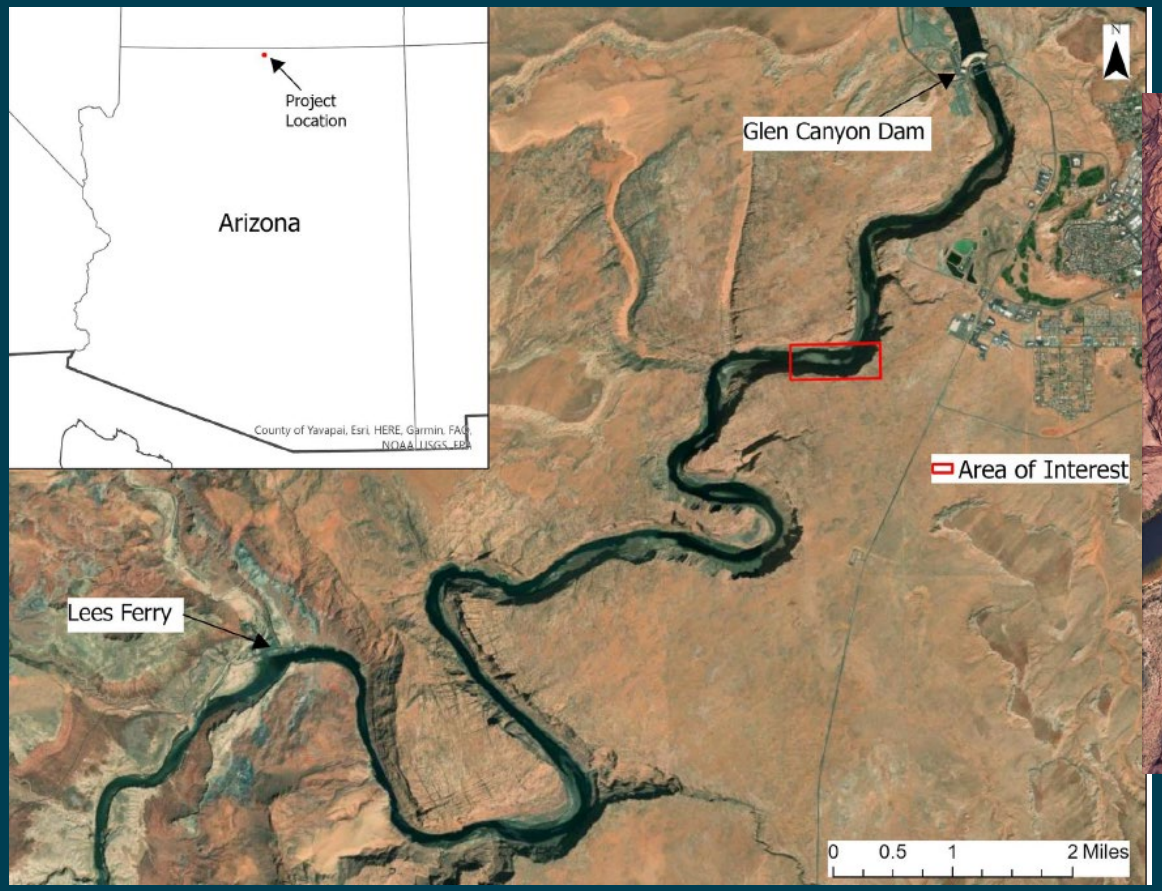
BUREAU OF RECLAMATION

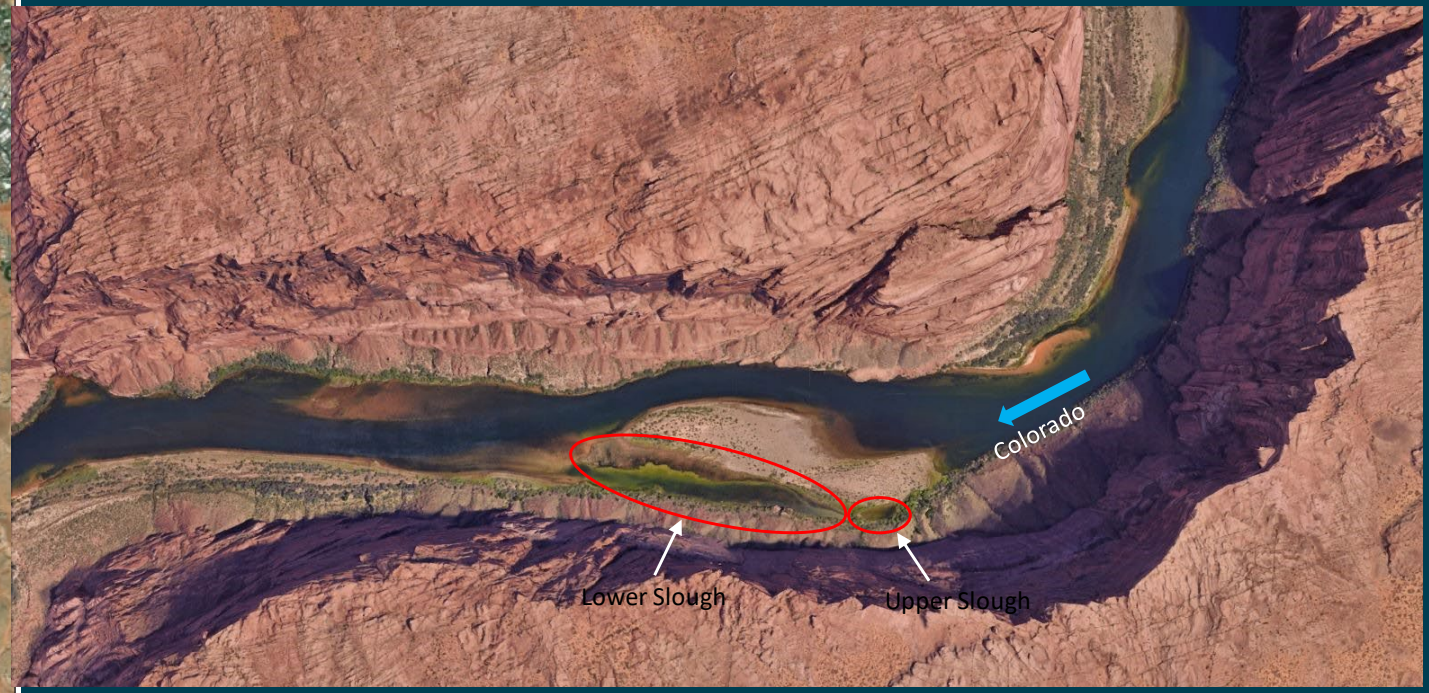
Proposed Modifications for Glen Canyon Slough

Adaptive Management Work