



FINAL

**Impingement and Entrainment
Characterization Study
LaSalle County Station**

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August 2015

15004.03

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1. INTRODUCTION

An impingement mortality and entrainment characterization study was conducted at the River Screen House (RSH) on the Illinois River during 2014/ 2015 for Exelon's LaSalle County Station (LSCS). Because LSCS utilizes a closed-cycle recirculating cooling system (i.e., a 2058 acre cooling pond) for cooling of plant condensers, it has been determined in accordance with the Best Professional Judgment (BPJ) provisions of 40 CFR 125.3 to be the equivalent of Best Technology Available (BTA) for cooling water intake structures to prevent/minimize impingement mortality . Accordingly, the purpose of the study described herein was solely to collect current aquatic biological information needed to support preparation of the Environmental Report submitted as part of a U.S. Nuclear Regulatory Commission (NRC) license renewal application.

1.1. STUDY OBJECTIVES

Exelon Generation Company, LLC (Exelon) contracted EA Engineering, Science, and Technology, Inc., PBC (EA) to perform the LSCS Impingement Mortality and Entrainment Characterization Study (IMECS), which included a one-year impingement study conducted from April 2014 through March 2015 and a seasonal entrainment study conducted during the 2014 spawning season (April through August). The entrainment study was conducted during fish spawning and rearing periods typical for northern Illinois. Specific objectives of the study were to:

- Describe the fish and shellfish taxa composition in the impingement and entrainment samples collected from the LSCS makeup water intake structure at the RSH under normal operations;
- Note the presence of any rare or listed species and the significance of such collections;
- As appropriate, note and discuss the presence of unusually large numbers of recreationally important species (e.g., black bass, temperate bass, and channel catfish);
- Provide size (length) distributions of the commonly impinged species;
- Characterize entrainment of each taxon according to life stage;
- Describe temporal patterns of the impingement and entrainment rates;
- Provide annual impingement estimates by number and weight for all species combined and for each species currently occurring at the LSCS makeup water intake structure under normal operations;
- Provide entrainment estimates for all taxa combined and by taxon and life stage currently occurring at the LSCS makeup water intake structure under normal operations;
- Describe the overall contribution of invasive species or taxa;
- Describe QA/QC procedures that were followed to ensure the accuracy of all data collected and calculations made; and

- Provide appendices that include all raw data collected, including plant operating and water temperature data.

1.2. SITE DESCRIPTION

LSCS is located near the Illinois River in LaSalle County about 75 miles southwest of Chicago and 11 miles southeast of Ottawa, Illinois. LSCS is a two-unit, nuclear-powered, steam electric generating facility that began commercial operation in 1984. The annual mean net electrical power capacity rating for the Station is 2,327 megawatts electric (MWe).

Condenser cooling water and plant service water are provided by an approximately 833 hectare (ha) diked cooling pond adjacent to the plant. The RSH on the Illinois River provides makeup water to the cooling pond (Figure 1). The discharge structure where blowdown from the cooling pond is returned enters the Illinois River approximately 900 feet downstream of the RSH. The IMECS was conducted entirely in relation to makeup water withdrawal at the RSH.

Makeup cooling water is withdrawn from the Illinois River at river mile 249.5, four miles north of LSCS and three miles upstream of the Marseilles Dam. Makeup water withdrawn from the Illinois River by the RSH is conveyed approximately 3.5 miles to the cooling pond to replace losses due to evaporation, blowdown, and seepage using a combination of three makeup pumps. Makeup water requirements can be met by operating one or two pumps during normal operations with one pump for backup. The rated capacity of each pump is 30,000 gallons per minute (gpm). Maximum water withdrawal from the Illinois River is, therefore, approximately 90,000 gpm. Normal water withdrawal, with two pumps operating, is up to 60,000 gpm.

The makeup water intake system consists of an intake flume channeled into the bottom of the Illinois River extending approximately 50 ft from the shoreline. Recessed about 25 ft from the shoreline is a 72 ft wide funnel inlet. At the mouth of the inlet, a floating log boom diverts floating debris and, in the RSH forebay, a permanent floating oil boom prevents spilled oil from entering the river. The inlet leads to two adjacent bar grills and traveling screens, with 3/8 inch screen openings, in the RSH. When the cooling pond is at or near full pool, only one or two makeup water pumps are required to maintain the pond's water level.

Water velocities in the RSH forebay range from 0.3 to 0.5 ft/second with one pump operating to 0.6 to 1.0 ft/second with two pumps operating, depending on river level. The velocity at the face of the travelling screens is 0.5 ft/second during one-pump full-flow operation and 0.9 ft/second during two-pump full-flow operation. Debris removed from the traveling screens by a screen backwash system and from the bar grills by trash rakes is collected in a trash basket and disposed in an offsite permitted landfill. Consistent with State of Illinois regulations, trash basket contents are not returned to the Illinois River.

The following chapters provide a description of the study methods (Chapter 2) and the IMECS results (Chapter 3).

2. METHODS

This chapter provides details for the RSH impingement and entrainment studies regarding sampling frequency and duration (Section 2.1), sample collection and processing procedures (Section 2.2), impingement (Section 2.3) and entrainment (Section 2.4) data management procedures, and quality assurance/quality control (QA/QC) measures (Section 2.5).

2.1. SAMPLING FREQUENCY AND DURATION

2.1.1. Impingement

A total of 20 impingement samples were successfully collected at the RSH between 2 April 2014 and 31 March 2015 (Table 1), although scheduled outages, maintenance outages, and unworkable weather conditions resulted in cancellation or rescheduling of multiple scheduled sampling events. During each of the 20 successful sampling events, the 24-hour sampling duration goals were met.

2.1.2. Entrainment

Sampling was conducted at one location in the RSH forebay on a frequency of once every two weeks in April 2014, once a week from 01 May through the week of 14 July, and once every two weeks during the remainder of July through the end of the study in August 2014. The sampling program represented 16 collection dates with duplicate samples collected from two depths (near surface and near bottom) and twice (day/night) during each sampling event yielding 128 samples (duplicate samples x 2 depths x 2 sample times x 16 sampling dates) for the entrainment study (Table 2).

2.2. SAMPLE COLLECTION AND PROCESSING

2.2.1. Impingement

The impingement study focused on fish and shellfish, as this term has traditionally been interpreted by resource and regulatory agencies. Therefore, crayfish and native freshwater mussels were processed, but invasive taxa such as *Corbicula* (Asiatic clam) and *Dreissena* (zebra and quagga mussels) were excluded.

Exelon personnel were responsible for rotating the traveling screens and cleaning the collection basket prior to initiating scheduled sampling events. During each 24-hour sampling period, facility personnel were responsible for monitoring the collection basket to prevent it from overflowing. If the traveling screens were in the continuous mode (always rotating), there was no need to manually operate the traveling screens either before or at the end of the sampling event. However, when the traveling screens were being operated in other modes (e.g., manually, automatic, and/or on differential pressure), the traveling screens were manually operated at the start and end of each 24-hour collection period. The mesh size of the collection basket was the same size as the mesh size of the traveling screens (3/8-inch square mesh).

Impinged shellfish and fish were separated from the debris, identified, counted, weighed in grams (g) and total length (TL) was measured in millimeters (mm). Cyprinids (minnows), except for carp and goldfish, were counted and batch weighed. When 30 or fewer individuals of a single species were collected, all were individually measured and weighed, except as noted for minnows. When more than 30 individuals of a single species occurred in a sample and different size groups were obviously represented, fish were divided into small, medium, large size groups. Specimens were then randomly selected from each group in proportion to the contribution of that size group to the whole sample, so that at least 30 individuals were measured and weighed individually. The remainder of the individuals of species represented by more than 30 individuals were then counted and batch weighed by size group.

All fish and shellfish impinged during each sampling event were typically processed on site; however, specimens that could not be positively identified were returned to EA's Deerfield, Illinois laboratory for identification and processing. Deteriorated or damaged fish were identified to the lowest possible taxonomic level. Fish that were obviously dead longer than 24 hours (e.g., those exhibiting advanced decomposition, missing scales and eyes, and excessive fungus relative to other fish in the sample) were not processed. A voucher collection of preserved specimens that were positively identified by an experienced taxonomist was compiled. The collection included unusual or taxonomically difficult species.

Operating conditions during each study were supplied by Exelon including intake water temperature, number, and duration of pumps operating, and makeup water (MW) volume pumped by hour for each sampling event, as well as daily, weekly, and monthly MW volume totals. MW volume data were used to extrapolate impingement sample densities to total impingement estimates based on per unit volume of MW pumped.

2.2.2. Entrainment

Entrainment samples were collected during the 2014 spawning season from late April through August. Entrainment samples were collected using 0.5-meter conical plankton nets with 505 μ mesh suspended from the forebay bridge on the intake side of the log boom and within the hydraulic influence of the facility (Figure 1). It was assumed that organisms collected at that point would be entrained. Pairing of the nets provided replication at each depth (surface and bottom) on each sampling date thereby increasing the reliability of the estimates. One set of samples (i.e., duplicate samples near the surface and near bottom) was collected during the day at least one hour before sunset and a second set was collected at night at least one hour after sunset to examine diel periodicity. Since barge traffic affected makeup water intake flow, sampling was not conducted while barges were passing the RSH.

A minimum of 50 cubic meters (m^3) of water was filtered for each sample, with sampling duration ranging from 8 to 36 minutes. The volume of water sampled was determined by a General Oceanics (GO) Model 2030R flow meter placed at the mouth of each net. If the volume of water sampled was less than 50 m^3 (less than 9,500 revolutions on the GO flow meter), the nets were redeployed and sampling continued until a minimum of 50 m^3 of water was filtered.

At the conclusion of each tow, the nets were washed down to concentrate debris, fish eggs, fish larvae, and early life stages of shellfish into the attached collection cups, and preserved in 10% formalin containing rose bengal.

Prior to sample collection, water temperature and velocity were measured at each sample depth. Weather observations were also noted at the beginning of each sampling event, as well as significant changes (e.g., rapid rise/fall in air temperatures and thunderstorms) that may have occurred during the sampling event.

Ichthyoplankton (fish eggs, larvae, and juveniles) were hand sorted from the debris with the aid of illuminated magnifiers and/or dissecting microscopes. Ichthyoplankton were identified using a dissecting microscope equipped with polarizing lens.

Characters used to describe ichthyoplankton are qualitative, rather subjective, and change as early development progresses (e.g., pigmentation patterns). Quantitative characters such as myomere counts often show considerable overlap among species and can vary geographically and temporally for a given species (Bosley and Connor 1984). Thus, identifications for this study were made to the lowest practical taxon, which, for larval fish, sometimes was to the species level, but often to the genus level (e.g., *Lepomis* or *Moxostoma* cannot typically be separated to species), and occasionally higher levels (e.g., family). On occasion, “species type” identifications were made where a specimen agreed with the species to which it was assigned, but the taxonomist could not be 100 percent certain that it was that species. Thus, a “species type” designation may not be the species indicated, but rather a species that shares many of the same larval characteristics with that species. Fish eggs typically cannot be identified to species or genus, but family level egg identifications were provided when possible.

Identifications were made using current references and taxonomic keys (e.g., Auer 1982, Wallus et al. 1990, Kay et al. 1994, Simon and Wallus 2003 and 2006) and selected specimens were verified by an outside consultant. Life stages of fish were categorized as egg, yolk-sac larvae, post yolk-sac larvae, and juveniles. Counts were made by taxon and life stage.

Operating conditions during each study were supplied by Exelon including intake water temperature, number, and duration of pumps operating, and MW volume pumped by hour for each sampling event, as well as daily, weekly, and monthly MW volume totals. MW volume data were used to extrapolate entrainment sample densities to total entrainment estimates based on per unit volume of MW pumped.

2.3. IMPINGEMENT DATA MANAGEMENT AND ANALYSIS

2.3.1. Data Management

Field and laboratory data for each impingement sample were recorded on forms compatible for computer entry and all data processing activities were recorded on a log sheet for each batch of data. Following serialization, diga-coding, and QA/QC checks, the data were manually entered into an Excel® spreadsheet. All (i.e., 100 percent) of the manually entered data were then compared against the hard copy field and laboratory data forms. All errors encountered were corrected and the data managed in a SAS® format (Version 8.2).

Appendix A provides a raw data listing by sampling event. The number, biomass, and relative abundance of shellfish and fish collected during each impingement sampling event are provided in Appendix B.

2.3.2. Makeup Water Volume and Water Temperature

MW volumes and intake water temperatures provided by Exelon were summed on a per-sample event and period basis. Mean, minimum, and maximum water temperatures were calculated for each sampling period based on data observed at the jointly operated U.S. Geological Survey and Exelon gaging station at Seneca, IL. This station is located downstream of the Main Street bridge in Seneca, approximately three miles upstream of the LSCS RSH.

2.3.3. Impingement Estimates

Tabular results were prepared that provided the number and weight of each taxon collected during each 24-hr impingement sampling event (Appendix B). These daily results were extrapolated based on MW flow for all operating units to yield weekly estimates, which when summed, yielded annual impingement estimates by species. The sampling period species-specific impingement estimates, both by number and by weight, were calculated using the following formula:

$$\text{Period Estimate} = \frac{\text{Number or Weight (Biomass) Collected}}{\text{MW Volume Sampled}} \times \text{MW Volume}$$

Where: MW Volume = Volume of makeup water withdrawn during a given extrapolation period (e.g., one week)

MW Volume Sampled = Volume of makeup water withdrawn during one sampling event (e.g., 24-hours)

The number and biomass extrapolations were based on the data summarized in Appendix B and were subsequently converted to catch per unit effort (CPE) or number/biomass impinged per MW use (Appendix C). These CPE data were then multiplied by the MW flows (Table 1 to yield

estimates of the number and biomass of impinged organisms at the LSCS RSH over the course of the study (Appendix D).

2.4. ENTRAINMENT DATA MANAGEMENT AND ANALYSIS

2.4.1. Data Management

Management of entrainment data generally followed processing activities for the impingement study (Section 2.3.1). Field and laboratory data for each sample were recorded on forms compatible with computer entry and each data batch was recorded on a log sheet. Following serialization, diga-coding, and QA/QC checks, the data were manually entered into a spreadsheet.

All (i.e., 100 percent) of the manually entered data were then compared against the hard copy field and laboratory data forms. All errors encountered were corrected and managed in a SAS[®] format.

Tabular summaries that include total numbers, densities, and relative abundance by species or taxon were compiled from the laboratory data. MW volumes were summarized on a per-sample basis, as well as on a weekly (i.e., Sunday through Saturday), biweekly, and/or monthly basis.

Descriptive statistics (e.g., mean, minimum, and maximum values) were summarized for water temperature and dissolved oxygen (DO). Tabular results were prepared for the average density (during each 24-hour sampling event) of each taxon collected. These daily densities were then extrapolated based on MW volume withdrawn during specified time periods to yield period-specific (i.e., weekly, biweekly, or monthly) estimates that were ultimately summed to yield a total (i.e., April through August) annual estimate for 2014 (Table 2). The period-specific and taxon-specific entrainment estimates were calculated using the following formula:

$$\text{Period Estimate} = \text{Daily Density} \times \text{Period MW Volume}$$

Where: Daily Density = Abundance of entrained organisms in the samples from a given sampling event

Period MW Volume = Volume of makeup water withdrawn during a given extrapolation period

2.5. QUALITY ASSURANCE/QUALITY CONTROL

Project specific QC activities included:

- Training – Staff collected and processed samples were adequately trained for their tasks. This included familiarization with field and laboratory methods and any additional aspects that were required (e.g., equipment operation, processing/identification, site security and safety procedures);
- Equipment – All equipment used during this study were calibrated and maintained to the manufacturer's recommendations. Calibrations were appropriately documented; and

- Laboratory – All samples were recorded on project-specific sample control sheets. Sample sorting efficiency was checked and recorded by re-sorting 10% of the samples. Staff conducting identification of specimens had access to relevant taxonomic literature and a reference collection. A voucher collection of rare or unusual specimens was maintained with verification by an additional, outside taxonomic expert.

Prior to the first scheduled sampling event, a readiness review was conducted to ensure that trained personnel, and required equipment were in place. An experienced senior staff member accompanied field personnel during the initial sampling events to observe sampling activities and to verify that established methods were being followed. In addition, senior staff observed initial laboratory and data management activities to verify the same. Variances from approved procedures were corrected.

3. RESULTS

3.1. IMPINGEMENT RESULTS

3.1.1. Water Quality

Daily minimum and maximum river temperatures recorded during the impingement sampling events ranged from 1.6 degrees Centigrade (°C) during the 26-27 January 2015 sampling event to 28.0°C during the 11-12 August 2014 sampling event (Table 3). Mean river temperatures ranged from 1.8°C to 27.6°C and exhibited normal seasonal patterns with summer highs and winter lows.

Dissolved oxygen (DO) concentrations were always adequate to support the warm-water fishery in the Illinois River, the source of makeup water for the LSCS cooling pond (Table 3). DO readings during the impingement sampling events ranged from 6.2 mg/L to 14.4 mg/L and averaged at least 7.0 mg/L during the study.

3.1.2. Species Composition and Relative Abundance

A total of 46 fish and shellfish species were collected from the RSH traveling screens during the 20 impingement sampling events, including 41 fish species, two crayfish species, and three mussel species (Tables 4 and 5). The minnow and sunfish families accounted for 49% of the fish species with 13 and seven species, respectively. Other fish families represented by more than one species included the herrings, pikes and mudminnows, suckers, bullhead catfish, and percids. Six families were represented by only one species. The impingement samples included six “shellfish”—three crayfish and three mussels (Table 3).

Thirty-six native species and five introduced/invasive fish species were impinged during the study (Table 4). A few native sportfish species were collected, including channel catfish, yellow bass, bluegill, largemouth bass, and walleye, but most were collected in low numbers (e.g., only one smallmouth bass and one walleye were collected during the study). Introduced/invasive species that were impinged included threadfin shad, goldfish, common carp, Oriental weatherfish, and round goby.

A total of 653 organisms weighing approximately 9 kilograms (kg) representing primarily fish were collected during the RSH impingement study (Table 5). Seventeen fish species accounted for 91% of the total number impinged and 64% of the biomass. Gizzard shad accounted for 29% of the total number of fish collected and 18% of the total biomass. Impingement of native sportfish was low (10 fish or less) except for the bluegill, which ranked fourth in terms of number and fifth based on biomass. Two invasive species, threadfin shad and round goby, ranked second and third numerically, accounting for 20% of the total number of fish collected and 7.4% of the total biomass. Overall, 37 fish taxa were represented by 20 or fewer specimens (i.e., less than 1 specimen per sampling event) and 32 taxa were represented by fewer than 10 specimens. Sixteen taxa were each represented by a single specimen. The five introduced/invasive fish species that were collected during the study accounted for 27% of the

total number of fish collected and 19% of the biomass, largely reflecting the numerical contribution of threadfin shad and round goby and biomass contributions of common carp and round goby to the study totals.

Shellfish and fish species federally listed as endangered or threatened were not collected during the study (U.S. Fish and Wildlife Service 2015). One American eel, listed as threatened by Illinois (Illinois Endangered Species Protection Board 2015) was impinged.

3.1.3. Size Distributions

The majority of organisms impinged at the RSH were small fish representing juveniles of larger species (e.g., gizzard shad and common carp) or juveniles and adults of smaller species (e.g., round goby). Measured total lengths of impinged fish ranged from a 36 millimeter (mm) bluegill to a 692 mm American eel (Table 6). Twenty-seven species or taxa had average total lengths that were less than 100 mm and nine species had average lengths between 100 mm and 199 mm. The most commonly impinged species were primarily from the 2014 year-class

Total lengths of gizzard shad, the most abundant impinged species at the LSCS RSH ranged from 47 mm to 183 mm and represented twelve 10-mm size classes between 40 mm and 159 mm (Table 7). Approximately 89% of the gizzard shad were between 40 mm and 119 mm. Gizzard shad from the 2014 year-class dominated the impingement samples. The size distribution of impinged threadfin shad was similar to that for gizzard shad and was comprised exclusively of YOY less than 110 mm (Table 8).

