

# Bay-Delta: Pelagic Organism Decline

July 17, 2007

Informational Update To State  
Water Resources Control Board

# What We Know

- Summary of decline
- Three factors
- Critical year for smelt
- Actions proposed by parties
- State Water Board actions taken in response to decline

# Summary Of Actions Proposed By Various Parties

- Do nothing more
- Flow manipulations
- Address toxicity
- Fish screens
- Smelt refuge

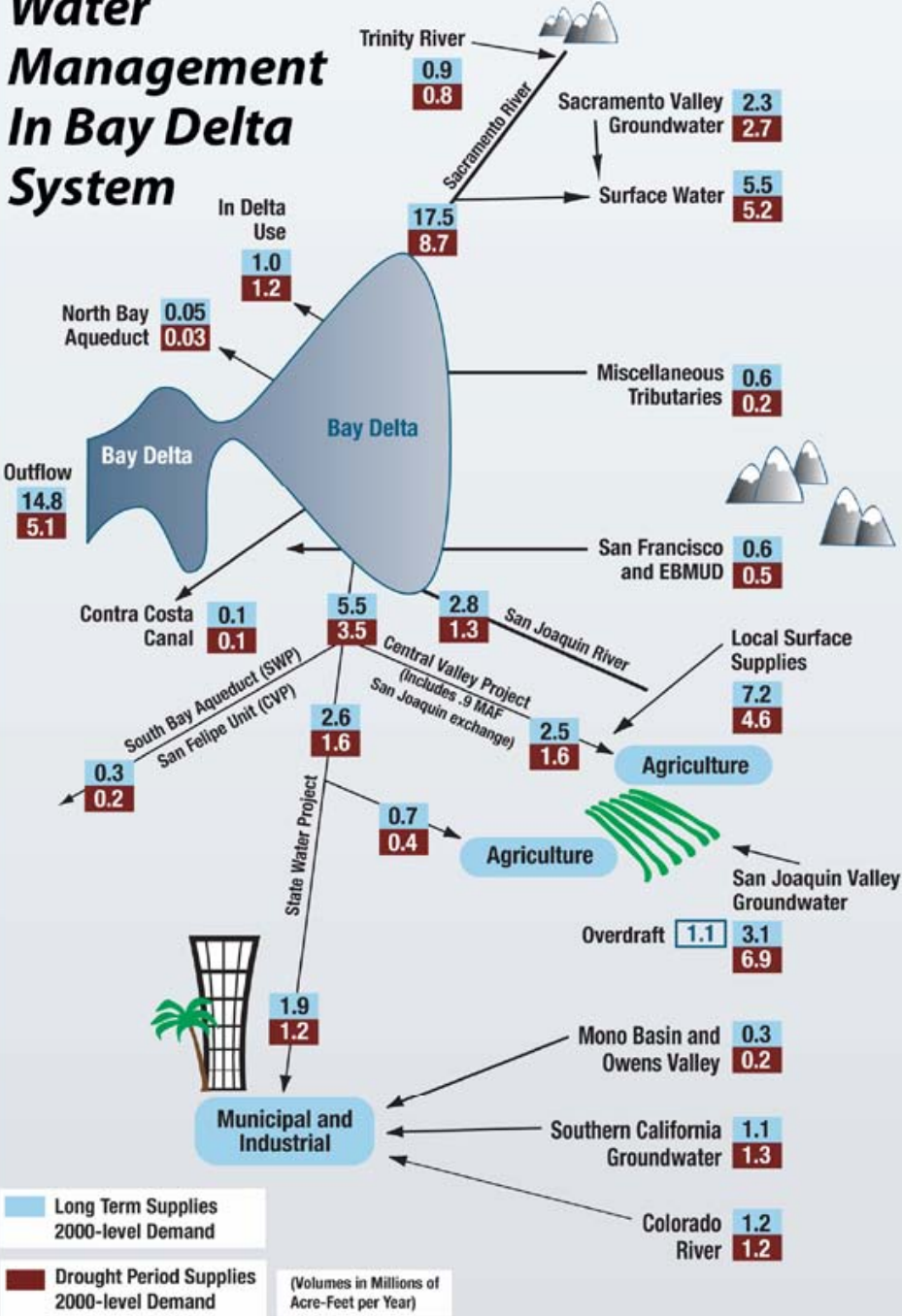
# What We Don't Know

- Cause and effect
- Delta smelt response to past or future actions

# What We Think We Know

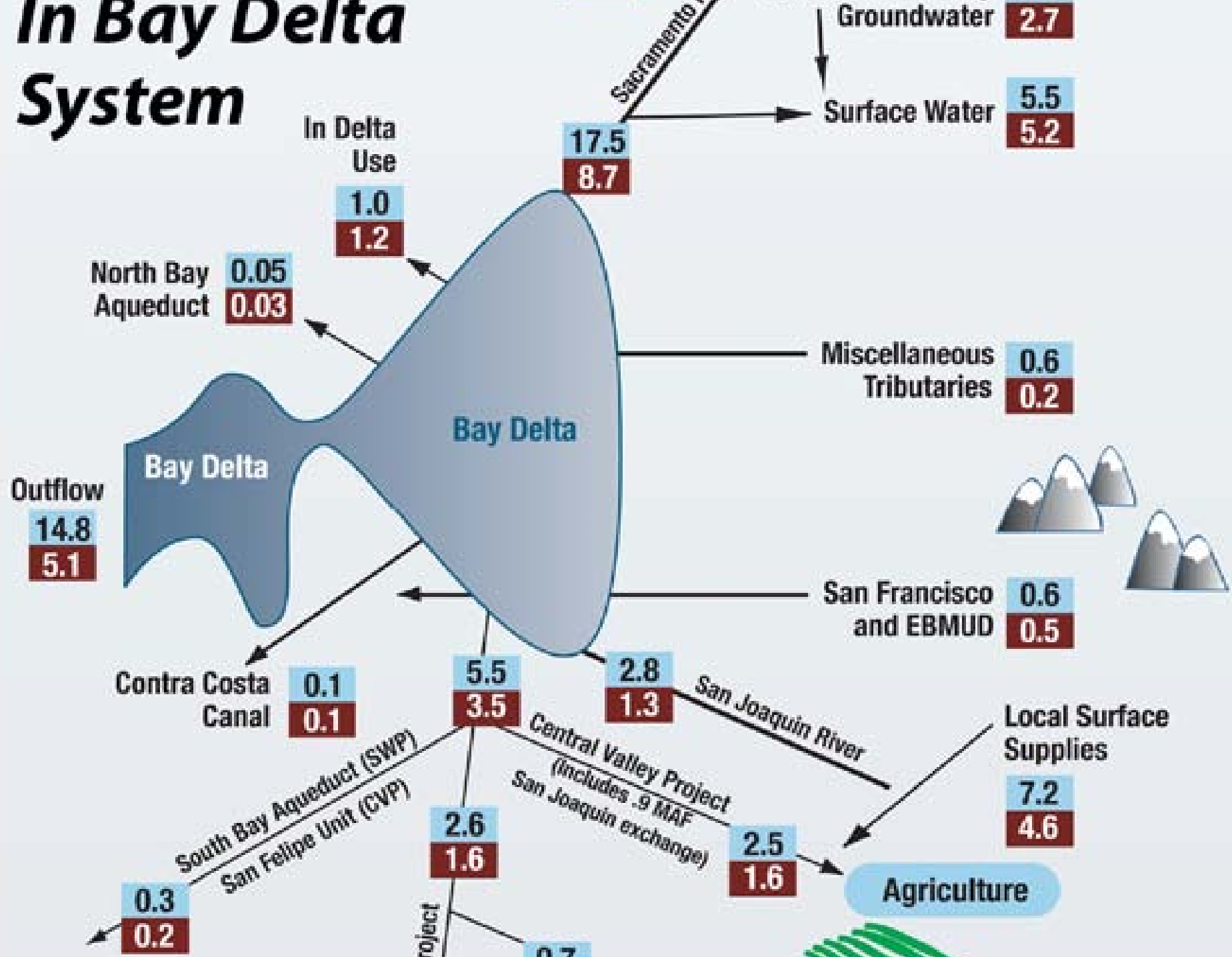
- No apparent *major* link to toxicity
- Decline has accompanied increases and changes in timing of project diversions
- Existing invasive species are a key factor
- Major flow paths

