Effectiveness of **eDNA monitoring** of fish in stressful water conditions.

Chinook Salmon and O. mykiss Populations during a Drought Summer in the Lower American River

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INTRODUCTION

During late summer of 2021 in the LAR, water temperature increased beyond the 21 °C threshold optimal for salmlonids. We used two methods to monitor for the species: eDNA and video.

QUESTIONS

1. Does eDNA methods detect Chinook and O.mykiss in the LAR?
2. Do we see them through video imaging?
3. Where are they?

METHODS

A. eDNA monitoring: 22 sites, 3 filters each site

B. Water quality measurements: temperature and dissolved oxygen (DO)

C. Underwater video imaging

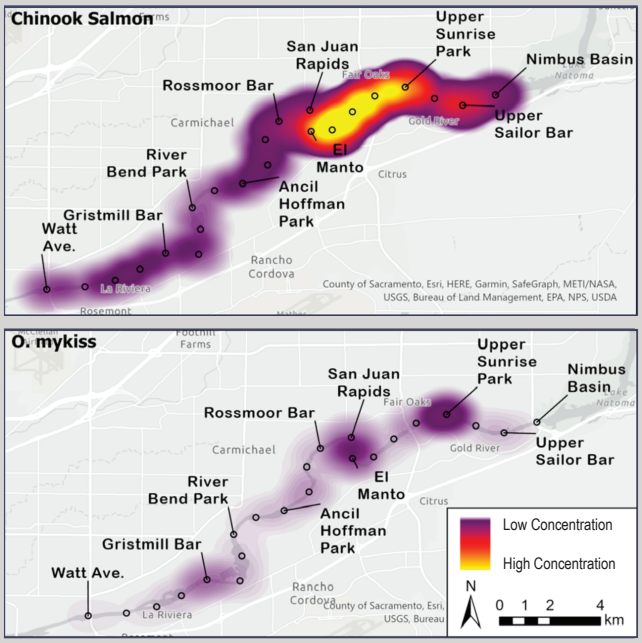
RESULTS

A. Chinook eDNA concentrations greater than O. mykiss

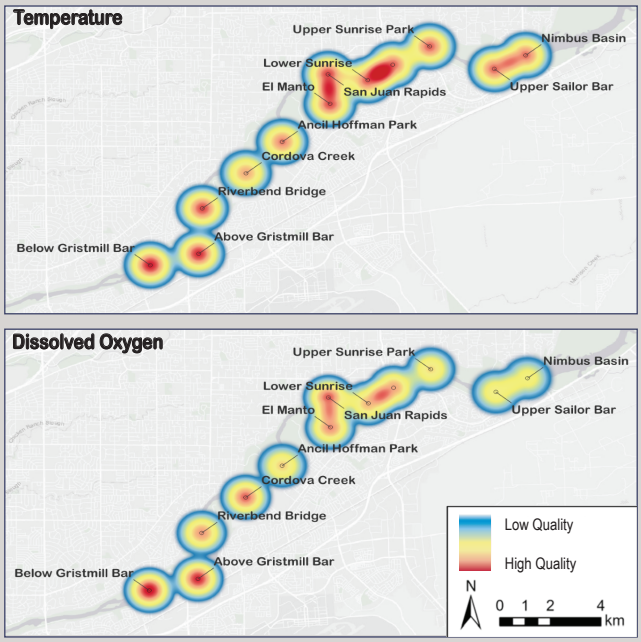
B. Temperature: 19.2 to 23.3 °C; DO: 5.5 to 10.2 mgl

C. Chinook observed at two locations , no O.mykiss observed

eDNA Concentration



Water Quality



NEXT STEPS? Continual monitoring of eDNA, temperature, and DO

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