

# **APPENDIX 1**

## **DATA AND QUALITY ASSURANCE/QUALITY CONTROL DOCUMENT FOR THE ASSESSMENT OF ECOLOGICAL AND HUMAN HEALTH IMPACTS OF MERCURY IN THE BAY-DELTA WATERSHED**

OCTOBER 2000  
REVISED MAY 2001

PREPARED BY

DEPARTMENT OF FISH AND GAME

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# **DATA AND QA/QC FOR THE ASSESSMENT OF ECOLOGICAL AND HUMAN HEALTH IMPACTS OF MERCURY IN THE BAY-DELTA WATERSHED**

## **1.0 INTRODUCTION**

1.1 The CalFed Program requested that the California Department of Fish and Game's Marine Pollution Studies Laboratory collect and analyze fish samples collected from the Bay-Delta watershed. The original October 2000 document described the quality assurance and quality control activities initially implemented for this set of samples. But, due to the following reasons, the samples were reanalyzed and the new data and Quality Assurance/Quality Control issues are discussed in the following summary section.

The CalFed 1999 fish samples were analyzed along with samples from the Sacramento River Watershed Program (SRWP). It was anticipated that the CalFed Program would benefit from this arrangement by having more samples analyzed, including analyses of individual fish at selected locations, and by having the CalFed Program integrated into a larger dataset with extensive QA.

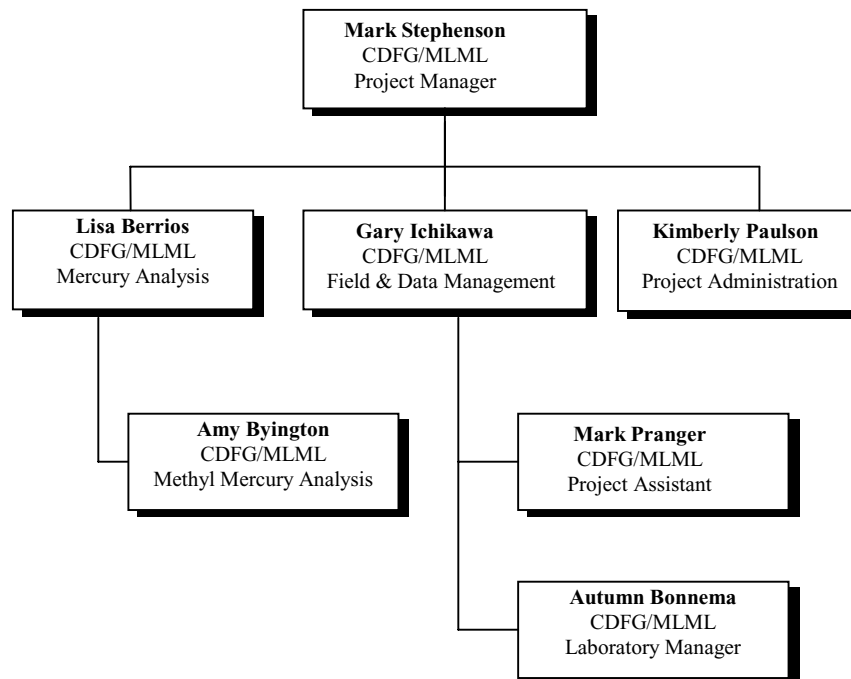
A large difference in mercury concentration was identified in comparing 1998 data from the SRWP and the 1999 data from the SRWP and Delta. Because a large increase in fish tissue concentration over the course of one year seemed unlikely, the data and methodologies were re-evaluated. Two potential problems were identified: 1) The 1998 samples were digested by a different method than the 1999 samples and 2) The acid type and concentration used to make standards was different than the acid type and concentration of the 1999 samples that were analyzed. In order to address these issues, the 1999 samples were re-digested by the nitric/sulfuric digestion that was used for the 1999 samples, and the 1999 samples were re-analyzed using standards with 2.5% 70:30 nitric:sulfuric acid, identical to the samples.

The 1999 mercury samples were redigested and analyzed in 36 batches. SRM (DORM-2 from the NRC) recoveries averaged 100%, and all 36 were within the 25% criterion established in the QAPP. The mercury matrix spike recoveries averaged 104%, and all matrix spikes and matrix spike duplicates were within the 25% criterion in the QAPP. All of the mercury matrix spike RPDs and lab duplicate RPDs were below 25% and all method blanks were below the detection limit.

The methyl mercury samples were digested and analyzed in 3 batches. SRM (DORM-2 from the NRC) recoveries averaged 98.5% and all 6 were within the 25% criterion established in the QAPP. The methyl mercury spike and matrix spike duplicate recoveries averaged 92.5% and all 6 were within the 30% criterion. All of the methyl mercury matrix spike RPDs and lab duplicate RPDs were below 25% and all method blanks were below the detection limit.

## 1.2 Organizational Chart

The following is an organizational chart of personnel at the DFG Marine Pollution Studies Laboratory at Moss Landing:



## 2.0 Summary of Methods

### 2.1 Laboratory materials cleaning procedures for tissue.

The following cleaning procedures were followed by the California Department of Fish and Game's Trace Metals Facility on all laboratory equipment and Teflon sheets.

Step 1 Soak materials in a dilute Micro® detergent solution for one day. Rinse three times with tap water and three times with ASTM Type II (18MΩ) water.

Step 2 Soak materials in 50% ACS reagent grade HCL for one day. Rinse three times with ASTM Type II water.

Step 3 Soak materials in 2N ACS reagent grade HNO<sub>3</sub> for three days. Rinse three times with ASTM Type II water.

## 2.2 Fish dissection procedure

Fish were kept frozen wrapped in Teflon in their original bags until the time of dissection. At the time of dissection, fish were placed in the clean lab in their original bags to thaw. After thawing, fish were cleaned by rinsing with de-ionized (DI) water, and were handled only by personnel wearing polyethylene gloves. Total length and weight for individual fish were taken prior to dissection. Length data are listed in Table 1. Materials used for dissection were:

- Teflon cutting board
- Teflon-coated forceps
- Stainless steel scalpel
- Stainless steel scissors

All dissection materials were cleaned by scrubbing with Micro® detergent, rinsing with tap water, DI water, and finally ASTM Type II water.

Fish scales were removed from largemouth bass, striped bass, Sacramento pike minnow, Sacramento sucker, Sacramento black fish, blue gill, red ear sunfish, crappie and common carp prior to skin on dissection. Skins were removed from white catfish, black bullhead and channel catfish prior to dissection. Dissections were done on a Teflon cutting board. For composites approximately 40 grams of fillet were taken from each of 5 fish for a total of approximately 200 grams per sample. All 200 grams were taken from a single fish for fish analyzed as individuals. Samples were homogenized with a Büchi Mixer B-400 with a titanium cutter. The cutter was cleaned between samples in the same manner as the dissection materials.

## 2.3 Tissue Digestion Procedure for Mercury

- Step 1 Place approximately 1 gram of homogenized sample or .25 gram of SRM in a 40 mL I-Cem™ vial.
- Step 2 Pipette 10.0 mL of 70:30 (v/v) HNO<sub>3</sub>/H<sub>2</sub>SO<sub>4</sub> solution into the 40 mL vial and swirl.
- Step 3 Place vial on a hot plate with a glass reflux cap.
- Step 4 Heat sample to 125° C for a minimum of 2 hours after the onset of refluxing or until all organic matter is dissolved.
- Step 5 After samples cool, dilute to 40 mL with a 5% (v/v) solution of 0.2 N BrCl in ASTM Type II water.

## **2.4 Mercury Analytical Method**

Samples were analyzed using a Perkin Elmer Flow Injection Mercury System (FIMS) with an AS-90 autosampler. Mercury concentrations were determined by analyzing 1 mL of digestate. Stannous chloride was used as the reducing agent with argon as the carrier gas.

Samples, blanks, reductant, and standards were prepared using clean techniques. ASTM Type II water and ultra clean chemicals were used for all standard preparations. A continuing calibration verification was performed after every 10 samples and samples run between CCVs that drifted greater than 10% were rerun. Three blanks, a standard reference material (DORM-2), as well as a method duplicate and a matrix spike pair were run with each set of samples.

All mercury values are listed in wet and dry weight ( $\mu\text{g/g}$ ) in Table 1. All QA data is reported for every batch in Table 2.

The limit of detection for this procedure is approximately  $0.025 \mu\text{g/g}$  on a dry weight basis. The reporting limit for this project is  $0.147 \mu\text{g/g}$  on a dry weight basis and  $0.0282 \mu\text{g/g}$  on a wet weight basis.

## **2.5 Methyl Mercury Digestion Method**

Step 1 Place approximately 0.5-1 gram of homogenized sample or 0.20 gram of SRM in a 40 mL I-Cem™ vial.

Step 2 Add 10 mL of the 25% KOH/methanol reagent to each sample.

Step 3 Cap sample, shake and place on a hot plate at  $90^\circ \text{C}$  for 2-4 hours or until all soft tissue is visibly solubilized.

Step 4 The samples are allowed to cool and then diluted up to the 40 mL with methanol. After dilution, samples are capped and agitated again.

Step 5 Samples with undissolved solids, such as sediments, are allowed to settle thoroughly prior to analysis.

## **2.6 Tissue Analytical Procedures for Methyl Mercury**

Samples were analyzed using an isothermal GC separation of ethyl analogs and cold vapor atomic fluorescence (CVAFS). 40 mL of D.I. water and 300  $\mu\text{L}$  of acetate buffer

are added to a reaction vessel. Then add 5-100  $\mu\text{L}$  aliquot of digestate to bubbler. Add 35  $\mu\text{L}$  of sodium tetraethylborate to activate aqueous phase ethylation. All methyl mercury values are listed in wet and dry weight ( $\mu\text{g/g}$ ) in Table 3. All QA data is reported for every batch in Table 4.

The limit of detection for this procedure is approximately 0.0084  $\mu\text{g/g}$  on a dry weight basis. The reporting limit for this project is 0.0084  $\mu\text{g/g}$  on a dry weight basis and 0.00201  $\mu\text{g/g}$  on a wet weight basis.

### **3.0 Summary Of Mercury and Methyl Mercury Quality Assurance/Quality Control**

Digestion batches contained 20 or less samples. Each batch has its own blank, SRM, matrix spike, matrix spike duplicate, and laboratory duplicate. The associated samples for each mercury batch are listed in Table 5. The associated samples for each methyl mercury batch are listed in Table 6.

#### **3.1 Accuracy**

##### **3.1.1 SRMs**

Accuracy refers to the agreement between the amount of a component measured by the test method and the amount actually present. The QAPP for the CalFed project sets the accuracy criteria of  $\pm 25\%$  for mercury and  $\pm 30\%$  for methyl mercury of the certified value of a standard reference material (SRM). Certified values are reported by the NRC (National Research Council) or NIST (National Institute of Standards and Technology). Standard reference materials with values  $>10$  times the detection limits were used to verify the accuracy of the analytical methods.

The NRC standard, DORM-2 (dogfish muscle and liver tissue), was used with a certified mercury concentration of  $4.64 \pm 0.26 \mu\text{g/g}$ . One SRM was analyzed for every batch (20 or less samples). The fish samples were digested in 36 batches with 1 SRM digested and analyzed with each batch. SRM DORM-2 recoveries ranged from 91.8-109% and averaged 100% over all the batches. All 36 SRM recoveries were within the  $\pm 25\%$  of the certified value criteria.

The NRC standard, DORM-2 (dogfish muscle and liver), certified methyl mercury concentration is  $4.47 \pm 0.32 \mu\text{g/g}$ . The 6 samples required for this study are listed in Table 4. The 6 SRMs recoveries ranged between 95.1-101% and averaged 98.5% recovery for the three batches. Table 4 lists the QA for methyl mercury. The DORM-2 recoveries were within the 30% criterion.

### **3.1.2 Matrix Spikes**

Matrix spikes are another prescribed measurement of accuracy in the QAPP for the CalFed project. Matrix spikes recoveries should be between 75 -125% for mercury or 70-130% for methyl mercury to be acceptable. The mercury matrix spike and matrix spike duplicate recoveries ranged from 86.8-123% and averaged 104% over all the batches. All of the 72 matrix spike results for mercury were all within the acceptable criteria (Table 2).

The methyl mercury matrix spike and matrix spike duplicate recoveries ranged from 81.3-101% and averaged 92.5% over the 3 batches. All 6 methyl mercury matrix spikes were within acceptable limits (Table 4).

### **3.2 Precision**

Precision refers to the reproducibility of a method when it is repeated under a controlled condition. The QAPP for the CalFed project uses the relative percent difference (RPD) of duplicate samples as a test of precision. The RPD of laboratory and matrix spike duplicates should be less than 25% for mercury and methyl mercury.

Results of duplicate comparisons are listed in Tables 2 and 4. The mercury RPD between laboratory duplicates ranged from 0.00-24.1%, with a mean of 8.29%. The methyl mercury RPD between the laboratory duplicates ranged from 2.95-3.81% with a mean of 3.43%. The mercury RPD between the 36 matrix spike and matrix spike duplicates ranged from 0.387-14.8%, with a mean of 4.67%. The methyl mercury RPD between the 6 matrix spike and matrix spike duplicates ranged from 4.56-7.31%, with a mean of 6.37%.

All the mercury and methyl mercury RPDs for laboratory duplicates, matrix spike, and matrix spike duplicates were within acceptable limits.

### **3.3 Blanks**

Three method blanks were digested with each digestion batch. The lab blanks were below the detection limits (MDL=0.005 µg/g, wet weight) for mercury, (MDL=0.00201 µg/g, wet weight) for methyl mercury.

### **3.4 Completeness**

The data on 411 of 411 samples (100%) were completed successfully. All the SRMs were within the control limits for mercury and methyl mercury. All matrix spikes were

within control limits. All the RPDs for matrix spikes and laboratory duplicates were within precision limits. Therefore, all the data is considered acceptable.



# **APPENDIX 2**

## **DATA AND QUALITY ASSURANCE/QUALITY CONTROL DOCUMENT FOR THE ASSESSMENT OF ECOLOGICAL AND HUMAN HEALTH IMPACTS OF MERCURY IN THE BAY-DELTA WATERSHED**

JUNE 2001

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**1.0 INTRODUCTION**

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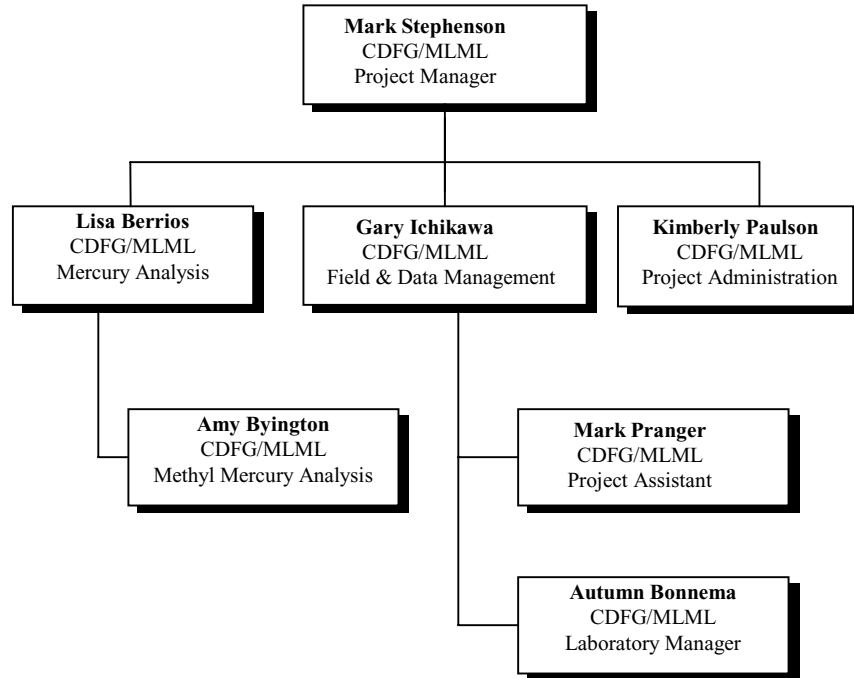
The CalFed 2000 fish samples were analyzed along with samples from the Sacramento River Watershed Program (SRWP). It was anticipated that the CalFed Program would benefit from this arrangement by having more samples analyzed, including analyses of individual fish at selected locations, and by having the CalFed Program integrated into a larger dataset with extensive QA. This document reports data and QA for the CalFed and some of the data from the Sacramento River Watershed Program. The QA for the Sacramento River Watershed Program has been previously reported and will not be discussed in this document.

The 2000 mercury samples were digested and analyzed in 16 batches. SRM (DORM-2 from the NRC) recoveries averaged 99.6 %, and all 16 were within the 25% criterion established in the QAPP. The mercury matrix spike recoveries averaged 99.7 %, and all matrix spikes and matrix spike duplicates were within the 25% criterion in the QAPP. All of the mercury matrix spike RPDs and lab duplicate RPDs were below 25% and all method blanks were below the detection limit.

The methyl mercury samples were digested and analyzed in 1 batch. The SRM (DORM-2 from the NRC) recovery was 83.6 %, within the 30% criterion established in the QAPP. The methyl mercury spike and matrix spike duplicate recoveries averaged 87.4 % and both were within the 30% criterion. All of the methyl mercury matrix spike RPDs and lab duplicate RPDs were below 25% and all method blanks were below the detection limit.

## 1.2 Organizational Chart

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Fish were kept frozen wrapped in Teflon in their original bags until the time of dissection. At the time of dissection, fish were placed in the clean lab in their original bags to thaw. After thawing, fish were cleaned by rinsing with de-ionized (DI) water, and were handled only by personnel wearing polyethylene gloves. Total length and weight for individual fish were taken prior to dissection. Length data are listed in Table 1. Materials used for dissection were:

- Teflon cutting board
- Teflon-coated forceps
- Stainless steel scalpel
- Stainless steel scissors

All dissection materials were cleaned by scrubbing with Micro® detergent, rinsing with tap water, DI water, and finally ASTM Type II water.

Fish scales were removed from largemouth bass, striped bass, Sacramento pike minnow, Sacramento sucker, blue gill, red ear sunfish, crappie and common carp prior to skin on dissection. Skins were removed from white catfish and channel catfish prior to dissection. Dissections were done on a Teflon cutting board. For composites approximately 40 grams of fillet were taken from each of 5 fish for a total of approximately 200 grams per sample. All 200 grams were taken from a single fish for fish analyzed as individuals. Samples were homogenized with a Büchi Mixer B-400 with a titanium cutter. The cutter was cleaned between samples in the same manner as the dissection materials.

## 2.3 Tissue Digestion Procedure for Mercury

- Step 1 Place approximately 1 gram of homogenized sample or 0.25 gram of SRM in a 40 mL I-Cem™ vial.
- Step 2 Pipette 10.0 mL of 70:30 (v/v) HNO<sub>3</sub>/H<sub>2</sub>SO<sub>4</sub> solution into the 40 mL vial and swirl.
- Step 3 Place vial on a hot plate with a glass reflux cap.
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- Step 5 After samples cool, dilute to 40 mL with a 5% (v/v) solution of 0.2 N BrCl in ASTM Type II water.

## 2.4 Mercury Analytical Method

Samples were analyzed using a Perkin Elmer Flow Injection Mercury System (FIMS) with an AS-90 autosampler. Mercury concentrations were determined by analyzing 1 mL of digestate. Stannous chloride was used as the reducing agent with argon as the carrier gas.

Samples, blanks, reductant, and standards were prepared using clean techniques. ASTM Type II water and ultra clean chemicals were used for all standard preparations. A continuing calibration verification was performed after every 10 samples and samples run between CCVs that drifted greater than 10% were rerun. Three blanks, a standard reference material (DORM-2), as well as a method duplicate and a matrix spike pair were run with each set of samples.

All mercury values are listed in wet and dry weight ( $\mu\text{g/g}$ ) in Table 1. All QA data is reported for every batch in Table 2.

The limit of detection for this procedure is approximately  $0.0251\mu\text{g/g}$  on a dry weight basis. The reporting limit for this project is  $0.134\mu\text{g/g}$  on a dry weight basis and  $0.0386\mu\text{g/g}$  on a wet weight basis.

## 2.5 Methyl Mercury Digestion Method

Step 1 Place approximately 0.5-1 gram of homogenized sample or 0.20 gram of SRM in a 40 mL I-Cem™ vial.

Step 2 Add 10 mL of the 25% KOH/methanol reagent to each sample.

Step 3 Cap sample, shake and place on a hot plate at  $90^{\circ}\text{C}$  for 2-4 hours or until all soft tissue is visibly solubilized.

Step 4 The samples are allowed to cool and then diluted up to the 40 mL with methanol. After dilution, samples are capped and agitated again.

Step 5 Samples with undissolved solids, such as sediments, are allowed to settle thoroughly prior to analysis.

## 2.6 Tissue Analytical Procedures for Methyl Mercury

Samples were analyzed using an isothermal GC separation of ethyl analogs and cold vapor atomic fluorescence (CVAFS). 40 mL of D.I. water and 300  $\mu\text{L}$  of acetate buffer are added to a reaction vessel. Then add 5-100  $\mu\text{L}$  aliquot of digestate to bubbler. Add 35  $\mu\text{L}$  of sodium tetraethylborate to activate aqueous phase ethylation. All methyl

mercury values are listed in wet and dry weight ( $\mu\text{g/g}$ ) in Table 3. All QA data is reported for every batch in Table 4.

The limit of detection for this procedure is approximately  $0.00840 \mu\text{g/g}$  on a dry weight basis. The reporting limit for this project is  $0.00864 \mu\text{g/g}$  on a dry weight basis and  $0.00210 \mu\text{g/g}$  on a wet weight basis.

### **3.0 Summary Of Mercury and Methyl Mercury Quality Assurance/Quality Control**

Digestion batches contained 20 or less samples. Each batch has a SRM, matrix spike, matrix spike duplicate, laboratory duplicate, and 3 blanks. The associated samples for each mercury batch are listed in Table 5. The associated samples the methyl mercury batch are listed in Table 6.

