

DEPARTMENT OF WATER RESOURCES

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June 19, 2007

Ms. Tam M. Doduc, Chair
State Water Resources Control Board
1001 I Street, 14th Floor
Sacramento, CA 95814

Dear Ms. Doduc,

Please find enclosed 16 copies of the California Department of Water Resources Comments for the State Water Resources Control Board's Public Workshop to consider the recommendations to improve fishery resources in the San Francisco Bay/Sacramento-San Joaquin Delta Estuary.

Sincerely,

A handwritten signature in cursive script that reads "Dale K. Huffman - FLD".

for Jerry Johns
Deputy Director

California Department of Water Resources
Comments on
State Water Resources Control Board's W
for
Recommendations to Improve Fishery Resources
in the San Francisco Bay/ Sacramento – San Joaquin Delta
June 19, 2007

 **ORIGINAL**

The State Water Resources Control Board (State Water Board) has requested information and recommendations on short term actions it should consider to improve fishery resources in the Bay-Delta. This request is made in the context of the recent decline of delta smelt. The Department of Water Resources (DWR) provides recommendations that the State Water Board or Regional Water Boards should consider based on recent information regarding toxics in the water that may be adversely affecting delta smelt.

These comments also include some background information on this year's monitoring of delta smelt and State Water Project operations taken to prevent impact to delta smelt. DWR notes that as the temperature of the water in the Delta warms to 25 degrees Celsius, the conditions for delta smelt degrade and smelt either leave the area or do not survive. After this temperature is reached, it is unlikely the SWP and CVP operations in the Delta will impact the population of delta smelt and the season of concern for the smelt would probably not occur again until November.

Actions SWRCB Should Consider for Protecting Delta Smelt

- Reduce Nonpoint Sources of Pollution in the Delta

This year's monitoring of adult delta smelt indicated that adult spawners were located in the lower Sacramento River and San Joaquin River. The attached Figures 1 and 2 of the Adult Trawl Surveys in January and April show the locations of these adult delta smelt that are downstream of the influence of SWP and CVP pumping. This year's salvage of adult delta smelt at the CVP and SWP was minimal during this period (60 smelt salvaged at CVP and 0 at the SWP). However, even though 2007 adult spawning appeared favorable, this year's 20 mm trawl survey of juvenile smelt (conducted by the Department of Fish and Game) through mid-March caught only about 8% of the larvae it caught in 2006. The 2007 larval smelt population substantially declined this year for unknown reasons, but DWR suspects it may be factors related to toxicity. Studies through bioassay test organisms exposed to Delta waters suggest toxicity in the areas of the Sacramento River and north Delta where the smelt were spawning in February, March, and April. As shown in the attached Figure 3, these events occurred in a reach of the river containing young delta smelt.

The Interagency Ecological Program has been evaluating potential contaminant issues as part of the Pelagic Organism Decline (POD) studies. Toxicity in the form of reduced survival of the test organism *Hyaella azteca* was observed by UC Davis scientists in the Delta water samples this winter and spring. This toxicity has been related to the presence of both pyrethroids and organo-phosphates. The location of these positive toxicity results were the Sacramento River and the Sacramento Deep Water Ship Channel, locations of known delta smelt populations. The POD team is determining follow-up studies to be funded for next year and will be providing to the State Water Board recommendations on how the Board can assist in the investigation including identification of routes of transport and exposure, and definition of Best Management Practices for urban and agricultural pesticide users.

Additionally, DWR recommends that the Board examine other potential issues of toxicity in the Delta, including the recent reports in the Contra Costa Times (June 17, 2007) concerning the pollution and toxicity related to the Suisun Bay mothball fleet.

- Investigate effects of in-Delta diversions

There are about 1100 local diversions in the Delta, see figure 4. The amount of water taken by these diversions is estimated in DWR's computer simulation model (DSM2). Not all of these diversions are in the area of concern for delta smelt. DWR examined, through modeling, the diversions located in the area of concern for delta smelt. The estimates used in DSM2 for the diversions in the general area of concern range from 20 cfs to 800 cfs in April, 100 to 1700 cfs in May, and 800 to 2300 cfs in June. Studies of these diversions have been inconclusive about the benefits of screening to fish populations (Report for the Science Board, CALFED Ecosystem Restoration Program, January 2002. P. Moyle and D. White, Univ. of California, Davis, available at web address: <http://www.delta.dfg.ca.gov/AFRp/SWRCB/10.%20Moyle%20&%20White%202002.pdf>).