Impinged bluegill were 30 to 161 mm in length but most were less than 100 mm (Table 9). Those impinged in April and May were likely slow growing fish from the 2013 year-class, whereas fish less than 80 mm impinged from July through March were from the 2014 year class. Nearly 75% of the impinged freshwater drum were from the 2014 year-class and the majority of those were collected in November and December (Table 10). The invasive round goby were all less than 100 mm (Table 11). In summary, the length frequency distributions of the five most abundant species indicate that primarily fish from the 2014 year-class were impinged at the RSH (Table 12).

The lengths of sportfish impinged at the RSH were compared to stock and quality length categories used to evaluate the status of a fishery (Gablehouse 1984). The average lengths of most of the impinged sportfish were less than the stock length with three exceptions (Table 13). The average length of bluegill (81 mm) was slightly higher than the stock size (76 mm) and six bluegill exceeded the minimum quality length. Smallmouth bass and walleye approached their respective quality lengths, but only one individual of each species was collected (Table 13).

3.1.4. Seasonal Impingement

Impingement varied widely by season during the one-year study, with estimated impingement ranging from 14 organisms during the 27 April – 10 May 2014 extrapolation period to 1,767 organisms during the 21 December 2014 – 10 January 2015 extrapolation period (Figure 2).

Gizzard shad comprised 89% of the 21 December – 10 January estimate, and only five other taxa were impinged. Estimated impingement exceeded 1,000 organisms on three other occasions: 11 – 24 May 2014, 26 October – December 2014, and 11 – 31 January 2015. The high 11 – 24 May estimate included 20 taxa of which bluntnose minnow, freshwater drum, and round goby accounted for 65% (Appendix A). The 26 October – 6 December 2014 extrapolation period included 15 taxa with green sunfish, bluegill, and freshwater drum comprising about half of the estimate. The 11-31 January 2015 estimate included nine taxa but was dominated (59%) by gizzard shad.

Impingement rates were highest in the fall and winter months when water temperatures were lowest and recently recruited fish were susceptible to approach velocities at the RSH. Gizzard shad and threadfin shad are especially susceptible when water temperatures are below 10°C (Table 3).

3.1.5. Impingement Estimates

The study estimate for impingement at the RSH was based on extrapolating results from twenty 24-hour impingement sampling events conducted from early April 2014 through March 2015. The total number and biomass of shellfish and fish subject to impingement mortality was an estimated 10,673 organisms weighing 148 kg (Table 14). Gizzard shad comprised 30% of the estimated total number of organisms impinged and 20% of the total biomass. The six most commonly impinged species (gizzard shad, round goby, threadfin shad, bluegill, freshwater drum, and goldfish) collectively accounted for 67% of the total estimate by number and 46% of the biomass. Overall, 16 taxa accounted for 88% of the total estimate by number and 65% of the biomass.

Shellfish, represented by crayfish and mussels, were monitored during the study but accounted for less than 3% of the estimated annual impingement.

Native sportfish species comprised 19% of the total annual estimate and 31% of the total biomass. The overall contribution of native sportfish to the numerical estimate primarily reflects the numbers and biomass of bluegill and freshwater drum, which collectively accounted for 66% of the impinged native sportfish and 55% of the biomass.

Introduced/invasive species comprised 26% of the total annual impingement estimate and 18% of the total biomass because of the relatively high numbers of the invasive round goby and threadfin shad, which accounted for 18% and 7% of the total biomass, respectively. Exclusion of invasive fish species from the annual estimate lowers the total number and biomass estimates of fish and shellfish subject to impingement mortality at the RSH to an estimated 7,919 organisms weighing 122 kg.

3.2. ENTRAINMENT

3.2.1. Sampling Conditions

Mean intake temperatures during the entrainment characterization study ranged from 8.7°C on 3 April 2014 to 28.2°C on 22 July 2014 (Table 15). Intake temperatures increased by approximately 4°C between the 6 May and 13 May sampling and the 11 and 17 June sampling events (Table 15). The diel range in intake temperatures exhibited limited variation during the entrainment study as day time temperatures averaged 0.3 to 0.4°C higher than the nighttime temperatures (Table 16). Water temperatures also varied little with depth.

DO concentrations ranged from 6.8 mg/L to 14.0 mg/L during the study (Table 16). Mean nighttime DO averaged 8.6 mg/L compared to 9.6 mg/L during the day, but the nighttime concentrations were greater than 1.0 mg/L lower during seven of the sampling events and 2.4 and 3.5 mg/L lower during the 24 April and 6 May sampling events (Table 16). DO also varied little with depth.

Approach velocities to the RSH where the entrainment samples were collected ranged from 0.9 ft/sec to 1.8 ft/sec and were similar during the day and night sampling events (Table 16). As with temperature and DO, velocities were similar between the surface and bottom sampling depths and were sufficient to support an assumption that all ichthyoplankton collected would be entrained through the RSH.

3.2.2. Species Composition and Relative Abundance

Ichthyoplankton taxa representing five life stages (egg, yolk-sac, post yolk-sac, larvae, and juveniles) were collected during the entrainment characterization study. A total of 7,114 ichthyoplankton specimens representing 12 families and 27 distinct taxa were reported (Table 17). The samples were dominated by taxa representing carps, minnows, and suckers, which collectively comprised 79% of the ichthyoplankton. Cyprinidae and common carp yolk-sac larvae accounted for 23% and 13% of the total ichthyoplankton, respectively. Yolk-sac Ictiobinae larvae comprised 25% of the ichthyoplankton and accounted for 94% of the sucker taxa/life stages collected (Table 17). Three other taxa/life stages each accounted for more than 3% of the ichthyoplankton: *Pimephales* type yolk-sac larvae, common carp eggs, and freshwater drum eggs (Table 17). Only 10% of the specimens collected represented sportfish taxa (channel catfish, *Morone*, all centrarchid taxa, *Sander*, walleye, and freshwater drum). Freshwater drum life stages accounted for 76% of the sportfish total. Invasive species were represented by common carp and round goby. Other taxa besides the distinct taxa likely occurred in the samples, but it was not possible to differentiate them with certainty.

3.2.3. Size Distribution

Fish eggs of six taxa were collected with diameters ranging from 0.7 mm (*Morone/Pomoxis* type) to 4.8 mm (*Hypophthalmichthys* type). Average egg diameters ranged from 0.9 to 3.8 mm (Table

18). Lengths of 17 yolk-sac larvae taxa, which accounted for 77% of the ichthyoplankton, ranged from 1.0 mm (common carp) to 14.4 mm (*Moxostoma*). Average yolk-sac larvae lengths ranged from 2.9 mm to 13.3 mm. Lengths of post yolk-sac larvae, which accounted for only 6% of the ichthyoplankton collected during the study, ranged from 4.3 mm (*Dorosoma*) to 26.1 mm (gar) and average lengths ranged from 5.5 to 25.8 mm.

Juvenile taxa comprised only 3% of the total ichthyoplankton, representing 17 taxa with lengths ranging from 6.5 mm to 36 mm (Table 18). Average juvenile lengths ranged from 7.9 mm (round goby) to 35.5 mm (largemouth bass). The majority (77%) of entrained juveniles were round goby. Low abundance of juveniles in the ichthyoplankton samples is normal because as larvae develop and grow, they either move to habitats that make them less susceptible to entrainment and/or their swimming ability improves allowing some avoidance of the intake approach velocities.

3.2.4. Diel Distribution

Night-time ichthyoplankton densities during the entrainment study were 50% higher than the day-time densities (Table 19). Over 70% of the taxa (44 of 60 taxa) had higher day-time densities with large day-night differences apparent for yolk-sac larval Ictiobinae, common carp, and *Pimephales* type that collectively accounted for 58% of the total night-time density (Table 19). Nearly all of the round goby were entrained at night. Three taxa, Cyprinidae yolk-sac larvae, eggs of common carp and eggs of freshwater drum, collectively comprised 56% of the total day-time density (Table 19). On a sampling event basis, the night-time densities were higher during 13 of the 16 sampling events (Table 20). Day-time densities were higher on three consecutive sampling event days between 3 June and 17 June largely because of higher day-time densities of Cyprinidae yolk-sac larvae and eggs of common carp and freshwater drum (Table 20). These three taxa had overall higher day-time densities for the full study.

3.2.5. Depth Distribution

Ichthyoplankton densities during the entrainment study were 34% higher in the surface samples than in the near-bottom samples (Table 21). About 60% of the taxa (35 of 60 taxa) had higher surface densities with large depth differences apparent for Ictiobinae, Cyprinidae, and common carp yolk-sac larvae (Table 21). Densities were higher at the surface than near-bottom during 12 of the 16 sampling events when densities of Ictiobinae, common carp, and Cyprinidae life stages were highest (Table 22). Surface densities were less than twice as high as the near-bottom densities during most of the sampling events but were two or more times as high as the bottom densities in May and late June.

3.2.6. Seasonal Distribution

The entrainment study documented that spawning for resident species in the Illinois River near the RSH occurs from April through August (Figure 3). A single freshwater drum egg occurred in the initial samples collected 3 April 2014 and 11 larvae were in samples from the final sampling on 26 August 2014 (Table 22). The majority of ichthyoplankton were entrained at the RSH

between 11 May and 30 June, with a distinct May peak due to freshwater drum and common carp eggs (Figure 4). Ichthyoplankton abundance during that period primarily reflects the density of Ictiobinae, Cyprinidae, common carp, and *Pimephales* type larvae and eggs of freshwater drum and common carp; those taxa collectively accounted for 83% of the total estimated entrainment.

Estimated entrainment numbers ranged from 12,950 during the 30 March – 16 April extrapolation period to 13.2 million during the 11-17 May extrapolation period (Figure 3), when an estimated 6.9 million Ictiobinae larvae and 3.4 million common carp larvae dominated the entrainment samples (Figure 4). Estimates from late May through June varied from 2.6 to 5.3 million per extrapolation period. Ichthyoplankton abundance declined rapidly after 30 June as only 111,111 was estimated for the final 17-30 August extrapolation period. Overall, 88% of the estimated entrainment at the RSH occurred between 11 May and 30 June 2014.

3.2.7. Entrainment Estimate

The RSH entrainment study was based on extrapolating results from 16 entrainment sampling events conducted between 30 March and 30 August 2014. Ichthyoplankton densities were estimated based on the MW volumes pumped during weekly/biweekly periods. The estimates were then summed to yield annual entrainment estimates by taxa. The resulting annual estimate for total number of ichthyoplankton entrained at the RSH was 38.1 million fish eggs and larvae (Table 23). Six taxa accounted for 83% of the entrainment estimate; larval Cyprinidae, common carp, *Pimephales* type, other Cyprinidae, and freshwater drum and common carp eggs. Only four other taxa/life stages accounted for more than 1% of the total estimate. Entrained sportfish taxa (channel catfish, *Morone*, all centrarchid taxa, *Sander*, walleye, and freshwater drum) comprised 10% of the total estimate of which 66% were freshwater drum eggs. Overall, fish eggs accounted for 14% of the total estimate and yolk-sac larvae accounted for 76% of the total estimate. Juveniles accounted for 3% of the total entrainment estimate. Two invasive species (common carp and round goby) comprised 20% of the total entrainment estimate. Exclusion of invasive fish taxa estimates from the annual estimate lowers the total number of ichthyoplankton entrained from 38.1 million to 30.3 million.

The RSH entrainment estimate reflects the abundance of early life stages of primarily minnows, the introduced common carp, and freshwater drum eggs. Entrained taxa generally have high fecundity and extended spawning seasons. The overall low relative abundance of species that build nests and/or provide parental care (e.g., catfish, bass, and sunfishes) is typical for entrainment estimates at power plant intakes. Low numbers of these species reflects spawning and life development characteristics that reduce susceptibility to entrainment. The life history of fishes is important in determining the extent to which they are at risk to entrainment. Like nest builders and species providing parental care, cover orientated species (i.e., species with demersal and/or adhesive eggs) are at less risk. Conversely, species with a pelagic lifestyle (i.e., those with buoyant, semi-buoyant, or non-adhesive eggs) are at greater risk. Most freshwater fishes have low risk lifestyles or spawning strategies.

4. DISCUSSION

4.1. IMPINGEMENT

Results of the impingement study indicated that primarily forage fish and introduced species with high reproductive potentials, high natural mortality rates, and low economic value were impinged. The dominance of forage fish taxa in the total impingement estimate coupled with low contributions of sportfish to the estimate suggest that impacts to the fishery in the Marseilles Pool of the Illinois River from LSCS operations are likely low.

The volume of water drawn through the LSCS RSH, which serves as makeup to a closed cycle cooling system, and associated rates of impingement and entrainment are substantially less than for open cycle generating stations that withdraw their entire cooling volume from a lake or river.

In order to provide additional perspective, LSCS impingement and entrainment rates were compared to two open cycle stations and one dual mode station within the Upper Illinois Waterway and Illinois River Basin. The three stations include two NRG/Midwest Generation facilities, Will County and Joliet 29 Stations, as well as Exelon's Dresden Nuclear Station.

Station	Intake and Discharge Waterbody	River Mile
Will County	Chicago Sanitary and Ship Canal	295.4
Joliet 29	Des Plaines River	284.6
Dresden	Kankakee and Illinois Rivers	272.3
LaSalle	Illinois River	249.5

Table 24 summarizes impingement and entrainment results from each of the four stations. The Joliet 29 and Dresden studies were each conducted over two years while the Will County study, like LSCS, was a one year study. Will County and Joliet 29 are open cycle cooling stations, whereas Dresden operates under one of two modes of cooling depending on the time of year. From 15 June to 30 September (3.5 months), Dresden operates in an indirect-open cycle mode, where water is drawn in through the circulating water intake structure on the Kankakee River, conveyed to the condensers, and cycled through the Dresden cooling pond before being discharged into the Illinois River. The remainder of the year (8.5 months), Dresden operates its cooling pond in a closed cycle, similar to LSCS.

In terms of water withdrawal, makeup water from the Illinois River for LSCS (86 to 88 mgd) represents six to 10 percent of the daily cooling water volume withdrawn for the two open cycle stations (Table 1). This is also true for Dresden Nuclear Station during the limited time that it operates in indirect-open cycle each year. Similarly, LSCS 12-month impingement estimates ranged from one to 25 percent of the 12-month impingement estimates observed at the two upstream open cycle stations and at Dresden during its 3.5 months of indirect-open cycle operations. Impingement at LSCS was 75 to 99 percent lower than impingement during open cycle operation at the three upstream facilities. Those differences are consistent with U.S. EPA's projections that best available technology for existing facilities (e.g., use of closed cycle cooling systems) could reduce impingement losses by 95 percent (FR 2014).

4.2. ENTRAINMENT

Results of the LSCS RSH entrainment characterization study indicated that ichthyoplankton impacted by entrainment represented primarily forage fish that have high reproductive potentials, high natural mortality rates, and low economic value. The dominance of forage fish taxa coupled with low contributions of sportfish to the total entrainment estimate suggest that impacts to the Marseilles Pool of the Illinois River from operating the LSCS are likely low.

The estimated number of ichthyoplankton entrained at the RSH was also low compared to the two open cycle and one dual mode generating stations described in the above impingement comparison. The RSH 12-month entrainment estimates ranged from 14% to 43% of the 12-month entrainment estimates for the three upstream stations (Table 24). In other words, entrainment at the closed cycle LSCS was 57 to 86 percent lower than entrainment during open cycle operation at the other Illinois plants. Those differences are consistent with U.S. EPA's projections that best available technology for existing facilities (e.g., use of closed cycle cooling systems) could reduce entrainment losses by 90% (FR 2014).

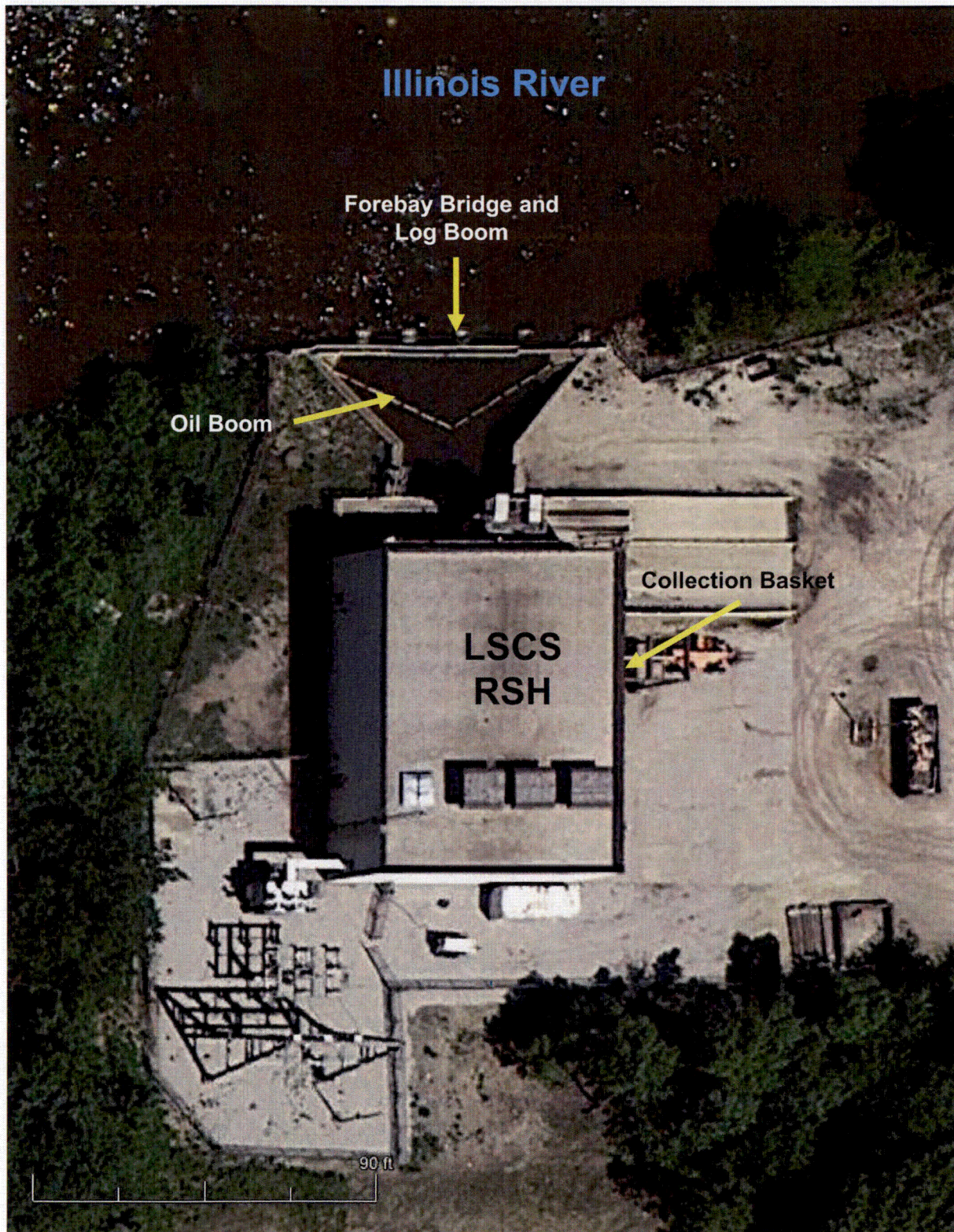
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FIGURES

Figure 1. Site of LaSalle County Station River Screen House (RSH).