#### **3.1 Accuracy**

##### **3.1.1 SRMs**

Accuracy refers to the agreement between the amount of a component measured by the test method and the amount actually present. The QAPP for the CalFed project sets the accuracy criteria of  $\pm 25\%$  for mercury and  $\pm 30\%$  for methyl mercury of the certified value of a standard reference material (SRM). Certified values are reported by the NRC (National Research Council) or NIST (National Institute of Standards and Technology). Standard reference materials with values  $>10$  times the detection limits were used to verify the accuracy of the analytical methods.

The NRC standard, DORM-2 (dogfish muscle and liver tissue), was used with a certified mercury concentration of  $4.64 \pm 0.26 \mu\text{g/g}$ . One SRM was analyzed for every batch (20 or less samples). The fish samples were digested in 16 batches with 1 SRM digested and analyzed with each batch. SRM DORM-2 recoveries ranged from 91.8-108 % and averaged 99.6 % over all the batches. All 16 SRM recoveries were within the  $\pm 25\%$  of the certified value criteria.

The NRC standard, DORM-2 (dogfish muscle and liver), certified methyl mercury concentration is  $4.47 \pm 0.32 \mu\text{g/g}$ . The 12 samples required for this study are listed in Table 3. The 1 SRM recovery was 83.6 % within the 30% criterion. Table 4 lists the QA for methyl mercury.

### **3.1.2 Matrix Spikes**

Matrix spikes are another prescribed measurement of accuracy in the QAPP for the CalFed project. Matrix spike recoveries should be between 75 -125% for mercury or 70-130% for methyl mercury to be acceptable. The mercury matrix spike and matrix spike duplicate recoveries ranged from 77.7-109 % and averaged 99.7 % over all the batches. All of the 32 matrix spike results for mercury were within the acceptable criteria (Table 2).

The methyl mercury matrix spike and matrix spike duplicate recoveries ranged from 85.1-89.6 % and averaged 87.4 % for the one batch. Both methyl mercury matrix spikes were within acceptable limits (Table 4).

### **3.2 Precision**

Precision refers to the reproducibility of a method when it is repeated under a controlled condition. The QAPP for the CalFed project uses the relative percent difference (RPD) of duplicate samples as a test of precision. The RPD of laboratory and matrix spike duplicates should be less than 25% for mercury and methyl mercury.

Results of duplicate comparisons are listed in Tables 2 and 4. The mercury RPD between laboratory duplicates ranged from 0.105-14.8 %, with a mean of 0.386 %. The one methyl mercury RPD between the laboratory duplicates was 0.103 %. The mercury RPD between the 16 matrix spike and matrix spike duplicates ranged from 0.105-14.8 %, with a mean of 0.386 %. The methyl mercury RPD between the one matrix spike and matrix spike duplicate was 5.15 %.

All the mercury and methyl mercury RPDs for laboratory duplicates, matrix spike, and matrix spike duplicates were within acceptable limits.

### **3.3 Blanks**

Three method blanks were digested with each digestion batch. The lab blanks were below the detection limits (MDL=0.0386 µg/g, wet weight) for mercury, (MDL=0.00210 µg/g, wet weight) for methyl mercury.

### **3.4 Completeness**

The data on 318 of 318 samples (100%) were completed successfully. All the SRMs were within the control limits for mercury and methyl mercury. All matrix spikes were within control limits. All the RPDs for matrix spikes and laboratory duplicates were within precision limits. Therefore, all the data is considered acceptable.

## Total mercury and ancillary data for fish collected in 1999 as part of the CalFed project.

Fish ID	Year	Station Location	Fish Description	Species	Sample Size	Mean Length	Mean Mass	Moisture	Hg Wet Weight	Hg Dry Weight	C Isotope	N Isotope	Age
						mm	g	%	µg/g	µg/g	δ13C	δ15N	Yr
99-1047-t-ind 1	1999	Cache Slough near Ryer Island Ferry	Common Carp	Carp	5	352	ND	78.9	0.107	0.507	ND	ND	ND
99-1047-t-ind 2	1999	Cache Slough near Ryer Island Ferry	Large Mouth Bass-ind 1	Larg	1	380	890	79.2	1.18	5.69	-24.7	17.2	5
99-1047-t-ind 3	1999	Cache Slough near Ryer Island Ferry	Large Mouth Bass-ind 2	Larg	1	385	756	76.6	0.877	3.74	-25.2	18.6	5
99-1047-t-ind 4	1999	Cache Slough near Ryer Island Ferry	Large Mouth Bass-ind 3	Larg	1	429	896	79.0	0.898	4.28	-20.4	18.3	5
99-1047-t-ind 5	1999	Cache Slough near Ryer Island Ferry	Large Mouth Bass-ind 4	Larg	1	340	578	78.6	0.872	4.07	-25.3	16.5	3
99-1048-t-ind 1	1999	Cache Slough near Ryer Island Ferry	White Catfish-ind 1	Whit	1	285	194	79.7	0.513	2.53	-27.8	15.7	ND
99-1048-t-ind 2	1999	Cache Slough near Ryer Island Ferry	White Catfish-ind 2	Whit	1	270	216	79.3	0.600	2.91	-26.9	17.0	ND
99-1048-t-ind 3	1999	Cache Slough near Ryer Island Ferry	White Catfish-ind 3	Whit	1	274	221	83.3	0.680	4.08	-26.9	16.9	ND
99-1048-t-ind 4	1999	Cache Slough near Ryer Island Ferry	White Catfish-ind 4	Whit	1	330	284	82.0	0.833	4.62	-25.5	16.7	ND
99-1048-t-ind 5	1999	Cache Slough near Ryer Island Ferry	White Catfish-ind 5	Whit	1	280	233	81.2	0.497	2.64	-27.2	16.0	ND
99-2384-t-ind 1	1999	Colorado River upstream Imperial Dam	Large Mouth Bass-ind 1	Larg	1	348	705	77.8	0.040	0.18	-25.3	15.4	3
99-2384-t-ind 2	1999	Colorado River upstream Imperial Dam	Large Mouth Bass-ind 2	Larg	1	402	990	77.4	0.066	0.293	-25.5	15.8	3
99-2384-t-ind 3	1999	Colorado River upstream Imperial Dam	Large Mouth Bass-ind 3	Larg	1	380	1041	77.2	0.070	0.306	-24.2	14.5	4
99-2384-t-ind 4	1999	Colorado River upstream Imperial Dam	Large Mouth Bass-ind 4	Larg	1	405	893	79.5	0.074	0.361	-24.6	16.3	4
99-2391-t-ind 1	1999	Colorado River upstream Imperial Dam	Large Mouth Bass-ind 5	Larg	1	434	1387	77.5	0.042	0.187	-26.0	16.2	3
99-2391-t-ind 2	1999	Colorado River upstream Imperial Dam	Large Mouth Bass-ind 6	Larg	1	383	941	77.1	0.056	0.243	-24.8	15.9	4
99-2391-t-ind 3	1999	Colorado River upstream Imperial Dam	Large Mouth Bass-ind 7	Larg	1	389	855	76.9	0.052	0.224	-23.8	11.3	3
99-2392-t	1999	Colorado River upstream Imperial Dam	Large Mouth Bass-ind 8	Larg	1	442	1313	78.0	0.092	0.416	-24.7	12.4	4
99-1485-t	1999	Crow's Landing	Blue Gill	Blue	5	119	33	79.6	0.116	0.568	-27.0	14.3	ND
99-1478-t-ind 1	1999	Crow's Landing	Large Mouth Bass-ind 1	Larg	1	415	1026	76.0	0.727	3.03	-24.6	16.5	3
99-1478-t-ind 2	1999	Crow's Landing	Large Mouth Bass-ind 2	Larg	1	383	838	77.0	0.765	3.32	-24.2	16.2	2
99-1478-t-ind 3	1999	Crow's Landing	Large Mouth Bass-ind 3	Larg	1	415	1081	75.1	0.633	2.54	-24.5	16.3	4
99-1478-t-ind 4	1999	Crow's Landing	Large Mouth Bass-ind 4	Larg	1	426	994	76.2	1.08	4.55	-24.8	16.3	5
99-1481-t	1999	Crow's Landing	Large Mouth Bass-ind 5	Larg	1	490	1851	75.3	1.66	6.75	-24.8	16.8	6
99-1482-t-ind 1	1999	Crow's Landing	Large Mouth Bass-ind 6	Larg	1	410	1105	70.3	0.714	2.4	-24.9	16.4	ND
99-1482-t-ind 2	1999	Crow's Landing	Large Mouth Bass-ind 7	Larg	1	315	432	76.0	0.788	3.29	-25.3	16.2	2
99-1482-t-ind 3	1999	Crow's Landing	Large Mouth Bass-ind 8	Larg	1	310	446	78.1	0.743	3.39	-23.4	16.8	2
99-1486-t	1999	Crow's Landing	Redear Sunfish	Rede	5	164	75	76.9	0.190	0.823	-25.6	15.7	ND
99-1484-t	1999	Crow's Landing	Striped Bass	Stri	1	457	875	75.2	0.464	1.87	-23.2	15.2	ND
99-1479-t-ind 1	1999	Crow's Landing	White Catfish-ind 1	Whit	1	780	ND	77.2	1.01	4.45	-25.0	15.2	ND
99-1479-t-ind 2	1999	Crow's Landing	White Catfish-ind 2	Whit	1	625	ND	75.8	0.935	3.87	-26.0	15.2	ND
99-1480-t-ind 1	1999	Crow's Landing	White Catfish-ind 3	Whit	1	199	92	80.6	0.177	0.913	-28.5	15.0	ND
99-1480-t-ind 2	1999	Crow's Landing	White Catfish-ind 4	Whit	1	176	62	79.1	0.236	1.13	-28.8	15.2	ND
99-1480-t-ind 3	1999	Crow's Landing	White Catfish-ind 5	Whit	1	224	105	81.7	0.370	2.02	-25.1	14.3	ND
99-1480-t-ind 4	1999	Crow's Landing	White Catfish-ind 6	Whit	1	222	104	81.1	0.402	2.13	-27.5	15.0	ND
99-1483-t-ind 1	1999	Crow's Landing	White Catfish-ind 7	Whit	1	267	161	80.3	0.619	3.14	-24.7	17.9	ND
99-1483-t-ind 2	1999	Crow's Landing	White Catfish-ind 8	Whit	1	246	139	80.1	0.362	1.82	-26.6	14.6	ND
99-1424-t	1999	Darell's Cosumnes River	Blue Gill	Blue	5	119	29	80.2	0.336	1.7	-25.7	11.0	ND
99-1422-t-ind 1	1999	Darell's Cosumnes River	Large Mouth Bass-ind 1	Larg	1	338	638	76.8	1.07	4.64	-25.0	13.2	4
99-1422-t-ind 2	1999	Darell's Cosumnes River	Large Mouth Bass-ind 2	Larg	1	373	557	77.7	1.30	5.8	-25.1	13.3	3
99-1422-t-ind 3	1999	Darell's Cosumnes River	Large Mouth Bass-ind 3	Larg	1	385	786	76.6	1.36	5.8	-26.2	12.6	4
99-1422-t-ind 4	1999	Darell's Cosumnes River	Large Mouth Bass-ind 4	Larg	1	396	892	75.3	1.39	5.62	-25.7	13.0	ND
99-1422-t-ind 5	1999	Darell's Cosumnes River	Large Mouth Bass-ind 5	Larg	1	364	831	77.7	1.16	5.21	-25.5	12.5	ND
99-1798-t	1999	Darell's Cosumnes River	Large Mouth Bass-ind 6	Larg	1	382	848	77.0	0.918	3.99	NA	NA	3
99-1799-t	1999	Darell's Cosumnes River	Large Mouth Bass-ind 7	Larg	1	467	1448	77.0	1.35	5.84	-25.2	13.0	5
99-1425-t	1999	Darell's Cosumnes River	Redear Sunfish	Rede	5	170	93	77.6	0.329	1.47	-25.3	11.6	ND
99-1423-t	1999	Darell's Cosumnes River	Sacramento Suckers	Sacr	5	433	831	76.9	0.492	2.13	-25.3	10.4	ND
99-1421-t-ind 1	1999	Darell's Cosumnes River	Striped Bass-ind 1	Stri	1	540	ND	75.9	0.578	2.4	-21.2	16.6	ND
99-1421-t-ind 2	1999	Darell's Cosumnes River	Striped Bass-ind 2	Stri	1	632	ND	76.5	1.00	4.25	-25.9	14.9	ND
99-1228-t	1999	Feather River near Nicolaus	Blue Gill	Blue	5	184	104	79.7	0.121	0.598	-23.5	13.8	ND
99-1230-t	1999	Feather River near Nicolaus	Channel Catfish-ind 1	Chan	1	473	986	77.1	0.721	3.15	-24.3	13.5	ND
99-1050-t-ind 1	1999	Feather River near Nicolaus	Large Mouth Bass-ind 1	Larg	1	322	363	78.1	0.787	3.59	-22.9	13.6	3
99-1050-t-ind 2	1999	Feather River near Nicolaus	Large Mouth Bass-ind 2	Larg	1	310	358	78.0	0.667	3.03	-22.7	14.0	3
99-1050-t-ind 3	1999	Feather River near Nicolaus	Large Mouth Bass-ind 3	Larg	1	314	ND	77.9	0.633	2.87	-22.2	13.5	3
99-1050-t-ind 4	1999	Feather River near Nicolaus	Large Mouth Bass-ind 4	Larg	1	310	392	78.0	0.555	2.52	-23.3	13.4	3
99-1050-t-ind 5	1999	Feather River near Nicolaus	Large Mouth Bass-ind 5	Larg	1	350	565	78.9	1.03	4.89	-26.9	13.7	4
99-1051-t	1999	Feather River near Nicolaus	Large Mouth Bass-ind 6	Larg	1	495	1699	77.8	2.35	10.6	-22.5	13.3	6
99-1052-t	1999	Feather River near Nicolaus	Large Mouth Bass-ind 7	Larg	1	456	1446	78.1	1.51	6.91 e	-25.2	13.3	5
99-1221-t-ind 1	1999	Feather River near Nicolaus	Large Mouth Bass-ind 8	Larg	1	339	524	76.7	2.08	8.95	-23.0	13.5	3
99-1221-t-ind 2	1999	Feather River near Nicolaus	Large Mouth Bass-ind 9	Larg	1	305	392	77.9	0.649	2.93	-23.6	12.8	3
99-1221-t-ind 3	1999	Feather River near Nicolaus	Large Mouth Bass-ind 10	Larg	1	361	653	77.7	1.52	6.79	-24.8	13.0	3
99-1221-t-ind 4	1999	Feather River near Nicolaus	Large Mouth Bass-ind 11	Larg	1	321	468	77.8	0.667	3.01	-22.4	13.8	3
99-1225-t	1999	Feather River near Nicolaus	Sacramento Pike Minnow	Sapm	5	287	152	80.5	1.20	6.13	-22.1	12.3	ND
99-1053-t	1999	Feather River near Nicolaus	Striped Bass-ind 1	Stri	1	645	ND	76.5	0.320	1.37	-18.1	16.9	ND
99-1222-t-ind 1	1999	Feather River near Nicolaus	Striped Bass-ind 2	Stri	1	817	ND	78.5	3.50	16.3	-21.6	14.8	ND
99-1222-t-ind 2	1999	Feather River near Nicolaus	Striped Bass-ind 3	Stri	1	626	ND	76.3	1.28	5.42	-23.3	13.3	ND
99-1229-t-ind 1	1999	Feather River near Nicolaus	White Catfish-ind 1	Whit	1	497	ND	77.9	0.745	3.37	-20.8	13.3	ND
99-1229-t-ind 2	1999	Feather River near Nicolaus	White Catfish-ind 2	Whit	1	491	1190	79.8	0.620	3.07	-20.7	12.9	ND
99-1242-t-comp 1	1999	Lake Berryessa at Pope Creek	Blue Gill-comp	Blue	2	170	98	80.9	0.379	1.99	-28.1	9.3	ND
99-1242-t-ind 1	1999	Lake Berryessa at Pope Creek	Blue Gill-ind	Blue	1	206	152	82.1	0.416	2.32	-27.6	10.4	ND
99-1240-t-ind 1	1999	Lake Berryessa at Pope Creek	Large Mouth Bass-ind 1	Larg	1	310	401	79.1	0.779	3.72	-27.8	12.1	ND