A study of screened and unscreened diversions in Horseshoe Bend (*Evaluating Entrainment Vulnerability to Agricultural Irrigation Diversions: A Comparison among Open-Water Fishes*, M. Nobriga, Z. Matica, and Z. Hymanson, Calif. Dept. of Water Resources, 2004. Attached.) observes that entrainment losses are strongly affected by fish habitat use, size and diel behavior and recommends additional studies to better understand the use of screens to protect fish. Given the status of the delta smelt and other pelagic fish, conclusive studies should be undertaken.

The Department recommends the State Water Board direct a study to determine the impact of unscreened local Delta diversions on delta smelt. Once the results are known, the State Water Board would consider actions such as diversion restrictions during sensitive smelt periods.

- Opportunities for State Water Board participation

The Board staff should continue to participate in the Water Operations Management Team, consisting of management representatives from DWR, DFG, USBR, USFWS, and NOAA Fisheries, where real-time SWP and CVP actions to protect smelt, change river releases, and protect water quality are discussed and decided. For purposes of long-term Delta planning, the State Water Board could participate with other agencies and interested parties in efforts such as the Bay Delta Conservation Plan and the Delta Vision. These groups and the eventual plans that are developed, would benefit by State Water Board participation.

Summary of 2007 SWP and CVP Operations

DWR and USBR modified 2007 Project operations to maximize the protection of delta smelt and to avoid entraining smelt at the project pumps. The project operational changes were made after consideration of information provided by the Delta Smelt Working Group (DSWG) to the Water Operations Management Team. The DSWG consists of fish biologists from USFWS, DFG, USBR, DWR, EPA and California Bay Delta Authority. The project operations were modified to operate the SWP and CVP exports to influence Old and Middle rivers flows at a specified targeted flow or range of flow.

From January through mid-May, project exports were reduced by about 300,000 acre-feet to help protect delta smelt. These reductions were charged to the Environmental Water Account. During this time period, no delta smelt were recorded in the SWP fish salvage operations at the Banks Pumping Plant. In mid-May, exports were reduced again due to the distribution of delta smelt into areas that made them more susceptible to pumping. Figures 5 through 7 show the location of juvenile delta smelt in the Delta over this period. (The most current survey information is on the DFG web site at <http://www.delta.dfg.ca.gov/data/20mm/>.)

On May 25th, juvenile delta smelt began to appear at SWP salvage facilities in the Delta in low numbers. In response, the Department stopped pumping at Banks Pumping Plant on May 31st. The Department resumed very limited pumping at Banks on June 10th and 11th to meet critical water supply needs. No water was taken into Clifton Court Forebay from the Delta during this time. On June 12th, the Department began diverting about 400 cfs into Clifton Court Forebay to replenish the forebay and continue meeting critical needs.

Since May 31st, the water stored in the reach of the California aqueduct between Banks Pumping Plant and San Luis Reservoir, as well as water stored in San Luis Reservoir, has been used to meet water demands. These facilities have reached the limits of operation. Additional stress on these facilities would have risked damage to the canal lining or the interior side slopes of the reservoir. On June 13th, USBR began an increase in operations to relieve the stress at San Luis Reservoir and support deliveries. The decision to increase pumping was made based on expected high water

temperatures within the south Delta waterways and the distribution of delta smelt. Water temperatures in the south Delta began rising and the average water temperature of the three stations in the south Delta reached 24.5 degrees Celsius on June 15th. Temperatures are expected to continue rising. On June 17th, DWR increased its diversion into Clifton Court Forebay. On June 18th, USBR and DWR increased Delta exports to protect these facilities and support water deliveries (CVP Jones Pumping Plant operations at about 2500 cfs and SWP Banks Pumping Plant operations at 1000 cfs). These operations are less than what would normally occur. Any increases will be done while monitoring conditions in the Delta to avoid impacts to delta smelt.

