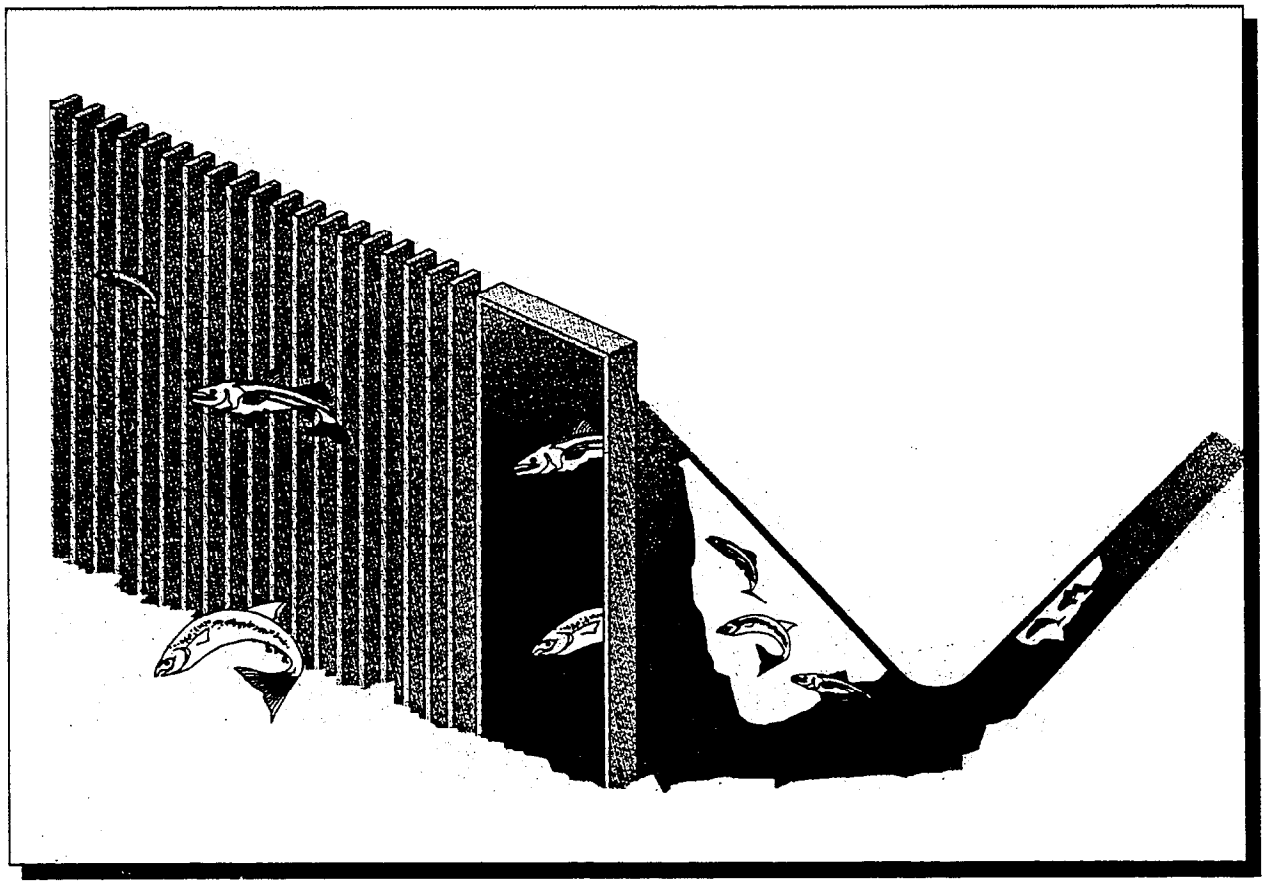


TRACY FISH COLLECTION FACILITY STUDIES CALIFORNIA

Volume 6

Continuous Monitoring of Fish Eggs and Larvae at the Tracy Fish Collection Facility, Tracy, California February through June 1994

November 2000

United States Department of the Interior
Bureau of Reclamation
Mid-Pacific Region and the Technical Service Center

Continuous Monitoring of Fish Eggs and Larvae at the Tracy Fish Collection Facility, Tracy, California, February-June 1994

BY

Scott Siegfried[1], Douglas Craft[2], Steve Hiebert[2], and Mark Bowen[2]

TRACY FISH COLLECTION FACILITY STUDIES, CALIFORNIA

VOLUME 6

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

MID-PACIFIC REGION
[1]South Central California Area Office
Tracy Office

AND

DENVER TECHNICAL SERVICES CENTER
[2]Fisheries Applications Research Group

November 2000

TABLE OF CONTENTS

TABLES

TABLE OF CONTENTS

Page

FIGURES

ABSTRACT

Continuous egg and larvae sampling were used to estimate the abundance and temporal distribution of fish eggs and larvae at the Bureau of Reclamation's Tracy Fish Collection Facility (TFCF) during the spring 1994 spawning season. The purpose of this study was to evaluate the applicability of automated egg and larvae counting systems, compare continuous pump sampling to tow-net methods, and to provide a baseline egg and larvae data set for fishery scientists. More than 150 million egg and larvae were estimated to have been entrained at the TFCF from February 6 to June 6, 1994, and the observation of live eggs suggested spawning in the vicinity of the TFCF. For the entire study period, approximately 90 percent of entrained eggs and larvae were prickly sculpin, *Cottus asper*, 5 percent were striped bass, *Morone saxatillis*, and 3 percent were Shimofuri goby, *Tridentiger bifasciatus*. The remaining 2 percent were composed of 15 minor species. Prickly sculpin dominated February and March entrainment but diminished in April, after which Shimofuri gobies and striped bass were the dominant species. At the TFCF, more striped bass and prickly sculpin eggs and larvae were collected during night sampling. Striped bass eggs were more abundant than larvae in April and May while the converse was true in June. Comparison of continuous pump sampling data to tow-net sampling conducted by the California Department of Water Resources revealed that both methods detected the onset of spawning activity at around the same time. However, actual numbers of E&L collected, species relative proportions, and relative proportions of eggs to larvae were different for the 2 sampling methods. While both E&L collection methods have advantages and limitations, it appears that continuous pump sampling is a better method for estimating localized entrainment at the TFCF. Tow-netting, on the other hand, may reveal more representative information about regional spawning activity in the south Delta.

INTRODUCTION

The Central Valley of California contains two major drainages: the Sacramento River system to the north and the San Joaquin River system to the south. These systems converge in the Sacramento-San Joaquin River Delta region (the Delta) in central California and flow westward through Suisun and San Francisco Bays to the Pacific Ocean. The Central Valley Project (CVP), authorized in the mid-1930's, regulates these river systems and provides flood control and water supply for irrigation, drinking water, industrial usage, and power generation. In addition, the CVP provides improved Sacramento River navigation, conservation of fish and wildlife, and public recreation opportunities.

The CVP was developed over several decades and includes nine divisions. The Delta Division (see map in figure 1), draws water from the Old River (a distributary of the San Joaquin River) using pumps at the Tracy Pumping Plant (TPP). The TPP draws water through louvered fish screens at the Tracy Fish Collection Facility (TFCF), pumping the water up 197 feet in elevation into the Delta Mendota Canal (DMC). Water in the DMC flows by gravity to the southeast and is reused for irrigation and municipal drinking water supply before re-entering the San Joaquin River drainage system.

The TFCF, shown in figure 2, was designed and built in the 1950's to divert young fish from intake flows before they are pumped into the DMC. Fish diverted in the TFCF are returned to Delta waters by transport to release sites on the San Joaquin River. The species of concern at the time of TFCF construction included chinook salmon smolts, *Oncorhyncus tschawyscha*, and striped bass, *Morone saxatillis* (a non-native species introduced into Delta waters),

The fish communities and ecological conditions of the Delta have undergone dramatic changes over the past 50 years (Stevens et al., 1985), and water quality and fish habitat have been altered by irrigation agriculture, an increasingly urban human population, increased water demand and re-use, along with the introduction of non-native species. Several fish species have declined in numbers, including the Delta smelt, *Hypomesus transpacificus*, a native species now federally listed as threatened, and the striped bass. Two other species, the splittail, *Pogonichthys macrolepidotus*, and longfin smelt, *Thaleichthys pacificus*, have also been proposed for Endangered Species Act listing. At the TFCF, historical fish salvage numbers have also declined, partly caused by Delta fish population trends, and partly due to facility salvage efficiency factors.

The reasons for the fish population declines are complex; however, researchers at the California Division of Fish and Game (CDFG) have suggested that insufficient Delta outflow and the

Figure 1 Map showing the general location of the CVP Delta Division, including the TFCF and the TPP.

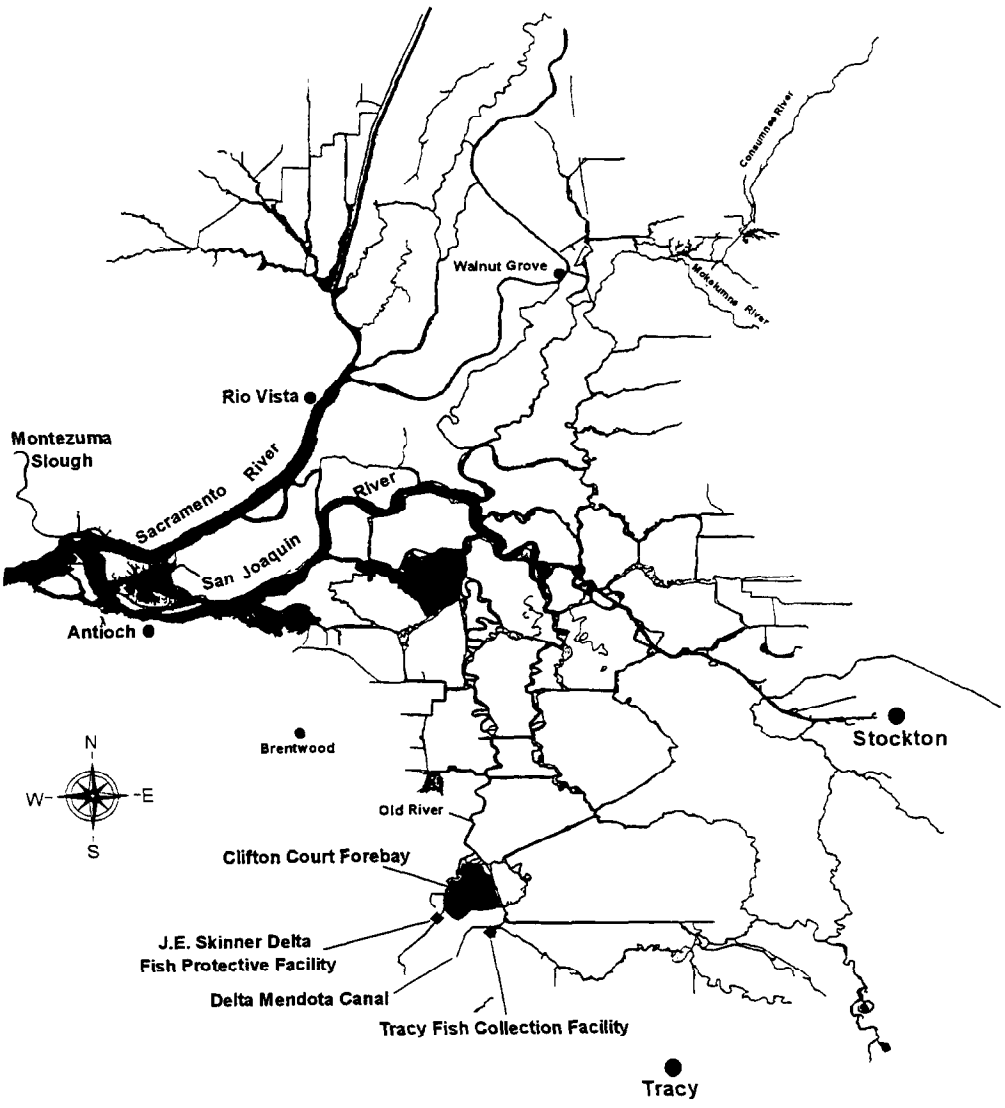
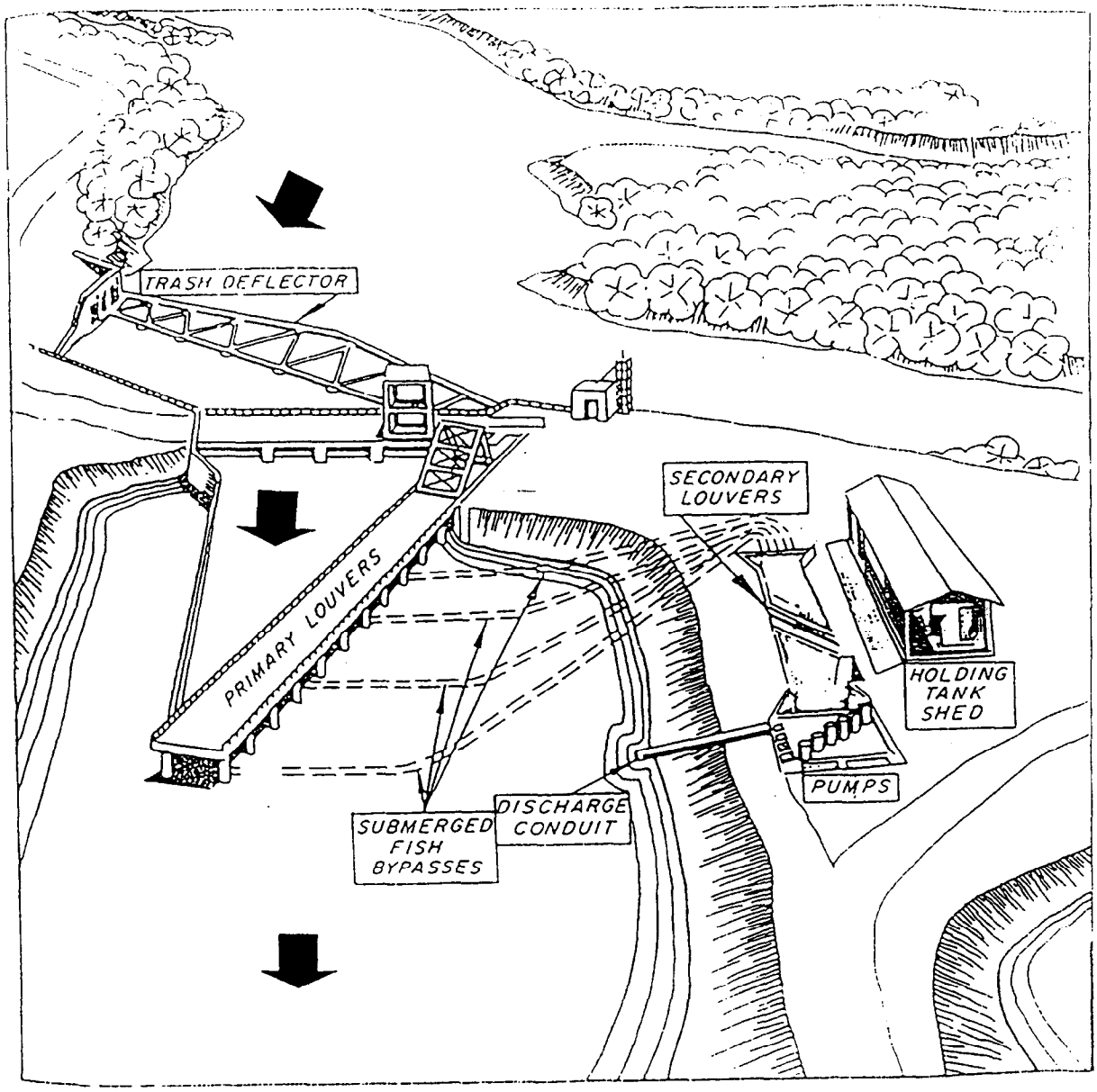


Figure 2 Schematic of the Tracy Fish Collection Facility. Arrows indicate direction of the majority of water's flow.



entrainment of fish eggs and larvae (E&L) in state and CAP facilities during the spring spawning season may have contributed to observed declines. Since 1980, the CDFG has monitored striped bass abundance in the Delta (Stevens et al., 1985) and has noted a correlation between the striped bass decreases and increased water diversions (CDFG, 1992). Because eggs are slightly heavier than fresh water and require water currents for transport, Arthur, et al. (1990) suggested that striped bass larval survival might be enhanced with sufficient outflow to transport E&L through the Delta to nursery areas in Suisuin Bay. Although the TFCF annually salvages from 2 to 14 million fish, it was originally designed to divert juvenile fish, so many E&L are also entrained through the TFCF and pumped into the DMC.

In response to the lack of available E&L data at the TFCF, Reclamation developed a sampling methodology for counting striped bass E&L in 1989. Subsequently, Hiebert (1995) improved and patented a continuous ichthyoplankton pump sampler (CIPS) that was used to estimate egg and larval entrainment at the TFCF for this investigation. Data from the CIPS samples were used to fulfill three objectives: 1) estimate numbers of E&L entrained at the TFCF during spawning season (which begins when water temperatures reach 14.5°C, usually in April), and typically continues through June or until temperatures reach about 20.5°C (Moyle, 1976); 2) identify the fish species entrained and their relative abundance; and 3) compare CIPS sampling with townet E&L sampling methods used by the California Department of Water Resources (DWR) in the south Delta during the 1994 spawning season.

This study is an outgrowth of a 1992 agreement between the Reclamation and CDFG concerning the overall modification and improvement of the TFCF intended to improve fish salvage efficiency. As a result of this agreement, a major program called the Tracy Fish Facility Improvement Program (TFFIP) was initiated to implement studies on improved fish screen technology and fish salvage efficiency improvements.

STUDY AREA

The TFCF, located 9 miles (14.4 km) northwest of Tracy, CA, is at the western edge of the Central Valley and in the Sacramento-San Joaquin River Delta (figure 1). Discharge through the TFCF was measured during the course of this study, from February 6, 1994 to June 6, 1994, and ranged from 359 cfs (10.2 m^3/s) to 4,260 cfs (120.6 m^3/s). These discharges were subject to a combination of pumping rate, tidal, and hydrological influences. At the TFCF, local high tide occurs about 8 hours after, and an average of 68 percent of the height of that recorded at the Golden Gate Bridge (Pacific Publishers, 1994).

Through winter and into April, high runoff from the San Joaquin River provides a majority of the water to the TFCF at low tide. At high tide a greater proportion of

Sacramento River water is backed up into the TFCF. Because the two rivers have different water chemistry, water quality also differs with tide. Hiebert (1995) showed that low tide water conductivity at the TFCF is generally higher when San Joaquin water predominates; and the converse is true at high tide. This relationship is not so obvious after flow restriction barriers (figure 1) are installed in the Old River near the TFCF (usually May 1 through October 1).

METHODS AND MATERIALS

Sampling

The CIPS unit was located behind the trashrack (see figure 2), suspended 5 ft (1.5 m) off the bottom of the intake channel. Depth from the surface varied depending on the tide height. The CIPS uses a screw-impeller helical pump to lift water up into a headbox/energy dissipater, which then flows through a wedge-wire screen into screened collection buckets.

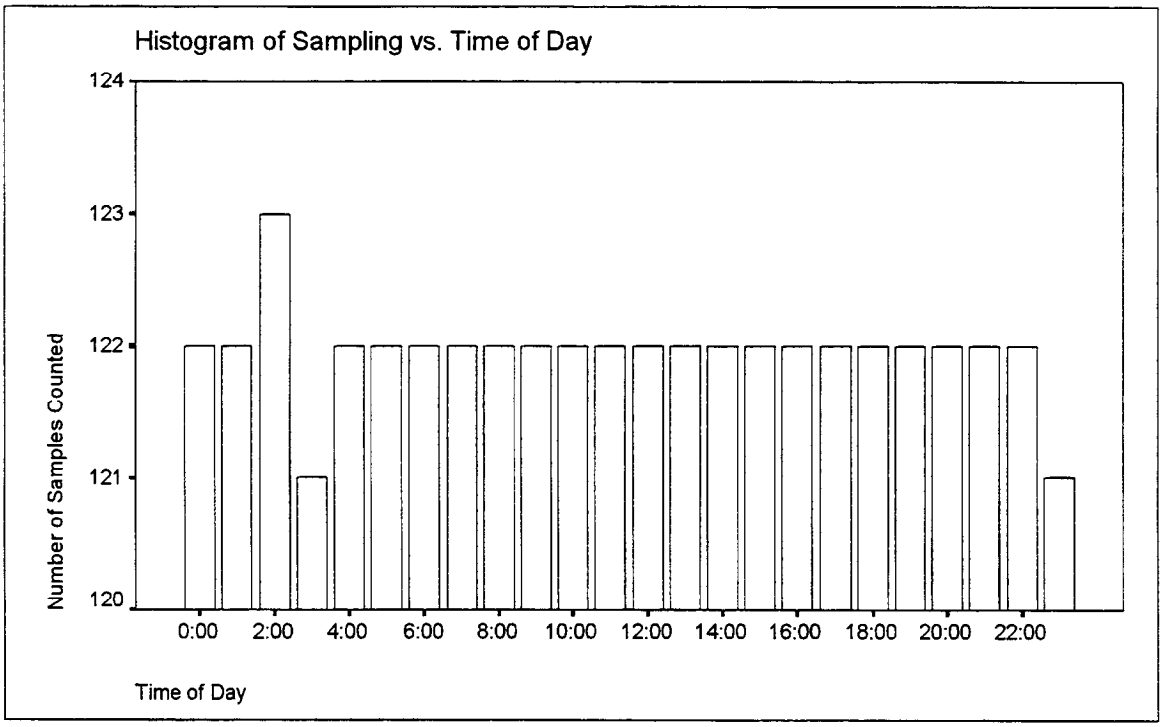
A minimum of 20 one-hour samples were collected daily between February 6 and June 6, 1994. Over 3,000 hourly samples were collected and preserved following methods suggested by Hiebert (1995). Of these, E&L were counted on 1,219 samples, usually selected every second or third hour (more frequently during peak periods of E&L entrainment). This sampling procedure was in effect for the duration of this study, except for April 4, and April 29 through May 3, when equipment malfunctioned. Missing data for these periods were estimated using linear interpolation. The histogram in figure 3 shows that equal numbers of CIPS samples were counted throughout most hours of the day.

Because the CIPS unit did not retain every E&L that entered its intake, the sampler's efficiency was determined so that actual E&L numbers could be estimated. A known number of striped bass E&L were injected into the CIPS intake over a known period of time to calculate efficiency for adjusting all species' data. Note that the CIPS inlet is only sampling a small cross-section of the TPP intake channel.

Measurement of Physical and Chemical Properties

Tide height, pumping volume, and Delta outflow data for the period of this study were gathered for analysis with E&L data. Daily pumping rate data (total flow through the TFCF) were provided by TPP operators and were used to calculate the estimated total number of E&L entrained at the TFCF. The DWR provided Delta outflow information. Tidal height, water temperature, and conductivity were measured using a Hydrolab Model H20 multiprobe (Hydrolab, Inc.) located adjacent to the sampling apparatus. The Hydrolab also measured pH and dissolved oxygen, however, these probes were not regularly calibrated.

Figure 3 Histogram showing uniformity of CIPS sampling design in this study.



Equations for CIPS Efficiency Adjustment

CIPS egg or larvae count raw data were entered into SPSS® (Statistical Package for the Social Sciences) for data analysis and plotting. All necessary calculations were performed within SPSS® , or using Microsoft Excel® 97 on imported tabular summary tables from SPSS®. The hourly entrainment rate for all species was estimated using Equation 1:

Equation 1

$$E_h = C_h * (Q_t / Q_C) * a$$

WHERE

E_h	=	Entrainment rate (Number of eggs or larvae/hr)
C_h	=	Number of eggs or larvae collected in CIPS/hr)
Q_t	=	Discharge pumped through the TFCF/hr)
Q_c	=	Discharge pumped through the CIPS/hr)
a	=	CIPS efficiency adjustment (constant)

These values were calculated for each hourly CIPS sample that was counted (or interpolated). Average hourly entrainment values (calculated by SPSS) were then multiplied by 24 to get the number of eggs or larvae entrained per day.

RESULTS AND DISCUSSION

The CIPS data collected in this study are summarized in the appendix. Table A-1 contains hourly adjusted E&L data for the major species observed during this study. This table also provides flow pumped through the TPP (cfs), along with conterminous Hydrolab water quality data. TPP pumping rate discharge and Delta outflow for the years 1991-1994 are plotted in figure A-1, and plots of Hydrolab water quality variables (conductivity, pH, temperature, probe depth) in figure A-2.

For this study period, the CIPS recovered 100 percent of striped bass eggs and 67 percent of striped bass larvae, yielding 1.0 and 1.5 adjustment factors (Equation 1, constant *a*), respectively. These adjustment factors suggest an improvement over earlier CIPS performance, likely resulting from design improvements to the apparatus (Hiebert, unpublished communication, 1994). Table 1 summarizes the spring 1994 species totals for the flow- and measurement efficiency-adjusted numbers of E&L entrained at the TFCF during this study. Note that previous years' CIPS species proportions were not the same as 1994.

Approximately 154,000,000 total E&L were estimated to have entered the TPP intake during spring 1994 . Of these, 141,000,000 were prickly sculpin, 7,390,000 striped bass, and 4,280,000 tridenteger gobies. These three species composed 98 percent of the total E&L catch. The remainder of the catch, called *minor species* in this report, was composed of 15 fish species.

Figure 4 presents pie charts showing the relative proportions of entrained fish species for each month of the study period. These charts show that the relative proportions of the major fish species vary from month to month. February (total adjusted E&L = 1.01 X 10^9) and March (total adjusted E&L = 3.64 x 10^8), the months with highest numbers of entrained E&L, show prickly scuplin as the dominant species. April (total adjusted E&L = 1.79 x10^8) indicates the appearance of tridenteger gobi and striped bass E&L, at much lower numbers of total adjusted E&L. By May, total adjusted E&L counts have dropped to 5.34 x 10^7 and prickly sculpin E&L are only a small proportion of total E&L. No prickly sculpin E&L were observed during June.

Throughout the study, daily E&L counts were highly variable for all species, with values ranging from zero to nearly ten million. Figure 5 plots total adjusted CIPS E&L counts (expressed as daily average E&L/hour) for all species combined, and figure 6 shows similar daily E&L counts for each of the observed major species. Figure 5 data show that

Table 1 Total adjusted E&L entrained at the TFCF, by species, derived from semi-continuous CIPS data collected from February 6 to June 6, 1994.

Species	***Total E&L***	***Percent***
prickly sculpin	141,000,000	91.28 percent
striped bass	7,390,000	4.80 percent
tridenteger gobi	4,280,000	2.78 percent
threadfin shad	337,000	0.22 percent
bluegill	291,000	0.19 percent
Centrarchid fish	215,000	0.14 percent
channel catfish	202,000	0.13 percent
longfin smelt	189,000	0.12 percent
inland silverside	185,000	0.12 percent
Delta smelt	92,400	0.06 percent
Cyprinid fish	60,100	0.04 percent
largemouth bass	48,900	0.03 percent
3-spined stickleback	36,300	0.02 percent
carp	26,600	0.02 percent
bigscale logperch	25,800	0.02 percent
splittail	19,300	0.01 percent
white catfish	15,400	0.01 percent
golden shiner	15,100	0.01 percent
red shiner	5,570	0.00 percent
Wakasagi	2,740	0.00 percent
Sum of Eggs	***9,550,000***	***6.20 percent***
Sum of Larvae	***145,000,000***	***93.84 percent***
Sum of E&L	***154,000,000***	

Figure 4 Pie charts showing relative proportions for fish species' total adjusted egg and larvae counts per day measured using the CIPS. Pie charts are arranged by month. Note that only 6 days of CIPS samples were collected during June.

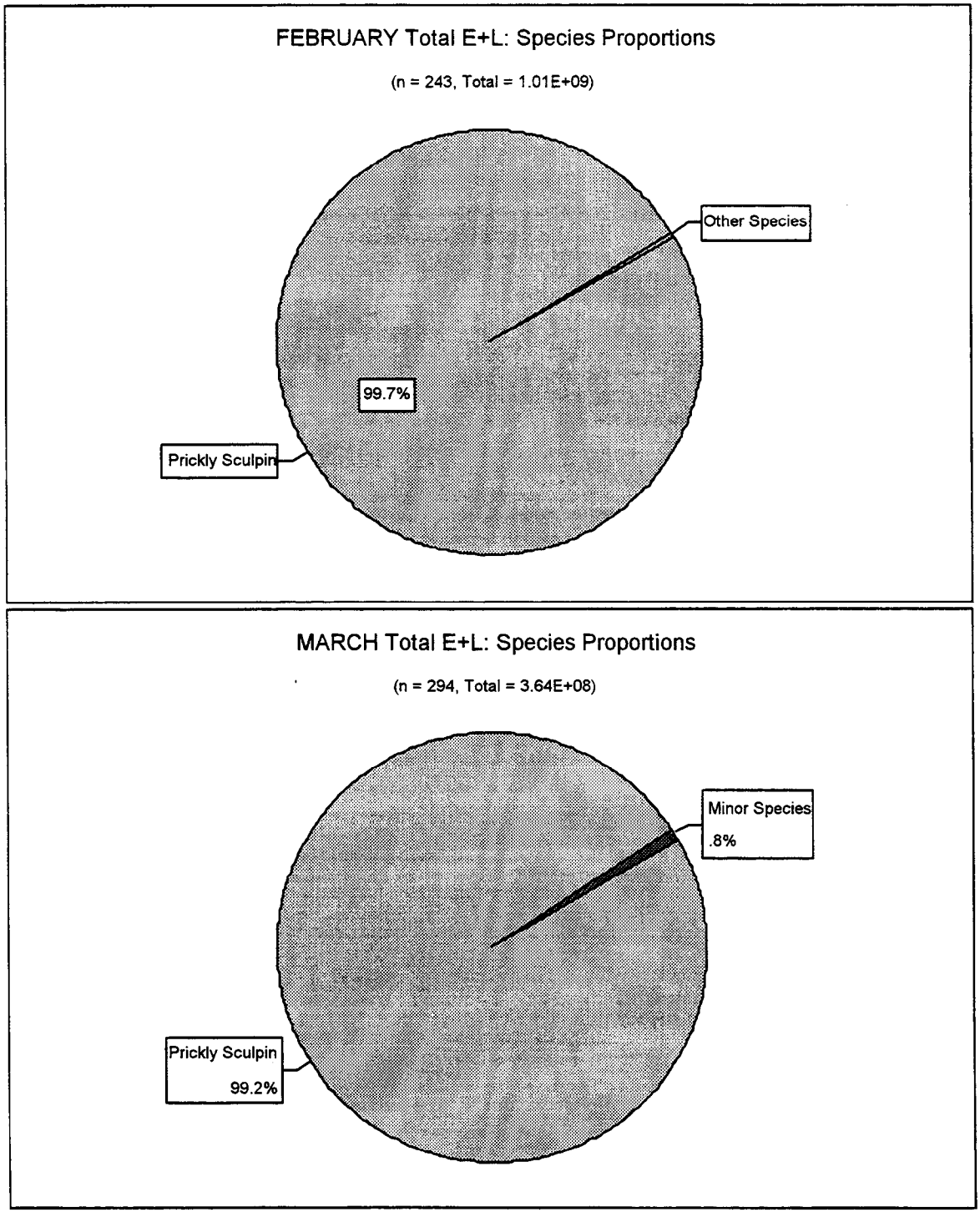
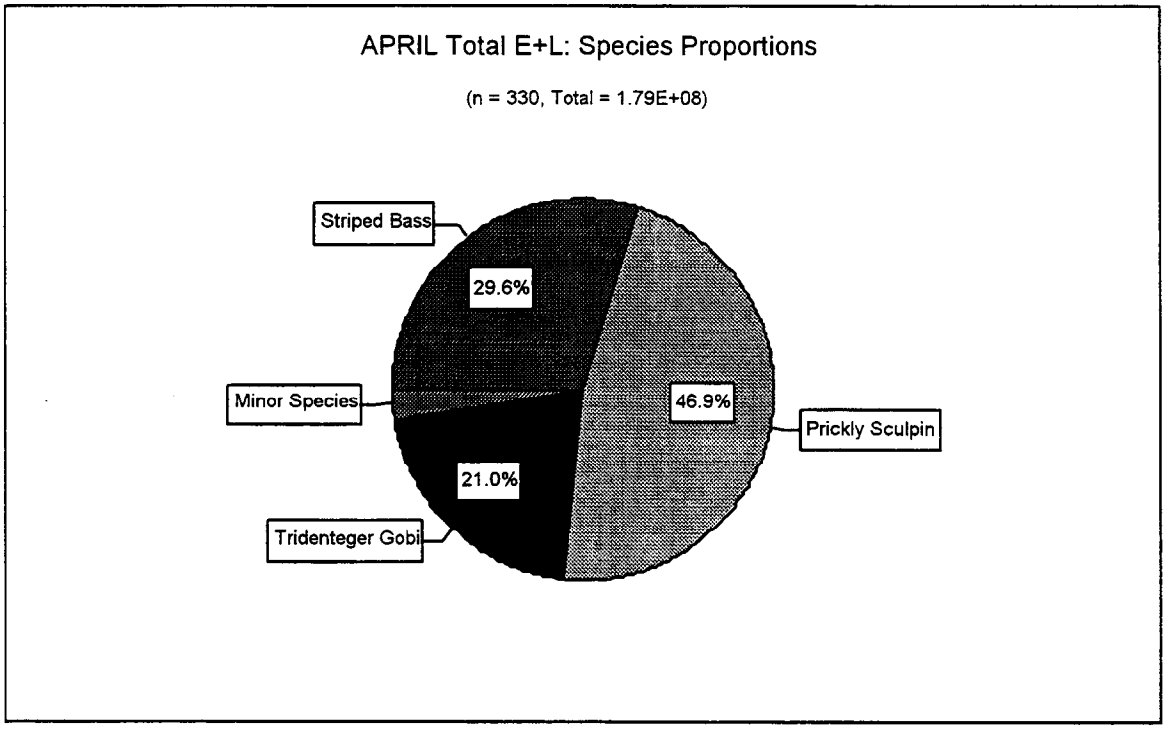


Figure 4 (Continued)



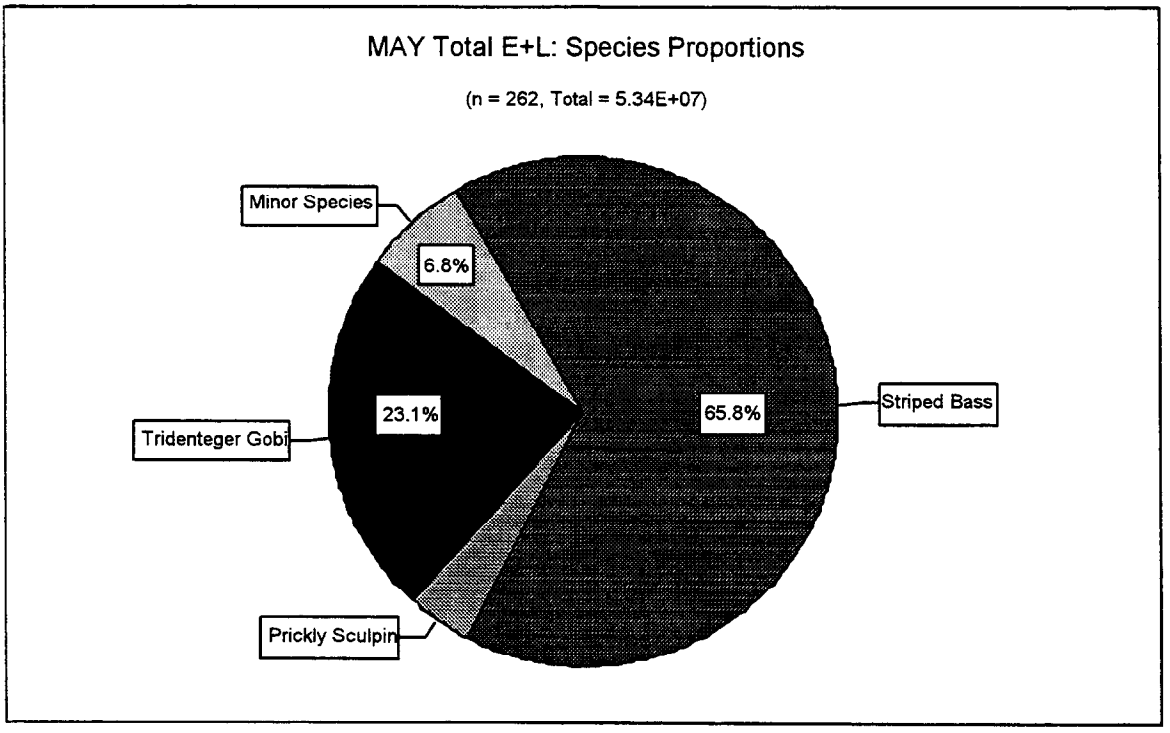


Figure 4 (Continued) Note that only 6 days of CIPS samples were collected during June.