Fish ID	Year	Station Location	FishDescription	Species	Sample Size	Mean Length	Mean Mass	Moisture	Hg Wet Weight	Hg Dry Weight	C Isotope	N Isotope	Age
99-1240-t-ind 2	1999	Lake Berryessa at Pope Creek	Large Mouth Bass-ind 2	Larg	1	340	505	79.2	0.877	4.22	-28.8	12.8	3
99-1240-t-ind 3	1999	Lake Berryessa at Pope Creek	Large Mouth Bass-ind 3	Larg	1	396	679	78.1	1.13	5.18	-28.4	11.9	4
99-1240-t-ind 4	1999	Lake Berryessa at Pope Creek	Large Mouth Bass-ind 4	Larg	1	382	681	78.0	1.37	6.25	-29.4	11.6	3
99-1240-t-ind 5	1999	Lake Berryessa at Pope Creek	Large Mouth Bass-ind 5	Larg	1	342	480	78.3	0.726	3.35	-27.2	11.6	4
99-1244-t	1999	Lake Berryessa at Pope Creek	Large Mouth Bass YOY	Larg	9	60	3.4	79.5	0.095	0.465	-27.9	9.6	ND
99-1239-t	1999	Lake Berryessa at Pope Creek	Sacramento Suckers	Sacr	5	428	834	80.7	NA	NA	-29.2	8.9	ND
99-1241-t	1999	Lake Berryessa at Pope Creek	White Catfish	Whit	1	520	1383	79.5	1.02	4.99	-26.7	9.2	ND
99-1442-t	1999	Lake Nacimiento at Las Tablas Creek	Blue Gill	Blue	4	94	11.1	83.3	0.219	1.31	-26.1	7.9	ND
99-1432-t-ind 1	1999	Lake Nacimiento at Las Tablas Creek	Large Mouth Bass-ind 1	Larg	1	322	325	81.4	1.40	7.49	-28.8	9.8	2
99-1432-t-ind 2	1999	Lake Nacimiento at Las Tablas Creek	Large Mouth Bass-ind 2	Larg	1	345	343	78.5	1.89	8.83	-29.6	9.5	1
99-1432-t-ind 3	1999	Lake Nacimiento at Las Tablas Creek	Large Mouth Bass-ind 3	Larg	1	312	280	77.8	1.24	5.6	-29.2	9.9	2
99-1432-t-ind 4	1999	Lake Nacimiento at Las Tablas Creek	Large Mouth Bass-ind 4	Larg	1	390	665	78.1	1.95	8.91	-28.3	10.0	3
99-1432-t-ind 5	1999	Lake Nacimiento at Las Tablas Creek	Large Mouth Bass-ind 5	Larg	1	389	530	77.0	1.97	8.56	-28.6	10.6	3
99-1432-t-ind 6	1999	Lake Nacimiento at Las Tablas Creek	Large Mouth Bass-ind 6	Larg	1	320	357	77.8	1.84	8.29	-28.9	9.2	2
99-1432-t-ind 7	1999	Lake Nacimiento at Las Tablas Creek	Large Mouth Bass-ind 7	Larg	1	337	377	78.3	1.31	6.03	-27.7	8.9	2
99-1433-t	1999	Lake Nacimiento at Las Tablas Creek	Large Mouth Bass YOY	Larg	9	66	2.3	76.4	0.149	0.63	-27.9	8.3	ND
99-1434-t	1999	Lake Nacimiento at Las Tablas Creek	Large Mouth Bass-ind 8	Larg	1	392	1449	79.1	3.30	15.8	-28.0	11.0	5
99-1439-t	1999	Lake San Antonio at Harris Creek	Blue Gill	Blue	5	137	43	76.7	0.595	2.55	-25.4	8.9	ND
99-1437-t-ind 1	1999	Lake San Antonio at Harris Creek	Large Mouth Bass-ind 1	Larg	1	423	1104	74.4	0.256	1	-26.9	10.6	5
99-1437-t-ind 2	1999	Lake San Antonio at Harris Creek	Large Mouth Bass-ind 2	Larg	1	427	1047	77.2	0.278	1.22	-26.1	10.7	6
99-1437-t-ind 3	1999	Lake San Antonio at Harris Creek	Large Mouth Bass-ind 3	Larg	1	341	559	77.2	0.125	0.549	-26.4	11.1	3
99-1437-t-ind 4	1999	Lake San Antonio at Harris Creek	Large Mouth Bass-ind 4	Larg	1	355	704	76.8	0.295	1.27	-26.5	10.7	4
99-1437-t-ind 5	1999	Lake San Antonio at Harris Creek	Large Mouth Bass-ind 5	Larg	1	396	958	77.7	0.201	0.9	-25.3	10.4	5
99-1437-t-ind 6	1999	Lake San Antonio at Harris Creek	Large Mouth Bass-ind 6	Larg	1	401	899	77.6	0.307	1.37	-25.6	9.8	5
99-1438-t	1999	Lake San Antonio at Harris Creek	Large Mouth Bass YOY	Larg	20	60	1.9	78.2	0.049	0.222	-25.4	7.6	ND
99-1441-t	1999	Lake San Antonio at Harris Creek	Large Mouth Bass-ind 7	Larg	1	443	1269	75.7	0.410	1.69	-25.4	11.2	4
99-1295-t	1999	Middle River @ Bullfrog	Blue Gill-comp 1	Blue	5	150	61	77.9	0.065	0.295	-27.3	17.7	ND
99-1296-t	1999	Middle River @ Bullfrog	Blue Gill-comp 2	Blue	5	113	22	77.6	BRL	BRL	-26.5	15.6	ND
99-1293-t-ind 1	1999	Middle River @ Bullfrog	Large Mouth Bass-ind 1	Larg	1	342	594	77.6	0.233	1.04	-25.7	17.9	3
99-1293-t-ind 2	1999	Middle River @ Bullfrog	Large Mouth Bass-ind 2	Larg	1	375	960	78.3	0.269	1.24	-28.4	14.4	4
99-1293-t-ind 3	1999	Middle River @ Bullfrog	Large Mouth Bass-ind 3	Larg	1	394	946	77.1	0.229	1	-26.4	17.0	3
99-1293-t-ind 4	1999	Middle River @ Bullfrog	Large Mouth Bass-ind 4	Larg	1	316	576	76.8	0.232	1	-28.0	15.8	3
99-1293-t-ind 5	1999	Middle River @ Bullfrog	Large Mouth Bass-ind 5	Larg	1	356	876	75.4	0.170	0.688	-26.5	15.5	4
99-1816-t-ind 1	1999	Middle River @ Bullfrog	Large Mouth Bass-ind 6	Larg	1	347	649	79.6	0.161	0.79	-25.0	18.2	3
99-1816-t-ind 2	1999	Middle River @ Bullfrog	Large Mouth Bass-ind 7	Larg	1	331	544	72.7	0.111	0.409	-24.2	17.7	3
99-1297-t	1999	Middle River @ Bullfrog	Redear Sunfish	Rede	4	210	162	76.8	0.099	0.426	-25.7	17.0	ND
99-1159-t-comp 1	1999	Mokelumne between Beaver and Hog Slough	Blue Gill-comp 1	Blue	5	212	155	75.7	0.418	1.72	-26.1	11.9	ND
99-1159-t-comp 2	1999	Mokelumne between Beaver and Hog	Blue Gill-comp 2	Blue	5	198	137	76.2	0.143	0.599	-24.7	13.6	ND
99-1157-t-ind 1	1999	Mokelumne between Beaver and Hog Slough	Large Mouth Bass-ind 1	Larg	1	394	910	75.3	0.658	2.66	-24.0	17.2	ND
99-1157-t-ind 2	1999	Mokelumne between Beaver and Hog Slough	Large Mouth Bass-ind 2	Larg	1	363	614	75.5	0.736	3.01	-23.7	15.6	3
99-1157-t-ind 3	1999	Mokelumne between Beaver and Hog Slough	Large Mouth Bass-ind 3	Larg	1	372	716	76.0	0.779	3.24	-24.0	16.3	5
99-1157-t-ind 4	1999	Mokelumne between Beaver and Hog Slough	Large Mouth Bass-ind 4	Larg	1	398	1031	79.0	0.910	4.33	-22.5	15.2	6
99-1157-t-ind 5	1999	Mokelumne between Beaver and Hog Slough	Large Mouth Bass-ind 5	Larg	1	387	838	76.0	0.808	3.37	-23.7	15.1	4
99-1806-t-ind 1	1999	Mokelumne between Beaver and Hog Slough	Large Mouth Bass-ind 1	Larg	1	351	643	74.9	0.561	2.23	-25.3	16.0	4
99-1806-t-ind 2	1999	Mokelumne between Beaver and Hog Slough	Large Mouth Bass-ind 2	Larg	1	421	1120	76.7	0.745	3.2	-21.9	17.4	3
99-1809-t	1999	Mokelumne between Beaver and Hog Slough	Large Mouth Bas -YOY	Larg	15	65	3.3	74.1	BRL	BRL	-21.3	15.0	ND
99-1176-t	1999	Mokelumne between Beaver and Hog	Striped Bass-ind 1	Stri	1	610	ND	76.0	0.826	3.44	-23.8	16.5	ND
99-1158-t-ind 1	1999	Mokelumne between Beaver and Hog Slough	White Catfish-ind 1	Whit	1	323	524	80.3	0.285	1.45	-23.9	12.7	ND
99-1158-t-ind 2	1999	Mokelumne between Beaver and Hog Slough	White Catfish-ind 2	Whit	1	289	344	78.0	0.205	0.931	-25.6	14.3	ND
99-1808-t	1999	Mokelumne between Beaver and Hog Slough	White Catfish-ind 3	Whit	1	329	513	80.7	0.123	0.637	-20.6	14.4	ND
99-1144-t-comp 1	1999	Mokelumne downstream of Cosumnes	Blue Gill-comp 1	Blue	5	137	53	76.1	0.244	1.02	-25.3	10.6	ND
99-1144-t-comp 2	1999	Mokelumne downstream of Cosumnes	Blue Gill-comp 2	Blue	5	155	55	78.2	0.305	1.4	-24.3	10.7	ND
99-1143-t-ind 1	1999	Mokelumne downstream of Cosumnes	Large Mouth Bass-ind 1	Larg	1	341	750	77.2	0.752	3.3	-25.3	12.2	4
99-1143-t-ind 2	1999	Mokelumne downstream of Cosumnes	Large Mouth Bass-ind 2	Larg	1	357	598	74.9	1.01	4.01	-25.0	12.4	3
99-1143-t-ind 3	1999	Mokelumne downstream of Cosumnes	Large Mouth Bass-ind 3	Larg	1	399	1054	74.3	1.35	5.26	-24.6	12.0	6
99-1143-t-ind 4	1999	Mokelumne downstream of Cosumnes	Large Mouth Bass-ind 4	Larg	1	389	989	76.7	0.449	1.93	-24.3	16.3	4
99-1143-t-ind 5	1999	Mokelumne downstream of Cosumnes	Large Mouth Bass-ind 5	Larg	1	394	1113	75.1	1.18	4.72	-23.9	13.1	4
99-1800-t-ind 1	1999	Mokelumne downstream of Cosumnes	Large Mouth Bass-ind 6	Larg	1	362	722	75.7	0.819	3.37	-24.9	11.7	3
99-1800-t-ind 2	1999	Mokelumne downstream of Cosumnes	Large Mouth Bass-ind 7	Larg	1	425	1200	75.3	1.58	6.4	-23.9	13.2	7
99-1146-t	1999	Mokelumne downstream of Cosumnes	Sacramento Suckers	Sacr	5	322	388	78.8	0.267	1.26	-24.3	10.4	ND
99-1145-t	1999	Mokelumne downstream of Cosumnes	Sacramento Pike Minnow	Sapm	3	293	226	76.8	0.572	2.46	-22.1	11.1	ND
99-1147-t-ind 1	1999	Mokelumne downstream of Cosumnes	Striped Bass-ind 1	Stri	1	747	1155	77.4	0.884	3.91	-23.9	16.8	ND
99-1147-t-ind 2	1999	Mokelumne downstream of Cosumnes	Striped Bass-ind 2	Stri	1	615	1052	76.4	0.388	1.64	-17.3	17.3	ND
99-1147-t-ind 3	1999	Mokelumne downstream of Cosumnes	Striped Bass-ind 3	Stri	1	643	1403	75.3	1.20	4.87	-21.2	16.1	ND
99-1801-t	1999	Mokelumne downstream of Cosumnes	Striped Bass-ind 5	Stri	1	732	1145	74.1	0.339	1.31	-18.3	17.0	ND
99-1802-t	1999	Mokelumne downstream of Cosumnes	Striped Bass-ind 6	Stri	1	880	ND	75.3	0.541	2.19	-18.1	15.8	ND
99-1404-t	1999	Mokelumne downstream of Cosumnes	Striped Bass-ind 4	Stri	1	823	ND	76.3	0.691	2.91	ND	ND	ND
99-1404-t	1999	Old River near Paradise Cut	Blue Gill YOY	Blue	20	45	1.4	76.6	BRL	BRL	-26.8	15.9	ND
99-1412-t	1999	Old River near Paradise Cut	Blue Gill	Blue	5	147	64	81.4	0.087	0.465	-26.3	16.7	ND
99-1408-t	1999	Old River near Paradise Cut	Channel Catfish	Chan	4	429	795	76.0	0.181	0.755	-28.1	14.0	ND
99-1405-t	1999	Old River near Paradise Cut	Large Mouth Bass YOY	Larg	4	66	3.5	77.2	0.045	0.199	-26.4	14.2	ND
99-1406-t-ind 1	1999	Old River near Paradise Cut	Large Mouth Bass-ind 1	Larg	1	452	1445	76.3	0.582	2.45	-25.2	18.2	6
99-1406-t-ind 2	1999	Old River near Paradise Cut	Large Mouth Bass-ind 2	Larg	1	468	1864	76.3	0.427	1.8	-25.0	18.7	5
99-1407-t-ind 1	1999	Old River near Paradise Cut	Large Mouth Bass-ind 3	Larg	1	353	619	76.8	0.439	1.89	-23.4	18.3	5
99-1407-t-ind 2	1999	Old River near Paradise Cut	Large Mouth Bass-ind 4	Larg	1	339	532	77.1	0.197	0.859	-23.5	18.2	3

Fish ID	Year	Station Location	FishDescription	Species	Sample Size	Mean Length	Mean Mass	Moisture	Hg Wet Weight	Hg Dry Weight	C Isotope	N Isotope	Age
99-1407-t-ind 3	1999	Old River near Paradise Cut	Large Mouth Bass-ind 5	Larg	1	374	873	76.6	0.583	2.49	-24.3	18.3	4
99-1407-t-ind 4	1999	Old River near Paradise Cut	Large Mouth Bass-ind 6	Larg	1	390	776	76.6	0.414	1.77	-24.2	18.2	3
99-1407-t-ind 5	1999	Old River near Paradise Cut	Large Mouth Bass-ind 7	Larg	1	333	576	77.3	0.238	1.05	-23.8	18.3	3
99-1413-t	1999	Old River near Paradise Cut	Redear Sunfish	Rede	5	197	143	77.9	0.112	0.507	-25.4	16.7	ND
99-1409-t-ind 1	1999	Old River near Paradise Cut	White Catfish-ind 1	Whit	1	360	689	77.2	0.095	0.416	-25.0	18.5	ND
99-1409-t-ind 2	1999	Old River near Paradise Cut	White Catfish-ind 2	Whit	1	352	650	79.6	0.183	0.894	-27.5	15.5	ND
99-1410-t-ind 1	1999	Old River near Paradise Cut	White Catfish-ind 3	Whit	1	284	324	79.8	0.315	1.56	-26.5	14.4	ND
99-1410-t-ind 2	1999	Old River near Paradise Cut	White Catfish-ind 4	Whit	1	290	292	81.2	0.165	0.875	-28.2	14.8	ND
99-1410-t-ind 3	1999	Old River near Paradise Cut	White Catfish-ind 5	Whit	1	319	381	78.4	0.169	0.784	-25.3	15.8	ND
99-1410-t-ind 4	1999	Old River near Paradise Cut	White Catfish-ind 6	Whit	1	306	385	76.9	0.270	1.17	-27.1	15.1	ND
99-1410-t-ind 5	1999	Old River near Paradise Cut	White Catfish-ind 7	Whit	1	315	464	77.1	0.243	1.06	-28.6	14.7	ND
99-1305-t	1999	Paradise Cut	Blue Gill-comp 1	Blue	5	164	92	75.1	0.105	0.423	-29.8	15.2	ND
99-1306-t	1999	Paradise Cut	Blue Gill-comp 2	Blue	5	107	21	78.1	0.052	0.236	-29.3	14.5	ND
99-1308-t	1999	Paradise Cut	Blue Gill YOY	Blue	20	53	2.3	75.7	BRL	BRL	-31.3	14.1	ND
99-1302-t-ind 1	1999	Paradise Cut	Large Mouth Bass-ind 1	Larg	1	380	870	76.8	0.641	2.76	-27.9	18.1	3
99-1302-t-ind 2	1999	Paradise Cut	Large Mouth Bass-ind 2	Larg	1	379	894	75.7	0.606	2.49	-27.4	17.3	4
99-1302-t-ind 3	1999	Paradise Cut	Large Mouth Bass-ind 3	Larg	1	329	529	78.8	0.582	2.75	-27.8	15.4	4
99-1302-t-ind 4	1999	Paradise Cut	Large Mouth Bass-ind 4	Larg	1	380	760	78.4	1.05	4.88	-27.6	16.1	4
99-1302-t-ind 5	1999	Paradise Cut	Large Mouth Bass-ind 5	Larg	1	353	654	74.8	0.520	2.06	-28.9	16.9	3
99-1309-t	1999	Paradise Cut	Large Mouth Bass- YOY	Larg	9	59	2.5	76.2	0.040	0.169	-30.2	13.9	ND
99-1818-t-ind 1	1999	Paradise Cut	Large Mouth Bass-ind 6	Larg	1	485	1945	76.2	0.906	3.8	-27.8	17.4	6
99-1818-t-ind 2	1999	Paradise Cut	Large Mouth Bass-ind 7	Larg	1	480	1644	75.0	0.854	3.41	-26.5	16.9	6
99-1819-t	1999	Paradise Cut	Striped Bass-ind	Stri	1	660	ND	77.5	0.462	2.05	-28.1	16.3	ND
99-1303-t-ind 1	1999	Paradise Cut	White Catfish-ind 1	Whit	1	286	293	76.6	0.325	1.39	-29.0	16.1	ND
99-1303-t-ind 2	1999	Paradise Cut	White Catfish-ind 2	Whit	1	320	357	80.8	0.323	1.68	-29.2	15.8	ND
99-1303-t-ind 3	1999	Paradise Cut	White Catfish-ind 3	Whit	1	298	309	80.4	0.302	1.54	-29.6	15.1	ND
99-1303-t-ind 4	1999	Paradise Cut	White Catfish-ind 4	Whit	1	283	242	79.1	0.328	1.57	-29.3	15.6	ND
99-1303-t-ind 5	1999	Paradise Cut	White Catfish-ind 5	Whit	1	265	212	79.1	0.419	2.01	-30.1	16.3	ND
99-1304-t	1999	Paradise Cut	White Catfish-ind 6	Whit	1	356	668	73.1	0.140	0.52	-28.4	15.6	ND
99-1170-t	1999	Port of Stockton Turning Basin	Blue Gill	Blue	5	214	167	77.0	0.061	0.265	-23.3	17.1	ND
99-1168-t-ind 1	1999	Port of Stockton Turning Basin	Large Mouth Bass-ind 1	Larg	1	386	803	74.7	0.311	1.23	-23.3	18.0	4
99-1168-t-ind 2	1999	Port of Stockton Turning Basin	Large Mouth Bass-ind 2	Larg	1	376	711	75.3	0.466	1.89	-23.6	17.9	4
99-1168-t-ind 3	1999	Port of Stockton Turning Basin	Large Mouth Bass-ind 3	Larg	1	419	1243	72.0	0.462	1.65	-25.6	18.1	4
99-1168-t-ind 4	1999	Port of Stockton Turning Basin	Large Mouth Bass-ind 4	Larg	1	434	1238	75.1	0.616	2.47	-22.5	17.6	4
99-1168-t-ind 5	1999	Port of Stockton Turning Basin	Large Mouth Bass-ind 5	Larg	1	382	878	73.0	0.611	2.26	-25.2	18.2	5
99-1827-t-ind 1	1999	Port of Stockton Turning Basin	Large Mouth Bass-ind 6	Larg	1	412	953	75.5	0.498	2.03	-24.0	18.0	4
99-1827-t-ind 2	1999	Port of Stockton Turning Basin	Large Mouth Bass-ind 7	Larg	1	300	435	74.7	0.188	0.742	-24.0	18.5	4
99-1824-t	1999	Port of Stockton Turning Basin	Striped Bass-ind 1	Stri	1	827	ND	72.0	0.543	1.94	-23.0	16.7	ND
99-1826-t	1999	Port of Stockton Turning Basin	Striped Bass-ind 2	Stri	1	562	1713	76.3	0.240	1.01	-17.9	17.6	ND
99-1169-t-ind 1	1999	Port of Stockton Turning Basin	White Catfish-ind 1	Whit	1	305	339	81.1	0.166	0.879	-22.6	17.7	ND
99-1169-t-ind 2	1999	Port of Stockton Turning Basin	White Catfish-ind 2	Whit	1	271	272	79.7	0.090	0.442	-24.7	17.2	ND
99-1169-t-ind 3	1999	Port of Stockton Turning Basin	White Catfish-ind 3	Whit	1	265	258	80.7	0.184	0.953	-23.0	17.3	ND
99-1169-t-ind 4	1999	Port of Stockton Turning Basin	White Catfish-ind 4	Whit	1	271	220	81.4	0.097	0.523	-23.5	17.4	ND
99-1169-t-ind 5	1999	Port of Stockton Turning Basin	White Catfish-ind 5	Whit	1	241	178	81.0	0.110	0.577	-25.6	16.4	ND
99-1200-t	1999	Putah Creek	Blue Gill-comp 1	Blue	5	135	45	79.5	0.123	0.6	-24.9	11.8	ND
99-1201-t	1999	Putah Creek	Blue Gill-comp 2	Blue	5	112	20	78.9	0.097	0.459	-24.5	11.6	ND
99-1192-t	1999	Putah Creek	Large Mouth Bass YOY	Larg	9	62	2.8	75.9	0.050	0.208	-26.8	11.2	ND
99-1195-t-ind 1	1999	Putah Creek	Large Mouth Bass-ind 1	Larg	1	402	986	78.6	0.630	2.94	-25.7	14.2	6
99-1195-t-ind 2	1999	Putah Creek	Large Mouth Bass-ind 2	Larg	1	425	1131	76.0	0.592	2.47	-26.2	14.1	5
99-1196-t-ind 1	1999	Putah Creek	Large Mouth Bass-ind 3	Larg	1	345	558	77.1	0.231	1.01	-25.7	13.2	ND
99-1196-t-ind 2	1999	Putah Creek	Large Mouth Bass-ind 4	Larg	1	354	583	76.7	0.396	1.7	-25.3	12.9	2
99-1203-t	1999	Putah Creek	Large Mouth Bass-ind 5	Larg	1	410	1022	77.0	0.540	2.35	-26.1	14.0	5
99-1202-t & 99-1197-t	1999	Putah Creek	Sacramento Suckers	Sacr	4	383	751	76.3	0.185	0.78	-29.0	10.8	ND
99-1197-t	1999	Putah Creek	White Catfish	Whit	1	470	1111	73.3	0.146	0.548	-27.1	10.8	ND
99-1056-t	1999	Sacramento River @ RM44	Blue Gill	Blue	5	185	113	76.9	0.103	0.446	-25.4	14.8	ND
99-1054-t-ind 1	1999	Sacramento River @ RM44	Large Mouth Bass-ind 1	Larg	1	355	588	77.1	0.750	3.27	-24.3	12.9	4
99-1054-t-ind 2	1999	Sacramento River @ RM44	Large Mouth Bass-ind 2	Larg	1	350	492	78.4	1.35	6.26	-23.7	13.0	3
99-1054-t-ind 3	1999	Sacramento River @ RM44	Large Mouth Bass-ind 3	Larg	1	385	768	76.7	1.34	5.75	-23.8	12.6	3
99-1054-t-ind 4	1999	Sacramento River @ RM44	Large Mouth Bass-ind 4	Larg	1	341	524	77.2	0.524	2.3	-24.3	13.4	3
99-1054-t-ind 5	1999	Sacramento River @ RM44	Large Mouth Bass-ind 5	Larg	1	317	440	77.6	0.867	3.88	-24.0	12.7	ND
99-1055-t-ind 1	1999	Sacramento River @ RM44	Large Mouth Bass-ind 6	Larg	1	381	479	82.8	1.37	8.01	-23.4	12.4	4
99-1055-t-ind 2	1999	Sacramento River @ RM44	Large Mouth Bass-ind 7	Larg	1	358	589	78.1	0.883	4.04 e	NA	NA	4
99-1055-t-ind 3	1999	Sacramento River @ RM44	Large Mouth Bass-ind 8	Larg	1	315	459	77.2	0.775	3.4	-24.8	12.6	ND
99-1055-t-ind 4	1999	Sacramento River @ RM44	Large Mouth Bass-ind 9	Larg	1	341	544	76.9	1.05	4.56	-23.8	12.5	3
99-1055-t-ind 5	1999	Sacramento River @ RM44	Large Mouth Bass-ind 10	Larg	1	379	707	76.7	1.01	4.35	-24.1	12.9	4
99-1070-t-ind 1	1999	Sacramento River @ RM44	White Catfish-ind 1	Whit	1	265	180	81.1	1.14	6.01	-24.6	12.6	ND
99-1070-t-ind 2	1999	Sacramento River @ RM44	White Catfish-ind 2	Whit	1	283	172	69.3	0.448	1.46	-29.4	13.8	ND
99-1070-t-ind 3	1999	Sacramento River @ RM44	White Catfish-ind 3	Whit	1	250	276	58.9	0.197	0.48	-26.7	13.0	ND
99-1070-t-ind 4	1999	Sacramento River @ RM44	White Catfish-ind 4	Whit	1	305	324	80.4	0.271	1.38	-25.5	13.6	ND
99-1070-t-ind 5	1999	Sacramento River @ RM44	White Catfish-ind 5	Whit	1	233	138	82.6	0.204	1.17	-27.4	14.8	ND
99-1071-t-ind 1	1999	Sacramento River @ RM44	White Catfish-ind 6	Whit	1	290	270	80.5	0.256	1.31	-25.2	13.0	ND
99-1071-t-ind 2	1999	Sacramento River @ RM44	White Catfish-ind 7	Whit	1	275	235	81.3	0.237	1.27	-27.3	12.5	ND
99-1072-t-ind 1	1999	Sacramento River @ RM44	White Catfish-ind 8	Whit	1	261	177	80.3	0.238	1.21	-25.6	12.1	ND
99-1072-t-ind 2	1999	Sacramento River @ RM44	White Catfish-ind 9	Whit	1	259	204	78.5	0.327	1.52	-25.8	12.9	ND
99-1072-t-ind 3	1999	Sacramento River @ RM44	White Catfish-ind 10	Whit	1	281	239	82.3	0.515	2.91	-25.3	12.8	ND