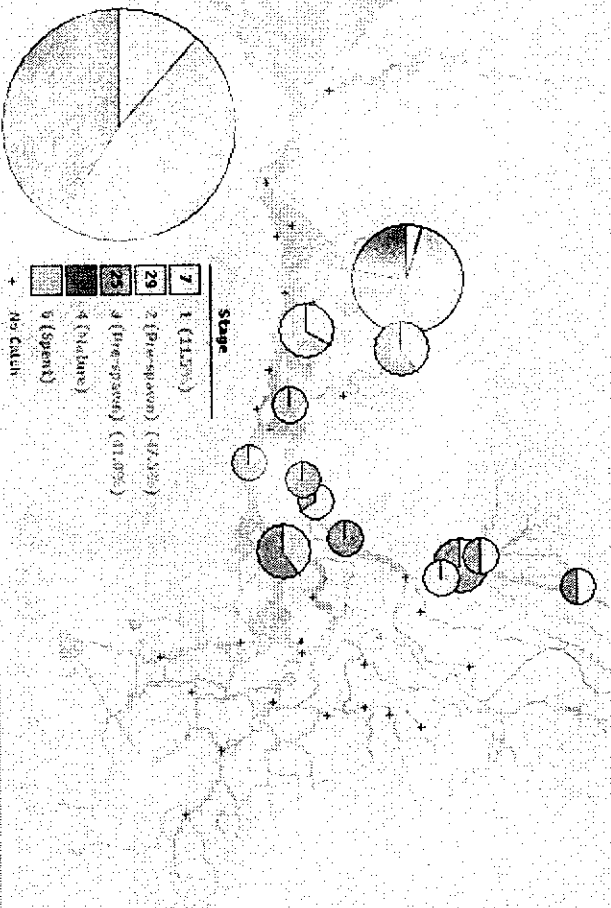
The Department plans to implement the Joint Point of Diversion operations, as provided under State Water Board Decision 1641, beginning in July to pump water for the USBR and to transfer water for the Environmental Water Account. We will work closely with the State Water Board's staff in this effort to meet the requirements for these operations as specified in D-1641 and the related response plans.

DWR and USBR operate the SWP and the CVP, respectively, in the Delta pursuant to biological opinions from USFWS and NOAA Fisheries. These biological opinions have been challenged by environmental groups and in June 2007 the federal district court ordered proposals be submitted on an appropriate interim remedy pending completion of reinitiated consultation of the federal biological opinions. The federal and state agencies involved in this matter are meeting to develop a proposal for an interim remedy to protect delta smelt. A proposed interim remedy must be filed with the court by July 2. Other parties in the litigation will file comments on the proposed remedy. After a hearing on August 21, the court will issue its decision on the delta smelt biological opinion and an interim remedy pending completion of the consultation. The Department believes no action from the State Water Board is needed related to changes in project operations to protect delta smelt because the federal court decision on the interim remedy and the subsequent biological opinions will be issued to provide appropriate protection. Due to the complexity of the consultation on the delta smelt, the biological opinion will most likely be completed in July 2008.

The Department believes the State Water Board and the Regional Boards have important roles in identifying and regulating water pollution and local diversion effects which threaten the survival of delta smelt. This can be accomplished by participating in the development of the longer term management plans for the Delta and in participating in the real-time project operation issues addressed by the Water Operations Management Team. DWR appreciates the opportunity to provide comments on methods to improve fishery protection in the Delta. If the State Water Board would like additional information on the above, please contact Barbara McDonnell, Chief of the Division of Environmental Services at (916) 651-9777, or Cathy Crothers, Staff counsel at (916) 653-5613.

Figure 1: January Adult Trawl Survey

Spring Kodiak Trawl Survey #1 of 2007
 Distribution of Female Delta Smelt
 (1/8/2007 - 1/11/2007)



Spring Kodiak Trawl Survey #1 of 2007
 Distribution of Male Delta Smelt
 (1/8/2007 - 1/11/2007)