# Water Management In Bay Delta System

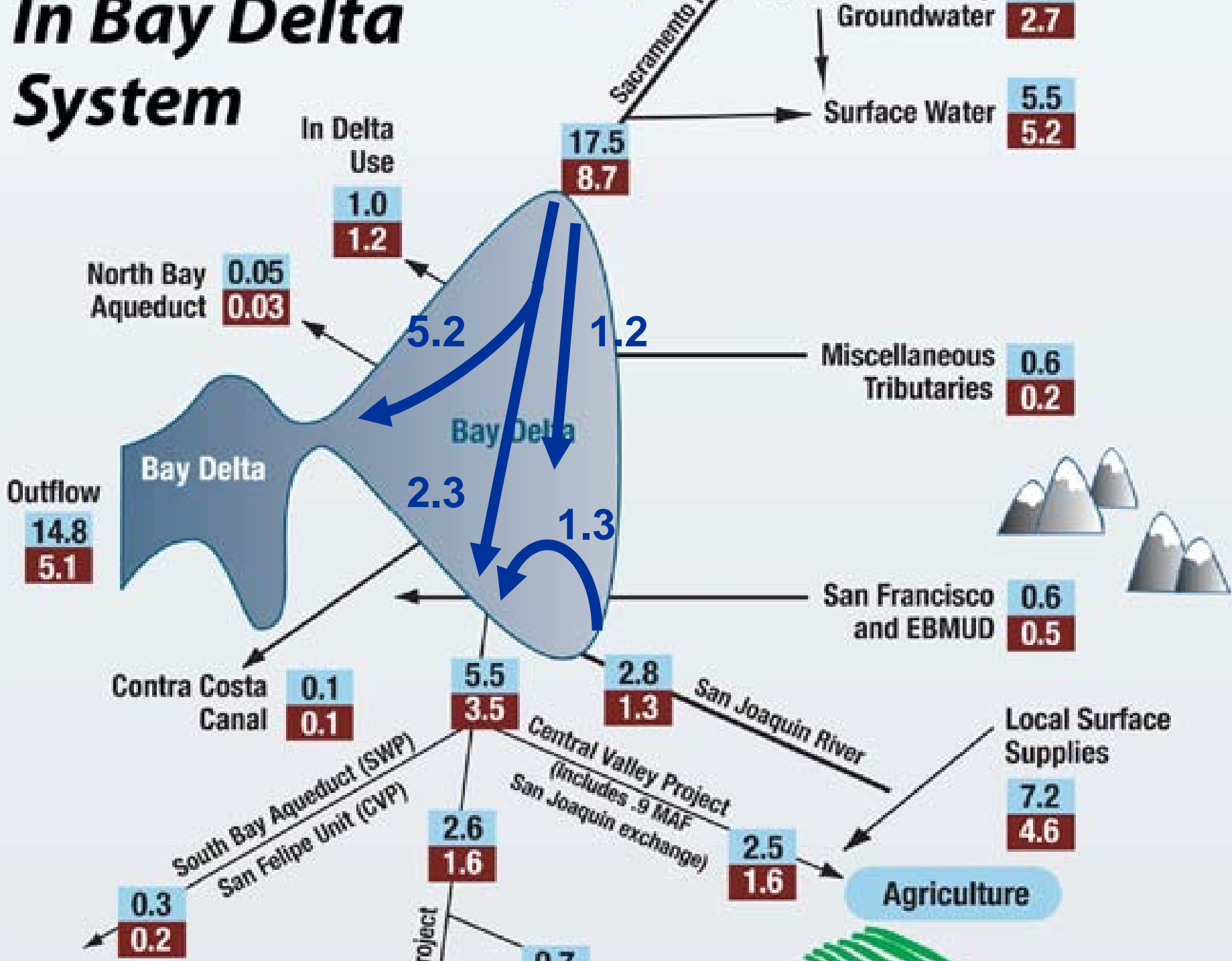


- Resources Agency October 2005 Delta Smelt Action Plan

# In Bay Delta System



# In Bay Delta System





# State Water Board Actions Past And On-going

- Pesticide control programs (TMDLs)
- Limits on point source discharges
- Bay-Delta water quality control planning

# Past And On-going Actions Pesticide Control Programs (TMDLs)

- Sacramento River, San Joaquin River and Delta TMDLs
- Irrigated Lands Program
- Protect aquatic life from pesticide runoff
- On-going monitoring to identify problem areas

# Past And On-going Actions Limits On Point Source Discharges

- More stringent standards over last decade
- Consider toxicity, dissolved oxygen, endangered species
- Major upgrades: tertiary filtration, nitrification
- WWTPs: Lodi, Stockton, Manteca, Tracy, Mountain House

# Past And On-going Actions

## Bay-Delta Water Quality Control Planning

- Updated Water Quality Control Plan:
  - Adopted December 2006
  - OAL approval July 2007
- Emerging Issues: POD, climate change, salinity, San Joaquin River flows

# State Water Board Actions

## Current

- Rapid response to and evaluation of pesticide toxicity and salmon mortality
- Immediate response and approval of a temporary urgency change petition
- Delta smelt refuge
- Letter to Delta water right holders

# Current Actions

## Evaluation Of Pesticide Toxicity And Salmon Mortality

- Pesticide toxicity:
  - Review UCD samples
  - POD contaminants work team
  - Synthesis of many programs
  - widespread water column toxicity from pyrethroids unlikely

# Current Actions

## Temporary Urgency Change Petition

- June 8 Merced Irrigation District request
- Provide additional San Joaquin River flow:
  - 15,000 acre-feet at 850 cfs
- Helped to maintain net positive flow on Old and Middle Rivers
- Approved June 8

# Current Actions

## Delta Smelt Refuge

- Fish Conservation and Culture Lab (FCCL) at Byron
- FCCL has 1000 wild delta smelt
- No new wild smelt can be caught
- UCD, FWS, and DWR joint refuge proposal by August 8: startup funds needed by Fall



# Current Actions

## Letter to Delta water right holders

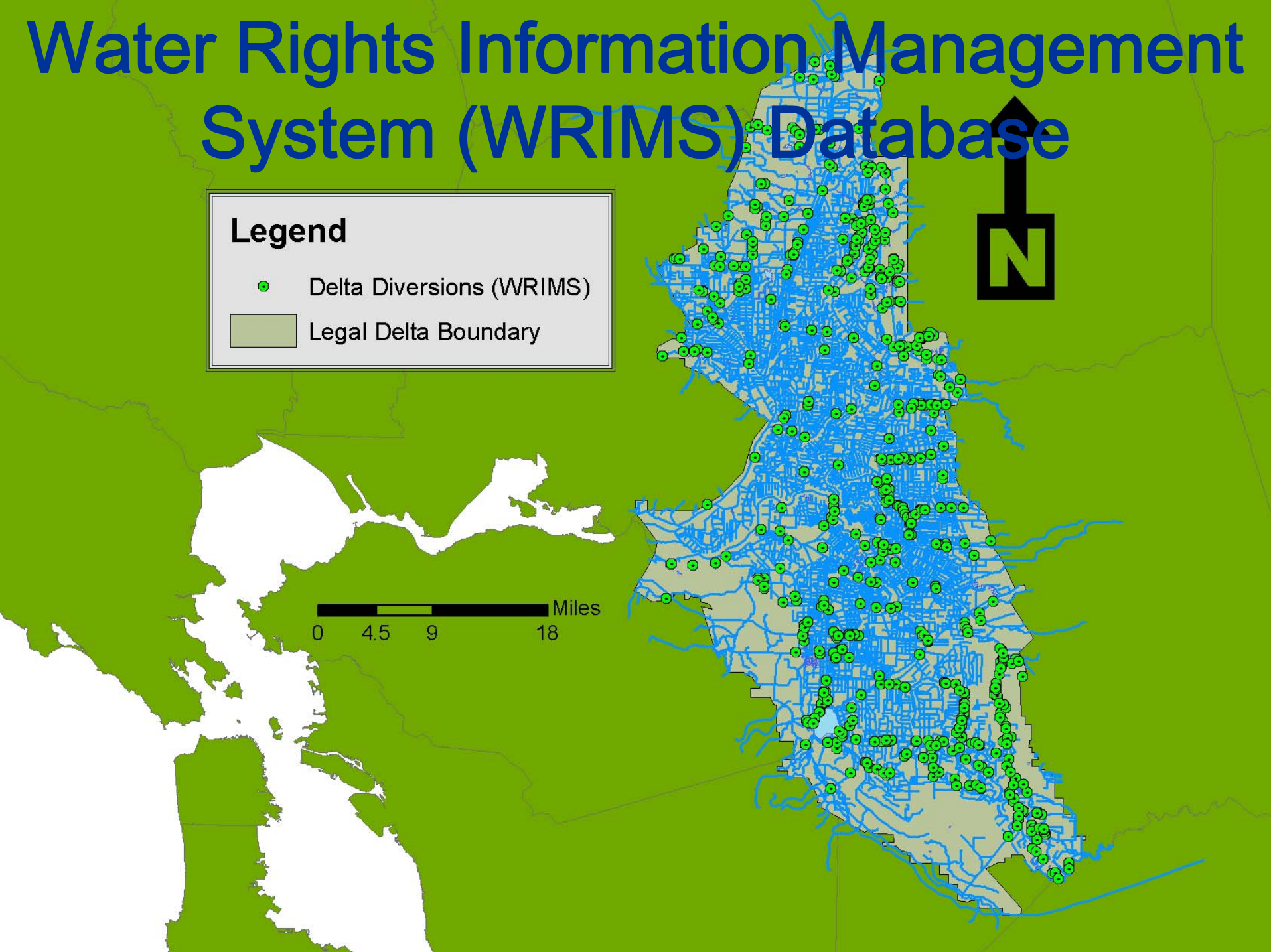
- Request for information to approximately 600 water right holders:
  - Diversion amount
  - Changes in response to DFG letter?
  - Screened?
  - Measuring device?