Fish ID	Year	Station Location	FishDescription	Species	Sample Size	Mean Length	Mean Mass	Moisture	Hg Wet Weight	Hg Dry Weight	C Isotope	N Isotope	Age
99-1076-t-ind 1	1999	Sacramento River @ RM44	White Catfish-ind 11	Whit	1	265	230	78.9	0.536	2.54 e	-23.9	13.9	ND
99-1076-t-ind 2	1999	Sacramento River @ RM44	White Catfish-ind 12	Whit	1	277	196	78.9	0.563	2.67 e	-26.1	13.2	ND
99-1076-t-ind 3	1999	Sacramento River @ RM44	White Catfish-ind 13	Whit	1	309	217	78.9	0.426	2.02 e	-25.0	13.5	ND
99-1076-t-ind 4	1999	Sacramento River @ RM44	White Catfish-ind 14	Whit	1	286	323	78.9	0.673	3.19 e	-24.1	13.4	ND
99-1076-t-ind 5	1999	Sacramento River @ RM44	White Catfish-ind 15	Whit	1	295	289	78.9	0.375	1.78 e	-26.5	14.4	ND
99-1416-t	1999	Sand Mound Slough	Blue Gill	Blue	5	115	30	80.5	0.038	0.196	-23.0	16.5	ND
99-1414-t-ind 1	1999	Sand Mound Slough	Large Mouth Bass-ind 1	Larg	1	535	2639	70.7	0.586	2	-20.9	19.0	7
99-1414-t-ind 2	1999	Sand Mound Slough	Large Mouth Bass-ind 2	Larg	1	470	1665	74.3	0.642	2.5	-22.0	19.4	5
99-1415-t-ind 1	1999	Sand Mound Slough	Large Mouth Bass-ind 3	Larg	1	421	1090	76.7	0.422	1.81	-22.1	18.2	4
99-1415-t-ind 2	1999	Sand Mound Slough	Large Mouth Bass-ind 4	Larg	1	333	571	76.8	0.278	1.2	-24.8	16.7	3
99-1415-t-ind 3	1999	Sand Mound Slough	Large Mouth Bass-ind 5	Larg	1	397	732	78.2	0.699	3.2	-23.6	17.1	4
99-1415-t-ind 4	1999	Sand Mound Slough	Large Mouth Bass-ind 6	Larg	1	369	789	74.3	0.268	1.04	-23.3	17.6	3
99-1415-t-ind 5	1999	Sand Mound Slough	Large Mouth Bass-ind 7	Larg	1	353	773	75.5	0.226	0.923	-25.3	16.5	2
99-1418-t	1999	Sand Mound Slough	Large Mouth Bass-YOY	Larg	6	65	3.8	74.4	BRL	BRL	-20.7	15.9	ND
99-1417-t	1999	Sand Mound Slough	Redear Sunfish	Rede	5	189	123	76.8	0.078	0.337	-24.7	15.7	ND
99-1401-t	1999	SJR @ Lander's Avenue/ RT 165	Blue Gill	Blue	5	104	21	79.6	0.114	0.558	-26.7	13.5	ND
99-1396-t	1999	SJR @ Lander's Avenue/ RT 165	Channel Catfish-comp	Chan	2	455	771	74.7	0.578	2.29	-25.6	13.3	ND
99-1397-t	1999	SJR @ Lander's Avenue/ RT 165	Channel Catfish-ind 1	Chan	1	519	1213	73.2	0.386	1.44	-26.8	12.7	ND
99-1393-t-ind 1	1999	SJR @ Lander's Avenue/ RT 165	Large Mouth Bass-ind 1	Larg	1	459	1548	71.8	0.874	3.1	-25.1	15.0	5
99-1393-t-ind 2	1999	SJR @ Lander's Avenue/ RT 165	Large Mouth Bass-ind 2	Larg	1	469	1954	74.0	0.989	3.8	-24.9	16.4	ND
99-1394-t-ind 1	1999	SJR @ Lander's Avenue/ RT 165	Large Mouth Bass-ind 3	Larg	1	356	766	76.9	0.649	2.81	-26.2	14.8	2
99-1394-t-ind 2	1999	SJR @ Lander's Avenue/ RT 165	Large Mouth Bass-ind 4	Larg	1	370	815	76.8	0.632	2.72	-26.0	15.8	3
99-1394-t-ind 3	1999	SJR @ Lander's Avenue/ RT 165	Large Mouth Bass-ind 5	Larg	1	355	631	77.0	0.472	2.05	-26.0	14.3	3
99-1394-t-ind 4	1999	SJR @ Lander's Avenue/ RT 165	Large Mouth Bass-ind 6	Larg	1	386	819	72.5	1.16	4.24	-25.6	15.2	3
99-1394-t-ind 5	1999	SJR @ Lander's Avenue/ RT 165	Large Mouth Bass-ind 7	Larg	1	323	490	76.8	0.442	1.91	-26.2	14.8	3
99-1395-t	1999	SJR @ Lander's Avenue/ RT 165	White Catfish-ind 1	Whit	1	602	2218	77.6	0.611	2.73	-25.1	13.4	ND
99-1398-t-ind 1	1999	SJR @ Lander's Avenue/ RT 165	White Catfish-ind 2	Whit	1	242	135	81.1	0.687	3.63	-28.3	15.6	ND
99-1398-t-ind 2	1999	SJR @ Lander's Avenue/ RT 165	White Catfish-ind 3	Whit	1	269	166	82.1	0.392	2.19	-27.4	15.1	ND
99-1398-t-ind 3	1999	SJR @ Lander's Avenue/ RT 165	White Catfish-ind 4	Whit	1	262	200	77.7	0.336	1.51	-26.5	15.5	ND
99-1398-t-ind 4	1999	SJR @ Lander's Avenue/ RT 165	White Catfish-ind 5	Whit	1	231	107	79.5	0.744	3.63	-26.8	14.4	ND
99-1399-t-ind 1	1999	SJR @ Lander's Avenue/ RT 165	White Catfish-ind 6	Whit	1	196	74	82.7	0.291	1.68	-29.5	14.2	ND
99-1399-t-ind 2	1999	SJR @ Lander's Avenue/ RT 165	White Catfish-ind 7	Whit	1	192	70	80.9	0.459	2.41	-27.3	14.7	ND
99-1172-t	1999	SJR around Bowman Road	Blue Gill	Blue	5	210	198	75.9	0.166	0.69	-25.6	14.4	ND
99-1171-t-ind 1	1999	SJR around Bowman Road	Large Mouth Bass-ind 1	Larg	1	414	1136	76.2	0.874	3.67	-23.7	14.5	4
99-1171-t-ind 2	1999	SJR around Bowman Road	Large Mouth Bass-ind 2	Larg	1	391	767	78.9	1.09	5.16	-25.6	16.4	5
99-1171-t-ind 3	1999	SJR around Bowman Road	Large Mouth Bass-ind 3	Larg	1	387	906	74.6	0.751	2.95	-24.3	16.5	4
99-1171-t-ind 4	1999	SJR around Bowman Road	Large Mouth Bass-ind 4	Larg	1	364	754	78.0	1.12	5.11	-25.0	16.9	4
99-1171-t-ind 5	1999	SJR around Bowman Road	Large Mouth Bass-ind 5	Larg	1	417	972	74.6	0.964	3.8	-25.8	16.3	5
99-1831-t-ind 1	1999	SJR around Bowman Road	Large Mouth Bass-ind 6	Larg	1	328	521	77.1	1.03	4.48	-26.5	16.9	3
99-1831-t-ind 2	1999	SJR around Bowman Road	Large Mouth Bass-ind 7	Larg	1	339	506	77.6	0.814	3.63	-25.5	16.3	ND
99-1831-t-ind 3	1999	SJR around Bowman Road	Large Mouth Bass-ind 8	Larg	1	381	799	77.1	1.05	4.6	-25.8	16.8	ND
99-1831-t-ind 4	1999	SJR around Bowman Road	Large Mouth Bass-ind 9	Larg	1	420	1260	76.5	0.844	3.6	-25.7	16.9	5
99-1833-t	1999	SJR around Bowman Road	Redear Sunfish	Rede	5	175	195	76.3	0.091	0.385	-26.3	14.7	ND
99-1835-t	1999	SJR around Bowman Road	Striped Bass-ind 1	Stri	1	715	ND	76.1	0.302	1.26	-20.5	16.7	ND
99-1173-t-ind 1	1999	SJR around Bowman Road	White Catfish-ind 1	Whit	1	242	160	81.0	0.154	0.81	-27.1	15.0	ND
99-1173-t-ind 2	1999	SJR around Bowman Road	White Catfish-ind 2	Whit	1	294	309	80.5	0.250	1.28	-26.1	14.8	ND
99-1173-t-ind 3	1999	SJR around Bowman Road	White Catfish-ind 3	Whit	1	274	271	81.9	0.241	1.33	-26.4	14.9	ND
99-1173-t-ind 4	1999	SJR around Bowman Road	White Catfish-ind 4	Whit	1	252	189	78.8	0.186	0.879	-28.4	14.6	ND
99-1173-t-ind 5	1999	SJR around Bowman Road	White Catfish-ind 5	Whit	1	253	210	80.7	0.306	1.59	-28.0	14.4	ND
99-1832-t-ind 1	1999	SJR around Bowman Road	White Catfish-ind 6	Whit	1	196	73	80.3	0.194	0.982	-27.0	14.9	ND
99-1832-t-ind 2	1999	SJR around Bowman Road	White Catfish-ind 7	Whit	1	187	60	78.2	0.162	0.743	-27.8	15.5	ND
99-1832-t-ind 3	1999	SJR around Bowman Road	White Catfish-ind 8	Whit	1	164	43	76.2	0.107	0.448	-27.2	14.4	ND
99-1174-t	1999	SJR around Turner's Cut	Blue Gill	Blue	5	206	157	77.6	0.125	0.56	-26.0	16.5	ND
99-1821-t	1999	SJR around Turner's Cut	Channel Catfish	Chan	4	444	845	76.1	0.163	0.681	-28.5	15.2	ND
99-1175-t-ind 1	1999	SJR around Turner's Cut	Large Mouth Bass-ind 1	Larg	1	320	517	76.1	0.504	2.11	-22.4	18.4	ND
99-1175-t-ind 2	1999	SJR around Turner's Cut	Large Mouth Bass-ind 2	Larg	1	338	581	78.7	0.426	2	-22.8	18.3	4
99-1175-t-ind 3	1999	SJR around Turner's Cut	Large Mouth Bass-ind 3	Larg	1	322	455	77.0	0.198	0.86	-23.9	19.2	3
99-1175-t-ind 4	1999	SJR around Turner's Cut	Large Mouth Bass-ind 4	Larg	1	380	752	77.9	0.520	2.35	-23.8	19.4	ND
99-1175-t-ind 5	1999	SJR around Turner's Cut	Large Mouth Bass-ind 5	Larg	1	318	399	80.1	0.217	1.09	-24.1	18.3	3
99-1844-t-ind 1	1999	SJR around Turner's Cut	Large Mouth Bass-ind 6	Larg	1	380	801	77.0	0.493	2.14	-27.1	18.1	4
99-1844-t-ind 2	1999	SJR around Turner's Cut	Large Mouth Bass-ind 7	Larg	1	311	440	77.3	0.195	0.86	-25.2	20.1	2
99-1820-t	1999	SJR around Turner's Cut	Redear Sunfish	Rede	5	195	130	77.4	0.097	0.428	-26.5	17.3	ND
99-1429-t	1999	SJR downstream of Vernalis	Channel Catfish-comp 1	Chan	5	392	534	75.1	0.584	2.35	-26.5	14.2	ND
99-1839-t	1999	SJR downstream of Vernalis	Channel Catfish-comp 2	Chan	5	434	635	76.2	0.498	2.09	-26.7	13.8	ND
99-1427-t-ind 1	1999	SJR downstream of Vernalis	Large Mouth Bass-ind 1	Larg	1	418	1135	75.2	1.03	4.16	-24.6	17.3	4
99-1427-t-ind 2	1999	SJR downstream of Vernalis	Large Mouth Bass-ind 2	Larg	1	339	613	77.5	0.736	3.27	-25.6	16.6	3
99-1427-t-ind 3	1999	SJR downstream of Vernalis	Large Mouth Bass-ind 3	Larg	1	306	445	78.2	0.641	2.94	-26.3	16.0	3
99-1427-t-ind 4	1999	SJR downstream of Vernalis	Large Mouth Bass-ind 4	Larg	1	305	390	79.7	0.605	2.98	-25.1	15.7	2
99-1837-t-ind 1	1999	SJR downstream of Vernalis	Large Mouth Bass-ind 5	Larg	1	409	1066	76.9	0.802	3.47	-25.5	16.4	4
99-1837-t-ind 2	1999	SJR downstream of Vernalis	Large Mouth Bass-ind 6	Larg	1	295	392	75.7	0.661	2.72	-25.7	15.9	2
99-1838-t	1999	SJR downstream of Vernalis	Redear Sunfish	Rede	5	191	116	78.0	0.176	0.799	-25.5	15.1	ND
99-1430-t	1999	SJR downstream of Vernalis	Sacramento Black Fish	Sabf	5	248	182	78.3	0.043	0.196	-25.5	12.8	ND
99-1426-t-ind 1	1999	SJR downstream of Vernalis	Striped Bass-ind 1	Stri	1	174	576	76.8	0.403	1.74	-24.2	15.4	ND
99-1426-t-ind 2	1999	SJR downstream of Vernalis	Striped Bass-ind 2	Stri	1	120	617	75.8	0.588	2.43	-24.8	15.0	ND
99-1426-t-ind 3	1999	SJR downstream of Vernalis	Striped Bass-ind 3	Stri	1	116	995	74.7	0.773	3.06	-24.7	15.2	ND

Fish ID	Year	Station Location	FishDescription	Species	Sample Size	Mean Length	Mean Mass	Moisture	Hg Wet Weight	Hg Dry Weight	C Isotope	N Isotope	Age
99-1426-t-ind 4	1999	SJR downstream of Vernalis	Striped Bass-ind 4	Stri	1	106	380	75.0	0.685	2.74	-25.6	16.2	ND
99-1841-t	1999	SJR downstream of Vernalis	Striped Bass-ind 7	Stri	1	627	ND	75.9	1.63	6.76	-23.9	14.0	ND
99-1843-t	1999	SJR downstream of Vernalis	Striped Bass-ind 5	Stri	1	510	824	69.9	0.413	1.37	-28.5	15.5	ND
99-1847-t	1999	SJR downstream of Vernalis	Striped Bass-ind 6	Stri	1	845	ND	69.5	0.601	1.97	-27.8	16.2	ND
99-1428-t	1999	SJR downstream of Vernalis	White Catfish-ind 1	Whit	1	621	ND	81.5	0.511	2.76	-24.4	14.6	ND
99-1842-t	1999	SJR downstream of Vernalis	White Catfish-ind 2	Whit	1	587	1443	78.6	1.27	5.96	-23.7	14.8	ND
99-1163-t-ind 1	1999	SJR near Potato Slough	Large Mouth Bass-ind 1	Larg	1	333	532	76.9	0.296	1.28	-24.4	18.1	3
99-1163-t-ind 2	1999	SJR near Potato Slough	Large Mouth Bass-ind 2	Larg	1	321	505	76.6	0.328	1.4	-25.0	15.7	3
99-1163-t-ind 3	1999	SJR near Potato Slough	Large Mouth Bass-ind 3	Larg	1	314	469	79.0	0.259	1.23	-23.6	18.2	3
99-1163-t-ind 4	1999	SJR near Potato Slough	Large Mouth Bass-ind 4	Larg	1	322	442	77.3	0.261	1.15	-22.1	18.5	5
99-1163-t-ind 5	1999	SJR near Potato Slough	Large Mouth Bass-ind 5	Larg	1	399	904	73.8	0.469	1.79	-23.7	18.9	5
99-1811-t-ind 1	1999	SJR near Potato Slough	Large Mouth Bass-ind 6	Larg	1	380	797	76.2	0.393	1.65	-24.5	17.7	5
99-1811-t-ind 2	1999	SJR near Potato Slough	Large Mouth Bass-ind 7	Larg	1	360	813	74.7	0.410	1.62	-25.0	18.1	5
99-1811-t-ind 3	1999	SJR near Potato Slough	Large Mouth Bass-ind 8	Larg	1	340	561	76.5	0.244	1.04	-27.2	18.1	3
99-1151-t	1999	SJR North of Hwy 4	Blue Gill	Blue	4	194	143	76.7	0.147	0.633	-25.8	14.6	ND
99-1148-t-ind 1	1999	SJR North of Hwy 4	Large Mouth Bass-ind 1	Larg	1	438	1500	77.2	1.12	4.9	-24.0	15.7	7
99-1148-t-ind 2	1999	SJR North of Hwy 4	Large Mouth Bass-ind 2	Larg	1	317	450	75.9	0.934	3.87	-24.4	16.6	3
99-1148-t-ind 3	1999	SJR North of Hwy 4	Large Mouth Bass-ind 3	Larg	1	372	726	76.6	0.652	2.78	-24.3	16.7	4
99-1148-t-ind 4	1999	SJR North of Hwy 4	Large Mouth Bass-ind 4	Larg	1	438	1557	76.8	0.598	2.58	-25.1	16.8	6
99-1148-t-ind 5	1999	SJR North of Hwy 4	Large Mouth Bass-ind 5	Larg	1	357	650	77.3	0.554	2.44	-25.2	16.4	4
99-1828-t-ind 1	1999	SJR North of Hwy 4	Large Mouth Bass-ind 6	Larg	1	370	839	78.2	0.856	3.92	-24.6	17.5	5
99-1828-t-ind 2	1999	SJR North of Hwy 4	Large Mouth Bass-ind 7	Larg	1	315	508	77.5	0.756	3.36	-24.9	16.1	3
99-1150-t	1999	SJR North of Hwy 4	Sacramento Pike Minnow	Sapm	3	259	170	79.9	BRL	BRL	-25.1	12.7	ND
99-1149-t	1999	SJR North of Hwy 4	Striped Bass-ind	Stri	1	625	919	76.2	0.481	2.02	-24.2	15.7	ND
99-1845-t	1999	SJR North of Hwy 4	Striped Bass-ind 2	Stri	1	458	ND	75.8	0.195	0.806	-18.3	17.9	ND
99-1152-t-ind 1	1999	SJR North of Hwy 4	White Catfish-ind 1	Whit	1	270	276	78.3	0.304	1.4	-29.1	14.8	ND
99-1152-t-ind 2	1999	SJR North of Hwy 4	White Catfish-ind 2	Whit	1	248	166	80.7	0.414	2.14	-27.3	14.1	ND
99-1152-t-ind 3	1999	SJR North of Hwy 4	White Catfish-ind 3	Whit	1	246	180	79.3	0.268	1.3	-28.3	15.3	ND
99-1829-t	1999	SJR North of Hwy 4	White Catfish-ind-4	Whit	1	285	232	81.5	0.472	2.56	-27.3	15.6	ND
99-1236-t-ind 1	1999	SJR off Pt Antioch near Fishing Pier	Large Mouth Bass-ind 1	Larg	1	375	830	75.2	0.262	1.06	-20.9	18.4	4
99-1236-t-ind 2	1999	SJR off Pt Antioch near Fishing Pier	Large Mouth Bass-ind 2	Larg	1	332	525	75.7	0.330	1.36	-22.9	18.3	2
99-1236-t-ind 3	1999	SJR off Pt Antioch near Fishing Pier	Large Mouth Bass-ind 3	Larg	1	410	1071	76.3	0.586	2.47	-22.8	18.4	4
99-1236-t-ind 4	1999	SJR off Pt Antioch near Fishing Pier	Large Mouth Bass-ind 4	Larg	1	350	722	75.8	0.298	1.23	-24.4	17.6	3
99-1236-t-ind 5	1999	SJR off Pt Antioch near Fishing Pier	Large Mouth Bass-ind 5	Larg	1	375	915	76.3	0.202	0.854	-23.5	17.3	3
99-1237-t	1999	SJR off Pt Antioch near Fishing Pier	Sacramento Suckers	Sacr	4	440	978	74.0	0.152	0.584	-24.1	15.7	ND
99-1238-t	1999	SJR off Pt Antioch near Fishing Pier	Sacramento Pike Minnow	Sapm	3	274	145	78.4	0.123	0.572	-24.9	14.7	ND
99-1166-t	1999	Smith Canal by Yosemite Park	Blue Gill	Blue	5	197	146	77.3	0.117	0.515	-26.0	17.9	ND
99-1167-t	1999	Smith Canal by Yosemite Park	Crappie	Crap	5	238	194	77.3	0.061	0.27	-26.4	17.3	ND
99-1164-t-ind 3	1999	Smith Canal by Yosemite Park	Large Mouth Bass-ind 3	Larg	1	376	472	77.0	0.156	0.679	-26.7	19.0	3
99-1164-t-ind 2	1999	Smith Canal by Yosemite Park	Large Mouth Bass-ind 2	Larg	1	332	798	80.1	0.227	1.14	-26.7	19.0	3
99-1164-t-ind 4	1999	Smith Canal by Yosemite Park	Large Mouth Bass-ind 4	Larg	1	436	1240	76.6	0.486	2.08	-24.4	19.9	4
99-1164-t-ind 5	1999	Smith Canal by Yosemite Park	Large Mouth Bass-ind 5	Larg	1	363	651	77.1	0.424	1.85	-24.2	19.0	3
99-1822-t-ind 1	1999	Smith Canal by Yosemite Park	Large Mouth Bass-ind 6	Larg	1	326	504	76.5	0.098	0.415	-24.2	14.9	2
99-1822-t-ind 2	1999	Smith Canal by Yosemite Park	Large Mouth Bass-ind 7	Larg	1	330	531	78.5	0.062	0.29	-25.4	16.7	2
	1999	Smith Canal by Yosemite Park	Large Mouth Bass-ind 1	Larg	1	429	ND	78.7	0.378	1.78	ND	ND	ND
99-1165-t-ind 1	1999	Smith Canal by Yosemite Park	White Catfish-ind 1	Whit	1	278	292	81.9	0.148	0.821	-26.2	18.1	ND
99-1165-t-ind 2	1999	Smith Canal by Yosemite Park	White Catfish-ind 2	Whit	1	302	293	83.1	0.483	2.85	-26.5	17.0	ND
99-1165-t-ind 3	1999	Smith Canal by Yosemite Park	White Catfish-ind 3	Whit	1	272	159	84.7	0.090	0.587	-28.2	16.2	ND
99-1165-t-ind 4	1999	Smith Canal by Yosemite Park	White Catfish-ind 4	Whit	1	243	212	80.1	0.098	0.493	-28.2	16.2	ND
99-1165-t-ind 5	1999	Smith Canal by Yosemite Park	White Catfish-ind 5	Whit	1	254	205	81.8	0.158	0.869	-27.0	16.0	ND
99-1289-t	1999	Lake Sonoma	Blue Gill	Blue	5	164	71	79.1	0.213	1.02	-24.6	6.8	ND
99-1286-t	1999	Lake Sonoma	Crappie	Crap	5	211	126	77.9	0.345	1.56	-31.2	9.7	ND
99-1284-t	1999	Lake Sonoma	Large Mouth Bass	Larg	1	477	1535	76.7	1.73	7.41	-29.8	11.3	6
99-1292-t	1999	Lake Sonoma	Redear Sunfish	Rede	5	152	57	78.7	0.209	0.978	-26.5	7.2	ND
99-1285-t	1999	Lake Sonoma	White Catfish	Whit	1	620	ND	71.0	0.265	0.915	-28.5	8.2	ND
99-1488-t	1999	Suisun Bay	Striped Bass-ind 2	Stri	1	571	ND	75.5	0.333	1.36	-18.4	17.7	ND
99-1489-t	1999	Suisun Bay	Striped Bass-ind 3	Stri	1	560	ND	76.9	0.466	2.02	-19.5	16.9	ND
99-1490-t	1999	Suisun Bay	Striped Bass-ind 4	Stri	1	540	ND	78.0	0.460	2.09	-20.9	15.9	ND
99-1491-t	1999	Suisun Bay	Striped Bass-ind 5	Stri	1	558	ND	75.5	1.01	4.12	-17.9	18.7	ND
99-1492-t	1999	Suisun Bay	Striped Bass-ind 6	Stri	1	560	ND	75.0	0.348	1.39	-16.9	16.7	ND
99-1493-t	1999	Suisun Bay	Striped Bass-ind 7	Stri	1	509	ND	76.6	0.288	1.23	-19.9	16.7	ND
99-1494-t	1999	Suisun Bay	Striped Bass-ind 8	Stri	1	504	ND	76.8	0.503	2.17	-22.6	16.6	ND
	1999	Suisun Bay	Striped Bass-ind 1	Stri	1	666	ND	75.2	0.470	1.9	ND	ND	ND
	1999	Sycamore Slough near Mokelumne River	Blue Gill-comp 1	Blue	2	168	ND	74.6	0.172	0.677	ND	ND	ND
	1999	Sycamore Slough near Mokelumne River	Blue Gill-comp 2	Blue	3	184	ND	79.1	0.097	0.462	ND	ND	ND
99-1153-t-ind 1	1999	Sycamore Slough near Mokelumne River	Large Mouth Bass-ind 1	Larg	1	317	411	76.8	0.364	1.57	-22.1	17.1	3
99-1153-t-ind 2	1999	Sycamore Slough near Mokelumne River	Large Mouth Bass-ind 2	Larg	1	358	758	78.2	0.540	2.48	-23.5	16.9	4
99-1153-t-ind 3	1999	Sycamore Slough near Mokelumne River	Large Mouth Bass-ind 3	Larg	1	322	406	77.3	0.548	2.41	-21.9	16.8	ND
99-1153-t-ind 4	1999	Sycamore Slough near Mokelumne River	Large Mouth Bass-ind 4	Larg	1	410	995	76.1	0.537	2.25	-24.2	17.7	4
99-1803-t-ind 1	1999	Sycamore Slough near Mokelumne River	Large Mouth Bass-ind 5	Larg	1	326	542	77.3	0.672	2.96	-23.3	16.4	3
99-1803-t-ind 2	1999	Sycamore Slough near Mokelumne River	Large Mouth Bass-ind 6	Larg	1	342	458	77.6	0.545	2.43	-24.3	16.5	3
99-1804-t	1999	Sycamore Slough near Mokelumne River	Large Mouth Bass-ind 7	Larg	1	532	2697	76.4	1.14	4.85	-22.9	18.1	ND
99-1805-t	1999	Sycamore Slough near Mokelumne River	Large Mouth Bass-YOY	Larg	25	63	3.0	75.0	BRL	BRL	-20.6	15.6	ND
99-1155-t	1999	Sycamore Slough near Mokelumne River	White Catfish-ind 1	Whit	1	310	463	79.9	0.201	1	-24.1	14.0	ND
99-1162-t	1999	White Slough downstream of	Blue Gill	Blue	5	172	88	75.6	0.088	0.363	-24.1	15.7	ND

