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Study objective(s): Primary objective - Survival and movement rates of naturally spawned fall-run Chinook salmon in Putah Creek, as part of mitigation efforts by Solano County Water Agency.	
Study Timing: <ul style="list-style-type: none"> Study Duration (years): 2017 – present; funding secured annually Release Dates (range): February - June 	Study site(s): <ul style="list-style-type: none"> Collection site(s): Putah Creek Release location(s): Putah Creek
Fish	
<ul style="list-style-type: none"> Species-race: fall-run Chinook salmon Life stage: parr/smolt Source: Putah Creek 	Size (median & range): <ul style="list-style-type: none"> Weight (if applicable): 5.9 g; 6.0-11.3 g Length: 81 mm; 72 – 95 mm
Transmitter Information <ul style="list-style-type: none"> Type/model: ATS SS400 Weight (gm): 0.21 PRI/life of tag: 3 sec PRI/ ~48d 	Implant procedure <ul style="list-style-type: none"> Surgical placement of acoustic tag in peritoneal cavity of juvenile salmon. Incision closed using two sutures.
Telemetry Receivers: <ul style="list-style-type: none"> Receivers Maintained (type/model, number, & geographical extent): 9 Lotek receivers deployed throughout Putah Creek Receiver Deployment (e.g., year-round, study-based/seasonal – specific dates): Study-based deployment, installed April 20-22 and to be retrieved in late May or early June. Coordination with other studies/receivers needed? (Y/N, geographical extent): N Frequency of data download required: ~60-80 d after release (download in June) 	
Survival estimate (per species or objective) <ul style="list-style-type: none"> Type (project, etc.): TBD Value & SE: TBD Sample size/replicate: as of 5/9/2020 36 tagged individuals (tagging is ongoing) # replicates: 1 Analytical model: TBD 	
Hypothesis test and results (if applicable) <ul style="list-style-type: none"> H₀: N/A H_a: N/A Conclusion: Observational 	
Characteristics of estimate <ul style="list-style-type: none"> Effects reflected (direct, total, etc): TBD Absolute or relative: TBD 	
Environmental/operating conditions (if applicable) <ul style="list-style-type: none"> Relevant discharge indices: N/A Temperature: N/A TDG: N/A Treatment(s): TBD 	
Unique study characteristics: Telemetry in Putah Creek to date has been exploratory and observation based. This data is used to help inform water management in Putah Creek, determining the significance of timed water releases from	

dams upstream. Additionally, passage is impeded near the mouth of Putah Creek at the Los Rios Check Dam, where flashboards are removed and replaced periodically for a myriad of reasons (including agricultural needs and wildlife management requirements). Preliminary telemetry results indicate that under specific flow conditions, juvenile salmon may be able to pass over the check dam.

Sampling efforts for juvenile Chinook are influenced by water year and discharge events from the Berryessa Dam. In the past, spring sampling for out-migrating juveniles has been severely limited by high water levels and an inability to effectively operate a Rotary Screw Trap safely, therefore reaching a tagging target has been difficult. Monitoring in Putah Creek is expected to continue on an annual basis. This project provides researchers a unique opportunity to study the reestablishment of Chinook Salmon Central Valley as well as reconciliation ecology in a human-dominated ecosystem.

In conjunction with the salmon survival work this study also includes some opportunistic tagging of Sacramento pikeminnow.