



Photo Credit: CDFW

# BUTTE CREEK

*Current and Historical Spring-run Chinook Salmon Monitoring*

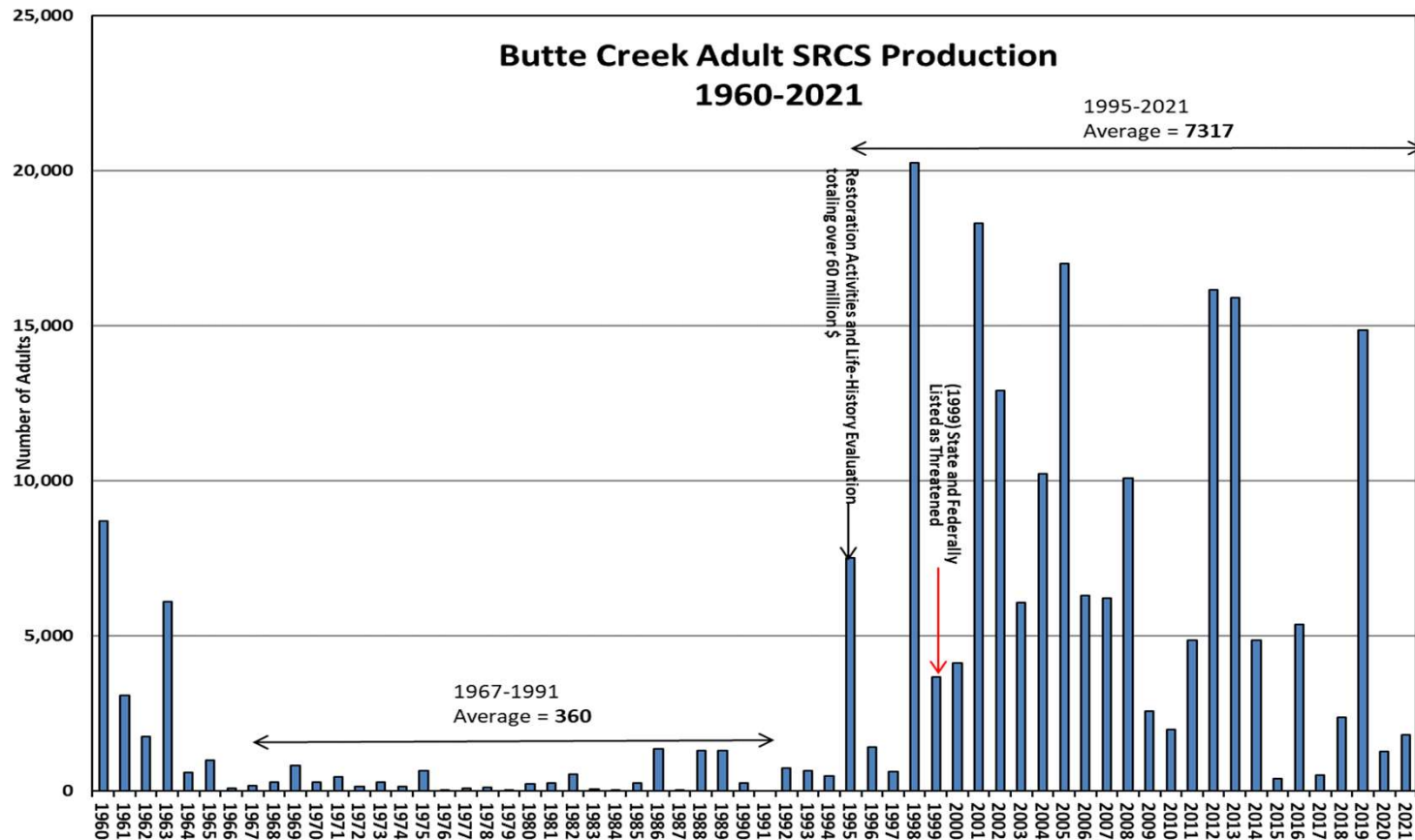
California Department of Fish and Wildlife  
North Central Region Chico Field Office  
Fisheries Program