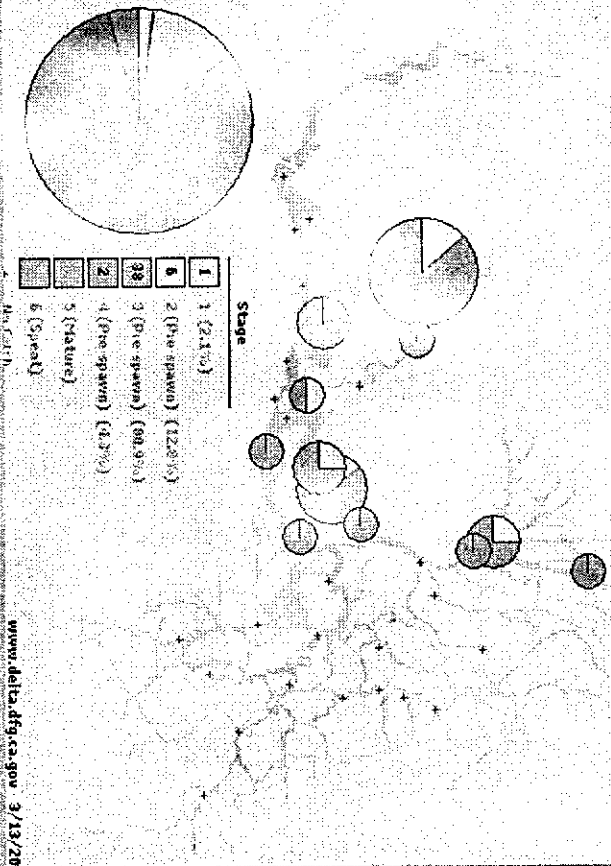
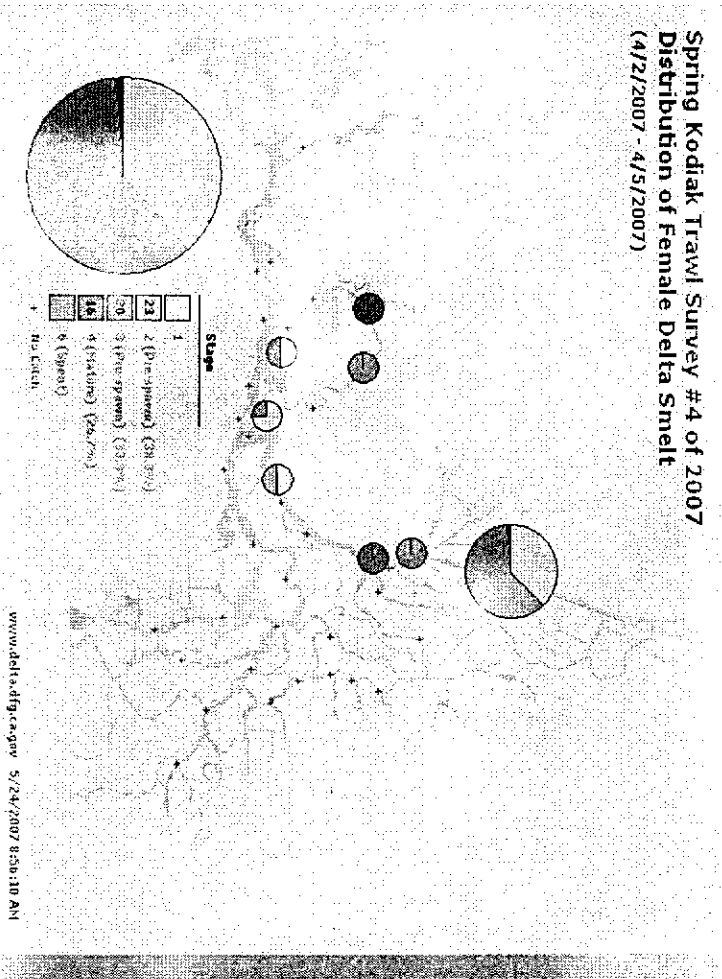


Figure 2: April Adult Trawl Survey

Spring Kodiak Trawl Survey #4 of 2007
 Distribution of Female Delta Smelt
 (4/2/2007 - 4/5/2007)



Spring Kodiak Trawl Survey #4 of 2007
 Distribution of Male Delta Smelt
 (4/2/2007 - 4/5/2007)