Group Meeting, August 16, 2023

Kerri Pedersen, Bureau of Reclamation, Adaptive Management Group

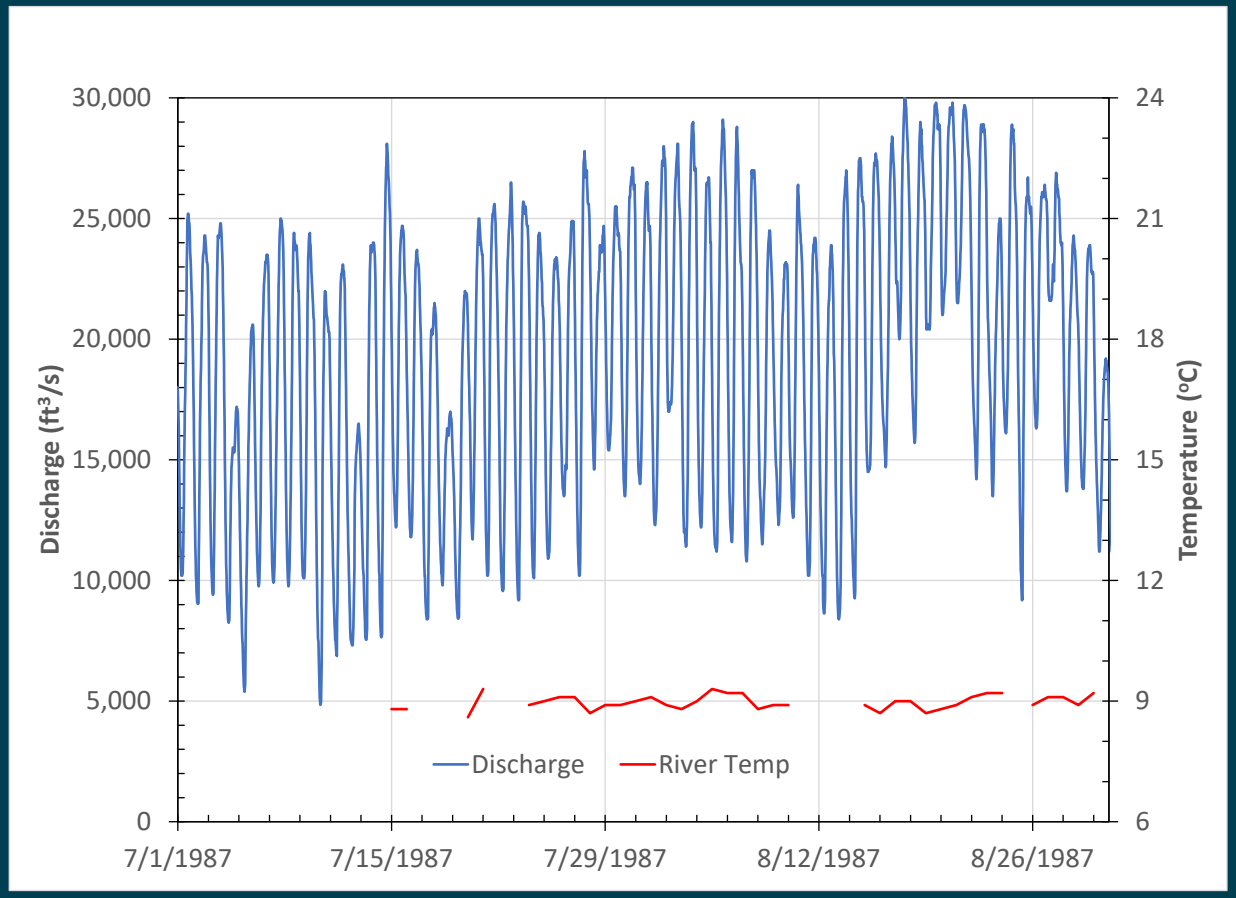
Upper and Lower Slough (-12 mile slough)