Source: Google Earth

**Figure 2 - Impingement Estimate by Extrapolation Period at LaSalle County Station,
April 2014 through March 2015**

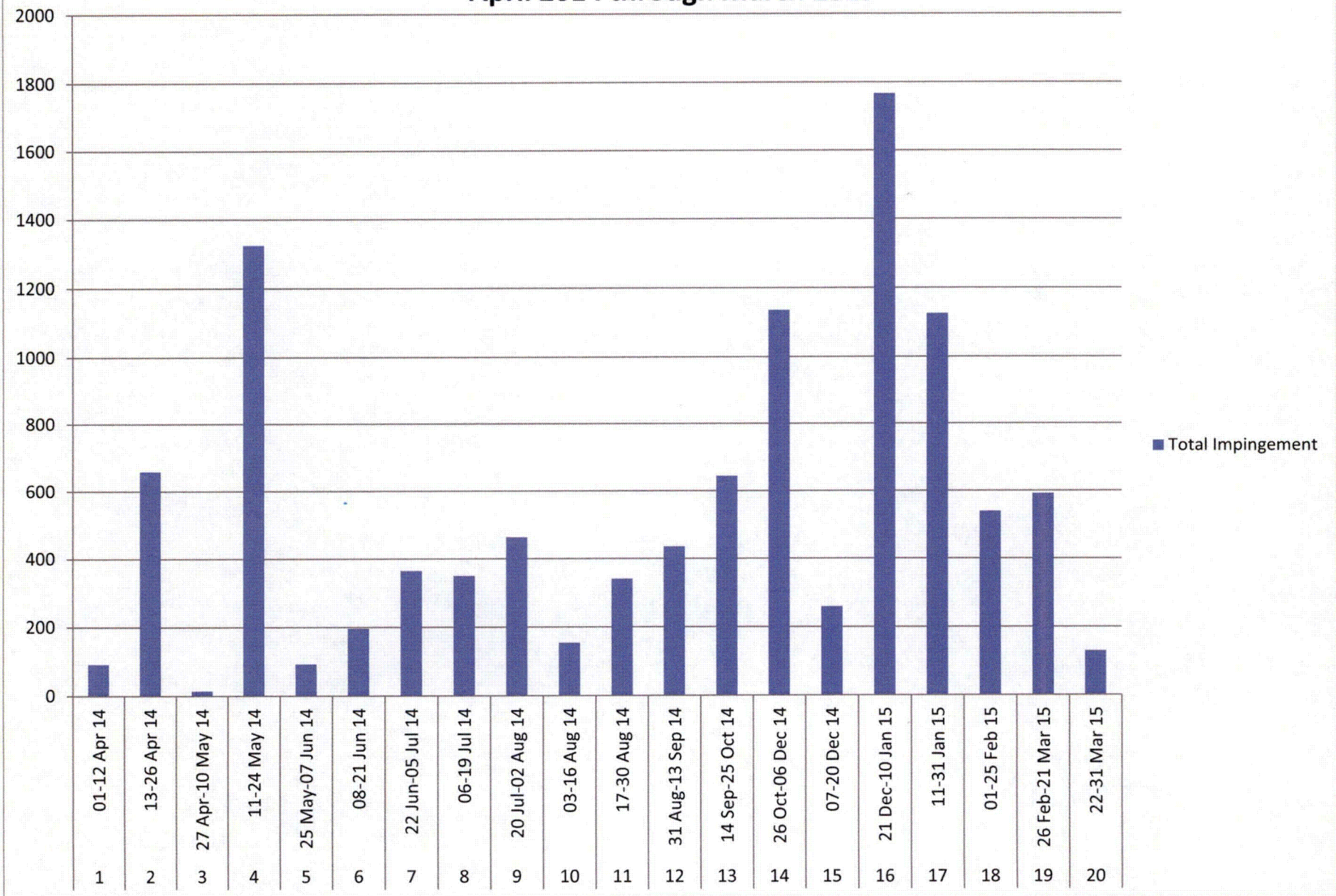


Figure 3. Estimated Entrainment of Ichthyoplankton for Each Extrapolation Period at LaSalle County Station, 30 March - 30 August 2014.

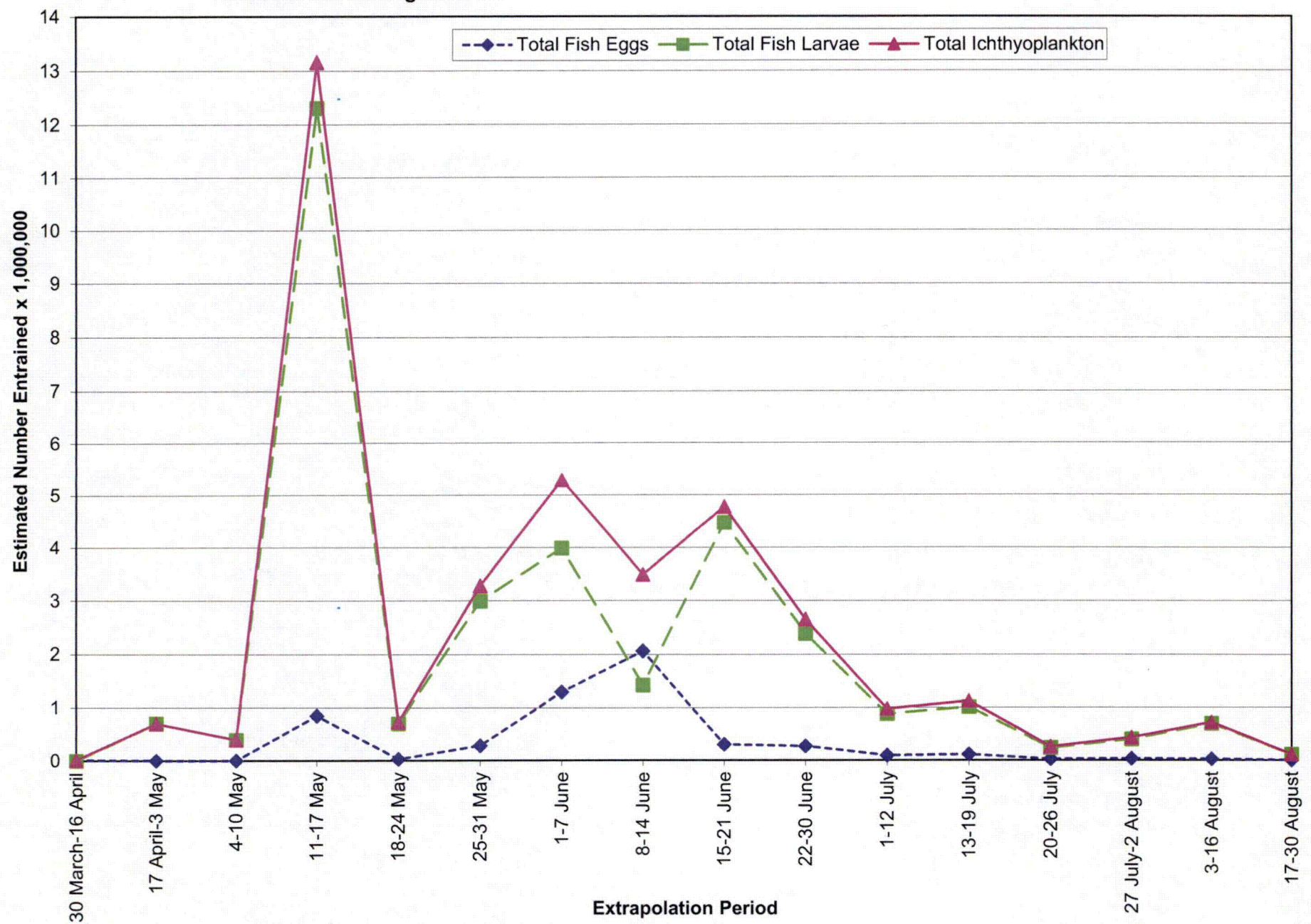
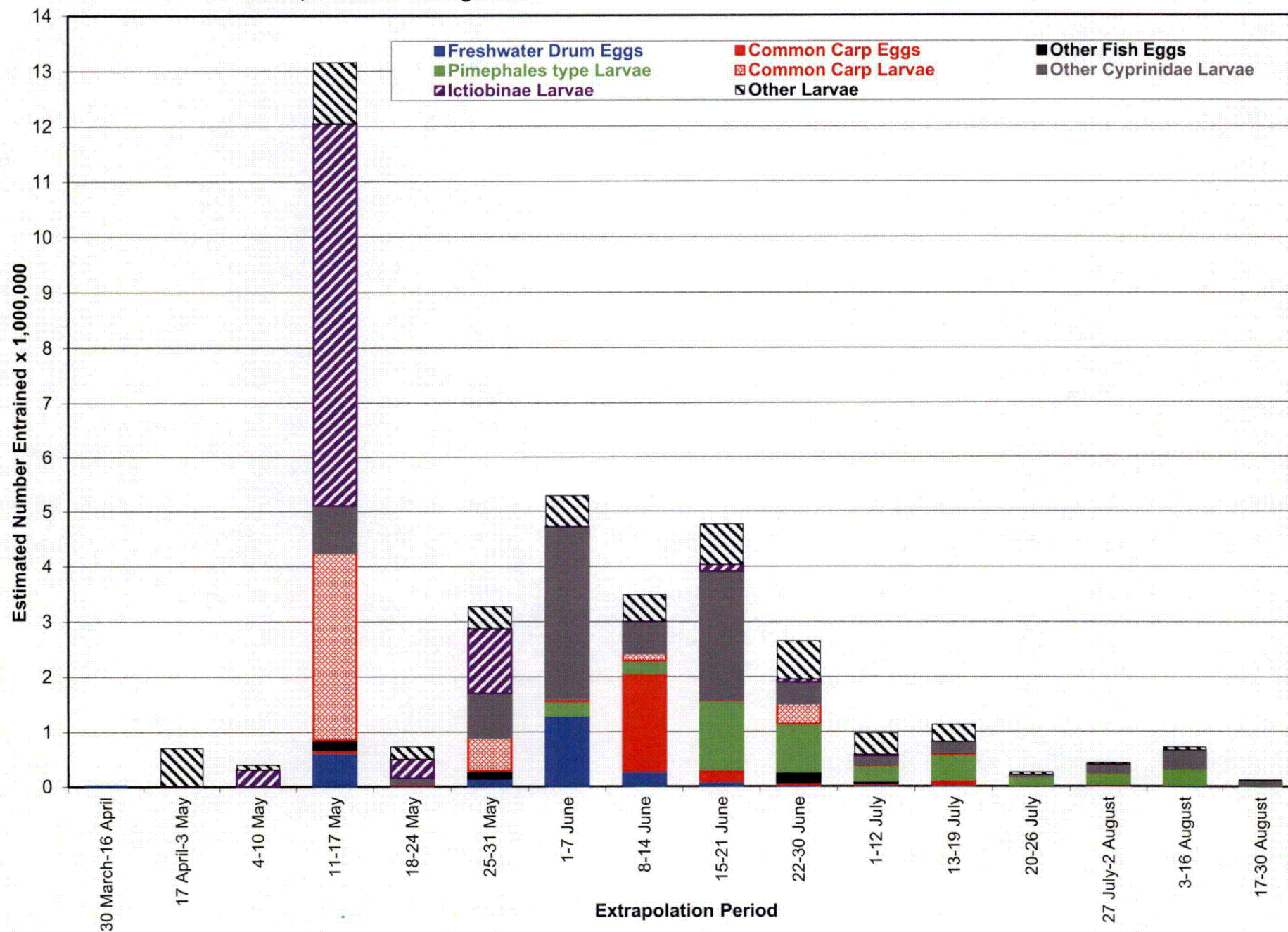


Figure 4. Estimated Entrainment of Dominant Ichthyoplankton Taxa for Each Extrapolation Period at LaSalle County Station, 30 March - 30 August 2014.



TABLES

Table 1. Summary of Makeup Water Withdrawal during Impingement Sampling and Extrapolation Periods, LaSalle County Station River Screen House, April 2014 through March 2015

Extrapolation Data		Data for Impingement Sampling Events		
Period	Volume ^(a)	Period	Volume ^(b)	Sample Duration ^(c)
01-12 Apr 14	1,037	02-03 Apr 14	86.4	24.0
13-26 Apr 14	1,210	14-15 Apr 14	86.4	24.0
27 Apr-10 May 14	1,210	30 Apr-01 May 14	86.0	23.9
11-24 May 14	1,210	12-13 May 14	86.5	24.0
25 May-07 Jun 14	1,210	27-28 May 14	86.5	24.0
08-21 Jun 14	1,210	10-11 Jun 14	86.4	24.0
22 Jun-05 Jul 14	1,210	24-25 Jun 14	86.4	24.0
06-19 Jul 14	1,210	07-08 Jul 14	85.9	23.9
20 Jul-02 Aug 14	1,210	28-29 Jul 14	86.1	23.9
03-16 Aug 14	1,210	11-12 Aug 14	86.4	24.0
17-30 Aug 14	1,210	25-26 Aug 14	86.8	24.1
31 Aug-13 Sep 14	1,210	07-08 Sep 14	87.3	24.3
14 Sep-25 Oct 14	1,987	22-23 Sep 14	89.1	24.8
26 Oct-06 Dec 14	1,598	24-25 Nov 14	86.6	24.1
07-20 Dec 14	1,210	15-16 Dec 14	87.1	24.2
21 Dec-10 Jan 15	1,642	22-23 Dec 14	86.4	24.0
11-31 Jan 15	1,728	26-27 Jan 15	85.9	23.9
01-25 Feb 15	1,814	09-10 Feb 15	86.8	24.1
26 Feb-21 Mar 15	1,728	16-17 Mar 15	86.5	24.0
22-31 Mar 15	864	30-31 Mar 15	86.3	24.0

^(a) Total makeup water volume, in millions of gallons, for each extrapolation period based on actual usage.

^(b) Total sample volume, in millions of gallons for each 24-hour sampling period.

^(c) Total sampling duration (hours) for each 24-hour sampling period.

Table 2. Summary of Makeup Water Withdrawal during Entrainment Sampling and Extrapolation Periods
LaSalle County Station River Screen House, April - August 2014.

Extrapolation Data			Data for Entrainment Sampling Events			
Period	Volume ^(a)	No. of Days ^(b)	Event	Sample Volume ^(c)	No. Makeup Pumps	Flow ^(d)
30 March-16 April	1,555.2	18	3 April	0.120	2	86.4
17 April-03 May	1,468.8	17	24 April	0.127	2	86.4
4-10 May	604.8	7	6 May	0.134	2	86.4
11-17 May	604.8	7	13 May	0.121	2	86.4
18-24 May	604.8	7	20 May	0.142	2	86.4
25-31 May	604.8	7	28 May	0.115	2	86.4
1-7 June	604.8	7	3 June	0.116	2	86.4
8-14 June	604.8	7	11 June	0.116	2	86.4
15-21 June	604.8	7	17 June	0.111	2	86.4
22-30 June	777.6	9	24 June	0.121	2	86.4
1-12 July	1,036.8	12	9 July	0.125	2	86.4
13-19 July	604.8	7	15 July	0.120	2	86.4
20-26 July	604.8	7	22 July	0.116	2	86.4
27 July-2 August	604.8	7	29 July	0.140	2	86.4
3-16 August	1,209.6	14	12 August	0.117	2	86.4
17-30 August	1,209.6	14	26 August	0.120	2	86.4

^(a) Total makeup water volume, in millions of gallons, for each extrapolation period.

^(b) Number of days within extrapolation period.

^(c) Total sample volume, in millions of gallons, for each event.

^(d) Makeup water pumping rate (MGD) during each sampling event.

Table 3. Water Temperatures Recorded during Impingement Sampling
Events, LaSalle County Station River Screen House, April 2014
through March 2015.

Period	Intake Temperature (C)			Dissolved Oxygen (mg/L)		
	Min.	Mean	Max.	Min.	Mean	Max.
02-03 Apr 14	9.0	9.4	9.8	10.8	11.3	11.8
14-15 Apr 14	12.4	13.9	14.7	9.1	9.9	10.8
30 Apr-01 May 14	14.3	14.7	15.1	8.4	9.3	9.9
12-13 May 14	19.8	20.8	21.5	7.0	7.8	9.1
27-28 May 14	22.7	23.8	24.5	6.2	7.3	8.1
10-11 Jun 14	21.6	23.1	24.6	7.6	8.7	11.3
24-25 Jun 14	24.5	25.2	26.0	--	--	--
07-08 Jul 14	24.6	25.7	26.6	7.5	7.9	8.2
28-29 Jul 14	26.2	26.9	27.3	--	--	--
11-12 Aug 14	27.2	27.6	28.0	7.0	7.7	8.5
25-26 Aug 14	25.7	26.8	27.6	6.3	7.0	7.2
07-08 Sep 14	25.8	26.3	26.7	6.9	7.2	7.6
22-23 Sep 14	20.1	20.6	21.0	8.3	8.7	9.2
24-25 Nov 14	4.4	5.6	7.3	11.5	12.3	13.2
15-16 Dec 14	6.0	6.5	6.8	--	--	--
22-23 Dec 14	4.9	5.6	6.8	--	--	--
26-27 Jan 15	1.6	1.8	2.2	13.9	14.3	14.4
09-10 Feb 15	3.3	3.7	4.0	13.8	14.0	14.4
16-17 Mar 15	8.1	9.1	9.9	11.6	11.9	12.1
30-31 Mar 15	7.2	8.2	9.2	12.6	13.2	13.5

Table 4. Family, Common, and Scientific Names of Crayfish, Mussels, and Fishes Collected During Impingement Sampling at the LaSalle County Station River Screen House, April 2014 through March 2015.

Family Name	Common Name	Scientific Name ⁽¹⁾
Freshwater Crayfishes	<i>Orconectes</i> Northern Clearwater <i>Procambarus</i>	<i>Orconectes</i> sp. <i>Orconectes propinquus</i> <i>Procambarus</i> sp.
Freshwater Mussels	Fragile Papershell Pink Heelsplitter Paper Pondshell	<i>Leptodea fragilis</i> <i>Potamilus alatus</i> <i>Utterbackia imbecillis</i>
Freshwater Eels	American Eel	<i>Anguilla rostrata</i>
Herrings	Gizzard Shad Threadfin Shad ⁽²⁾ <i>Dorosoma</i>	<i>Dorosoma cepedianum</i> <i>Dorosoma petenense</i> <i>Dorosoma</i> sp.
Pikes And Mudminnows	Central Mudminnow Grass Pickerel	<i>Umbra limi</i> <i>Esox americanus vermiculatus</i>
Carp And Minnows	Goldfish ⁽²⁾ Common Carp ⁽²⁾ Hornyhead Chub Golden Shiner Emerald Shiner Striped Shiner Spottail Shiner Silverband Shiner Spotfin Shiner <i>Notropis</i> Bluntnose Minnow Fathead Minnow Bullhead Minnow Creek Chub Cyprinidae	<i>Carassius auratus</i> <i>Cyprinus carpio</i> <i>Nocomis biguttatus</i> <i>Notemigonus crysoleucas</i> <i>Notropis atherinoides</i> <i>Luxilus chrysocephalus</i> <i>Notropis hudsonius</i> <i>Notropis shumardi</i> <i>Cyprinella spiloptera</i> <i>Notropis</i> sp. <i>Pimephales notatus</i> <i>Pimephales promelas</i> <i>Pimephales vigilax</i> <i>Semotilus atromaculatus</i> <i>Cyprinidae</i> sp.
Suckers	White Sucker Smallmouth Buffalo Black Redhorse Golden Redhorse	<i>Catostomus commersonii</i> <i>Ictiobus bubalus</i> <i>Moxostoma duquesnei</i> <i>Moxostoma erythrurum</i>
Loaches	Oriental Weatherfish ⁽²⁾	<i>Misgurnus anguillicaudatus</i>
North American Catfishes	Black Bullhead Yellow Bullhead Channel Catfish Freckled Madtom Flathead Catfish	<i>Ameiurus melas</i> <i>Ameiurus natalis</i> <i>Ictalurus punctatus</i> <i>Noturus nocturnus</i> <i>Pylodictis olivaris</i>
New World Silversides	Brook Silverside	<i>Labidesthes sicculus</i>
Temperate Bases	Yellow Bass	<i>Morone mississippiensis</i>
Sunfishes	Green Sunfish Warmouth Orangespotted Sunfish Bluegill <i>Lepomis</i> Smallmouth Bass Largemouth Bass Black Crappie	<i>Lepomis cyanellus</i> <i>Lepomis gulosus</i> <i>Lepomis humilis</i> <i>Lepomis macrochirus</i> <i>Lepomis</i> sp. <i>Micropterus dolomieu</i> <i>Micropterus salmoides</i> <i>Pomoxis nigromaculatus</i>
Perches and Darters	Banded Darter Walleye <i>Sander</i>	<i>Etheostoma zonale</i> <i>Sander vitreus</i> <i>Sander</i> sp.
Drums and Croakers	Freshwater Drum	<i>Aplodinotus grunniens</i>
Gobies	Round Goby ⁽²⁾	<i>Neogobius melanostomus</i>

⁽¹⁾Nomenclature follows Nelson et al. 2004.

⁽²⁾Introduced/Invasive species.

Table 5. Number and Biomass of Crayfish, Mussels, and Fish Collected During Impingement Sam at LaSalle County Station River Screen House, April 2014 through March 2015.