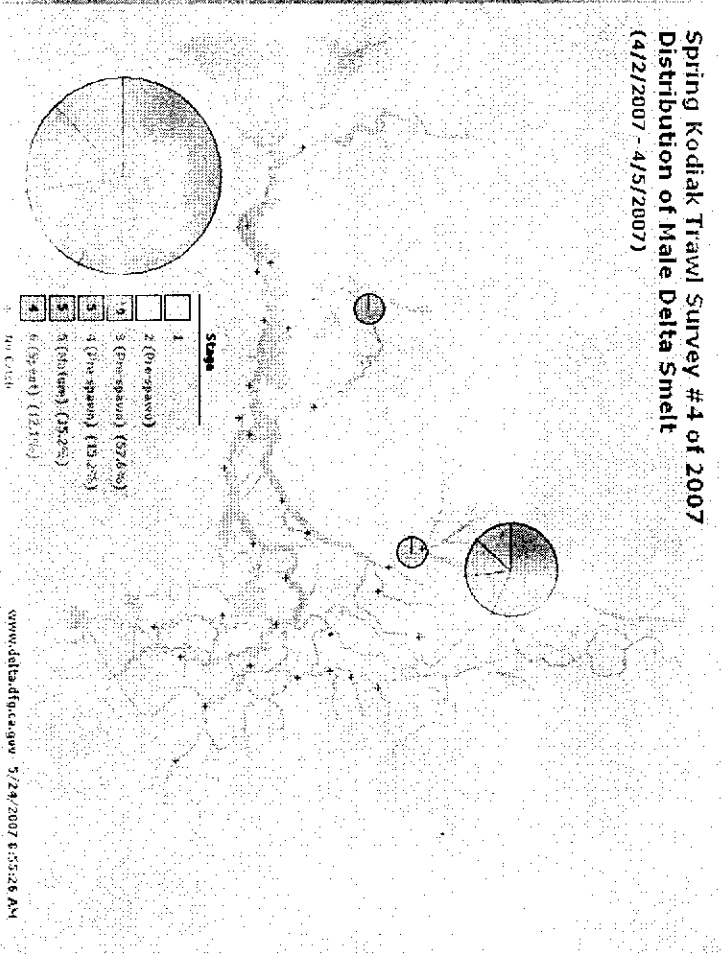


Figure 3: April 20 mm Trawl Survey