# Butte Creek Restoration

- Restoration actions since 1995 approx. \$50 million.
- 5 dams removed
- 5 fish screens
- 11 fish ladders
- 5 water control structures
- 40 cfs of dedicated instream flow (Oct. 1-June 30)
- 10 real-time flow monitoring stations



# Historic Butte Creek Escapement





# Adult Spring-run Chinook Monitoring

- Vaki Passage Monitoring
  - January to July
  - Durham Mutual Dam Fish Ladder
- Pre-Spawn Mortality Survey
  - June to mid September
  - Quartz Bowl Pool to Parrot Phelan Diversion Dam
- Holding Snorkel Survey
  - July
  - Same reaches as pre-spawn mortality survey
- Post-spawn Carcass Survey
  - Mid September through October
  - Same reaches as pre-spawn mortality survey

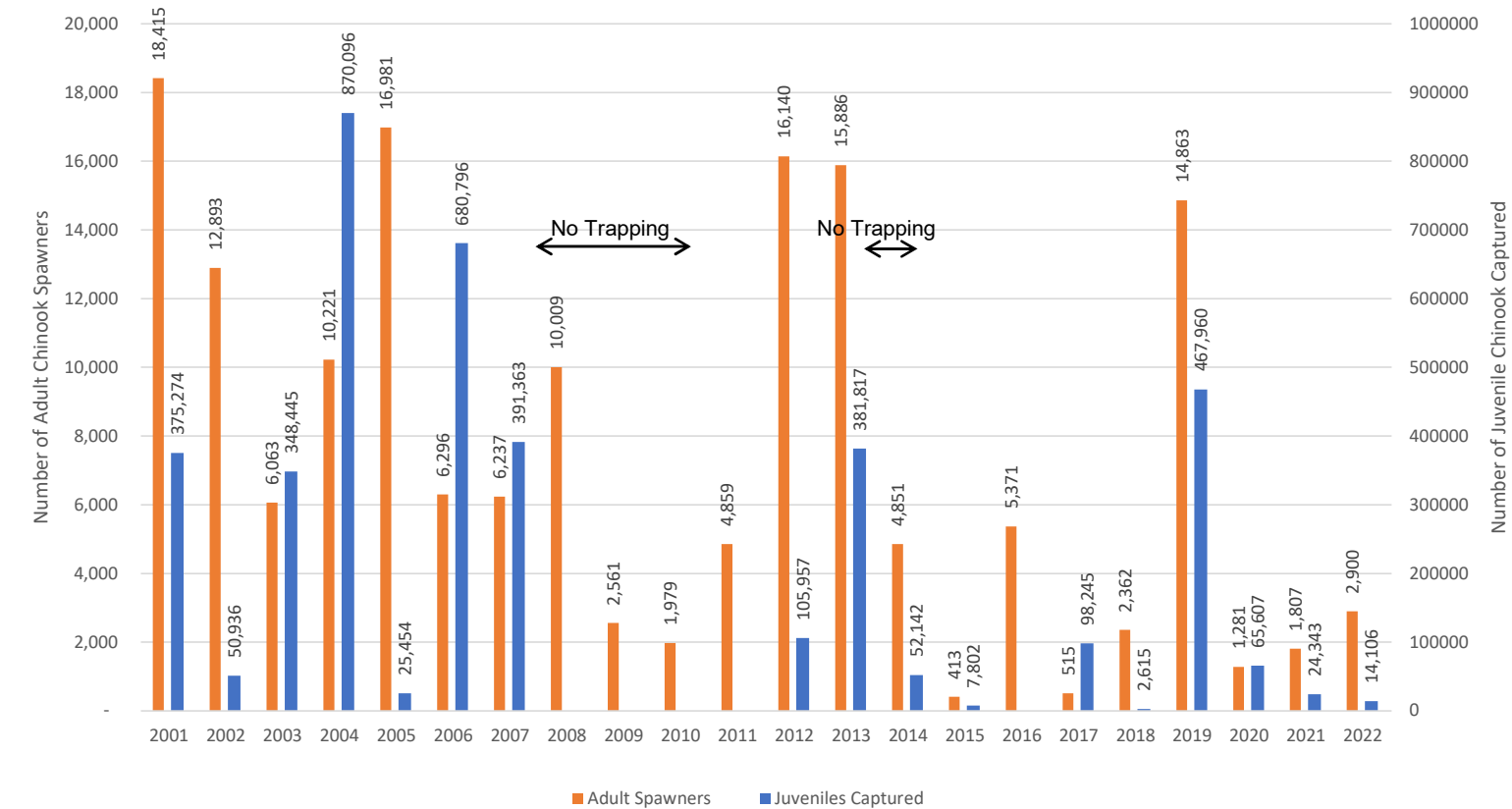


# Juvenile Spring-run Chinook Monitoring

- Juvenile emigration monitoring at Parrott-Phelan Diversion Dam (October-June)
  - Rotary Screw Trap (RST)
    - Pulled at ~ 1500 CF
  - Diversion Trap
    - Pulled during periods of high debris



# Adult and Juvenile Monitoring (2001-2022)



CDFW Monitoring Data

# Acoustic Tagging – Juvenile Spring-Run Survival and Routing Study

- Total of 287 juveniles tagged in 2023 in collaboration with NOAA Fisheries
  - 95 tagged in the Sutter Bypass
  - 192 tagged in the Butte Sink
    - 3 release sites
      - Sanborn Slough (East)
      - North Weir (Central)
      - Butte Creek (West)

3.3 Minimum survival to Benicia Bridge East Span (using CJS survival model), and travel time