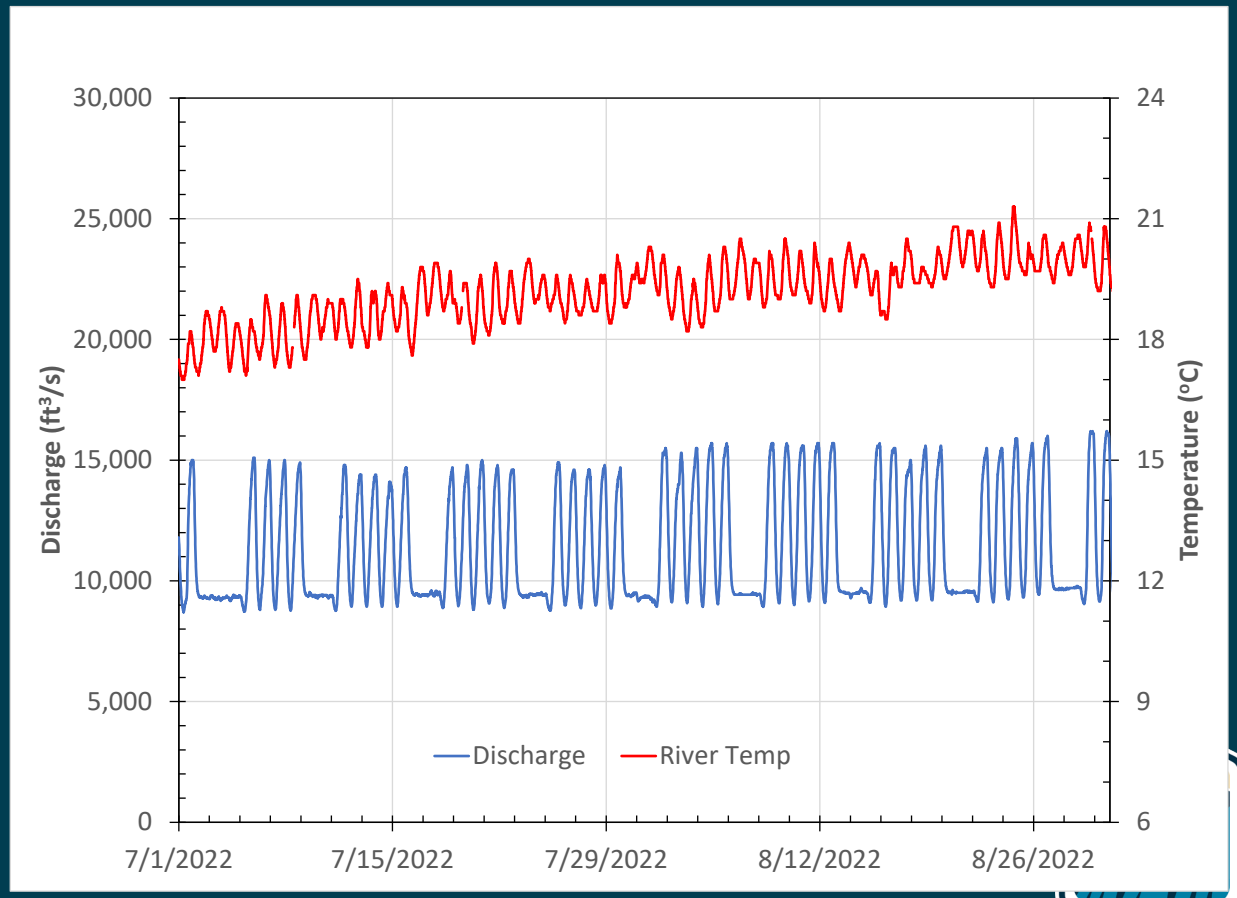


Comparison of Summer Discharge and Water Temperature for 1987 & 2023

