

**DEVELOPMENT OF A  
COORDINATED  
MARKING/TAGGING PROGRAM FOR  
HATCHERY-REARED CENTRAL  
VALLEY CHINOOK**

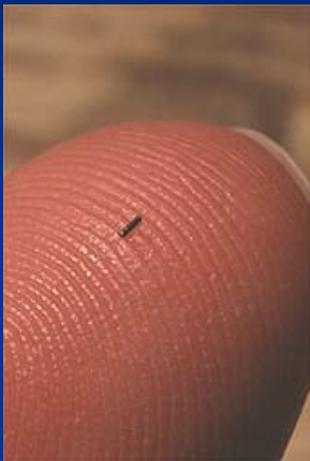
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# WHY USE CWT's ?



- CWTs first introduced in late 1960's
- Large scale marking/recovery programs developed by 5 West Coast state/provincial fishery agencies in 1970's
- Now release 50 million CWTs annually - 1,600 individual tag codes

# PACIFIC SALMON TREATY



## U.S./CANADA (1985)



- Prevent over-fishing and provide for optimum production, and
- Ensure that both countries receive benefits equal to the production of salmon originating in their waters.
- Agreement to maintain a West Coast-wide coded-wire tagging and recapture program



# **PACIFIC STATES MARINE FISHERIES COMMISSION REGIONAL MARK PROCESSING CENTER**

- Established in 1977
- Coordinates regional salmon marking/tagging
- Designated in PST as single site to maintain coastwide CWT database
- Assists the Mark Committee



**CWT is primary tool used to estimate and monitor fishery impacts coastwide on individual stocks:**

- Consistent coastwide sampling program since mid-70s to recover CWT fish in ocean fisheries (20%)
- Development of CWT tagged “indicator” stocks

# ADDITIONAL USES OF CWT DATA

## ■ Management Evaluations

- Stock distribution, run reconstruction (population modeling), survival trends

## ■ Hatchery/Wild Evaluations

- Straying rates, hatchery contribution rates, genetic and ecological effects on wild populations

## ■ Hatchery Evaluations

- Time, location of release, rearing studies

## ■ Habitat Improvement Evaluations

- Natural production rates

# CENTRAL VALLEY HATCHERY MARKING PROGRAM

- Over 30 Million fall-run Chinook produced/year at five CV hatcheries
- Currently, only experimental releases marked/CWT'd (low, variable number)
- Need consistent marking program for production releases for improved management
- Must be coordinated and consistent with coastwide marking programs

# HISTORY OF CV CONSTANT FRACTIONAL MARKING PROGRAM

- 1998 – CALFED, CVPIA funded modeling
- 2000/2001 - CFM pilot program
  - 5.3 million fish tagged
- 2004 - Implementation Plan submitted to CVSPWT
- 2005 – Program and budget in CALFED ERP Workplan (25% rate)

# SELECTION OF MARKING/TAGGING RATE (25 %)

- Implementation Plan (2004)
- Coordination with:
  - Ken Johnson – PSMFC Mark Committee Chair
  - Pat Patillo – WDFW
  - Gary Sherman – WDFW

# WHY NOT MASS MARK (AD CLIP) ALL HATCHERY FISH ?

- Would require electronic detection of CWT's at all recovery points
- Not needed to make statistically-valid estimates of hatchery/wild contribution rates
- Marking/tagging costs higher –
  - \$ 600,000/yr. additional marking/tagging cost
  - \$ 1.5 million/yr. additional recovery costs
- Needed only for selective ocean harvest of Chinook
  - PFMC currently not permitting mark-selective fisheries for Chinook in areas where mixed stock fisheries occur

# MARKING/TAGGING PROGRAM IMPLEMENTATION



# PROJECT TIMELINE

- 2005
  - Aug/Sept – Coordination meetings with USFWS/CDFG hatchery managers
  - October - Begin contracting process
- 2006
  - Jan – NMT begins trailer builds
  - Mar – Hire Program Coordinator
  - Dec – Trailer deliveries
- 2007
  - Feb – Hire Operators and Assistants
  - Mar/Apr – Production Marking/Tagging