Fish ID	Year	Station Location	FishDescription	Species	Sample Size	Mean Length	Mean Mass	Moisture	Hg Wet Weight	Hg Dry Weight	C Isotope	N Isotope	Age
99-1161-t-ind 1	1999	White Slough downstream of	Large Mouth Bass-ind 1	Larg	1	343	546	74.1	0.306	1.18	-22.3	18.8	4
99-1161-t-ind 2	1999	White Slough downstream of	Large Mouth Bass-ind 2	Larg	1	385	779	76.1	0.487	2.04	-21.7	18.3	3
99-1161-t-ind 3	1999	White Slough downstream of	Large Mouth Bass-ind 3	Larg	1	321	454	77.2	0.398	1.75	-21.5	17.7	4
99-1161-t-ind 4	1999	White Slough downstream of	Large Mouth Bass-ind 4	Larg	1	438	1280	76.9	0.537	2.32	-22.0	20.2	6
99-1161-t-ind 5	1999	White Slough downstream of	Large Mouth Bass-ind 5	Larg	1	429	1216	76.1	0.513	2.15	-21.4	19.0	5
99-1813-t-ind 1	1999	White Slough downstream of	Large Mouth Bass-ind 6	Larg	1	388	908	74.1	0.319	1.23	-19.6	18.0	4
99-1813-t-ind 2	1999	White Slough downstream of	Large Mouth Bass-ind 7	Larg	1	388	839	78.9	0.374	1.77	-23.5	17.9	5
99-1813-t-ind 3	1999	White Slough downstream of	Large Mouth Bass-ind 8	Larg	1	396	1014	70.0	0.432	1.44	-22.7	18.5	6
99-1815-t	1999	White Slough downstream of	Large Mouth Bass-YOY	Larg	21	63	3.2	71.2	BRL	BRL	-21.1	17.5	ND
99-1280-t	1999	White Slough @ Lodi	Black Bull Head	Blac	5	306	381	80.2	0.053	0.27	-25.4	15.2	ND
99-1278-t	1999	White Slough @ Lodi	Blue Gill-comp 1	Blue	5	165	79	76.9	0.057	0.249	-25.1	17.4	ND
99-1279-t	1999	White Slough @ Lodi	Blue Gill-comp 2	Blue	5	115	25	79.3	0.066	0.319	-26.0	17.7	ND
99-1273-t	1999	White Slough @ Lodi	Large Mouth Bass-ind 8	Larg	1	491	1982	76.7	0.440	1.89	-24.0	19.9	ND
99-1274-t-ind 1	1999	White Slough @ Lodi	Large Mouth Bass-ind 1	Larg	1	400	1088	73.9	0.329	1.26	-24.6	20.7	4
99-1274-t-ind 2	1999	White Slough @ Lodi	Large Mouth Bass-ind 2	Larg	1	372	709	75.6	0.352	1.44	-23.9	19.4	4
99-1274-t-ind 3	1999	White Slough @ Lodi	Large Mouth Bass-ind 3	Larg	1	350	602	76.9	0.217	0.943	-25.1	19.9	3
99-1274-t-ind 4	1999	White Slough @ Lodi	Large Mouth Bass-ind 4	Larg	1	365	359	77.1	0.145	0.635	-24.1	18.5	4
99-1274-t-ind 5	1999	White Slough @ Lodi	Large Mouth Bass-ind 5	Larg	1	432	1217	77.1	0.633	2.76	-24.8	18.9	4
99-1281-t	1999	White Slough @ Lodi	Large Mouth Bass YOY	Larg	8	64	2.8	76.6	0.031	0.131	-25.3	16.5	ND
99-1812-t-ind 1	1999	White Slough @ Lodi	Large Mouth Bass-ind 6	Larg	1	379	852	75.6	0.288	1.18	-22.7	18.0	4
99-1812-t-ind 2	1999	White Slough @ Lodi	Large Mouth Bass-ind 7	Larg	1	313	405	74.7	0.128	0.504	-26.4	18.8	3
99-1275-t	1999	White Slough @ Lodi	Redear Sunfish	Rede	5	179	91	75.6	0.027	0.11	-25.8	17.5	ND
99-1276-t-ind 1	1999	White Slough @ Lodi	White Catfish-ind 1	Whit	1	373	585	82.1	0.031	0.173	-22.2	16.9	ND
99-1276-t-ind 2	1999	White Slough @ Lodi	White Catfish-ind 2	Whit	1	360	723	77.6	0.062	0.276	-24.1	17.0	ND
99-1277-t-ind 1	1999	White Slough @ Lodi	White Catfish-ind 3	Whit	1	285	274	83.4	0.047	0.28	-25.0	17.6	ND
99-1277-t-ind 2	1999	White Slough @ Lodi	White Catfish-ind 4	Whit	1	274	253	81.7	0.081	0.441	-24.9	16.2	ND
99-1277-t-ind 3	1999	White Slough @ Lodi	White Catfish-ind 5	Whit	1	265	227	82.2	0.118	0.665	-25.7	16.9	ND
99-2383-t	1999	Wiest Lake	Blue Gill	Blue	5	122	28	79.8	BRL	BRL	-25.9	7.9	ND
99-2381-t-ind 1	1999	Wiest Lake	Large Mouth Bass-ind 1	Larg	1	429	1138	77.0	BRL	BRL	-23.2	10.1	6
99-2381-t-ind 2	1999	Wiest Lake	Large Mouth Bass-ind 2	Larg	1	424	1194	75.9	BRL	BRL	-25.3	9.8	ND
99-2381-t-ind 3	1999	Wiest Lake	Large Mouth Bass-ind 3	Larg	1	424	1273	76.5	BRL	BRL	-23.2	10.6	7
99-2381-t-ind 4	1999	Wiest Lake	Large Mouth Bass-ind 4	Larg	1	380	822	76.2	BRL	BRL	-25.8	8.9	4
99-2382-t-ind 1	1999	Wiest Lake	Large Mouth Bass-ind 5	Larg	1	386	841	77.5	BRL	BRL	-24.6	9.7	4
99-2382-t-ind 2	1999	Wiest Lake	Large Mouth Bass-ind 6	Larg	1	392	940	78.1	BRL	BRL	-24.3	10.0	5
99-2382-t-ind 3	1999	Wiest Lake	Large Mouth Bass-ind 7	Larg	1	359	634	79.8	BRL	BRL	-24.6	9.6	3
99-2382-t-ind 4	1999	Wiest Lake	Large Mouth Bass-ind 8	Larg	1	420	1072	78.0	BRL	BRL	-24.5	9.5	5
99-1231-t	1999	Yuba River above Feather River confluence	Sacramento Suckers	Sacr	5	445	880	78.0	0.385	1.75	-23.2	10.7	ND
99-1232-t-ind 1	1999	Yuba River above Feather River confluence	Sacramento Pike Minnow-ind 1	Sapm	1	448	604	75.7	0.311	1.28	-23.0	11.3	ND
99-1232-t-ind 2	1999	Yuba River above Feather River confluence	Sacramento Pike Minnow-ind 2	Sapm	1	405	756	75.6	1.43	5.84	-18.1	15.1	ND

Qualifier code

e = dry weight value based on an estimated percent moisture

BRL = detectable concentration below reporting limit (RL = 0.147 ug/g dw; 0.0282 ug/g ww; detection limit = 0.025 ug/g dw)

NA = data not available at time of reporting

ND = not determined

We do not report data collected exclusively for the Sacramento River Watershed Program  
Those data are presented in Larry Walker Associates (2002)

## Total mercury and ancillary data for fish collected in 2000 as part of the CalFed project.

Fish ID	Year	Station Location	FishDescription	Species	Sample Size	Mean Length mm	Moisture %	Hg Wet Weight µg/g	Hg Dry Weight µg/g	C Isotope δ13C	N Isotope δ15N
00-1599 Ind 1	2000	Big Break	Largemouth Bass Ind 1	Larg	1	471	76.9	0.411	1.78	-20.3	19.1
00-1592 Ind 1	2000	Big Break	Largemouth Bass Ind 10	Larg	1	240	77.6	0.130	0.579	-18.4	17.6
00-1599 Ind 2	2000	Big Break	Largemouth Bass Ind 2	Larg	1	439	77.0	0.308	1.34	-18.7	18.4
00-1598 Ind 1	2000	Big Break	Largemouth Bass Ind 3	Larg	1	413	77.5	0.463	2.06	-24.9	17.7
00-1598 Ind 2	2000	Big Break	Largemouth Bass Ind 4	Larg	1	426	77.4	0.217	0.962	-19.4	18.0
00-1598 Ind 3	2000	Big Break	Largemouth Bass Ind 5	Larg	1	424	77.3	0.413	1.82	-20.6	18.8
00-1598 Ind 4	2000	Big Break	Largemouth Bass Ind 6	Larg	1	361	76.7	0.333	1.43	-19.6	18.4
00-1596 Ind 1	2000	Big Break	Largemouth Bass Ind 7	Larg	1	349	77.2	0.344	1.51	-21.4	19.1
00-1596 Ind 2	2000	Big Break	Largemouth Bass Ind 8	Larg	1	358	77.5	0.224	0.999	-19.1	18.9
00-1596 Ind 3	2000	Big Break	Largemouth Bass Ind 9	Larg	1	335	77.7	0.185	0.829	-19.0	18.2
00-1016/00-1020	2000	Cache Slough near Ryer Island Ferry	Carp Comp 1	Carp	3	484	76.4	0.281	1.19	-26.6	14.5
00-1127 Comp	2000	Cache Slough near Ryer Island Ferry	Channel Catfish Comp 1	Chan	2	412	71.2	0.236	0.819	-30.9	15.9
00-1015 Comp	2000	Cache Slough near Ryer Island Ferry	Crappie Comp 1	Crap	5	231	77	0.315	1.37	-28.4	18.5
00-1017 Ind 1	2000	Cache Slough near Ryer Island Ferry	Largemouth Bass Ind 1	Larg	1	400	78.6	1.137	5.32	-25.7	18.3
00-1151 Ind 1	2000	Cache Slough near Ryer Island Ferry	Largemouth Bass Ind 10	Larg	1	270	79.5	0.393	1.92	-25.7	18.4
00-1151 Ind 2	2000	Cache Slough near Ryer Island Ferry	Largemouth Bass Ind 11	Larg	1	290	80.1	0.308	1.55	-26.5	16.8
00-1019 Ind 1	2000	Cache Slough near Ryer Island Ferry	Largemouth Bass Ind 2	Larg	1	319	78.6	0.819	3.82	-26.3	18.0
00-1149 Ind 1	2000	Cache Slough near Ryer Island Ferry	Largemouth Bass Ind 3	Larg	1	560	76.2	1.267	5.33	-25.6	18.8
00-1150 Ind 1	2000	Cache Slough near Ryer Island Ferry	Largemouth Bass Ind 4	Larg	1	348	77.3	0.314	1.38	-25.9	17.8
00-1150 Ind 2	2000	Cache Slough near Ryer Island Ferry	Largemouth Bass Ind 5	Larg	1	340	77.5	0.528	2.35	-24.8	18.0
00-1150 Ind 3	2000	Cache Slough near Ryer Island Ferry	Largemouth Bass Ind 6	Larg	1	382	77.8	0.485	2.18	-25.4	18.1
00-1150 Ind 4	2000	Cache Slough near Ryer Island Ferry	Largemouth Bass Ind 7	Larg	1	348	78.3	0.494	2.28	-25.4	19.3
00-1150 Ind 5	2000	Cache Slough near Ryer Island Ferry	Largemouth Bass Ind 8	Larg	1	365	76.2	0.592	2.49	-26.1	17.3
00-1150 Ind 6	2000	Cache Slough near Ryer Island Ferry	Largemouth Bass Ind 9	Larg	1	388	77.5	0.604	2.69	-25.7	19.8
00-1014 Comp	2000	Cache Slough near Ryer Island Ferry	Sacramento Sucker Comp 1	Sacr	5	394	78.5	0.107	0.497	-26.8	15.7
00-1018 Ind 1	2000	Cache Slough near Ryer Island Ferry	White Catfish Ind 1	Whit	1	276	82.6	0.210	1.21	-27.5	16.8
00-1124 Ind 9	2000	Cache Slough near Ryer Island Ferry	White Catfish Ind 10	Whit	1	265	80.1	0.397	1.99	-29.4	17.4
00-1124 Ind 10	2000	Cache Slough near Ryer Island Ferry	White Catfish Ind 11	Whit	1	258	80.5	0.435	2.23	-27.5	16.6
00-1125 Ind 1	2000	Cache Slough near Ryer Island Ferry	White Catfish Ind 12	Whit	1	228	80.1	0.255	1.28	-29.1	16.3
00-1126 Ind 1	2000	Cache Slough near Ryer Island Ferry	White Catfish Ind 13	Whit	1	385	83.8	1.004	6.19	-26.7	17.1
00-1124 Ind 1	2000	Cache Slough near Ryer Island Ferry	White Catfish Ind 2	Whit	1	254	81.3	0.135	0.723	-27.8	16.8
00-1124 Ind 2	2000	Cache Slough near Ryer Island Ferry	White Catfish Ind 3	Whit	1	259	80.7	0.534	2.77	-27.7	16.6
00-1124 Ind 3	2000	Cache Slough near Ryer Island Ferry	White Catfish Ind 4	Whit	1	275	78.3	0.523	2.41	-28.0	16.1
00-1124 Ind 4	2000	Cache Slough near Ryer Island Ferry	White Catfish Ind 5	Whit	1	290	82.3	0.490	2.77	-25.7	15.8
00-1124 Ind 5	2000	Cache Slough near Ryer Island Ferry	White Catfish Ind 6	Whit	1	323	79.3	0.478	2.31	-27.1	16.6
00-1124 Ind 6	2000	Cache Slough near Ryer Island Ferry	White Catfish Ind 7	Whit	1	325	78.6	0.615	2.87	-27.4	16.9
00-1124 Ind 7	2000	Cache Slough near Ryer Island Ferry	White Catfish Ind 8	Whit	1	328	79.5	0.372	1.81	-28.1	16.2
00-1124 Ind 8	2000	Cache Slough near Ryer Island Ferry	White Catfish Ind 9	Whit	1	305	79.9	0.452	2.25	-27.6	16.2
00-1477 Ind 1	2000	Cosumnes River	Largemouth Bass Ind 1	Larg	1	485	77.2	2.09	9.17	-24.1	14.5
00-1476 Ind 2	2000	Cosumnes River	Largemouth Bass Ind 10	Larg	1	252	77.8	0.420	1.89	-28.0	12.5
00-1476 Ind 3	2000	Cosumnes River	Largemouth Bass Ind 11	Larg	1	303	78.5	0.468	2.18	-26.4	13.2
00-1476 Ind 4	2000	Cosumnes River	Largemouth Bass Ind 12	Larg	1	261	77.6	0.810	3.61	-24.2	13.3
00-1478 Ind 1	2000	Cosumnes River	Largemouth Bass Ind 2	Larg	1	412	75.8	0.650	2.68	-23.1	15.6
00-1478 Ind 2	2000	Cosumnes River	Largemouth Bass Ind 3	Larg	1	343	75.6	1.00	4.11	-24.5	13.7
00-1478 Ind 3	2000	Cosumnes River	Largemouth Bass Ind 4	Larg	1	333	77.0	0.781	3.39	-24.1	13.9
00-1478 Ind 4	2000	Cosumnes River	Largemouth Bass Ind 5	Larg	1	325	76.3	1.08	4.57	-25.9	12.8
00-1478 Ind 5	2000	Cosumnes River	Largemouth Bass Ind 6	Larg	1	305	77.4	0.771	3.41	-24.5	13.6
00-1475 Ind 1	2000	Cosumnes River	Largemouth Bass Ind 7	Larg	1	232	77.4	0.339	1.5	-29.8	12.7
00-1475 Ind 2	2000	Cosumnes River	Largemouth Bass Ind 8	Larg	1	201	77.6	0.418	1.86	-25.2	12.4
00-1476 Ind 1	2000	Cosumnes River	Largemouth Bass Ind 9	Larg	1	262	77.5	0.946	4.2	-24.8	13.1
00-1474 Comp	2000	Cosumnes River	Sacramento Sucker Comp 1	Sacr	5	371	78.2	0.270	1.24	-22.0	14.4
00-1480 Comp	2000	Cosumnes River	Sacramento Sucker Comp 2	Sacr	4	415	77.4	0.428	1.89	-25.6	11.1
00-1473 Ind 1	2000	Cosumnes River	White Catfish Ind 1	Whit	1	281	78.9	0.763	3.62	-24.8	11.5
00-1479 Ind 1	2000	Cosumnes River	White Catfish Ind 2	Whit	1	376	79.4	0.723	3.51	-23.1	12.5
00-0957 Comp	2000	Feather River @ Nicolaus	Channel Catfish Comp 1	Chan	5	479	72.2	0.729	2.62	-22.3	14.1
00-0954 Ind 1	2000	Feather River @ Nicolaus	Largemouth Bass Ind 1	Larg	1	305	78.2	0.628	2.88	-22.6	14.1
00-1069 Ind 1	2000	Feather River @ Nicolaus	Largemouth Bass Ind 10	Larg	1	236	77.7	0.213	0.955	-22.4	13.6
00-1069 Ind 2	2000	Feather River @ Nicolaus	Largemouth Bass Ind 11	Larg	1	233	78.6	0.265	1.24	-22.4	14.3
00-1138 Ind 1	2000	Feather River @ Nicolaus	Largemouth Bass Ind 12	Larg	1	334	74.9	0.547	2.18	-23.1	14.0
00-1138 Ind 2	2000	Feather River @ Nicolaus	Largemouth Bass Ind 13	Larg	1	321	75.8	0.417	1.72	-22.7	14.0
00-1139 Ind 1	2000	Feather River @ Nicolaus	Largemouth Bass Ind 14	Larg	1	302	78.2	0.672	3.09	-22.6	13.7
00-1140 Ind 1	2000	Feather River @ Nicolaus	Largemouth Bass Ind 15	Larg	1	355	75.9	0.860	3.56	-26.0	16.0
00-1141 Ind 1	2000	Feather River @ Nicolaus	Largemouth Bass Ind 16	Larg	1	255	76.2	0.459	1.93	-22.1	13.8
00-0954 Ind 2	2000	Feather River @ Nicolaus	Largemouth Bass Ind 2	Larg	1	305	76.7	0.397	1.7	-22.4	14.0