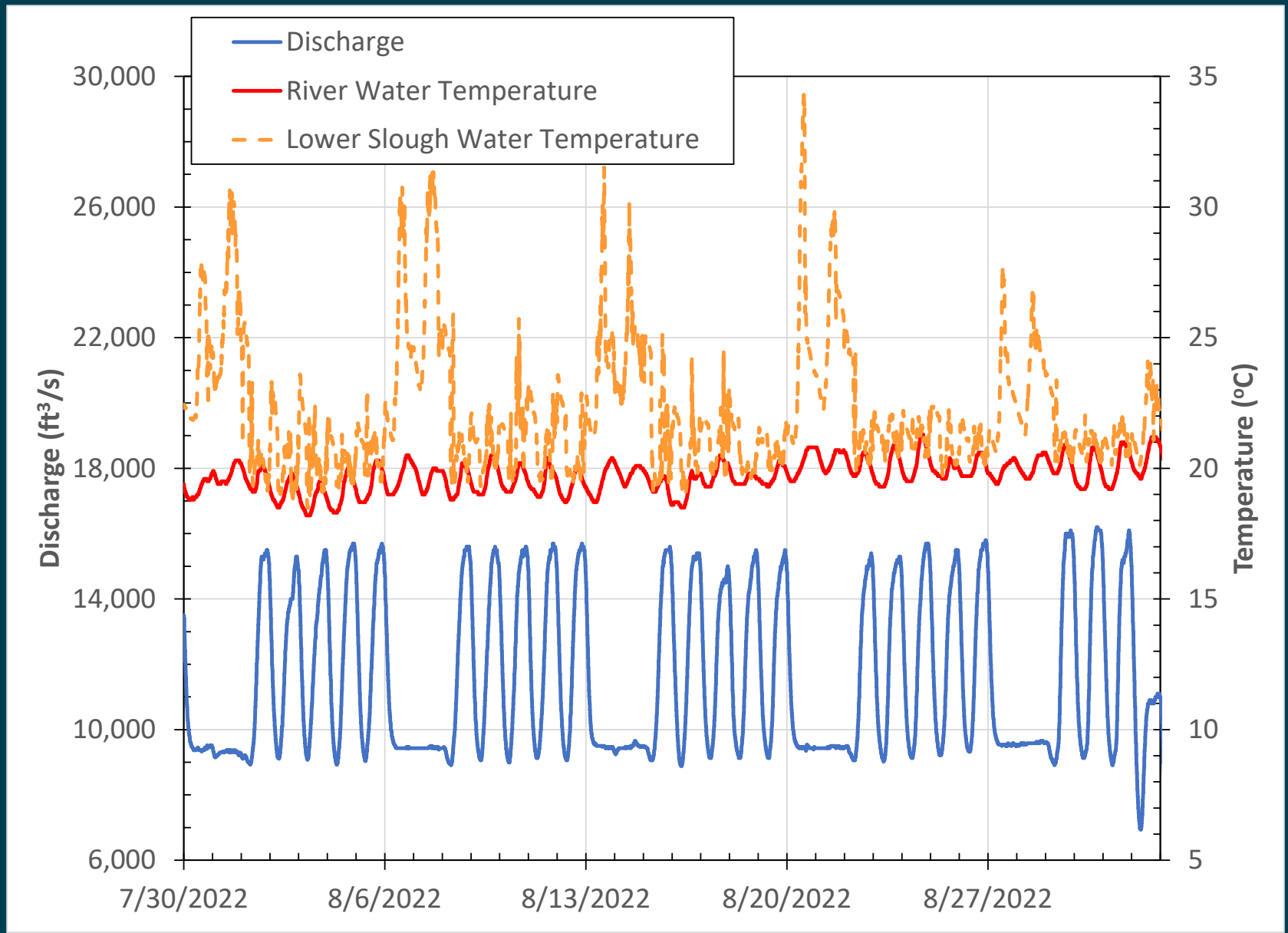
July & August 1987



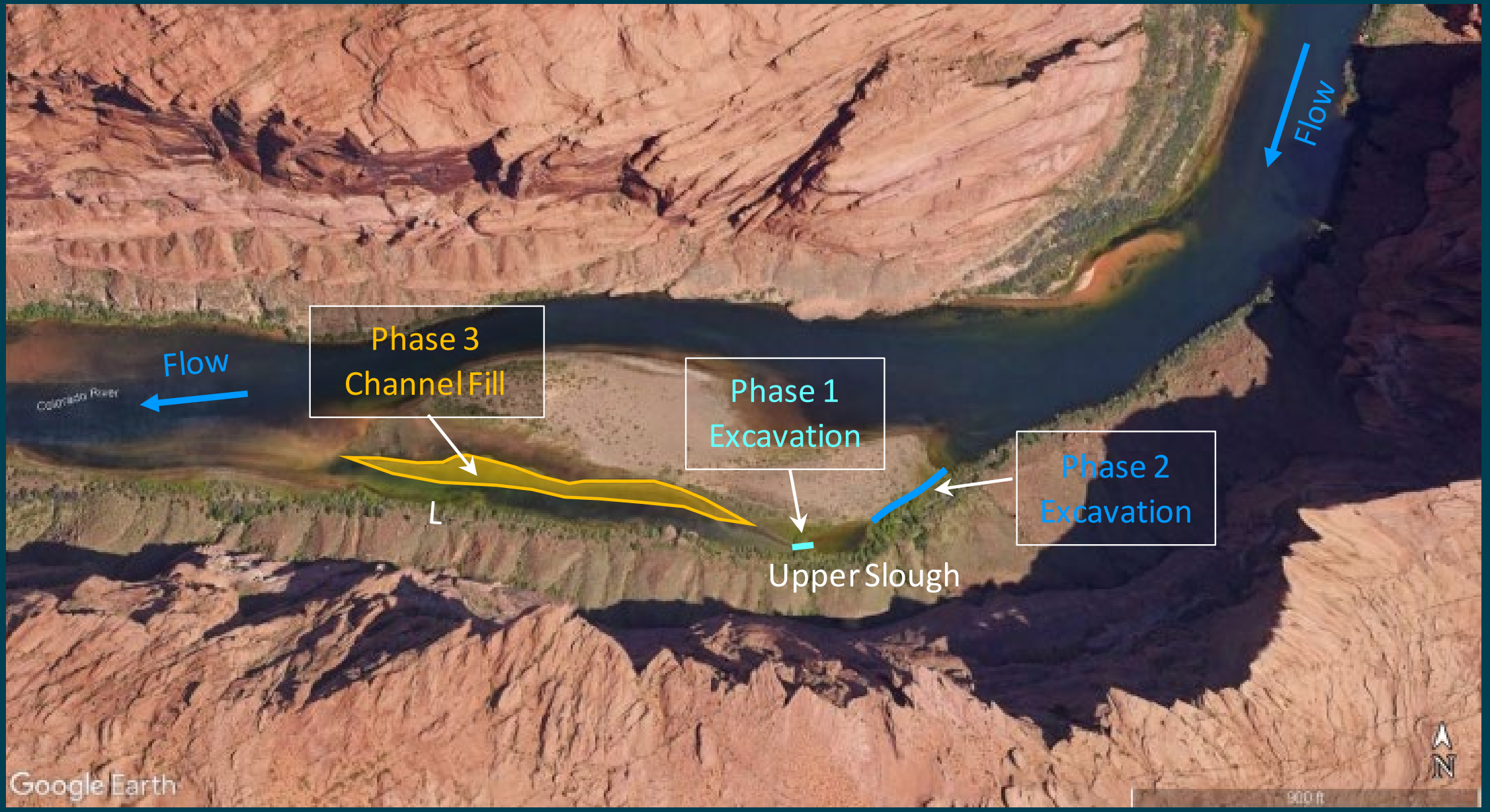
July & August 2022