# Water Rights Information Management System (WRIMS) Database

## Legend

- Delta Diversions (WRIMS)
- Legal Delta Boundary

0 4.5 9 18 Miles



# Department of Fish and Game Survey

## Legend

- D.F.G. Survey (1993-2005)
- Legal Delta Boundary

0 4.5 9 18 Miles



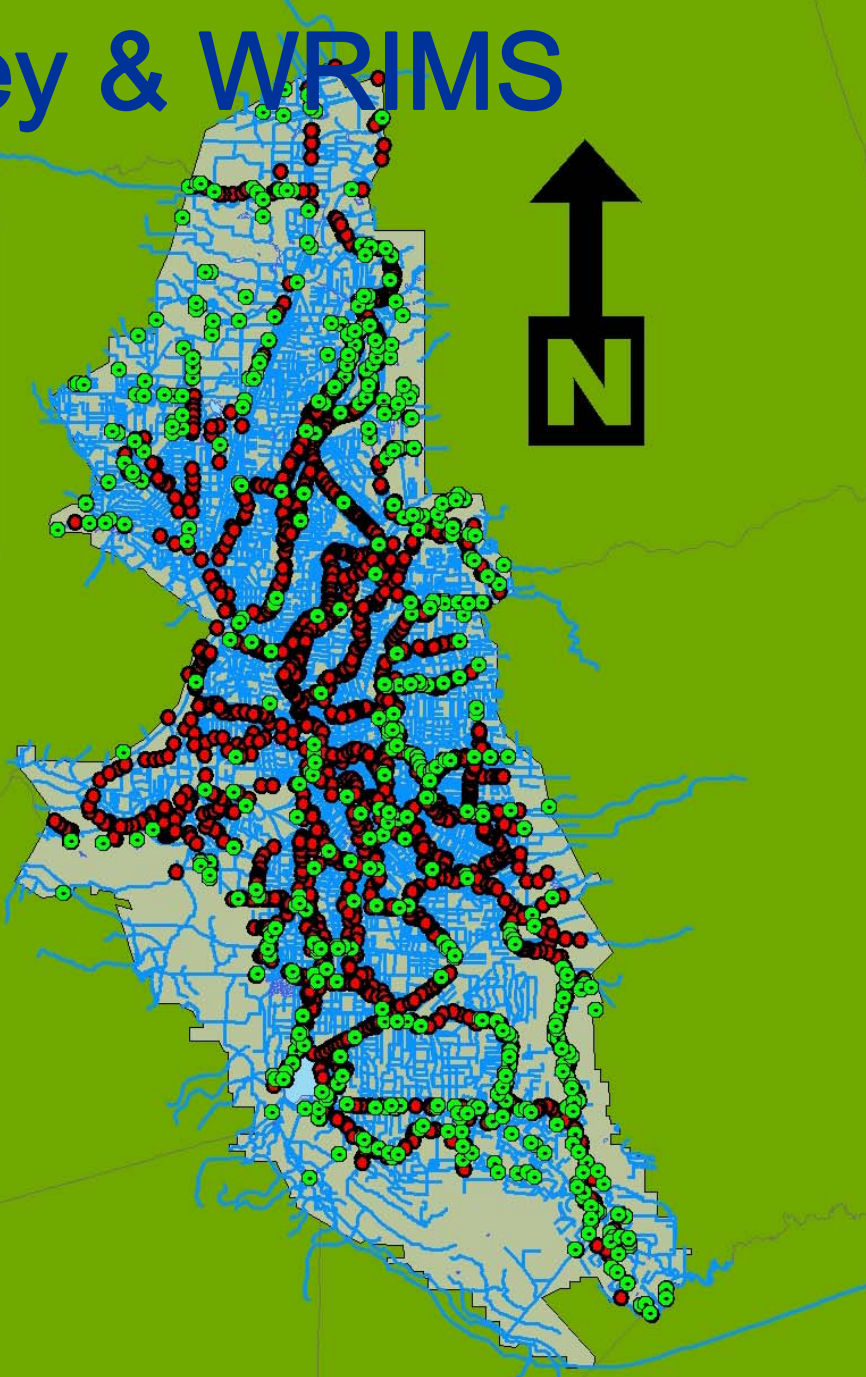


# DFG Survey & WRIMS

## Legend

- Delta Diversions (WRIMS)
- D.F.G. Survey (1993-2005)
- Legal Delta Boundary

0 4.5 9 18 Miles

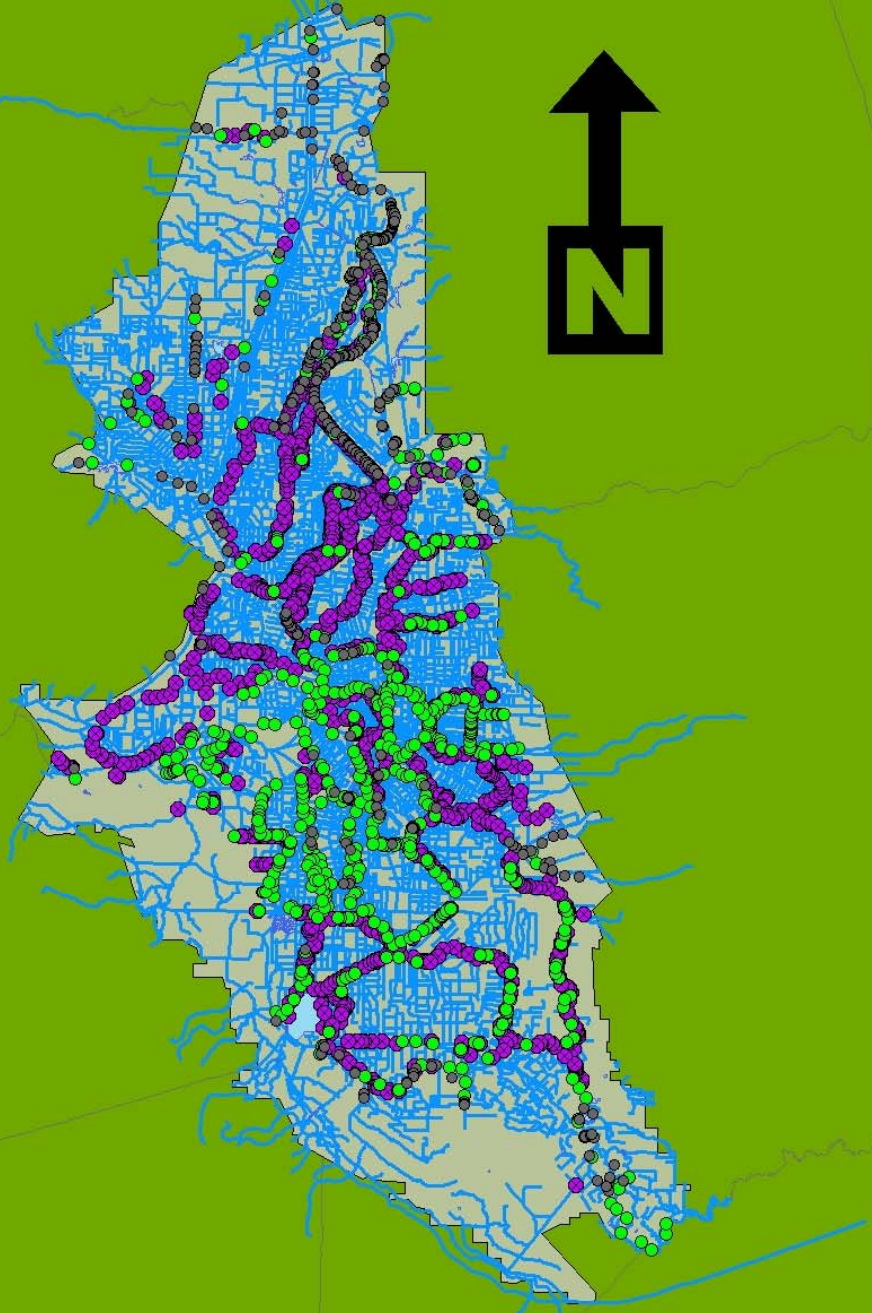


# Ownership

## Legend

- Ownership in WRIMS
- Not in WRIMS, but Identified by DFG
- Unidentified
- Legal Delta Boundary