Fish ID	Year	Station Location	FishDescription	Species	Sample Size	Mean Length	Moisture	Hg Wet Weight	Hg Dry Weight	C Isotope	N Isotope
						mm	%	µg/g	µg/g	δ13C	δ15N
00-0954 Ind 3	2000	Feather River @ Nicolaus	Largemouth Bass Ind 3	Larg	1	311	77.8	0.699	3.15	-22.5	14.3
00-0954 Ind 4	2000	Feather River @ Nicolaus	Largemouth Bass Ind 4	Larg	1	306	76.5	0.536	2.28	-22.7	14.3
00-0954 Ind 5	2000	Feather River @ Nicolaus	Largemouth Bass Ind 5	Larg	1	311	77.3	0.818	3.6	-23.0	14.3
00-0954 Ind 6	2000	Feather River @ Nicolaus	Largemouth Bass Ind 6	Larg	1	339	77.4	0.562	2.49	-22.4	14.5
00-1068 Ind 1	2000	Feather River @ Nicolaus	Largemouth Bass Ind 7	Larg	1	305	75.6	0.469	1.92	-22.6	14.2
00-1068 Ind 2	2000	Feather River @ Nicolaus	Largemouth Bass Ind 8	Larg	1	334	75.8	0.789	3.26	-23.0	14.0
00-1068 Ind 3	2000	Feather River @ Nicolaus	Largemouth Bass Ind 9	Larg	1	362	76.9	0.998	4.32	-26.8	12.6
00-0955 Comp	2000	Feather River @ Nicolaus	Redear Sunfish Comp 1	Rede	5	154	76.8	0.220	0.946	-25.9	11.6
00-0952 Ind 1	2000	Feather River @ Nicolaus	Sacramento Pike Minnow Ind 1	Sapm	1	329	79.0	0.346	1.65	-23.2	12.2
00-0952 Ind 2	2000	Feather River @ Nicolaus	Sacramento Pike Minnow Ind 2	Sapm	1	280	80.9	0.233	1.22	-20.7	13.1
00-0952 Ind 3	2000	Feather River @ Nicolaus	Sacramento Pike Minnow Ind 3	Sapm	1	320	80.0	0.686	3.43	-22.4	13.2
00-0952 Ind 4	2000	Feather River @ Nicolaus	Sacramento Pike Minnow Ind 4	Sapm	1	319	80.6	1.21	6.21	-23.6	12.5
00-0952 Ind 5	2000	Feather River @ Nicolaus	Sacramento Pike Minnow Ind 5	Sapm	1	256	81.0	0.298	1.57	-22.7	12.6
00-0956 Comp	2000	Feather River @ Nicolaus	Sacramento Sucker Comp 1	Sacr	3	430	77.9	0.342	1.55	-25.8	12.0
00-0952 Ind 1	2000	Feather River @ Nicolaus	Striped Bass Ind 1	Stri	1	441	72.8	1.653	6.07	-22.3	14.6
00-1070 Ind 1	2000	Feather River @ Nicolaus	Striped Bass Ind 2	Stri	1	556	75.2	1.221	4.92	-21.4	15.4
00-1024 Ind 1	2000	Feather River @ Nicolaus	White Catfish Ind 1	Whit	1	272	80.5	0.392	2.01	-23.1	13.2
00-1024 Ind 2	2000	Feather River @ Nicolaus	White Catfish Ind 2	Whit	1	269	79.4	0.846	4.1	-23.0	14.5
00-1028 Ind 1	2000	Feather River @ Nicolaus	White Catfish Ind 3	Whit	1	545	69.2	0.554	1.8	-22.2	14.7
00-1071 Ind 1	2000	Feather River @ Nicolaus	White Catfish Ind 4	Whit	1	492	69.6	0.548	1.8	-21.9	14.8
00-1072 Ind 1	2000	Feather River @ Nicolaus	White Catfish Ind 5	Whit	1	670	73.2	1.254	4.68	-19.6	14.8
00-1142 Ind 1	2000	Feather River @ Nicolaus	White Catfish Ind 6	Whit	1	205	85.8	0.455	3.21	-23.8	15.2
00-1143 Ind 1	2000	Feather River @ Nicolaus	White Catfish Ind 7	Whit	1	278	79.9	1.211	6.03	-23.0	14.9
00-1727 Ind 1	2000	Feather River above Yuba River	Largemouth Bass Ind 1	Larg	1	355	76.9	0.273	1.18	-26.0	13.1
00-1729 Ind 2	2000	Feather River above Yuba River	Largemouth Bass Ind 10	Larg	1	215	77.2	0.292	1.28	-24.9	12.5
00-1727 Ind 2	2000	Feather River above Yuba River	Largemouth Bass Ind 2	Larg	1	395	77.0	1.59	6.92	-23.8	14.1
00-1727 Ind 3	2000	Feather River above Yuba River	Largemouth Bass Ind 3	Larg	1	330	77.4	0.727	3.22	-21.4	14.5
00-1727 Ind 4	2000	Feather River above Yuba River	Largemouth Bass Ind 4	Larg	1	383	77.0	0.545	2.37	-23.6	13.9
00-1727 Ind 5	2000	Feather River above Yuba River	Largemouth Bass Ind 5	Larg	1	306	74.9	0.534	2.13	-21.4	14.4
00-1727 Ind 6	2000	Feather River above Yuba River	Largemouth Bass Ind 6	Larg	1	335	77.3	1.083	4.77	-22.1	14.1
00-1728 Ind 1	2000	Feather River above Yuba River	Largemouth Bass Ind 7	Larg	1	298	78.9	0.133	0.634	-25.8	12.5
00-1728 Ind 2	2000	Feather River above Yuba River	Largemouth Bass Ind 8	Larg	1	255	78.5	0.770	3.58	-21.7	15.3
00-1729 Ind 1	2000	Feather River above Yuba River	Largemouth Bass Ind 9	Larg	1	249	78.9	0.109	0.518	-21.5	14.0
00-1744 Ind 1	2000	Feather River above Yuba River	Sacramento Pike Minnow Ind 1	Sapm	1	447	73.4	1.46	5.48	-18.6	15.6
00-1744 Ind 10	2000	Feather River above Yuba River	Sacramento Pike Minnow Ind 10	Sapm	1	455	73.9	1.08	4.15	-19.2	14.9
00-1744 Ind 2	2000	Feather River above Yuba River	Sacramento Pike Minnow Ind 2	Sapm	1	359	73.7	0.125	0.477	-24.1	10.9
00-1744 Ind 3	2000	Feather River above Yuba River	Sacramento Pike Minnow Ind 3	Sapm	1	396	74.6	0.297	1.17	-19.3	14.9
00-1744 Ind 4	2000	Feather River above Yuba River	Sacramento Pike Minnow Ind 4	Sapm	1	376	75.4	0.646	2.63	-19.2	14.7
00-1744 Ind 5	2000	Feather River above Yuba River	Sacramento Pike Minnow Ind 5	Sapm	1	421	75.5	0.872	3.56	-19.3	14.9
00-1744 Ind 6	2000	Feather River above Yuba River	Sacramento Pike Minnow Ind 6	Sapm	1	357	76.0	0.732	3.05	-19.5	13.6
00-1744 Ind 7	2000	Feather River above Yuba River	Sacramento Pike Minnow Ind 7	Sapm	1	371	82.8	1.01	5.88	-20.3	13.5
00-1744 Ind 8	2000	Feather River above Yuba River	Sacramento Pike Minnow Ind 8	Sapm	1	385	73.5	0.416	1.57	-21.0	14.7
00-1744 Ind 9	2000	Feather River above Yuba River	Sacramento Pike Minnow Ind 9	Sapm	1	350	74.3	0.362	1.41	-19.8	14.5
00-1745 Comp	2000	Feather River above Yuba River	Sacramento Sucker Comp 1	Sacr	5	419	77.2	0.269	1.18	-24.9	12.0
00-1733 Comp	2000	Feather River between Yuba and Bear Rivers	Carp Comp 1	Carp	5	566	75.4	0.497	2.02	-25.5	11.3
00-1730 Comp	2000	Feather River between Yuba and Bear Rivers	Channel Catfish Comp 1	Chan	4	424	74.9	0.499	1.99	-23.3	14.0
00-1732 Ind 1	2000	Feather River between Yuba and Bear Rivers	Largemouth Bass Ind 1	Larg	1	343	75.7	0.760	3.13	-23.2	14.5
00-1735 Ind 1	2000	Feather River between Yuba and Bear Rivers	Sacramento Pike Minnow Ind 1	Sapm	1	466	72.3	2.14	7.73	-19.8	14.5
00-1735 Ind 2	2000	Feather River between Yuba and Bear Rivers	Sacramento Pike Minnow Ind 2	Sapm	1	394	77.6	2.26	10.1	-22.1	14.4
00-1736 Comp	2000	Feather River between Yuba and Bear Rivers	Sacramento Sucker Comp 1	Sacr	5	446	77.9	0.206	0.931	-25.0	11.5
00-1734 Ind 1	2000	Feather River between Yuba and Bear Rivers	Striped Bass Ind 1	Stri	1	736	72.9	0.845	3.12	-21.2	14.2
00-1734 Ind 2	2000	Feather River between Yuba and Bear Rivers	Striped Bass Ind 2	Stri	1	533 a	71.9	0.435	1.55	-18.7	16.9
00-1491 Ind 1	2000	Franks Tract	Largemouth Bass Ind 1	Larg	1	446	75.9	0.301	1.25	-17.6	19.1
00-1494 Ind 2	2000	Franks Tract	Largemouth Bass Ind 10	Larg	1	236	79.0	0.081	0.388	-18.0	18.2
00-1492 Ind 1	2000	Franks Tract	Largemouth Bass Ind 2	Larg	1	420	77.4	0.177	0.784	-17.9	18.9
00-1492 Ind 2	2000	Franks Tract	Largemouth Bass Ind 3	Larg	1	397	76.9	0.468	2.03	-20.6	18.7
00-1492 Ind 3	2000	Franks Tract	Largemouth Bass Ind 4	Larg	1	366	76.7	0.386	1.66	-20.1	19.1
00-1492 Ind 4	2000	Franks Tract	Largemouth Bass Ind 5	Larg	1	350	75.5	0.123	0.501	-19.8	18.8
00-1492 Ind 5	2000	Franks Tract	Largemouth Bass Ind 6	Larg	1	345	75.5	0.082	0.334	-18.4	18.1
00-1493 Ind 1	2000	Franks Tract	Largemouth Bass Ind 7	Larg	1	256	77.4	0.167	0.74	-17.3	18.0
00-1493 Ind 2	2000	Franks Tract	Largemouth Bass Ind 8	Larg	1	254	77.8	0.066	0.297	-18.3	17.8
00-1494 Ind 1	2000	Franks Tract	Largemouth Bass Ind 9	Larg	1	246	78.3	0.072	0.332	-17.7	18.1
00-1719/00-1720	2000	Green's Lake	Carp Comp 1	Carp	5	433	78.0	0.335	1.52	-25.4	13.5
00-1719/00-1720	2000	Green's Lake	Carp Comp 2	Carp	5	409	76.9	0.220	0.95	-26.4	14.0
00-1637/00-1722	2000	Green's Lake	Crappie Comp 1	Crap	5	329	76.7	0.407	1.75	-25.5	13.6
00-1637/00-1722	2000	Green's Lake	Crappie Comp 2	Crap	5	186	78.1	0.591	2.7	-27.9	15.5

Fish ID	Year	Station Location	FishDescription	Species	Sample Size	Mean Length	Moisture	Hg Wet Weight	Hg Dry Weight	C Isotope	N Isotope
						mm	%	µg/g	µg/g	δ13C	δ15N
00-1636 Ind 1	2000	Green's Lake	Largemouth Bass Ind 1	Larg	1	365	74.2	0.596	2.31	-25.9	17.9
00-1558/00-	2000	Little Holland Tract	Carp Comp 1	Carp	5	457	76.1	0.239	0.999	-28.0	NA
00-1558/00-	2000	Little Holland Tract	Carp Comp 2	Carp	5	450	73.5	0.243	0.916	-27.1	13.5
00-1564 Ind 1	2000	Little Holland Tract	White Catfish Ind 1	Whit	1	285	81.1	0.430	2.28	-26.6	16.1
00-1564 Ind 10	2000	Little Holland Tract	White Catfish Ind 10	Whit	1	256	80.3	0.539	2.73	-27.3	16.3
00-1568 Ind 1	2000	Little Holland Tract	White Catfish Ind 2	Whit	1	228	79.0	0.369	1.76	-27.4	15.3
00-1568 Ind 2	2000	Little Holland Tract	White Catfish Ind 12	Whit	1	218	80.7	0.527	2.73	-26.6	16.2
00-1568 Ind 3	2000	Little Holland Tract	White Catfish Ind 13	Whit	1	227	79.9	0.514	2.55	-25.5	16.5
00-1568 Ind 4	2000	Little Holland Tract	White Catfish Ind 14	Whit	1	228	80.2	0.452	2.28	-27.5	16.2
00-1568 Ind 5	2000	Little Holland Tract	White Catfish Ind 15	Whit	1	193	79.4	0.724	3.52	-27.4	16.7
00-1564 Ind 2	2000	Little Holland Tract	White Catfish Ind 2	Whit	1	270	79.1	0.330	1.58	-26.6	15.6
00-1564 Ind 3	2000	Little Holland Tract	White Catfish Ind 3	Whit	1	302	80.5	0.344	1.76	-26.1	16.0
00-1564 Ind 4	2000	Little Holland Tract	White Catfish Ind 4	Whit	1	281	79.7	0.754	3.72	-26.4	16.3
00-1564 Ind 5	2000	Little Holland Tract	White Catfish Ind 5	Whit	1	253	79.8	0.572	2.83	-26.5	16.0
00-1564 Ind 6	2000	Little Holland Tract	White Catfish Ind 6	Whit	1	284	79.2	0.376	1.81	-25.8	15.9
00-1564 Ind 7	2000	Little Holland Tract	White Catfish Ind 7	Whit	1	328	79.5	0.334	1.63	-27.4	16.8
00-1564 Ind 8	2000	Little Holland Tract	White Catfish Ind 8	Whit	1	315	80.7	0.682	3.54	-26.1	16.1
00-1564 Ind 9	2000	Little Holland Tract	White Catfish Ind 9	Whit	1	262	78.7	0.649	3.04	-26.5	16.3
00-1496 Ind 1	2000	Mildred Island	Largemouth Bass Ind 1	Larg	1	203	79.5	0.078	0.381	-23.1	18.7
00-1498 Ind 6	2000	Mildred Island	Largemouth Bass Ind 10	Larg	1	347	82.9	0.161	0.943	-23.3	19.4
00-1496 Ind 2	2000	Mildred Island	Largemouth Bass Ind 2	Larg	1	216	78.0	0.111	0.502	-23.5	19.0
00-1497 Ind 1	2000	Mildred Island	Largemouth Bass Ind 3	Larg	1	293	77.7	0.270	1.21	-25.3	19.0
00-1497 Ind 2	2000	Mildred Island	Largemouth Bass Ind 4	Larg	1	286	77.8	0.242	1.09	-22.9	19.8
00-1498 Ind 1	2000	Mildred Island	Largemouth Bass Ind 5	Larg	1	427	76.3	0.341	1.44	-23.1	20.0
00-1498 Ind 2	2000	Mildred Island	Largemouth Bass Ind 6	Larg	1	340	76.9	0.268	1.16	-22.2	19.6
00-1498 Ind 3	2000	Mildred Island	Largemouth Bass Ind 7	Larg	1	315	76.8	0.253	1.09	-22.8	19.6
00-1498 Ind 4	2000	Mildred Island	Largemouth Bass Ind 8	Larg	1	312	78.4	0.141	0.652	-22.1	19.9
00-1498 Ind 5	2000	Mildred Island	Largemouth Bass Ind 9	Larg	1	327	75.5	0.191	0.78	NA	NA
00-1495 Comp	2000	Mildred Island	Redear Sunfish Comp 1	Rede	3	173	78.0	0.0834	0.379	-24.5	17.1
00-1481 Ind 1	2000	Mokelumne below Cosumnes	Largemouth Bass Ind 1	Larg	1	342	75.5	1.24	5.04	-23.8	12.8
00-1483 Ind 2	2000	Mokelumne below Cosumnes	Largemouth Bass Ind 10	Larg	1	210	80.0	0.308	1.54	-25.0	13.3
00-1481 Ind 2	2000	Mokelumne below Cosumnes	Largemouth Bass Ind 2	Larg	1	313	76.3	0.856	3.61	-24.4	12.9
00-1481 Ind 3	2000	Mokelumne below Cosumnes	Largemouth Bass Ind 3	Larg	1	312	76.9	0.670	2.9	-22.7	14.1
00-1481 Ind 4	2000	Mokelumne below Cosumnes	Largemouth Bass Ind 4	Larg	1	387	76.2	1.36	5.72	-24.9	12.7
00-1481 Ind 5	2000	Mokelumne below Cosumnes	Largemouth Bass Ind 5	Larg	1	320	77.8	1.02	4.6	-23.8	12.6
00-1481 Ind 6	2000	Mokelumne below Cosumnes	Largemouth Bass Ind 6	Larg	1	313	76.8	0.588	2.53	-22.7	14.5
00-1482 Ind 1	2000	Mokelumne below Cosumnes	Largemouth Bass Ind 7	Larg	1	273	76.3	0.561	2.37	-24.6	11.6
00-1482 Ind 2	2000	Mokelumne below Cosumnes	Largemouth Bass Ind 8	Larg	1	275	78.4	0.766	3.54	-24.3	12.7
00-1483 Ind 1	2000	Mokelumne below Cosumnes	Largemouth Bass Ind 9	Larg	1	222	78.8	0.360	1.7	-24.7	12.9
00-1499 Comp	2000	Mokelumne below Cosumnes	Sacramento Sucker Comp 1	Sacr	5	387	78.0	0.357	1.62	-25.6	10.5
00-1500/00-1501	2000	Mokelumne below Cosumnes	Sacramento Sucker Comp 2	Sacr	5	459	76.3	0.374	1.58	-28.1	10.3
00-1574 Ind 1	2000	San Joaquin River Near Potato Slough	Largemouth Bass Ind 1	Larg	1	519	76.8	1.26	5.43	-24.5	17.6
00-1572 Ind 1	2000	San Joaquin River Near Potato Slough	Largemouth Bass Ind 10	Larg	1	222	78.6	0.096	0.451	-23.1	18.1
00-1572 Ind 2	2000	San Joaquin River Near Potato Slough	Largemouth Bass Ind 11	Larg	1	225	78.0	0.173	0.787	-24.0	18.4
00-1585 Ind 1	2000	San Joaquin River Near Potato Slough	Largemouth Bass Ind 2	Larg	1	339	76.4	0.370	1.57	-24.2	17.7
00-1585 Ind 2	2000	San Joaquin River Near Potato Slough	Largemouth Bass Ind 3	Larg	1	366	76.1	0.438	1.83	-24.8	19.1
00-1585 Ind 3	2000	San Joaquin River Near Potato Slough	Largemouth Bass Ind 4	Larg	1	355	77.5	0.200	0.89	-24.9	18.1
00-1585 Ind 4	2000	San Joaquin River Near Potato Slough	Largemouth Bass Ind 5	Larg	1	358	76.6	0.236	1.01	-24.2	19.2
00-1585 Ind 5	2000	San Joaquin River Near Potato Slough	Largemouth Bass Ind 6	Larg	1	387	76.8	0.401	1.73	-23.1	18.6
00-1585 Ind 6	2000	San Joaquin River Near Potato Slough	Largemouth Bass Ind 7	Larg	1	360	79.2	0.758	3.64	-24.4	16.0
00-1581 Ind 1	2000	San Joaquin River Near Potato Slough	Largemouth Bass Ind 8	Larg	1	279	77.6	0.170	0.757	-24.0	18.5
00-1581 Ind 2	2000	San Joaquin River Near Potato Slough	Largemouth Bass Ind 9	Larg	1	295	78.2	0.178	0.818	-24.5	18.3
00-1573 Comp	2000	San Joaquin River Near Potato Slough	Redear Sunfish Comp 1	Rede	4	220	78.0	0.110	0.501	-25.5	16.0
00-1849 Ind 1	2000	San Joaquin River Near Potato Slough	Striped Bass Ind 1	Stri	1	567	76.6	0.168	0.72	-26.9	17.4
00-1393/1390	2000	Putah Creek	Bluegill Comp 1	Blue	5	157 b	79.8	0.165	0.816	-25.9	12.0
00-1393/1390	2000	Putah Creek	Bluegill Comp 2	Blue	5	147 b	80.1	0.071	0.358	-25.7	12.6
00-1393/1390	2000	Putah Creek	Bluegill Comp 3	Blue	5	150 b	78.2	0.158	0.725	-25.5	11.8
00-1393/1390	2000	Putah Creek	Bluegill Comp 4	Blue	5	148 b	79.1	0.096	0.459	-25.2	12.3
00-1392 Ind 1	2000	Putah Creek	Largemouth Bass Ind 1	Larg	1	319	78.9	0.340	1.61	-25.8	13.8
00-1388 Ind 7	2000	Putah Creek	Largemouth Bass Ind 10	Larg	1	210	77.3	0.103	0.452	-28.6	12.8
00-1388 Ind 8	2000	Putah Creek	Largemouth Bass Ind 11	Larg	1	385	74.3	0.502	1.95	-25.7	14.1
00-1392 Ind 2	2000	Putah Creek	Largemouth Bass Ind 2	Larg	1	342	78.5	0.338	1.57	-24.4	14.0
00-1392 Ind 3	2000	Putah Creek	Largemouth Bass Ind 3	Larg	1	326	78.7	0.222	1.04	-25.4	14.1
00-1388 Ind 1	2000	Putah Creek	Largemouth Bass Ind 4	Larg	1	324	77.8	0.258	1.16	-26.1	13.6
00-1388 Ind 2	2000	Putah Creek	Largemouth Bass Ind 5	Larg	1	376	78.2	0.452	2.07	-25.1	13.8
00-1388 Ind 3	2000	Putah Creek	Largemouth Bass Ind 6	Larg	1	384	77.7	0.569	2.55	-25.8	13.9