Lower Slough Temperature Compared to Colorado River - Summer 2022



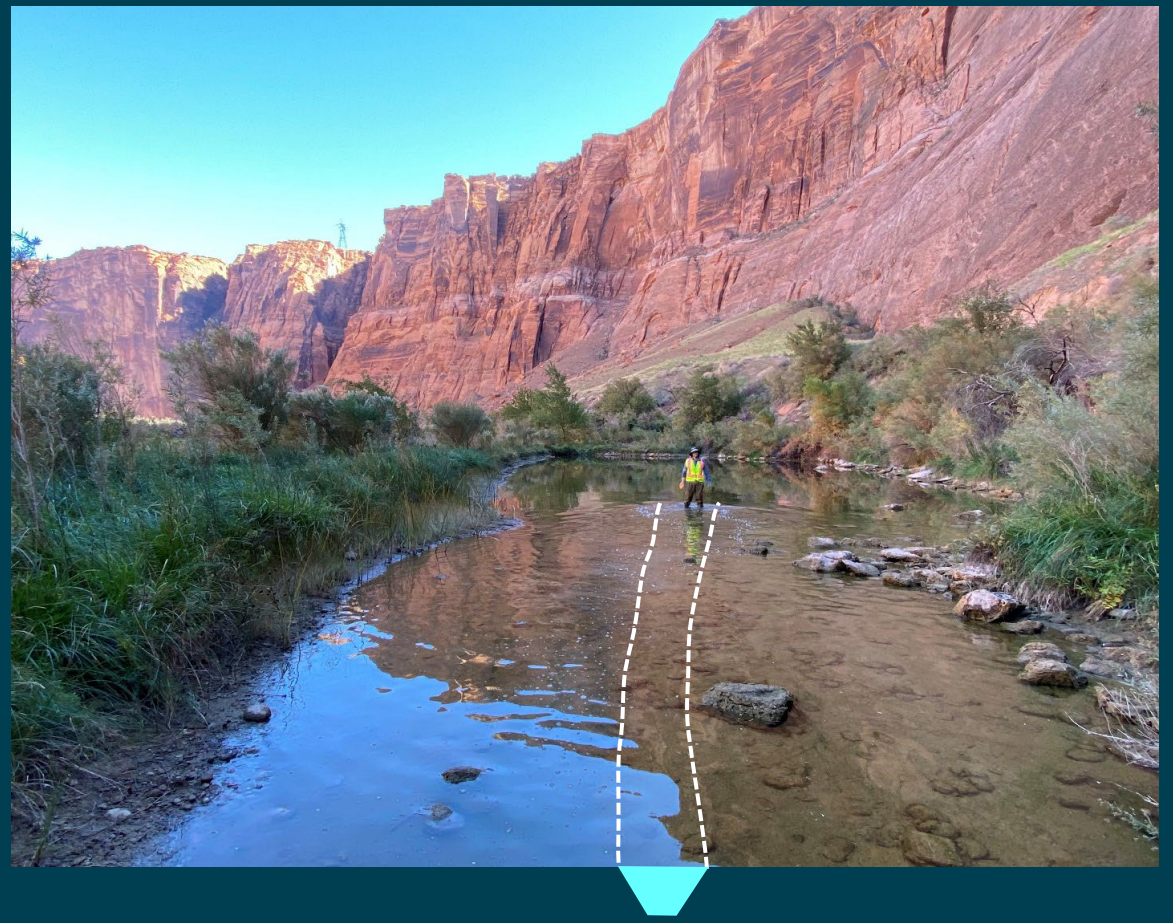