0 4.5 9 18 Miles



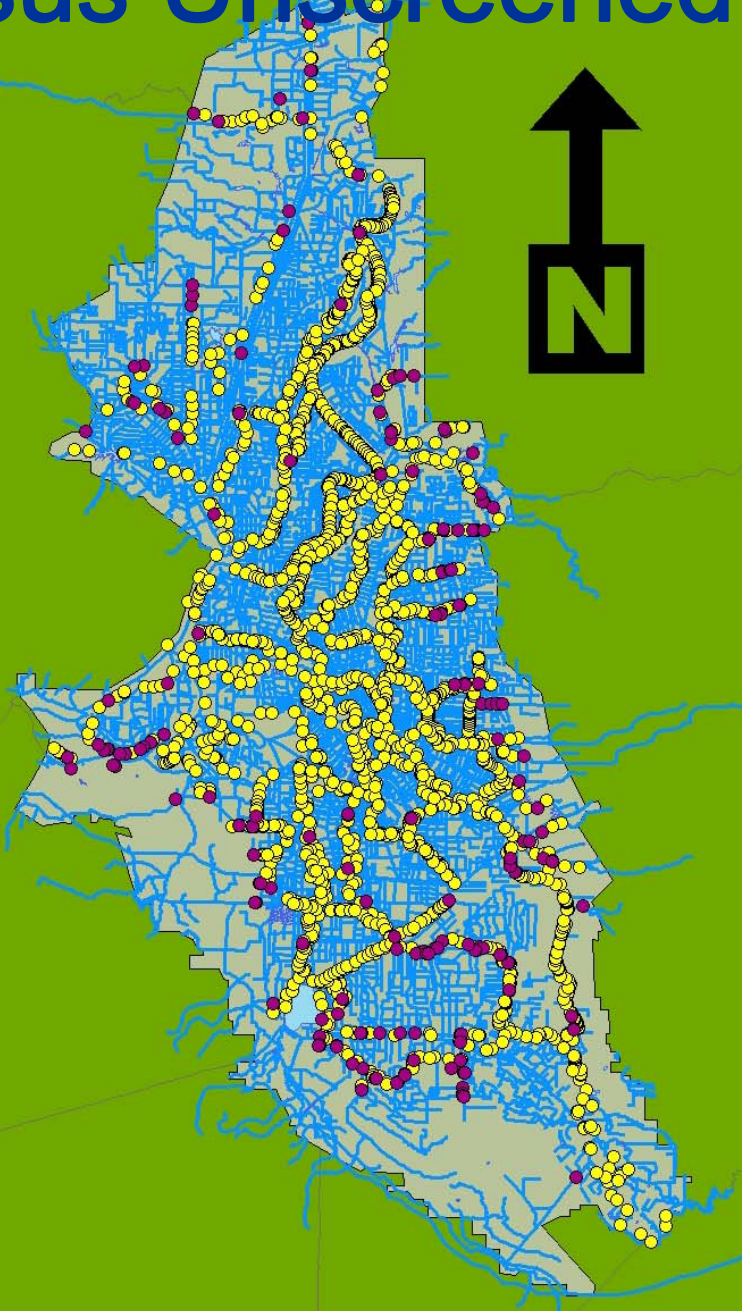


# Screened Versus Unscreened

## Legend

- Screened Diversions
- Unscreened Diversions
- Legal Delta Boundary

0 4.5 9 18 Miles

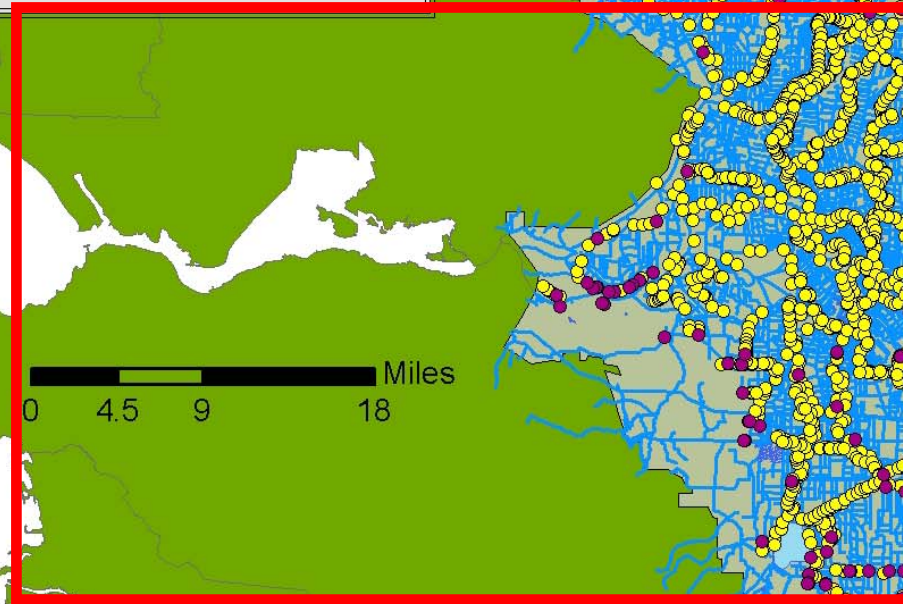


# Screened Versus Unscreened

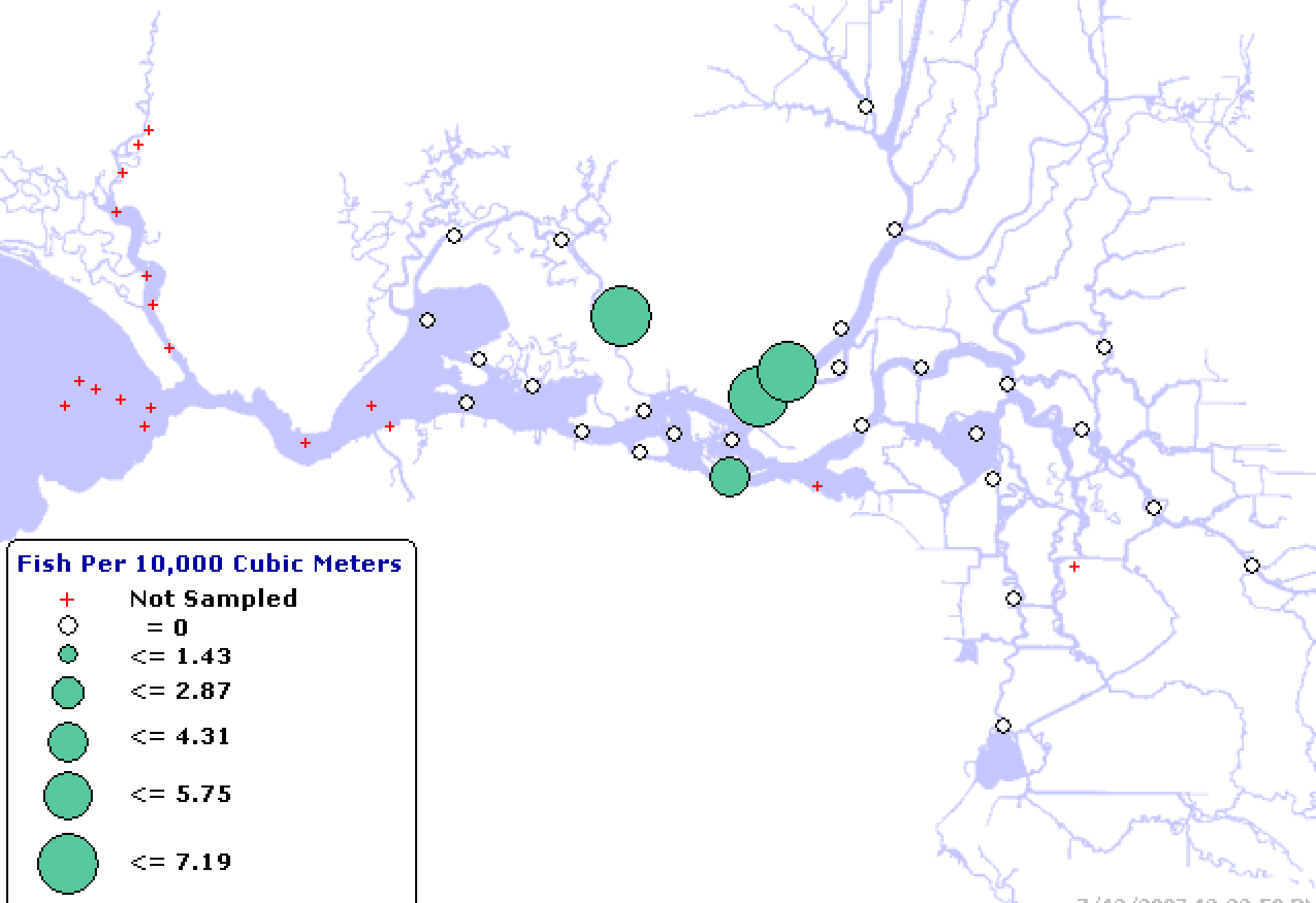
## Legend

- Screened Diversions
- Unscreened Diversions
