

EATSM Release Summary Form

Study objective: Survival, route selection through the Delta, and movement rates of spring-run Chinook Salmon from the Restoration Area to the Ocean	
Study Timing: <ul style="list-style-type: none"> Study Duration: 3+ years Release Dates (range): 3/01-3/25; downstream release timed to movement of upstream release group 	Study site(s): <ul style="list-style-type: none"> Collection site(s): SCARF broodstock offspring Release location(s): With SJRRP Production fish in the Restoration Area, and at Durham Ferry in the Delta
Fish	
<ul style="list-style-type: none"> Species-race: spring-run Chinook salmon Life stage: smolt Source: hatchery 	Size (median & range): <ul style="list-style-type: none"> Weight 5.2 grams (4.1-10.7g) Fork Length: 78mm (56-98mm)
Transmitter Information <ul style="list-style-type: none"> Type/model: ATS SS400 single battery Weight (gm): .217 PRI/life of tag: 5 sec PRI 	Implant procedure <ul style="list-style-type: none"> Surgical placement of acoustic tag in peritoneal cavity of juvenile salmon. Incision closed using one sutures.
Telemetry Receivers: <ul style="list-style-type: none"> Receivers Maintained: ~60 Teknologic (and some ATS) receivers in the Restoration Area, Lower San Joaquin River, and Delta. Additional receivers deployed in Sacramento River/Delta/SF Bay by USGS and UCSC Receiver Deployment: Deployed prior to tagging (early-mid Feb.) and remain in place through the service life of the (Teknologic) receivers ~ mid-June Coordination with other studies/receivers needed? (Y): Frequency of data download required: Coordinated Acoustic Telemetry receivers. 	
Survival estimate (per species or objective) <ul style="list-style-type: none"> Type (project, etc.): UCD-DSP Value & SE: 0.02-0.05 (SE = 0.01) Sample size/replicate: 350, with a supplemental Delta release of 350 # replicates: 1 Analytical model: multinomial multi-state mark recapture <i>sensu</i> Buchanan et al. (2013, 2018) 	
Hypothesis test and results (if applicable) <ul style="list-style-type: none"> H₀: NA H_a: NA Conclusion: Observational. Potentially useful in near term synthesis project. 	
Characteristics of estimate <ul style="list-style-type: none"> Effects reflected (direct, total, etc): Evaluate survival in the Restoration Area, San Joaquin River, Delta and Estuary across multiple years. Associate movement and survival rates with flow, water disease and infection (paired UCD physiology study), temperature, pH, chlorophyll, nitrates, and other environmental characteristics (paired UCD FLAME study) in each region to evaluate their influence on smolt survival. Evaluate RT distribution through river, Delta, and presence/absence in South Delta Absolute or relative: absolute survival 	

Environmental/operating conditions (if applicable)
<ul style="list-style-type: none">•
Unique study characteristics: Relatively large sample size, generally understudied ESU, unique setting (Restoration Area and above major SJR tributaries), unique population reintroduced spring-run Chinook Salmon. Additional UCD studies including physiology, FLAMe, and multidimensional tracking and hydro-modeling at the HOR junction offer additional study components to investigate the drivers of movement, route selection, and survival of these fish.