Proposed Slough Modifications



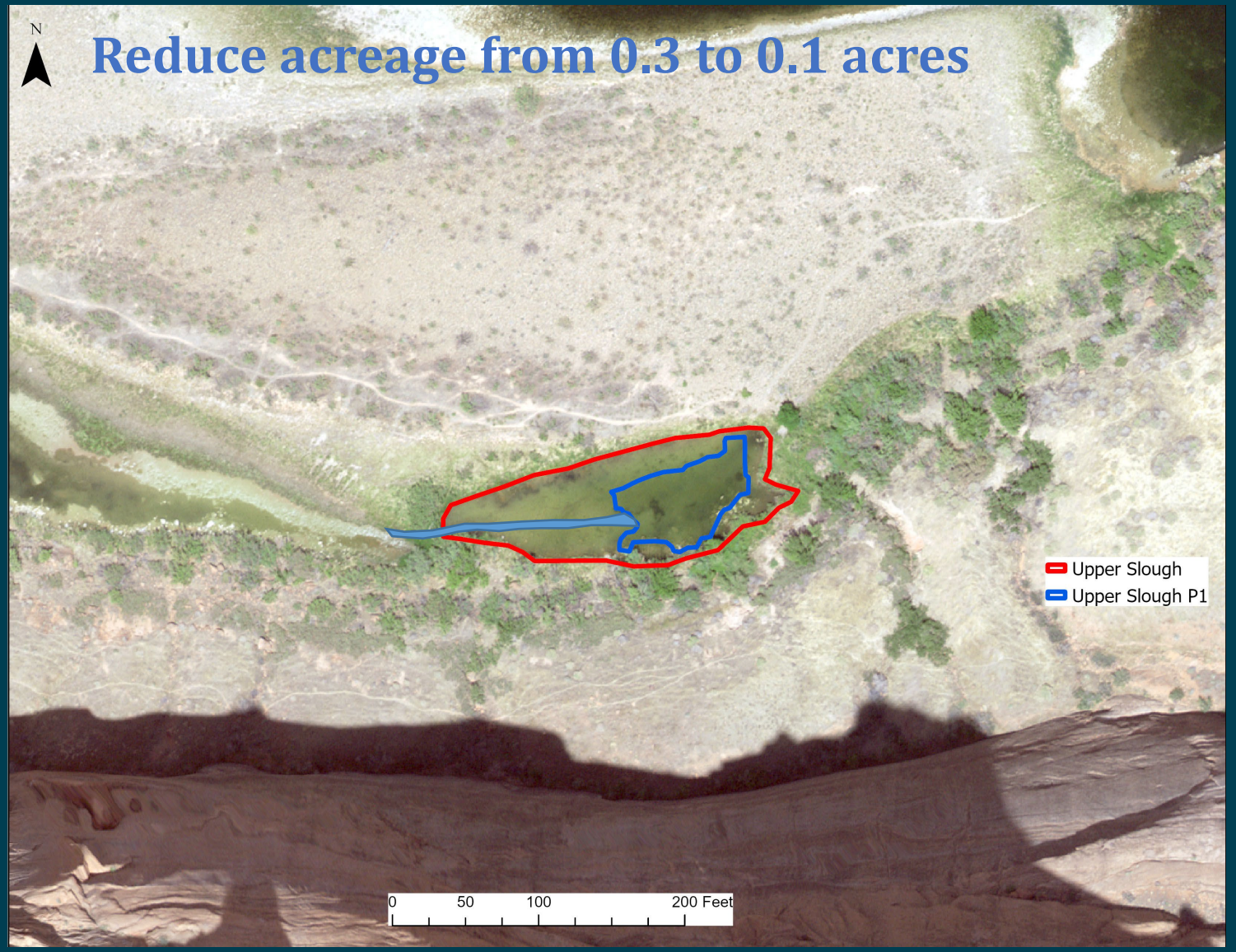
Phase 1: Partially Drain the Upper Slough