- Legal Delta Boundary

0 4.5 9 18 Miles



**Delta Smelt 2007**  
**SURVEY 1 (3/13/2007 - 3/17/2007)**

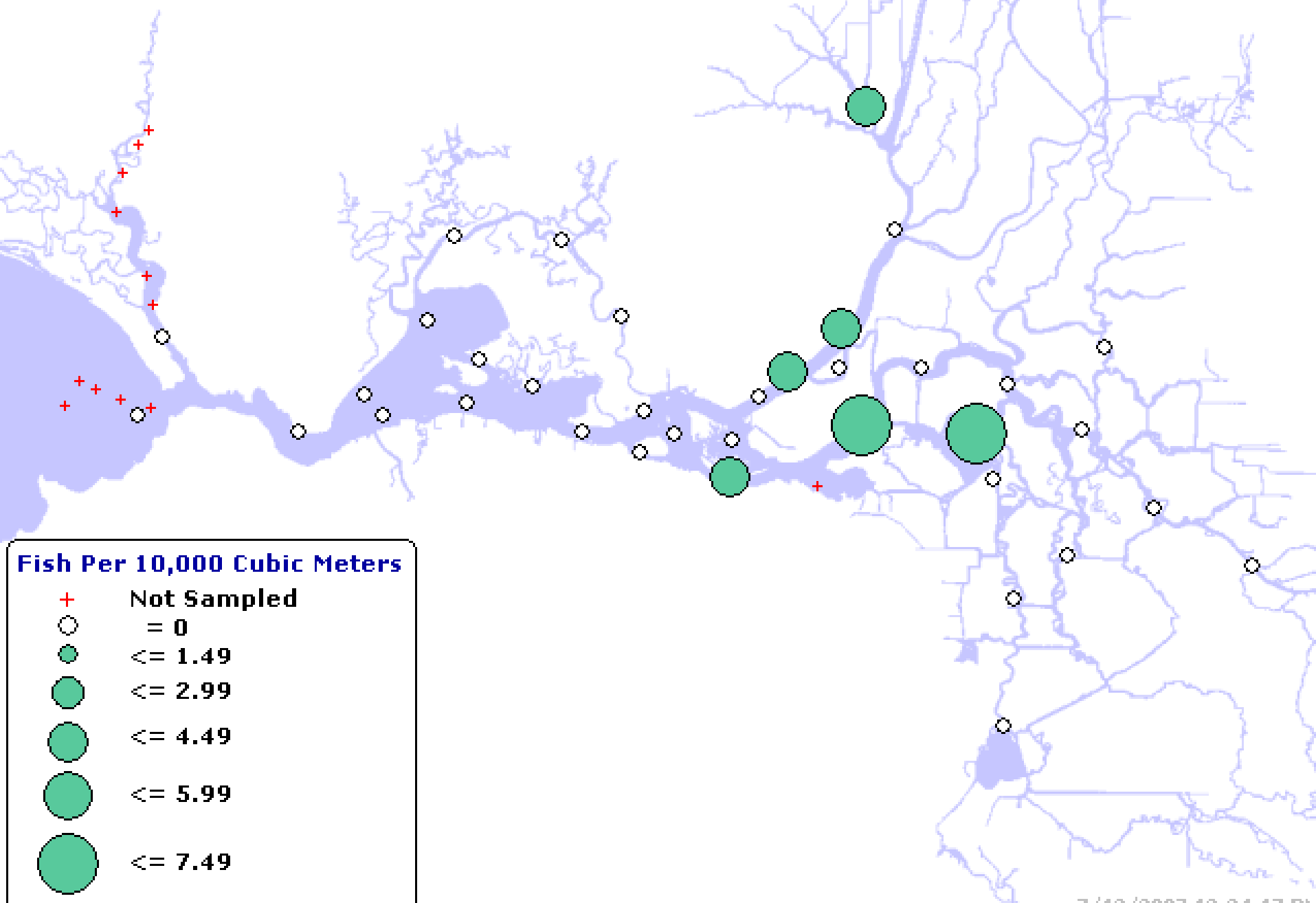


**Fish Per 10,000 Cubic Meters**

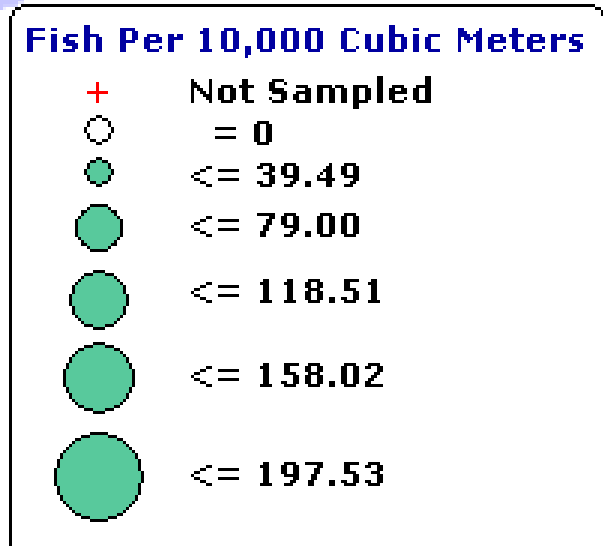
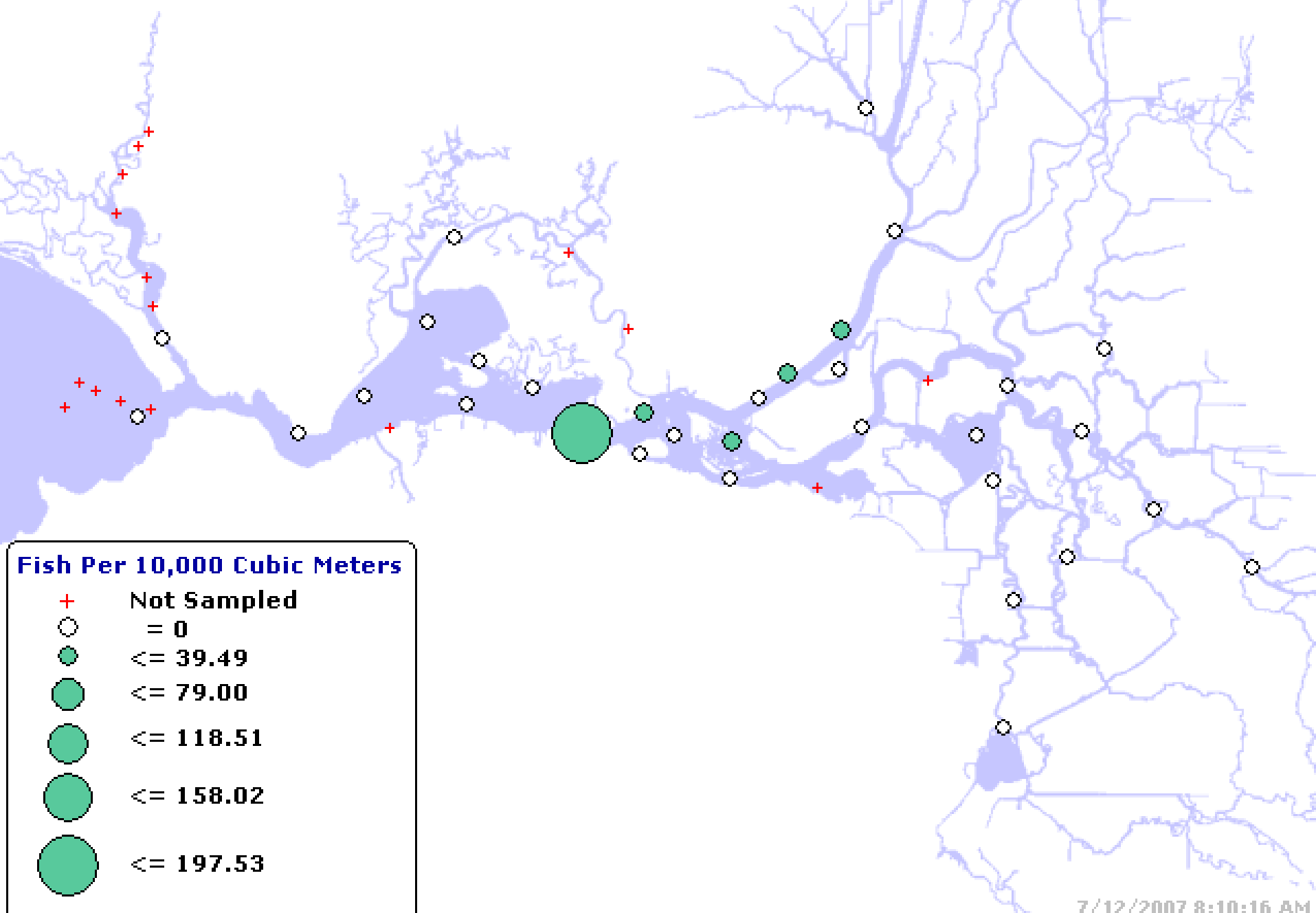
- +** Not Sampled
- = 0
- <= 1.43
- <= 2.87
- <= 4.31
- <= 5.75
- <= 7.19