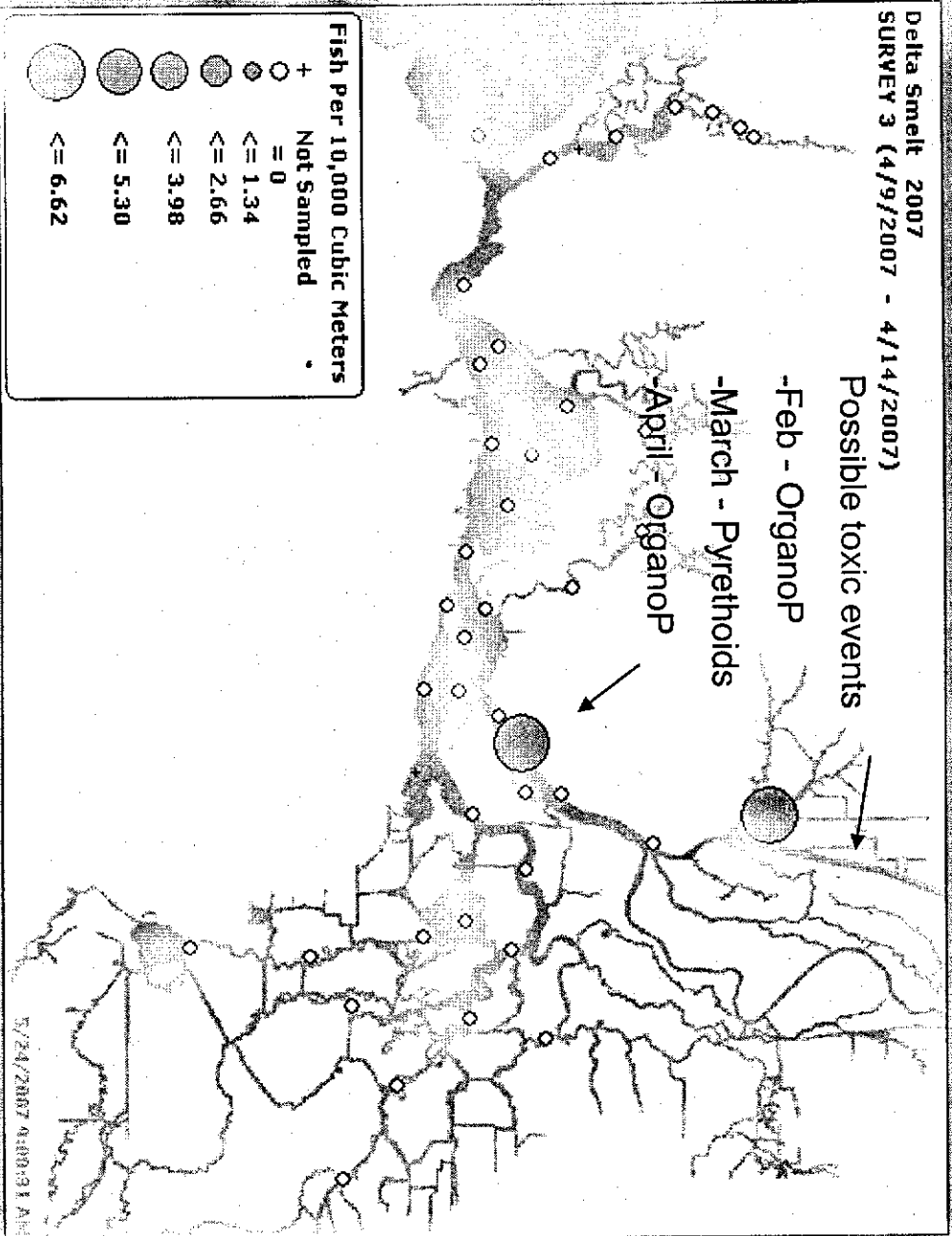


Figure 4

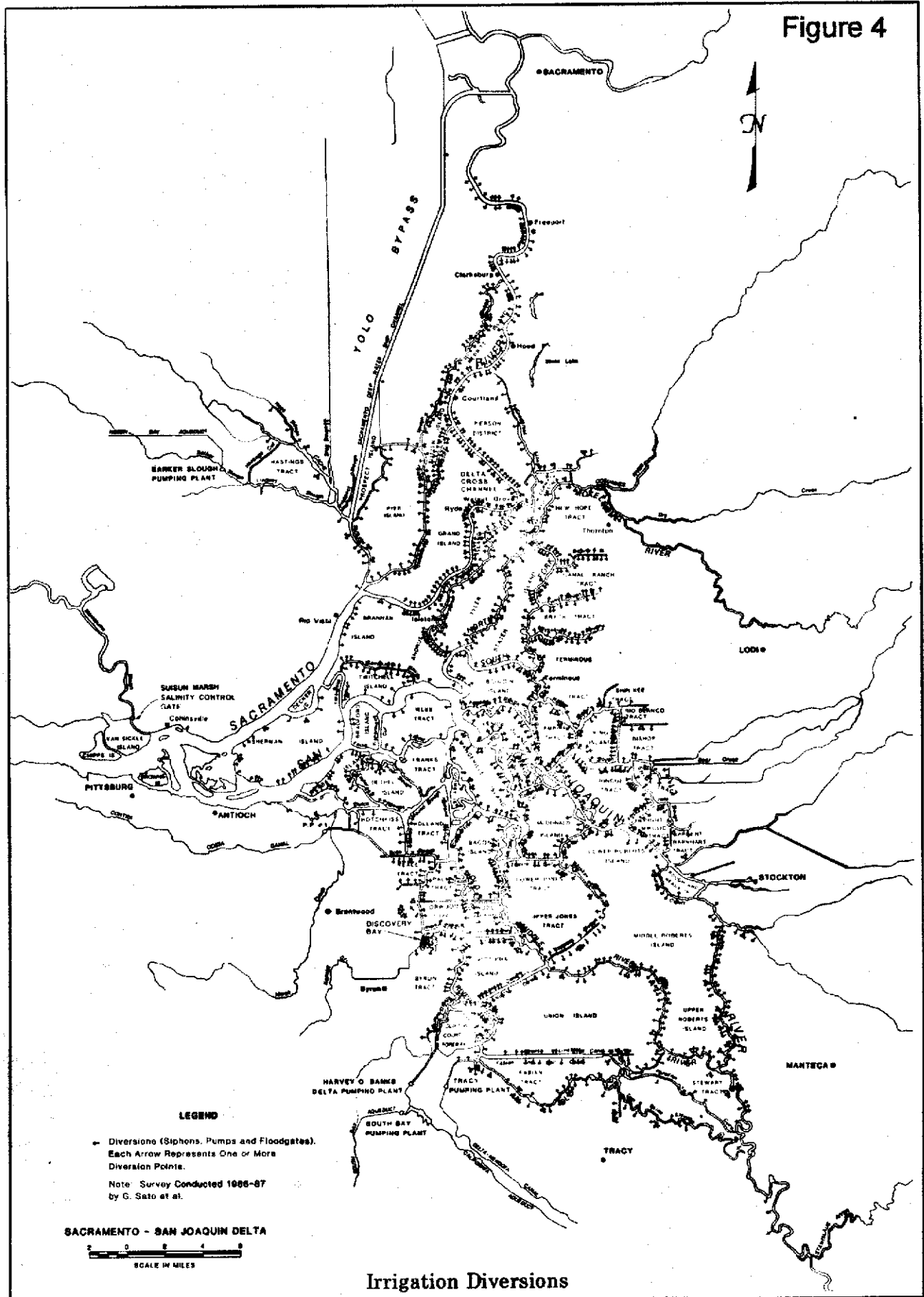


Figure 5: Early