- Excavate a 2-ft wide channel (160 ft long) with manual labor using picks, shovels, and pry bars

- Excavate to a depth of 0.1-2.5 ft which results in 65 yd^3



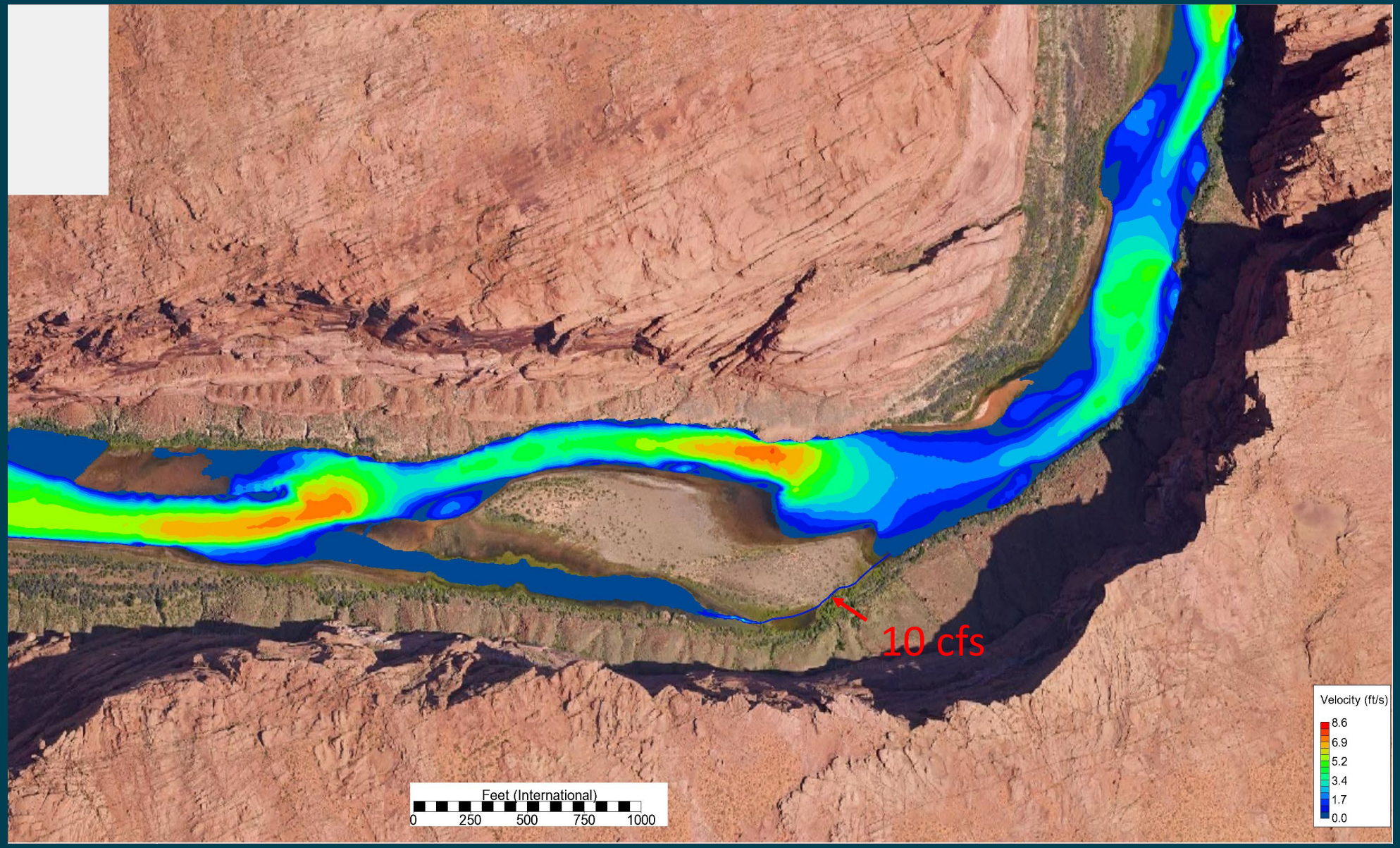
Phase 1: Partially Drain Slough



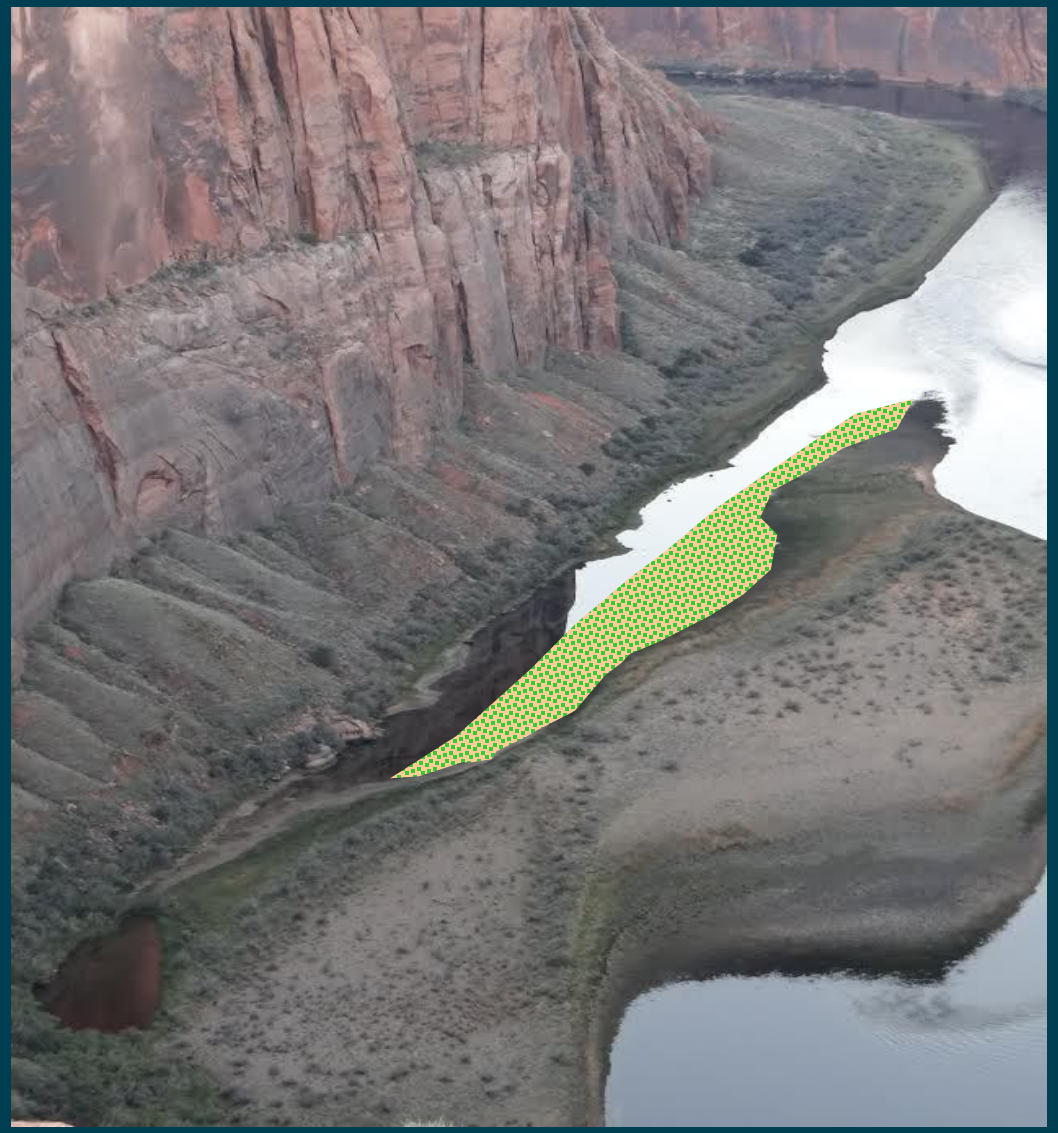
Phase 2: Excavate Side Channel to Connect Sloughs to River

- Excavate a lower side channel 730 ft long with small excavator
- Place 1300 yd^3 of excavated material (sand, gravel, cobble) in Upper Slough

Phase 2: Connect Sloughs to Colorado River at 8,000 cfs



Phase 3: Narrow Width of Lower Slough



- Narrow slough to width of 80 ft
- Place sand, gravel, and cobble along right bank of slough using small mechanized equipment
- Fill volume of 8500 yd^3 with depths of 2-3 ft

Proposed Excavation and Fill Areas for Phase 3

Implementation Requirements

Phase	Activity	Crew Size	Duration (days)	Cost
1	Use hand tools to connect Upper and Lower Sloughs	6	5	$
	Plant floodplain vegetation (*optional*)	6	2	$
	Mobilize small mechanical equipment		4	$$
2	Excavate channel to connect Upper Slough to Colorado River	4	7	$$
	Plant floodplain vegetation (*optional*)	6	5	$$
	Narrow Lower Slough with excavated material	4	30	$$
3	Plant floodplain vegetation (*optional*)	6	15	$$
	Demobilize equipment		4	$$

Summary

- This project could be implemented in phases or all at once.
- The purpose is to modify the habitat to allow water temperatures in the sloughs to approximate the river and increase velocity in the slough.
- Modifying the habitat is more sustainable than removing non-native fish annually.
- Habitat modifications are expected to be self-sustaining and require little, if any maintenance.

Questions?

https://www.usbr.gov/uc/progact/amp/amwg/2023-08-17-amwg-meeting/20230817-GlenCanyonSloughProposedModifications-508-UCRO.pdf

Thanks to Mike Sixta & Tim Randle from Reclamation's Technical Services Center for evaluating the sloughs!

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