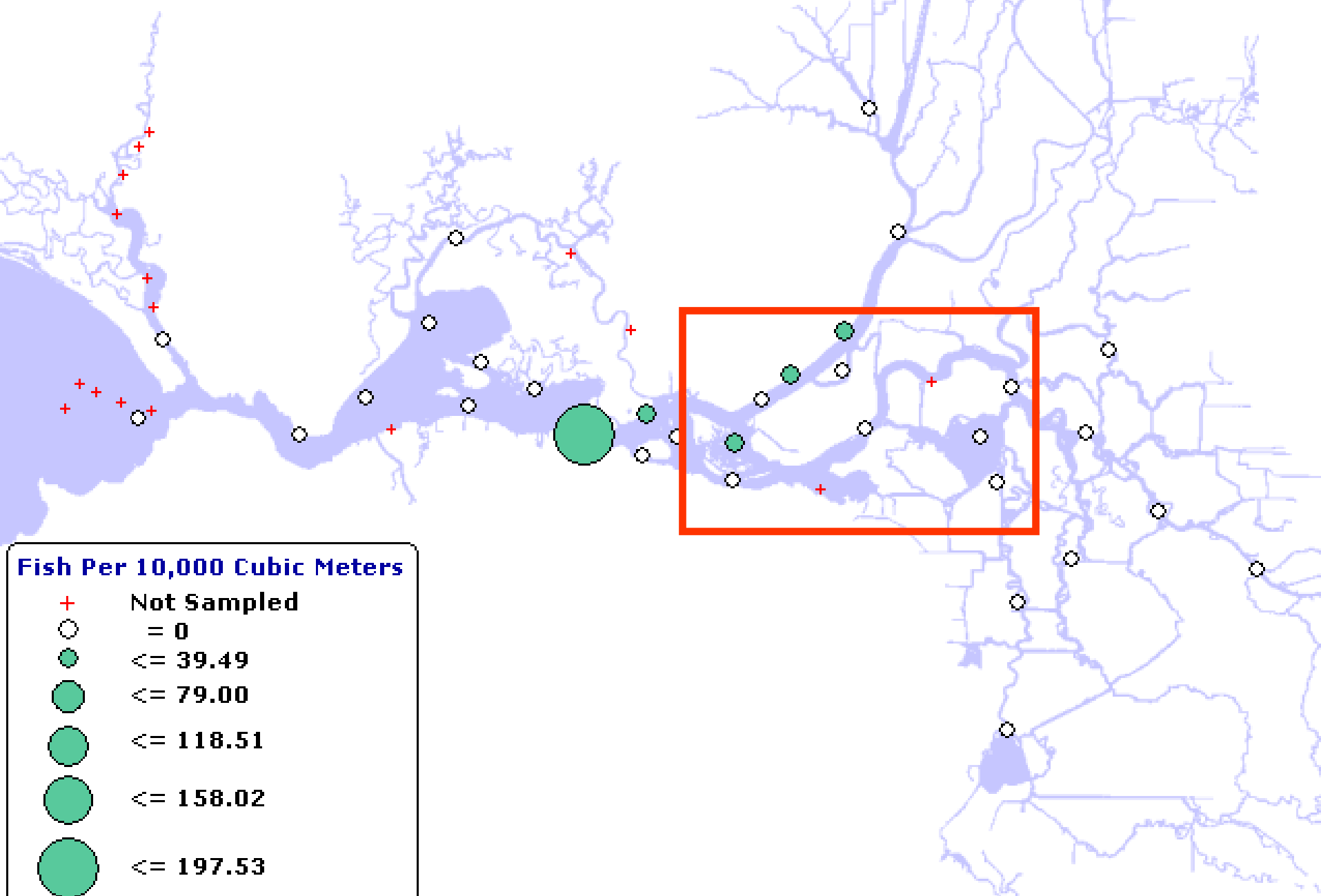
**Delta Smelt 2007**  
**SURVEY 5 (5/7/2007 - 5/12/2007)**



**Delta Smelt 2007 \*\*\* Survey in progress \*\*\*\***  
**SURVEY 9 (7/2/2007 - 7/7/2007)**



**Delta Smelt 2007 \*\*\* Survey in progress \*\*\*\***  
**SURVEY 9 (7/2/2007 - 7/7/2007)**

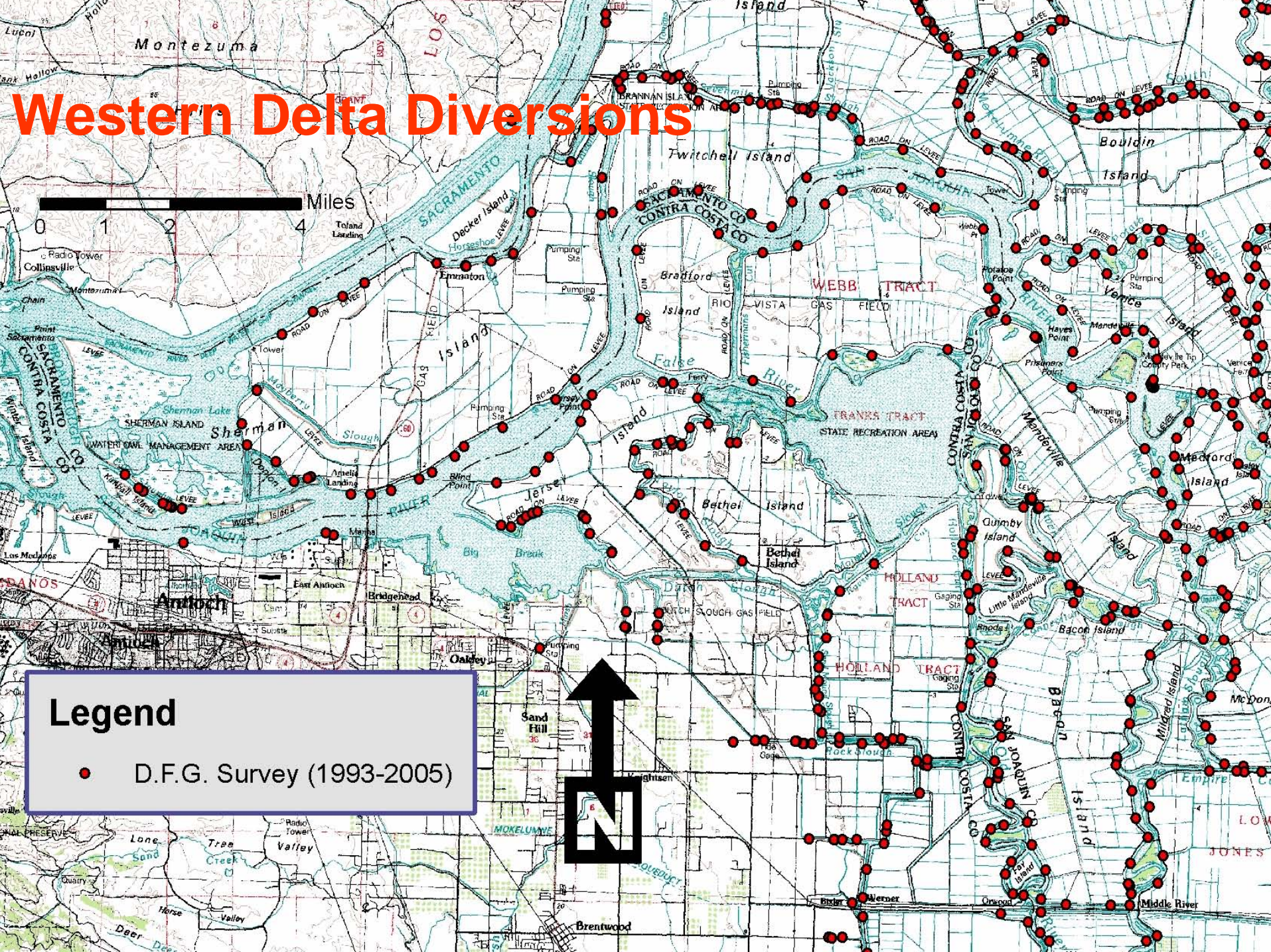


**Fish Per 10,000 Cubic Meters**

- +** Not Sampled
- = 0
- <= 39.49
- <= 79.00
- <= 118.51
- <= 158.02
- <= 197.53



