

Juvenile Salmonid Survival and Migration in the San Joaquin River Restoration Area Spring 2013 Preliminary Results

Fisheries Technical Feedback Group
June 25, 2013
Sacramento Ca

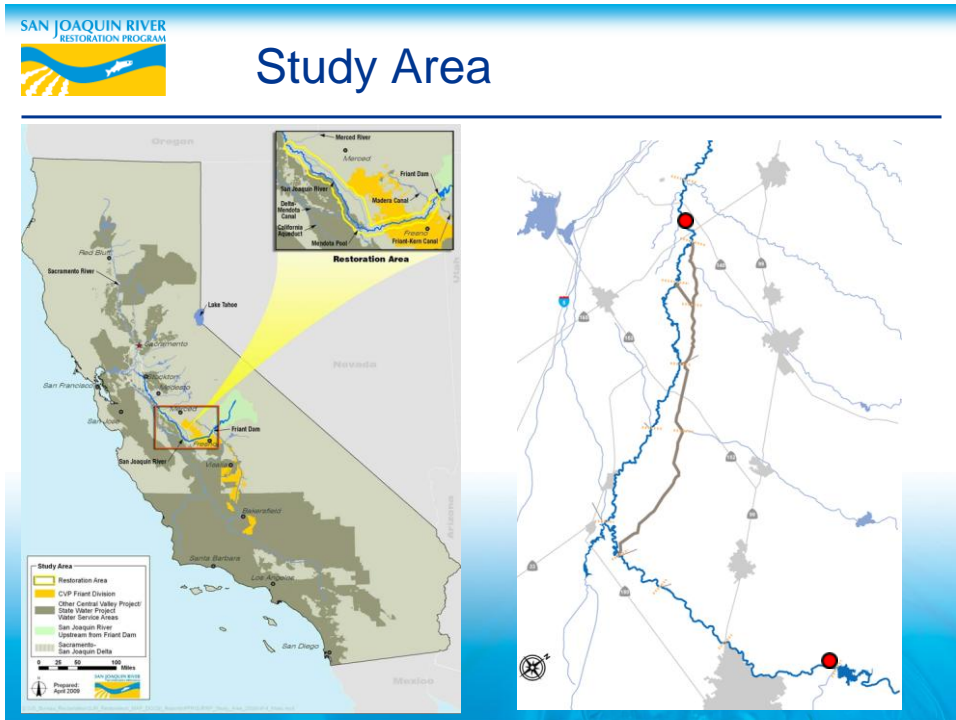
SAN JOAQUIN RIVER
RESTORATION PROGRAM



2013 Study Goals

- Assess survival and movement rates in Reach 1 and Reach 5 in an Critical High/Dry water year with no connectivity
- Mobile tracking
 - determine use of mine pit habitat and predator encounters
 - Determine if any holding behavior below Friant occurs with late season releases





SAN JOAQUIN RIVER RESTORATION PROGRAM

Methods

- **Source Fish**
 - 1750 Feather River Fall Run transferred to net pens on 3/20/13
 - CWT prior to transport
 - ~900 separated for PIT tags (sorted by size)
 - ~850 held for acoustic tags (sorted by size)
 - 2 groups of 1,000 fish (from streamside spawning) additionally CWT and held in net pens for pilot fish during releases
- **Tagging**
 - Fish Tagging trailer on the north side of Friant Dam for tagging and overnight holding



Methods

- Tag Life
 - 75 tags held for tag life assessment
 - These have started dying, as of June 17th only 7 had expired
- Stationary Receivers
 - 41 receivers from Friant to Mendota Pool; Reach 5 and at the downstream tributaries
 - Set in February
 - Downloaded in May
 - Will be downloaded in July
- Mobile Tracking
 - Conducted on May 6 and 7 immediately following last release
 - During Predator sampling in Reach 1 mine pit habitat



Methods

- 2013 Release Plans
 - One early paired release (Friant and Reach 5) in March
 - One late paired release (Friant and Reach 5) in April
- Actual 2013 Releases

Tag Date	Release Date	Release Location	Number of Tagged Fish	Number of Pilot Fish	Temperature	Flow
4/16/2013	4/17/2013	Below Friant	47	200	11.8C	1060 cfs
4/16/2013	4/17/2013	Below Hwy 165 (REACH 5)	47	200	16.7C	150 cfs (Fremont Ford)
4/23/2013	4/24/2013	Below Friant	200	400	10.4C	1060 cfs
4/24/2013	4/25/2013	Below Friant	100	400	9.9C	1060 cfs
4/29/2013	4/30/2013	Below Friant	121	300	10.3C	1060 cfs
4/30/2013	5/1/2013	Below Friant	121	300	10.2C	1060 cfs
5/6/2013	5/7/2013	Below Friant	75	225	10.2C	500 cfs
		Totals:	711	2025		



Preliminary Results

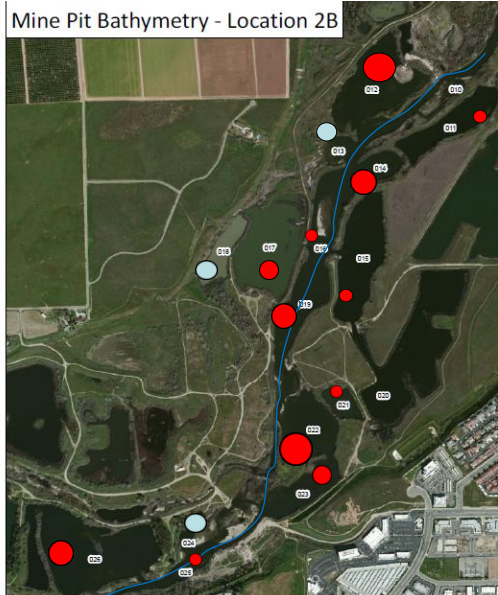
- Stationary Receivers
 - Downstream Reach Receivers Downloaded May 6, 13-14
 - Release site monitors picked up fish from 4/17-4/24
 - 43 out of 51 fish were detected at the first receivers
 - 13 fish from the Reach 5 release (n=47) were detected downstream of the Stanislaus River (our lowest receiver)
 - Upstream Reach Receivers Downloaded May 15-16
 - April 17 release Example –
 - 19 out of 46 fish detected below Friant all on release day
 - 10 detected to Hwy 99 between 4/19 and 5/8 (2-21 days)
 - Following releases to be reported as they are summarized.....



Preliminary Results

- Mobile Tracking
 - Occurred on 5/6-5/7, 5/21-24
5/29-31
- Results
 - Sycamore Island Example

Sycamore Island - May 7th		
Pit ID	# of Tags	temperature
12	30	18.1
13	0	16.3
11	1	21
14	13	17.6
18	0	22
17	10	20.3
15	5	20.3
20	1	20.8
16	1	16.6
19	27	16.8
22	30	17.2
above 22	6	16.8
21	6	20.5
23	18	17.7
24	0	18.6
25	2	18.1
26	35	17.5





Next Steps

- **Stationary Receivers**
 - Download receivers once tags have died
 - Summarize all data
 - Calculate Survival estimates for each release group
 - Calculate movement rate for each release group
 - Get receiver data from downstream (Delta) receivers
- **Mobile Tracking Data**
 - Conducting mobile tracking the last 2 weeks in June
 - Summarize all mobile tracking data
 - Make assessments about predation/mortality detections
- **Prepare Study Plan for 2014**
 - Comments/Suggestions