Common Name	Impingement Study Totals				Frequency of Occurrence	
	Number Caught		Weight Caught		No.	%
	No.	%	KG	%		
<i>Orconectes</i> sp.	1	11.11%	0.003	7.89%	1	5.0%
Northern Clearwater Crayfish	7	77.78%	0.035	92.11%	5	25.0%
<i>Procambarus</i> sp.	1	11.11%	--	--	1	5.0%
Total Crayfish	9	100.00%	0.038	100.00%		
Total Crayfish Species	2					
Fragile Papershell	2	22.22%	0.003	17.65%	1	5.0%
Pink Heelsplitter	1	11.11%	0.001	5.88%	1	5.0%
Paper Pondshell	6	66.67%	0.013	76.47%	3	15.0%
Total Mussels	9	100.00%	0.017	100.00%		
Total Mussel Species	3					
American Eel	1	0.16%	0.746	8.36%	1	5.0%
Gizzard Shad	185	29.13%	1.614	18.09%	14	70.0%
Threadfin Shad ⁽¹⁾	59	9.29%	0.172	1.93%	8	40.0%
<i>Dorosoma</i> sp.	16	2.52%	0.027	0.30%	4	20.0%
Central Mudminnow	10	1.57%	0.050	0.56%	2	10.0%
Grass Pickerel	1	0.16%	0.008	0.09%	1	5.0%
Goldfish ⁽¹⁾	29	4.57%	0.173	1.94%	4	20.0%
Common Carp ⁽¹⁾	12	1.89%	0.832	9.32%	4	20.0%
Hornyhead Chub	1	0.16%	0.089	1.00%	1	5.0%
Golden Shiner	2	0.31%	0.011	0.12%	2	10.0%
Emerald Shiner	4	0.63%	0.016	0.18%	3	15.0%
Striped Shiner	2	0.31%	0.032	0.36%	2	10.0%
Spottail Shiner	12	1.89%	0.068	0.76%	4	20.0%
Silverband Shiner	1	0.16%	0.003	0.03%	1	5.0%
Spotfin Shiner	6	0.94%	0.020	0.22%	4	20.0%
<i>Notropis</i> sp.	1	0.16%	0.001	0.01%	1	5.0%
Bluntnose Minnow	33	5.20%	0.092	1.03%	4	20.0%
Fathead Minnow	2	0.31%	0.009	0.10%	2	10.0%
Bullhead Minnow	13	2.05%	0.042	0.47%	3	15.0%
Creek Chub	6	0.94%	0.022	0.25%	2	10.0%
Cyprinidae sp.	1	0.16%	0.001	0.01%	1	5.0%
White Sucker	5	0.79%	0.038	0.43%	1	5.0%
Smallmouth Buffalo	2	0.31%	1.268	14.21%	2	10.0%
Black Redhorse	1	0.16%	0.023	0.26%	1	5.0%
Golden Redhorse	2	0.31%	0.087	0.98%	2	10.0%
Oriental Weatherfish ⁽¹⁾	2	0.31%	0.063	0.71%	2	10.0%
Black Bullhead	9	1.42%	0.273	3.06%	4	20.0%
Yellow Bullhead	1	0.16%	0.005	0.06%	1	5.0%
Channel Catfish	10	1.57%	0.320	3.59%	7	35.0%
Freckled Madtom	1	0.16%	0.003	0.03%	1	5.0%
Flathead Catfish	2	0.31%	0.009	0.10%	2	10.0%
Brook Silverside	1	0.16%	0.002	0.02%	1	5.0%
Yellow Bass	3	0.47%	0.063	0.71%	3	15.0%
Green Sunfish	20	3.15%	0.083	0.93%	5	25.0%
Warmouth	1	0.16%	0.029	0.33%	1	5.0%
Orangespotted Sunfish	5	0.79%	0.031	0.35%	4	20.0%
Bluegill	41	6.46%	0.728	8.16%	14	70.0%
<i>Lepomis</i> sp.	1	0.16%	0.002	0.02%	1	5.0%
Smallmouth Bass	1	0.16%	0.204	2.29%	1	5.0%
Largemouth Bass	7	1.10%	0.034	0.38%	5	25.0%
Black Crappie	9	1.42%	0.037	0.41%	3	15.0%
Banded Darter	1	0.16%	0.001	0.01%	1	5.0%
Walleye	1	0.16%	0.382	4.28%	1	5.0%
<i>Sander</i> sp.	1	0.16%	0.001	0.01%	1	5.0%
Freshwater Drum	40	6.30%	0.717	8.04%	7	35.0%
Round Goby ⁽¹⁾	71	11.18%	0.492	5.51%	8	40.0%
Total Fish	635	100.00%	8.923	100.00%		
Total Fish Species	41					
Total Organisms	653					
Total Species	46					

Notes: Frequency of occurrence based on 20 sampling events.

⁽¹⁾ Introduced/Invasive species.

Table 6. Total Length (mm) Data for Fish Impinged at LaSalle County
Station River Screen House, April 2014 through March 2015.

Common Name	Min Length	Max Length	Mean Length
American Eel	692	692	692
Gizzard Shad	47	183	91
Threadfin Shad	51	108	65
Dorosoma Sp.	38	71	53
Central Mudminnow	63	83	74
Grass Pickerel	101	101	101
Goldfish	53	93	70
Common Carp	46	399	109
Hornyhead Chub	--	--	--
Golden Shiner	72	98	85
Emerald Shiner	96	96	96
Striped Shiner	72	72	72
Spottail Shiner	73	91	82
Silverband Shiner	--	--	--
Spotfin Shiner	38	38	38
Notropis Sp.	--	--	--
Bluntnose Minnow	52	61	57
Fathead Minnow	60	60	60
Bullhead Minnow	56	61	58
Creek Chub	--	--	--
Cyprinidae Sp.	--	--	--
White Sucker	67	99	85
Smallmouth Buffalo	71	423	247
Black Redhorse	128	128	128
Golden Redhorse	67	180	124
Oriental Weatherfish	147	179	163
Black Bullhead	48	163	112
Yellow Bullhead	69	69	69
Channel Catfish	56	293	128
Freckled Madtom	63	63	63
Flathead Catfish	68	84	76
Brook Silverside	66	66	66
Yellow Bass	84	143	104
Green Sunfish	39	99	54
Warmouth	95	95	95
Orangespotted Sunfish	50	83	66
Bluegill	36	161	81
Lepomis Sp.	50	50	50
Smallmouth Bass	245	245	245
Largemouth Bass	46	83	67
Black Crappie	45	89	65
Banded Darter	--	--	--
Walleye	355	355	355
Sander Sp.	57	57	57
Freshwater Drum	94	167	119
Round Goby	55	97	79

-- Indicates not measured.

Table 7. Monthly Length Frequency Distribution for Gizzard Shad Impinged at LaSalle County
Station River Screen House, April 2014 - March 2015.

Length (mm)	APR 2014	MAY 2014	JUN 2014	JUL 2014	AUG 2014	SEP 2014	OCT 2014	NOV 2014	DEC 2014	JAN 2015	FEB 2015	MAR 2015
40 - 49				5								
50 - 59				22	1	3						
60 - 69				4	3	2						
70 - 79				2	1	1			1			
80 - 89									4			1
90 - 99	1					3			12	6	1	1
100 - 109					2				12	8	1	1
110 - 119							Outage		10	9	2	
120 - 129								1		3		1
130 - 139									1	3		
140 - 149										2		
150 - 159									1			
160 - 169												
170 - 179												
180 - 189	1											
Total	2	--	--	33	7	9		1	41	31	4	4

Table 8. Monthly Length Frequency Distribution for Threadfin Shad Impinged at LaSalle County
Station River Screen House, April 2014 - March 2015.

Length (mm)	APR 2014	MAY 2014	JUN 2014	JUL 2014	AUG 2014	SEP 2014	OCT 2014	NOV 2014	DEC 2014	JAN 2015	FEB 2015	MAR 2015
50 - 59			3		6	9	Outage					
60 - 69			9	3	3	11						
70 - 79						8						
80 - 89						2						
90 - 99						1						
100 - 109						1		1				
Total	--	--	12	3	9	32		1	--	--	--	--

Table 9. Monthly Length Frequency Distribution for Bluegill Impinged at LaSalle County
Station River Screen House, April 2014 - March 2015.

Length (mm)	APR 2014	MAY 2014	JUN 2014	JUL 2014	AUG 2014	SEP 2014	OCT 2014	NOV 2014	DEC 2014	JAN 2015	FEB 2015	MAR 2015
30 - 39					2							
40 - 49	1				1			3	1			
50 - 59	1	1			1	1		1	1			2
60 - 69		1		1		1			1	1		1
70 - 79		1								2		
80 - 89	1	1						1				
90 - 99		1										
100 - 109									1			
110 - 119	1							1			1	
120 - 129												
130 - 139	1										1	1
140 - 149								2				1
150 - 159											1	
160 - 169											1	
Total	5	5	--	1	4	2		8	4	3	4	5

Table 10. Monthly Length Frequency Distribution for Freshwater Drum Impinged at LaSalle County Station River Screen House, April 2014 - March 2015.

Length (mm)	APR 2014	MAY 2014	JUN 2014	JUL 2014	AUG 2014	SEP 2014	OCT 2014	NOV 2014	DEC 2014	JAN 2015	FEB 2015	MAR 2015
90 - 99								2	1			2
100 - 109						1		4	2		1	1
110 - 119		1						5	4			
120 - 129								1	2		2	
130 - 139		3						1	1			
140 - 149		3										
150 - 159		1						1				
160 - 169		1										
Total	--	9	--	--	--	1		14	10	--	3	3

Table 11. Monthly Length Frequency Distribution for Round Goby Impinged at LaSalle
County Station River Screen House, April 2014 - March 2015.

Length (mm)	APR 2014	MAY 2014	JUN 2014	JUL 2014	AUG 2014	SEP 2014	OCT 2014	NOV 2014	DEC 2014	JAN 2015	FEB 2015	MAR 2015
50 - 59			1									
60 - 69	5	3			1							
70 - 79	14	6	1	1			Outage					
80 - 89	10	8		1								
90 - 99	2	7										
Total	31	24	2	2	1	--		--	--	--	--	--

Table 12. Length Frequency Distribution for Five Abundant Species Impinged
at LaSalle County Station River Screen House, April 2014 - March 2015.

Length (mm)	Threadfin		Freshwater		Round Goby
	Gizzard Shad	Shad	Bluegill	Drum	
30 - 39			2		
40 - 49	5		6		
50 - 59	26	18	8		1
60 - 69	9	26	6		9
70 - 79	5	8	3		22
80 - 89	5	2	3		19
90 - 99	24	1	1	5	9
100 - 109	24	2	1	9	
110 - 119	21		3	10	
120 - 129	5			5	
130 - 139	4		3	5	
140 - 149	2		3	3	
150 - 159	1		1	2	
160 - 169			1	1	
170 - 179					
180 - 189	1				

Table 13. Comparison of Length Data for Sportfish Impinged at LaSalle County Station River Screen House to Stock and Quality Length Categories.⁽¹⁾

Species	N	Length of Impinged Fish		Length Categories	
		Maximum	Average	Stock	Quality
Black Bullhead	9	163	112	122	218
Yellow Bullhead	1	69	69	81	147
Channel Catfish	10	293	128	239	432
Flathead Catfish	2	84	76	224	401
Bluegill	41	161	81	76	137
Smallmouth Bass	1	245	245	137	246
Largemouth Bass	7	83	67	165	297
Black Crappie	9	89	65	102	183
Walleye	1	355	355	208	376
Freshwater Drum	40	167	119	160	287

⁽¹⁾Source for Stock and Quality Length Categories: Gablehouse 1984.

Table 14. Impingement Estimates at LaSalle County Station River Screen House, April 2014 through March 2015.

<u>Common Name</u>	<u>Estimated Count</u>	<u>Estimated Weight (Kg)</u>
<i>Orconectes</i> sp.	10	0.030
Northern Clearwater Crayfish	120	0.660
<i>Procambarus</i> sp.	14	--
Total Crayfish	144	0.690
Fragile Papershell	44	0.070
Pink Heelsplitter	14	0.010
Paper Pondshell	99	0.220
Total Mussels	157	0.300
American Eel	14	10.440
Gizzard Shad	3,245	29.650
Threadfin Shad ⁽²⁾	985	3.020
<i>Dorosoma</i> sp.	242	0.430
Central Mudminnow	179	0.900
Grass Pickerel	14	0.110
Goldfish ⁽²⁾	577	3.430
Common Carp ⁽²⁾	174	12.110
Hornyhead Chub	13	1.240
Golden Shiner	23	0.140
Emerald Shiner	59	0.240
Striped Shiner	26	0.450
Spottail Shiner	195	1.120
Silverband Shiner	14	0.040
Spotfin Shiner	99	0.350
<i>Notropis</i> sp.	13	0.010
Bluntnose Minnow	459	1.290
Fathead Minnow	23	0.110
Bullhead Minnow	195	0.620
Creek Chub	91	0.350
CYPRINIDAE sp.	13	0.010
White Sucker	69	0.530
Smallmouth Buffalo	28	23.340
Black Redhorse	20	0.460
Golden Redhorse	26	1.220
Oriental Weatherfish ⁽²⁾	27	0.880
Black Bullhead	152	5.090
Yellow Bullhead	13	0.070
Channel Catfish	151	4.490
Freckled Madtom	18	0.060
Flathead Catfish	26	0.130
Brook Silverside	10	0.020
Yellow Bass	45	0.910
Green Sunfish	365	1.440
Warmouth	18	0.540
Orangespotted Sunfish	75	0.460
Bluegill	695	13.370
<i>Lepomis</i> sp.	14	0.030
Smallmouth Bass	13	2.850
Largemouth Bass	111	0.580
Black Crappie	154	0.700
Banded Darter	13	0.010
Walleye	14	5.350
<i>Sander</i> sp.	14	0.010
Freshwater Drum	657	11.730
Round Goby ⁽²⁾	991	6.890
Total Fish	10,372	147.220
Total Organisms	10,673	148.210

⁽¹⁾ Impingement estimates based on rated pump capacity.

⁽²⁾ Introduced/invasive species.

Table 15. Water Temperatures Recorded during Entrainment Sampling Events, LaSalle County Station River Screen House, 3 April -- 26 August 2014.

Period	Intake Temperature (C)		
	Minimum	Mean	Maximum
3 April	8.6	8.7	8.7
24 April	15.4	15.6	15.9
6 May	15.4	15.7	16.0
13 May	19.6	19.8	20.0
20 May	16.6	16.8	17.0
28 May	23.8	23.9	24.0
3 June	25.1	25.3	25.5
11 June	21.9	22.1	22.3
17 June	25.1	25.3	25.5
24 June	24.8	25.0	25.3
9 July	26.1	26.4	26.7
15 July	23.5	23.8	24.0
22 July	28.0	28.2	28.5
29 July	26.0	26.3	26.9
12 August	26.9	27.0	27.1
<u>26 August</u>	27.0	27.1	27.3

Table 16. Summary of Water Temperature, Dissolved Oxygen, and Current Velocity Measurements during Entrainment Sampling at LaSalle County Station River Screen House, 3 April - 26 August 2014.

Sampling Date	Diel Period	Surface			Bottom		
		Water Temperature (C)	Dissolved Oxygen (mg/L)	Current Velocity (ft/sec)	Water Temperature (C)	Dissolved Oxygen (mg/L)	Current Velocity (ft/sec)
3 April	Day	8.6	11.4	1.5	8.6	11.4	1.3
	Night	8.6	11.2	1.5	8.7	11.2	1.3
24 April	Day	15.9	14.0	1.6	15.8	12.9	1.5
	Night	15.4	11.5	1.6	15.4	11.2	1.3
6 May	Day	16.0	13.6	0.9	15.9	13.6	1.5
	Night	15.4	10.2	1.2	15.4	10.2	1.5
13 May	Day	20.0	8.2	1.4	19.9	8.2	1.3
	Night	19.7	8.1	1.4	19.6	8.1	1.5
20 May	Day	17.0	10.4	1.0	16.9	9.8	1.3
	Night	16.7	9.5	1.3	16.6	10.0	1.4
28 May	Day	24.0	8.5	1.7	24.0	8.5	1.5
	Night	23.8	7.7	1.7	23.9	7.8	1.5
3 June	Day	25.5	9.7	1.3	25.5	9.7	1.7
	Night	25.1	8.5	1.8	25.1	8.4	1.7
11 June	Day	22.3	7.7	1.0	22.1	7.8	1.5
	Night	21.9	7.4	1.0	21.9	7.3	1.6
17 June	Day	25.5	9.5	1.0	25.3	9.5	1.5
	Night	25.1	8.3	1.0	25.1	8.4	1.5
24 June	Day	25.3	8.2	1.3	25.1	8.2	1.5
	Night	24.8	6.8	1.5	24.8	6.8	1.5
9 July	Day	26.7	9.0	1.1	26.7	8.9	1.4
	Night	26.1	8.1	0.9	26.1	8.0	1.5
15 July	Day	24.0	7.6	1.6	23.9	7.6	1.6
	Night	23.6	7.3	1.4	23.5	7.3	1.4
22 July	Day	28.5	10.5	1.6	28.3	10.4	1.6
	Night	28.1	9.4	1.6	28.0	9.1	1.6
29 July	Day	26.9	11.0	1.2	26.4	10.6	1.5
	Night	26.1	9.6	1.6	26.0	9.4	1.6
12 August	Day	27.1	7.6	1.6	27.1	7.9	1.7
	Night	26.9	7.3	1.5	26.9	7.3	1.6
26 August	Day	27.3	7.1	1.3	27.1	6.9	1.6
	Night	27.0	7.0	1.2	27.0	7.0	1.4
Combined	Day						
	Min.	8.6	7.1	0.9	8.6	6.9	1.3
	Mean	22.5	9.6	1.3	22.4	9.5	1.5
	Max.	28.5	14.0	1.7	28.3	13.6	1.7
Combined	Night						
	Min.	8.6	6.8	0.9	8.7	6.8	1.3
	Mean	22.1	8.6	1.4	22.1	8.6	1.5
	Max.	28.1	11.5	1.8	28.0	11.2	1.7

Table 17. Number and Relative Abundance of Ichthyoplankton Taxa Collected during Entrainment Sampling at LaSalle County Station River Screen House, 3 April - 26 August 2014.