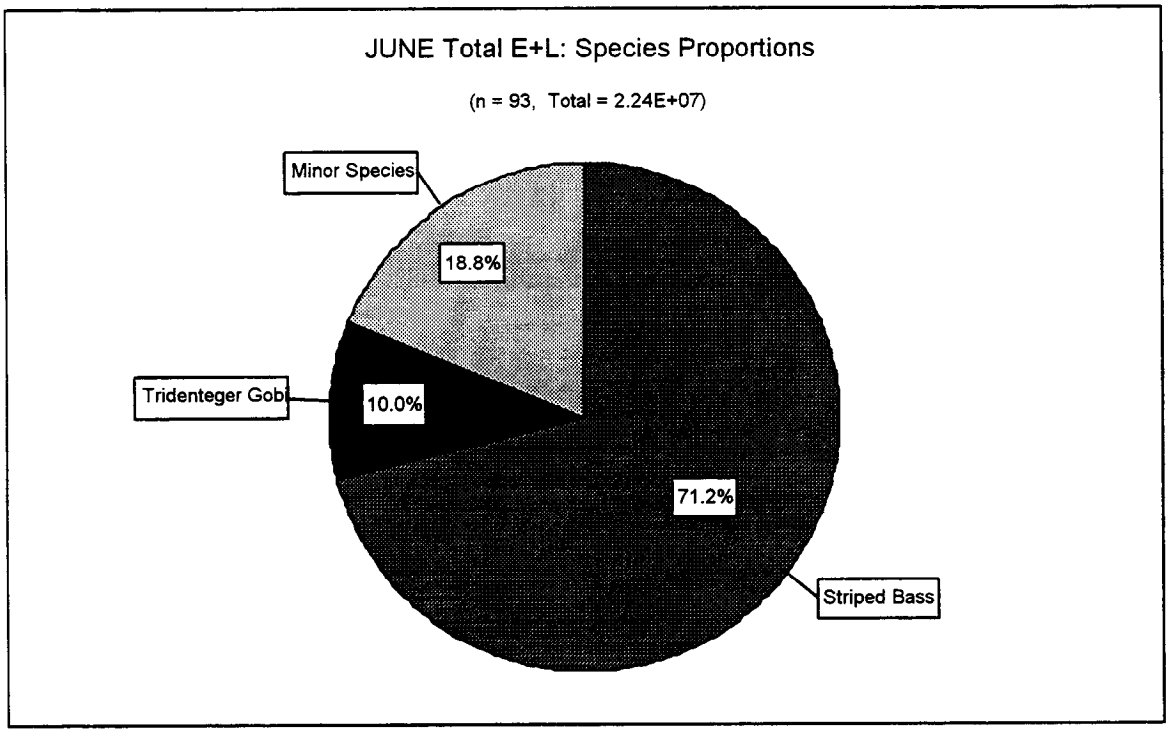


Figure 5 Adjusted sum of all species egg+larvae data plotted as daily average count in number/hr.

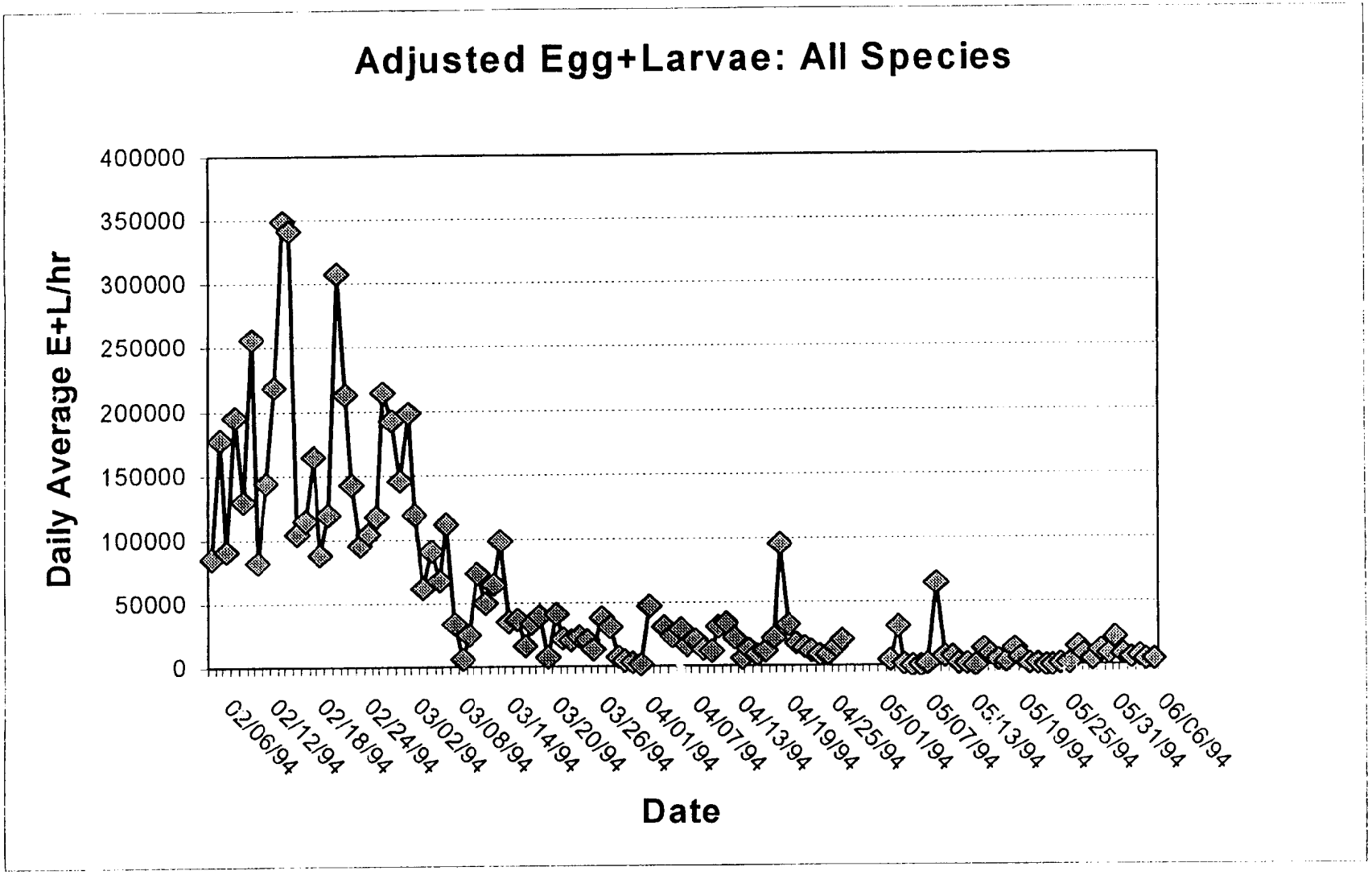


Figure 6 Flow and efficiency-adjusted egg+larvae data for the major species identified in this study. Data points represent average daily counts in number/hour. Note the different y-axis scales for each specie.

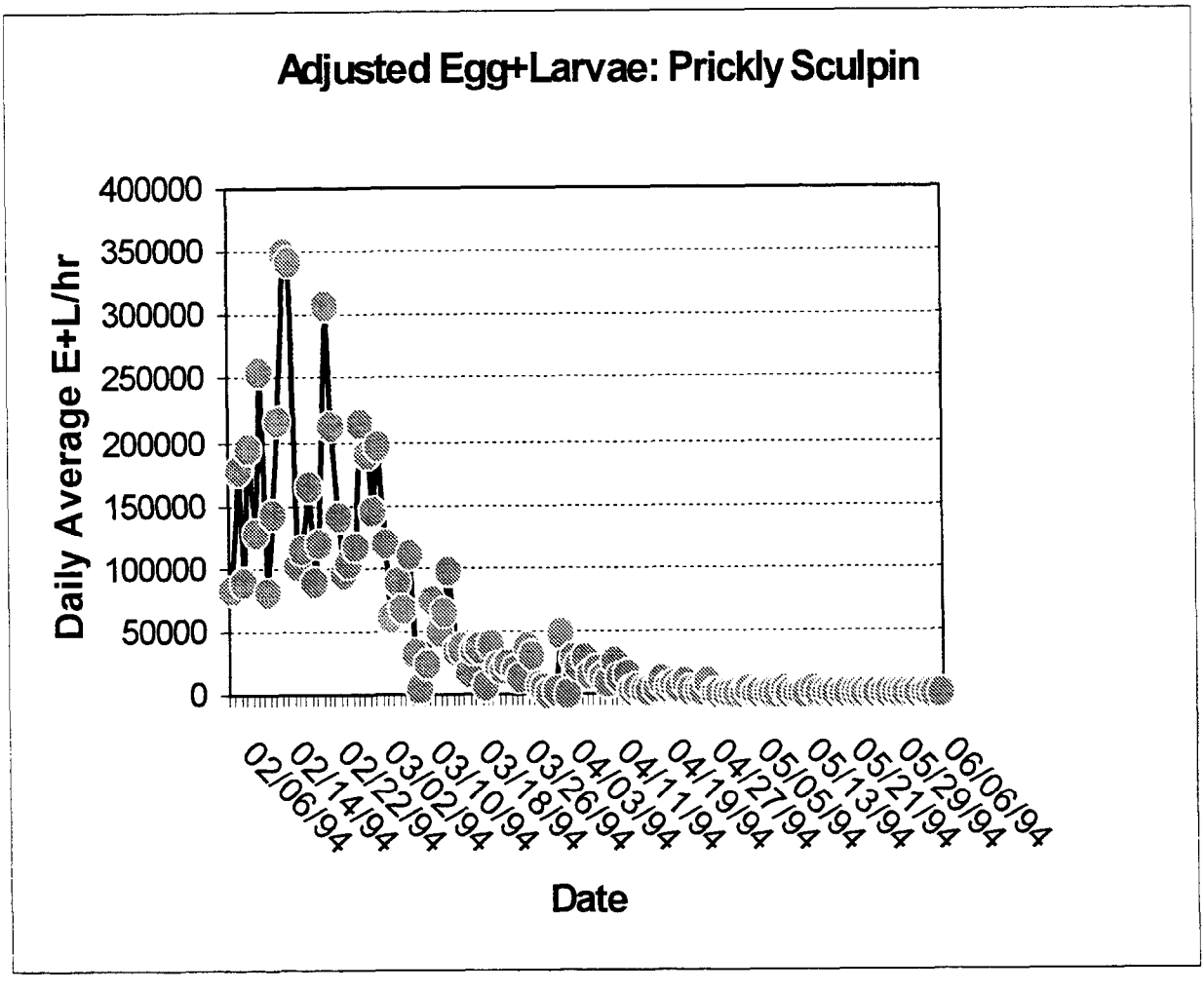


Figure 6 (Continued) Flow and efficiency-adjusted egg+larvae data for the major species identified in this study. Data points represent average daily counts in number/hour. Note the different y-axis scales for each specie.

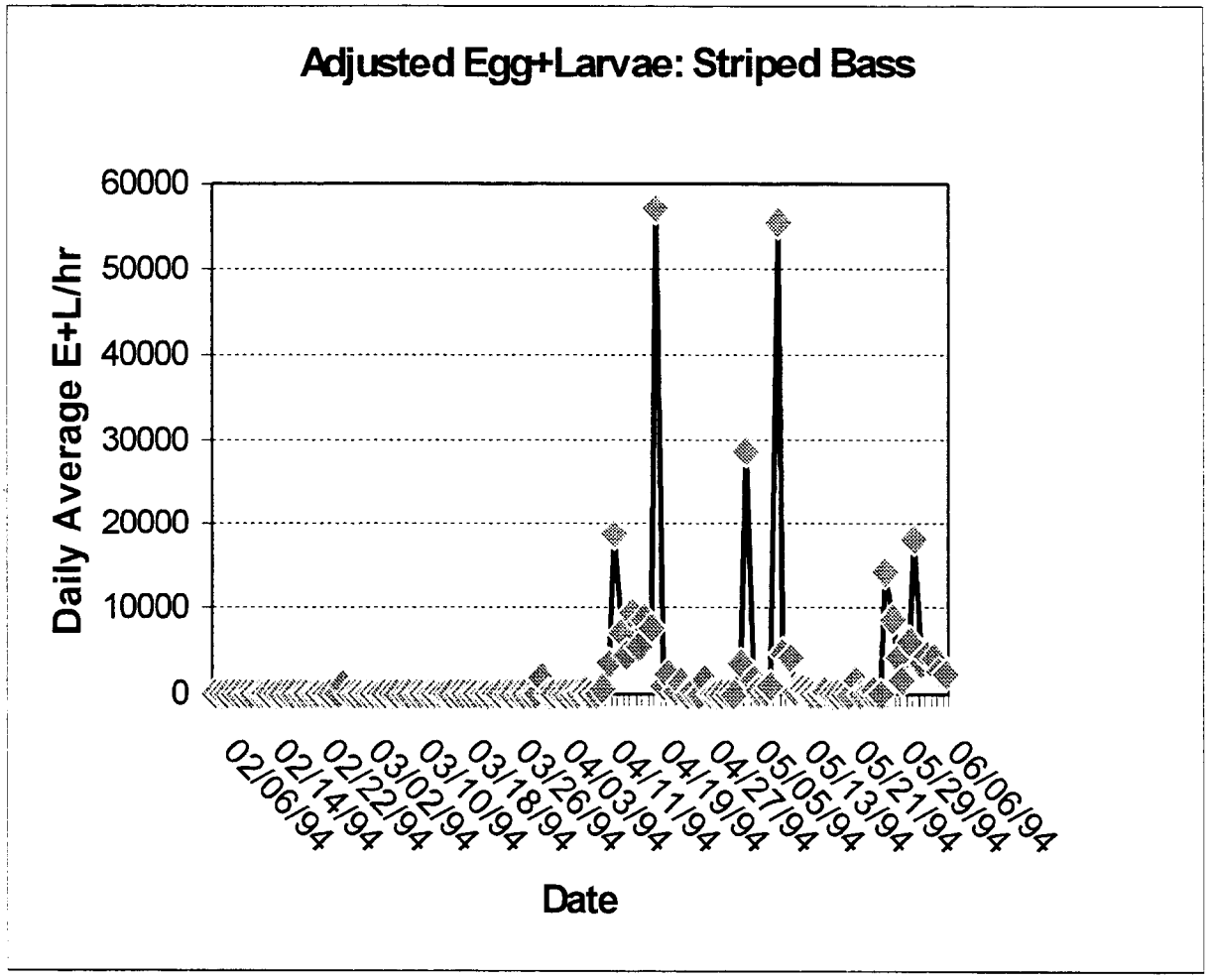


Figure 6 (Continued) Flow and efficiency-adjusted egg+larvae data for the major species identified in this study. Data points represent average daily counts in number/hour. Note the different y-axis scales for each specie.

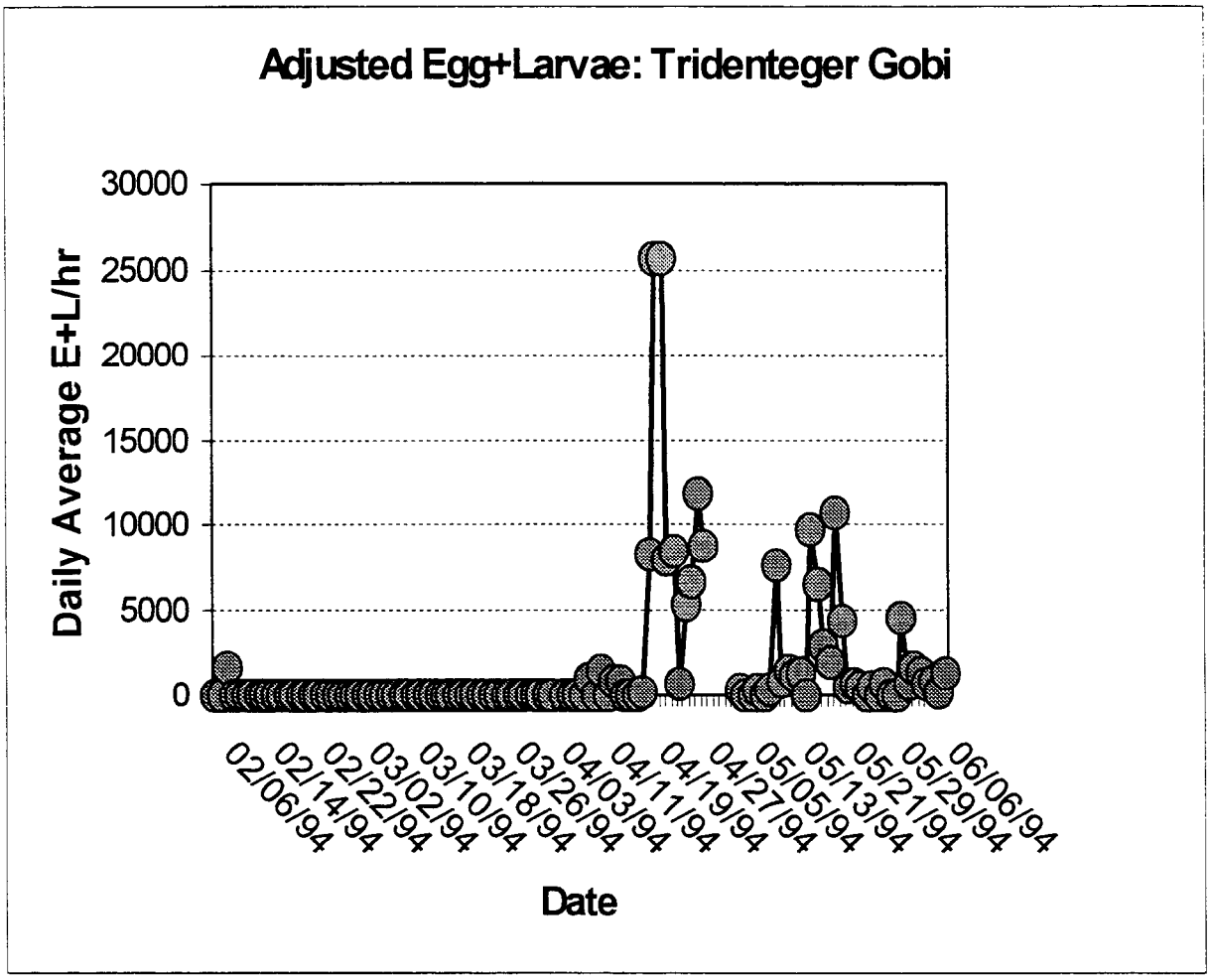
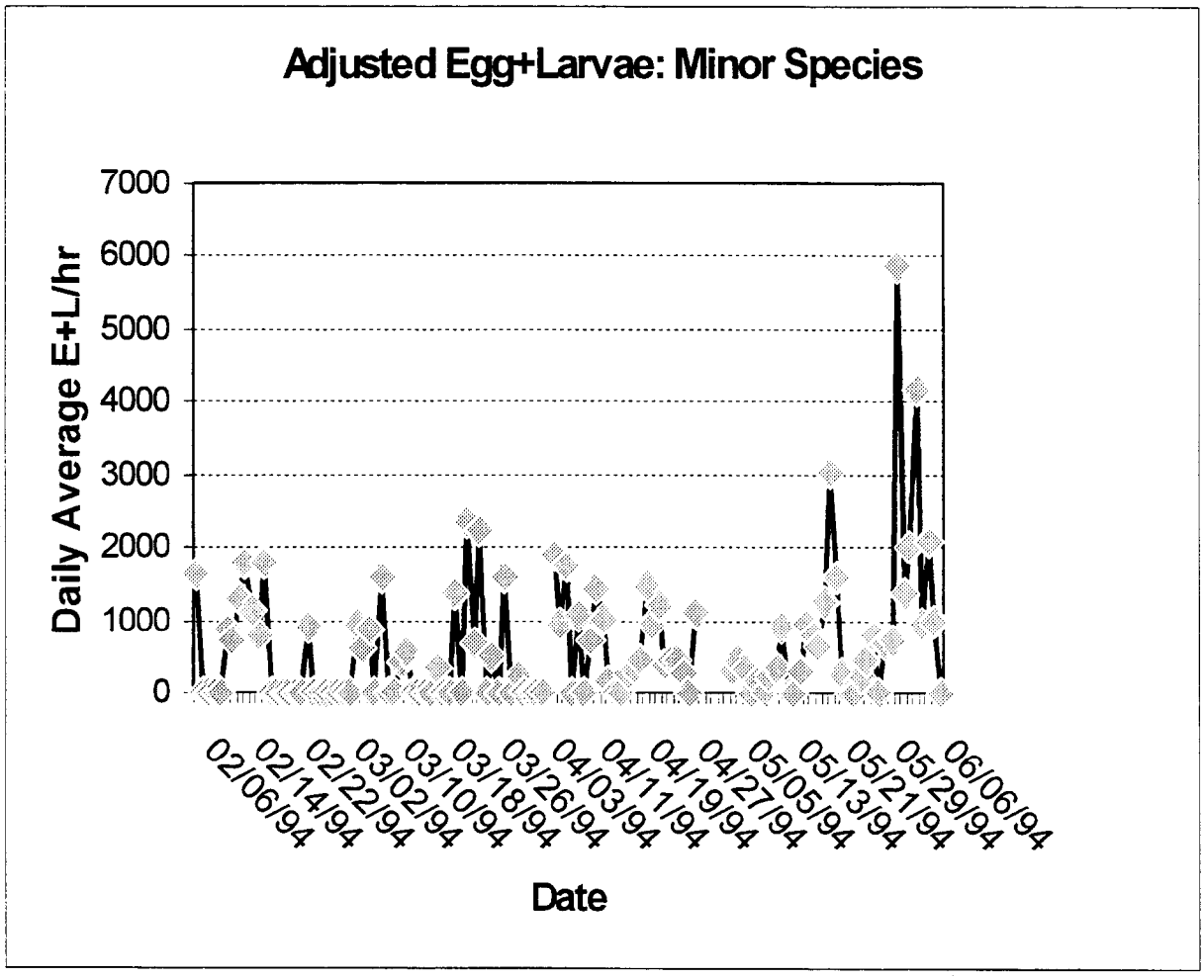


Figure 6 (Continued) Flow and efficiency-adjusted egg+larvae data for the major species identified in this study. Data points represent average daily counts in number/hour. Note the different y-axis scales for each specie.



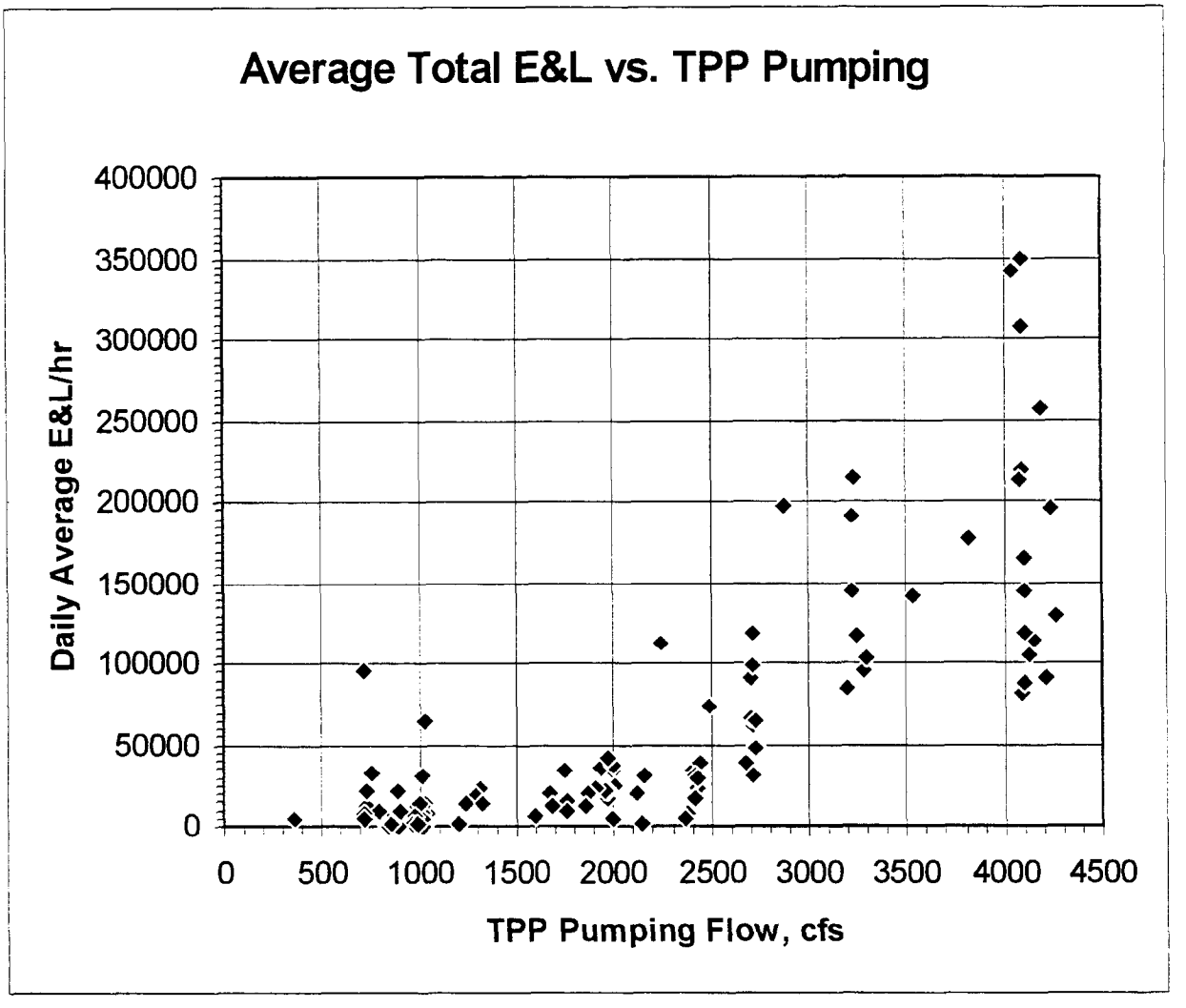
the greatest numbers of E&L (from prickly sculpin) were entrained before the middle of March, with significantly lower total E&L (by several orders of magnitude) for the remainder of the major and minor species. The species plots in figure 6 suggest that prickly sculpin spawning may have commenced before CIPS measurements were started, and that each fish species shows an abrupt increase in total E&L on specific dates associated with the onset of spawning. These data corroborate previously reported observations (Spaar, 1992, 1993; Hiebert, 1995; Spaar and Wadsworth; 1995; Wadsworth; 1996), that different species spawn and are the dominant source for E&L during different portions of the season. The onsets of each specie's spawning activity have been linked to water temperature (Wang, 1986; Moyle, 1976; and Spaar, 1992).

Prickly sculpin E&L were mainly collected February 6 through April 15, a period that closely corresponded to reported temperature preferences of 8° to 13°C (Wang, 1986). Striped bass eggs were first collected on April 1 (table 3) when the temperature was 16.8°C. These results coincide with the known striped bass spawning temperature range of 14.4°C to 21.1° C (Moyle, 1976). In 1991, striped bass eggs were first observed on April 16; when the water temperature averaged 15°C (Spaar, 1992). The 1994 CIPS data suggest that the onset of striped bass spawning probably occurred no earlier than March 30, when the water temperature was 16.4°C. The last striped bass egg was collected on June 4, when minimum observed water temperature in the previous 48 h was 21.6°C. These observations suggest that the 1994 striped bass spawning season lasted from March 30 to June 3, when water temperatures ranged from 16.8°C to 21.6°C.

Generally, the proportions of egg to larvae entrained at the TFCF provide qualitative information regarding distance to the spawning habitat. Egg entrainment suggests that spawning occurred closer to the TFCF, while larval entrainment suggests more distant spawning and time-lags in transport (Hiebert, 1995). Also, older and larger entrained larvae suggest transport from greater distances. In 1994, striped bass eggs (first collected on April 11) outnumbered larvae from 42 to 70 times through May 15. From May 16 to June 6, larvae were more common than eggs, suggesting spawning more distant from the TFCF. So, temperature and spawning location influence not only entrainment rate but also egg and larval duration, timing, and developmental stage observed at the TFCF.