# Western Delta Diversions

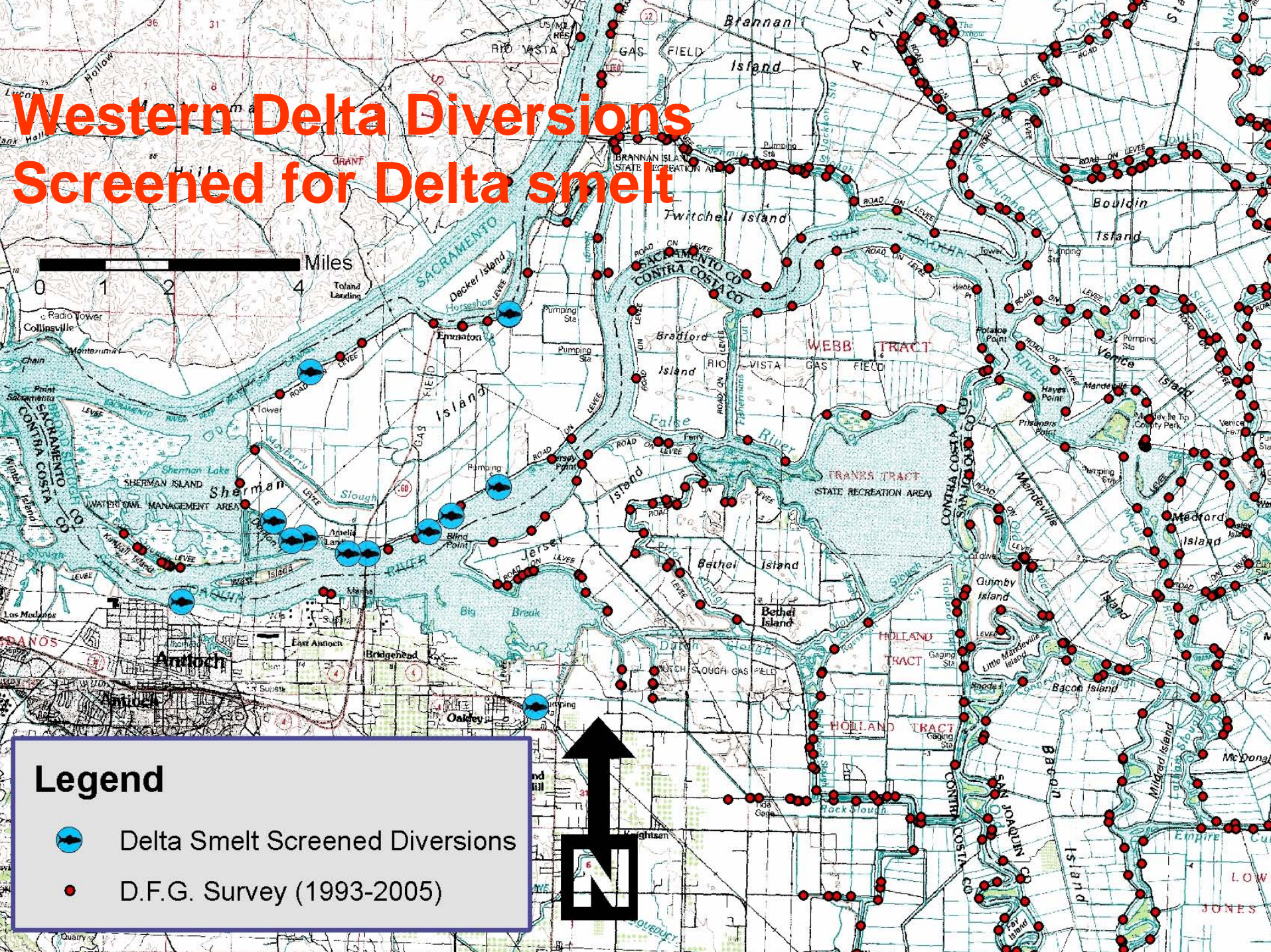


## Legend



- D.F.G. Survey (1993-2005)



# Western Delta Diversions Screened for Delta smelt

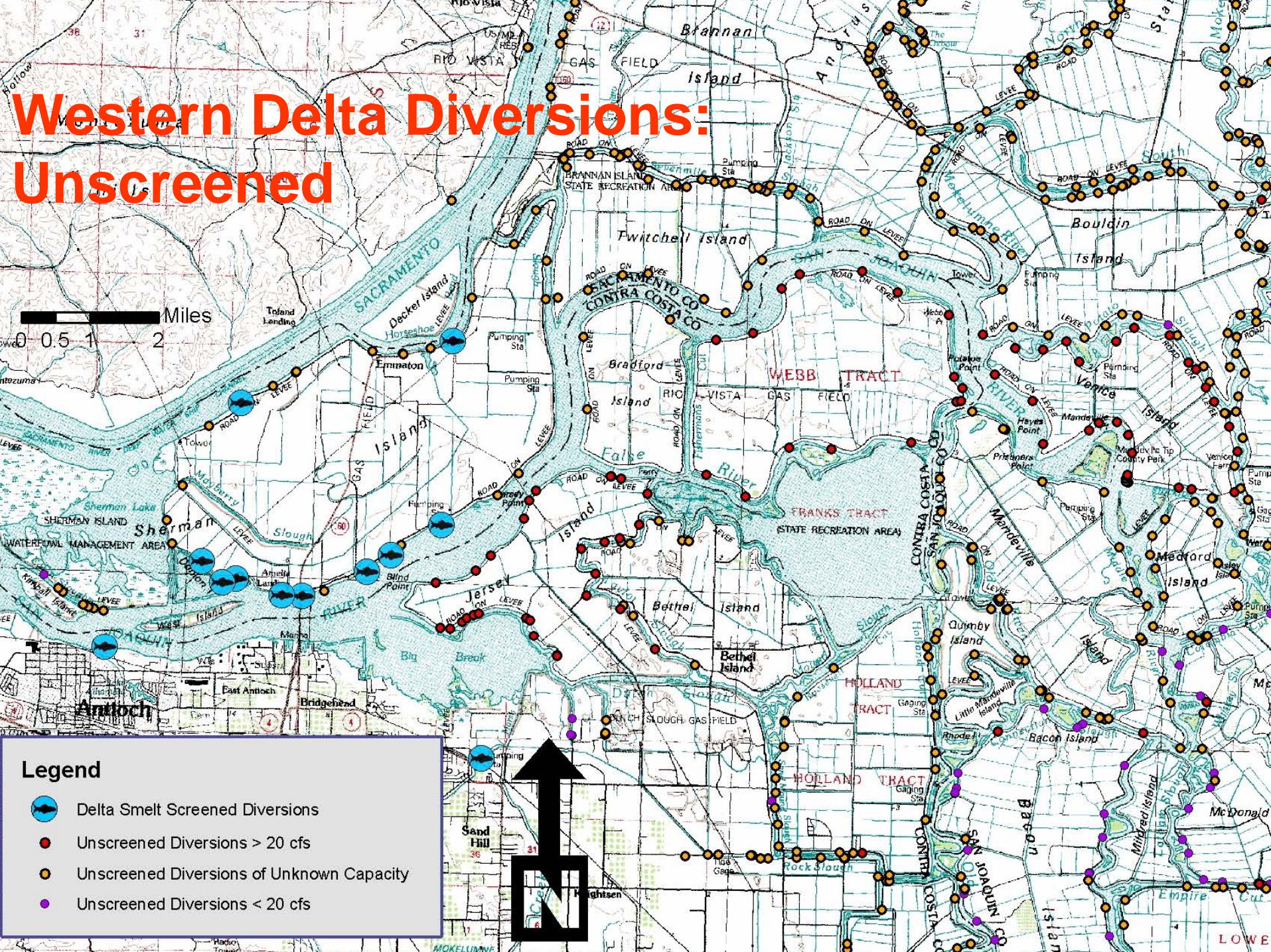


## Legend

-  Delta Smelt Screened Diversions
-  D.F.G. Survey (1993-2005)



# Western Delta Diversions: Unscreened



0 0.5 1 2 Miles

- Legend**
- Delta Smelt Screened Diversions
  - Unscreened Diversions > 20 cfs
  - Unscreened Diversions of Unknown Capacity
  - Unscreened Diversions < 20 cfs