Common Family Name	Taxa	Life Stage	No.	%	Occurrence ⁽³⁾		
					No.	%	
GARS	GAR sp. ⁽¹⁾	Post Yolk-sac	3	0.04	2	13%	
HERRINGS	<i>Dorosoma</i> sp.	Yolk-sac	19	0.27	4	25%	
		Post Yolk-sac	230	3.23	12	75%	
CARPS and MINNOWS	GIZZARD SHAD ⁽¹⁾	Juvenile	5	0.07	3	19%	
	CYPRINIDAE sp.	Egg	22	0.31	1	6%	
		Yolk-sac	1,618	22.74	13	81%	
		Post Yolk-sac	25	0.35	2	13%	
	COMMON CARP ⁽¹⁾	Egg	431	6.06	8	50%	
		Yolk-sac	895	12.58	10	63%	
		Post Yolk-sac	2	0.03	2	13%	
		Juvenile	1	0.01	1	6%	
	<i>Hypophthalmichthys</i> type ⁽¹⁾	Egg	35	0.49	3	19%	
	<i>Notropis</i> sp. ⁽¹⁾	Juvenile	4	0.06	1	6%	
	<i>Pimephales</i> sp.	Juvenile	1	0.01	1	6%	
	BLUNTNOSE MINNOW ⁽¹⁾	Post Yolk-sac	1	0.01	1	6%	
		Juvenile	4	0.06	2	13%	
		Juvenile	2	0.03	1	6%	
		<i>Pimephales</i> type ⁽¹⁾	Yolk-sac	693	9.74	10	63%
			Post Yolk-sac	4	0.06	2	13%
	<i>Semotilus</i> type ⁽¹⁾	Yolk-sac	32	0.45	3	19%	
		Post Yolk-sac	8	0.11	2	13%	
SUCKERS	CATOSTOMIDAE sp.	Yolk-sac	4	0.06	2	13%	
	ICTIOBINAE sp. ⁽²⁾	Yolk-sac	1,750	24.60	10	63%	
		Post Yolk-sac	52	0.73	5	31%	
		Juvenile	2	0.03	1	6%	
	<i>Moxostoma</i> sp. ⁽¹⁾	Yolk-sac	28	0.39	2	13%	
		Post Yolk-sac	19	0.27	6	38%	
NORTH AMERICAN CATFISHES	CHANNEL CATFISH ⁽¹⁾	Juvenile	16	0.22	2	13%	
NEW WORLD SILVERSIDES	BROOK SILVERSIDE ⁽¹⁾	Yolk-sac	2	0.03	1	6%	
TOPMINNOWS	BLACKSTRIPE TOPMINNOW ⁽¹⁾	Yolk-sac	1	0.01	1	6%	
		Juvenile	1	0.01	1	6%	
TEMPERATE BASSES	BANDED KILLFISH ⁽¹⁾	Juvenile	1	0.01	1	6%	
	<i>Morone</i> sp. ⁽¹⁾	Yolk-sac	7	0.10	3	19%	
	ROCK BASS ⁽¹⁾	Post Yolk-sac	2	0.03	1	6%	
		Yolk-sac	1	0.01	1	6%	
		Post Yolk-sac	8	0.11	5	31%	
		Juvenile	19	0.27	1	6%	
	GREEN SUNFISH ⁽¹⁾	Juvenile	1	0.01	1	6%	
	PUMPKINSEED type ⁽¹⁾	Yolk-sac	44	0.62	9	56%	
		Post Yolk-sac	6	0.08	4	25%	
		Juvenile	2	0.03	1	6%	
PERCHES AND DARTERS	BLUEGILL type ⁽¹⁾	Post Yolk-sac	3	0.04	1	6%	
	LARGEMOUTH BASS ⁽¹⁾	Juvenile	1	0.01	1	6%	
		DARTER sp. ⁽¹⁾	Yolk-sac	125	1.76	8	50%
		Post Yolk-sac	30	0.42	7	44%	
		Juvenile	2	0.03	1	6%	
	LOGPERCH type ⁽¹⁾	Yolk-sac	166	2.33	11	69%	
		Post Yolk-sac	2	0.03	1	6%	
		<i>Sander</i> sp.	Yolk-sac	40	0.56	5	31%
			Post Yolk-sac	1	0.01	1	6%
		WALLEYE ⁽¹⁾	Post Yolk-sac	1	0.01	1	6%
DRUMS AND CROAKERS	FRESHWATER DRUM ⁽¹⁾	Egg	480	6.75	10	63%	
		Yolk-sac	15	0.21	6	38%	
		Post Yolk-sac	20	0.28	3	19%	
		Juvenile	1	0.01	1	6%	
GOBIES	ROUND GOBY ⁽¹⁾	Juvenile	147	2.07	7	44%	
UNIDENTIFIED	UNIDENTIFIED	Egg	42	0.59	4	25%	
		Yolk-sac	26	0.37	9	56%	
		Larvae	2	0.03	1	6%	
		Egg	9	0.13	2	13%	
TOTAL ICHTHYOPLANKTON			7,114	100.00			
TOTAL TAXA			27				

⁽¹⁾ Counted as one taxa.

⁽²⁾ Counted as two taxa.

⁽³⁾ Occurrences based on 16 sampling events.

Table 18. Fish Larvae Length and Fish Egg Diameter (millimeters) Statistics for Ichthyoplankton From Entrainment Samples Collected at LaSalle County Station River Screen House, 3 April - 26 August 2014.

TAXA	LIFE STAGE	Minimum Length/ Diameter	Mean Length/ Diameter	Maximum Length/ Diameter
GAR sp.	Post Yolk-sac	25.2	25.8	26.1
GIZZARD SHAD	Juvenile	18.7	24.2	36.0
Dorosoma sp.	Yolk-sac	3.7	6.2	8.6
Dorosoma sp.	Post Yolk-sac	4.3	8.6	17.2
COMMON CARP	Egg	1.0	1.4	1.9
COMMON CARP	Yolk-sac	1.0	6.7	8.8
COMMON CARP	Post Yolk-sac	9.3	11.6	13.8
COMMON CARP	Juvenile	29.0	29.0	29.0
Hypophthalmichthys type	Egg	2.1	3.8	4.8
Notropis sp.	Juvenile	11.7	13.9	18.3
BLUNTNOSE MINNOW	Post Yolk-sac	16.6	16.6	16.6
BLUNTNOSE MINNOW	Juvenile	13.4	18.0	24.1
BULLHEAD MINNOW	Juvenile	12.2	18.7	25.1
Pimephales type	Yolk-sac	3.8	5.6	7.0
Pimephales type	Post Yolk-sac	6.0	8.1	10.4
Pimephales sp.	Juvenile	9.8	9.8	9.8
Semotilus type	Yolk-sac	6.4	8.5	10.0
Semotilus type	Post Yolk-sac	7.9	10.1	12.7
CYPRINIDAE sp.	Egg	1.1	1.6	2.0
CYPRINIDAE sp.	Yolk-sac	1.2	4.2	8.7
CYPRINIDAE sp.	Post Yolk-sac	5.0	7.9	13.6
Moxostoma sp.	Yolk-sac	10.7	13.3	14.4
Moxostoma sp.	Post Yolk-sac	12.2	14.0	17.0
ICTIOBINAE sp.	Yolk-sac	5.7	7.5	10.1
ICTIOBINAE sp.	Post Yolk-sac	7.9	10.0	20.2
ICTIOBINAE sp.	Juvenile	19.8	22.2	24.5
CATOSTOMIDAE sp.	Yolk-sac	3.6	4.8	5.5
CHANNEL CATFISH	Juvenile	10.2	14.9	18.7
BANDED KILLIFISH	Juvenile	17.5	17.5	17.5
BLACKSTRIPE TOPMINNOW	Yolk-sac	6.1	6.1	6.1
BLACKSTRIPE TOPMINNOW	Juvenile	10.2	10.2	10.2
BROOK SILVERSIDE	Yolk-sac	5.2	5.4	5.6
Morone sp.	Yolk-sac	2.7	2.9	3.2
ROCK BASS	Post Yolk-sac	7.5	8.9	10.3
GREEN SUNFISH	Juvenile	15.2	15.2	15.2
BLUEGILL type	Post Yolk-sac	5.3	5.5	5.7
PUMPKINSEED type	Yolk-sac	3.7	5.2	6.7
PUMPKINSEED type	Post Yolk-sac	7.2	8.5	10.0
PUMPKINSEED type	Juvenile	13.8	14.3	14.7
Lepomis sp.	Yolk-sac	5.5	5.5	5.5
Lepomis sp.	Post Yolk-sac	6.1	9.5	15.6
Lepomis sp.	Juvenile	9.6	13.7	18.3
LARGEMOUTH BASS	Juvenile	35.5	35.5	35.5
WALLEYE	Post Yolk-sac	15.1	15.1	15.1

Table 18 (cont.)

TAXA	LIFE STAGE	Minimum Length/ Diameter	Mean Length/ Diameter	Maximum Length/ Diameter
Sander sp.	Yolk-sac	5.1	8.2	10.3
Sander sp.	Post Yolk-sac	10.0	10.0	10.0
LOGPERCH type	Yolk-sac	4.0	6.2	9.0
LOGPERCH type	Post Yolk-sac	9.8	10.0	10.2
DARTER sp.	Yolk-sac	4.9	7.2	10.2
DARTER sp.	Post Yolk-sac	6.9	11.1	16.5
DARTER sp.	Juvenile	13.1	13.4	13.7
FRESHWATER DRUM	Egg	0.8	1.4	2.1
FRESHWATER DRUM	Yolk-sac	2.5	4.1	6.6
FRESHWATER DRUM	Post Yolk-sac	4.8	8.5	15.8
FRESHWATER DRUM	Juvenile	26.1	26.1	26.1
ROUND GOBY	Juvenile	6.5	7.9	21.5
Morone/Pomoxis type	Egg	0.7	0.9	1.1
UNIDENTIFIED	Egg	0.9	1.3	1.8
UNIDENTIFIED	Yolk-sac	1.9	4.4	7.1
UNIDENTIFIED	Larvae	2.6	2.6	2.6

Table 19. Diel Comparisons of the Number, Density, and Relative Abundance of Ichthyoplankton Collected during All Entrainment Sampling Events at LaSalle County Station River Screen House, 3 April - 26 August 2014.

Taxa	Life Stage	Day			Night		
		No.	Den.	%	No.	Den.	%
GAR sp.	Post Yolk-sac	1	1.0	0.04	2	2.0	0.05
GIZZARD SHAD	Juvenile	1	1.0	0.04	4	4.0	0.09
<i>Dorosoma</i> sp.	Yolk-sac	18	18.5	0.64	1	1.0	0.02
COMMON CARP	Post Yolk-sac	111	114.3	3.95	119	120.1	2.76
	Egg	319	328.5	11.35	112	113.0	2.60
	Yolk-sac	228	234.8	8.11	667	672.9	15.50
	Post Yolk-sac	1	1.0	0.04	1	1.0	0.02
	Juvenile	--	--	--	1	1.0	0.02
<i>Hypophthalmichthys</i> type	Egg	24	24.7	0.85	11	11.1	0.26
<i>Notropis</i> sp.	Juvenile	1	1.0	0.04	3	3.0	0.07
BLUNTNOSE MINNOW	Post Yolk-sac	--	--	--	1	1.0	0.02
	Juvenile	--	--	--	4	4.0	0.09
BULLHEAD MINNOW	Juvenile	--	--	--	2	2.0	0.05
<i>Pimephales</i> type	Yolk-sac	169	174.0	6.01	524	528.6	12.17
	Post Yolk-sac	2	2.1	0.07	2	2.0	0.05
<i>Pimephales</i> sp.	Juvenile	--	--	--	1	1.0	0.02
<i>Semotilus</i> type	Yolk-sac	7	7.2	0.25	25	25.2	0.58
	Post Yolk-sac	--	--	--	8	8.1	0.19
CYPRINIDAE sp.	Egg	22	22.7	0.78	--	--	--
	Yolk-sac	982	1,011.2	34.95	636	641.6	14.78
	Post Yolk-sac	11	11.3	0.39	14	14.1	0.33
<i>Moxostoma</i> sp.	Yolk-sac	2	2.1	0.07	26	26.2	0.60
	Post Yolk-sac	4	4.1	0.14	15	15.1	0.35
ICTIOBINA sp.	Yolk-sac	429	441.8	15.27	1,321	1,332.7	30.69
	Post Yolk-sac	6	6.2	0.21	46	46.4	1.07
	Juvenile	--	--	--	2	2.0	0.05
CATOSTOMIDAE sp.	Yolk-sac	4	4.1	0.14	--	--	--
CHANNEL CATFISH	Juvenile	--	--	--	16	16.1	0.37
BANDED KILLIFISH	Juvenile	--	--	--	1	1.0	0.02
BLACKSTRIPE TOPMINNOW	Yolk-sac	1	1.0	0.04	--	--	--
	Juvenile	--	--	--	1	1.0	0.02
BROOK SILVERSIDE	Yolk-sac	--	--	--	2	2.0	0.05
<i>Morone</i> sp.	Yolk-sac	6	6.2	0.21	1	1.0	0.02
ROCK BASS	Post Yolk-sac	1	1.0	0.04	1	1.0	0.02
GREEN SUNFISH	Juvenile	--	--	--	1	1.0	0.02
BLUEGILL type	Post Yolk-sac	--	--	--	3	3.0	0.07
PUMPKINSEED type	Yolk-sac	12	12.4	0.43	32	32.3	0.74
	Post Yolk-sac	--	--	--	6	6.1	0.14
	Juvenile	--	--	--	2	2.0	0.05
<i>Lepomis</i> sp.	Yolk-sac	1	1.0	0.04	--	--	--
	Post Yolk-sac	3	3.1	0.11	5	5.0	0.12
	Juvenile	--	--	--	19	19.2	0.44
LARGEMOUTH BASS	Juvenile	--	--	--	1	1.0	0.02
WALLEYE	Post Yolk-sac	--	--	--	1	1.0	0.02
<i>Sander</i> sp.	Yolk-sac	2	2.1	0.07	38	38.3	0.88
	Post Yolk-sac	1	1.0	0.04	--	--	--
LOGPERCH type	Yolk-sac	63	64.9	2.24	103	103.9	2.39
	Post Yolk-sac	2	2.1	0.07	--	--	--
DARTER sp.	Yolk-sac	37	38.1	1.32	88	88.8	2.04
	Post Yolk-sac	10	10.3	0.36	20	20.2	0.46
	Juvenile	--	--	--	2	2.0	0.05
FRESHWATER DRUM	Egg	286	294.5	10.18	194	195.7	4.51
	Yolk-sac	8	8.2	0.28	7	7.1	0.16
	Post Yolk-sac	2	2.1	0.07	18	18.2	0.42
	Juvenile	--	--	--	1	1.0	0.02
ROUND GOBY	Juvenile	1	1.0	0.04	146	147.3	3.39
<i>Morone/Pomoxis</i> type	Egg	2	2.1	0.07	7	7.1	0.16
UNIDENTIFIED	Egg	19	19.6	0.68	23	23.2	0.53
	Yolk-sac	11	11.3	0.39	15	15.1	0.35
	Larvae	--	--	--	2	2.0	0.05
TOTAL ICHTHYOPLANKTON		2,810	2,893.6	100.00	4,304	4,342.1	100.00

Note: Density (Den.) is No. per million gallons.

Table 20. Diel Comparisons of the Number, Density, and Relative Abundance of Ichthyoplankton Collected during Each Entrainment Sampling Event at LaSalle County Station River Screen House, 3 April - 26 August 2014.

3 April							
Taxa	Life Stage	Day			Night		
		No.	Den.	%	No.	Den.	%
FRESHWATER DRUM	Egg	--	--	--	1	16.0	100.00
24 April							
Taxa	Life Stage	Day			Night		
		No.	Den.	%	No.	Den.	%
<i>Dorosoma</i> sp.	Post Yolk-sac	3	46.2	14.29	--	--	--
ICTIOBINAЕ sp.	Yolk-sac	--	--	--	1	16.1	2.5
<i>Morone</i> sp.	Yolk-sac	4	61.6	19.05	1	16.1	2.5
<i>Sander</i> sp.	Yolk-sac	--	--	--	27	433.8	67.5
LOGPERCH type	Yolk-sac	13	200.3	61.9	10	160.7	25
UNIDENTIFIED	Yolk-sac	1	15.4	4.76	1	16.1	2.5
TOTAL ICHTHYOPLANKTON		21	323.6	100.00	40	642.7	100.00
6 May							
Taxa	Life Stage	Day			Night		
		No.	Den.	%	No.	Den.	%
<i>Dorosoma</i> sp.	Yolk-sac	--	--	--	1	16.4	1.47
	Post Yolk-sac	7	95.5	35.00	--	--	--
ICTIOBINAЕ sp.	Yolk-sac	7	95.5	35.00	62	1,015.2	91.18
<i>Morone</i> sp.	Yolk-sac	1	13.6	5.00	--	--	--
<i>Sander</i> sp.	Yolk-sac	1	13.6	5.00	1	16.4	1.47
LOGPERCH type	Yolk-sac	4	54.6	20.00	--	--	--
UNIDENTIFIED	Yolk-sac	--	--	--	4	65.5	5.88
TOTAL ICHTHYOPLANKTON		20	272.8	100.00	68	1,113.5	100.00
13 May							
Taxa	Life Stage	Day			Night		
		No.	Den.	%	No.	Den.	%
<i>Dorosoma</i> sp.	Post Yolk-sac	7	118.6	0.98	6	97.4	0.31
COMMON CARP	Egg	5	84.7	0.70	7	113.6	0.37
	Yolk-sac	187	3,169.6	26.15	490	7,950.4	25.67
<i>Semotilus</i> type	Yolk-sac	6	101.7	0.84	20	324.5	1.05
CYPRINIDAE sp.	Yolk-sac	12	203.4	1.68	133	2,158.0	6.97
<i>Moxostoma</i> sp.	Yolk-sac	1	16.9	0.14	10	162.3	0.52
	Post Yolk-sac	2	33.9	0.28	1	16.2	0.05
ICTIOBINAЕ sp.	Yolk-sac	351	5,949.4	49.09	1,009	16,371.4	52.85
	Post Yolk-sac	6	101.7	0.84	20	324.5	1.05
CATOSTOMIDAE sp.	Yolk-sac	3	50.8	0.42	--	--	--
PUMPKINSEED type	Yolk-sac	--	--	--	3	48.7	0.16
WALLEYE	Post Yolk-sac	--	--	--	1	16.2	0.05
<i>Sander</i> sp.	Yolk-sac	--	--	--	9	146.0	0.47
	Post Yolk-sac	1	16.9	0.14	--	--	--
LOGPERCH type	Yolk-sac	31	525.4	4.34	71	1,152.0	3.72
DARTER sp.	Yolk-sac	15	254.2	2.10	45	730.1	2.36
	Post Yolk-sac	2	33.9	0.28	--	--	--
FRESHWATER DRUM	Egg	71	1,203.4	9.93	52	843.7	2.72
UNIDENTIFIED	Egg	12	203.4	1.68	23	373.2	1.20
	Yolk-sac	3	50.8	0.42	7	113.6	0.37
	Larvae	--	--	--	2	32.5	0.10
TOTAL ICHTHYOPLANKTON		715	12,119.2	100.00	1,909	30,974.2	100.00

Table 20 (cont.)

20 May							
Taxa	Life Stage	Day			Night		
		No.	Den.	%	No.	Den.	%
COMMON CARP	Egg	1	14.7	2.94	1	13.4	0.72
	Yolk-sac	--	--	--	2	26.8	1.45
	Post Yolk-sac	--	--	--	1	13.4	0.72
<i>Semotilus</i> type	Yolk-sac	1	14.7	2.94	4	53.6	2.90
	Post Yolk-sac	--	--	--	7	93.9	5.07
CYPRINIDAE sp.	Yolk-sac	4	58.9	11.76	10	134.1	7.25
<i>Moxostoma</i> sp.	Yolk-sac	1	14.7	2.94	16	214.5	11.59
	Post Yolk-sac	--	--	--	2	26.8	1.45
ICTIOBINAЕ sp.	Yolk-sac	14	206.2	41.18	46	616.8	33.33
	Post Yolk-sac	--	--	--	23	308.4	16.67
LOGPERCH type	Yolk-sac	6	88.4	17.65	7	93.9	5.07
DARTER sp.	Yolk-sac	4	58.9	11.76	17	227.9	12.32
	Post Yolk-sac	--	--	--	1	13.4	0.72
FRESHWATER DRUM	Egg	1	14.7	2.94	--	--	--
<i>Morone/Pomoxis</i> type	Egg	2	29.5	5.88	1	13.4	0.72
TOTAL ICHTHYOPLANKTON		34	500.9	100.00	138	1,850.4	100.00
28 May							
Taxa	Life Stage	Day			Night		
		No.	Den.	%	No.	Den.	%
<i>Dorosoma</i> sp.	Post Yolk-sac	11	192.2	4.72	6	104.3	1.54
COMMON CARP	Yolk-sac	19	332.0	8.15	95	1,650.8	24.42
	Post Yolk-sac	1	17.5	0.43	--	--	--
BLUNTNOSE MINNOW	Juvenile	--	--	--	2	34.8	0.51
CYPRINIDAE sp.	Egg	22	384.4	9.44	--	--	--
	Yolk-sac	115	2,009.3	49.36	36	625.6	9.25
<i>Moxostoma</i> sp.	Post Yolk-sac	--	--	--	2	34.8	0.51
ICTIOBINAЕ sp.	Yolk-sac	40	698.9	17.17	184	3,197.3	47.30
<i>Morone</i> sp.	Yolk-sac	1	17.5	0.43	--	--	--
PUMPKINSEED type	Yolk-sac	--	--	--	2	34.8	0.51
LOGPERCH type	Yolk-sac	3	52.4	1.29	4	69.5	1.03
	Post Yolk-sac	2	34.9	0.86	--	--	--
DARTER sp.	Yolk-sac	2	34.9	0.86	3	52.1	0.77
FRESHWATER DRUM	Egg	17	297.0	7.30	9	156.4	2.31
ROUND GOBY	Juvenile	--	--	--	40	695.1	10.28
<i>Morone/Pomoxis</i> type	Egg	--	--	--	6	104.3	1.54
TOTAL ICHTHYOPLANKTON		233	4,070.9	100.00	389	6,759.5	100.00
3 June							
Taxa	Life Stage	Day			Night		
		No.	Den.	%	No.	Den.	%
<i>Dorosoma</i> sp.	Yolk-sac	2	33.8	0.33	--	--	--
	Post Yolk-sac	22	371.9	3.61	25	438.0	6.14
COMMON CARP	Yolk-sac	3	50.7	0.49	5	87.6	1.23
BLUNTNOSE MINNOW	Post Yolk-sac	--	--	--	1	17.5	0.25
<i>Pimephales</i> type	Yolk-sac	--	--	--	51	893.5	12.53
<i>Semotilus</i> type	Yolk-sac	--	--	--	1	17.5	0.25
CYPRINIDAE sp.	Yolk-sac	439	7,421.4	72.09	157	2,750.6	38.57
<i>Moxostoma</i> sp.	Post Yolk-sac	--	--	--	2	35.0	0.49
ICTIOBINAЕ sp.	Yolk-sac	--	--	--	1	17.5	0.25
	Post Yolk-sac	--	--	--	1	17.5	0.25
BLUEGILL type	Post Yolk-sac	--	--	--	3	52.6	0.74
PUMPKINSEED type	Yolk-sac	2	33.8	0.33	2	35.0	0.49
<i>Lepomis</i> sp.	Post Yolk-sac	1	16.9	0.16	--	--	--
<i>Sander</i> sp.	Yolk-sac	1	16.9	0.16	--	--	--
LOGPERCH type	Yolk-sac	--	--	--	1	17.5	0.25
DARTER sp.	Yolk-sac	3	50.7	0.49	6	105.1	1.47
	Post Yolk-sac	--	--	--	1	17.5	0.25
FRESHWATER DRUM	Egg	135	2,282.2	22.17	114	1,997.3	28.01
	Yolk-sac	--	--	--	3	52.6	0.74
	Post Yolk-sac	1	16.9	0.16	--	--	--
ROUND GOBY	Juvenile	--	--	--	30	525.6	7.37
UNIDENTIFIED	Yolk-sac	--	--	--	3	52.6	0.74
TOTAL ICHTHYOPLANKTON		609	10,295.3	100.00	407	7,130.7	100.00

Table 20 (cont.)