While water temperature probably affects the timing of south Delta spawning activity, entrainment at the TFCF appears more regulated by local flows. Figure A-1(see appendix) shows graphs of TPP pumping and Delta outflow for the 1991-1994 spawning seasons. A comparison of the figure 5 total E&L data with the 1994 TPP pumping discharge shows a visible relationship, suggesting that entrainment is most affected by TPP pumping rate. Previous years' CIPS data also suggested maximum observed entrainment of E&L during periods of maximum TPP pumping. Figure 7 shows a plot of 1994 total E&L (as adjusted daily average E&L/hr) vs. TPP daily average pumping rate. These data show a nonlinear correlation that supports the common sense observation that larger

Figure 7 Plot of total E&L entrained (daily average adjusted E&L/hr) at the TFCF vs. TPP pumping.



TPP pumping flows draw more E&L through the TFCF intake. The variability and scatter in this relationship are probably caused by the additional influence of tidal fluctuations, other hydrodynamic mixing variables, and other factors influencing spawning in the south Delta.

Comparison of Previous Year CIPS and 1994 Tow-net E&L Data

Table 2 summarizes E&L data by species from CIPS at TFCF and California DWR tow-net sampling. In 1994, DWR collected tow-net samples at 2-week intervals from 7 stations located in the general area of the TFCF. DWR tow-net sampling at all 7 south Delta stations was performed during a single day. Note that these data are not adjusted for measurement efficiency or scaled to approximate channel concentrations of E&L. In the right 3 columns, CIPS data from the TFCF are also presented for the 1991-1993 spawning seasons. All data have been edited to 3-significant figures.

Before comparing tow-net and CIPS data, note that previous-years' CIPS data in table 2 show varying species proportions and dominant species. These results suggest that the species percentages vary considerably from year to year, even using the same sampling methodology at the same location. For example, 1991 and 1993 CIPS data show striped bass as the dominant species (72.8 percent and 94.3 percent, respectively), while prickly sculpin were dominant in 1994 (89.4 percent). In 1994, DWR tow-net sampling collected approximately half fewer eggs than CIPS for April samples. In the first half of May, CIPS-collected eggs were approximately 50-times greater than tow-net collections. Likewise, DWR collected fewer striped bass larvae in April, but in May collected approximately 2.5-times the CIPS counts. In April of 1994, twice as many striped bass larvae were sampled, compared to DWR tow-net sampling; however, CIPS counts were around 0.25-times tow-net larvae counts in May. Interestingly, the 1994 DWR townet data also show different dominant species proportions and counts compared to the same-year CIPS data at the TFCF, with DWR data indicating tridenteger gobi as the dominant species (62.2 percent) for the DWR areal sampling coverage.

Observed differences between tow-net and USBR data in absolute E&L counts are probably due to both spawning location heterogeneity and differences in collection methods. Tow-net sampling is less temporally representative and integrative over time; however, the 7 DWR sampling stations are a better representative sampling of the wider south Delta region fishery. Wadsworth (1995) observed that in most years, tow-net sampling for E&L near the TFCF appeared to reflect the general period of spawning in the Delta, and indeed, the onset of 1994 E&L collections were similar for both CIPS and tow-net data. CIPS features superior representativeness with respect to location specificity and temporal integration. Taggart and Leggett (1984) observed that nets were more efficient at low egg and larvae densities than pumps, while pumps gave more accurate estimates of E&L abundance at high

Table 2. Unadjusted E&L numbers, and species proportions, in percent, from Reclamation's semi-continuous CIPS sampling (USBR), Compared to DWR's townet sampling during 1994. The 3 right-hand columns summarize species percentage proportions from previous 1991-1993 CIPS data collected at the TFCF.

		1994 USBR CIPS Data 2/6/94 to 6/6/94		*1994 DWR Townet Data 2/11/94 to 7/6/94*		*Previous Years Species Percentages (USBR CIPS Data)*		
Common Name	*Scientific Name*	*Number Collected*	*Species Percent*	*Number Collected*	*Species Percent*	*2/28 to 6/16/93*	*2/23 to 6/3/92*	*4/27 to 6/12/91*
Sculpin Family	*Cottidae*							
prickly sculpin	*Cottus asper*	*7,131	89.4	4,076	33.6	8.50	43.1	1.00
Temperate Bass Family	**Percichthyidae**							
striped bass	*Morone saxatillis*	2,510	5.22	73	0.60	72.8	17.2	94.3
Goby Family	*Gobiidae*							
Tridentiger goby	*Tridentiger bifasciatus*	900	3.14	7,548	62.17	6.80	15.7	1.60
Herring Family	*Alosidae*							
threadfin shad	*Dorosoma petenese*	75	0.21	354	2.92	5.80	11.3	0.05
Catfish Family	*Ameiuridae*			15	0.12			
white catfish	*Ameiurus catus*	4	0.01			0.00	1.00	0.00
channel catfish	*Ameiurus punctatus*	22	0.13			0.14	0.00	0.00
Minnow Family	*Cyprinidae*	5	0.03	19	0.16		1.50	3.10
common carp	*Cyprinus carpio*	3	0.02			0.00	0.00	0.00
splittail	*Pogonichthys macrolepidotum*	5	0.01	1	<.01	0.28	<.01	0.00

Table 2. (Continued)

		1994 USBR CIPS Data 2/6/94 to 6/6/94		*1994 DWR Townet Data 2/11/94 to 7/6/94*		*Previous Years Species Percentages (USBR CIPS Data)*		
Common Name	*Scientific Name*	*Number Collected*	*Species Percent*	*Number Collected*	*Species Percent*	*2/28 to 6/16/93*	*2/23 to 6/3/92*	*4/27 to 6/12/91*
golden shiner	*Notemigonus crysoleucas*	3	0.01			0.00	0.00	0.00
red shiner	*Notropis lutrensis*	1	<0.01			0.00	0.00	0.00
Perch Family	***Percidae***							
bigscale logperch	*Percina macrolepidota*	7	0.02	34	0.28	0.68	0.90	0.07
Smelt Family	***Osmeridae***							
Delta smelt	*Hypomesus transpacificus*	15	0.06	5	0.04	0.02	0.02	0.02
longfin smelt	*Spirinchus thaleichthys*	9	0.12	0	0.00	0.00	0.00	0.00
wakasagi	*Hypomesus nipponensis*	1	<0.01	0	0.00	0.00	0.00	0.00
Sucker Family	***Catastomidae***							
Sacramento sucker	*Catastomus occidentalis*	10	0.12	0	0.00	0.18	0.10	<.01

Table 2 (Continued)

		1994 USBR CIPS Data 2/6/94 to 6/6/94		*1994 DWR Townet Data 2/11/94 to 7/6/94*		*Previous Years Species Percentages (USBR CIPS Data)*		
Common Name	*Scientific Name*	*Number Collected*	*Species Percent*	*Number Collected*	*Species Percent*	*2/28 to 6/16/93*	*2/23 to 6/3/92*	*4/27 to 6/12/91*
Sucker Family	*Catastomidae*							
Sacramento sucker	*Catastomus occidentalis*	10	0.12	0	0.00	0.18	0.10	<.01
Sunfish Family	*Centrarchidae*	47	0.14			0.73	3.00	0.00
bluegill	*Lepomis macrochirus*	21	0.18	**14	0.12	0.00	0.00	0.00
largemouth bass	*Micropterus salmoides*	5	0.03			0.00	0.00	0.00
Stickleback Family	*Gasterosteidae*							
threespine stickleback	*Gasterosteus aculeatus*	3	0.02					
TOTAL	**ALL SPECIES:**	10,776	100.00	12,139	100.00	100.00	100.00	100.00

* prickly sculpin eggs were actually clusters of many eggs

** Lepomis species as recorded by DWR, 1994

densities where multi species sampling was involved. No information, however, is available regarding the within-channel variability for CIPS E&L counts at the TFCF. The current study is based on a single position CIPS intake that is very small relative to the channel cross-section. Some vertical integration is inherent in the CIPS operations because tidal fluctuations change the depth of the intake; however, lateral channel representativeness is unknown.

The observed differences between townet and CIPS data, and between 1994 and previous spawning years data, suggest that the mix of spawning species E&L is highly variable and heterogeneous in south Delta waters. The causes for this variability likely include varying annual weather patterns, local hydrodynamic complexity at the TFCF, and regional factors affecting specific fish population's health. These differences suggest that entrainment data from the TFCF is fairly site-specific, and should not be considered as representative of regional south Delta spawning patterns. The CIPS data, however, represent the best available tool for estimating E&L entrainment for the TPP intake, and they provide an important complement to the DWR tow-net E&L data.

E&L Data and Diel Preferences

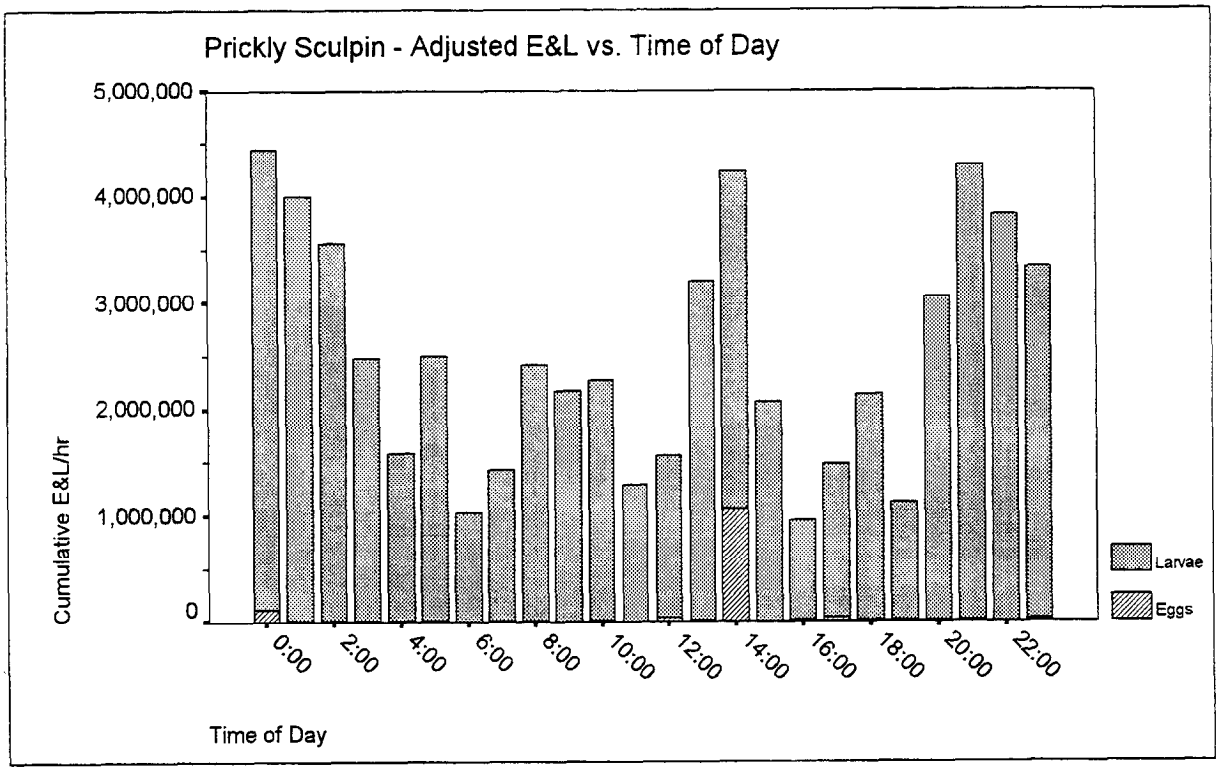
Several species appear to show diel preferences for entrainment in the CIPS. Figure 8 shows cumulative E&L counts by hour of the day for each of the major species. These data, which include both egg and larvae data as stacked bars, show that eggs were only rarely counted relative to larvae (no tridenteger gobi eggs were observed) during the 1994 spawning season. Except for an elevated 2:00 PM afternoon maximum, more prickly sculpin E&L appear to be entrained at night. Minor species may suggest some weak diel association, but tridenteger gobi show no apparent time of day preferences. The lack of diel preference for these species may be related to the areal extent of spawning in the south Delta. For example, prickly sculpin spawn throughout the Delta and its tributaries and E&L that are spawned some distance from the TFCF may take several weeks to arrive at the facility. Their time-lagged arrival and repeated mixing by tidal fluctuations may conceal any actual diel preference at the original spawning habitat.

Striped bass, however, were clearly entrained more at night with a 1:00 AM maximum. These results are in contrast to Hiebert's 1992 study when 78 percent of striped bass E&L were collected during daylight conditions. It is probably safe to conclude that the presence of viable eggs in the CIPS suggests spawning in the near vicinity of the TFCF, and that larvae have been in the water longer than eggs, suggesting more distant spawning activity. Once again, these data underscore the year to year variability in spawning counts.

Entrainment of Endangered and Threatened Species Larvae

Species of concern (endangered or threatened fish species) larvae were infrequently entrained by the CIPS and observed in low numbers. These data are summarized in appendix table A-2. Spawning trends for the Delta species of

Figure 8 Plot of total E&L entrained (daily average E&L/hr) at the TFCF vs. time of day for the major species observed in this study



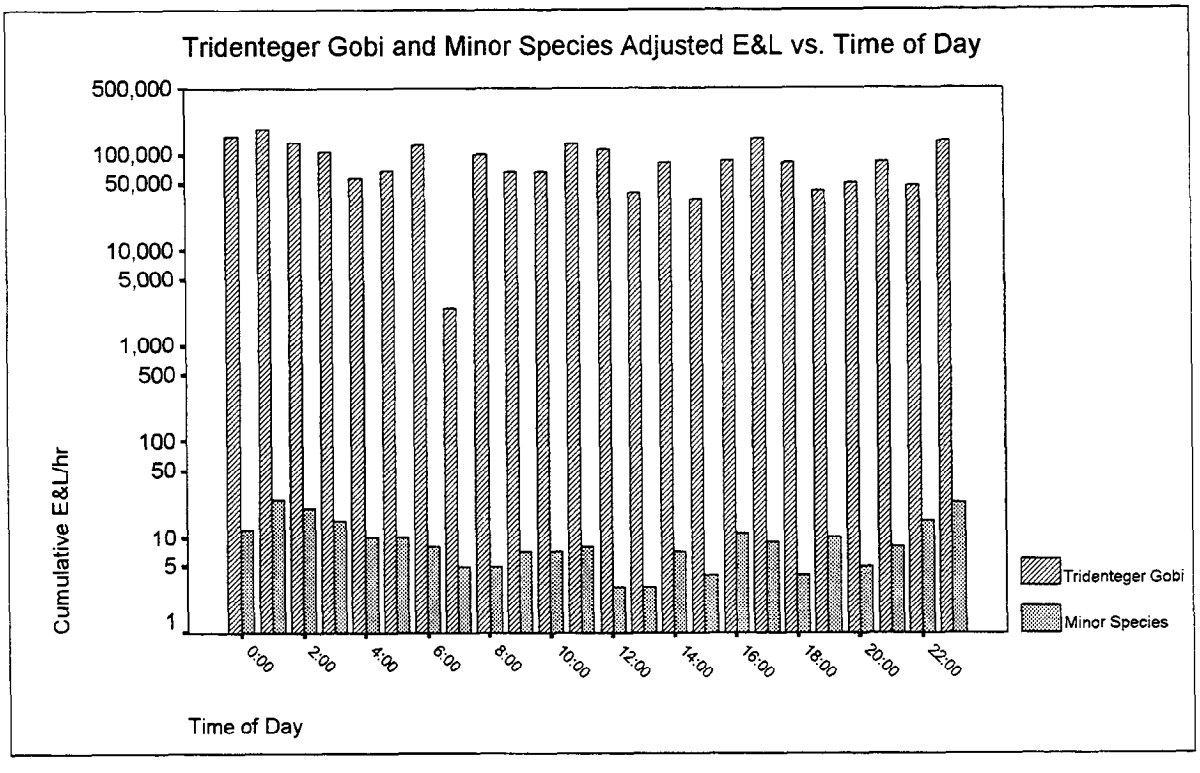
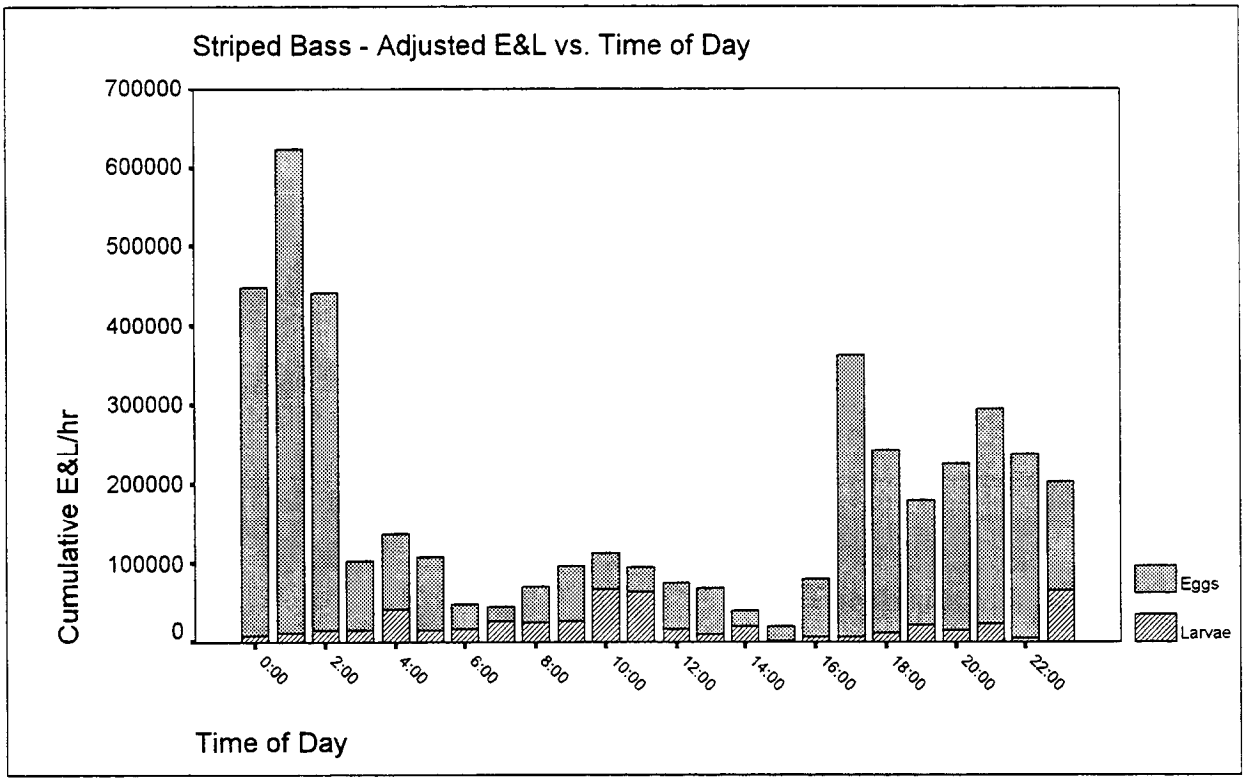


Figure 8 (Continued) Plot of total E&L entrained (daily average E&L/hr) at the TFCF vs. time of day for the major species observed in this study.



concern were difficult to evaluate given that very few of their larvae were entrained, accounting for less than 1 percent of larvae collected in 1994 (also noted by Hiebert, 1995).

The 7 longfin smelt larvae captured in the CIPS during February were collected between 6 a.m. and 4 p.m. Two additional longfin smelt larvae were collected during early April, at 11 am and 7 pm. Longfin smelt were captured in February and April of 1994 and were of two size ranges (table A-2): between 6 and 8 mm in early to mid-February, and up to 19.0 mm in early April. Their collection in February 1994 may have been at the end of the spawning season, which has been reported as lasting from December through February in freshwater portions of the Delta (Moyle, 1976).

Splittail larvae were nearly always collected at night in 1991 and 1994. All but one of the 1994 splittail larvae were captured between 11 pm and 6 am. All five splittail collected in 1994 were captured in late April and early May. Splittail larvae ranged in size from 5.1 to 10.1 mm (table A-2), with smaller larvae collected earlier in the season.

Delta smelt larvae were entrained within the reported spawning period. All Delta smelt captured in February were between 6 and 7 mm full length (FL), while those captured in April 1994 were between 10 and 20 mm FL (table A-2). These data suggest that the spawning period lasted from late January through early April, within reported dates for the Delta smelt spawning period. The Delta smelt entrainment rate did increase during one temperature peak (16 days during April); however, this period is also when the TPP was pumping at an temporary maximum flow rate.

Approximately 75 percent of Delta smelt larvae were collected at night, and this is in contrast to 1991-1993 continuous sampling when Delta smelt larvae were entrained during daylight hours (Hiebert, 1995). Thirteen of the fifteen Delta smelt larvae collected in 1994 were collected between April 13 and 24 during a water temperature peak. There was no observable relationship between Delta smelt and either tide or specific conductance in 1994. From these data, it was not possible to predict when, during a given day, most Delta smelt would have been entrained.

CONCLUSIONS

Continuous egg and larvae sampling at the TFCF has improved over a 5 year period (1990 to 1994), and CIPS should be considered a reliable methodology to estimate E&L at specific locations. The species collected in the CIPS were similar to those collected in earlier USBR (1991 to 1993) and DWR studies (1991 to 1994); however, the dominant species varied from year to year and between CIPS and tow-net methods. DWR tow-net survey E&L data are probably more representative of generalized south Delta spawning patterns, but the temporal and site-specific representativeness associated with the CIPS suggest that the continuous pumping approach is the more appropriate methodology for estimating entrainment of E&L at the TFCF.

During the 1994 spawning season, prickly sculpin E&L dominated during February and March CIPS sampling, Tridentiger gobies were at their highest level in April, and striped bass dominated from May through June. Prickly sculpin accounted for 89 percent of E&L collected in 1994, suggesting a large and successful spawning season for that species. Pumping and Delta outflow diminished through April 1994 when striped bass spawning began. As a result, total E&L entrainment was low except during temperature peaks. Overall, striped bass E&L were collected in fewer numbers than in past continuous sampling at the TFCF.

The timing of spawning onset is influenced by water temperature, and the general health of fish species' populations in the south Delta fishery. Whether entrainment occurs at the TFCF depends on the timing of spawning for specific species. The total amount of E&L entrainment at the TFCF appears to be most strongly influenced by the TPP pumping flow rate, especially at higher discharge flows. At high TPP pumping rates, tidal influences are minor; however, tidal effects may be more pronounced during low pumping flows. However, the 1994 CIPS data do not show a stong relationship with tidal effects for striped bass, which spawned during the lower TPP pumping rates of April through June. The proportions of eggs to larvae entrained at the TFCF most related to are the proximity of specific nursery sites, and the overall TPP pumping volume.

Delta smelt, splittail, and longfin smelt totaled less than 1 percent of E&L collected during the 1994 spawning season. The former two species were collected during late evening and early morning while the latter species was collected during mid-day sampling. Continuous sampling and DWR townet sampling produced similar results for Delta smelt and splittail in 1994.

ACKNOWLEDGMENTS

The authors would like to thank the following who assisted in this study: Funding and program support was provided by Charles Liston, TFFIP program Manager; Ron Brockman, USBR Mid-Pacific Regional Office, and Herb Ng (now retired) former manager at the TFCF. Steve Hiebert and Rick Wydoski designed and assisted with the CIPS equipment used in this study. Lloyd Hess and Jim Arthur provided conceptual assistance throughout the numerous drafts of this report. Special appreciation goes to the Tracy Fish Facility Operators, Mike McAdams, Rich Tegtmeier, Al Bump, Rich Murillo, Larry Vojkufka, and Gary Jordan, foreman, for their on-site assistance collecting samples. Dr. Johnson Wang provided expert identification of E&L and members of the California Conservation Corps performed E&L sorting. Mark Bowen provided review and comments for the last few drafts of this report.

LITERATURE CITED

Arthur, J. et al. 1990. *Continuous monitoring of Striped Bass E&L in the San Francisco Bay-Delta Estuary, a Potential Management Tool.* US Bureau of Reclamation, Mid-Pacific Region, Sacramento, California. Special Publication No.1. 55 pp.

Bureau of Reclamation, US Fish and Wildlife Service, 1957. *Fish Protection at the Tracy Pumping Plant, Central Valley Project, California.* 95 pp.

California Department of Fish and Game (DFG). 1992. *A re-examination of factors affecting striped bass abundance in the Sacramento-San Joaquin Estuary.* WRINT-DFG-Exhibit 2 entered by the California Department of Fish and Game for the State Water Resources Control Board 1992 Water Right Phase of the Bay-Delta Fish Estuary Proceedings. 59 pp.

Hiebert, S. 1995. *Continuous Monitoring of Fish E&L During 1991 and 1992. Tracy Fish Collection Facility Studies, Volume 2.* Bureau of Reclamation, Mid-Pacific Region and Denver Technical Services Center. 46 pp.

Moyle, P. 1976. *Inland fishes of California.* University of California Press, Berkeley. 405 pp.

Pacific Publishers. *1994. TIDELOG, Northern California.* Bolinas, CA. 135 pp.

Spaar, Stephani, 1992. *1991 Entrainment of Striped Bass E&L to the State Water Project and Central Valley Project Intakes in the Sacramento-San Joaquin Delta,* California Department of Water Resources Memo, May 28, 1992, Sacramento, California, 20 pp.

Spaar, Stephani, 1993. *1992 Entrainment of Striped Bass E&L to the State Water Project and Central Valley Project Intakes in the Sacramento-San Joaquin Delta,* California Department of Water Resources Memo, January 20, 1993, Sacramento, California, 20 pp.

Spaar, Stephani, and Katey Wadsworth, 1994. *1993 Entrainment of Striped Bass E&L to the State Water Project and Central Valley Project Intakes in the Sacramento-San Joaquin Delta,* California Department of Water Resources Memo, May, 1993, Sacramento, California, 20 pp.

Stevens, D., D.W. Kohlohrst, and L.W. Miller. 1985. *The decline of Striped Bass in the Sacramento-San Joaquin Estuary, California.* Transactions of the American Fisheries Society. Volume 114. pp. 12-30.

Taggart, C. and W. Leggett. 1984. *Efficiency of Large-Volume Plankton Pumps, and Evaluation of a Design Suitable for Deployment from Small Boats.* Canadian Journal of Aquatic Science, Volume 41. pp.1328-1435.

Wadsworth, K. 1996. *1994 and 1995 Entrainment of Striped Bass E&L to the State Water Project and Central Valley Project Intakes in the Sacramento-San Joaquin Delta,* California DWR Special Publication, June 1996. 14 pp.

APPENDIX

Supplemental Information

Table A-1 Summary of flow-adjusted hourly CIPS E&L entrained during the 1994 spawning season at the TFCF.

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, µS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
06-FEB-1994 18:00	0	49068	1177637	0	0	0	0	0	8176	0	57244	395	9.95	7.45	3194	6.20
06-FEB-1994 20:00	0	60955	1462908	0	0	0	0	0	0	0	60955	398	9.86	7.40	3194	5.10
06-FEB-1994 21:00	5973	35847	1003687	0	0	0	0	0	0	5973	35847	399	9.87	7.39	3194	4.55
06-FEB-1994 22:00	0	101979	2447489	0	0	0	0	0	0	0	101979	432	9.91	7.39	3194	4.00
06-FEB-1994 23:00	0	161075	3865797	0	0	0	0	0	0	0	161075	626	10.14	7.53	3194	3.60
07-FEB-1994 00:00	0	244241	5861790	0	0	0	0	0	0	0	244241	960	10.81	7.63	3817	3.20
07-FEB-1994 01:00	0	33820	811689	0	0	0	0	0	0	0	33820	1035	10.99	7.65	3817	3.65
07-FEB-1994 02:00	0	65906	1581753	0	0	0	0	0	0	0	65906	1045	11.05	7.68	3817	4.10
07-FEB-1994 03:00	0	21420	514070	0	0	0	0	0	0	0	21420	1047	11.06	7.72	3817	4.60
07-FEB-1994 04:00	0	62438	1498503	0	0	0	0	0	0	0	62438	992	10.92	7.70	3817	5.10
07-FEB-1994 11:00	0	31996	767905	0	0	0	0	0	0	0	31996	482	9.99	7.44	3817	4.65
07-FEB-1994 14:00	1032045	10323	25016816	0	0	0	0	0	0	1032045	10323	1054	11.25	7.69	3817	5.20
07-FEB-1994 15:00	0	20239	485735	0	0	0	0	0	0	0	20239	867	10.83	7.67	3817	5.55
07-FEB-1994 16:00	6615	59545	1587826	0	0	0	0	0	0	6615	59545	478	10.10	7.52	3817	5.90
07-FEB-1994 21:00	0	294401	7065628	0	0	0	0	0	0	0	294401	408	9.90	7.39	3817	3.60
07-FEB-1994 23:00	0	59225	1421391	0	0	0	0	0	0	0	59225	450	9.90	7.49	3817	2.85
08-FEB-1994 00:00	0	39837	956095	0	0	0	0	0	0	0	39837	1020	10.42	7.72	4220	2.60
08-FEB-1994 05:00	0	103336	2480052	0	0	0	0	0	0	0	103336	746	9.90	7.86	4220	3.10
08-FEB-1994 10:00	0	109297	2623133	0	0	0	0	0	0	0	109297	711	9.86	7.74	4220	4.10
08-FEB-1994 12:00	0	35670	856085	0	0	0	0	0	0	0	35670	1041	10.69	7.87	4220	4.50
08-FEB-1994 17:00	0	0	0	0	0	0	0	0	0	0	0	397	9.98	7.56	4220	5.95
08-FEB-1994 18:00	0	43056	1033355	0	0	0	0	0	0	0	43056	395	9.95	7.45	4220	6.30
08-FEB-1994 20:00	14973	280803	7098623	269571	0	0	0	0	0	14973	292035	398	9.86	7.40	4220	5.50
09-FEB-1994 00:00	0	206467	4955212	0	0	0	0	0	0	0	206467	960	10.81	7.63	4235	3.15
09-FEB-1994 01:00	0	318344	7640245	0	0	0	0	0	0	0	318344	1035	10.99	7.65	4235	2.70
09-FEB-1994 02:00	0	132029	3168697	0	0	0	0	0	0	0	132029	1045	11.05	7.68	4235	2.80
09-FEB-1994 03:00	0	64814	1555542	0	0	0	0	0	0	0	64814	1047	11.06	7.72	4235	3.05
09-FEB-1994 04:00	0	205537	4932891	0	0	0	0	0	0	0	205537	992	10.92	7.70	4235	3.25
09-FEB-1994 07:00	8020	252694	6257133	0	0	0	0	0	0	8020	252694	423	9.81	7.53	4235	4.35
09-FEB-1994 08:00	0	378666	9087982	0	0	0	0	0	0	0	378666	415	9.74	7.46	4235	4.65
09-FEB-1994 09:00	0	131807	3163372	0	0	0	0	0	0	0	131807	416	9.79	7.41	4235	4.40
09-FEB-1994 10:00	0	108756	2610147	0	0	0	0	0	0	0	108756	423	9.81	7.41	4235	4.30
09-FEB-1994 11:00	0	12292	295017	0	0	0	0	0	0	0	12292	482	9.99	7.44	4235	4.00
09-FEB-1994 20:00	0	331608	7958589	0	0	0	0	0	0	0	331608	411	9.96	7.39	4235	5.75
09-FEB-1994 22:00	0	254009	6096215	0	0	0	0	0	0	0	254009	415	9.87	7.42	4235	4.70
09-FEB-1994 23:00	0	131256	3150136	0	0	0	0	0	0	0	131256	450	9.90	7.49	4235	4.50
10-FEB-1994 00:00	0	144638	3471323	0	0	0	0	0	0	0	144638	960	10.81	7.63	4260	3.95
10-FEB-1994 01:00	0	73871	1772907	0	0	0	0	0	0	0	73871	1035	10.99	7.65	4260	3.40
10-FEB-1994 02:00	0	112742	2705813	0	0	0	0	0	0	0	112742	1045	11.05	7.68	4260	3.10