May 20 mm Trawl Survey

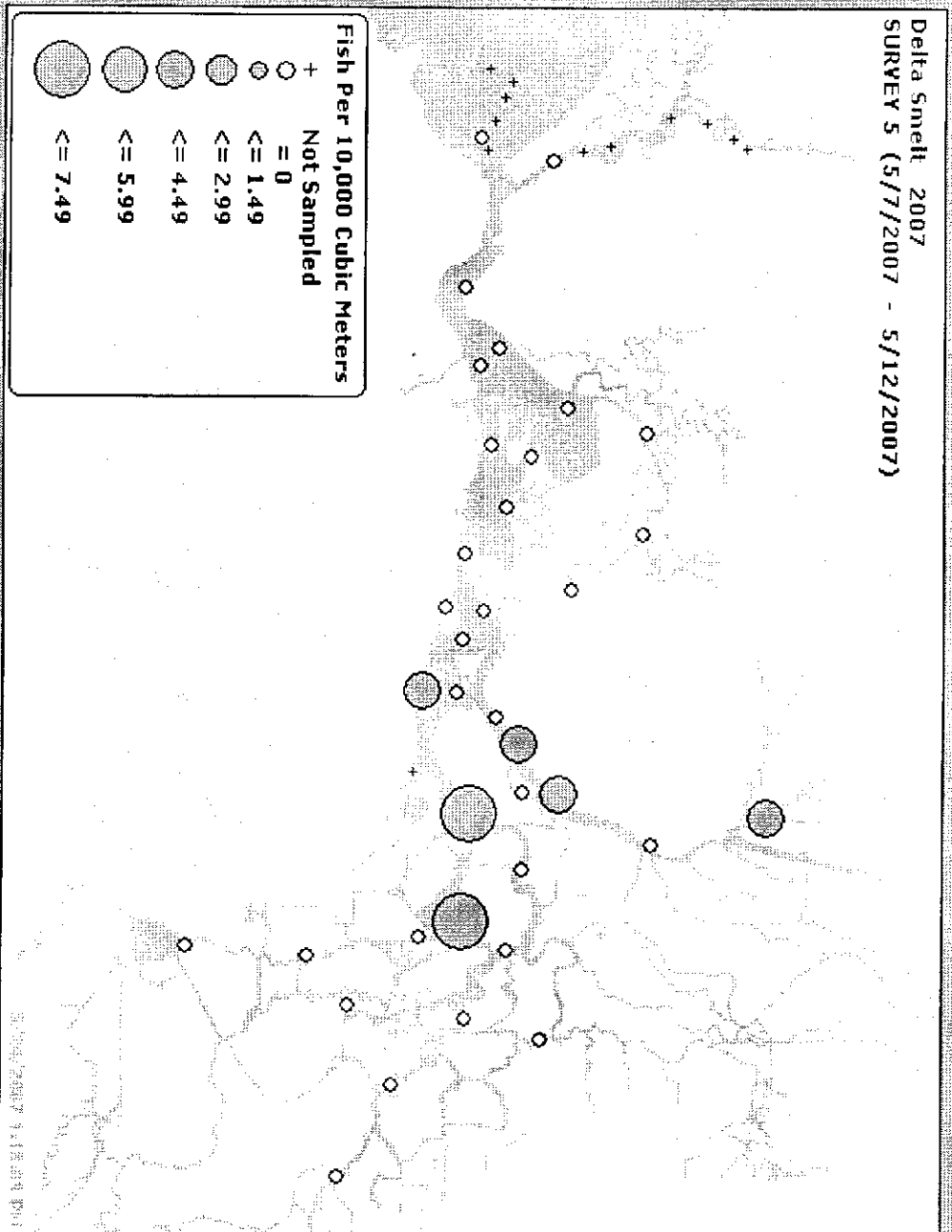


Figure 6: Late May 20 mm Trawl Survey