Release	Survival (%)	SE	95% lower C.I.	95% upper C.I.	Detection efficiency (%)	Mean time to Benicia (days)	SD of time to Benicia (days)	Count
ALL	28.7	2.7	23.8	34.3	95.8	8.3	2.6	82
Butte sink central route - Week 1	40.2	8.3	25.5	57.1	NA	9.0	2.9	14
Butte sink central route - Week 2	10.0	5.5	3.3	26.8	NA	7.6	0.6	3
Butte sink east route - Week 1	53.6	9.2	36.0	70.4	NA	7.1	2.1	16
Butte sink east route - Week 2	23.5	7.8	11.6	41.7	NA	8.0	0.9	7
Butte sink west route - Week 1	14.0	5.8	5.9	29.6	NA	11.1	3.3	5
Butte sink west route - Week 2	0.0	NA	NA	NA	NA	NA	NA	NA
Sutter Bypass	39.1	5.0	29.8	49.3	NA	8.3	2.6	37



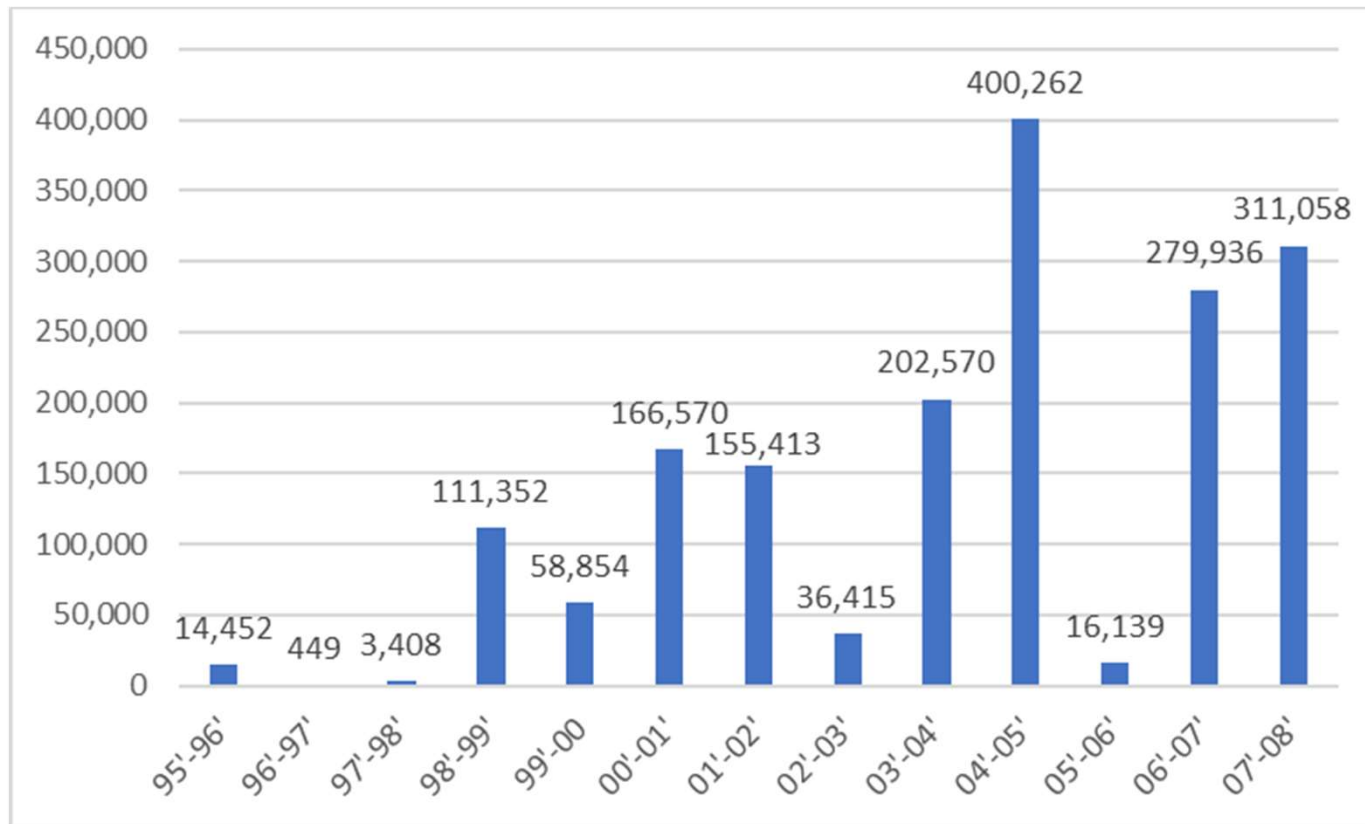
# Coded-Wire Tagging Program (1995-2008)