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, µS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
10-FEB-1994 03:00	8691	78236	2086255	0	0	0	0	0	0	8691	78236	1047	11.06	7.72	4260	3.45
10-FEB-1994 04:00	0	61559	1477423	0	0	0	0	0	0	0	61559	992	10.92	7.70	4260	4.00
10-FEB-1994 05:00	8136	146485	3710908	0	0	0	0	0	0	8136	146485	853	10.54	7.66	4260	4.35
10-FEB-1994 10:00	0	102452	2458854	0	0	0	0	0	0	0	102452	423	9.81	7.41	4260	5.00
10-FEB-1994 11:00	0	206544	4957049	0	0	0	0	0	0	0	206544	482	9.99	7.44	4260	4.35
10-FEB-1994 12:00	15482	278736	7061243	0	0	0	0	0	0	15482	278736	761	10.64	7.54	4260	3.75
10-FEB-1994 13:00	0	139935	3358434	0	0	0	0	0	0	0	139935	1026	11.16	7.66	4260	3.40
10-FEB-1994 17:00	22583	56470	1897266	0	0	0	0	0	0	22583	56470	418	9.99	7.47	4260	5.45
10-FEB-1994 18:00	0	44823	1075748	0	0	0	0	0	0	0	44823	411	10.03	7.43	4260	5.80
10-FEB-1994 19:00	0	111188	2668523	0	0	0	0	0	0	0	111188	408	10.03	7.42	4260	6.00
10-FEB-1994 21:00	0	188291	4518974	0	0	0	0	0	0	0	188291	408	9.90	7.39	4260	5.95
11-FEB-1994 02:00	0	12009	288224	0	0	0	0	0	0	0	12009	761	10.64	7.54	4191	3.70
11-FEB-1994 07:00	0	46077	1105841	0	0	0	0	0	0	0	46077	418	9.99	7.47	4191	5.30
11-FEB-1994 08:00	0	67195	1612685	0	0	0	0	0	0	0	67195	411	10.03	7.43	4191	5.90
11-FEB-1994 09:00	0	291179	6988301	0	0	0	0	0	0	0	291179	650	10.03	7.42	4191	4.35
11-FEB-1994 10:00	0	435042	10441019	0	0	0	0	0	11153	0	446195	900	9.96	7.39	4191	3.75
11-FEB-1994 11:00	0	156789	3762931	0	0	0	0	0	0	0	156789	1001	10.50	7.83	4191	3.40
11-FEB-1994 12:00	0	34842	836207	0	0	0	0	0	0	0	34842	1041	10.69	7.87	4191	3.80
11-FEB-1994 13:00	0	82314	1975539	0	0	0	0	0	0	0	82314	1039	10.85	7.86	4191	4.20
11-FEB-1994 16:00	0	82314	1975539	0	0	0	0	0	0	0	82314	395	9.80	7.64	4191	4.90
11-FEB-1994 19:00	0	260685	6256440	0	0	0	0	0	0	0	260685	395	9.91	7.40	4191	5.70
11-FEB-1994 21:00	0	868369	20840850	0	0	0	0	0	0	0	868369	399	9.87	7.39	4191	6.05
11-FEB-1994 22:00	0	736226	17669416	0	0	0	0	0	0	0	736226	432	9.91	7.39	4191	5.65
11-FEB-1994 23:00	0	256563	6157524	0	0	0	0	0	0	0	256563	626	10.14	7.53	4191	5.10
12-FEB-1994 01:00	0	189267	4542416	0	0	0	0	0	0	0	189267	1035	10.99	7.65	4093	4.00
12-FEB-1994 02:00	0	123045	2953078	0	0	0	0	0	0	0	123045	1045	11.05	7.68	4093	3.50
12-FEB-1994 06:00	0	24500	587991	0	0	0	0	0	0	0	24500	485	9.91	7.55	4093	4.28
12-FEB-1994 07:00	0	84251	2022020	0	0	0	0	0	0	0	84251	423	9.81	7.53	4093	4.65
12-FEB-1994 08:00	7918	154443	3896663	0	0	0	0	0	0	7918	154443	415	9.74	7.46	4093	5.20
12-FEB-1994 09:00	0	94229	2261502	0	0	0	0	0	0	0	94229	416	9.79	7.41	4093	5.40
12-FEB-1994 10:00	0	162814	3907532	0	0	0	0	0	11627	0	174441	423	9.81	7.41	4093	5.40
12-FEB-1994 11:00	0	126855	3044512	0	0	0	0	0	0	0	126855	482	9.99	7.44	4093	5.15
12-FEB-1994 12:00	0	57661	1383869	0	0	0	0	0	0	0	57661	761	10.64	7.54	4093	4.70
12-FEB-1994 13:00	0	35186	844454	0	0	0	0	0	0	0	35186	1026	11.16	7.66	4093	4.10
12-FEB-1994 14:00	0	70371	1688909	0	0	0	0	0	0	0	70371	1054	11.25	7.69	4093	4.00
12-FEB-1994 15:00	0	23557	565375	0	0	0	0	0	0	0	23557	867	10.83	7.67	4093	3.95
12-FEB-1994 16:00	0	11630	279109	0	0	0	0	0	0	0	11630	478	10.10	7.52	4093	4.35
12-FEB-1994 17:00	7623	0	182945	0	0	0	0	0	0	7623	0	418	9.99	7.47	4093	4.70
12-FEB-1994 19:00	0	122746	2945904	0	0	0	0	0	0	0	122746	408	10.03	7.42	4093	5.30
12-FEB-1994 21:00	0	0	0	0	0	0	0	0	0	0	0	408	9.90	7.39	4093	5.75
13-FEB-1994 01:00	0	168749	4049968	0	0	0	0	0	0	0	168749	541	9.98	7.46	4099	3.65
13-FEB-1994 06:00	0	219272	5262525	0	0	0	0	0	12896	0	232167	577	10.07	7.45	4099	3.95
13-FEB-1994 07:00	0	24536	588852	0	0	0	0	0	0	0	24536	498	9.73	7.49	4099	4.20

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, µS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
13-FEB-1994 08:00	0	314765	7554358	0	0	0	0	0	0	0	314765	431	9.49	7.48	4099	4.40
13-FEB-1994 09:00	0	48425	1162209	0	0	0	0	0	0	0	48425	427	9.38	7.53	4099	4.70
13-FEB-1994 12:00	0	56332	1351957	0	0	0	0	0	0	0	56332	462	9.69	7.57	4099	4.85
13-FEB-1994 15:00	0	46586	1118074	0	0	0	0	0	0	0	46586	634	10.58	7.55	4099	3.50
13-FEB-1994 18:00	0	93173	2236149	0	0	0	0	0	0	0	93173	532	10.10	7.57	4099	4.40
13-FEB-1994 21:00	0	126511	3036271	0	0	0	0	0	0	0	126511	421	9.86	7.55	4099	5.15
13-FEB-1994 23:00	0	329412	7905890	0	0	0	0	0	0	0	329412	413	9.74	7.49	4099	4.90
14-FEB-1994 00:00	0	552466	13259175	0	0	0	0	0	0	0	552466	437	9.79	7.50	4085	4.40
14-FEB-1994 01:00	0	474279	11382697	0	0	0	0	0	0	0	474279	462	9.84	7.51	4085	3.90
14-FEB-1994 03:00	0	64271	1542515	0	0	0	0	0	0	0	64271	512	9.94	7.54	4085	3.00
14-FEB-1994 07:00	0	294274	7062567	0	0	0	0	0	0	0	294274	492	9.78	7.71	4085	3.25
14-FEB-1994 10:00	0	58034	1392820	0	0	0	0	0	0	0	58034	423	9.51	7.60	4085	5.00
14-FEB-1994 12:00	0	353519	8484452	0	0	0	0	0	0	0	353519	420	9.71	7.54	4085	5.10
14-FEB-1994 13:00	0	447554	10741291	0	0	0	0	0	0	0	447554	456	9.95	7.51	4085	4.55
14-FEB-1994 14:00	0	0	0	0	0	0	0	0	0	0	0	530	10.46	7.52	4085	4.05
14-FEB-1994 15:00	0	45281	1086743	0	0	0	0	0	0	0	45281	561	10.71	7.54	4085	3.40
14-FEB-1994 16:00	0	92464	2219148	0	0	0	0	0	23111	0	115576	570	10.79	7.57	4085	3.10
14-FEB-1994 17:00	0	11806	283346	0	0	0	0	0	0	0	11806	593	10.81	7.57	4085	3.30
14-FEB-1994 20:00	0	34101	818425	0	0	0	0	0	0	0	34101	411	9.87	7.73	4085	4.50
14-FEB-1994 23:00	14846	378655	9444028	0	0	0	0	0	0	14846	378655	407	9.99	7.72	4085	5.30
15-FEB-1994 01:00	0	621731	14921550	0	0	0	0	0	0	0	621731	506	10.09	7.68	4096	4.50
15-FEB-1994 02:00	0	352114	8450735	0	0	0	0	0	0	0	352114	555	10.15	7.66	4096	4.10
15-FEB-1994 03:00	0	156581	3757932	0	0	0	0	0	0	0	156581	605	10.20	7.65	4096	3.70
15-FEB-1994 08:00	0	120447	2890717	0	0	0	0	0	0	0	120447	421	9.78	7.65	4096	4.20
15-FEB-1994 10:00	7856	106086	2734610	0	0	0	0	0	0	7856	106086	418	9.72	7.64	4096	4.85
15-FEB-1994 13:00	7413	945360	22866543	0	0	0	0	0	0	7413	945360	433	9.95	7.57	4096	4.40
15-FEB-1994 14:00	0	658342	15800207	0	0	0	0	0	11348	0	669690	521	10.18	7.58	4096	3.90
15-FEB-1994 15:00	0	183882	4413161	0	0	0	0	0	0	0	183882	678	10.57	7.58	4096	3.30
15-FEB-1994 19:00	8171	122588	3138206	0	0	0	0	0	0	8171	122588	706	10.60	7.70	4096	3.20
15-FEB-1994 22:00	0	188597	4526319	0	0	0	0	0	0	0	188597	416	9.99	7.78	4096	4.35
16-FEB-1994 00:00	74602	514867	14147269	0	0	0	0	0	0	74602	514867	416	10.04	7.76	4039	4.30
16-FEB-1994 01:00	0	516995	12407876	0	0	0	0	0	0	0	516995	431	10.01	7.77	4039	3.60
16-FEB-1994 02:00	0	579445	13906672	0	0	0	0	0	0	0	579445	511	10.11	7.77	4039	3.10
16-FEB-1994 03:00	0	167744	4025846	0	0	0	0	0	0	0	167744	723	10.57	7.75	4039	2.70
16-FEB-1994 05:00	0	350947	8422738	0	0	0	0	0	0	0	350947	774	10.55	7.80	4039	2.50
16-FEB-1994 08:00	8240	135992	3461575	0	0	0	0	0	0	8240	135992	424	9.96	7.82	4039	3.55
16-FEB-1994 11:00	0	44406	1065734	0	0	0	0	0	0	0	44406	426	10.03	7.80	4039	5.40
16-FEB-1994 13:00	0	299907	7197758	0	0	0	0	0	0	0	299907	420	10.21	7.80	4039	5.20
16-FEB-1994 14:00	13999	735093	17978190	0	0	0	0	0	10499	13999	745592	424	10.35	7.76	4039	4.60
16-FEB-1994 15:00	0	817028	19608666	0	0	0	0	0	0	0	817028	466	10.59	7.75	4039	4.10
16-FEB-1994 16:00	0	121127	2907038	0	0	0	0	0	0	0	121127	690	10.99	7.78	4039	3.50
16-FEB-1994 17:00	0	33441	802576	0	0	0	0	0	0	0	33441	841	11.17	7.79	4039	3.05
16-FEB-1994 18:00	0	22665	543968	0	0	0	0	0	0	0	22665	868	11.35	7.82	4039	2.85

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, µS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
17-FEB-1994 00:00	14715	110389	3002495	0	0	0	0	0	0	14715	110389	423	10.38	7.82	4131	4.50
17-FEB-1994 03:00	0	425316	10207577	0	0	0	0	0	0	0	425316	533	10.48	7.83	4131	3.25
17-FEB-1994 04:00	0	68970	1655283	0	0	0	0	0	0	0	68970	785	11.05	7.88	4131	3.05
17-FEB-1994 07:00	0	23182	556359	0	0	0	0	0	0	0	23182	429	10.36	7.88	4131	4.00
17-FEB-1994 09:00	0	34063	817507	0	0	0	0	0	0	0	34063	426	10.39	7.87	4131	5.50
17-FEB-1994 11:00	0	10699	256781	0	0	0	0	0	0	0	10699	417	10.39	7.88	4131	6.65
17-FEB-1994 13:00	0	40909	981810	0	0	0	0	0	10225	0	51134	408	10.43	7.90	4131	6.55
17-FEB-1994 14:00	0	30569	733660	0	0	0	0	0	0	0	30569	410	10.50	7.89	4131	6.00
17-FEB-1994 16:00	0	169881	4077134	0	0	0	0	0	0	0	169881	427	10.64	7.88	4131	5.40
17-FEB-1994 18:00	0	300434	7210412	0	0	0	0	0	0	0	300434	650	11.03	7.89	4131	4.45
17-FEB-1994 20:00	0	0	0	0	0	0	0	0	11260	0	11260	908	11.32	7.96	4131	4.30
17-FEB-1994 22:00	0	0	0	0	0	0	0	0	0	0	0	712	11.02	7.96	4131	4.90
18-FEB-1994 00:00	0	79013	1896302	0	0	0	0	0	0	0	79013	427	10.45	7.93	4157	5.45
18-FEB-1994 03:00	0	186620	4478885	0	0	0	0	0	0	0	186620	643	10.70	7.94	4157	4.35
18-FEB-1994 06:00	0	35138	843305	0	0	0	0	0	0	0	35138	713	10.72	8.00	4157	4.70
18-FEB-1994 10:00	0	10978	263464	0	0	0	0	0	0	0	10978	420	10.22	7.99	4157	6.10
18-FEB-1994 14:00	0	41166	987989	0	0	0	0	0	0	0	41166	410	10.38	8.01	4157	6.15
18-FEB-1994 18:00	7463	235141	5822511	0	0	0	0	0	0	7463	235141	846	11.08	7.99	4157	4.30
18-FEB-1994 20:00	0	199950	4798805	0	0	0	0	0	0	0	199950	974	11.22	8.05	4157	3.45
18-FEB-1994 23:00	0	118114	2834737	0	0	0	0	0	0	0	118114	923	11.09	8.09	4157	4.35
19-FEB-1994 02:00	0	439403	10545670	0	0	0	0	0	0	0	439403	573	10.49	8.04	4104	5.20
19-FEB-1994 05:00	0	443111	10634663	0	0	0	0	0	0	0	443111	805	10.69	8.04	4104	4.75
19-FEB-1994 07:00	0	35583	853992	0	0	0	0	0	0	0	35583	874	10.74	8.06	4104	4.70
19-FEB-1994 08:00	0	45492	1091798	0	0	0	0	0	0	0	45492	517	10.22	8.02	4104	5.30
19-FEB-1994 09:00	0	78321	1879704	0	0	0	0	0	0	0	78321	423	10.07	8.00	4104	5.30
19-FEB-1994 11:00	0	76464	1835126	0	0	0	0	0	0	0	76464	446	9.97	7.96	4104	5.85
19-FEB-1994 14:00	0	104682	2512375	0	0	0	0	0	0	0	104682	417	9.84	7.97	4104	6.30
19-FEB-1994 15:00	0	232059	5569419	0	0	0	0	0	0	0	232059	427	9.83	7.97	4104	5.90
19-FEB-1994 20:00	0	23030	552723	0	0	0	0	0	0	0	23030	1008	10.40	8.10	4104	3.10
20-FEB-1994 01:00	15429	104171	2870397	0	0	0	0	0	0	15429	104171	926	10.33	8.15	4108	4.20
20-FEB-1994 02:00	7557	34012	997645	0	0	0	0	0	0	7557	34012	601	9.86	8.09	4108	4.70
20-FEB-1994 10:00	0	21444	514662	0	0	0	0	0	0	0	21444	432	9.49	8.01	4108	5.70
20-FEB-1994 12:00	0	61932	1486374	0	0	0	0	0	0	0	61932	431	9.46	8.00	4108	6.15
20-FEB-1994 14:00	0	174175	4180197	0	0	0	0	0	0	0	174175	439	9.57	7.95	4108	6.75
20-FEB-1994 22:00	0	106853	2564473	0	0	0	0	0	0	0	106853	1020	10.24	8.10	4108	3.00
21-FEB-1994 01:00	0	12437	298478	0	0	0	0	0	0	0	12437	972	10.18	8.18	4100	3.80
21-FEB-1994 03:00	0	202309	4855410	0	0	0	0	0	0	0	202309	657	9.91	8.12	4100	4.75
21-FEB-1994 06:00	0	172557	4141379	0	0	0	0	0	0	0	172557	484	9.52	8.06	4100	4.85
21-FEB-1994 07:00	0	56345	1352287	0	0	0	0	0	0	0	56345	582	9.61	8.05	4100	4.65
21-FEB-1994 09:00	0	33946	814698	0	0	0	0	0	0	0	33946	1001	9.94	8.12	4100	4.45
21-FEB-1994 12:00	0	33131	795145	0	0	0	0	0	0	0	33131	436	9.60	8.04	4100	5.80
21-FEB-1994 15:00	0	52689	1264543	0	0	0	0	0	0	0	52689	433	9.72	7.99	4100	6.95
21-FEB-1994 20:00	0	295813	7099507	0	0	0	0	0	0	0	295813	678	9.90	7.96	4100	4.50

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, µS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
21-FEB-1994 21:00	0	133056	3193353	0	0	0	0	0	0	0	133056	915	10.05	8.00	4100	4.00
21-FEB-1994 23:00	0	189591	4550185	0	0	0	0	0	0	0	189591	1015	9.99	8.06	4100	3.00
22-FEB-1994 02:00	0	84889	2037343	0	0	0	0	0	0	0	84889	971	9.91	8.09	4088	3.85
22-FEB-1994 05:00	7742	569152	13845461	0	0	0	0	0	0	7742	569152	494	9.54	8.05	4088	4.95
22-FEB-1994 09:00	0	22472	539332	0	0	0	0	0	0	0	22472	935	9.65	8.04	4088	4.90
22-FEB-1994 10:00	0	22564	541542	0	0	0	0	0	0	0	22564	1022	9.69	8.06	4088	4.75
22-FEB-1994 15:00	0	52335	1256048	0	0	0	0	0	0	0	52335	443	9.88	7.97	4088	6.10
22-FEB-1994 17:00	0	350549	8413170	0	0	0	0	0	0	0	350549	453	9.94	7.89	4088	6.45
22-FEB-1994 18:00	0	406669	9760064	0	0	0	0	0	0	0	406669	451	9.94	7.84	4088	5.85
22-FEB-1994 20:00	0	1079545	25909070	0	0	0	0	0	0	0	1079545	574	9.95	7.81	4088	4.60
22-FEB-1994 21:00	0	382027	9168638	0	0	0	0	0	0	0	382027	793	10.09	7.86	4088	4.00
22-FEB-1994 22:00	0	92145	2211486	0	0	0	0	0	0	0	92145	943	10.25	7.89	4088	3.30
23-FEB-1994 00:00	0	196247	4709917	0	0	0	0	0	0	0	196247	895	10.08	7.89	4080	3.20
23-FEB-1994 03:00	0	109898	2637553	0	0	0	0	0	0	0	109898	896	10.14	7.93	4080	4.30
23-FEB-1994 08:00	0	337801	8107234	0	0	0	0	0	0	0	337801	475	9.63	7.72	4080	5.15
23-FEB-1994 09:00	0	775490	18611768	0	0	0	0	0	0	0	775490	580	9.70	7.79	4080	4.65
23-FEB-1994 11:00	0	47782	1146762	0	0	0	0	0	0	0	47782	809	10.01	7.85	4080	4.30
23-FEB-1994 14:00	0	55392	1329412	0	0	0	0	0	0	0	55392	512	10.07	7.81	4080	5.25
23-FEB-1994 17:00	0	181034	4344807	0	0	0	0	0	0	0	181034	453	10.19	7.71	4080	6.20
23-FEB-1994 22:00	0	171716	4121177	0	0	0	0	0	0	0	171716	679	10.38	7.79	4080	3.80
23-FEB-1994 23:00	0	35224	845370	0	0	0	0	0	0	0	35224	793	10.57	7.84	4080	3.40
24-FEB-1994 00:00	0	62116	1490791	0	0	0	0	0	0	0	62116	789	10.63	7.87	3536	3.05
24-FEB-1994 01:00	0	54364	1304726	0	0	0	0	0	0	0	54364	800	10.59	7.92	3536	2.85
24-FEB-1994 04:00	0	96532	2316770	0	0	0	0	0	0	0	96532	741	10.42	7.88	3536	4.00
24-FEB-1994 06:00	0	20351	488436	0	0	0	0	0	0	0	20351	480	10.11	7.86	3536	4.80
24-FEB-1994 10:00	0	103938	2494512	0	0	0	0	0	0	0	103938	530	10.23	7.76	3536	4.70
24-FEB-1994 14:00	0	268837	6452080	0	0	0	0	0	0	0	268837	772	10.91	7.83	3536	4.90
24-FEB-1994 17:00	0	26555	637327	0	0	0	0	0	0	0	26555	464	10.61	7.80	3536	6.70
24-FEB-1994 20:00	0	199875	4797010	0	0	0	0	0	0	0	199875	479	10.75	7.76	3536	5.90
24-FEB-1994 21:00	0	370603	8894473	0	0	0	0	0	9263	0	379866	541	10.71	7.76	3536	5.40
24-FEB-1994 23:00	0	210380	5049132	0	0	0	0	0	0	0	210380	684	10.87	7.83	3536	4.50
25-FEB-1994 00:00	0	163138	3915317	0	0	0	0	0	0	0	163138	910	11.11	7.90	3284	4.10
25-FEB-1994 01:00	0	73105	1754522	0	0	0	0	0	0	0	73105	838	11.30	7.86	3284	3.65
25-FEB-1994 02:00	0	47456	1138933	0	0	0	0	0	0	0	47456	844	11.37	7.87	3284	3.90
25-FEB-1994 03:00	0	47660	1143843	0	0	0	0	0	0	0	47660	829	11.33	7.91	3284	4.40
25-FEB-1994 06:00	0	27414	657946	0	0	0	0	0	0	0	27414	585	10.75	7.92	3284	5.85
25-FEB-1994 08:00	0	328606	7886542	0	0	0	0	0	0	0	328606	478	10.55	7.86	3284	5.95
25-FEB-1994 10:00	0	111862	2684692	0	0	0	0	0	0	0	111862	578	10.77	7.81	3284	4.80
25-FEB-1994 12:00	0	18276	438630	0	0	0	0	0	0	0	18276	665	11.09	7.80	3284	4.40
25-FEB-1994 15:00	0	8846	212297	0	0	0	0	0	0	0	8846	794	11.55	7.84	3284	5.35
25-FEB-1994 17:00	0	128075	3073801	0	0	0	0	0	0	0	128075	489	10.90	7.79	3284	6.35
26-FEB-1994 00:00	0	123005	2952121	0	0	0	0	0	0	0	123005	630	11.13	7.77	3301	4.40
26-FEB-1994 01:00	0	170301	4087225	0	0	0	0	0	0	0	170301	701	11.38	7.82	3301	3.75

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, µS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
26-FEB-1994 04:00	0	9459	227017	0	0	0	0	0	0	0	9459	762	11.86	7.87	3301	4.50
26-FEB-1994 06:00	0	45365	1088756	0	0	0	0	0	0	0	45365	643	11.33	7.88	3301	5.45
26-FEB-1994 07:00	5879	299912	7338991	0	0	0	0	0	0	5879	299912	513	11.00	7.88	3301	5.55
26-FEB-1994 10:00	0	67874	1628978	0	0	0	0	0	0	0	67874	544	11.14	7.75	3301	5.75
26-FEB-1994 12:00	0	8484	203622	0	0	0	0	0	0	0	8484	672	11.65	7.80	3301	4.45
26-FEB-1994 15:00	0	182953	4390868	0	0	0	0	0	0	0	182953	783	12.33	7.87	3301	4.75
26-FEB-1994 17:00	0	17099	410377	0	0	0	0	0	0	0	17099	678	11.74	7.82	3301	5.90
27-FEB-1994 00:00	0	102157	2451766	0	0	0	0	0	0	0	102157	602	11.51	7.74	3249	4.90
27-FEB-1994 02:00	0	17227	413454	0	0	0	0	0	0	0	17227	811	12.22	7.84	3249	4.05
27-FEB-1994 07:00	0	25539	612942	0	0	0	0	0	0	0	25539	561	11.39	7.81	3249	5.80
27-FEB-1994 08:00	0	8480	203522	0	0	0	0	0	0	0	8480	498	11.18	7.84	3249	6.25
27-FEB-1994 10:00	0	158058	3793400	0	0	0	0	0	0	0	158058	489	11.18	7.78	3249	6.00
27-FEB-1994 11:00	0	16267	390399	0	0	0	0	0	0	0	16267	574	11.58	7.75	3249	5.70
27-FEB-1994 13:00	0	117808	2827389	0	0	0	0	0	0	0	117808	715	12.20	7.79	3249	4.55
27-FEB-1994 14:00	5609	58904	1548303	0	0	0	0	0	0	5609	58904	829	12.57	7.80	3249	4.20
27-FEB-1994 16:00	0	0	0	0	11666	0	11666	0	0	11666	0	874	13.07	7.86	3249	4.70
27-FEB-1994 18:00	0	263905	6333728	0	0	0	0	0	0	0	263905	729	12.33	7.81	3249	5.50
27-FEB-1994 21:00	0	344545	8269078	0	0	0	0	0	0	0	344545	478	11.60	7.69	3249	5.90
27-FEB-1994 22:00	0	185841	4460194	0	0	0	0	0	0	0	185841	482	11.62	7.69	3249	5.70
27-FEB-1994 23:00	0	212002	5088047	0	0	0	0	0	0	0	212002	537	11.75	7.67	3249	5.15
28-FEB-1994 00:00	0	559330	13423929	0	0	0	0	0	0	0	559330	695	12.11	7.70	3233	4.70
28-FEB-1994 01:00	0	210686	5056458	0	0	0	0	0	0	0	210686	666	12.01	7.76	3233	4.15
28-FEB-1994 02:00	0	35544	853062	0	0	0	0	0	0	0	35544	860	12.60	7.81	3233	3.65
28-FEB-1994 03:00	0	27793	667022	0	0	0	0	0	0	0	27793	887	12.96	7.86	3233	3.35
28-FEB-1994 04:00	0	18931	454348	0	0	0	0	0	0	0	18931	941	13.14	7.87	3233	3.80
28-FEB-1994 06:00	0	27327	655859	0	0	0	0	0	0	0	27327	855	12.87	7.93	3233	4.60
28-FEB-1994 10:00	0	177894	4269460	0	0	0	0	0	0	0	177894	475	11.53	7.73	3233	5.40
28-FEB-1994 12:00	17071	128064	3483249	0	0	0	0	0	0	17071	128064	528	11.91	7.68	3233	5.50
28-FEB-1994 14:00	5624	25315	742543	0	0	0	0	0	0	5624	25315	847	13.27	7.82	3233	4.45
28-FEB-1994 17:00	0	305872	7340918	0	0	0	0	0	0	0	305872	990	14.05	7.93	3233	4.35
28-FEB-1994 21:00	0	418986	10055673	0	0	0	0	0	0	0	418986	499	12.06	7.71	3233	5.50
28-FEB-1994 22:00	0	610244	14645851	0	0	0	0	0	0	0	610244	488	12.13	7.70	3233	5.70
01-MAR-1994 00:00	5449	482311	11706229	0	0	0	0	0	0	5449	482311	647	12.63	7.68	3217	4.70
01-MAR-1994 02:00	0	274000	6575997	0	0	0	0	0	0	0	274000	730	12.73	7.75	3217	3.70
01-MAR-1994 05:00	0	391392	9393419	0	0	0	0	0	0	0	391392	1019	13.75	7.89	3217	3.45
01-MAR-1994 07:00	0	27079	649894	0	0	0	0	0	0	0	27079	646	12.57	7.77	3217	4.20
01-MAR-1994 10:00	0	147309	3535421	0	0	0	0	0	0	0	147309	488	12.04	7.63	3217	5.00
01-MAR-1994 13:00	0	136397	3273538	0	0	0	0	0	0	0	136397	514	12.60	7.67	3217	5.25
01-MAR-1994 16:00	0	8495	203888	0	0	0	0	0	0	0	8495	947	14.23	7.84	3217	3.65
01-MAR-1994 17:00	0	16793	403035	0	0	0	0	0	0	0	16793	996	14.61	7.91	3217	3.50
01-MAR-1994 22:00	0	205143	4923436	0	0	0	0	0	0	0	205143	496	12.54	7.76	3217	5.80
01-MAR-1994 23:00	0	219065	5257565	0	0	0	0	0	0	0	219065	477	12.54	7.77	3217	5.75
02-MAR-1994 02:00	0	277173	6652140	0	0	0	0	0	0	0	277173	702	13.18	7.73	3218	3.65

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, µS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
02-MAR-1994 03:00	0	221121	5306902	0	0	0	0	0	0	0	221121	561	12.79	7.58	3218	3.20
02-MAR-1994 04:00	6018	63204	1661324	0	0	0	0	0	0	6018	63204	990	14.29	7.76	3218	2.95
02-MAR-1994 09:00	0	8703	208866	0	0	0	0	0	0	0	8703	467	12.46	7.66	3218	5.90
02-MAR-1994 12:00	0	23053	553273	0	0	0	0	0	0	0	23053	468	12.72	7.68	3218	5.90
02-MAR-1994 15:00	0	127470	3059273	0	0	0	0	0	0	0	127470	733	14.14	7.81	3218	3.65
02-MAR-1994 16:00	0	84318	2023644	0	0	0	0	0	0	0	84318	495	13.05	7.73	3218	3.00
02-MAR-1994 22:00	0	349789	8394934	0	0	0	0	0	0	0	349789	614	13.45	7.26	3218	4.90
03-MAR-1994 01:00	0	109029	2616707	0	0	0	0	0	0	0	109029	487	13.11	7.22	2882	4.75
03-MAR-1994 04:00	0	79213	1901118	0	0	0	0	0	0	0	79213	869	14.38	7.39	2882	3.30
03-MAR-1994 06:00	0	163774	3930581	0	0	0	0	0	0	0	163774	1119	15.33	7.42	2882	3.45
03-MAR-1994 09:00	0	183690	4408559	0	0	0	0	0	0	0	183690	488	13.03	7.17	2882	5.40
03-MAR-1994 12:00	0	130347	3128332	0	0	0	0	0	0	0	130347	452	13.06	7.22	2882	6.60
03-MAR-1994 13:00	0	462788	11106915	0	0	0	0	0	0	0	462788	459	13.15	7.26	2882	6.05
03-MAR-1994 14:00	0	582217	13973215	0	0	0	0	0	0	0	582217	485	13.43	7.23	2882	5.30
03-MAR-1994 15:00	0	47528	1140671	0	0	0	0	0	0	0	47528	540	13.73	7.23	2882	4.90
03-MAR-1994 16:00	0	15843	380224	0	0	0	0	0	0	0	15843	681	14.26	7.34	2882	4.90
04-MAR-1994 03:00	0	154699	3712774	0	0	0	0	0	0	0	154699	609	13.74	7.24	2713	5.15
04-MAR-1994 04:00	0	332167	7972017	0	0	0	0	0	0	0	332167	648	13.87	7.27	2713	4.70
04-MAR-1994 06:00	0	61409	1473818	0	0	0	0	0	7674	0	69084	1080	15.48	7.46	2713	4.35
04-MAR-1994 10:00	0	21243	509838	0	0	0	0	0	0	0	21243	541	13.65	7.15	2713	5.90
04-MAR-1994 11:00	0	6868	164835	0	0	0	0	0	0	0	6868	483	13.51	7.08	2713	6.40
04-MAR-1994 14:00	0	20839	500146	0	0	0	0	0	0	0	20839	461	13.75	7.11	2713	6.25
04-MAR-1994 17:00	4970	164050	4056483	0	0	0	0	0	0	4970	164050	883	15.52	7.43	2713	4.90
04-MAR-1994 18:00	0	178047	4273136	0	0	0	0	0	0	0	178047	1051	15.71	7.48	2713	4.25
05-MAR-1994 01:00	0	28967	695200	0	0	0	0	0	0	0	28967	1002	15.83	7.36	2710	5.40
05-MAR-1994 02:00	0	71846	1724315	0	0	0	0	0	0	0	71846	734	14.78	7.23	2710	5.55
05-MAR-1994 06:00	0	54359	1304610	0	0	0	0	0	0	0	54359	812	14.95	7.20	2710	4.20
05-MAR-1994 08:00	0	130350	3128401	0	0	0	0	0	0	0	130350	1162	16.44	7.40	2710	4.45
05-MAR-1994 11:00	0	28184	676411	0	0	0	0	0	0	0	28184	535	14.13	7.05	2710	5.95
05-MAR-1994 13:00	0	20505	492108	0	0	0	0	0	6833	0	27338	480	13.99	6.89	2710	6.55
05-MAR-1994 16:00	0	91952	2206856	0	0	0	0	0	0	0	91952	510	14.37	7.01	2710	5.85
05-MAR-1994 19:00	0	38828	931864	0	0	0	0	0	0	0	38828	1036	15.66	7.40	2710	4.20
05-MAR-1994 20:00	0	71721	1721304	0	0	0	0	0	0	0	71721	873	15.11	7.33	2710	3.75
05-MAR-1994 21:00	0	122203	2932876	0	0	0	0	0	0	0	122203	805	14.87	7.28	2710	3.35
05-MAR-1994 23:00	0	7934	190424	0	0	0	0	0	0	0	7934	1157	16.53	7.46	2710	3.60
06-MAR-1994 02:00	0	43892	1053417	0	0	0	0	0	0	0	43892	1068	16.05	7.32	2705	5.20
06-MAR-1994 04:00	0	120961	2903069	0	0	0	0	0	0	0	120961	581	14.30	6.85	2705	5.75
06-MAR-1994 08:00	0	39089	938129	0	0	0	0	0	7816	0	46905	581	14.16	6.94	2705	4.05
06-MAR-1994 09:00	0	30486	731662	0	0	0	0	0	0	0	30486	1027	15.60	7.21	2705	4.50
06-MAR-1994 14:00	0	47225	1133399	0	0	0	0	0	0	0	47225	482	14.26	6.83	2705	6.70
06-MAR-1994 15:00	0	26986	647656	0	0	0	0	0	0	0	26986	485	14.29	6.87	2705	6.70
06-MAR-1994 19:00	5017	127959	3191421	0	0	0	0	0	0	5017	127959	1033	15.96	7.30	2705	4.70
06-MAR-1994 21:00	0	240731	5777551	0	0	0	0	0	0	0	240731	1143	15.70	7.33	2705	3.65