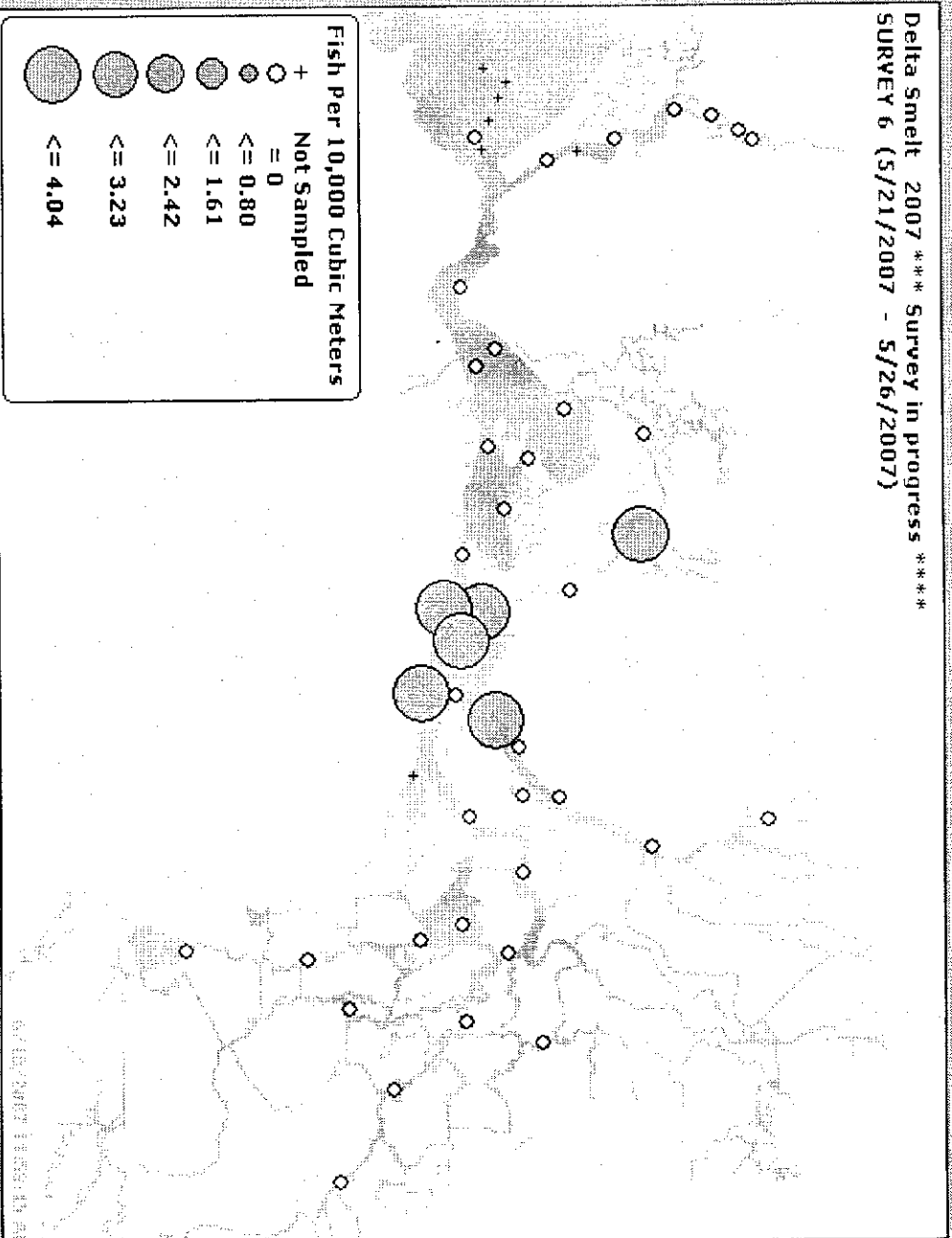


Figure 7: Early June 20 mm Trawl Survey