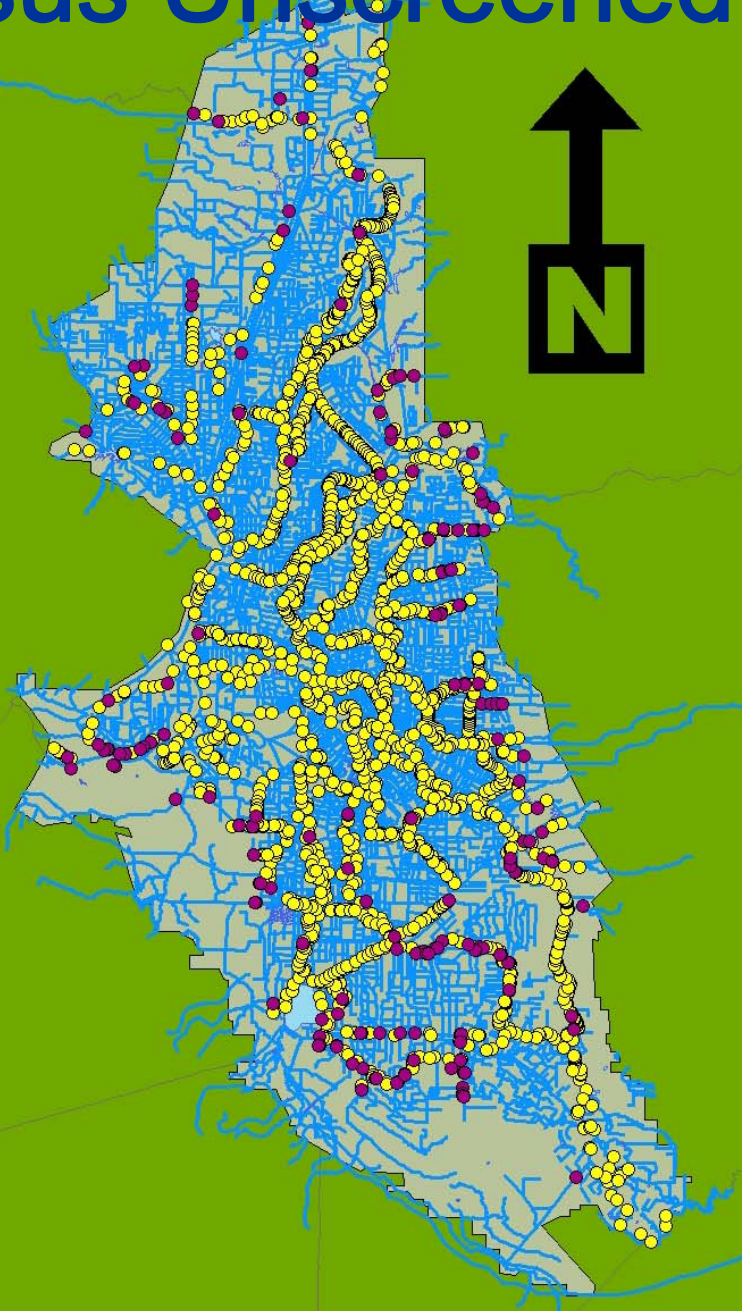


# Screened Versus Unscreened

## Legend

- Screened Diversions
- Unscreened Diversions
- Legal Delta Boundary

0 4.5 9 18 Miles

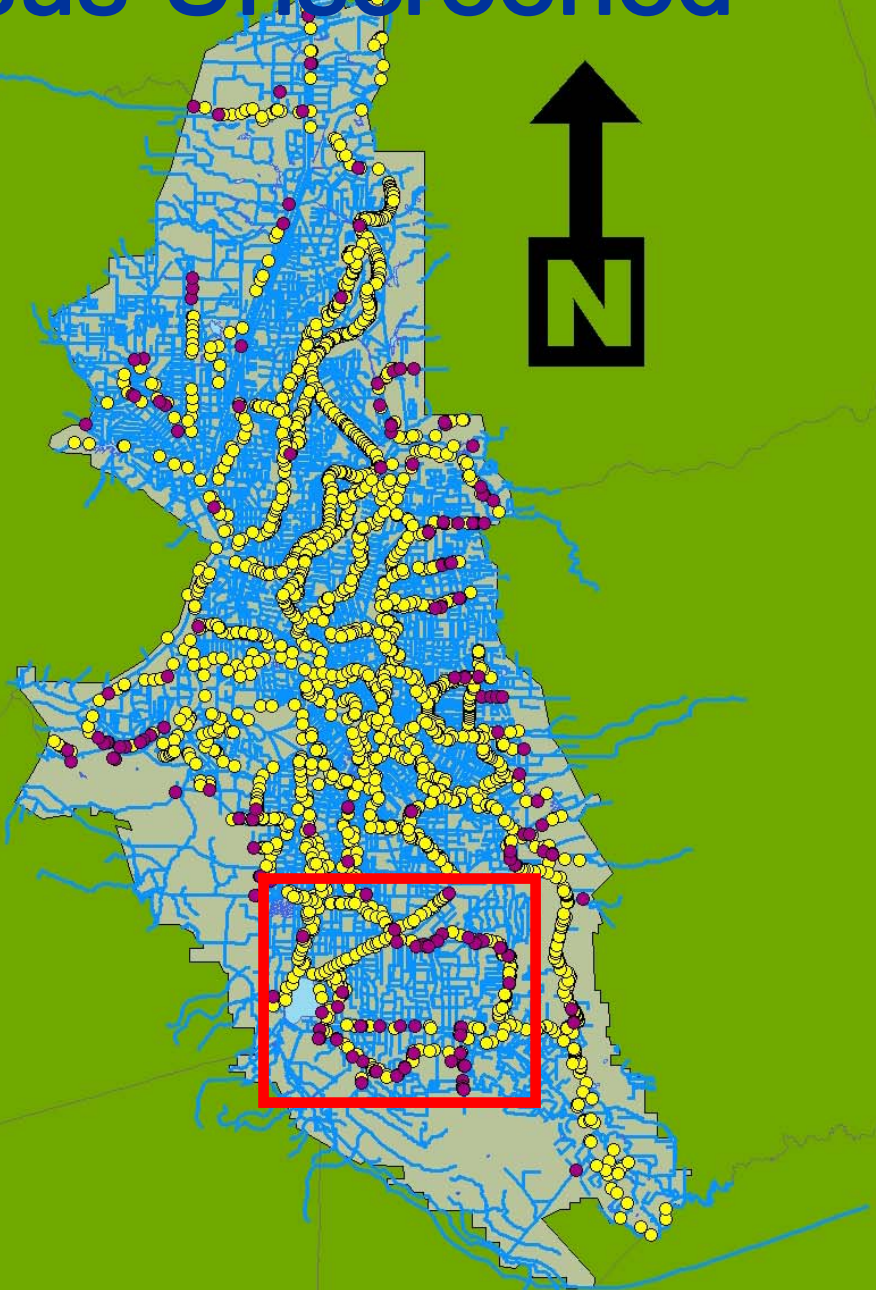


# Screened Versus Unscreened

## Legend

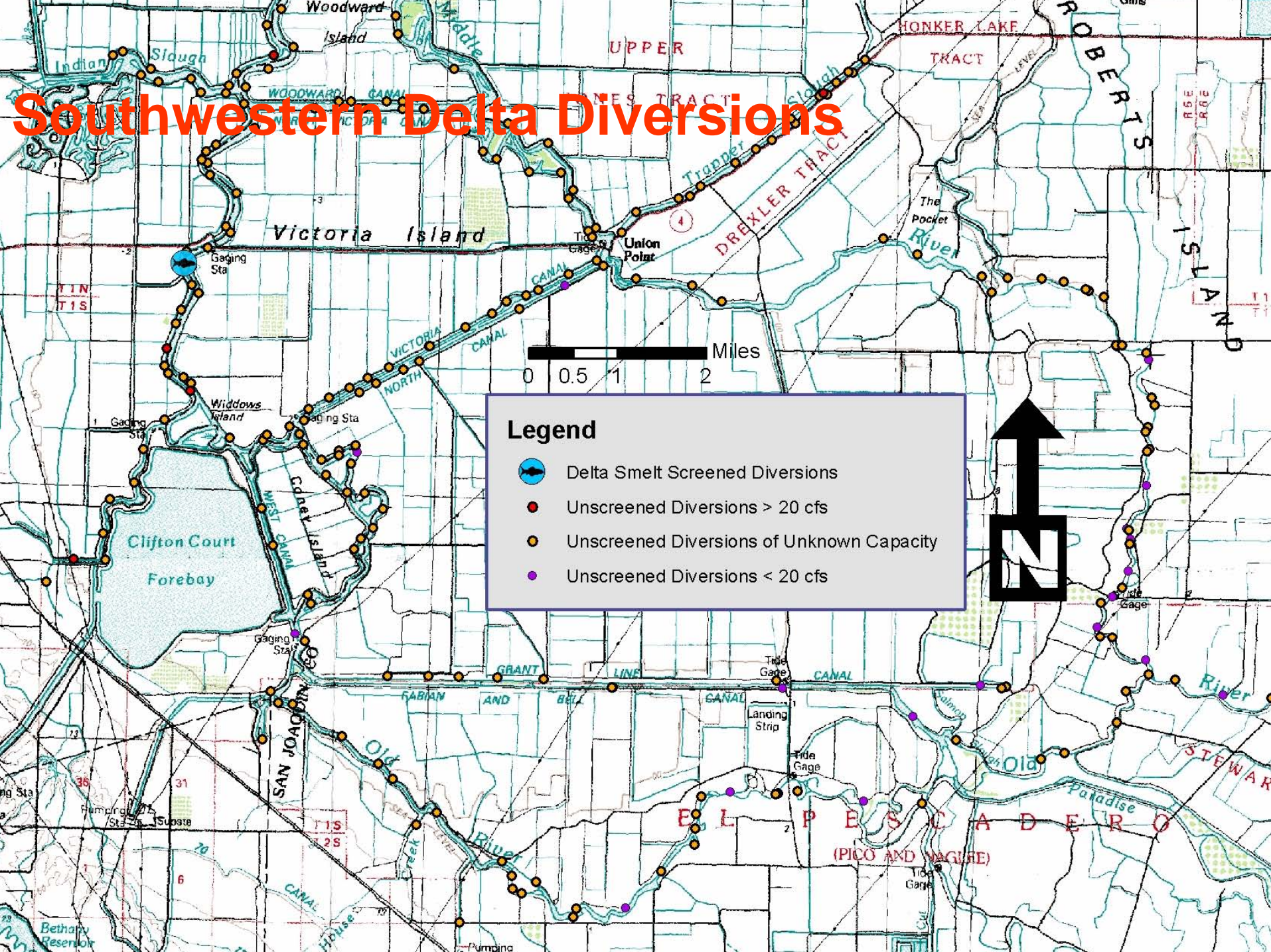
- Screened Diversions
- Unscreened Diversions
- Legal Delta Boundary

0 4.5 9 18 Miles









# Southwestern Delta Diversions



**Legend**

-  Delta Smelt Screened Diversions
-  Unscreened Diversions > 20 cfs
-  Unscreened Diversions of Unknown Capacity
-  Unscreened Diversions < 20 cfs



# Other Current Actions

- Experts to advise the Board: \$490,000 UC Davis Contract
- Collaboration with Regional Board: joint taskforce regarding Bay/Delta issues
- Continued tracking and oversight of other efforts
- Updating information on Delta diversions: WRIMS and DFG databases

# Next Steps

- Continue synthesis of data
- Develop short and long-term actions for Board consideration