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, µS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
06-MAR-1994 23:00	0	123633	2967204	0	0	0	0	0	0	0	123633	926	15.74	7.22	2705	3.15
07-MAR-1994 02:00	0	15003	360075	0	0	0	0	0	0	0	15003	1102	16.36	7.21	2707	4.80
07-MAR-1994 04:00	0	21615	518764	0	0	0	0	0	0	0	21615	981	15.76	7.10	2707	5.50
07-MAR-1994 05:00	0	257348	6176347	0	0	0	0	0	0	0	257348	740	15.03	6.96	2707	5.65
07-MAR-1994 10:00	0	0	0	0	0	0	0	0	0	0	0	1067	15.99	7.17	2707	4.85
07-MAR-1994 13:00	4691	35191	957164	0	0	0	0	0	0	4691	35191	797	15.40	6.98	2707	5.95
08-MAR-1994 18:00	0	156939	3766526	0	0	0	0	0	0	0	156939	493	14.92	6.82	2239	6.60
08-MAR-1994 20:00	0	23744	569851	0	0	0	0	0	0	0	23744	984	15.99	7.12	2239	5.50
08-MAR-1994 21:00	0	48637	1167276	0	0	0	0	0	0	0	48637	1044	16.10	7.14	2239	5.15
08-MAR-1994 23:00	0	211724	5081376	0	0	0	0	0	6414	0	218138	1272	16.23	7.22	2239	4.20
09-MAR-1994 00:00	0	11572	277728	0	0	0	0	0	0	0	11572	1181	16.05	7.15	2002	4.00
09-MAR-1994 02:00	0	11005	264125	0	0	0	0	0	0	0	11005	954	15.73	6.97	2002	4.95
09-MAR-1994 09:00	0	26331	631939	0	0	0	0	0	0	0	26331	920	15.57	7.04	2002	5.70
09-MAR-1994 12:00	0	32881	789153	0	0	0	0	0	0	0	32881	840	15.71	6.90	2002	4.95
09-MAR-1994 13:00	0	10615	254766	0	0	0	0	0	0	0	10615	919	15.74	6.95	2002	5.55
09-MAR-1994 16:00	0	15091	362186	0	0	0	0	0	0	0	15091	850	15.81	6.89	2002	6.40
09-MAR-1994 18:00	0	74346	1784299	0	0	0	0	0	0	0	74346	525	15.24	6.62	2002	6.75
09-MAR-1994 19:00	0	108245	2597869	0	0	0	0	0	0	0	108245	521	15.23	6.80	2002	6.45
09-MAR-1994 20:00	0	28992	695813	0	0	0	0	0	0	0	28992	723	15.58	6.98	2002	6.10
09-MAR-1994 22:00	0	15320	367674	0	0	0	0	0	0	0	15320	1000	15.93	7.08	2002	5.15
10-MAR-1994 04:00	0	10955	262920	0	0	0	0	0	0	0	10955	930	15.79	6.96	2001	5.80
10-MAR-1994 09:00	0	5123	122962	0	0	0	0	0	0	0	5123	795	15.33	7.04	2001	5.95
10-MAR-1994 11:00	0	0	0	0	0	0	0	0	0	0	0	906	15.64	7.03	2001	5.00
10-MAR-1994 12:00	0	5183	124381	0	0	0	0	0	0	0	5183	1004	15.87	7.10	2001	4.70
10-MAR-1994 21:00	0	5085	122034	0	0	0	0	0	0	0	5085	769	15.57	7.05	2001	5.95
11-MAR-1994 00:00	0	46403	1113662	0	0	0	0	0	0	0	46403	1120	15.95	7.17	2006	4.60
11-MAR-1994 01:00	0	26179	628293	0	0	0	0	0	0	0	26179	1111	15.85	7.13	2006	4.40
11-MAR-1994 03:00	0	23290	558964	0	0	0	0	0	0	0	23290	939	15.70	7.02	2006	5.25
11-MAR-1994 05:00	0	26802	643253	0	0	0	0	0	0	0	26802	929	15.75	7.03	2006	5.65
11-MAR-1994 07:00	3463	72737	1828798	0	0	0	0	0	0	3463	72737	694	15.03	6.78	2006	6.25
11-MAR-1994 08:00	0	15707	376976	0	0	0	0	0	0	0	15707	548	14.70	6.66	2006	6.25
11-MAR-1994 09:00	0	20545	493079	0	0	0	0	0	0	0	20545	530	14.67	6.69	2006	6.10
11-MAR-1994 11:00	0	10006	240148	0	0	0	0	0	0	0	10006	870	15.53	7.16	2006	5.40
11-MAR-1994 13:00	0	15955	382913	0	0	0	0	0	5317	0	21272	991	15.76	7.16	2006	4.70
11-MAR-1994 15:00	0	0	0	0	0	0	0	0	0	0	0	930	15.89	7.12	2006	5.60
11-MAR-1994 17:00	0	5156	123740	0	0	0	0	0	0	0	5156	884	15.63	7.09	2006	6.50
11-MAR-1994 20:00	0	26179	628293	0	0	0	0	0	0	0	26179	483	15.02	6.75	2006	6.80
11-MAR-1994 22:00	0	29798	715146	0	0	0	0	0	0	0	29798	838	15.30	7.19	2006	5.80
12-MAR-1994 00:00	4412	19860	582533	0	0	0	0	0	0	4412	19860	1047	15.52	7.26	2497	4.90
12-MAR-1994 01:00	0	68631	1647152	0	0	0	0	0	0	0	68631	1145	15.46	7.28	2497	4.50
12-MAR-1994 03:00	0	35474	851376	0	0	0	0	0	0	0	35474	874	15.18	6.99	2497	4.90
12-MAR-1994 07:00	0	6672	160140	0	0	0	0	0	6671	0	13344	860	15.19	7.03	2497	6.30
12-MAR-1994 11:00	0	195519	4692467	0	0	0	0	0	0	0	195519	740	15.07	7.10	2497	5.10

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping					
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, µS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
12-MAR-1994 12:00	0	6726	161421	0	0	0	0	0	0	0	6726	723	15.09	7.09	2497	4.90
12-MAR-1994 13:00	0	40355	968525	0	0	0	0	0	0	0	40355	899	15.41	7.24	2497	4.30
12-MAR-1994 14:00	0	6753	162069	0	0	0	0	0	0	0	6753	873	15.54	7.22	2497	4.10
12-MAR-1994 17:00	0	0	0	0	0	0	0	0	0	0	0	880	15.61	7.14	2497	5.35
12-MAR-1994 21:00	0	197820	4747672	0	0	0	0	0	0	0	197820	563	15.17	6.87	2497	5.65
12-MAR-1994 22:00	0	201776	4842626	0	0	0	0	0	0	0	201776	723	15.32	7.10	2497	5.25
12-MAR-1994 23:00	0	90327	2167842	0	0	0	0	0	0	0	90327	811	15.37	7.19	2497	4.75
13-MAR-1994 01:00	0	80337	1928086	0	0	0	0	0	0	0	80337	1016	15.53	7.26	2732	3.75
13-MAR-1994 02:00	0	65123	1562944	0	0	0	0	0	0	0	65123	906	15.48	7.10	2732	3.50
13-MAR-1994 05:00	0	15018	360434	0	0	0	0	0	0	0	15018	871	15.33	7.04	2732	4.90
13-MAR-1994 08:00	0	70758	1698198	0	0	0	0	0	0	0	70758	499	14.63	6.64	2732	6.05
13-MAR-1994 09:00	0	21146	507508	0	0	0	0	0	0	0	21146	483	14.55	6.64	2732	6.10
13-MAR-1994 10:00	0	21475	515406	0	0	0	0	0	0	0	21475	493	14.64	6.72	2732	5.80
13-MAR-1994 12:00	0	53658	1287801	0	0	0	0	0	0	0	53658	787	15.51	7.18	2732	4.60
13-MAR-1994 13:00	0	115948	2782762	0	0	0	0	0	0	0	115948	811	15.61	7.19	2732	4.40
13-MAR-1994 14:00	0	7999	191970	0	0	0	0	0	0	0	7999	878	15.88	7.24	2732	3.85
13-MAR-1994 16:00	0	23288	558901	0	0	0	0	0	0	0	23288	909	15.91	7.23	2732	4.35
13-MAR-1994 18:00	0	21989	527727	0	0	0	0	0	0	0	21989	844	15.59	7.10	2732	5.40
13-MAR-1994 20:00	0	94159	2259808	0	0	0	0	0	0	0	94159	530	15.12	6.75	2732	5.55
14-MAR-1994 00:00	15417	84811	2405468	0	0	0	0	0	0	15417	84811	699	15.37	7.09	2725	4.40
14-MAR-1994 01:00	0	111696	2680698	0	0	0	0	0	0	0	111696	722	15.43	7.07	2725	3.80
14-MAR-1994 02:00	0	155647	3735538	0	0	0	0	0	0	0	155647	696	15.31	7.02	2725	3.40
14-MAR-1994 08:00	0	42510	1020232	0	0	0	0	0	0	0	42510	477	14.93	6.53	2725	5.95
14-MAR-1994 10:00	0	0	0	0	0	0	0	0	0	0	0	473	14.91	6.64	2725	5.95
14-MAR-1994 12:00	0	13745	329888	0	0	0	0	0	0	0	13745	620	15.44	6.93	2725	5.10
14-MAR-1994 18:00	0	98574	2365787	0	0	0	0	0	0	0	98574	889	16.09	7.21	2725	4.65
14-MAR-1994 19:00	0	52643	1263444	0	0	0	0	0	0	0	52643	869	15.95	7.18	2725	4.85
14-MAR-1994 22:00	0	0	0	0	0	0	0	0	0	0	0	453	15.55	6.78	2725	5.85
15-MAR-1994 02:00	0	112898	2709542	0	0	0	0	0	0	0	112898	586	15.50	6.90	2716	3.85
15-MAR-1994 05:00	0	0	0	0	0	0	0	0	0	0	0	888	15.76	7.00	2716	4.35
15-MAR-1994 06:00	0	77171	1852092	0	0	0	0	0	0	0	77171	821	15.70	6.90	2716	4.65
15-MAR-1994 20:00	0	23348	560356	0	0	0	0	0	0	0	23348	779	15.84	6.95	2716	5.50
15-MAR-1994 21:00	0	175273	4206564	0	0	0	0	0	0	0	175273	545	15.60	6.70	2716	5.80
15-MAR-1994 22:00	0	193653	4647661	0	0	0	0	0	0	0	193653	463	15.54	6.62	2716	5.90
15-MAR-1994 23:00	0	105806	2539356	0	0	0	0	0	0	0	105806	454	15.52	6.72	2716	5.60
16-MAR-1994 00:00	0	72894	1749448	0	0	0	0	0	0	0	72894	586	15.57	6.97	1933	4.95
16-MAR-1994 01:00	0	120235	2885635	0	0	0	0	0	0	0	120235	763	15.69	7.14	1933	4.05
16-MAR-1994 02:00	0	102197	2452738	0	0	0	0	0	0	0	102197	676	15.64	7.02	1933	3.75
16-MAR-1994 10:00	0	20580	493915	0	0	0	0	0	0	0	20580	453	15.34	6.55	1933	6.85
16-MAR-1994 11:00	0	0	0	0	0	0	0	0	0	0	0	460	15.40	6.59	1933	6.60
16-MAR-1994 14:00	0	25032	600772	0	0	0	0	0	0	0	25032	799	15.85	7.11	1933	5.00
16-MAR-1994 15:00	0	5045	121086	0	0	0	0	0	0	0	5045	1000	16.11	7.31	1933	4.60
16-MAR-1994 16:00	0	5228	125462	0	0	0	0	0	0	0	5228	1078	16.22	7.25	1933	4.20

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, uS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
16-MAR-1994 17:00	0	10455	250925	0	0	0	0	0	0	0	10455	885	16.00	7.12	1933	4.05
16-MAR-1994 21:00	0	41989	1007747	0	0	0	0	0	0	0	41989	848	15.65	7.07	1933	5.55
16-MAR-1994 22:00	0	10497	251937	0	0	0	0	0	0	0	10497	698	15.46	6.79	1933	6.00
16-MAR-1994 23:00	0	5207	124961	0	0	0	0	0	0	0	5207	520	15.29	6.56	1933	6.15
17-MAR-1994 00:00	0	42563	1021508	0	0	0	0	0	0	0	42563	478	15.22	6.72	1991	5.70
17-MAR-1994 01:00	0	88343	2120223	0	0	0	0	0	5195	0	93538	746	15.28	6.77	1991	5.00
17-MAR-1994 02:00	0	63844	1532262	0	0	0	0	0	0	0	63844	769	15.30	6.80	1991	4.75
17-MAR-1994 03:00	0	129227	3101446	0	0	0	0	0	0	0	129227	814	15.27	6.98	1991	4.40
17-MAR-1994 05:00	0	38781	930754	0	0	0	0	0	0	0	38781	865	15.24	6.86	1991	4.80
17-MAR-1994 12:00	0	0	0	0	0	0	0	0	0	0	0	474	15.12	6.77	1991	6.10
17-MAR-1994 13:00	0	10313	247519	0	0	0	0	0	0	0	10313	510	15.42	6.87	1991	5.70
17-MAR-1994 15:00	0	42903	1029680	0	0	0	0	0	0	0	42903	1000	15.98	7.35	1991	4.50
17-MAR-1994 16:00	0	21452	514840	0	0	0	0	0	0	0	21452	1111	16.11	7.38	1991	4.10
17-MAR-1994 17:00	0	21538	516908	0	0	0	0	0	0	0	21538	1088	16.10	7.34	1991	3.85
17-MAR-1994 19:00	0	22161	531860	0	0	0	0	0	0	0	22161	819	15.86	7.06	1991	4.35
17-MAR-1994 20:00	0	45837	1100086	0	0	0	0	0	0	0	45837	860	15.89	7.13	1991	4.70
17-MAR-1994 21:00	0	11080	265930	0	0	0	0	0	0	0	11080	848	15.81	7.14	1991	5.25
17-MAR-1994 22:00	0	11219	269268	0	0	0	0	0	0	0	11219	843	15.69	7.14	1991	5.60
17-MAR-1994 23:00	0	5657	135770	0	0	0	0	0	0	0	5657	814	15.57	7.12	1991	5.95
18-MAR-1994 00:00	0	11166	267994	0	0	0	0	0	0	0	11166	670	15.44	6.97	1965	5.70
18-MAR-1994 01:00	0	25946	622692	0	0	0	0	0	0	0	25946	688	15.43	7.02	1965	5.45
18-MAR-1994 02:00	0	0	0	0	0	0	0	0	0	0	0	721	15.43	7.09	1965	5.20
18-MAR-1994 04:00	0	57760	1386232	0	0	0	0	0	0	0	57760	627	15.32	6.98	1965	4.65
18-MAR-1994 10:00	0	0	0	0	0	0	0	0	0	0	0	464	15.37	6.73	1965	6.80
18-MAR-1994 11:00	0	0	0	0	0	0	0	0	0	0	0	451	15.37	6.77	1965	6.75
18-MAR-1994 23:00	0	21342	512215	0	0	0	0	0	0	0	21342	813	15.84	7.16	1965	5.40
19-MAR-1994 00:00	0	6509	156228	0	0	0	0	0	0	0	6509	694	15.77	7.05	2407	5.90
19-MAR-1994 02:00	0	39057	937366	0	0	0	0	0	0	0	39057	499	15.59	6.87	2407	5.55
19-MAR-1994 03:00	0	37549	901174	0	0	0	0	0	0	0	37549	583	15.59	7.01	2407	5.35
19-MAR-1994 04:00	0	50455	1210916	0	0	0	0	0	0	0	50455	576	15.52	7.04	2407	5.10
19-MAR-1994 05:00	0	25626	615030	0	0	0	0	0	0	0	25626	594	15.52	7.06	2407	5.00
19-MAR-1994 07:00	0	39857	956574	0	0	0	0	0	0	0	39857	822	15.40	7.12	2407	5.80
19-MAR-1994 18:00	0	38138	915310	0	0	0	0	0	0	0	38138	774	16.20	7.19	2407	3.75
20-MAR-1994 06:00	0	72026	1728632	0	0	0	0	0	0	0	72026	718	15.30	7.16	2674	4.80
20-MAR-1994 07:00	0	7290	174963	0	0	0	0	0	0	0	7290	816	15.06	7.22	2674	4.90
20-MAR-1994 11:00	0	94417	2265997	0	0	0	0	0	6743	0	101159	453	15.65	6.91	2674	6.65
20-MAR-1994 13:00	0	14178	340282	0	0	0	0	0	0	0	14178	436	15.77	6.98	2674	6.60
20-MAR-1994 15:00	0	0	0	0	0	0	0	0	0	0	0	564	16.16	7.18	2674	5.50
21-MAR-1994 12:00	0	0	0	0	0	0	0	0	0	0	0	445	15.84	6.90	2378	6.30
21-MAR-1994 15:00	0	5975	143403	0	0	0	0	0	0	0	5975	465	16.03	7.03	2378	6.20
21-MAR-1994 16:00	0	12086	290053	0	0	0	0	0	0	0	12086	517	16.30	7.14	2378	5.60
21-MAR-1994 17:00	0	11646	279505	0	0	0	0	0	0	0	11646	607	16.20	7.23	2378	5.25
21-MAR-1994 18:00	0	0	0	0	0	0	0	0	0	0	0	725	16.02	7.30	2378	4.80

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, µS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
21-MAR-1994 20:00	0	13072	313731	0	0	0	0	0	0	0	13072	867	15.86	7.32	2378	3.90
21-MAR-1994 21:00	0	6814	163540	0	0	0	0	0	0	0	6814	902	15.80	7.30	2378	3.50
21-MAR-1994 22:00	4503	6757	270244	0	0	0	0	0	0	4503	6757	657	15.70	7.05	2378	3.55
21-MAR-1994 23:00	0	6902	165655	0	0	0	0	0	0	0	6902	794	15.65	7.21	2378	4.15
22-MAR-1994 02:00	0	5790	138960	0	0	0	0	0	0	0	5790	775	15.54	7.24	1969	5.00
22-MAR-1994 03:00	0	66296	1591098	0	0	0	0	0	0	0	66296	736	15.38	7.24	1969	5.45
22-MAR-1994 04:00	0	113812	2731498	0	0	0	0	0	0	0	113812	553	15.26	7.04	1969	5.75
22-MAR-1994 08:00	0	0	0	0	0	0	0	0	0	0	0	551	15.01	7.23	1969	5.35
22-MAR-1994 09:00	0	71671	1720106	0	0	0	0	0	0	0	71671	505	15.12	7.17	1969	5.35
22-MAR-1994 12:00	0	14842	356216	0	0	0	0	0	9893	0	24735	564	15.33	7.14	1969	6.20
22-MAR-1994 13:00	0	14732	353577	0	0	0	0	0	0	0	14732	482	15.40	7.03	1969	6.25
22-MAR-1994 14:00	0	0	0	0	0	0	0	0	4820	0	4820	451	15.39	7.02	1969	6.90
22-MAR-1994 18:00	0	70581	1693944	0	0	0	0	0	0	0	70581	587	15.52	7.29	1969	5.75
22-MAR-1994 19:00	0	56096	1346313	0	0	0	0	0	5099	0	61195	696	15.46	7.39	1969	5.40
22-MAR-1994 20:00	0	26308	631388	0	0	0	0	0	0	0	26308	741	15.34	7.37	1969	4.90
22-MAR-1994 21:00	0	58108	1394588	0	0	0	0	0	5281	0	63389	806	15.19	7.37	1969	4.50
22-MAR-1994 23:00	3682	5525	220967	0	0	0	0	0	5523	3682	11048	704	14.99	7.17	1969	4.20
23-MAR-1994 01:00	0	22180	532314	0	0	0	0	0	0	0	22180	804	14.99	7.28	1968	5.05
23-MAR-1994 02:00	0	11327	271844	0	0	0	0	0	0	0	11327	790	14.93	7.29	1968	5.55
23-MAR-1994 03:00	0	16361	392664	0	0	0	0	0	0	0	16361	782	14.84	7.29	1968	5.55
23-MAR-1994 04:00	0	54091	1298196	0	0	0	0	0	0	0	54091	771	14.76	7.28	1968	5.80
23-MAR-1994 08:00	0	25291	606981	0	0	0	0	0	5057	0	30348	749	14.61	7.36	1968	4.10
23-MAR-1994 09:00	0	21289	510936	0	0	0	0	0	0	0	21289	744	14.57	7.38	1968	4.75
23-MAR-1994 10:00	0	99132	2379173	0	0	0	0	0	0	0	99132	705	14.58	7.34	1968	4.65
23-MAR-1994 11:00	0	10952	262858	0	0	0	0	0	0	0	10952	686	14.57	7.29	1968	5.00
23-MAR-1994 12:00	0	27157	651758	0	0	0	0	0	0	0	27157	806	14.63	7.45	1968	5.50
23-MAR-1994 14:00	0	0	0	0	0	0	0	0	0	0	0	637	14.84	7.26	1968	6.20
23-MAR-1994 15:00	0	5238	125715	0	0	0	0	0	0	0	5238	498	14.86	7.03	1968	6.40
23-MAR-1994 17:00	0	5039	120935	0	0	0	0	0	5038	0	10077	462	14.83	7.10	1968	6.20
23-MAR-1994 19:00	0	9927	238246	0	0	0	0	0	0	0	9927	693	14.80	7.44	1968	5.20
23-MAR-1994 20:00	0	5058	121396	0	0	0	0	0	0	0	5058	764	14.73	7.50	1968	4.70
23-MAR-1994 21:00	0	10273	246557	0	0	0	0	0	0	0	10273	821	14.64	7.49	1968	4.30
24-MAR-1994 00:00	0	55548	1333152	0	0	0	0	0	0	0	55548	722	14.48	7.25	1955	3.70
24-MAR-1994 04:00	3656	21941	614342	0	0	0	0	0	0	3656	21941	758	14.43	7.37	1955	5.20
24-MAR-1994 07:00	0	20814	499537	0	0	0	0	0	15607	0	36421	474	14.15	7.08	1955	5.60
24-MAR-1994 10:00	0	4987	119681	0	0	0	0	0	0	0	4987	757	14.19	7.53	1955	4.40
24-MAR-1994 13:00	0	5395	129491	0	0	0	0	0	0	0	5395	787	13.94	7.61	1955	4.90
24-MAR-1994 16:00	3349	10050	321567	0	0	0	0	0	0	3349	10050	582	14.23	7.25	1955	5.70
24-MAR-1994 22:00	0	5063	121522	0	0	0	0	0	0	0	5063	854	13.80	7.56	1955	4.20
25-MAR-1994 02:00	0	28235	677648	0	0	0	0	0	0	0	28235	806	13.71	7.50	1912	4.70
25-MAR-1994 08:00	0	4914	117942	0	0	0	0	0	0	0	4914	488	13.73	7.08	1912	5.80
25-MAR-1994 11:00	0	39616	950792	0	0	0	0	0	0	0	39616	792	13.87	7.60	1912	4.60
25-MAR-1994 12:00	0	41201	988824	0	0	0	0	0	0	0	41201	785	13.99	7.57	1912	4.45

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, uS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
25-MAR-1994 13:00	0	25445	610687	0	0	0	0	0	0	0	25445	726	13.93	7.52	1912	4.95
25-MAR-1994 14:00	0	0	0	0	0	0	0	0	0	0	0	808	13.90	7.66	1912	5.50
25-MAR-1994 15:00	3446	20683	579113	0	0	0	0	0	0	3446	20683	774	14.07	7.65	1912	5.95
25-MAR-1994 17:00	0	19434	466426	0	0	0	0	0	0	0	19434	577	14.17	7.33	1912	6.25
25-MAR-1994 20:00	0	31403	753677	0	0	0	0	0	0	0	31403	531	14.30	7.29	1912	5.95
25-MAR-1994 23:00	0	14856	356547	0	0	0	0	3301	0	3301	14856	828	14.03	7.69	1912	4.55
26-MAR-1994 00:00	0	9908	237796	0	0	0	0	0	0	0	9908	902	14.00	7.64	1876	4.20
26-MAR-1994 03:00	0	26319	631644	0	0	0	0	0	0	0	26319	818	13.89	7.59	1876	5.45
26-MAR-1994 08:00	0	0	0	0	0	0	0	0	0	0	0	467	14.01	7.13	1876	6.30
26-MAR-1994 11:00	0	18785	450839	0	0	0	0	0	0	0	18785	802	14.15	7.74	1876	5.00
26-MAR-1994 13:00	0	34679	832284	0	0	0	0	0	0	0	34679	875	14.51	7.73	1876	4.45
26-MAR-1994 14:00	0	49541	1188978	0	0	0	0	0	0	0	49541	811	14.26	7.70	1876	5.10
26-MAR-1994 15:00	0	9986	239675	0	0	0	0	0	4992	0	14979	828	14.25	7.74	1876	5.50
26-MAR-1994 17:00	0	9392	225420	0	0	0	0	0	0	0	9392	757	14.44	7.73	1876	6.00
26-MAR-1994 20:00	0	32874	788969	0	0	0	0	0	0	0	32874	477	14.96	7.25	1876	6.30
26-MAR-1994 23:00	0	4859	116611	0	0	0	0	0	0	0	4859	801	14.39	7.77	1876	4.90
27-MAR-1994 00:00	0	23455	562928	0	0	0	0	0	0	0	23455	851	14.56	7.79	1860	4.60
27-MAR-1994 07:00	0	0	0	0	0	0	0	0	0	0	0	495	14.53	7.23	1860	6.50
27-MAR-1994 10:00	0	0	0	0	0	0	0	0	0	0	0	722	14.48	7.71	1860	5.75
27-MAR-1994 12:00	0	9453	226871	0	0	0	0	0	0	0	9453	827	14.85	7.85	1860	4.85
27-MAR-1994 13:00	0	14342	344202	0	0	0	0	0	0	0	14342	907	15.24	7.97	1860	4.40
27-MAR-1994 14:00	0	24180	580316	0	0	0	0	0	0	0	24180	899	15.47	8.01	1860	4.30
27-MAR-1994 20:00	0	22773	546552	0	0	0	0	0	0	0	22773	526	15.38	7.33	1860	6.60
27-MAR-1994 23:00	0	9011	216262	0	0	0	0	0	0	0	9011	791	14.94	7.74	1860	5.25
28-MAR-1994 00:00	0	6151	147624	0	0	0	0	0	0	0	6151	829	15.07	7.79	2448	4.80
28-MAR-1994 08:00	0	0	0	0	0	0	0	0	0	0	0	480	15.24	7.27	2448	6.80
28-MAR-1994 14:00	0	101836	2444065	0	0	0	0	0	6363	0	108199	726	15.98	7.90	2448	4.30
28-MAR-1994 21:00	0	38042	912999	0	0	0	0	0	0	0	38042	463	15.82	7.29	2448	6.20
29-MAR-1994 03:00	0	0	0	0	0	0	0	0	0	0	0	795	16.06	7.75	2716	4.05
29-MAR-1994 09:00	0	7172	172136	0	0	0	0	0	0	0	7172	459	15.60	7.26	2716	7.05
29-MAR-1994 13:00	0	6675	160199	0	0	0	0	0	0	0	6675	703	16.31	7.76	2716	4.83
29-MAR-1994 15:00	0	69541	1668995	0	0	0	0	0	0	0	69541	747	16.40	7.95	2716	4.20
29-MAR-1994 23:00	0	70344	1688253	0	0	0	0	0	0	0	70344	463	15.89	7.32	2716	5.85
30-MAR-1994 01:00	0	6098	146361	0	0	0	0	0	0	0	6098	674	16.05	7.67	806	4.70
30-MAR-1994 03:00	0	0	0	0	0	0	0	0	0	0	0	552	15.84	7.48	806	4.10
30-MAR-1994 07:00	0	0	0	0	0	0	0	0	0	0	0	516	15.77	7.37	806	6.20
30-MAR-1994 08:00	0	6385	153249	0	0	0	0	0	0	0	6385	501	15.75	7.28	806	6.85
30-MAR-1994 09:00	0	0	0	0	0	0	0	0	0	0	0	469	15.74	7.19	806	7.50
30-MAR-1994 12:00	0	0	0	0	0	0	0	0	0	0	0	510	16.22	7.13	806	6.40
30-MAR-1994 13:00	0	0	0	0	0	0	0	0	0	0	0	528	16.43	7.13	806	6.00
30-MAR-1994 14:00	0	0	0	0	0	0	0	0	0	0	0	559	16.67	7.14	806	5.50
30-MAR-1994 15:00	0	0	0	0	0	0	0	0	0	0	0	591	16.85	7.15	806	4.70
30-MAR-1994 16:00	0	6144	147466	0	0	0	0	0	2048	0	8192	598	16.87	7.18	806	4.55

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, µS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
30-MAR-1994 17:00	0	10279	246708	0	0	0	0	0	2055	0	12335	654	16.91	7.33	806	4.65
30-MAR-1994 18:00	0	0	0	0	0	0	0	0	0	0	0	867	17.11	8.09	806	5.25
30-MAR-1994 19:00	0	31399	753579	0	0	0	0	0	0	0	31399	839	17.00	8.08	806	5.70
30-MAR-1994 20:00	0	26052	625255	0	0	0	0	0	0	0	26052	813	16.86	8.03	806	6.20
30-MAR-1994 21:00	0	10519	252445	0	0	0	0	0	0	0	10519	780	16.73	7.96	806	6.65
30-MAR-1994 22:00	0	16765	402352	0	0	0	0	0	0	0	16765	769	16.66	7.90	806	6.95
30-MAR-1994 23:00	0	10126	243025	0	0	0	0	0	0	0	10126	776	16.65	7.87	806	6.65
31-MAR-1994 00:00	0	4579	109886	0	0	0	0	0	0	0	4579	762	16.47	7.65	359	6.25
31-MAR-1994 01:00	0	6410	153840	0	0	0	0	0	0	0	6410	754	16.36	7.58	359	5.90
31-MAR-1994 02:00	0	13531	324737	0	0	0	0	0	0	0	13531	752	16.26	7.54	359	5.50
31-MAR-1994 03:00	0	27681	664348	0	0	0	0	0	0	0	27681	741	16.16	7.46	359	5.20
31-MAR-1994 04:00	0	21891	525375	0	0	0	0	0	0	0	21891	758	16.05	7.64	359	5.45
31-MAR-1994 06:00	0	0	0	0	0	0	0	0	0	0	0	800	16.04	7.93	359	6.40
31-MAR-1994 07:00	0	0	0	0	0	0	0	0	0	0	0	798	16.05	7.95	359	7.00
31-MAR-1994 08:00	0	956	22933	0	0	0	0	0	0	0	956	779	16.14	7.96	359	7.50
31-MAR-1994 09:00	0	0	0	0	0	0	0	0	0	0	0	755	16.19	7.89	359	7.75
31-MAR-1994 10:00	0	0	0	0	0	0	0	0	0	0	0	759	16.20	7.88	359	7.60
31-MAR-1994 11:00	0	0	0	0	0	0	0	0	0	0	0	782	16.29	7.88	359	7.20
31-MAR-1994 12:00	0	0	0	0	0	0	0	0	0	0	0	786	16.62	7.88	359	6.50
31-MAR-1994 13:00	0	0	0	0	0	0	0	0	0	0	0	770	16.73	7.75	359	6.30
31-MAR-1994 14:00	0	0	0	0	0	0	0	0	0	0	0	728	16.95	7.47	359	5.70
31-MAR-1994 15:00	0	0	0	0	0	0	0	0	0	0	0	727	16.99	7.49	359	5.15
31-MAR-1994 16:00	0	873	20946	0	0	0	0	0	0	0	873	833	16.97	8.26	359	4.60
31-MAR-1994 21:00	0	0	0	0	0	0	0	0	0	0	0	810	16.73	8.32	359	5.70
31-MAR-1994 22:00	0	0	0	0	0	0	0	0	0	0	0	806	16.72	8.32	359	6.10
01-APR-1994 00:00	0	0	0	0	0	0	0	0	0	0	0	790	16.64	8.24	973	6.35
01-APR-1994 03:00	0	0	0	0	0	0	0	0	0	0	0	807	16.43	8.21	973	5.15
01-APR-1994 12:00	0	0	0	0	0	0	0	0	0	0	0	650	16.48	7.90	973	6.85
01-APR-1994 14:00	0	0	0	0	0	0	0	0	0	0	0	737	17.16	8.24	973	5.90
01-APR-1994 16:00	0	0	0	0	0	0	0	0	0	0	0	804	17.30	8.49	973	4.80
01-APR-1994 19:00	0	0	0	0	0	0	0	0	0	0	0	927	17.29	8.65	973	4.05
01-APR-1994 22:00	0	2824	67781	0	13177	0	13177	0	0	13177	2824	803	16.94	8.42	973	5.50
02-APR-1994 00:00	0	0	0	0	0	0	0	0	0	0	0	793	16.97	8.39	2143	6.15
02-APR-1994 03:00	0	0	0	0	0	0	0	0	0	0	0	775	16.84	8.28	2143	5.60
02-APR-1994 06:00	0	0	0	0	0	0	0	0	0	0	0	816	16.59	8.32	2143	5.20
02-APR-1994 09:00	0	5446	130695	0	0	0	0	0	0	0	5446	775	16.81	8.29	2143	6.40
02-APR-1994 12:00	0	0	0	0	0	0	0	0	0	0	0	583	16.73	7.81	2143	6.85
02-APR-1994 13:00	0	5405	129715	0	0	0	0	0	0	0	5405	581	16.93	7.85	2143	6.50
02-APR-1994 14:00	0	0	0	0	0	0	0	0	0	0	0	664	17.27	8.16	2143	5.90
02-APR-1994 15:00	0	0	0	0	0	0	0	0	0	0	0	748	17.53	8.44	2143	5.60
03-APR-1994 00:00	0	0	0	0	0	0	0	0	0	0	0	770	16.95	8.41	2731	5.40
03-APR-1994 01:00	0	0	0	0	0	0	0	0	0	0	0	689	16.82	8.14	2731	5.70
03-APR-1994 02:00	0	0	0	0	0	0	0	0	0	0	0	598	16.62	7.88	2731	5.90