11 June							
Taxa	Life Stage	Day			Night		
		No.	Den.	%	No.	Den.	%
GAR sp.	Post Yolk-sac	1	17.5	0.23	--	--	--
<i>Dorosoma</i> sp.	Post Yolk-sac	17	297.7	3.99	22	371.7	8.98
COMMON CARP	Egg	274	4,799.0	64.32	71	1,199.4	28.98
	Yolk-sac	5	87.6	1.17	21	354.8	8.57
<i>Pimephales</i> type	Yolk-sac	9	157.6	2.11	31	523.7	12.65
	Post Yolk-sac	2	35.0	0.47	--	--	--
<i>Semotilus</i> type	Post Yolk-sac	--	--	--	1	16.9	0.41
CYPRINIDAE sp.	Yolk-sac	44	770.6	10.33	56	946.0	22.86
	Post Yolk-sac	11	192.7	2.58	--	--	--
<i>Moxostoma</i> sp.	Post Yolk-sac	2	35.0	0.47	4	67.6	1.63
ICTIOBINAЕ sp.	Post Yolk-sac	--	--	--	1	16.9	0.41
ROCK BASS	Post Yolk-sac	1	17.5	0.23	1	16.9	0.41
PUMPKINSEED type	Yolk-sac	3	52.5	0.70	1	16.9	0.41
LOGPERCH type	Yolk-sac	5	87.6	1.17	1	16.9	0.41
DARTER sp.	Yolk-sac	1	17.5	0.23	2	33.8	0.82
	Post Yolk-sac	5	87.6	1.17	5	84.5	2.04
FRESHWATER DRUM	Egg	44	770.6	10.33	8	135.1	3.27
ROUND GOBY	Juvenile	1	17.5	0.23	20	337.9	8.16
UNIDENTIFIED	Yolk-sac	1	17.5	0.23	--	--	--
TOTAL ICHTHYOPLANKTON		426	7,461.2	100.00	245	4,138.9	100.00
17 June							
Taxa	Life Stage	Day			Night		
		No.	Den.	%	No.	Den.	%
<i>Dorosoma</i> sp.	Yolk-sac	15	273.4	2.79	--	--	--
	Post Yolk-sac	25	455.6	4.66	28	496.6	8.24
COMMON CARP	Egg	17	309.8	3.17	22	390.2	6.47
	Yolk-sac	3	54.7	0.56	--	--	--
<i>Pimephales</i> type	Yolk-sac	111	2,022.9	20.67	123	2,181.4	36.18
CYPRINIDAE sp.	Yolk-sac	324	5,904.8	60.34	103	1,826.7	30.29
<i>Moxostoma</i> sp.	Post Yolk-sac	--	--	--	4	70.9	1.18
ICTIOBINAЕ sp.	Yolk-sac	15	273.4	2.79	9	159.6	2.65
GREEN SUNFISH	Juvenile	--	--	--	1	17.7	0.29
PUMPKINSEED type	Yolk-sac	3	54.7	0.56	4	70.9	1.18
	Post Yolk-sac	--	--	--	2	35.5	0.59
<i>Lepomis</i> sp.	Post Yolk-sac	1	18.2	0.19	--	--	--
<i>Sander</i> sp.	Yolk-sac	--	--	--	1	17.7	0.29
LOGPERCH type	Yolk-sac	--	--	--	2	35.5	0.59
DARTER sp.	Yolk-sac	7	127.6	1.30	10	177.3	2.94
	Post Yolk-sac	2	36.4	0.37	9	159.6	2.65
FRESHWATER DRUM	Egg	12	218.7	2.23	4	70.9	1.18
	Yolk-sac	1	18.2	0.19	1	17.7	0.29
	Post Yolk-sac	--	--	--	5	88.7	1.47
ROUND GOBY	Juvenile	--	--	--	12	212.8	3.53
UNIDENTIFIED	Yolk-sac	1	18.2	0.19	--	--	--
TOTAL ICHTHYOPLANKTON		537	9,786.6	100.00	340	6,029.8	100.00
24 June							
Taxa	Life Stage	Day			Night		
		No.	Den.	%	No.	Den.	%
GIZZARD SHAD	Juvenile	--	--	--	3	45.4	1.02
<i>Dorosoma</i> sp.	Yolk-sac	1	18.2	0.84	--	--	--
	Post Yolk-sac	17	308.7	14.29	22	333.0	7.48
COMMON CARP	Egg	2	36.3	1.68	6	90.8	2.04
	Yolk-sac	11	199.8	9.24	47	711.3	15.99
<i>Hypophthalmichthys</i> type	Egg	19	345.1	15.97	11	166.5	3.74
BLUNTNOSE MINNOW	Juvenile	--	--	--	2	30.3	0.68
<i>Pimephales</i> type	Yolk-sac	36	653.8	30.25	100	1,513.5	34.01
CYPRINIDAE sp.	Yolk-sac	19	345.1	15.97	40	605.4	13.61
ICTIOBINAЕ sp.	Yolk-sac	--	--	--	6	90.8	2.04
	Post Yolk-sac	--	--	--	1	15.1	0.34
	Juvenile	--	--	--	2	30.3	0.68
BLACKSTRIPE TOPMINNOW	Yolk-sac	1	18.2	0.84	--	--	--
	Juvenile	--	--	--	1	15.1	0.34

Table 20 (cont.)

24 June (cont.)							
Taxa (cont.)	Life Stage	Day			Night		
		No.	Den.	%	No.	Den.	%
BROOK SILVERSIDE	Yolk-sac	--	--	--	2	30.3	0.68
PUMPKINSEED type	Yolk-sac	3	54.5	2.52	6	90.8	2.04
	Post Yolk-sac	--	--	--	1	15.1	0.34
<i>Lepomis</i> sp.	Post Yolk-sac	--	--	--	3	45.4	1.02
LARGEMOUTH BASS	Juvenile	--	--	--	1	15.1	0.34
LOGPERCH type	Yolk-sac	--	--	--	4	60.5	1.36
DARTER sp.	Yolk-sac	4	72.6	3.36	5	75.7	1.70
	Post Yolk-sac	1	18.2	0.84	3	45.4	1.02
	Juvenile	--	--	--	2	30.3	0.68
FRESHWATER DRUM	Egg	3	54.5	2.52	--	--	--
	Post Yolk-sac	1	18.2	0.84	13	196.8	4.42
	Juvenile	--	--	--	1	15.1	0.34
ROUND GOBY	Juvenile	--	--	--	12	181.6	4.08
UNIDENTIFIED	Yolk-sac	1	18.2	0.84	--	--	--
TOTAL ICHTHYOPLANKTON		119	2,161.2	100.00	294	4,449.7	100.00
9 July							
Taxa	Life Stage	Day			Night		
		No.	Den.	%	No.	Den.	%
GAR sp.	Post Yolk-sac	--	--	--	2	30.6	1.90
GIZZARD SHAD	Juvenile	1	16.9	8.33	--	--	--
<i>Dorosoma</i> sp.	Post Yolk-sac	--	--	--	3	45.9	2.86
COMMON CARP	Egg	2	33.7	16.67	1	15.3	0.95
	Yolk-sac	--	--	--	1	15.3	0.95
<i>Hypophthalmichthys</i> type	Egg	4	67.5	33.33	--	--	--
<i>Pimephales</i> type	Yolk-sac	1	16.9	8.33	31	474.8	29.52
	Post Yolk-sac	--	--	--	2	30.6	1.90
CYPRINIDAE sp.	Yolk-sac	--	--	--	20	306.3	19.05
ICTIOBINA sp.	Yolk-sac	1	16.9	8.33	3	45.9	2.86
CHANNEL CATFISH	Juvenile	--	--	--	4	61.3	3.81
PUMPKINSEED type	Post Yolk-sac	--	--	--	2	30.6	1.90
	Juvenile	--	--	--	2	30.6	1.90
<i>Lepomis</i> sp.	Post Yolk-sac	1	16.9	8.33	--	--	--
LOGPERCH type	Yolk-sac	1	16.9	8.33	--	--	--
DARTER sp.	Yolk-sac	1	16.9	8.33	--	--	--
FRESHWATER DRUM	Egg	--	--	--	4	61.3	3.81
	Yolk-sac	--	--	--	1	15.3	0.95
ROUND GOBY	Juvenile	--	--	--	29	444.1	27.62
TOTAL ICHTHYOPLANKTON		12	202.4	100.00	105	1,608.1	100.00
15 July							
Taxa	Life Stage	Day			Night		
		No.	Den.	%	No.	Den.	%
GIZZARD SHAD	Juvenile	--	--	--	1	16.2	0.54
<i>Dorosoma</i> sp.	Post Yolk-sac	2	34.2	5.00	4	64.7	2.17
COMMON CARP	Egg	13	222.0	32.50	4	64.7	2.17
	Yolk-sac	--	--	--	5	80.8	2.72
	Juvenile	--	--	--	1	16.2	0.54
<i>Pimephales</i> type	Yolk-sac	6	102.5	15.00	87	1,406.6	47.28
CYPRINIDAE sp.	Yolk-sac	12	205.0	30.00	29	468.9	15.76
CATOSTOMIDAE sp.	Yolk-sac	1	17.1	2.50	--	--	--
CHANNEL CATFISH	Juvenile	--	--	--	12	194.0	6.52
BANDED KILLIFISH	Juvenile	--	--	--	1	16.2	0.54
PUMPKINSEED type	Yolk-sac	--	--	--	10	161.7	5.43
<i>Lepomis</i> sp.	Yolk-sac	1	17.1	2.50	--	--	--
	Post Yolk-sac	--	--	--	2	32.3	1.09
	Juvenile	--	--	--	19	307.2	10.33
LOGPERCH type	Yolk-sac	--	--	--	3	48.5	1.63
DARTER sp.	Post Yolk-sac	--	--	--	1	16.2	0.54
FRESHWATER DRUM	Egg	3	51.2	7.50	2	32.3	1.09
	Yolk-sac	2	34.2	5.00	--	--	--
ROUND GOBY	Juvenile	--	--	--	3	48.5	1.63
TOTAL ICHTHYOPLANKTON		40	683.2	100.00	184	2,974.9	100.00

Table 20 (cont.)

22 July							
Taxa (cont.)	Life Stage	Day			Night		
		No.	Den.	%	No.	Den.	%
<i>Pimephales</i> type	Yolk-sac	5	87.1	31.25	25	424.0	75.76
CYPRINIDAE sp.	Yolk-sac	1	17.4	6.25	6	101.8	18.18
FRESHWATER DRUM	Yolk-sac	4	69.6	25.00	2	33.9	6.06
UNIDENTIFIED	Egg	4	69.6	25.00	--	--	--
	Yolk-sac	2	34.8	12.50	--	--	--
TOTAL ICHTHYOPLANKTON		16	278.6	100.00	33	559.7	100.00
29 July							
Taxa	Life Stage	Day			Night		
		No.	Den.	%	No.	Den.	%
<i>Dorosoma</i> sp.	Post Yolk-sac	--	--	--	2	27.3	2.56
COMMON CARP	Egg	5	75.3	23.81	--	--	--
	Yolk-sac	--	--	--	1	13.6	1.28
<i>Pimephales</i> type	Yolk-sac	1	15.1	4.76	47	640.5	60.26
CYPRINIDAE sp.	Yolk-sac	10	150.7	47.62	26	354.3	33.33
ICTIOBINA sp.	Yolk-sac	1	15.1	4.76	--	--	--
PUMPKINSEED type	Yolk-sac	1	15.1	4.76	2	27.3	2.56
FRESHWATER DRUM	Yolk-sac	1	15.1	4.76	--	--	--
UNIDENTIFIED	Egg	2	30.1	9.52	--	--	--
TOTAL ICHTHYOPLANKTON		21	316.4	100.00	78	1,063.0	100.00
12 August							
Taxa	Life Stage	Day			Night		
		No.	Den.	%	No.	Den.	%
<i>Dorosoma</i> sp.	Post Yolk-sac	--	--	--	1	17.2	1.54
<i>Hypophthalmichthys</i> type	Egg	1	17.0	25.00	--	--	--
<i>Pimephales</i> type	Yolk-sac	--	--	--	28	480.5	43.08
CYPRINIDAE sp.	Yolk-sac	--	--	--	20	343.2	30.77
	Post Yolk-sac	--	--	--	14	240.2	21.54
PUMPKINSEED type	Yolk-sac	--	--	--	2	34.3	3.08
UNIDENTIFIED	Egg	1	17.0	25.00	--	--	--
	Yolk-sac	2	34.1	50.00	--	--	--
TOTAL ICHTHYOPLANKTON		4	68.2	100.00	65	1,115.4	100.00
26 August							
Taxa	Life Stage	Day			Night		
		No.	Den.	%	No.	Den.	%
<i>Notropis</i> sp.	Juvenile	1	15.4	33.33	3	54.4	37.50
BULLHEAD MINNOW	Juvenile	--	--	--	2	36.3	25.00
<i>Pimephales</i> type	Yolk-sac	--	--	--	1	18.1	12.50
<i>Pimephales</i> sp.	Juvenile	--	--	--	1	18.1	12.50
CYPRINIDAE sp.	Yolk-sac	2	30.9	66.67	--	--	--
PUMPKINSEED type	Post Yolk-sac	--	--	--	1	18.1	12.50
TOTAL ICHTHYOPLANKTON		3	46.3	100.00	8	145.1	100.00

Note: Density (Den.) is No. per million gallons.

Table 21. Depth Comparisons of the Number, Density, and Relative Abundance of Ichthyoplankton Collected during All Entrainment Sampling at LaSalle County Station River Screen House, 3 April - 26 August 2014.

Taxa	Life Stage	Surface			Bottom		
		No.	Den.	%	No.	Den.	%
GAR sp.	Post Yolk-sac	2	2.0	0.05	1	1.0	0.03
GIZZARD SHAD	Juvenile	5	5.1	0.12	--	--	--
<i>Dorosoma</i> sp.	Yolk-sac	16	16.2	0.39	3	3.1	0.10
COMMON CARP	Post Yolk-sac	123	124.9	3.01	107	109.4	3.54
	Egg	238	241.7	5.82	193	197.4	6.39
	Yolk-sac	565	573.8	13.81	330	337.5	10.92
	Post Yolk-sac	1	1.0	0.02	1	1.0	0.03
	Juvenile	1	1.0	0.02	--	--	--
<i>Hypophthalmichthys</i> type	Egg	18	18.3	0.44	17	17.4	0.56
<i>Notropis</i> sp.	Juvenile	3	3.0	0.07	1	1.0	0.03
BLUNTNOSSE MINNOW	Post Yolk-sac	--	--	--	1	1.0	0.03
	Juvenile	2	2.0	0.05	2	2.0	0.07
BULLHEAD MINNOW	Juvenile	2	2.0	0.05	--	--	--
<i>Pimephales</i> type	Yolk-sac	341	346.3	8.33	352	360.1	11.65
	Post Yolk-sac	4	4.1	0.10	--	--	--
<i>Pimephales</i> sp.	Juvenile	--	--	--	1	1.0	0.03
<i>Semotilus</i> type	Yolk-sac	28	28.4	0.68	4	4.1	0.13
	Post Yolk-sac	3	3.0	0.07	5	5.1	0.17
CYPRINIDAE sp.	Egg	10	10.2	0.24	12	12.3	0.40
	Yolk-sac	845	858.1	20.65	773	790.7	25.58
	Post Yolk-sac	10	10.2	0.24	15	15.3	0.50
<i>Moxostoma</i> sp.	Yolk-sac	20	20.3	0.49	8	8.2	0.26
	Post Yolk-sac	10	10.2	0.24	9	9.2	0.30
ICTIOBINA sp.	Yolk-sac	1,180	1,198.4	28.84	570	583.0	18.86
	Post Yolk-sac	34	34.5	0.83	18	18.4	0.60
	Juvenile	1	1.0	0.02	1	1.0	0.03
CATOSTOMIDAE sp.	Yolk-sac	4	4.1	0.10	--	--	--
CHANNEL CATFISH	Juvenile	8	8.1	0.20	8	8.2	0.26
BANDED KILLIFISH	Juvenile	1	1.0	0.02	--	--	--
BLACKSTRIPE TOPMINNOW	Yolk-sac	--	--	--	1	1.0	0.03
	Juvenile	1	1.0	0.02	--	--	--
BROOK SILVERSIDE	Yolk-sac	1	1.0	0.02	1	1.0	0.03
<i>Morone</i> sp.	Yolk-sac	3	3.0	0.07	4	4.1	0.13
ROCK BASS	Post Yolk-sac	1	1.0	0.02	1	1.0	0.03
GREEN SUNFISH	Juvenile	--	--	--	1	1.0	0.03
BLUEGILL type	Post Yolk-sac	3	3.0	0.07	--	--	--
PUMPKINSEED type	Yolk-sac	20	20.3	0.49	24	24.5	0.79
	Post Yolk-sac	6	6.1	0.15	--	--	--
	Juvenile	--	--	--	2	2.0	0.07
<i>Lepomis</i> sp.	Yolk-sac	1	1.0	0.02	--	--	--
	Post Yolk-sac	8	8.1	0.20	--	--	--
	Juvenile	9	9.1	0.22	10	10.2	0.33
LARGEMOUTH BASS	Juvenile	--	--	--	1	1.0	0.03
WALLEYE	Post Yolk-sac	1	1.0	0.02	--	--	--
<i>Sander</i> sp.	Yolk-sac	24	24.4	0.59	16	16.4	0.53
	Post Yolk-sac	--	--	--	1	1.0	0.03
LOGPERCH type	Yolk-sac	93	94.4	2.27	73	74.7	2.42
	Post Yolk-sac	2	2.0	0.05	--	--	--
DARTER sp.	Yolk-sac	73	74.1	1.78	52	53.2	1.72
	Post Yolk-sac	13	13.2	0.32	17	17.4	0.56
	Juvenile	--	--	--	2	2.0	0.07
FRESHWATER DRUM	Egg	247	250.8	6.04	233	238.3	7.71
	Yolk-sac	9	9.1	0.22	6	6.1	0.20
	Post Yolk-sac	15	15.2	0.37	5	5.1	0.17
	Juvenile	--	--	--	1	1.0	0.03
ROUND GOBY	Juvenile	48	48.7	1.17	99	101.3	3.28
<i>Morone/Pomoxis</i> type	Egg	8	8.1	0.20	1	1.0	0.03
UNIDENTIFIED	Egg	13	13.2	0.32	29	29.7	0.96
	Yolk-sac	16	16.2	0.39	10	10.2	0.33
	Larvae	2	2.0	0.05	--	--	--
TOTAL ICHTHYOPLANKTON		4,092	4,155.6	100.00	3,022	3,091.1	100.00

Note: Density (Den.) is No. per million gallons.