- Tagged Juvenile SRCS 1995-2008 (PPDD)
- RST(s) in Sutter Bypass 1995-2004
- Delta Recoveries 1995-2008
- Ocean Data 1995-2012
- Inland Carcass Surveys 1998-Present

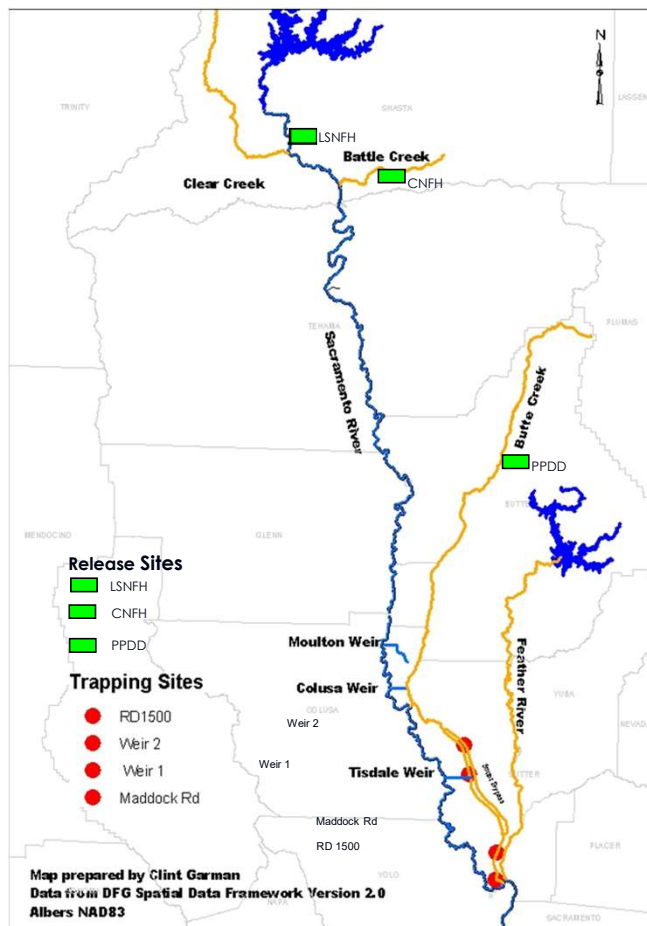




# Total CWT Juvenile Salmon – 1,756,878



# Sutter Bypass CWT Recoveries



## 1120 Total Juveniles Sampled

877 Butte Creek - SR

119 CNFH - LFR

81 CNFH - FR

43 LSNFH - WR

# Emigration Timing – Chico to Sutter Bypass



Season	Average Days at Large	Min/Max Days at Large
1995-1996	68	37 – 95
1996-1997	not calculated	
1997-1998	66	40 – 80
1998-1999	55	1 – 125
1999-2000	69	27-111
2000-2001	67	11 – 91
2001-2002	51	6 - 99
2002-2003	55	33 - 74
2003-2004	47	3 - 90

# Delta CWT Recoveries



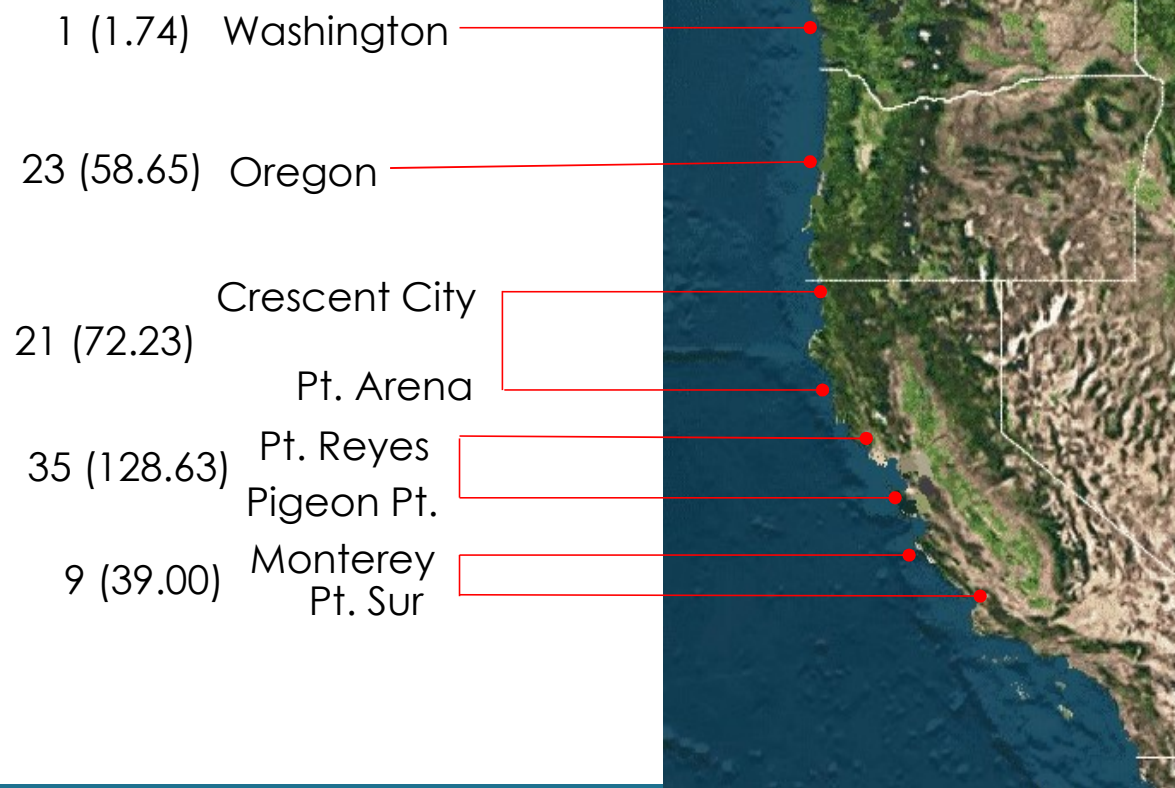
Skinner Delta Fish Protective Facility  
in Byron, California