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, µS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
03-APR-1994 03:00	0	0	0	0	0	0	0	0	0	0	0	554	16.49	7.79	2731	5.80
03-APR-1994 04:00	0	0	0	0	0	0	0	0	0	0	0	560	16.44	7.82	2731	5.30
03-APR-1994 05:00	0	0	0	0	0	0	0	0	0	0	0	638	16.42	7.99	2731	4.80
03-APR-1994 09:00	0	119612	2870699	0	0	0	0	0	0	0	119612	771	16.51	8.34	2731	5.00
03-APR-1994 10:00	0	116303	2791273	0	0	0	0	0	0	0	116303	654	16.61	8.04	2731	5.55
03-APR-1994 20:00	0	7019	168462	0	0	0	0	0	0	0	7019	713	17.14	8.44	2731	3.45
03-APR-1994 21:00	0	22069	529644	0	0	0	0	0	0	0	22069	721	16.99	8.34	2731	3.50
03-APR-1994 22:00	0	257314	6175548	0	0	0	0	0	0	0	257314	811	17.09	8.53	2731	4.10
03-APR-1994 23:00	0	47975	1151400	0	0	0	0	0	0	0	47975	795	17.01	8.48	2731	4.40
05-APR-1994 02:00	0	33936	814471	0	0	0	0	0	0	0	33936	700	17.04	8.44	2419	5.50
05-APR-1994 08:00	0	18441	442581	0	0	0	0	0	0	0	18441	671	16.72	8.32	2419	4.75
05-APR-1994 11:00	0	6439	154524	0	0	0	0	0	6437	0	12876	808	17.15	8.79	2419	5.00
05-APR-1994 17:00	0	0	0	0	0	0	0	0	0	0	0	504	17.27	7.84	2419	5.80
05-APR-1994 20:00	0	18511	444257	0	0	0	0	0	0	0	18511	736	17.39	8.77	2419	4.30
05-APR-1994 21:00	0	6464	155137	0	0	0	0	0	0	0	6464	734	17.26	8.74	2419	3.90
05-APR-1994 23:00	0	113959	2735015	0	0	0	0	0	6702	0	120661	680	17.25	8.40	2419	3.65
06-APR-1994 00:00	0	0	0	0	0	0	0	0	6842	0	6842	834	17.60	8.76	2429	4.20
06-APR-1994 03:00	0	13803	331276	0	0	0	0	0	0	0	13803	614	17.00	8.23	2429	5.50
06-APR-1994 04:00	0	6595	158291	0	0	0	0	0	0	0	6595	525	16.91	7.86	2429	5.85
06-APR-1994 05:00	0	12879	309104	0	0	0	0	0	0	0	12879	488	16.85	7.79	2429	6.00
06-APR-1994 08:00	0	115460	2771028	0	0	0	0	0	0	0	115460	503	16.73	7.84	2429	5.25
06-APR-1994 09:00	0	104930	2518324	0	0	0	0	0	0	0	104930	684	16.84	8.36	2429	4.70
06-APR-1994 10:00	0	6243	149833	0	0	0	0	0	0	0	6243	652	17.01	8.43	2429	4.35
06-APR-1994 11:00	0	50719	1217248	0	0	0	0	0	0	0	50719	534	17.16	7.96	2429	4.40
06-APR-1994 12:00	0	26382	633165	0	0	0	0	0	0	0	26382	814	17.44	8.68	2429	4.90
06-APR-1994 13:00	0	13518	324432	0	0	0	0	0	0	0	13518	785	17.39	8.65	2429	5.25
06-APR-1994 14:00	0	19867	476796	0	0	0	0	0	0	0	19867	661	17.17	8.38	2429	5.70
06-APR-1994 15:00	0	6243	149833	0	0	0	0	0	0	0	6243	529	16.91	7.95	2429	6.00
06-APR-1994 16:00	0	25359	608624	0	0	0	0	0	0	0	25359	509	17.02	7.87	2429	6.00
06-APR-1994 17:00	0	6243	149833	0	0	0	0	0	0	0	6243	488	17.10	7.83	2429	5.95
06-APR-1994 18:00	0	5948	142750	0	0	0	0	0	0	0	5948	490	17.13	7.85	2429	5.70
06-APR-1994 19:00	0	12116	290787	0	0	0	0	0	6057	0	18173	535	16.93	7.97	2429	5.15
06-APR-1994 20:00	0	0	0	0	0	0	0	0	6079	0	6079	618	17.00	8.29	2429	4.70
06-APR-1994 21:00	0	5991	143796	0	0	0	0	0	0	0	5991	684	17.02	8.51	2429	4.30
06-APR-1994 22:00	0	0	0	0	0	0	0	0	0	0	0	637	16.84	8.52	2429	3.85
06-APR-1994 23:00	0	19243	461838	0	0	0	0	0	0	0	19243	537	16.65	8.14	2429	3.60
07-APR-1994 00:00	0	157413	3777907	0	0	0	0	0	0	0	157413	785	17.03	8.57	2435	4.05
07-APR-1994 01:00	0	0	0	0	0	0	0	0	7128	0	7128	814	17.02	8.65	2435	4.50
07-APR-1994 02:00	0	20243	485842	0	0	0	0	0	0	0	20243	792	16.93	8.62	2435	4.90
07-APR-1994 03:00	0	0	0	0	0	0	0	0	0	0	0	630	16.70	8.27	2435	5.45
07-APR-1994 05:00	0	13440	322567	0	0	0	0	0	6719	0	20159	484	16.49	7.82	2435	6.15
07-APR-1994 20:00	0	0	0	0	0	0	0	0	0	0	0	521	16.72	7.95	2435	5.05
07-APR-1994 22:00	0	25034	600812	0	0	0	0	0	0	0	25034	700	16.81	8.56	2435	4.20

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, µS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
07-APR-1994 23:00	0	6331	151943	0	0	0	0	0	0	0	6331	722	16.68	8.70	2435	3.70
08-APR-1994 00:00	0	19979	479501	0	0	0	0	0	0	0	19979	563	16.61	8.18	2423	3.65
08-APR-1994 01:00	0	85876	2061014	0	0	0	0	0	0	0	85876	795	16.90	8.65	2423	4.15
08-APR-1994 02:00	0	0	0	0	0	0	0	0	0	0	0	785	16.86	8.63	2423	4.50
08-APR-1994 03:00	0	6885	165229	0	0	0	0	0	0	0	6885	711	16.76	8.46	2423	4.95
08-APR-1994 05:00	0	0	0	0	0	0	0	0	0	0	0	491	16.56	7.83	2423	5.85
08-APR-1994 07:00	0	6399	153566	0	0	0	0	0	0	0	6399	467	16.48	7.81	2423	5.95
08-APR-1994 09:00	0	12455	298926	0	0	0	0	0	0	0	12455	521	16.41	7.90	2423	5.05
08-APR-1994 11:00	0	20829	499906	0	0	0	0	0	0	0	20829	698	16.49	8.44	2423	4.20
08-APR-1994 13:00	0	34864	836736	0	0	0	0	0	0	0	34864	629	16.54	8.19	2423	4.15
08-APR-1994 15:00	0	13265	318368	0	4421	0	4421	0	0	4421	13265	766	16.61	8.53	2423	5.00
08-APR-1994 17:00	0	12797	307132	0	0	0	0	0	0	0	12797	502	16.47	7.82	2423	5.75
08-APR-1994 19:00	0	0	0	0	0	0	0	0	0	0	0	472	16.42	7.78	2423	5.80
08-APR-1994 21:00	0	11953	286881	0	0	0	0	0	0	0	11953	524	16.31	7.86	2423	4.80
08-APR-1994 23:00	0	0	0	0	0	0	0	0	0	0	0	720	16.20	8.28	2423	4.00
09-APR-1994 01:00	0	44502	1068041	0	0	0	0	0	0	0	44502	679	16.19	8.12	2123	4.15
09-APR-1994 08:00	0	0	0	0	0	0	0	0	0	0	0	463	16.04	7.75	2123	6.00
09-APR-1994 11:00	0	20870	500888	125222	0	0	0	0	5216	0	31304	640	16.18	8.02	2123	4.60
09-APR-1994 12:00	0	16496	395894	0	0	0	0	0	0	0	16496	677	16.30	8.23	2123	4.25
09-APR-1994 13:00	0	10997	263929	0	0	0	0	0	0	0	10997	671	16.37	8.37	2123	4.05
10-APR-1994 08:00	0	0	0	0	0	0	0	0	0	0	0	462	15.94	7.73	1703	6.20
10-APR-1994 11:00	0	12602	302451	0	0	0	0	0	0	0	12602	729	16.28	8.22	1703	4.70
10-APR-1994 14:00	0	17643	423431	0	0	0	0	0	0	0	17643	859	16.52	8.90	1703	3.95
10-APR-1994 21:00	0	21638	519302	0	0	0	0	0	0	0	21638	525	16.39	7.82	1703	5.70
11-APR-1994 00:00	0	8827	211840	0	0	0	0	0	0	0	8827	789	16.33	8.42	1704	4.30
11-APR-1994 03:00	0	4821	115711	0	0	0	0	0	0	0	4821	836	16.40	8.44	1704	4.90
11-APR-1994 14:00	0	4298	103143	206286	0	0	0	0	4297	0	17190	920	17.33	9.05	1704	3.70
11-APR-1994 17:00	0	4821	115711	0	0	0	0	0	0	0	4821	828	17.31	8.68	1704	4.90
11-APR-1994 18:00	0	4722	113330	0	0	0	0	0	0	0	4722	815	17.25	8.67	1704	5.25
11-APR-1994 23:00	0	25312	607482	0	0	4219	4219	0	0	0	29530	681	16.95	8.25	1704	4.90
12-APR-1994 02:00	0	71057	1705372	0	0	0	0	0	0	0	71057	703	16.89	8.39	2151	4.35
12-APR-1994 07:00	0	11228	269483	0	7484	0	7484	0	0	7484	11228	487	16.93	7.79	2151	6.80
12-APR-1994 13:00	0	0	0	0	3511	0	3511	0	0	3511	0	769	17.90	8.71	2151	4.00
12-APR-1994 16:00	0	22992	551799	0	3831	0	3831	0	5747	3831	28738	797	18.11	8.59	2151	3.90
13-APR-1994 00:00	0	8777	210640	0	2925	0	2925	0	0	2925	8777	570	17.53	8.03	1753	4.65
13-APR-1994 02:00	0	0	0	0	0	0	0	0	0	0	0	517	17.43	7.91	1753	4.05
13-APR-1994 03:00	0	27033	648803	0	15015	0	15015	0	0	15015	27033	813	17.66	8.48	1753	4.50
13-APR-1994 04:00	0	4818	115637	0	70652	0	70652	0	0	70652	4818	782	17.63	8.47	1753	4.90
13-APR-1994 05:00	0	14818	355620	0	36213	0	36213	0	0	36213	14818	563	17.54	8.00	1753	5.40
13-APR-1994 08:00	0	4558	109386	0	0	0	0	0	4557	0	9115	459	17.45	7.78	1753	6.70
13-APR-1994 09:00	0	0	0	0	2936	0	2936	0	4404	2936	4404	458	17.49	7.79	1753	6.35
13-APR-1994 10:00	0	4488	107723	0	2992	0	2992	0	0	2992	4488	461	17.66	7.80	1753	5.93
13-APR-1994 12:00	0	0	0	0	2820	0	2820	0	0	2820	0	477	17.99	7.77	1753	5.20

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, µS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
13-APR-1994 13:00	0	13165	315960	0	0	0	0	0	0	0	13165	512	18.36	7.84	1753	4.60
13-APR-1994 14:00	0	4405	105713	0	0	0	0	0	0	0	4405	602	18.55	8.07	1753	4.15
13-APR-1994 15:00	0	8809	211426	211426	0	0	0	0	0	0	17619	722	18.83	8.49	1753	3.75
13-APR-1994 16:00	0	40862	980691	108966	3026	0	3026	0	4539	3026	49942	884	18.95	9.07	1753	3.90
13-APR-1994 17:00	0	4629	111102	0	6171	0	6171	0	0	6171	4629	801	18.76	8.87	1753	4.40
13-APR-1994 20:00	0	9295	223079	0	145590	0	145590	0	0	145590	9295	730	18.39	8.39	1753	5.70
13-APR-1994 21:00	0	27559	661426	0	36738	0	36738	0	0	36738	27559	619	18.20	8.12	1753	6.00
13-APR-1994 22:00	0	9011	216268	0	9009	0	9009	0	0	9009	9011	536	18.08	7.89	1753	6.05
13-APR-1994 23:00	0	68366	1640796	0	3038	0	3038	0	4557	3038	72923	565	18.02	7.91	1753	5.70
14-APR-1994 00:00	0	100472	2411317	160754	0	0	0	0	0	0	107170	516	17.93	7.82	1308	5.35
14-APR-1994 01:00	0	55458	1330988	0	0	0	0	0	3262	0	58719	556	17.81	7.88	1308	4.90
14-APR-1994 02:00	0	26098	626347	156587	8697	0	8697	0	0	8697	32622	637	17.78	8.03	1308	4.65
14-APR-1994 03:00	0	10086	242052	80684	40333	0	40333	0	0	40333	13447	710	17.76	8.23	1308	4.85
14-APR-1994 04:00	0	9823	235753	0	2182	0	2182	0	0	2182	9823	686	17.70	8.16	1308	5.40
14-APR-1994 05:00	0	6935	166451	0	16179	0	16179	0	0	16179	6935	705	17.86	8.20	1308	5.80
14-APR-1994 07:00	0	0	0	0	0	0	0	0	0	0	0	519	17.79	7.82	1308	6.80
14-APR-1994 08:00	0	3401	81618	0	24934	0	24934	0	0	24934	3401	494	17.82	7.77	1308	6.90
14-APR-1994 09:00	0	0	0	0	0	3226	3226	0	0	0	3226	479	17.87	7.78	1308	6.40
14-APR-1994 10:00	0	41337	992093	0	6358	0	6358	0	0	6358	41337	496	18.04	7.81	1308	6.10
14-APR-1994 11:00	0	3101	74434	0	4134	0	4134	0	0	4134	3101	513	18.20	7.83	1308	5.80
14-APR-1994 13:00	0	0	0	0	2024	0	2024	0	0	2024	0	625	18.55	8.18	1308	4.90
14-APR-1994 14:00	0	15729	377486	0	0	0	0	0	0	0	15729	701	18.73	8.40	1308	4.40
14-APR-1994 15:00	0	0	0	0	2097	0	2097	0	0	2097	0	768	18.90	8.67	1308	4.00
14-APR-1994 16:00	0	6453	154866	0	0	0	0	0	0	0	6453	789	19.03	8.82	1308	3.82
14-APR-1994 17:00	0	3324	79771	0	0	0	0	0	0	0	3324	809	19.15	8.96	1308	3.65
14-APR-1994 19:00	0	0	0	0	0	0	0	0	0	0	0	789	19.11	8.46	1308	4.60
14-APR-1994 20:00	0	0	0	0	14090	0	14090	0	0	14090	0	758	18.92	8.42	1308	5.10
14-APR-1994 22:00	0	3349	80377	0	17858	0	17858	0	0	17858	3349	598	18.55	8.06	1308	5.85
14-APR-1994 23:00	0	3427	82254	0	0	0	0	0	0	0	3427	519	18.45	7.89	1308	5.90
15-APR-1994 01:00	0	0	0	0	0	0	0	0	0	0	0	563	18.38	7.94	1603	5.15
15-APR-1994 02:00	0	0	0	0	0	0	0	0	0	0	0	653	18.38	8.14	1603	4.75
15-APR-1994 04:00	0	4089	98132	0	0	0	0	0	0	0	4089	572	18.28	7.97	1603	5.05
15-APR-1994 05:00	0	0	0	0	0	0	0	0	0	0	0	709	18.53	8.21	1603	5.50
15-APR-1994 08:00	0	0	0	0	0	0	0	0	0	0	0	481	18.39	7.81	1603	6.90
15-APR-1994 09:00	0	0	0	0	0	0	0	0	0	0	0	467	18.44	7.79	1603	7.00
15-APR-1994 11:00	0	0	0	0	0	0	0	0	0	0	0	463	18.74	7.79	1603	6.30
15-APR-1994 12:00	0	3697	88722	0	0	0	0	0	0	0	3697	518	19.03	7.90	1603	5.72
15-APR-1994 14:00	0	0	0	0	0	0	0	0	0	0	0	649	19.50	8.19	1603	4.70
15-APR-1994 15:00	0	0	0	0	2551	0	2551	0	0	2551	0	727	19.78	8.52	1603	4.20
15-APR-1994 17:00	0	0	0	0	0	0	0	0	0	0	0	882	20.15	9.05	1603	3.50
15-APR-1994 19:00	0	12699	304787	0	53608	0	53608	0	0	53608	12699	833	20.23	8.51	1603	4.50
16-APR-1994 00:00	0	0	0	0	0	0	0	0	0	0	0	494	19.14	7.82	1026	6.20
16-APR-1994 01:00	0	0	0	0	1712	0	1712	0	0	1712	0	480	19.11	7.81	1026	6.00

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, µS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
16-APR-1994 02:00	0	0	0	0	1681	0	1681	0	0	1681	0	499	19.04	7.83	1026	5.60
16-APR-1994 03:00	0	0	0	0	0	0	0	0	0	0	0	557	19.01	7.91	1026	5.30
16-APR-1994 04:00	0	2531	60739	0	0	0	0	0	0	0	2531	549	19.01	7.91	1026	5.25
16-APR-1994 05:00	0	0	0	0	0	0	0	0	0	0	0	549	19.04	7.88	1026	5.65
16-APR-1994 07:00	0	80027	1920658	0	0	0	0	0	0	0	80027	501	19.05	7.84	1026	6.55
16-APR-1994 08:00	0	0	0	0	0	0	0	0	0	0	0	486	19.03	7.81	1026	7.10
16-APR-1994 09:00	0	0	0	0	0	0	0	0	0	0	0	473	19.05	7.79	1026	7.35
16-APR-1994 10:00	0	0	0	0	0	0	0	0	0	0	0	462	19.10	7.76	1026	7.35
16-APR-1994 11:00	0	0	0	0	0	0	0	0	0	0	0	462	19.11	7.75	1026	6.90
16-APR-1994 12:00	0	0	0	0	0	0	0	0	0	0	0	468	19.31	7.75	1026	6.50
16-APR-1994 13:00	0	0	0	0	0	0	0	0	0	0	0	473	19.50	7.76	1026	6.10
16-APR-1994 14:00	0	0	0	0	0	0	0	0	0	0	0	492	19.67	7.80	1026	5.40
16-APR-1994 15:00	0	0	0	0	0	0	0	0	0	0	0	522	19.83	7.87	1026	5.10
16-APR-1994 16:00	0	0	0	0	0	0	0	0	0	0	0	576	19.83	7.96	1026	4.65
16-APR-1994 17:00	0	0	0	0	0	0	0	0	0	0	0	652	19.83	8.15	1026	4.35
16-APR-1994 18:00	0	0	0	0	0	0	0	0	0	0	0	774	19.91	8.52	1026	4.20
16-APR-1994 21:00	0	0	0	0	152333	0	152333	0	0	152333	0	786	20.02	8.31	1026	5.50
16-APR-1994 22:00	0	0	0	0	44565	0	44565	0	0	44565	0	743	19.91	8.20	1026	5.90
16-APR-1994 23:00	0	0	0	0	0	0	0	0	0	0	0	684	19.75	8.07	1026	6.25
17-APR-1994 00:00	0	1849	44384	0	9861	0	9861	0	0	9861	1849	607	19.58	7.92	736	6.40
17-APR-1994 01:00	0	1849	44384	0	0	0	0	0	0	0	1849	578	19.48	7.83	736	6.20
17-APR-1994 02:00	0	0	0	0	0	0	0	0	0	0	0	608	19.48	7.89	736	5.90
17-APR-1994 05:00	0	1815	43571	0	2420	0	2420	0	0	2420	1815	732	19.49	8.07	736	5.35
17-APR-1994 18:00	0	5368	128825	0	0	0	0	0	0	0	5368	816	20.64	8.37	736	3.85
17-APR-1994 20:00	0	9568	229630	0	6377	0	6377	0	0	6377	9568	928	20.53	8.68	736	4.30
17-APR-1994 21:00	0	4096	98304	0	6825	0	6825	0	2048	6825	6144	893	20.62	8.41	736	4.70
17-APR-1994 22:00	0	0	0	0	18648	0	18648	0	0	18648	0	866	20.54	8.30	736	5.15
18-APR-1994 01:00	0	0	0	0	5121	0	5121	0	0	5121	0	752	20.19	8.01	733	6.30
18-APR-1994 02:00	0	0	0	0	8529	0	8529	0	0	8529	0	675	20.02	7.87	733	6.25
18-APR-1994 04:00	0	0	0	0	0	0	0	0	0	0	0	684	19.81	7.84	733	5.60
18-APR-1994 05:00	0	7102	170451	0	1183	0	1183	0	0	1183	7102	740	19.76	7.89	733	5.35
18-APR-1994 07:00	0	0	0	0	6115	1835	7950	0	0	6115	1835	784	19.74	7.99	733	5.70
18-APR-1994 08:00	0	0	0	0	6351	0	6351	0	0	6351	0	784	19.83	7.98	733	6.10
18-APR-1994 09:00	0	0	0	0	26883	0	26883	0	0	26883	0	773	19.88	7.97	733	6.40
18-APR-1994 10:00	0	3684	88406	0	2455	0	2455	0	1841	2455	5525	650	19.85	7.83	733	6.90
18-APR-1994 11:00	0	1842	44203	0	2455	0	2455	0	0	2455	1842	586	19.89	7.74	733	7.00
18-APR-1994 16:00	0	0	0	0	0	0	0	0	0	0	0	658	20.95	7.81	733	4.90
18-APR-1994 17:00	0	0	0	0	1163	0	1163	0	0	1163	0	744	21.00	7.95	733	4.40
18-APR-1994 18:00	0	5232	125580	0	12788	0	12788	0	0	12788	5232	810	20.88	8.05	733	4.00
18-APR-1994 19:00	0	8975	215388	43078	2393	0	2393	0	1795	2393	12564	872	20.83	8.20	733	3.85
18-APR-1994 20:00	0	7313	175502	0	12185	0	12185	0	1828	12185	9140	948	20.77	8.37	733	4.00
18-APR-1994 21:00	0	5652	135645	45215	25114	0	25114	0	0	25114	7536	922	20.70	8.32	733	4.50
18-APR-1994 23:00	0	3826	91832	0	28054	0	28054	0	0	28054	3826	872	20.61	8.21	733	5.40

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, µS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
19-APR-1994 00:00	0	5723	137341	45780	0	0	0	0	1907	0	9537	863	20.55	8.15	728	5.90
19-APR-1994 01:00	0	0	0	0	70817	1864	72681	0	1864	70817	3728	827	20.45	8.06	728	6.20
19-APR-1994 03:00	0	12805	307309	43901	0	0	0	0	0	0	14634	661	20.02	7.78	728	6.35
19-APR-1994 08:00	0	1836	44066	88132	8566	0	8566	0	0	8566	5508	836	19.67	8.00	728	5.25
19-APR-1994 09:00	0	3742	89814	0	7483	0	7483	0	0	7483	3742	826	19.68	7.98	728	5.70
19-APR-1994 10:00	0	1822	43738	0	17006	0	17006	0	0	17006	1822	836	19.78	8.00	728	6.00
19-APR-1994 11:00	0	9112	218691	0	14576	0	14576	0	1822	14576	10934	776	19.93	7.95	728	6.40
19-APR-1994 12:00	0	0	0	0	1210	1816	3026	0	0	1210	1816	651	19.90	7.82	728	6.10
19-APR-1994 14:00	0	0	0	0	0	0	0	0	0	0	0	665	20.20	7.85	728	6.10
19-APR-1994 15:00	0	0	0	0	0	0	0	0	0	0	0	672	20.27	7.81	728	5.55
19-APR-1994 16:00	0	0	0	41722	0	0	0	0	0	0	1738	679	20.36	7.83	728	5.00
19-APR-1994 17:00	0	3502	84040	588278	1167	0	1167	0	0	1167	28013	777	20.49	7.94	728	4.60
19-APR-1994 18:00	0	0	0	0	0	0	0	0	0	0	0	815	20.40	8.00	728	4.30
19-APR-1994 20:00	0	5613	134720	224534	0	0	0	0	1871	0	16840	922	20.03	8.11	728	3.55
19-APR-1994 21:00	0	7571	181707	227134	0	1893	1893	0	0	0	18928	975	19.84	8.20	728	3.80
19-APR-1994 22:00	0	9612	230697	0	0	0	0	0	0	0	9612	931	19.88	8.19	728	4.35
19-APR-1994 23:00	0	19454	466887	2100992	6483	1945	8429	0	0	6483	108940	898	19.94	8.24	728	4.65
20-APR-1994 00:00	0	9869	236861	1373791	161820	0	161820	0	3947	161820	71057	879	19.87	8.19	724	5.15
20-APR-1994 01:00	0	37503	900070	2889699	485459	0	485459	0	5920	485459	163827	875	19.81	8.13	724	5.60
20-APR-1994 02:00	0	34414	825947	1697779	158017	0	158017	0	3823	158017	108978	837	19.77	8.03	724	6.05
20-APR-1994 03:00	0	21197	508735	601233	12844	1927	14771	0	0	12844	48176	715	19.54	7.90	724	6.25
20-APR-1994 04:00	0	5519	132463	0	4905	0	4905	0	0	4905	5519	642	19.31	7.82	724	6.10
20-APR-1994 05:00	0	38061	913454	1174441	2416	0	2416	0	3624	2416	90620	743	19.18	7.90	724	5.70
20-APR-1994 06:00	0	21749	521974	2609869	2416	0	2416	0	5436	2416	135929	661	19.03	7.82	724	5.25
20-APR-1994 09:00	0	0	0	0	16912	0	16912	0	0	16912	0	852	19.26	8.00	724	4.60
20-APR-1994 10:00	0	0	0	0	10995	0	10995	0	0	10995	0	845	19.35	7.99	724	5.30
20-APR-1994 12:00	0	11294	271064	361418	36385	0	36385	0	0	36385	26353	828	19.64	8.00	724	6.00
20-APR-1994 13:00	0	14718	353235	88309	7357	0	7357	0	0	7357	18398	793	19.76	7.96	724	6.10
20-APR-1994 14:00	0	0	0	0	6063	0	6063	0	0	6063	0	655	19.67	7.84	724	6.25
20-APR-1994 15:00	0	1819	43660	0	0	0	0	0	0	0	1819	604	19.66	7.78	724	5.90
20-APR-1994 17:00	0	1681	40348	201740	1121	0	1121	0	0	1121	10087	635	19.89	7.83	724	5.00
20-APR-1994 20:00	0	1760	42241	0	14077	0	14077	0	0	14077	1760	829	19.83	8.01	724	3.85
20-APR-1994 21:00	0	0	0	0	29541	0	29541	0	0	29541	0	896	19.59	8.05	724	3.55
20-APR-1994 22:00	0	0	0	0	62014	0	62014	0	0	62014	0	942	19.41	8.12	724	3.95
20-APR-1994 23:00	0	1974	47372	47372	11840	0	11840	0	3947	11840	7894	903	19.47	8.15	724	4.40
21-APR-1994 03:00	0	5747	137923	551694	1277	0	1277	0	0	1277	28734	739	19.26	7.94	751	6.30
21-APR-1994 04:00	0	5704	136886	273773	0	0	0	0	0	0	17111	639	19.06	7.84	751	6.40
21-APR-1994 05:00	0	1930	46326	92651	0	0	0	0	0	0	5791	679	18.95	7.83	751	6.15
21-APR-1994 08:00	0	2073	49743	945115	1381	0	1381	0	4144	1381	45597	695	18.76	7.81	751	4.80
21-APR-1994 09:00	0	2107	50572	1264299	0	0	0	0	2107	0	56893	784	19.00	7.89	751	4.55
21-APR-1994 10:00	0	4250	101994	662960	0	0	0	0	2124	0	33997	839	19.11	8.02	751	4.45
21-APR-1994 11:00	0	4180	100308	852618	6964	0	6964	0	0	6964	39705	844	19.22	8.04	751	4.70
21-APR-1994 13:00	0	0	0	0	1338	0	1338	0	0	1338	0	696	19.38	7.98	751	5.43