Table 22. Depth Comparisons of the Number, Density, and Relative Abundance of Ichthyoplankton
Collected during Each Entrainment Sampling Event at LaSalle County Station River Screen House,
3 April - 26 August 2014.

3 April							
Taxa	Life Stage	Surface			Bottom		
		No.	Den.	%	No.	Den.	%
FRESHWATER DRUM	Egg	1	16.2	100.00	--	--	--
24 April							
Taxa	Life Stage	Surface			Bottom		
		No.	Den.	%	No.	Den.	%
<i>Dorosoma</i> sp.	Post Yolk-sac	--	--	--	3	49.6	8.57
ICTIOBINAЕ sp.	Yolk-sac	--	--	--	1	16.5	2.86
<i>Morone</i> sp.	Yolk-sac	2	30	7.69	3	49.6	8.57
<i>Sander</i> sp.	Yolk-sac	14	210.2	53.85	13	214.8	37.14
LOGPERCH type	Yolk-sac	8	120.1	30.77	15	247.9	42.86
UNIDENTIFIED	Yolk-sac	2	30	7.69	--	--	--
TOTAL ICHTHYOPLANKTON		26	390.3	100.00	35	578.3	100.00
6 May							
Taxa	Life Stage	Surface			Bottom		
		No.	Den.	%	No.	Den.	%
<i>Dorosoma</i> sp.	Yolk-sac	--	--	--	1	16.6	2.94
	Post Yolk-sac	5	67.6	9.26	2	33.1	5.88
ICTIOBINAЕ sp.	Yolk-sac	42	567.9	77.78	27	446.9	79.41
<i>Morone</i> sp.	Yolk-sac	1	13.5	1.85	--	--	--
<i>Sander</i> sp.	Yolk-sac	--	--	--	2	33.1	5.88
LOGPERCH type	Yolk-sac	2	27.0	3.70	2	33.1	5.88
UNIDENTIFIED	Yolk-sac	4	54.1	7.41	--	--	--
TOTAL ICHTHYOPLANKTON		54	730.1	100.00	34	562.8	100.00
13 May							
Taxa	Life Stage	Surface			Bottom		
		No.	Den.	%	No.	Den.	%
<i>Dorosoma</i> sp.	Post Yolk-sac	8	138.6	0.45	5	79.5	0.58
COMMON CARP	Egg	5	86.6	0.28	7	111.3	0.82
	Yolk-sac	451	7,812.3	25.54	226	3,593.0	26.34
<i>Semotilus</i> type	Yolk-sac	23	398.4	1.30	3	47.7	0.35
CYPRINIDAE sp.	Yolk-sac	79	1,368.5	4.47	66	1,049.3	7.69
<i>Moxostoma</i> sp.	Yolk-sac	8	138.6	0.45	3	47.7	0.35
	Post Yolk-sac	2	34.6	0.11	1	15.9	0.12
ICTIOBINAЕ sp.	Yolk-sac	990	17,148.9	56.06	370	5,882.4	43.12
	Post Yolk-sac	19	329.1	1.08	7	111.3	0.82
CATOSTOMIDAE sp.	Yolk-sac	3	52.0	0.17	--	--	--
PUMPKINSEED type	Yolk-sac	--	--	--	3	47.7	0.35
WALLEYE	Post Yolk-sac	1	17.3	0.06	--	--	--
<i>Sander</i> sp.	Yolk-sac	8	138.6	0.45	1	15.9	0.12
	Post Yolk-sac	--	--	--	1	15.9	0.12
LOGPERCH type	Yolk-sac	62	1,074.0	3.51	40	635.9	4.66
DARTER sp.	Yolk-sac	31	537.0	1.76	29	461.1	3.38
	Post Yolk-sac	2	34.6	0.11	--	--	--
FRESHWATER DRUM	Egg	56	970.0	3.17	67	1,065.2	7.81
UNIDENTIFIED	Egg	9	155.9	0.51	26	413.4	3.03
	Yolk-sac	7	121.3	0.40	3	47.7	0.35
	Larvae	2	34.6	0.11	--	--	--
TOTAL ICHTHYOPLANKTON		1,766	30,590.9	100.00	858	13,640.8	100.00

Table 22 (cont.)

20 May							
Taxa	Life Stage	Surface			Bottom		
		No.	Den.	%	No.	Den.	%
COMMON CARP	Egg	1	14.2	0.87	1	13.9	1.75
	Yolk-sac	1	14.2	0.87	1	13.9	1.75
	Post Yolk-sac	1	14.2	0.87	--	--	--
<i>Semotilus</i> type	Yolk-sac	5	70.9	4.35	--	--	--
	Post Yolk-sac	2	28.4	1.74	5	69.5	8.77
CYPRINIDAE sp.	Yolk-sac	13	184.4	11.30	1	13.9	1.75
<i>Moxostoma</i> sp.	Yolk-sac	12	170.2	10.43	5	69.5	8.77
	Post Yolk-sac	2	28.4	1.74	--	--	--
ICTIOBINAЕ sp.	Yolk-sac	37	524.7	32.17	23	319.7	40.35
	Post Yolk-sac	14	198.5	12.17	9	125.1	15.79
LOGPERCH type	Yolk-sac	9	127.6	7.83	4	55.6	7.02
DARTER sp.	Yolk-sac	15	212.7	13.04	6	83.4	10.53
	Post Yolk-sac	--	--	--	1	13.9	1.75
FRESHWATER DRUM	Egg	--	--	--	1	13.9	1.75
<i>Morone/Pomoxis</i> type	Egg	3	42.5	2.61	--	--	--
TOTAL ICHTHYOPLANKTON		115	1,630.8	100.00	57	792.3	100.00
28 May							
Taxa	Life Stage	Surface			Bottom		
		No.	Den.	%	No.	Den.	%
<i>Dorosoma</i> sp.	Post Yolk-sac	4	71.0	1.48	13	222.5	3.69
COMMON CARP	Yolk-sac	48	851.7	17.78	66	1,129.7	18.75
	Post Yolk-sac	--	--	--	1	17.1	0.28
BLUNTNOSE MINNOW	Juvenile	--	--	--	2	34.2	0.57
CYPRINIDAE sp.	Egg	10	177.4	3.70	12	205.4	3.41
	Yolk-sac	68	1,206.5	25.19	83	1,420.7	23.58
<i>Moxostoma</i> sp.	Post Yolk-sac	2	35.5	0.74	--	--	--
ICTIOBINAЕ sp.	Yolk-sac	89	1,579.1	32.96	135	2,310.7	38.35
<i>Morone</i> sp.	Yolk-sac	--	--	--	1	17.1	0.28
PUMPKINSEED type	Yolk-sac	1	17.7	0.37	1	17.1	0.28
LOGPERCH type	Yolk-sac	3	53.2	1.11	4	68.5	1.14
	Post Yolk-sac	2	35.5	0.74	--	--	--
DARTER sp.	Yolk-sac	5	88.7	1.85	--	--	--
FRESHWATER DRUM	Egg	12	212.9	4.44	14	239.6	3.98
ROUND GOBY	Juvenile	21	372.6	7.78	19	325.2	5.40
<i>Morone/Pomoxis</i> type	Egg	5	88.7	1.85	1	17.1	0.28
TOTAL ICHTHYOPLANKTON		270	4,790.6	100.00	352	6,025.0	100.00
3 June							
Taxa	Life Stage	Surface			Bottom		
		No.	Den.	%	No.	Den.	%
<i>Dorosoma</i> sp.	Yolk-sac	--	--	--	2	33.3	0.36
	Post Yolk-sac	24	427.9	5.19	23	382.4	4.15
COMMON CARP	Yolk-sac	4	71.3	0.87	4	66.5	0.72
BLUNTNOSE MINNOW	Post Yolk-sac	--	--	--	1	16.6	0.18
<i>Pimephales</i> type	Yolk-sac	10	178.3	2.16	41	681.6	7.40
<i>Semotilus</i> type	Yolk-sac	--	--	--	1	16.6	0.18
CYPRINIDAE sp.	Yolk-sac	274	4,885.8	59.31	322	5,353.3	58.12
<i>Moxostoma</i> sp.	Post Yolk-sac	1	17.8	0.22	1	16.6	0.18
ICTIOBINAЕ sp.	Yolk-sac	1	17.8	0.22	--	--	--
	Post Yolk-sac	--	--	--	1	16.6	0.18
BLUEGILL type	Post Yolk-sac	3	53.5	0.65	--	--	--
PUMPKINSEED type	Yolk-sac	1	17.8	0.22	3	49.9	0.54
<i>Lepomis</i> sp.	Post Yolk-sac	1	17.8	0.22	--	--	--
<i>Sander</i> sp.	Yolk-sac	1	17.8	0.22	--	--	--
LOGPERCH type	Yolk-sac	--	--	--	1	16.6	0.18
DARTER sp.	Yolk-sac	3	53.5	0.65	6	99.8	1.08
	Post Yolk-sac	--	--	--	1	16.6	0.18
FRESHWATER DRUM	Egg	136	2,425.0	29.44	113	1,878.7	20.40
	Yolk-sac	2	35.7	0.43	1	16.6	0.18
	Post Yolk-sac	1	17.8	0.22	--	--	--
ROUND GOBY	Juvenile	--	--	--	30	498.8	5.42
UNIDENTIFIED	Yolk-sac	--	--	--	3	49.9	0.54
TOTAL ICHTHYOPLANKTON		462	8,238.0	100.00	554	9,210.4	100.00

Table 22 (cont.)

11 June							
Taxa	Life Stage	Surface			Bottom		
		No.	Den.	%	No.	Den.	%
GAR sp.	Post Yolk-sac	--	--	--	1	17.4	0.32
<i>Dorosoma</i> sp.	Post Yolk-sac	18	305.2	5.04	21	366.4	6.69
COMMON CARP	Egg	194	3,289.2	54.34	151	2,634.8	48.09
	Yolk-sac	13	220.4	3.64	13	226.8	4.14
<i>Pimephales</i> type	Yolk-sac	23	390.0	6.44	17	296.6	5.41
	Post Yolk-sac	2	33.9	0.56	--	--	--
<i>Semotilus</i> type	Post Yolk-sac	1	17.0	0.28	--	--	--
CYPRINIDAE sp.	Yolk-sac	43	729.1	12.04	57	994.6	18.15
	Post Yolk-sac	10	169.5	2.80	1	17.4	0.32
<i>Moxostoma</i> sp.	Post Yolk-sac	3	50.9	0.84	3	52.3	0.96
ICTIOBINAЕ sp.	Post Yolk-sac	1	17.0	0.28	--	--	--
ROCK BASS	Post Yolk-sac	1	17.0	0.28	1	17.4	0.32
PUMPKINSEED type	Yolk-sac	1	17.0	0.28	3	52.3	0.96
LOGPERCH type	Yolk-sac	4	67.8	1.12	2	34.9	0.64
DARTER sp.	Yolk-sac	2	33.9	0.56	1	17.4	0.32
	Post Yolk-sac	3	50.9	0.84	7	122.1	2.23
FRESHWATER DRUM	Egg	34	576.5	9.52	18	314.1	5.73
ROUND GOBY	Juvenile	4	67.8	1.12	17	296.6	5.41
UNIDENTIFIED	Yolk-sac	--	--	--	1	17.4	0.32
TOTAL ICHTHYOPLANKTON		357	6,052.8	100.00	314	5,479.0	100.00
17 June							
Taxa	Life Stage	Surface			Bottom		
		No.	Den.	%	No.	Den.	%
<i>Dorosoma</i> sp.	Yolk-sac	15	271.8	3.66	--	--	--
	Post Yolk-sac	29	525.5	7.07	24	428.0	5.14
COMMON CARP	Egg	21	380.5	5.12	18	321.0	3.85
	Yolk-sac	1	18.1	0.24	2	35.7	0.43
<i>Pimephales</i> type	Yolk-sac	58	1051.0	14.15	176	3138.8	37.69
CYPRINIDAE sp.	Yolk-sac	241	4367.1	58.78	186	3317.2	39.83
<i>Moxostoma</i> sp.	Post Yolk-sac	--	--	--	4	71.3	0.86
ICTIOBINAЕ sp.	Yolk-sac	12	217.4	2.93	12	214.0	2.57
GREEN SUNFISH	Juvenile	--	--	--	1	17.8	0.21
PUMPKINSEED type	Yolk-sac	2	36.2	0.49	5	89.2	1.07
	Post Yolk-sac	2	36.2	0.49	--	--	--
<i>Lepomis</i> sp.	Post Yolk-sac	1	18.1	0.24	--	--	--
<i>Sander</i> sp.	Yolk-sac	1	18.1	0.24	--	--	--
LOGPERCH type	Yolk-sac	2	36.2	0.49	--	--	--
DARTER sp.	Yolk-sac	11	199.3	2.68	6	107.0	1.28
	Post Yolk-sac	5	90.6	1.22	6	107.0	1.28
FRESHWATER DRUM	Egg	3	54.4	0.73	13	231.8	2.78
	Yolk-sac	1	18.1	0.24	1	17.8	0.21
	Post Yolk-sac	5	90.6	1.22	--	--	--
ROUND GOBY	Juvenile	--	--	--	12	214.0	2.57
UNIDENTIFIED	Yolk-sac	--	--	--	1	17.8	0.21
TOTAL ICHTHYOPLANKTON		410	7429.5	100.00	467	8328.6	100.00
24 June							
Taxa	Life Stage	Surface			Bottom		
		No.	Den.	%	No.	Den.	%
GIZZARD SHAD	Juvenile	3	46.5	1.00	--	--	--
<i>Dorosoma</i> sp.	Yolk-sac	1	15.5	0.33	--	--	--
	Post Yolk-sac	28	434.5	9.36	11	194.1	9.65
COMMON CARP	Egg	8	124.1	2.68	--	--	--
	Yolk-sac	41	636.2	13.71	17	299.9	14.91
<i>Hypophthalmichthys</i> type	Egg	16	248.3	5.35	14	247.0	12.28
BLUNTNOSE MINNOW	Juvenile	2	31.0	0.67	--	--	--
<i>Pimephales</i> type	Yolk-sac	109	1,691.3	36.45	27	476.3	23.68
CYPRINIDAE sp.	Yolk-sac	43	667.2	14.38	16	282.3	14.04
ICTIOBINAЕ sp.	Yolk-sac	6	93.1	2.01	--	--	--
	Post Yolk-sac	--	--	--	1	17.6	0.88
	Juvenile	1	15.5	0.33	1	17.6	0.88
BLACKSTRIPE TOPMINNOW	Yolk-sac	--	--	--	1	17.6	0.88
	Juvenile	1	15.5	0.33	--	--	--

Table 22 (cont.)

24 June (cont.)							
Taxa (cont.)	Life Stage	Surface			Bottom		
		No.	Den.	%	No.	Den.	%
BROOK SILVERSIDE	Yolk-sac	1	15.5	0.33	1	17.6	0.88
PUMPKINSEED type	Yolk-sac	7	108.6	2.34	2	35.3	1.75
	Post Yolk-sac	1	15.5	0.33	--	--	--
<i>Lepomis</i> sp.	Post Yolk-sac	3	46.5	1.00	--	--	--
LARGEMOUTH BASS	Juvenile	--	--	--	1	17.6	0.88
LOGPERCH type	Yolk-sac	2	31.0	0.67	2	35.3	1.75
DARTER sp.	Yolk-sac	5	77.6	1.67	4	70.6	3.51
	Post Yolk-sac	2	31.0	0.67	2	35.3	1.75
	Juvenile	--	--	--	2	35.3	1.75
FRESHWATER DRUM	Egg	2	31.0	0.67	1	17.6	0.88
	Post Yolk-sac	9	139.6	3.01	5	88.2	4.39
	Juvenile	--	--	--	1	17.6	0.88
ROUND GOBY	Juvenile	7	108.6	2.34	5	88.2	4.39
UNIDENTIFIED	Yolk-sac	1	15.5	0.33	--	--	--
TOTAL ICHTHYOPLANKTON		299	4,639.4	100.00	114	2,011.1	100.00
9 July							
Taxa	Life Stage	Surface			Bottom		
		No.	Den.	%	No.	Den.	%
GAR sp.	Post Yolk-sac	2	30.8	2.63	--	--	--
GIZZARD SHAD	Juvenile	1	15.4	1.32	--	--	--
<i>Dorosoma</i> sp.	Post Yolk-sac	3	46.2	3.95	--	--	--
COMMON CARP	Egg	--	--	--	3	50.3	7.32
	Yolk-sac	--	--	--	1	16.8	2.44
<i>Hypophthalmichthys</i> type	Egg	1	15.4	1.32	3	50.3	7.32
<i>Pimephales</i> type	Yolk-sac	23	354.5	30.26	9	150.8	21.95
	Post Yolk-sac	2	30.8	2.63	--	--	--
CYPRINIDAE sp.	Yolk-sac	19	292.9	25.00	1	16.8	2.44
ICTIOBINA sp.	Yolk-sac	2	30.8	2.63	2	33.5	4.88
CHANNEL CATFISH	Juvenile	3	46.2	3.95	1	16.8	2.44
PUMPKINSEED type	Post Yolk-sac	2	30.8	2.63	--	--	--
	Juvenile	--	--	--	2	33.5	4.88
<i>Lepomis</i> sp.	Post Yolk-sac	1	15.4	1.32	--	--	--
LOGPERCH type	Yolk-sac	1	15.4	1.32	--	--	--
DARTER sp.	Yolk-sac	1	15.4	1.32	--	--	--
FRESHWATER DRUM	Egg	2	30.8	2.63	2	33.5	4.88
	Yolk-sac	--	--	--	1	16.8	2.44
ROUND GOBY	Juvenile	13	200.4	17.11	16	268.0	39.02
TOTAL ICHTHYOPLANKTON		76	1,171.6	100.00	41	686.8	100.00
15 July							
Taxa	Life Stage	Surface			Bottom		
		No.	Den.	%	No.	Den.	%
GIZZARD SHAD	Juvenile	1	18.1	0.81	--	--	--
<i>Dorosoma</i> sp.	Post Yolk-sac	2	36.1	1.61	4	61.5	4.00
COMMON CARP	Egg	6	108.4	4.84	11	169.1	11.00
	Yolk-sac	5	90.4	4.03	--	--	--
	Juvenile	1	18.1	0.81	--	--	--
<i>Pimephales</i> type	Yolk-sac	56	1,012.0	45.16	37	568.7	37.00
CYPRINIDAE sp.	Yolk-sac	25	451.8	20.16	16	245.9	16.00
CATOSTOMIDAE sp.	Yolk-sac	1	18.1	0.81	--	--	--
CHANNEL CATFISH	Juvenile	5	90.4	4.03	7	107.6	7.00
BANDED KILLIFISH	Juvenile	1	18.1	0.81	--	--	--
PUMPKINSEED type	Yolk-sac	4	72.3	3.23	6	92.2	6.00
<i>Lepomis</i> sp.	Yolk-sac	1	18.1	0.81	--	--	--
	Post Yolk-sac	2	36.1	1.61	--	--	--
	Juvenile	9	162.6	7.26	10	153.7	10.00
LOGPERCH type	Yolk-sac	--	--	--	3	46.1	3.00
DARTER sp.	Post Yolk-sac	1	18.1	0.81	--	--	--
FRESHWATER DRUM	Egg	1	18.1	0.81	4	61.5	4.00
	Yolk-sac	--	--	--	2	30.7	2.00
ROUND GOBY	Juvenile	3	54.2	2.42	--	--	--
TOTAL ICHTHYOPLANKTON		124	2,240.8	100.00	100	1,537.0	100.00

Table 22 (cont.)