Fish ID	Year	Station Location	FishDescription	Species	Sample Size	Mean Length	Moisture	Hg Wet Weight	Hg Dry Weight	C Isotope	N Isotope
						mm	%	µg/g	µg/g	δ13C	δ15N
00-1388 Ind 4	2000	Putah Creek	Largemouth Bass Ind 7	Larg	1	409	77.3	0.816	3.6	-25.4	14.6
00-1388 Ind 5	2000	Putah Creek	Largemouth Bass Ind 8	Larg	1	390	77.4	0.638	2.82	-26.0	14.1
00-1388 Ind 6	2000	Putah Creek	Largemouth Bass Ind 9	Larg	1	306	77.8	0.276	1.24	-26.0	14.1
00-1391/00-1389	2000	Putah Creek	Sacramento Sucker Comp 1	Sacr	3	359	78.6	0.170	0.796	-28.5	11.6
00-0951 Comp	2000	Sacramento River @ River Marker 44	Carp Comp 1	Carp	3	566	73.3	0.256	0.958	ND	ND
00-0946 Ind 1	2000	Sacramento River @ River Marker 44	Largemouth Bass Ind 1	Larg	1	327	75.9	0.918	3.81	-25.2	19.1
00-0948 Ind 6	2000	Sacramento River @ River Marker 44	Largemouth Bass Ind 10	Larg	1	356	74.0	0.742	2.85	-24.2	13.2
00-1005 Ind 1	2000	Sacramento River @ River Marker 44	Largemouth Bass Ind 11	Larg	1	286	75.9	0.454	1.88	-24.6	13.5
00-1005 Ind 2	2000	Sacramento River @ River Marker 44	Largemouth Bass Ind 12	Larg	1	281	78.1	0.441	2.01	-24.7	13.2
00-1006 Ind 1	2000	Sacramento River @ River Marker 44	Largemouth Bass Ind 13	Larg	1	227	77.7	0.177	0.794	-24.2	13.6
00-1006 Ind 2	2000	Sacramento River @ River Marker 44	Largemouth Bass Ind 14	Larg	1	247	76.6	0.342	1.46	-24.2	13.5
00-0946 Ind 2	2000	Sacramento River @ River Marker 44	Largemouth Bass Ind 2	Larg	1	345	75.9	0.889	3.69	-24.8	13.3
00-0946 Ind 3	2000	Sacramento River @ River Marker 44	Largemouth Bass Ind 3	Larg	1	350	74.1	0.862	3.33	-24.4	13.5
00-0946 Ind 4	2000	Sacramento River @ River Marker 44	Largemouth Bass Ind 4	Larg	1	359	75.1	0.858	3.44	-24.3	13.6
00-0948 Ind 1	2000	Sacramento River @ River Marker 44	Largemouth Bass Ind 5	Larg	1	343	74.4	0.699	2.73	-24.8	13.5
00-0948 Ind 2	2000	Sacramento River @ River Marker 44	Largemouth Bass Ind 6	Larg	1	392	74.8	1.084	4.3	-24.0	13.4
00-0948 Ind 3	2000	Sacramento River @ River Marker 44	Largemouth Bass Ind 7	Larg	1	386	74.2	1.256	4.87	NA	NA
00-0948 Ind 4	2000	Sacramento River @ River Marker 44	Largemouth Bass Ind 8	Larg	1	376	73.5	1.064	4.01	-24.6	12.9
00-0948 Ind 5	2000	Sacramento River @ River Marker 44	Largemouth Bass Ind 9	Larg	1	359	76.0	1.109	4.62	-24.2	13.4
00-0949 Ind 1	2000	Sacramento River @ River Marker 44	Sacramento Pike Minnow Ind 1	Sapm	1	236	76.2	0.103	0.431	-19.8	13.1
00-0949 Ind 2	2000	Sacramento River @ River Marker 44	Sacramento Pike Minnow Ind 2	Sapm	1	220	79.5	0.068	0.332	-21.1	13.2
00-0949 Ind 3	2000	Sacramento River @ River Marker 44	Sacramento Pike Minnow Ind 3	Sapm	1	240	79.6	0.166	0.813	-22.1	13.7
00-0949 Ind 4	2000	Sacramento River @ River Marker 44	Sacramento Pike Minnow Ind 4	Sapm	1	273	79.1	0.167	0.797	-20.5	13.4
00-0949 Ind 5	2000	Sacramento River @ River Marker 44	Sacramento Pike Minnow Ind 5	Sapm	1	292	78.7	0.096	0.451	-19.8	12.9
00-0947 Comp	2000	Sacramento River @ River Marker 44	Sacramento Sucker Comp 1	Sacr	5	452	75.3	0.221	0.895	-27.4	10.6
00-0950 Ind 1	2000	Sacramento River @ River Marker 44	Striped Bass Ind 1	Stri	1	450	74.8	0.343	1.36	-18.5	17.2
00-1007 Ind 1	2000	Sacramento River @ River Marker 44	White Catfish Ind 1	Whit	1	317	80.6	0.562	2.9	-25.7	13.8
00-1009 Ind 1	2000	Sacramento River @ River Marker 44	White Catfish Ind 10	Whit	1	345	79.4	0.718	3.49	-26.8	13.2
00-1007 Ind 2	2000	Sacramento River @ River Marker 44	White Catfish Ind 2	Whit	1	314	81.3	1.035	5.54	-24.3	14.2
00-1007 Ind 3	2000	Sacramento River @ River Marker 44	White Catfish Ind 3	Whit	1	259	77.3	0.185	0.815	-28.3	14.4
00-1007 Ind 4	2000	Sacramento River @ River Marker 44	White Catfish Ind 4	Whit	1	296	72.0	0.286	1.02	-29.2	12.5
00-1007 Ind 5	2000	Sacramento River @ River Marker 44	White Catfish Ind 5	Whit	1	294	79.2	0.246	1.18	-25.5	12.9
00-1007 Ind 6	2000	Sacramento River @ River Marker 44	White Catfish Ind 6	Whit	1	270	79.0	0.155	0.742	-25.2	13.8
00-1007 Ind 7	2000	Sacramento River @ River Marker 44	White Catfish Ind 7	Whit	1	265	77.1	0.238	1.04	-27.8	13.7
00-1008 Ind 1	2000	Sacramento River @ River Marker 44	White Catfish Ind 8	Whit	1	227	76.2	0.223	0.939	-27.1	14.0
00-1008 Ind 2	2000	Sacramento River @ River Marker 44	White Catfish Ind 9	Whit	1	207	75.9	0.236	0.978	-29.1	12.7
00-1487 Ind 1	2000	Sacramento River near Isleton	Largemouth Bass Ind 1	Larg	1	345	77.3	0.979	4.31	-26.7	13.1
00-1489 Ind 2	2000	Sacramento River near Isleton	Largemouth Bass Ind 10	Larg	1	226	77.8	0.143	0.643	-25.7	14.0
00-1487 Ind 2	2000	Sacramento River near Isleton	Largemouth Bass Ind 2	Larg	1	385	75.0	0.955	3.82	-21.4	13.7
00-1487 Ind 3	2000	Sacramento River near Isleton	Largemouth Bass Ind 3	Larg	1	341	77.0	0.331	1.44	-24.8	14.1
00-1487 Ind 4	2000	Sacramento River near Isleton	Largemouth Bass Ind 4	Larg	1	372	76.3	1.01	4.26	-24.7	13.5
00-1487 Ind 5	2000	Sacramento River near Isleton	Largemouth Bass Ind 5	Larg	1	325	76.6	0.330	1.41	-25.4	13.5
00-1487 Ind 6	2000	Sacramento River near Isleton	Largemouth Bass Ind 6	Larg	1	342	76.0	0.833	3.47	-25.4	13.4
00-1488 Ind 1	2000	Sacramento River near Isleton	Largemouth Bass Ind 7	Larg	1	303	76.3	0.434	1.83	-24.3	13.5
00-1488 Ind 2	2000	Sacramento River near Isleton	Largemouth Bass Ind 8	Larg	1	254	77.6	0.318	1.42	-25.5	13.4
00-1489 Ind 1	2000	Sacramento River near Isleton	Largemouth Bass Ind 9	Larg	1	245	77.4	0.413	1.83	-24.5	13.7
00-1846 Ind 1	2000	Sacramento River near Isleton	Sacramento Pike Minnow Ind 1	Sapm	1	465	76.6	1.52	6.51	-22.8	12.6
00-1848 Ind 2	2000	Sacramento River near Isleton	Sacramento Pike Minnow Ind 10	Sapm	1	297	79.0	0.273	1.3	-23.1	13.1
00-1846 Ind 2	2000	Sacramento River near Isleton	Sacramento Pike Minnow Ind 2	Sapm	1	510	75.8	1.44	5.96	-24.7	12.9
00-1846 Ind 3	2000	Sacramento River near Isleton	Sacramento Pike Minnow Ind 3	Sapm	1	400	76.4	1.21	5.13	-20.2	14.0
00-1846 Ind 4	2000	Sacramento River near Isleton	Sacramento Pike Minnow Ind 4	Sapm	1	405	73.6	0.670	2.54	-24.3	16.9
00-1846 Ind 5	2000	Sacramento River near Isleton	Sacramento Pike Minnow Ind 5	Sapm	1	435	74.5	2.04	7.98	-22.3	12.5
00-1846 Ind 6	2000	Sacramento River near Isleton	Sacramento Pike Minnow Ind 6	Sapm	1	495	77.1	0.798	3.48	-21.2	16.5
00-1847 Ind 1	2000	Sacramento River near Isleton	Sacramento Pike Minnow Ind 7	Sapm	1	538	71.5	1.04	3.67	-21.7	13.9
00-1847 Ind 2	2000	Sacramento River near Isleton	Sacramento Pike Minnow Ind 8	Sapm	1	605	74.8	0.830	3.29	-20.6	15.9
00-1848 Ind 1	2000	Sacramento River near Isleton	Sacramento Pike Minnow Ind 9	Sapm	1	303	77.7	0.145	0.649	-24.5	13.2
00-1484 Comp	2000	Sacramento River near Isleton	Sacramento Sucker Comp 1	Sacr	5	460	71.1	0.261	0.905	-29.1	11.9
00-1485/00-1486	2000	Sacramento River near Isleton	Sacramento Sucker Comp 2	Sacr	5	468	73.8	0.222	0.85	-28.7	11.7
00-1490 Ind 1	2000	Sacramento River near Isleton	White Catfish Ind 1	Whit	1	295	77.9	0.411	1.86	ND	ND
00-1490 Ind 2	2000	Sacramento River near Isleton	White Catfish Ind 2	Whit	1	328	79.0	0.645	3.07	ND	ND
00-1554 Ind 1	2000	San Joaquin River @ Crow's Landing	Largemouth Bass Ind 1	Larg	1	379	76.9	0.674	2.92	-24.6	17.0
00-1552 Ind 3	2000	San Joaquin River @ Crow's Landing	Largemouth Bass Ind 10	Larg	1	297	78.7	0.847	3.98	-25.8	16.2
00-1559 Ind 1	2000	San Joaquin River @ Crow's Landing	Largemouth Bass Ind 11	Larg	1	202	78.7	0.251	1.18	-24.9	16.5
00-1559 Ind 2	2000	San Joaquin River @ Crow's Landing	Largemouth Bass Ind 12	Larg	1	245	79.4	0.532	2.58	-19.3	17.7
00-1554 Ind 2	2000	San Joaquin River @ Crow's Landing	Largemouth Bass Ind 2	Larg	1	408	76.7	0.834	3.58	-25.5	16.8
00-1554 Ind 3	2000	San Joaquin River @ Crow's Landing	Largemouth Bass Ind 3	Larg	1	413	76.5	0.910	3.87	-25.7	17.1

Fish ID	Year	Station	Location	FishDescription	Species	Sample Size	Mean Length	Moisture	Hg Wet Weight	Hg Dry Weight	C Isotope	N Isotope
							mm	%	µg/g	µg/g	δ13C	δ15N
00-1554 Ind 4	2000	San Joaquin River @	Crow's Landing	Largemouth Bass Ind 4	Larg	1	393	77.3	0.664	2.92	-25.1	16.5
00-1554 Ind 5	2000	San Joaquin River @	Crow's Landing	Largemouth Bass Ind 5	Larg	1	382	75.9	0.581	2.41	-25.1	15.5
00-1561 Ind 1	2000	San Joaquin River @	Crow's Landing	Largemouth Bass Ind 6	Larg	1	345	75.3	0.675	2.73	-25.7	16.4
00-1561 Ind 2	2000	San Joaquin River @	Crow's Landing	Largemouth Bass Ind 7	Larg	1	380	75.3	0.838	3.4	-25.3	16.4
00-1552 Ind 1	2000	San Joaquin River @	Crow's Landing	Largemouth Bass Ind 8	Larg	1	275	78.2	0.311	1.43	-25.8	16.0
00-1552 Ind 2	2000	San Joaquin River @	Crow's Landing	Largemouth Bass Ind 9	Larg	1	267	77.5	0.223	0.992	-24.3	16.3
00-1557 Comp 1	2000	San Joaquin River @	Crow's Landing	Redear Sunfish Comp 1	Rede	5	162	77.4	0.125	0.551	-26.9	15.2
00-1557 Comp 2	2000	San Joaquin River @	Crow's Landing	Redear Sunfish Comp 2	Rede	5	171	79.1	0.114	0.547	-24.9	14.7
00-1551 Ind 1	2000	San Joaquin River @	Crow's Landing	White Catfish Ind 1	Whit	1	235	81.6	0.446	2.42	-27.4	15.2
00-1555 Ind 3	2000	San Joaquin River @	Crow's Landing	White Catfish Ind 10	Whit	1	210	80.3	0.492	2.49	-27.1	15.0
00-1563 Ind 1	2000	San Joaquin River @	Crow's Landing	White Catfish Ind 11	Whit	1	167	81.4	0.647	3.47	-27.5	15.2
00-1563 Ind 2	2000	San Joaquin River @	Crow's Landing	White Catfish Ind 12	Whit	1	179	77.3	0.350	1.54	-28.0	15.2
00-1551 Ind 2	2000	San Joaquin River @	Crow's Landing	White Catfish Ind 2	Whit	1	230	81.4	0.472	2.54	ND	ND
00-1551 Ind 3	2000	San Joaquin River @	Crow's Landing	White Catfish Ind 3	Whit	1	250	80.6	0.445	2.29	ND	ND
00-1551 Ind 4	2000	San Joaquin River @	Crow's Landing	White Catfish Ind 4	Whit	1	237	81.1	0.500	2.64	ND	ND
00-1551 Ind 5	2000	San Joaquin River @	Crow's Landing	White Catfish Ind 5	Whit	1	230	83.4	0.221	1.33	ND	ND
00-1551 Ind 6	2000	San Joaquin River @	Crow's Landing	White Catfish Ind 6	Whit	1	236	81.0	0.307	1.62	ND	ND
00-1551 Ind 7	2000	San Joaquin River @	Crow's Landing	White Catfish Ind 7	Whit	1	232	83.7	0.422	2.58	ND	ND
00-1555 Ind 1	2000	San Joaquin River @	Crow's Landing	White Catfish Ind 8	Whit	1	212	80.6	0.372	1.92	-27.3	14.9
00-1555 Ind 2	2000	San Joaquin River @	Crow's Landing	White Catfish Ind 9	Whit	1	210	80.0	0.236	1.18	-28.3	15.2
00-1584 Ind 1	2000	San Joaquin River @	Naval Station	Largemouth Bass Ind 1	Larg	1	318	78.9	0.464	2.2	-26.1	20.2
00-1577 Ind 2	2000	San Joaquin River @	Naval Station	Largemouth Bass Ind 10	Larg	1	286	76.9	0.241	1.04	-27.2	17.9
00-1577 Ind 3	2000	San Joaquin River @	Naval Station	Largemouth Bass Ind 11	Larg	1	268	77.7	0.213	0.957	-26.4	17.5
00-1556 Ind 1	2000	San Joaquin River @	Naval Station	Largemouth Bass Ind 13	Larg	1	540	76.2	0.568	2.38	-24.2	19.9
00-1584 Ind 2	2000	San Joaquin River @	Naval Station	Largemouth Bass Ind 2	Larg	1	350	76.7	0.273	1.17	-24.0	19.0
00-1584 Ind 3	2000	San Joaquin River @	Naval Station	Largemouth Bass Ind 3	Larg	1	310	77.4	0.230	1.02	-26.1	18.6
00-1584 Ind 4	2000	San Joaquin River @	Naval Station	Largemouth Bass Ind 4	Larg	1	385	76.7	0.278	1.19	-25.8	20.9
00-1584 Ind 5	2000	San Joaquin River @	Naval Station	Largemouth Bass Ind 5	Larg	1	358	78.2	0.357	1.64	-25.6	17.8
00-1584 Ind 6	2000	San Joaquin River @	Naval Station	Largemouth Bass Ind 6	Larg	1	340	78.1	0.185	0.844	-24.4	16.7
00-1584 Ind 7	2000	San Joaquin River @	Naval Station	Largemouth Bass Ind 7	Larg	1	368	76.7	0.238	1.02	-25.0	16.5
00-1584 Ind 8	2000	San Joaquin River @	Naval Station	Largemouth Bass Ind 8	Larg	1	338	78.0	0.567	2.58	-25.8	18.8
00-1577 Ind 1	2000	San Joaquin River @	Naval Station	Largemouth Bass Ind 9	Larg	1	280	79.7	0.691	3.41	-26.1	19.1
00-1582 Comp 1	2000	San Joaquin River @	Naval Station	Redear Sunfish Comp 1	Rede	5	200	77.7	0.102	0.458	-26.4	16.9
00-1582 Comp 2	2000	San Joaquin River @	Naval Station	Redear Sunfish Comp 2	Rede	5	203	78.2	0.0980	0.45	-26.6	16.5
00-1850 Ind 1	2000	San Joaquin River @	Naval Station	Striped Bass Ind 1	Stri	1	533	75.3	0.200	0.809	-17.9	17.0
00-1553 Ind 1	2000	San Joaquin River @	Naval Station	White Catfish Ind 1	Whit	1	272	79.6	0.0550	0.269	-27.2	15.0
00-1851 Ind 6	2000	San Joaquin River @	Naval Station	White Catfish Ind 10	Whit	1	448	80.3	0.299	1.52	-28.5	14.9
00-1553 Ind 2	2000	San Joaquin River @	Naval Station	White Catfish Ind 2	Whit	1	310	83.8	0.0846	0.524	-21.5	17.3
00-1851 Ind 1	2000	San Joaquin River @	Naval Station	White Catfish Ind 5	Whit	1	481	74.3	0.067	0.259	-29.4	14.0
00-1851 Ind 2	2000	San Joaquin River @	Naval Station	White Catfish Ind 6	Whit	1	510	77.9	0.143	0.648	-23.4	12.7
00-1851 Ind 3	2000	San Joaquin River @	Naval Station	White Catfish Ind 7	Whit	1	450	74.2	0.147	0.568	-29.7	14.7
00-1851 Ind 4	2000	San Joaquin River @	Naval Station	White Catfish Ind 8	Whit	1	498	73.5	0.130	0.489	-30.4	13.9
00-1851 Ind 5	2000	San Joaquin River @	Naval Station	White Catfish Ind 9	Whit	1	465	75.8	0.202	0.836	-29.0	13.5
00-1587 Ind 1	2000	San Joaquin River @	Vernalis	Largemouth Bass Ind 1	Larg	1	530	76.9	1.40	6.03	-25.0	16.4
00-1590 Ind 2	2000	San Joaquin River @	Vernalis	Largemouth Bass Ind 10	Larg	1	293	79.0	0.550	2.62	-25.3	15.8
00-1590 Ind 3	2000	San Joaquin River @	Vernalis	Largemouth Bass Ind 11	Larg	1	290	77.1	0.493	2.15	-23.7	16.7
00-1589 Ind 1	2000	San Joaquin River @	Vernalis	Largemouth Bass Ind 12	Larg	1	238	79.4	0.367	1.78	-25.7	16.2
00-1589 Ind 2	2000	San Joaquin River @	Vernalis	Largemouth Bass Ind 13	Larg	1	226	76.4	0.213	0.902	-24.5	16.8
00-1586 Ind 1	2000	San Joaquin River @	Vernalis	Largemouth Bass Ind 2	Larg	1	320	76.2	0.548	2.3	-25.0	16.2
00-1586 Ind 2	2000	San Joaquin River @	Vernalis	Largemouth Bass Ind 3	Larg	1	330	76.9	1.22	5.28	-25.7	16.6
00-1586 Ind 3	2000	San Joaquin River @	Vernalis	Largemouth Bass Ind 4	Larg	1	348	75.2	0.954	3.85	-24.8	14.0
00-1586 Ind 4	2000	San Joaquin River @	Vernalis	Largemouth Bass Ind 5	Larg	1	348	76.6	0.435	1.86	-25.1	16.7
00-1586 Ind 5	2000	San Joaquin River @	Vernalis	Largemouth Bass Ind 6	Larg	1	330	74.5	0.502	1.97	-24.3	13.3
00-1586 Ind 6	2000	San Joaquin River @	Vernalis	Largemouth Bass Ind 7	Larg	1	394	75.4	1.27	5.17	-21.4	14.3
00-1588 Ind 1	2000	San Joaquin River @	Vernalis	Largemouth Bass Ind 8	Larg	1	450	76.6	1.10	4.7	-24.0	13.9
00-1590 Ind 1	2000	San Joaquin River @	Vernalis	Largemouth Bass Ind 9	Larg	1	303	76.0	0.720	3	-24.7	13.3
00-1591 Comp	2000	San Joaquin River @	Vernalis	Redear Sunfish Comp 1	Rede	5	140	80.1	0.0872	0.439	-26.1	14.5
00-1725 Comp 1	2000	San Joaquin River @	Landers	Bluegill Comp 1	Blue	5	146	79.7	0.110	0.543	-26.5	15.1
00-1725 Comp 2	2000	San Joaquin River @	Landers	Bluegill Comp 2	Blue	5	158	78.9	0.139	0.66	-27.0	15.2
00-1746 Comp	2000	San Joaquin River @	Landers	Carp Comp 1	Carp	5	447	77.3	0.367	1.62	-24.2	11.3
00-1737 Ind 1	2000	San Joaquin River @	Landers	Largemouth Bass Ind 1	Larg	1	374	76.6	0.927	3.96	-25.8	15.2
00-1740 Ind 3	2000	San Joaquin River @	Landers	Largemouth Bass Ind 10	Larg	1	429	77.9	1.01	4.57	-25.3	16.0
00-1737 Ind 2	2000	San Joaquin River @	Landers	Largemouth Bass Ind 2	Larg	1	361	77.0	0.802	3.49	-26.0	16.1
00-1737 Ind 3	2000	San Joaquin River @	Landers	Largemouth Bass Ind 3	Larg	1	437	76.8	0.877	3.78	-25.5	16.9
00-1737 Ind 4	2000	San Joaquin River @	Landers	Largemouth Bass Ind 4	Larg	1	329	76.5	0.204	0.866	-22.9	13.1