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, µS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
21-APR-1994 19:00	0	8190	196555	491387	0	0	0	0	0	0	28664	565	19.27	7.84	751	4.80
21-APR-1994 21:00	0	17667	424009	1378031	0	0	0	0	2208	0	77293	753	19.14	7.98	751	4.00
21-APR-1994 22:00	0	6596	158312	263854	0	0	0	0	0	0	17590	889	19.02	8.10	751	3.80
22-APR-1994 00:00	0	21471	515298	1631775	0	0	0	0	3578	0	93039	887	18.93	8.30	1286	4.70
22-APR-1994 01:00	0	27823	667748	918154	2318	0	2318	0	6954	2318	73033	864	18.83	8.33	1286	5.20
22-APR-1994 02:00	0	20297	487117	81186	11273	0	11273	0	0	11273	23679	811	18.79	8.20	1286	5.75
22-APR-1994 03:00	0	16526	396635	158654	6609	0	6609	0	6609	6609	29746	684	18.69	8.03	1286	6.20
22-APR-1994 04:00	0	19534	468804	78134	0	0	0	0	0	0	22789	600	18.63	7.92	1286	6.45
22-APR-1994 08:00	0	0	0	0	0	0	0	0	0	0	0	659	18.27	7.97	1286	5.05
22-APR-1994 09:00	0	0	0	173197	12025	0	12025	0	0	12025	7217	792	18.30	8.10	1286	4.60
22-APR-1994 10:00	0	0	0	0	0	0	0	0	0	0	0	848	18.36	8.19	1286	4.25
22-APR-1994 12:00	0	3623	86961	0	0	0	0	0	0	0	3623	731	18.54	8.12	1286	4.50
22-APR-1994 13:00	0	0	0	0	0	0	0	0	0	0	0	846	18.64	8.39	1286	4.95
22-APR-1994 14:00	0	0	0	0	4581	0	4581	0	3436	4581	3436	793	18.79	8.29	1286	5.40
22-APR-1994 15:00	0	0	0	0	0	0	0	0	0	0	0	656	18.77	8.07	1286	5.65
22-APR-1994 16:00	0	0	0	0	0	0	0	0	0	0	0	581	18.81	8.01	1286	5.85
22-APR-1994 19:00	0	0	0	83805	0	0	0	0	0	0	3492	550	18.64	8.02	1286	5.15
22-APR-1994 20:00	0	0	0	0	0	0	0	0	0	0	0	621	18.50	8.07	1286	4.70
22-APR-1994 21:00	0	3669	88066	88066	0	0	0	0	0	0	7339	710	18.42	8.16	1286	4.30
22-APR-1994 23:00	0	0	0	0	2543	0	2543	0	0	2543	0	805	18.21	8.26	1286	3.65
23-APR-1994 00:00	0	3556	85346	0	0	0	0	0	0	0	3556	749	18.24	8.29	1241	4.20
23-APR-1994 01:00	0	0	0	0	2321	0	2321	0	0	2321	0	819	18.22	8.40	1241	4.60
23-APR-1994 02:00	0	0	0	0	0	0	0	0	0	0	0	664	18.26	8.15	1241	5.00
23-APR-1994 04:00	0	0	0	0	0	0	0	0	0	0	0	520	18.31	8.04	1241	5.85
23-APR-1994 08:00	0	3356	80548	0	0	0	0	0	0	0	3356	519	18.04	8.02	1241	5.20
23-APR-1994 09:00	0	0	0	0	0	0	0	0	0	0	0	536	18.05	8.02	1241	4.65
23-APR-1994 10:00	0	7082	169969	0	0	0	0	0	0	0	7082	582	17.95	7.99	1241	4.30
23-APR-1994 11:00	0	10853	260473	434121	0	0	0	0	0	0	28941	676	17.82	8.04	1241	3.90
23-APR-1994 12:00	0	36814	883542	971896	0	0	0	0	0	0	77310	771	17.67	8.12	1241	3.60
23-APR-1994 13:00	0	7143	171422	514267	0	0	0	0	0	0	28570	730	17.71	8.14	1241	4.15
23-APR-1994 14:00	0	0	0	1504230	0	0	0	0	3481	0	66157	719	17.80	8.17	1241	4.60
23-APR-1994 15:00	0	0	0	0	0	0	0	0	0	0	0	636	17.88	8.12	1241	5.00
23-APR-1994 17:00	0	0	0	0	0	0	0	0	3238	0	3238	523	17.95	8.02	1241	5.85
23-APR-1994 20:00	0	6739	161745	0	0	3370	3370	0	0	0	10109	508	17.72	8.00	1241	5.15
23-APR-1994 21:00	0	3453	82878	0	0	0	0	0	0	0	3453	519	17.63	7.99	1241	4.70
23-APR-1994 22:00	0	3541	84985	0	0	0	0	0	0	0	3541	551	17.50	8.00	1241	4.30
23-APR-1994 23:00	0	0	0	0	0	0	0	0	0	0	0	623	17.34	8.04	1241	3.95
24-APR-1994 00:00	0	5571	133712	0	0	0	0	0	0	0	5571	635	17.25	8.07	968	4.15
24-APR-1994 01:00	0	8114	194742	194742	0	2705	2705	0	0	0	18933	592	17.27	8.07	968	4.65
24-APR-1994 02:00	0	7885	189246	0	0	0	0	0	0	0	7885	565	17.33	8.06	968	5.15
24-APR-1994 03:00	0	43456	1042954	0	0	0	0	0	5111	0	48568	520	17.38	8.04	968	5.65
24-APR-1994 04:00	0	22392	537400	59711	0	4976	4976	0	0	0	29856	499	17.37	8.04	968	6.20
24-APR-1994 05:00	0	21809	523416	0	0	2423	2423	0	2423	0	26655	493	17.27	8.04	968	6.65

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, µS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
24-APR-1994 08:00	0	2479	59484	0	1652	0	1652	0	0	1652	2479	486	17.09	7.95	968	6.25
24-APR-1994 09:00	0	5073	121746	0	0	0	0	0	0	0	5073	494	17.15	7.94	968	5.80
24-APR-1994 12:00	0	0	0	0	0	2786	2786	0	0	0	2786	558	17.21	7.89	968	4.10
24-APR-1994 14:00	0	5432	130369	0	0	2716	2716	0	0	0	8148	618	17.10	7.99	968	4.55
24-APR-1994 15:00	0	0	0	0	0	0	0	0	0	0	0	650	17.20	8.02	968	5.00
24-APR-1994 16:00	0	2576	61835	0	0	0	0	0	0	0	2576	548	17.27	8.00	968	5.50
24-APR-1994 17:00	0	2527	60637	0	0	0	0	0	0	0	2527	509	17.29	7.97	968	5.90
24-APR-1994 20:00	0	2566	61592	0	0	0	0	0	0	0	2566	491	17.08	7.91	968	5.60
24-APR-1994 22:00	0	2705	64914	0	0	0	0	0	0	0	2705	500	16.95	7.91	968	4.65
24-APR-1994 23:00	0	8286	198868	0	0	2762	2762	0	0	0	11048	492	16.86	7.90	968	4.25
25-APR-1994 00:00	0	0	0	0	0	0	0	0	0	0	0	493	16.79	7.93	967	4.00
25-APR-1994 01:00	0	2725	65390	0	0	0	0	0	0	0	2725	506	16.76	7.97	967	4.50
25-APR-1994 04:00	0	22369	536845	238598	0	0	0	0	0	0	32310	508	16.77	7.97	967	6.15
25-APR-1994 05:00	0	2421	58097	58097	1613	0	1613	0	0	1613	4841	494	16.74	7.96	967	6.65
25-APR-1994 08:00	0	0	0	0	0	0	0	0	0	0	0	475	16.68	7.86	967	6.30
25-APR-1994 09:00	0	0	0	0	0	0	0	0	0	0	0	475	16.70	7.87	967	5.85
25-APR-1994 10:00	0	0	0	0	0	0	0	0	0	0	0	475	16.70	7.87	967	5.35
25-APR-1994 11:00	0	0	0	0	0	0	0	0	0	0	0	479	16.76	7.92	967	4.25
25-APR-1994 12:00	0	0	0	0	0	0	0	0	0	0	0	475	16.86	7.89	967	3.95
25-APR-1994 13:00	0	0	0	68245	0	0	0	0	0	0	2844	477	16.93	7.92	967	3.70
25-APR-1994 15:00	0	0	0	0	0	0	0	0	0	0	0	647	16.86	7.98	967	4.70
25-APR-1994 16:00	0	2626	63017	1638435	0	0	0	0	2625	0	73519	686	16.82	8.01	967	5.15
25-APR-1994 17:00	0	2554	61287	61287	0	0	0	0	0	0	5107	607	16.80	7.98	967	5.65
25-APR-1994 18:00	0	0	0	0	0	0	0	0	0	0	0	492	16.70	7.94	967	6.10
25-APR-1994 20:00	0	0	0	118395	0	0	0	0	0	0	4933	467	16.68	7.89	967	6.30
25-APR-1994 21:00	0	10096	242297	0	0	0	0	0	2523	0	12619	467	16.66	7.87	967	5.80
25-APR-1994 22:00	0	2584	62016	0	0	0	0	0	2583	0	5167	467	16.63	7.88	967	5.40
26-APR-1994 00:00	0	2592	62201	0	0	0	0	0	0	0	2592	467	16.54	7.90	916	4.45
26-APR-1994 01:00	0	5140	123366	0	0	0	0	0	2570	0	7710	469	16.48	7.92	916	4.60
26-APR-1994 04:00	0	2310	55445	110891	0	0	0	0	0	0	6931	498	16.43	7.92	916	6.50
26-APR-1994 08:00	0	2259	54227	867629	0	2259	2259	0	0	0	40670	460	16.48	7.87	916	6.95
26-APR-1994 09:00	0	0	0	166961	0	0	0	0	0	0	6957	462	16.46	7.87	916	6.40
26-APR-1994 11:00	0	0	0	176237	0	0	0	0	0	0	7343	459	16.50	7.87	916	5.40
26-APR-1994 19:00	0	0	0	167591	0	0	0	0	0	0	6983	520	17.09	7.89	916	6.35
26-APR-1994 20:00	0	0	0	0	1523	0	1523	0	0	1523	0	453	16.97	7.83	916	6.75
26-APR-1994 21:00	0	0	0	110891	0	0	0	0	0	0	4620	437	16.89	7.82	916	6.50
26-APR-1994 23:00	0	0	0	0	0	0	0	0	0	0	0	431	16.77	7.79	916	5.55
27-APR-1994 00:00	0	0	0	0	0	0	0	0	0	0	0	430	16.68	7.78	1323	5.05
27-APR-1994 01:00	0	3681	88354	0	0	0	0	0	0	0	3681	432	16.57	7.77	1323	4.75
27-APR-1994 02:00	0	3578	85870	601090	0	0	0	0	0	0	28623	431	16.43	7.77	1323	5.25
27-APR-1994 03:00	0	0	0	0	0	0	0	0	0	0	0	493	16.52	7.76	1323	5.90
27-APR-1994 04:00	0	0	0	0	0	0	0	0	0	0	0	518	16.52	7.77	1323	6.30
27-APR-1994 05:00	0	0	0	0	0	0	0	0	0	0	0	458	16.52	7.75	1323	6.95

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, µS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
27-APR-1994 08:00	0	3182	76363	0	0	0	0	0	0	0	3182	420	16.62	7.76	1323	7.55
27-APR-1994 17:00	0	7424	178180	2583615	0	0	0	0	0	0	115075	717	17.29	7.81	1323	4.70
27-APR-1994 18:00	0	0	0	258649	0	0	0	0	0	0	10777	649	17.24	7.79	1323	5.40
27-APR-1994 19:00	0	0	0	0	0	0	0	0	0	0	0	580	17.18	7.77	1323	5.80
27-APR-1994 20:00	0	0	0	0	0	0	0	0	0	0	0	491	17.11	7.75	1323	6.20
27-APR-1994 21:00	0	3324	79782	0	0	0	0	0	0	0	3324	444	17.06	7.75	1323	6.50
27-APR-1994 22:00	0	6699	160764	241146	0	0	0	0	0	0	16746	438	17.04	7.75	1323	6.40
28-APR-1994 00:00	0	8519	204467	102234	0	0	0	0	0	0	12779	429	16.95	7.75	1670	5.40
28-APR-1994 01:00	0	4292	103014	0	2861	0	2861	0	0	2861	4292	424	16.95	7.75	1670	4.95
28-APR-1994 02:00	0	8651	207613	415226	0	0	0	0	4324	0	30276	438	16.88	7.74	1670	4.75
28-APR-1994 03:00	0	13604	326488	326488	3022	0	3022	0	0	3022	27207	488	16.81	7.72	1670	5.40
04-MAY-1994 15:00	0	0	0	0	0	0	0	0	0	0	0	429	18.25	7.82	922	6.20
04-MAY-1994 16:00	0	0	0	57755	0	0	0	0	0	0	2406	427	18.43	7.84	922	5.90
04-MAY-1994 17:00	0	0	0	0	0	0	0	0	0	0	0	419	18.47	7.84	922	5.30
04-MAY-1994 18:00	0	2555	61320	0	0	0	0	0	0	0	2555	419	18.47	7.84	922	4.80
04-MAY-1994 19:00	0	0	0	0	0	0	0	0	0	0	0	422	18.40	7.85	922	4.30
04-MAY-1994 20:00	0	0	0	0	0	0	0	0	0	0	0	420	18.36	7.84	922	4.05
04-MAY-1994 21:00	0	2699	64787	0	0	0	0	0	0	0	2699	422	18.39	7.83	922	3.85
04-MAY-1994 22:00	0	0	0	0	0	0	0	0	0	0	0	442	18.36	7.82	922	4.25
04-MAY-1994 23:00	0	0	0	0	31563	0	31563	0	2630	31563	2630	603	18.28	7.84	922	4.80
05-MAY-1994 00:00	0	0	0	0	256118	0	256118	0	0	256118	0	622	18.24	7.84	1014	5.30
05-MAY-1994 01:00	0	0	0	0	30581	0	30581	0	0	30581	0	489	18.23	7.81	1014	5.80
05-MAY-1994 09:00	0	0	0	0	1764	0	1764	0	0	1764	0	422	18.34	7.82	1014	4.55
05-MAY-1994 11:00	0	10838	260123	0	1806	0	1806	0	0	1806	10838	423	18.66	7.82	1014	4.30
05-MAY-1994 13:00	0	2776	66617	0	0	0	0	0	0	0	2776	496	18.38	7.82	1014	5.40
05-MAY-1994 16:00	0	0	0	0	1698	0	1698	0	0	1698	0	424	18.65	7.81	1014	6.20
05-MAY-1994 18:00	0	0	0	0	1673	0	1673	0	0	1673	0	423	18.78	7.82	1014	5.40
05-MAY-1994 19:00	0	0	0	0	0	0	0	0	2586	0	2586	423	18.79	7.83	1014	4.80
05-MAY-1994 20:00	0	0	0	0	0	0	0	0	0	0	0	424	18.75	7.83	1014	4.50
05-MAY-1994 21:00	0	0	0	0	0	2678	2678	0	2677	0	5355	426	18.69	7.83	1014	4.15
05-MAY-1994 22:00	0	0	0	0	1843	0	1843	0	0	1843	0	427	18.67	7.83	1014	4.05
05-MAY-1994 23:00	0	0	0	0	44355	0	44355	0	0	44355	0	465	18.43	7.82	1014	4.65
06-MAY-1994 00:00	0	0	0	0	5330	0	5330	0	2665	5330	2665	572	18.23	7.82	958	5.30
06-MAY-1994 02:00	0	0	0	0	1713	0	1713	0	0	1713	0	450	18.30	7.82	958	6.10
06-MAY-1994 18:00	0	0	0	0	4813	0	4813	0	0	4813	0	434	18.26	7.80	958	6.10
06-MAY-1994 19:00	0	0	0	0	0	0	0	0	0	0	0	425	18.31	7.81	958	5.70
06-MAY-1994 20:00	0	0	0	0	0	0	0	0	0	0	0	426	18.27	7.81	958	5.30
06-MAY-1994 21:00	0	0	0	0	0	0	0	0	0	0	0	425	18.23	7.81	958	4.80
06-MAY-1994 22:00	0	0	0	0	0	0	0	0	0	0	0	425	18.18	7.81	958	4.45
06-MAY-1994 23:00	0	0	0	0	0	0	0	0	0	0	0	426	18.17	7.81	958	4.60
07-MAY-1994 00:00	0	0	0	0	0	0	0	0	0	0	0	457	18.04	7.79	865	5.30
07-MAY-1994 01:00	0	0	0	0	1565	0	1565	0	0	1565	0	590	17.79	7.77	865	5.70
07-MAY-1994 02:00	0	0	0	0	0	0	0	0	0	0	0	550	17.80	7.78	865	6.20

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, µS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
07-MAY-1994 03:00	0	0	0	0	0	0	0	0	0	0	0	452	18.02	7.79	865	6.70
07-MAY-1994 04:00	0	0	0	0	0	0	0	0	0	0	0	432	18.12	7.80	865	7.15
07-MAY-1994 05:00	0	0	0	0	0	0	0	0	0	0	0	425	18.12	7.80	865	7.25
07-MAY-1994 06:00	0	0	0	0	0	0	0	0	0	0	0	438	18.01	7.77	865	6.80
07-MAY-1994 07:00	0	0	0	0	0	0	0	0	0	0	0	427	18.07	7.79	865	6.30
07-MAY-1994 08:00	0	0	0	0	0	0	0	0	0	0	0	428	18.04	7.78	865	5.75
07-MAY-1994 09:00	0	0	0	0	0	0	0	0	0	0	0	425	18.23	7.79	865	5.10
07-MAY-1994 10:00	0	0	0	0	0	0	0	0	0	0	0	424	18.37	7.81	865	4.80
07-MAY-1994 11:00	0	0	0	0	0	0	0	0	0	0	0	427	19.00	7.84	865	4.35
07-MAY-1994 12:00	0	0	0	0	0	0	0	0	0	0	0	428	19.09	7.84	865	4.20
07-MAY-1994 13:00	0	0	0	0	0	0	0	0	0	0	0	427	18.85	7.82	865	4.30
07-MAY-1994 15:00	0	0	0	114120	4754	0	4754	0	0	4754	4755	679	18.50	7.78	865	5.45
07-MAY-1994 16:00	0	0	0	0	1476	0	1476	0	0	1476	0	713	18.49	7.78	865	5.90
07-MAY-1994 22:00	0	0	0	0	0	0	0	0	0	0	0	445	18.55	7.77	865	4.50
07-MAY-1994 23:00	0	0	0	0	0	0	0	0	0	0	0	446	18.51	7.77	865	4.40
08-MAY-1994 00:00	0	0	0	0	0	0	0	0	0	0	0	448	18.52	7.78	835	4.80
08-MAY-1994 01:00	0	0	0	0	0	0	0	0	0	0	0	622	18.48	7.75	835	5.40
08-MAY-1994 02:00	0	0	0	0	0	0	0	0	0	0	0	692	18.39	7.75	835	5.85
08-MAY-1994 04:00	0	0	0	0	0	0	0	0	2113	0	2113	462	18.41	7.77	835	6.90
08-MAY-1994 06:00	0	0	0	0	1383	0	1383	0	0	1383	0	439	18.50	7.77	835	7.05
08-MAY-1994 09:00	0	0	0	0	0	0	0	0	0	0	0	444	18.68	7.76	835	5.20
08-MAY-1994 12:00	0	0	0	0	0	0	0	0	0	0	0	439	19.11	7.77	835	4.10
08-MAY-1994 15:00	0	0	0	0	1511	0	1511	0	0	1511	0	787	19.31	7.73	835	4.70
08-MAY-1994 18:00	0	0	0	0	0	0	0	0	0	0	0	473	19.41	7.80	835	6.10
08-MAY-1994 19:00	0	0	0	0	0	0	0	0	0	0	0	451	19.40	7.79	835	6.30
08-MAY-1994 20:00	0	0	0	0	0	0	0	0	0	0	0	449	19.33	7.78	835	6.00
08-MAY-1994 21:00	0	0	0	0	0	0	0	0	0	0	0	448	19.27	7.78	835	5.65
08-MAY-1994 22:00	0	0	0	0	0	0	0	0	0	0	0	447	19.17	7.79	835	5.30
08-MAY-1994 23:00	0	0	0	0	0	0	0	0	0	0	0	447	19.06	7.79	835	4.85
09-MAY-1994 00:00	0	0	0	0	0	0	0	0	0	0	0	446	18.92	7.81	953	4.90
09-MAY-1994 01:00	0	0	0	0	0	0	0	0	0	0	0	460	18.92	7.80	953	5.65
09-MAY-1994 03:00	0	0	0	0	3290	0	3290	0	0	3290	0	468	18.93	7.79	953	6.60
09-MAY-1994 04:00	0	0	0	57470	0	0	0	0	0	0	2395	450	18.95	7.80	953	7.10
09-MAY-1994 08:00	0	0	0	0	3077	0	3077	0	0	3077	0	453	18.90	7.76	953	5.80
09-MAY-1994 09:00	0	0	0	0	0	0	0	0	0	0	0	450	19.06	7.78	953	5.45
10-MAY-1994 06:00	0	0	0	0	0	2524	2524	0	0	0	2524	441	19.61	7.79	1027	7.50
10-MAY-1994 07:00	0	5030	120712	0	0	0	0	0	2514	0	7544	456	19.57	7.75	1027	6.80
10-MAY-1994 08:00	0	0	0	0	0	2470	2470	0	0	0	2470	446	19.64	7.76	1027	6.38
10-MAY-1994 10:00	0	2533	60798	729575	1688	0	1688	0	0	1688	32932	434	19.81	7.77	1027	5.60
10-MAY-1994 11:00	0	0	0	1229470	0	0	0	0	0	0	51228	432	20.05	7.78	1027	5.05
10-MAY-1994 16:00	0	0	0	0	50184	0	50184	0	0	50184	0	767	20.75	7.73	1027	4.85
10-MAY-1994 17:00	0	2755	66127	0	341581	0	341581	0	0	341581	2755	801	20.87	7.76	1027	5.25
10-MAY-1994 18:00	0	0	0	126701	200567	0	200567	0	0	200567	5279	683	20.61	7.76	1027	5.58

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, µS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
10-MAY-1994 19:00	0	0	0	0	48521	2600	51121	0	0	48521	2600	566	20.35	7.76	1027	5.90
10-MAY-1994 21:00	0	0	0	0	11951	0	11951	0	0	11951	0	465	20.36	7.79	1027	6.15
10-MAY-1994 22:00	0	0	0	0	1707	0	1707	0	0	1707	0	452	20.36	7.80	1027	5.80
10-MAY-1994 23:00	0	0	0	125267	3479	0	3479	0	0	3479	5219	447	20.27	7.80	1027	5.40
11-MAY-1994 01:00	0	0	0	0	0	0	0	0	0	0	0	444	20.14	7.83	1033	5.05
11-MAY-1994 02:00	0	0	0	0	1825	0	1825	0	0	1825	0	473	19.98	7.80	1033	5.70
11-MAY-1994 06:00	0	0	0	0	3397	0	3397	0	0	3397	0	440	20.02	7.83	1033	7.45
11-MAY-1994 07:00	0	2493	59838	0	1662	0	1662	0	0	1662	2493	432	20.00	7.82	1033	7.50
11-MAY-1994 08:00	0	2502	60053	0	0	2502	2502	0	0	0	5004	437	19.95	7.81	1033	6.50
11-MAY-1994 09:00	0	2493	59838	0	0	0	0	0	0	0	2493	435	20.00	7.83	1033	6.18
11-MAY-1994 10:00	0	0	0	0	0	0	0	0	0	0	0	433	20.05	7.84	1033	5.85
11-MAY-1994 11:00	0	0	0	0	1692	0	1692	0	2538	1692	2538	433	20.23	7.86	1033	5.40
11-MAY-1994 12:00	0	0	0	0	0	0	0	0	0	0	0	432	20.35	7.85	1033	4.70
11-MAY-1994 13:00	0	7965	191162	63721	0	0	0	0	0	0	10620	433	20.42	7.85	1033	4.40
11-MAY-1994 14:00	0	5413	129921	0	0	0	0	0	0	0	5413	433	20.54	7.86	1033	4.10
11-MAY-1994 19:00	0	0	0	65728	38333	2739	41071	0	2738	38333	8215	617	20.23	7.86	1033	5.90
11-MAY-1994 20:00	0	0	0	63478	17629	0	17629	0	0	17629	2645	501	20.14	7.87	1033	6.25
11-MAY-1994 21:00	0	2625	62999	0	5249	0	5249	0	0	5249	2625	465	20.09	7.87	1033	6.25
11-MAY-1994 22:00	0	0	0	61833	5152	0	5152	0	0	5152	2576	453	19.98	7.86	1033	6.10
11-MAY-1994 23:00	0	0	0	62062	0	0	0	0	0	0	2586	442	19.93	7.87	1033	5.70
12-MAY-1994 00:00	0	0	0	0	0	0	0	0	0	0	0	443	19.80	7.88	1036	5.30
12-MAY-1994 01:00	0	0	0	64397	0	0	0	0	0	0	2683	441	19.67	7.89	1036	5.00
12-MAY-1994 02:00	0	0	0	0	0	0	0	0	0	0	0	448	19.60	7.90	1036	5.45
12-MAY-1994 03:00	0	0	0	130807	3633	0	3633	0	0	3633	5450	484	19.50	7.88	1036	6.00
12-MAY-1994 04:00	0	0	0	196980	16411	0	16411	0	0	16411	8207	477	19.48	7.87	1036	6.40
12-MAY-1994 05:00	0	0	0	0	32192	0	32192	0	0	32192	0	448	19.54	7.89	1036	6.95
12-MAY-1994 06:00	0	0	0	0	3470	0	3470	0	0	3470	0	440	19.56	7.92	1036	7.30
12-MAY-1994 07:00	0	0	0	0	0	0	0	0	0	0	0	440	19.53	7.90	1036	7.25
12-MAY-1994 08:00	0	0	0	0	0	2492	2492	0	0	0	2492	435	19.59	7.91	1036	6.90
12-MAY-1994 10:00	0	0	0	0	0	0	0	0	0	0	0	433	19.71	7.90	1036	6.08
12-MAY-1994 11:00	0	0	0	0	0	0	0	0	2555	0	2555	432	19.78	7.88	1036	5.50
12-MAY-1994 12:00	0	0	0	61331	1703	0	1703	0	0	1703	2555	430	19.74	7.89	1036	5.30
12-MAY-1994 13:00	0	0	0	0	0	0	0	0	0	0	0	431	20.00	7.90	1036	4.70
12-MAY-1994 14:00	0	2603	62475	0	0	0	0	0	0	0	2603	434	20.38	7.93	1036	4.20
12-MAY-1994 15:00	0	0	0	0	0	0	0	0	2642	0	2642	434	20.60	7.98	1036	3.90
12-MAY-1994 16:00	0	0	0	129793	0	0	0	0	2703	0	8111	439	20.61	8.00	1036	3.80
12-MAY-1994 17:00	0	2813	67513	135027	0	0	0	0	2812	0	11252	719	20.43	7.90	1036	4.60
12-MAY-1994 18:00	0	2848	68340	0	7592	2847	10439	0	0	7592	5695	768	20.36	7.90	1036	5.00
12-MAY-1994 19:00	0	0	0	0	14880	5581	20461	0	2790	14880	8371	704	20.15	7.90	1036	5.55
12-MAY-1994 21:00	0	0	0	0	0	0	0	0	0	0	0	480	19.96	7.92	1036	6.30
12-MAY-1994 22:00	0	0	0	0	0	0	0	0	5244	0	5244	449	19.88	7.91	1036	6.20
13-MAY-1994 00:00	0	0	0	0	0	0	0	0	0	0	0	446	19.73	7.93	1024	5.55
13-MAY-1994 01:00	0	0	0	0	0	0	0	0	0	0	0	445	19.63	7.93	1024	5.25

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, µS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
13-MAY-1994 03:00	0	0	0	0	0	0	0	0	0	0	0	449	19.51	7.93	1024	5.75
13-MAY-1994 04:00	0	0	0	0	0	0	0	0	0	0	0	470	19.51	7.90	1024	6.20
13-MAY-1994 12:00	0	2480	59530	238120	0	0	0	0	0	0	12402	450	20.20	7.95	1024	5.35
13-MAY-1994 15:00	0	0	0	0	0	0	0	0	0	0	0	450	20.85	8.00	1024	3.90
13-MAY-1994 18:00	0	0	0	0	1884	0	1884	0	0	1884	0	751	20.68	7.89	1024	4.80
13-MAY-1994 21:00	0	0	0	0	0	0	0	0	0	0	0	509	20.38	7.90	1024	6.05
14-MAY-1994 00:00	0	0	0	0	0	0	0	0	0	0	0	450	20.26	7.92	1013	5.80
14-MAY-1994 03:00	0	0	0	0	0	0	0	0	0	0	0	450	20.10	7.92	1013	5.35
14-MAY-1994 06:00	0	0	0	258839	0	0	0	0	0	0	10785	461	20.02	7.90	1013	6.80
14-MAY-1994 09:00	0	0	0	0	0	0	0	0	0	0	0	443	20.31	7.91	1013	6.90
14-MAY-1994 12:00	0	0	0	0	0	0	0	0	0	0	0	442	20.54	7.92	1013	5.37
14-MAY-1994 15:00	0	0	0	0	0	0	0	0	0	0	0	448	20.84	7.97	1013	4.00
14-MAY-1994 18:00	0	0	0	0	1848	0	1848	0	0	1848	0	604	20.52	7.93	1013	4.35
14-MAY-1994 21:00	0	0	0	0	3667	0	3667	0	0	3667	0	543	20.18	7.93	1013	5.90
15-MAY-1994 00:00	0	0	0	0	0	0	0	0	0	0	0	450	20.16	7.94	1013	6.55
15-MAY-1994 03:00	0	0	0	0	1709	0	1709	0	0	1709	0	449	20.02	7.95	1013	5.55
15-MAY-1994 06:00	0	0	0	0	0	0	0	0	0	0	0	454	19.88	7.92	1013	6.65
15-MAY-1994 08:00	0	0	0	0	0	0	0	0	0	0	0	449	19.93	7.95	1013	7.45
15-MAY-1994 09:00	0	0	0	0	0	0	0	0	2453	0	2453	446	19.93	7.94	1013	7.50
15-MAY-1994 11:00	0	0	0	0	0	0	0	0	0	0	0	438	19.97	7.93	1013	6.65
15-MAY-1994 17:00	0	0	0	0	0	0	0	0	0	0	0	440	20.20	7.97	1013	3.90
15-MAY-1994 20:00	0	0	0	0	0	0	0	0	0	0	0	686	19.55	7.87	1013	5.15
16-MAY-1994 00:00	0	0	0	0	0	0	0	0	0	0	0	456	19.68	7.91	1015	6.70
16-MAY-1994 03:00	0	0	0	121062	0	0	0	0	0	0	5044	444	19.38	7.92	1015	5.50
16-MAY-1994 06:00	0	0	0	0	0	0	0	0	0	0	0	460	19.16	7.90	1015	6.00
16-MAY-1994 09:00	0	7709	185006	0	0	0	0	0	5138	0	12847	442	19.18	7.91	1015	6.75
16-MAY-1994 12:00	0	0	0	538814	0	0	0	0	2494	0	24945	446	19.17	7.91	1015	6.20
16-MAY-1994 15:00	0	5082	121962	60981	0	0	0	0	0	0	7623	444	19.49	7.92	1015	4.70
16-MAY-1994 18:00	0	2670	64078	1153399	0	0	0	0	0	0	50728	449	19.56	7.98	1015	3.70
16-MAY-1994 21:00	0	0	0	0	0	0	0	0	0	0	0	701	19.02	7.86	1015	5.25
17-MAY-1994 00:00	0	0	0	127037	0	0	0	0	2646	0	7939	460	19.26	7.90	1014	6.60
17-MAY-1994 03:00	0	2520	60471	423300	0	0	0	0	0	0	20157	447	18.99	7.89	1014	5.80
17-MAY-1994 06:00	0	5377	129037	258075	0	0	0	0	2688	0	18817	444	18.83	7.91	1014	5.30
17-MAY-1994 11:00	0	0	0	301245	0	0	0	0	2510	0	15062	444	18.92	7.88	1014	6.65
17-MAY-1994 13:00	0	0	0	0	0	0	0	0	0	0	0	443	19.02	7.90	1014	5.70
17-MAY-1994 15:00	0	0	0	61148	0	0	0	0	0	0	2548	441	19.57	7.95	1014	4.80
17-MAY-1994 17:00	0	2606	62549	0	0	0	0	0	0	0	2606	439	19.55	7.97	1014	3.60
17-MAY-1994 19:00	0	0	0	0	0	0	0	0	0	0	0	449	19.19	7.93	1014	3.45
17-MAY-1994 21:00	0	0	0	136565	0	0	0	0	0	0	5690	748	18.88	7.77	1014	4.65
17-MAY-1994 22:00	0	0	0	267555	0	0	0	0	0	0	11148	720	18.87	7.78	1014	5.15
18-MAY-1994 00:00	0	2647	63518	254073	0	0	0	0	0	0	13233	515	18.94	7.84	1014	6.10
18-MAY-1994 02:00	0	0	0	310374	0	0	0	0	2586	0	15518	449	18.92	7.86	1014	6.45
18-MAY-1994 04:00	0	0	0	0	0	0	0	0	0	0	0	444	18.80	7.87	1014	5.60