Photo provided by  
California Department of Water Resources

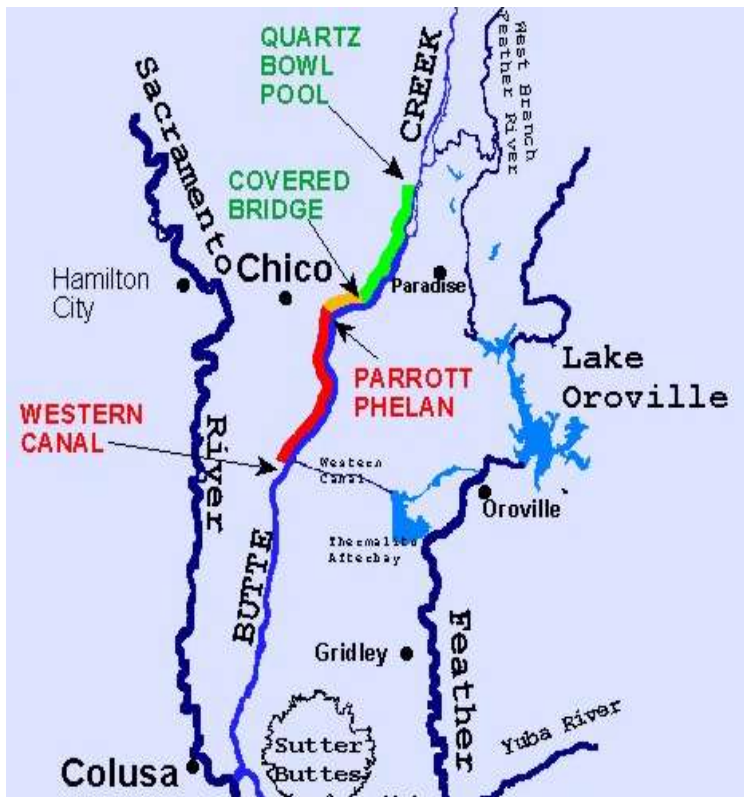




# CWT Ocean Recoveries – 89 (300.25)



# Inland Adult CWT Recoveries



## **Spring-run Spawning**

262 CWT Recoveries

ALL Butte Spring-Run

187 - 3 yr old

66 - 4 yr old

2 - 2 yr old

7 - No data



## **Fall-run Spawning**

192 CWT Recoveries

ALL Out-Of-Basin

87 FRH

66 MERCED

31 MOKELUMNE

7 AMERICAN

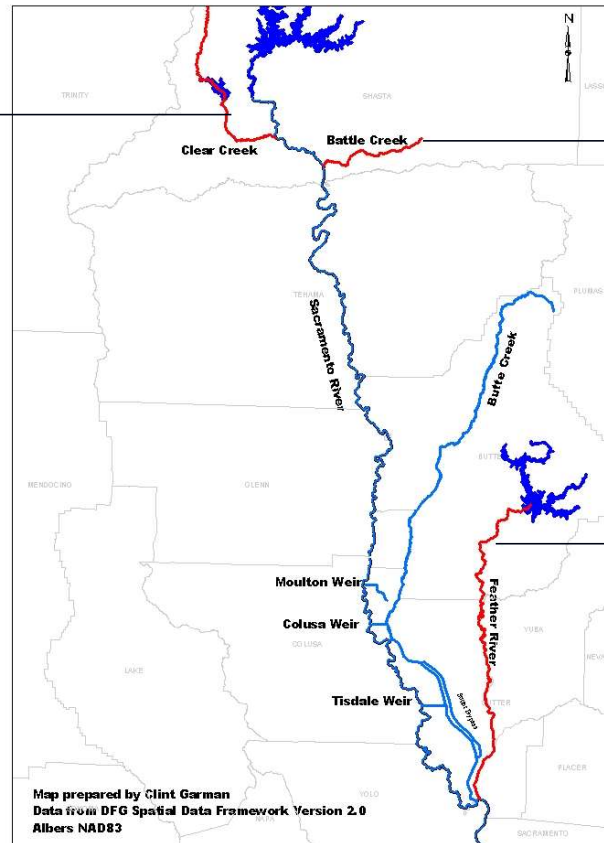
1 CNFH

# Butte Creek CWT Stray Recoveries

## 2 Clear Creek

3 yr old - BY 00 (10/03)

2 yr old - BY 02 (10/04)



## 1 Battle Creek

3 yr old - BY 01 (4/04)

## 1 Feather River

4 yr old - BY 98 (10/02)

\*tagged as yearling





# Questions?