Fish ID	Year	Station Location	FishDescription	Species	Sample Size	Mean Length	Moisture	Hg Wet Weight	Hg Dry Weight	C Isotope	N Isotope
						mm	%	µg/g	µg/g	δ13C	δ15N
00-1737 Ind 5	2000	San Joaquin River @ Landers	Largemouth Bass Ind 5	Larg	1	429	76.4	0.947	4.01	-25.4	16.2
00-1737 Ind 6	2000	San Joaquin River @ Landers	Largemouth Bass Ind 6	Larg	1	340	78.0	0.700	3.18	-25.4	15.6
00-1738 Ind 1	2000	San Joaquin River @ Landers	Largemouth Bass Ind 7	Larg	1	470	75.9	0.784	3.26	-25.4	17.2
00-1740 Ind 1	2000	San Joaquin River @ Landers	Largemouth Bass Ind 8	Larg	1	305	77.7	0.343	1.54	-24.6	16.1
00-1740 Ind 2	2000	San Joaquin River @ Landers	Largemouth Bass Ind 9	Larg	1	430	77.3	0.498	2.19	-25.8	16.2
00-1739 Ind 1	2000	San Joaquin River @ Landers	Sacramento Pike Minnow Ind 1	Sapm	1	305	79.5	0.0552	0.269	-29.4	11.7
00-1739 Ind 2	2000	San Joaquin River @ Landers	Sacramento Pike Minnow Ind 2	Sapm	1	305	79.3	0.0760	0.367	-29.7	12.0
00-1726 Ind 1	2000	San Joaquin River @ Landers	Sacramento Pike Minnow Ind 3	Sapm	1	372	77.7	0.134	0.603	-27.3	14.8
00-1726 Ind 2	2000	San Joaquin River @ Landers	Sacramento Pike Minnow Ind 4	Sapm	1	290	80.4	0.0431	0.22	-27.5	13.0
00-1726 Ind 3	2000	San Joaquin River @ Landers	Sacramento Pike Minnow Ind 5	Sapm	1	321	80.3	0.206	1.05	-30.1	12.1
00-1741 Ind 1	2000	San Joaquin River @ Landers	Striped Bass Ind 1	Stri	1	544	72.7	0.491	1.8	-18.1	17.0
00-1743 Ind 1	2000	San Joaquin River @ Landers	White Catfish Ind 1	Whit	1	224	79.5	0.249	1.21	-23.0	14.7
00-1743 Ind 10	2000	San Joaquin River @ Landers	White Catfish Ind 10	Whit	1	210	80.1	0.146	0.735	-28.6	16.2
00-1743 Ind 2	2000	San Joaquin River @ Landers	White Catfish Ind 2	Whit	1	192	81.4	0.175	0.941	-28.9	15.0
00-1743 Ind 3	2000	San Joaquin River @ Landers	White Catfish Ind 3	Whit	1	184	81.5	0.204	1.1	-29.4	15.0
00-1743 Ind 4	2000	San Joaquin River @ Landers	White Catfish Ind 4	Whit	1	219	82.1	0.358	2	-28.3	15.1
00-1743 Ind 5	2000	San Joaquin River @ Landers	White Catfish Ind 5	Whit	1	220	82.7	0.523	3.03	-28.0	15.3
00-1743 Ind 6	2000	San Joaquin River @ Landers	White Catfish Ind 6	Whit	1	206	81.3	0.480	2.57	-27.9	15.1
00-1743 Ind 7	2000	San Joaquin River @ Landers	White Catfish Ind 7	Whit	1	222	81.2	0.329	1.75	-22.4	15.1
00-1743 Ind 8	2000	San Joaquin River @ Landers	White Catfish Ind 8	Whit	1	228	79.4	0.600	2.91	-27.1	14.8
00-1743 Ind 9	2000	San Joaquin River @ Landers	White Catfish Ind 9	Whit	1	221	80.8	0.289	1.51	-23.7	15.0
00-1638 Comp	2000	San Joaquin River @ Naval Station	Crappie Comp 1	Crap	4	237	77.2	0.0542	0.238	-27.1	15.3
00-1639 Ind 1	2000	San Joaquin River @ Naval Station	White Catfish Ind 3	Whit	1	346	78.8	0.286	1.35	-23.9	15.9
00-1639 Ind 2	2000	San Joaquin River @ Naval Station	White Catfish Ind 4	Whit	1	316	77.5	0.099	0.442	-24.7	16.3
00-1565 Comp	2000	Sherman Island	Crappie Comp 1	Crap	3	277	78.2	0.347	1.59	-22.0	17.4
00-1562 Ind 1	2000	Sherman Island	Largemouth Bass Ind 1	Larg	1	380	77.6	0.257	1.15	-22.3	18.9
00-1597 Ind 2	2000	Sherman Island	Largemouth Bass Ind 10	Larg	1	264	77.4	0.157	0.696	-21.4	17.9
00-1562 Ind 2	2000	Sherman Island	Largemouth Bass Ind 2	Larg	1	305	76.8	0.269	1.16	-21.4	19.4
00-1562 Ind 3	2000	Sherman Island	Largemouth Bass Ind 3	Larg	1	348	77.3	0.289	1.27	-25.2	13.4
00-1562 Ind 4	2000	Sherman Island	Largemouth Bass Ind 4	Larg	1	382	76.1	0.483	2.02	-24.6	17.6
00-1562 Ind 5	2000	Sherman Island	Largemouth Bass Ind 5	Larg	1	358	76.3	0.369	1.56	-21.4	19.1
00-1562 Ind 6	2000	Sherman Island	Largemouth Bass Ind 6	Larg	1	316	78.1	0.177	0.81	-22.4	18.7
00-1562 Ind 7	2000	Sherman Island	Largemouth Bass Ind 7	Larg	1	386	76.9	0.465	2.01	-21.3	19.9
00-1603 Ind 1	2000	Sherman Island	Largemouth Bass Ind 8	Larg	1	395	75.8	0.421	1.74	-26.1	17.0
00-1597 Ind 1	2000	Sherman Island	Largemouth Bass Ind 9	Larg	1	287	78.3	0.279	1.29	-23.8	18.5
00-1576/00-1575	2000	Stanislaus River	Channel Catfish Comp 1	Chan	5	462	73.5	1.07	4.04	-23.9	13.8
00-1583 Ind 1	2000	Stanislaus River	Largemouth Bass Ind 1	Larg	1	386	78.2	0.861	3.95	-25.2	16.6
00-1578 Ind 2	2000	Stanislaus River	Largemouth Bass Ind 10	Larg	1	275	78.0	0.786	3.58	-25.1	15.3
00-1579 Ind 1	2000	Stanislaus River	Largemouth Bass Ind 11	Larg	1	242	78.9	0.445	2.11	-24.2	15.3
00-1579 Ind 2	2000	Stanislaus River	Largemouth Bass Ind 12	Larg	1	200	77.2	0.298	1.31	-24.9	15.0
00-1583 Ind 2	2000	Stanislaus River	Largemouth Bass Ind 2	Larg	1	390	77.4	0.714	3.16	-25.8	NA
00-1583 Ind 3	2000	Stanislaus River	Largemouth Bass Ind 3	Larg	1	380	77.9	0.518	2.34	-24.4	15.6
00-1583 Ind 4	2000	Stanislaus River	Largemouth Bass Ind 4	Larg	1	392	77.2	0.695	3.05	-24.4	15.1
00-1583 Ind 5	2000	Stanislaus River	Largemouth Bass Ind 5	Larg	1	355	76.4	0.846	3.59	-26.1	16.3
00-1583 Ind 6	2000	Stanislaus River	Largemouth Bass Ind 6	Larg	1	360	78.1	0.355	1.62	-28.0	NA
00-1560 Ind 1	2000	Stanislaus River	Largemouth Bass Ind 7	Larg	1	472	75.9	1.18	4.91	-24.1	15.4
00-1560 Ind 2	2000	Stanislaus River	Largemouth Bass Ind 8	Larg	1	459	77.5	0.722	3.21	-24.0	16.5
00-1578 Ind 1	2000	Stanislaus River	Largemouth Bass Ind 9	Larg	1	309	77.0	0.840	3.65	-25.3	15.4
00-1580 Comp	2000	Stanislaus River	Redear Sunfish Comp 1	Rede	5	173	77.8	0.196	0.884	-25.0	15.0

Fish ID	Year	Station Location	FishDescription	Species	Sample Size	Mean Length	Moisture	Hg Wet Weight	Hg Dry Weight	C Isotope	N Isotope
						mm	%	µg/g	µg/g	δ13C	δ15N
00-1602 Ind 1	2000	White Slough	Largemouth Bass Ind 1	Larg	1	446	77.8	0.245	1.1	-20.9	19.0
00-1594 Ind 2	2000	White Slough	Largemouth Bass Ind 10	Larg	1	255	78.2	0.123	0.565	-21.1	19.5
00-1595 Ind 1	2000	White Slough	Largemouth Bass Ind 11	Larg	1	205	78.8	0.0854	0.403	-20.5	19.0
00-1595 Ind 2	2000	White Slough	Largemouth Bass Ind 12	Larg	1	220	78.7	0.0753	0.354	-21.2	18.6
00-1602 Ind 2	2000	White Slough	Largemouth Bass Ind 2	Larg	1	475	77.0	0.359	1.56	-21.0	19.2
00-1600 Ind 1	2000	White Slough	Largemouth Bass Ind 3	Larg	1	370	79.7	0.198	0.978	-21.4	19.3
00-1600 Ind 2	2000	White Slough	Largemouth Bass Ind 4	Larg	1	395	79.6	0.212	1.04	-22.1	19.1
00-1600 Ind 3	2000	White Slough	Largemouth Bass Ind 5	Larg	1	342	77.6	0.298	1.33	-25.1	18.1
00-1600 Ind 4	2000	White Slough	Largemouth Bass Ind 6	Larg	1	407	77.1	0.125	0.548	-20.9	19.7
00-1600 Ind 5	2000	White Slough	Largemouth Bass Ind 7	Larg	1	395	77.4	0.456	2.02	-22.2	19.1
00-1600 Ind 6	2000	White Slough	Largemouth Bass Ind 8	Larg	1	331	76.8	0.198	0.855	-21.2	18.8
00-1594 Ind 1	2000	White Slough	Largemouth Bass Ind 9	Larg	1	285	78.6	0.154	0.719	-21.4	19.4
00-1593 Comp 1	2000	White Slough	Redear Sunfish Comp 1	Rede	5	197	78.5	0.0643	0.299	-22.3	16.0
00-1593 Comp 2	2000	White Slough	Redear Sunfish Comp 2	Rede	5	171	77.1	0.0561	0.245	-23.6	15.8
00-1601 Ind 1	2000	White Slough	White Catfish Ind 1	Whit	1	321	79.2	<.0386	<.134	-25.0	14.6
00-1566 Ind 4	2000	White Slough	White Catfish Ind 10	Whit	1	345	80.0	0.0724	0.363	-23.6	15.4
00-1601 Ind 2	2000	White Slough	White Catfish Ind 2	Whit	1	309	77.8	0.124	0.561	-22.2	16.5
00-1601 Ind 3	2000	White Slough	White Catfish Ind 3	Whit	1	329	79.1	0.0881	0.421	-21.5	15.9
00-1601 Ind 4	2000	White Slough	White Catfish Ind 4	Whit	1	315	79.5	0.0579	0.282	-24.3	13.7
00-1601 Ind 5	2000	White Slough	White Catfish Ind 5	Whit	1	239	81.6	0.0450	0.244	ND	ND
00-1601 Ind 6	2000	White Slough	White Catfish Ind 6	Whit	1	285	77.9	0.0389	0.176	ND	ND
00-1566 Ind 1	2000	White Slough	White Catfish Ind 7	Whit	1	390	77.0	0.0635	0.276	-18.8	15.9
00-1566 Ind 2	2000	White Slough	White Catfish Ind 8	Whit	1	348	78.4	0.0806	0.373	-22.7	14.9
00-1566 Ind 3	2000	White Slough	White Catfish Ind 9	Whit	1	345	79.4	0.110	0.535	-22.5	17.0

Qualifier Code

- a: individuals indeterminate due to field dissection of sample
- b: mean calculated from dissection sheet length data due to the inability to match field and lab length
- e = dry weight value based on an estimated percent moisture
- BRL = detectable concentration below reporting limit (RL = 0.147 ug/g dw; 0.0282 ug/g ww; detection limit = 0.025 ug/g dw)
- NA = data not available at time of reporting; ND = sample not analyzed

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Station ID	Station Location	Year	Latitude	Longitude	Latitude	Latitude	Longitude	Longitude	Longitude	Largemouth	White	Bluegill	Striped	Sac.	
			Decimal	Decimal											Latitude
			Degrees	Degrees	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds	Analyzed? *	Analyzed? *	Analyzed? *	Analyzed? *	Analyzed? *
5	Cache Slough near Ryer Island Ferry	1999	38.2322	121.6767	38	13	55.8	121	40	36	1	1	0	0	0
31	Colorado River/u/s Imperial Dam	1999	32.9112	114.4642	32	54	40.2	114	27	51	1	0	0	0	0
8	Darell's Cosumnes River Location	1999	38.2572	121.4327	38	15	25.8	121	25	57.6	1	0	1	1	1
2	Feather River near Nicolaus	1999	38.9060	121.5820	38	54	21.6	121	34	55.2	1	1	1	1	0
29	Lake Berryessa at Pope Creek	1999	38.6180	122.2903	38	37	4.8	122	17	25.2	1	1	1	0	1
27	Lake Nacimiento at Las Tablas Ck	1999	35.6890	120.9467	35	41	20.4	120	56	48	1	0	1	1	0
30	Lake San Antonio at Harris Ck	1999	35.8055	120.9510	35	48	19.8	120	57	3.6	1	0	1	0	0
28	Lake Sonoma	1999	38.7000	123.0475	38	42	0	123	02	51	1	1	1	0	0
15	Middle River at Bullfrog	1999	37.9397	121.5328	37	56	22.8	121	31	58.2	1	0	1	1	0
11	Mokelumne River between Beaver and Hog Sloughs	1999	38.1810	121.1582	38	10	51.6	121	09	29.4	1	1	1	1	0
9	Mokelumne River downstream of Cosumnes River	1999	38.2548	121.4488	38	15	17.4	121	26	55.8	1	0	1	1	1
16	Old River near Paradise Cut	1999	37.7990	121.4693	37	47	56.4	121	28	9.6	1	1	1	1	0
17	Paradise Cut	1999	37.8045	121.3882	37	48	16.2	121	23	17.4	1	1	1	1	0
20	Port of Stockton turning basin	1999	37.9525	121.3147	37	57	9	121	18	52.8	1	1	1	1	0
3	Putah Creek	1999	38.5622	121.7658	38	33	43.8	121	45	57	1	1	1	0	1
4	Sacramento River at RM44	1999	38.4348	121.5233	38	26	5.4	121	31	24	1	1	1	0	0
25	San Joaquin River at Landers Ave/RT 165	1999	37.2593	120.8722	37	15	33.6	120	52	19.8	1	1	1	0	0
7	Sand Mound Slough	1999	38.0083	121.6225	38	00	30	121	37	21	1	0	1	0	0
22	SJR around Bowman Road	1999	37.8797	121.3318	37	52	46.8	121	19	54.6	1	1	1	1	0
18	SJR around Turner Cut	1999	38.0020	121.4507	38	00	7.2	121	27	2.4	1	0	1	0	0
24	SJR at Crow's Landing	1999	37.4803	121.0652	37	28	49.2	121	03	54.6	1	1	1	1	0
23	SJR downstream of Vernalis	1999	37.6713	121.2592	37	40	16.8	121	15	33	1	1	0	1	0
12	SJR near Potato Slough	1999	38.0877	121.5695	38	05	15.6	121	34	10.2	1	0	0	0	0
21	SJR north of Highway 4	1999	37.9283	121.3275	37	55	42	121	19	39	1	1	1	1	0
6	SJR off Point Antioch near fishing pier	1999	38.0323	121.7657	38	01	56.4	121	45	56.4	1	0	0	0	1
19	Smith Canal by Yosemite Park	1999	37.9602	121.3385	37	57	36.6	121	20	18.6	1	1	1	1	0
26	Suisun Bay	1999	38.1343	122.0595	38	08	3.6	122	03	34.2	0	0	0	1	0
10	Sycamore Slough near Mokelumne River	1999	38.1417	121.4888	38	08	30	121	29	19.8	1	1	1	0	0
32	Weist Lake	1999	33.0422	115.4922	33	02	31.8	115	29	31.8	1	0	1	0	0
13	White Slough at Lodi	1999	38.0870	121.4142	38	05	13.2	121	24	51	1	1	1	1	0
14	White Slough downstream of Disappointment Slough	1999	38.0688	121.4600	38	04	7.8	121	27	36	1	0	1	1	0
1	Yuba River above confluence with the Feather River	1999	39.1660	121.5528	39	09	57.6	121	33	10.2	0	0	0	0	1
	Big Break	2000	38.0141	121.7297	38	0	50.76	121	43	46.98	1	0	0	0	0
	Cache Slough near Ryer Island Ferry	2000	38.2471	121.6958	38	14	49.38	121	41	44.7	1	1	0	0	1
	Cosumnes River	2000	38.2575	121.4342	38	15	27	121	26	3	1	1	0	0	1
	Feather River @ Nicolaus	2000	38.9022	121.5988	38	54	8.04	121	35	55.8	1	1	0	1	1
	Feather River above Yuba River	2000	39.1443	121.6026	39	8	39.3	121	36	9.36	1	0	0	0	1
	Feather River between Yuba and Bear Rivers	2000	39.0324	121.6031	39	1	56.52	121	36	11.22	1	0	0	1	1
	Franks Tract	2000	38.0267	121.5973	38	1	36	121	35	50.4	1	0	0	0	0
	Green's Lake	2000	38.5597	121.5980	38	33	34.74	121	35	52.8	1	0	0	0	0
	Little Holland Tract	2000	38.2858	121.6634	38	17	8.88	121	39	48.06	0	1	0	0	0
	Mildred Island	2000	37.9833	121.5273	37	59	0	121	31	38.4	1	0	0	0	0
	Mokelumne below Cosumnes	2000	38.2570	121.4757	38	15	25.2	121	28	32.4	1	0	0	0	1
	San Joaquin River Near Potato Slough	2000	38.0867	121.5702	38	5	12.18	121	34	12.54	1	0	0	1	0
	Putah Creek	2000	38.5177	121.7556	38	31	3.78	121	45	19.98	1	0	0	0	1
	Sacramento River @ River Marker 44	2000	38.4308	121.5325	38	25	50.76	121	31	56.88	1	1	0	1	1
	Sacramento River near Isleton	2000	38.1633	121.6107	38	9	4.8	121	36	38.4	1	1	0	0	1
	San Joaquin River @ Crow's Landing	2000	37.4265	121.0141	37	25	35.4	121	0	50.58	1	1	0	0	0
	San Joaquin River @ Naval Station	2000	37.9655	121.3700	37	57	55.8	121	22	11.94	1	1	0	1	0
	San Joaquin River @ Vernalis	2000	37.6696	121.2458	37	40	10.44	121	14	44.76	1	0	0	0	0
	San Joaquin River @ Landers	2000	37.2980	120.9238	37	17	52.92	120	55	25.74	1	1	1	1	0
	Sherman Island	2000	38.0495	121.8039	38	2	58.14	121	48	13.98	1	0	0	0	0
	Stanislaus River	2000	37.6637	121.2349	37	39	49.38	121	14	5.46	1	0	0	0	0
	White Slough	2000	38.0745	121.4530	38	4	28.08	121	27	10.68	1	1	0	0	0

\* 1 = yes; 0 = no

Note - when a location is reported in both years, separate spatial coordinates are reported for each year  
Both forms of Lat Long coordinates (Decimal Degrees and DMS) are presented simply for convenience

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