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, µS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
18-MAY-1994 06:00	0	0	0	0	0	0	0	0	2566	0	2566	445	18.70	7.86	1014	4.75
18-MAY-1994 08:00	0	0	0	0	0	2667	2667	0	0	0	2667	453	18.71	7.85	1014	5.35
18-MAY-1994 16:00	0	0	0	0	0	0	0	0	0	0	0	444	19.62	7.91	1014	4.70
18-MAY-1994 18:00	0	0	0	0	0	0	0	0	0	0	0	451	19.32	7.91	1014	3.95
18-MAY-1994 20:00	0	0	0	0	0	0	0	0	0	0	0	494	19.15	7.89	1014	4.00
19-MAY-1994 10:00	0	0	0	124241	0	0	0	0	2588	0	7765	658	18.40	7.76	984	5.55
19-MAY-1994 12:00	0	0	0	249457	0	0	0	0	0	0	10394	717	18.60	7.75	984	6.25
19-MAY-1994 14:00	0	0	0	0	0	0	0	0	0	0	0	519	18.78	7.83	984	6.40
19-MAY-1994 16:00	0	0	0	0	0	0	0	0	2418	0	2418	494	18.88	7.88	984	5.30
19-MAY-1994 18:00	0	2491	59785	0	0	0	0	0	2491	0	4982	503	18.82	7.90	984	4.50
19-MAY-1994 20:00	0	0	0	0	0	0	0	0	2608	0	2608	492	18.69	7.94	984	4.00
19-MAY-1994 21:00	0	0	0	0	0	0	0	0	0	0	0	577	18.63	7.89	984	4.40
19-MAY-1994 23:00	0	0	0	0	0	0	0	0	0	0	0	772	18.56	7.69	984	5.50
20-MAY-1994 01:00	0	0	0	190896	0	0	0	0	0	0	7954	798	18.55	7.72	1004	6.55
20-MAY-1994 03:00	0	0	0	0	0	0	0	0	2551	0	2551	652	18.39	7.78	1004	7.05
20-MAY-1994 05:00	0	0	0	302726	0	0	0	0	0	0	12614	551	18.29	7.83	1004	6.10
20-MAY-1994 07:00	0	0	0	59655	0	0	0	0	0	0	2486	508	18.18	7.88	1004	5.15
20-MAY-1994 12:00	0	0	0	197880	0	0	0	0	0	0	8245	725	18.31	7.66	1004	5.70
20-MAY-1994 15:00	0	0	0	368776	0	0	0	0	2560	0	17926	718	18.81	7.68	1004	6.00
20-MAY-1994 18:00	0	0	0	368776	0	0	0	0	0	0	15366	703	19.17	7.75	1004	4.83
20-MAY-1994 20:00	0	0	0	557386	0	0	0	0	0	0	23224	698	18.93	7.75	1004	4.10
20-MAY-1994 23:00	0	0	0	263839	0	0	0	0	21982	0	32975	789	19.12	7.68	1004	5.15
21-MAY-1994 02:00	0	0	0	61616	0	0	0	0	10267	0	12834	756	18.83	7.69	976	6.35
21-MAY-1994 05:00	0	0	0	0	0	0	0	0	0	0	0	653	18.45	7.77	976	6.50
21-MAY-1994 08:00	0	0	0	529711	0	0	0	0	0	0	22071	544	18.48	8.02	976	4.95
21-MAY-1994 10:00	0	0	0	0	0	0	0	0	0	0	0	571	18.49	7.94	976	4.30
21-MAY-1994 13:00	0	0	0	62594	0	0	0	0	0	0	2608	754	19.14	7.75	976	5.33
21-MAY-1994 16:00	0	0	0	0	0	0	0	0	2557	0	2557	765	19.18	7.72	976	6.30
21-MAY-1994 19:00	0	0	0	173974	0	0	0	0	0	0	7249	765	19.03	7.73	976	5.15
21-MAY-1994 21:00	0	0	0	0	0	0	0	0	0	0	0	778	18.95	7.75	976	4.45
22-MAY-1994 00:00	0	0	0	0	0	0	0	0	0	0	0	682	19.15	7.75	969	5.70
22-MAY-1994 03:00	0	0	0	0	0	0	0	0	0	0	0	740	18.93	7.75	969	6.90
22-MAY-1994 06:00	0	0	0	0	0	0	0	0	0	0	0	705	18.58	7.80	969	6.60
22-MAY-1994 10:00	0	0	0	58874	0	0	0	0	0	0	2453	714	19.16	7.81	969	4.60
22-MAY-1994 13:00	0	0	0	61174	0	0	0	0	0	0	2549	636	19.13	7.99	969	4.80
22-MAY-1994 16:00	0	0	0	0	0	0	0	0	2509	0	2509	596	19.50	7.72	969	6.15
22-MAY-1994 17:00	0	0	0	0	0	0	0	0	0	0	0	613	19.51	7.72	969	6.35
22-MAY-1994 20:00	0	0	0	0	0	0	0	0	0	0	0	644	19.74	7.77	969	5.10
22-MAY-1994 21:00	0	0	0	0	0	0	0	0	0	0	0	626	19.45	7.74	969	4.80
23-MAY-1994 00:00	0	0	0	127496	0	0	0	0	0	0	5312	617	19.43	7.75	994	5.50
23-MAY-1994 03:00	0	0	0	0	0	0	0	0	0	0	0	575	19.43	7.69	994	6.90
23-MAY-1994 06:00	0	0	0	0	0	0	0	0	0	0	0	645	19.22	7.73	994	7.20
23-MAY-1994 09:00	0	0	0	0	0	0	0	0	0	0	0	618	19.40	7.76	994	5.65

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, µS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
23-MAY-1994 12:00	0	0	0	0	10217	0	10217	0	0	10217	0	593	20.13	7.81	994	4.40
23-MAY-1994 15:00	0	0	0	0	1799	0	1799	0	0	1799	0	540	20.35	7.74	994	5.50
23-MAY-1994 18:00	0	0	0	0	0	0	0	0	0	0	0	551	20.27	7.71	994	6.45
23-MAY-1994 20:00	0	0	0	0	0	0	0	0	0	0	0	557	20.13	7.70	994	5.80
23-MAY-1994 23:00	0	0	0	0	1690	0	1690	0	0	1690	0	581	19.98	7.72	994	4.65
24-MAY-1994 01:00	0	0	0	0	0	0	0	0	0	0	0	549	20.05	7.72	891	5.80
24-MAY-1994 03:00	0	0	0	0	0	0	0	0	0	0	0	526	20.00	7.71	891	6.35
24-MAY-1994 05:00	0	0	0	0	0	0	0	0	0	0	0	551	19.84	7.70	891	7.00
24-MAY-1994 07:00	0	0	0	0	0	0	0	0	0	0	0	563	19.77	7.72	891	7.00
24-MAY-1994 10:00	0	0	0	0	0	0	0	0	0	0	0	562	20.00	7.86	891	5.70
24-MAY-1994 13:00	0	0	0	109923	0	0	0	0	0	0	4580	563	20.88	7.73	891	4.20
24-MAY-1994 16:00	0	0	0	0	0	0	0	0	0	0	0	530	21.40	7.87	891	5.30
24-MAY-1994 19:00	0	0	0	0	0	0	0	0	0	0	0	527	21.00	7.78	891	6.40
24-MAY-1994 21:00	0	0	0	0	0	0	0	0	0	0	0	528	20.63	7.77	891	5.90
25-MAY-1994 00:00	0	0	0	0	0	0	0	0	0	0	0	540	20.24	7.81	839	4.95
25-MAY-1994 03:00	0	0	0	0	0	0	0	0	0	0	0	531	20.32	7.81	839	6.60
25-MAY-1994 06:00	0	0	0	0	4035	0	4035	0	0	4035	0	535	20.04	7.88	839	7.90
25-MAY-1994 08:00	0	0	0	0	0	0	0	0	0	0	0	526	20.18	8.05	839	7.10
25-MAY-1994 11:00	0	0	0	0	0	0	0	0	0	0	0	531	20.36	8.01	839	5.65
25-MAY-1994 14:00	0	0	0	0	0	0	0	0	0	0	0	532	20.95	7.93	839	4.30
25-MAY-1994 16:00	0	0	0	0	0	0	0	0	0	0	0	529	20.99	8.11	839	4.85
25-MAY-1994 17:00	0	0	0	0	0	0	0	0	2206	0	2206	517	21.22	7.98	839	5.40
25-MAY-1994 21:00	0	0	0	0	0	0	0	0	0	0	0	516	20.54	7.90	839	6.35
25-MAY-1994 22:00	0	0	0	0	0	0	0	0	0	0	0	516	20.41	7.90	839	5.95
26-MAY-1994 03:00	0	0	0	52695	0	0	0	0	2195	0	4391	528	20.03	7.91	851	6.30
26-MAY-1994 04:00	0	0	0	0	0	0	0	0	0	0	0	521	19.95	7.91	851	6.85
26-MAY-1994 06:00	0	2171	52096	0	0	0	0	0	0	0	2171	522	19.77	7.93	851	7.80
26-MAY-1994 20:00	0	0	0	0	0	0	0	0	0	0	0	538	20.26	7.97	851	6.20
26-MAY-1994 23:00	0	0	0	0	1384	0	1384	0	0	1384	0	533	19.81	7.91	851	5.50
27-MAY-1994 02:00	0	0	0	0	0	0	0	0	0	0	0	541	19.33	7.95	1199	5.20
27-MAY-1994 05:00	0	0	0	0	0	0	0	0	0	0	0	556	19.42	7.93	1199	6.95
27-MAY-1994 18:00	0	0	0	0	0	0	0	0	3153	0	3153	581	21.03	7.96	1199	4.90
27-MAY-1994 21:00	0	0	0	0	0	0	0	0	0	0	0	543	20.46	8.01	1199	6.50
28-MAY-1994 00:00	0	0	0	0	0	0	0	0	0	0	0	469	20.43	8.57	1765	6.00
28-MAY-1994 11:00	0	0	0	99738	0	24934	24934	0	0	0	29090	459	20.88	8.62	1765	6.00
28-MAY-1994 14:00	0	0	0	0	0	0	0	0	0	0	0	465	20.87	8.58	1765	4.80
28-MAY-1994 17:00	0	0	0	0	3024	0	3024	0	0	3024	0	529	21.69	8.15	1765	3.80
28-MAY-1994 20:00	0	0	0	0	0	0	0	0	0	0	0	599	21.76	7.95	1765	5.35
28-MAY-1994 22:00	0	0	0	0	58567	0	58567	0	0	58567	0	552	21.35	8.03	1765	6.30
29-MAY-1994 01:00	0	0	0	0	0	0	0	0	0	0	0	455	21.17	8.58	1766	5.40
29-MAY-1994 04:00	0	0	0	0	0	0	0	0	4644	0	4644	483	20.98	8.38	1766	4.60
29-MAY-1994 07:00	0	0	0	0	3171	0	3171	0	0	3171	0	527	21.07	8.10	1766	5.90
29-MAY-1994 13:00	0	0	0	0	43873	0	43873	0	0	43873	0	441	21.92	8.68	1766	5.30

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, µS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
29-MAY-1994 16:00	0	0	0	0	0	0	0	0	0	0	0	469	22.43	8.53	1766	4.00
29-MAY-1994 19:00	0	0	0	0	0	9514	9514	0	0	0	9514	665	22.92	7.95	1766	4.20
29-MAY-1994 22:00	0	0	0	0	0	4645	4645	0	0	0	4645	628	22.56	7.94	1766	5.70
30-MAY-1994 00:00	0	0	0	0	4121	6183	10304	0	0	4121	6183	476	22.24	8.33	2369	6.40
30-MAY-1994 03:00	0	0	0	0	0	5908	5908	0	0	0	5908	445	22.16	8.51	2369	5.10
30-MAY-1994 06:00	0	0	0	0	16358	0	16358	0	0	16358	0	560	22.07	8.06	2369	4.60
30-MAY-1994 08:00	0	0	0	0	0	0	0	0	0	0	0	539	22.16	8.06	2369	5.90
30-MAY-1994 09:00	0	0	0	0	0	0	0	0	6380	0	6380	492	22.28	8.23	2369	6.25
30-MAY-1994 11:00	0	0	0	0	0	0	0	0	0	0	0	437	22.49	8.45	2369	6.50
30-MAY-1994 14:00	0	0	0	0	0	5697	5697	0	0	0	5697	431	22.76	8.51	2369	4.55
30-MAY-1994 17:00	0	0	0	0	0	0	0	0	0	0	0	643	23.12	8.04	2369	2.70
30-MAY-1994 20:00	0	0	0	0	0	0	0	0	0	0	0	364	23.26	8.09	2369	3.50
31-MAY-1994 04:00	0	0	0	0	0	4465	4465	0	0	0	4465	404	22.41	8.30	1684	3.30
31-MAY-1994 19:00	0	0	0	0	0	0	0	0	13032	0	13032	510	22.96	8.15	1684	4.35
31-MAY-1994 22:00	0	0	0	329225	0	0	0	0	4572	0	18289	726	23.05	8.15	1684	5.95
01-JUN-1994 01:00	0	0	0	0	0	0	0	0	0	0	0	498	22.55	8.12	899	7.25
01-JUN-1994 04:00	0	0	0	0	0	0	0	0	0	0	0	455	22.11	8.07	899	6.20
01-JUN-1994 15:00	0	0	0	0	0	0	0	0	2209	0	2209	501	22.85	8.05	899	5.05
01-JUN-1994 16:00	0	0	0	0	0	0	0	0	2201	0	2201	500	23.15	8.13	899	4.85
01-JUN-1994 17:00	0	0	0	53026	0	2209	2209	0	4418	0	8837	484	23.07	8.11	899	4.50
01-JUN-1994 18:00	0	0	0	0	0	0	0	0	2319	0	2319	527	23.18	8.11	899	4.10
01-JUN-1994 20:00	0	0	0	0	0	4693	4693	0	0	0	4693	486	22.73	8.17	899	4.10
01-JUN-1994 21:00	0	0	0	0	0	7323	7323	0	0	0	7323	730	23.22	8.24	899	4.70
01-JUN-1994 22:00	0	0	0	0	0	0	0	0	2522	0	2522	822	23.39	8.35	899	5.15
01-JUN-1994 23:00	0	0	0	119092	1654	52103	53756	0	0	1654	57065	791	23.26	8.28	899	5.70
02-JUN-1994 00:00	0	0	0	0	0	0	0	0	0	0	0	755	23.04	8.17	893	6.20
02-JUN-1994 01:00	0	0	0	0	9543	4773	14316	0	2386	9543	7158	755	23.04	8.17	893	6.20
02-JUN-1994 02:00	0	0	0	0	52013	0	52013	0	2295	52013	2295	503	22.42	8.05	893	7.00
02-JUN-1994 03:00	0	0	0	0	183046	0	183046	0	0	183046	0	612	22.67	8.07	893	6.80
02-JUN-1994 04:00	0	0	0	0	1496	2244	3739	0	0	1496	2244	465	22.31	8.00	893	6.90
02-JUN-1994 05:00	0	0	0	0	0	2195	2195	0	0	0	2195	459	22.15	8.00	893	5.90
02-JUN-1994 06:00	0	0	0	0	0	0	0	0	0	0	0	458	22.06	7.98	893	5.60
02-JUN-1994 07:00	0	0	0	0	0	4556	4556	0	0	0	4556	460	22.10	7.96	893	5.20
02-JUN-1994 09:00	0	0	0	0	1524	6859	8383	0	0	1524	6859	465	22.17	7.92	893	4.40
02-JUN-1994 10:00	0	0	0	0	2969	48998	51967	0	0	2969	48998	460	22.36	8.04	893	4.85
02-JUN-1994 11:00	0	0	0	0	0	12222	12222	0	2444	0	14666	555	22.45	8.01	893	5.30
02-JUN-1994 12:00	0	0	0	56820	6312	2367	8679	0	0	6312	4735	726	22.70	8.10	893	5.75
02-JUN-1994 13:00	0	0	0	0	0	4811	4811	0	0	0	4811	706	22.82	8.10	893	6.10
02-JUN-1994 14:00	0	0	0	115458	9619	4811	14430	0	0	9619	9621	626	22.78	8.07	893	6.30
02-JUN-1994 18:00	0	0	0	54667	0	0	0	0	0	0	2278	554	22.80	8.05	893	4.00
02-JUN-1994 19:00	0	0	0	0	1554	0	1554	0	2330	1554	2330	526	22.42	8.08	893	4.20
02-JUN-1994 20:00	0	0	0	0	0	0	0	0	0	0	0	514	22.36	8.06	893	4.20
02-JUN-1994 21:00	0	0	0	54875	0	0	0	0	0	0	2286	647	22.44	8.14	893	4.60

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, uS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
02-JUN-1994 22:00	0	0	0	0	0	0	0	0	17947	0	17947	797	22.63	8.24	893	5.00
02-JUN-1994 23:00	0	0	0	521018	0	0	0	0	13023	0	34732	807	22.56	8.24	893	5.60
03-JUN-1994 00:00	0	0	0	0	0	0	0	0	7538	0	7538	629	22.35	8.18	795	6.10
03-JUN-1994 01:00	0	0	0	177219	0	0	0	0	11074	0	18458	484	22.16	8.11	795	6.55
03-JUN-1994 02:00	0	0	0	0	0	3617	3617	0	5425	0	9042	449	22.13	8.04	795	7.00
03-JUN-1994 03:00	0	0	0	0	0	5389	5389	0	10777	0	16166	438	22.01	8.05	795	7.20
03-JUN-1994 04:00	0	0	0	264915	0	1840	1840	0	12875	0	25753	450	21.90	7.98	795	6.60
03-JUN-1994 06:00	0	0	0	0	0	1926	1926	0	0	0	1926	442	21.64	8.01	795	5.65
03-JUN-1994 09:00	0	0	0	0	0	10622	10622	0	0	0	10622	441	21.68	8.03	795	4.45
03-JUN-1994 14:00	0	0	0	0	0	2159	2159	0	0	0	2159	709	22.12	8.14	795	5.80
03-JUN-1994 16:00	0	0	0	0	0	0	0	0	0	0	0	530	22.04	8.09	795	6.25
03-JUN-1994 18:00	0	0	0	0	0	6015	6015	0	0	0	6015	478	22.04	8.03	795	5.40
03-JUN-1994 20:00	0	0	0	0	0	4087	4087	0	0	0	4087	491	21.89	8.02	795	4.75
03-JUN-1994 21:00	0	0	0	0	0	10538	10538	0	2107	0	12646	515	21.74	8.05	795	4.65
03-JUN-1994 22:00	0	0	0	0	0	0	0	0	4282	0	4282	472	21.66	8.10	795	5.20
03-JUN-1994 23:00	0	0	0	0	0	2194	2194	0	4387	0	6581	639	21.65	8.08	795	5.70
04-JUN-1994 02:00	0	0	0	0	0	9383	9383	0	11257	0	20641	478	21.52	8.05	719	7.20
04-JUN-1994 04:00	0	0	0	43037	0	19725	19725	0	0	0	21519	452	21.48	8.00	719	7.40
04-JUN-1994 07:00	0	0	0	0	0	13933	13933	0	0	0	13933	469	21.22	7.98	719	5.35
04-JUN-1994 08:00	0	0	0	0	0	7281	7281	0	0	0	7281	449	21.28	8.02	719	5.40
04-JUN-1994 09:00	0	0	0	0	0	1813	1813	0	0	0	1813	449	21.34	7.97	719	4.80
04-JUN-1994 10:00	0	0	0	0	0	3654	3654	0	0	0	3654	451	21.46	7.98	719	4.50
04-JUN-1994 11:00	0	0	0	0	0	0	0	0	0	0	0	457	21.64	8.00	719	4.30
04-JUN-1994 12:00	0	0	0	0	0	1906	1906	0	0	0	1906	458	21.81	8.01	719	4.30
04-JUN-1994 13:00	0	0	0	0	0	0	0	0	0	0	0	655	21.83	8.01	719	5.30
04-JUN-1994 15:00	0	0	0	0	0	1906	1906	0	0	0	1906	693	21.97	8.04	719	4.93
04-JUN-1994 16:00	0	0	0	0	1271	0	1271	0	0	1271	0	712	22.05	8.06	719	6.25
04-JUN-1994 17:00	0	0	0	0	2492	1869	4361	0	0	2492	1869	636	22.00	8.03	719	6.13
04-JUN-1994 21:00	0	0	0	0	0	0	0	0	1800	0	1800	545	21.68	8.00	719	4.75
04-JUN-1994 23:00	0	0	0	181564	0	0	0	0	0	0	7565	532	21.66	7.99	719	5.40
05-JUN-1994 00:00	0	0	0	0	0	0	0	0	1918	0	1918	744	21.78	8.01	718	5.90
05-JUN-1994 01:00	0	0	0	139247	0	0	0	0	15469	0	21271	741	21.68	8.01	718	6.30
05-JUN-1994 02:00	0	0	0	0	0	1957	1957	0	0	0	1957	596	21.56	8.00	718	6.90
05-JUN-1994 03:00	0	0	0	45506	0	1896	1896	0	5687	0	9479	466	21.75	7.98	718	7.25
05-JUN-1994 04:00	0	0	0	43954	0	7326	7326	0	1831	0	10988	438	21.76	7.97	718	7.40
05-JUN-1994 05:00	0	0	0	0	0	8888	8888	0	8886	0	17774	439	21.65	7.91	718	7.15
05-JUN-1994 08:00	0	0	0	0	0	1727	1727	0	0	0	1727	456	21.43	7.95	718	5.45
05-JUN-1994 09:00	0	0	0	0	0	0	0	0	1764	0	1764	439	21.45	7.92	718	5.05
05-JUN-1994 10:00	0	0	0	0	0	10865	10865	0	1810	0	12676	458	21.50	7.92	718	4.75
05-JUN-1994 11:00	0	0	0	0	0	18596	18596	0	0	0	18596	477	21.56	7.93	718	4.43
05-JUN-1994 12:00	0	0	0	45506	0	5688	5688	0	0	0	7584	496	21.62	7.94	718	4.10
05-JUN-1994 13:00	0	0	0	0	0	5711	5711	0	0	0	5711	612	21.69	7.98	718	4.63
05-JUN-1994 14:00	0	0	0	0	0	0	0	0	0	0	0	729	21.75	8.02	718	5.15

	Prickly Sculpin			T. Gobi	Striped Bass			Cyprinid Fish	Minor Species	TOTAL: All Species		Water Quality and TPP Pumping				
Date - Time	Eggs	Larvae	E&L	Larvae	Eggs	Larvae	E&L	Eggs	Larvae	Eggs	Larvae	EC, µS/cm	T, °C	pH, SU	TPP, cfs	Depth, ft.
05-JUN-1994 16:00	0	0	0	94341	0	5896	5896	0	0	0	9827	796	21.76	8.07	718	6.00
05-JUN-1994 17:00	0	0	0	0	0	1926	1926	0	0	0	1926	705	21.58	8.02	718	6.40
05-JUN-1994 18:00	0	0	0	0	0	1889	1889	0	0	0	1889	623	21.50	8.00	718	6.50
05-JUN-1994 20:00	0	0	0	0	0	1765	1765	0	0	0	1765	541	21.41	7.95	718	5.80
05-JUN-1994 23:00	0	0	0	0	0	1838	1838	0	0	0	1838	501	21.23	7.96	718	5.40
06-JUN-1994 00:00	0	0	0	0	0	1904	1904	0	0	0	1904	553	21.32	7.95	724	6.00
06-JUN-1994 01:00	0	0	0	0	0	1904	1904	0	0	0	1904	723	21.15	7.99	724	6.40
06-JUN-1994 02:00	0	0	0	0	0	0	0	0	3808	0	3808	677	21.08	7.98	724	6.95
06-JUN-1994 03:00	0	0	0	45004	0	0	0	0	0	0	1875	535	21.22	7.96	724	7.40
06-JUN-1994 05:00	0	0	0	0	0	1833	1833	0	1832	0	3665	434	21.36	7.92	724	7.65
06-JUN-1994 06:00	0	0	0	0	0	12365	12365	0	1766	0	14131	446	21.28	7.90	724	7.15
06-JUN-1994 07:00	0	0	0	0	0	5242	5242	0	0	0	5242	459	21.23	7.91	724	6.65
06-JUN-1994 08:00	0	0	0	0	0	3433	3433	0	0	0	3433	436	21.25	7.91	724	6.20
06-JUN-1994 09:00	0	0	0	0	0	3433	3433	0	0	0	3433	455	21.21	7.89	724	5.70
06-JUN-1994 10:00	0	0	0	0	0	3559	3559	0	1779	0	5338	488	21.23	7.87	724	5.30
06-JUN-1994 11:00	0	0	0	0	0	1786	1786	0	0	0	1786	487	21.39	7.89	724	4.90
06-JUN-1994 16:00	0	0	0	0	0	0	0	0	0	0	0	805	21.94	8.11	724	5.80
06-JUN-1994 17:00	0	0	0	0	0	0	0	0	3823	0	3823	820	21.81	8.08	724	6.10

Figure A-1 1991-1993 daily average pumping at the TPP and Delta discharge.

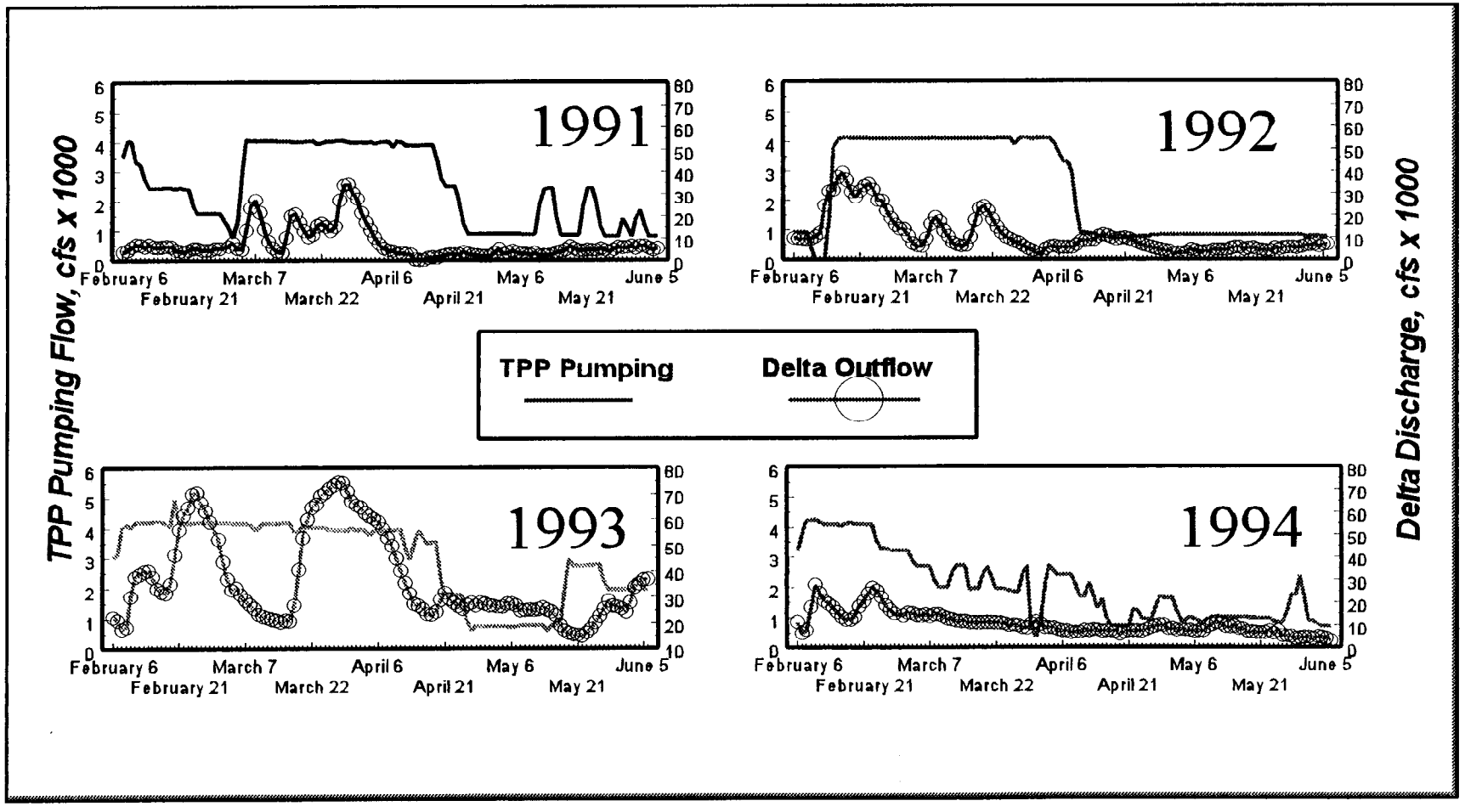


Figure A-2 Summary plots of water quality variables measured using the Hydrolab.

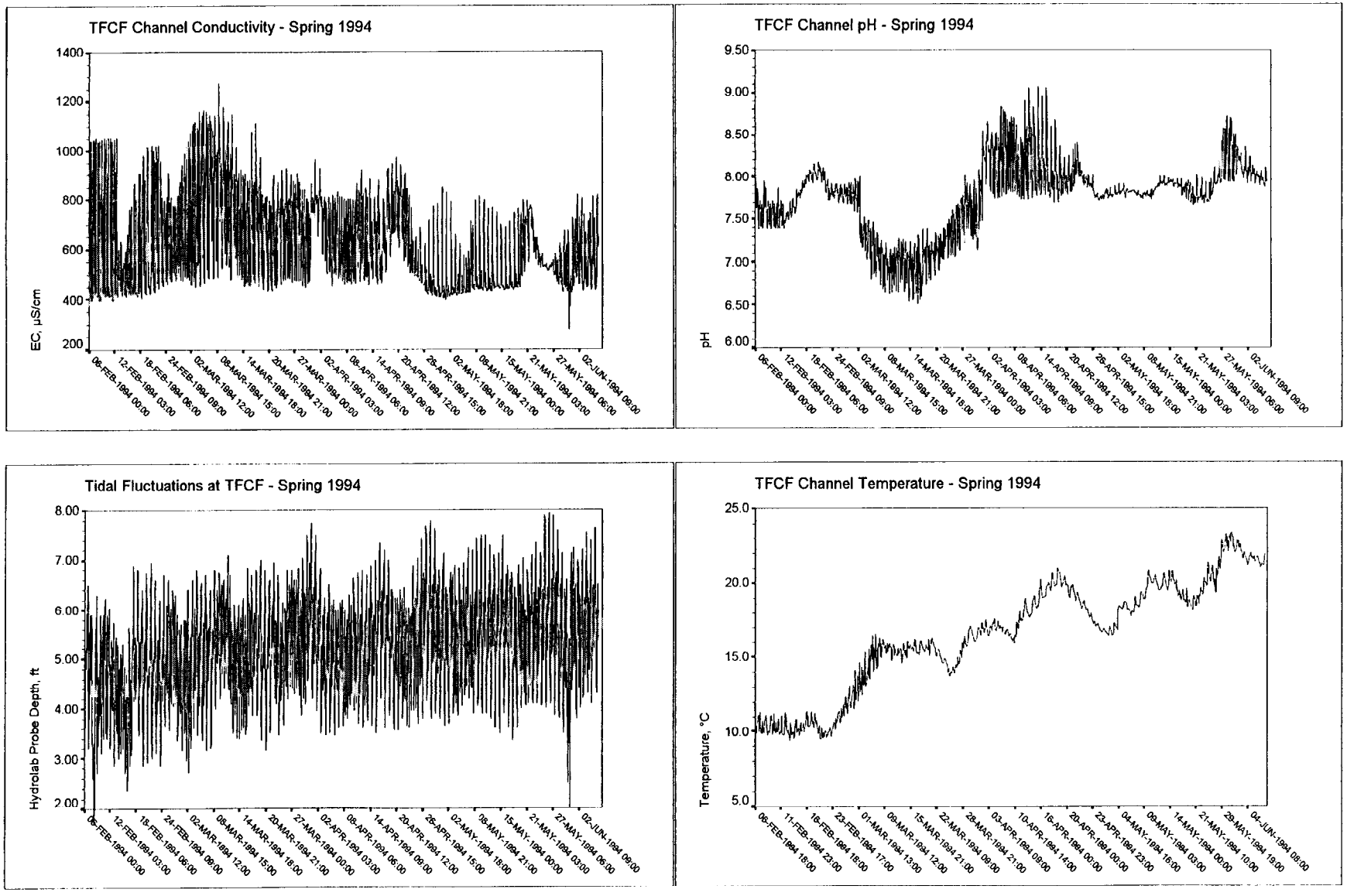


Table A-2 Endangered species delta smelt, longfin smelt, and splittail larvae collected in continuous E&L sampling at the TFCF, February 6 - June 6, 1994.

Species	Date	Time	Length, mm
Delta smelt	Feb. 16	1400	6.1
	Feb. 24	2100	7.0
	April 13	2300	11.4
	April 14,	0100	11.0
	April 17	2100	16.5
	April 18	1900	19.3
	April 19	0000	12.2
	April 19	0100	15.0
	April 19	2000	17.4
	April 20	0500	13.8
	April 21	0900	16.0
	April 23	1400	17.2
	April 23	1700	15.2
	April 24	0300	13.5
	April 24	0500	20.0
splittail	April 20	0000	10.1
	April 20	0600	5.1
	April 20	0600	5.2
	April 22	1400	9.3
	May 4	2300	7.2
longfin smelt	Feb. 11	1000	7.0
	Feb. 12	1000	7.8
	Feb. 13	0600	7.2
	Feb. 14	1600	7.0
	Feb. 14	1600	7.8
	Feb. 15	1400	7.9
	Feb. 17	1300	6.0
	April 5	1100	19.0
	April 6	1900	mutilated