22 July							
Taxa (cont.)	Life Stage	Surface			Bottom		
		No.	Den.	%	No.	Den.	%
<i>Pimephales</i> type	Yolk-sac	16	268.9	55.17	14	246.0	70.00
CYPRINIDAE sp.	Yolk-sac	5	84.0	17.24	2	35.1	10.00
FRESHWATER DRUM	Yolk-sac	5	84.0	17.24	1	17.6	5.00
UNIDENTIFIED	Egg	1	16.8	3.45	3	52.7	15.00
	Yolk-sac	2	33.6	6.90	--	--	--
TOTAL ICHTHYOPLANKTON		29	487.4	100.00	20	351.5	100.00
29 July							
Taxa	Life Stage	Surface			Bottom		
		No.	Den.	%	No.	Den.	%
<i>Dorosoma</i> sp.	Post Yolk-sac	2	29.5	3.77	--	--	--
COMMON CARP	Egg	3	44.2	5.66	2	27.8	4.35
	Yolk-sac	1	14.7	1.89	--	--	--
<i>Pimephales</i> type	Yolk-sac	24	353.5	45.28	24	334.0	52.17
CYPRINIDAE sp.	Yolk-sac	16	235.7	30.19	20	278.3	43.48
ICTIOBINA sp.	Yolk-sac	1	14.7	1.89	--	--	--
PUMPKINSEED type	Yolk-sac	3	44.2	5.66	--	--	--
FRESHWATER DRUM	Yolk-sac	1	14.7	1.89	--	--	--
UNIDENTIFIED	Egg	2	29.5	3.77	--	--	--
TOTAL ICHTHYOPLANKTON		53	780.7	100.00	46	640.2	100.00
12 August							
Taxa	Life Stage	Surface			Bottom		
		No.	Den.	%	No.	Den.	%
<i>Dorosoma</i> sp.	Post Yolk-sac	--	--	--	1	16.9	3.85
<i>Hypophthalmichthys</i> type	Egg	1	17.3	2.33	--	--	--
<i>Pimephales</i> type	Yolk-sac	21	363.2	48.84	7	118.4	26.92
CYPRINIDAE sp.	Yolk-sac	19	328.6	44.19	1	16.9	3.85
	Post Yolk-sac	--	--	--	14	236.7	53.85
PUMPKINSEED type	Yolk-sac	1	17.3	2.33	1	16.9	3.85
UNIDENTIFIED	Egg	1	17.3	2.33	--	--	--
	Yolk-sac	--	--	--	2	33.8	7.69
TOTAL ICHTHYOPLANKTON		43	743.7	100.00	26	439.6	100.00
26 August							
Taxa	Life Stage	Surface			Bottom		
		No.	Den.	%	No.	Den.	%
<i>Notropis</i> sp.	Juvenile	3	52.1	42.86	1	16.1	25.00
BULLHEAD MINNOW	Juvenile	2	34.7	28.57	--	--	--
<i>Pimephales</i> type	Yolk-sac	1	17.4	14.29	--	--	--
<i>Pimephales</i> sp.	Juvenile	--	--	--	1	16.1	25.00
CYPRINIDAE sp.	Yolk-sac	--	--	--	2	32.1	50.00
PUMPKINSEED type	Post Yolk-sac	1	17.4	14.29	--	--	--
TOTAL ICHTHYOPLANKTON		7	121.5	100.00	4	64.2	100.00

Note: Density (Den.) is No. per million gallons.

Table 23. Ichthyoplankton Taxa Entrainment Estimates for LaSalle County Station River Screen House,
30 March-30 August 2014.

Common Family Name	Taxa	Life Stage	No.	%
GARS	GAR sp. ⁽¹⁾	Post Yolk-sac	21,847	0.06
HERRINGS	<i>Dorosoma</i> sp.	Yolk-sac	102,868	0.27
		Post Yolk-sac	1,280,881	3.36
	GIZZARD SHAD ⁽¹⁾	Juvenile	32,604	0.09
CARPS and MINNOWS	CYPRINIDAE sp.	Egg	115,919	0.30
		Yolk-sac	8,694,914	22.83
		Post Yolk-sac	201,993	0.53
	COMMON CARP ⁽¹⁾	Egg	2,258,280	5.93
		Yolk-sac	4,606,691	12.10
		Post Yolk-sac	9,514	0.02
		Juvenile	5,023	0.01
	<i>Hypophthalmichthys</i> type ⁽¹⁾	Egg	236,214	0.62
	<i>Notropis</i> sp. ⁽¹⁾	Juvenile	40,367	0.11
	<i>Pimephales</i> sp.	Juvenile	10,092	0.03
	BLUNTNOSE MINNOW ⁽¹⁾	Post Yolk-sac	5,203	0.01
		Juvenile	23,377	0.06
	BULLHEAD MINNOW ⁽¹⁾	Juvenile	20,183	0.05
	<i>Pimephales</i> type ⁽¹⁾	Yolk-sac	4,015,245	10.54
		Post Yolk-sac	27,047	0.07
	<i>Semotilus</i> type ⁽¹⁾	Yolk-sac	156,787	0.41
		Post Yolk-sac	34,918	0.09
SUCKERS	CATOSTOMIDAE sp.	Yolk-sac	20,064	0.05
	ICTIOBINAE sp. ⁽²⁾	Yolk-sac	8,787,557	23.08
		Post Yolk-sac	244,824	0.64
		Juvenile	12,839	0.03
	<i>Moxostoma</i> sp. ⁽¹⁾	Yolk-sac	127,322	0.33
		Post Yolk-sac	97,426	0.26
NORTH AMERICAN CATFISHES	CHANNEL CATFISH ⁽¹⁾	Juvenile	93,570	0.25
NEW WORLD SILVERSIDES	BROOK SILVERSIDE ⁽¹⁾	Yolk-sac	12,839	0.03
TOPMINNOWS	BLACKSTRIPE TOPMINNOW ⁽¹⁾	Yolk-sac	6,419	0.02
		Juvenile	6,419	0.02
	BANDED KILLFISH ⁽¹⁾	Juvenile	5,023	0.01
TEMPERATE BASSES	<i>Morone</i> sp. ⁽¹⁾	Yolk-sac	67,537	0.18
SUNFISHES	ROCK BASS ⁽¹⁾	Post Yolk-sac	10,402	0.03
	<i>Lepomis</i> sp.	Yolk-sac	5,023	0.01
		Post Yolk-sac	48,267	0.13
		Juvenile	95,441	0.25
	GREEN SUNFISH ⁽¹⁾	Juvenile	5,436	0.01
	PUMPKINSEED type ⁽¹⁾	Yolk-sac	246,922	0.65
		Post Yolk-sac	44,029	0.12
		Juvenile	16,646	0.04
	BLUEGILL type ⁽¹⁾	Post Yolk-sac	15,610	0.04
	LARGEMOUTH BASS ⁽¹⁾	Juvenile	6,419	0.02
PERCHES AND DARTERS	DARTER sp. ⁽¹⁾	Yolk-sac	637,264	1.67
		Post Yolk-sac	161,981	0.43
		Juvenile	12,839	0.03
	LOGPERCH type ⁽¹⁾	Yolk-sac	983,554	2.58
		Post Yolk-sac	10,538	0.03
	<i>Sander</i> sp.	Yolk-sac	376,707	0.99
		Post Yolk-sac	5,014	0.01
	WALLEYE ⁽¹⁾	Post Yolk-sac	5,014	0.01
DRUMS AND CROAKERS	FRESHWATER DRUM ⁽¹⁾	Egg	2,501,615	6.57
		Yolk-sac	80,355	0.21
		Post Yolk-sac	122,255	0.32
		Juvenile	6,419	0.02
GOBIES	ROUND GOBY ⁽¹⁾	Juvenile	874,780	2.30
UNIDENTIFIED	UNIDENTIFIED	Egg	215,261	0.57
		Yolk-sac	154,989	0.41
		Larvae	10,027	0.03
	<i>Morone/Pomoxis</i> type	Egg	44,351	0.12
TOTAL ICHTHYOPLANKTON			38,078,968	100.00
TOTAL TAXA			27	

⁽¹⁾ Counted as one taxa.

⁽²⁾ Counted as two taxa.

Table 24. Comparison of Annual Impingement and Entrainment Estimates between LaSalle County Station and Other Generating Stations within the Illinois River watershed.

Station	Year	Mode of Cooling	Typical CW Flow (mgd) ¹	Estimated Impingement	Estimated Entrainment
Will County Station ²	2004-2005	Open Cycle	864	41,884	278,025,810
Joliet 29 Station ^{3,4}	2004-2005	Open Cycle	1,018 - 1,023	355,844	122,123,878
	2005-2006		860 - 1,007	487,786	183,196,758
Dresden Nuclear Station ^{5,6,7}	2005-2006	Indirect-Open Cycle	1,330 - 1,400	1,016,975	88,289,628
	2006-2007		1,285 - 1,402	181,274	137,264,687
LaSalle County Nuclear Station	2014-2015	Closed Cycle	86 - 88	10,673	38,078,968

¹ Depending on availability of data, "typical" among the various studies may represent mean or median flow in millions of gallons per day over the course of the study.

²EA 2007a.

³EA 2007b.

⁴EA 2007c

⁵ Dresden Nuclear Station operates as indirect-open cycle during 15 June to 30 September and closed cycle the remainder of the year. Data provided are based on collections only during the 3.5 months of indirect-open cycle operation each year.

⁶EA 2007d.

⁷EA 2007e.

APPENDIX A
Raw impingement data collected at LaSalle County Station River
Screen House by sampling date, April 2014-March 2015

APPENDIX A - RAW IMPINGEMENT DATA LISTING

SAMPLING PERIOD: 02-03 Apr START DATE AND TIME: 4/2/14 13:30 END DATE AND TIME: 4/3/14 13:30
 SAMPLING DURATIONS (hrs): 24.00 CW VOLUME SAMPLED (gals x 10⁶): 86.4
 EXTRAPOLATION PERIOD: 01-12 Apr CW EXTRAPOLATION VOLUME (gals x 10⁶): 1,037
 INTAKE TEMPERATURES (C): MINIMUM= 9.0 MEAN= 9.4 MAXIMUM= 9.8

SPECIES	LENGTH	WEIGHT	PLUS COUNT	BATCH WEIGHT
GIZZARD SHAD	183	49	.	.
BLUEGILL	86	11	.	.
BLUEGILL	114	27	.	.
BLUEGILL	132	46	.	.
SPOTTAIL SHINER	76	5	.	.
SPOTTAIL SHINER	79	5	.	.
SPOTFIN SHINER	38	1	.	.
NORTHERN CLEARWATER CRAYFISH	49	2	.	.

SAMPLING PERIOD: 14-15 Apr START DATE AND TIME: 4/14/14 13:20 END DATE AND TIME: 4/15/14 13:20
 SAMPLING DURATIONS (hrs): 24.00 CW VOLUME SAMPLED (gals x 10⁶): 86.4
 EXTRAPOLATION PERIOD: 13-26 Apr CW EXTRAPOLATION VOLUME (gals x 10⁶): 1,210
 INTAKE TEMPERATURES (C): MINIMUM= 12.4 MEAN= 13.9 MAXIMUM= 14.7

SPECIES	LENGTH	WEIGHT	PLUS COUNT	BATCH WEIGHT
ROUND GOBY	78	7	.	.
ROUND GOBY	77	6	.	.
ROUND GOBY	67	5	.	.
ROUND GOBY	75	6	.	.
ROUND GOBY	72	5	.	.
ROUND GOBY	67	4	.	.
ROUND GOBY	86	8	.	.
ROUND GOBY	93	11	.	.
ROUND GOBY	90	10	.	.
ROUND GOBY	78	7	.	.
ROUND GOBY	63	4	.	.
ROUND GOBY	69	5	.	.
ROUND GOBY	81	8	.	.
ROUND GOBY	71	5	.	.
ROUND GOBY	82	6	.	.
ROUND GOBY	64	4	.	.
ROUND GOBY	83	7	.	.
ROUND GOBY	78	6	.	.
ROUND GOBY	77	7	.	.
ROUND GOBY	76	7	.	.
ROUND GOBY	82	7	.	.
ROUND GOBY	86	9	.	.
ROUND GOBY	87	9	.	.
ROUND GOBY	78	7	.	.
ROUND GOBY	77	7	.	.
ROUND GOBY	77	7	.	.
ROUND GOBY	84	8	.	.
ROUND GOBY	72	5	.	.
ROUND GOBY	80	7	.	.
ROUND GOBY	77	6	.	.
ROUND GOBY	.	.	11	58
CHANNEL CATFISH	140	17	.	.
BLUEGILL	52	2	.	.
BLUEGILL	47	2	.	.
ORANGESPOTTED SUNFISH	81	10	.	.
GIZZARD SHAD	99	7	.	.

WALLEYE		355	382	.	.
SAMPLING PERIOD:	30 Apr-01 May	START DATE AND TIME:	4/30/14 14:08	END DATE AND TIME:	5/1/14 14:01
SAMPLING DURATIONS (hrs):	23.88	CW VOLUME SAMPLED (gals x 10 ⁶):	86.0		
EXTRAPOLATION PERIOD:	27 Apr-10 May	CW EXTRAPOLATION VOLUME (gals x 10 ⁶):	1,210		
INTAKE TEMPERATURES (C):	MINIMUM= 14.3	MEAN= 14.7		MAXIMUM= 15.1	
SPECIES	LENGTH	WEIGHT	PLUS COUNT	BATCH WEIGHT	
ROUND GOBY	83	8	.	.	
SAMPLING PERIOD:	12-13 May	START DATE AND TIME:	5/12/14 13:40	END DATE AND TIME:	5/13/14 13:42
SAMPLING DURATIONS (hrs):	24.03	CW VOLUME SAMPLED (gals x 10 ⁶):	86.5		
EXTRAPOLATION PERIOD:	11-24 May	CW EXTRAPOLATION VOLUME (gals x 10 ⁶):	1,210		
INTAKE TEMPERATURES (C):	MINIMUM= 19.8	MEAN= 20.8		MAXIMUM= 21.5	
SPECIES	LENGTH	WEIGHT	PLUS COUNT	BATCH WEIGHT	
WHITE SUCKER	80	7	.	.	
WHITE SUCKER	92	9	.	.	
WHITE SUCKER	86	8	.	.	
WHITE SUCKER	67	3	.	.	
WHITE SUCKER	99	11	.	.	
FLATHEAD CATFISH	68	3	.	.	
BLUEGILL	71	6	.	.	
BLUEGILL	87	11	.	.	
BLUEGILL	96	15	.	.	
BLUEGILL	67	5	.	.	
BLUEGILL	55	3	.	.	
SPOTTAIL SHINER	91	7	.	.	
SPOTTAIL SHINER	81	6	.	.	
SPOTTAIL SHINER	89	7	.	.	
SPOTTAIL SHINER	73	5	.	.	
ROUND GOBY	91	12	.	.	
ROUND GOBY	90	11	.	.	
ROUND GOBY	83	8	.	.	
ROUND GOBY	91	12	.	.	
ROUND GOBY	88	10	.	.	
ROUND GOBY	88	11	.	.	
ROUND GOBY	78	6	.	.	
ROUND GOBY	81	7	.	.	
ROUND GOBY	70	5	.	.	
ROUND GOBY	92	11	.	.	
ROUND GOBY	90	12	.	.	
ROUND GOBY	73	6	.	.	
ROUND GOBY	82	8	.	.	
ROUND GOBY	85	11	.	.	
ROUND GOBY	91	10	.	.	
ROUND GOBY	63	3	.	.	
ROUND GOBY	68	6	.	.	
ROUND GOBY	70	5	.	.	
ROUND GOBY	84	9	.	.	
ROUND GOBY	83	8	.	.	
ROUND GOBY	76	6	.	.	
ROUND GOBY	71	6	.	.	
ROUND GOBY	69	4	.	.	
ORANGESPOTTED SUNFISH	83	12	.	.	
ORANGESPOTTED SUNFISH	56	3	.	.	
BLUNTNOST MINNOW	.	.	1	3	
CREEK CHUB	.	.	5	17	
SMALLMOUTH BASS	245	204	.	.	

FRESHWATER DRUM	167	45	.	.
FRESHWATER DRUM	153	40	.	.
FRESHWATER DRUM	118	14	.	.
FRESHWATER DRUM	147	30	.	.
FRESHWATER DRUM	135	23	.	.
FRESHWATER DRUM	137	23	.	.
FRESHWATER DRUM	134	24	.	.
FRESHWATER DRUM	145	33	.	.
FRESHWATER DRUM	140	25	.	.
ORIENTAL WEATHERFISH	179	46	.	.
BLUNTNOSE MINNOW	.	.	29	83
EMERALD SHINER	.	.	1	3
YELLOW BULLHEAD	69	5	.	.
BLACK BULLHEAD	62	4	.	.
GOLDEN REDHORSE	180	83	.	.
FATHEAD MINNOW	.	.	1	6
STRIPED SHINER	.	.	1	28
HORNHEAD CHUB	.	.	1	89
BLACK BULLHEAD	48	2	.	.
BANDED DARTER	.	.	1	1
CYPRINIDAE SP.	.	.	1	1

SAMPLING PERIOD: 27-28 May START DATE AND TIME: 5/27/14 13:35 END DATE AND TIME: 5/28/14 13:37
SAMPLING DURATIONS (hrs): 24.03 CW VOLUME SAMPLED (gals x 10⁶): 86.5
EXTRAPOLATION PERIOD: 25 May-07 Jun CW EXTRAPOLATION VOLUME (gals x 10⁶): 1,210
INTAKE TEMPERATURES (C): MINIMUM= 22.7 MEAN= 23.8 MAXIMUM= 24.5

SPECIES	LENGTH	WEIGHT	PLUS COUNT	BATCH WEIGHT
ROUND GOBY	97	10	.	.
EMERALD SHINER	96	7	.	.
EMERALD SHINER	.	.	1	4
BLUNTNOSE MINNOW	61	2	.	.
STRIPED SHINER	72	4	.	.
FLATHEAD CATFISH	84	6	.	.
BLACK BULLHEAD	56	2	.	.

SAMPLING PERIOD: 10-11 Jun START DATE AND TIME: 6/10/14 13:45 END DATE AND TIME: 6/11/14 13:45
SAMPLING DURATIONS (hrs): 24.00 CW VOLUME SAMPLED (gals x 10⁶): 86.4
EXTRAPOLATION PERIOD: 08-21 Jun CW EXTRAPOLATION VOLUME (gals x 10⁶): 1,210
INTAKE TEMPERATURES (C): MINIMUM= 21.6 MEAN= 23.1 MAXIMUM= 24.6

SPECIES	LENGTH	WEIGHT	PLUS COUNT	BATCH WEIGHT
AMERICAN EEL	692	746	.	.
BULLHEAD MINNOW	.	.	8	28
SPOTFIN SHINER	.	.	1	5
ORANGESPOTTED SUNFISH	50	2	.	.
CHANNEL CATFISH	100	8	.	.
CHANNEL CATFISH	179	34	.	.
SILVERBAND SHINER	.	.	1	3

SAMPLING PERIOD: 24-25 Jun START DATE AND TIME: 6/24/14 15:15 END DATE AND TIME: 6/25/14 15:15
SAMPLING DURATIONS (hrs): 24.00 CW VOLUME SAMPLED (gals x 10⁶): 86.4
EXTRAPOLATION PERIOD: 22 Jun-05 Jul CW EXTRAPOLATION VOLUME (gals x 10⁶): 1,210
INTAKE TEMPERATURES (C): MINIMUM= 24.5 MEAN= 25.2 MAXIMUM= 26.0

SPECIES	LENGTH	WEIGHT	PLUS COUNT	BATCH WEIGHT
CHANNEL CATFISH	116	14	.	.
CHANNEL CATFISH	134	18	.	.
GREEN SUNFISH	99	22	.	.
ORIENTAL WEATHERFISH	147	17	.	.

ROUND GOBY	78	7	.	.
ROUND GOBY	55	2	.	.
GRASS PICKEREL	101	8	.	.
SANDER SP.	57	1	.	.
BULLHEAD MINNOW	.	.	2	7
THREADFIN SHAD	65	3	.	.
THREADFIN SHAD	66	2	.	.
THREADFIN SHAD	63	2	.	.
THREADFIN SHAD	67	3	.	.
THREADFIN SHAD	58	2	.	.
THREADFIN SHAD	60	2	.	.
THREADFIN SHAD	59	2	.	.
THREADFIN SHAD	60	3	.	.
THREADFIN SHAD	53	1	.	.
THREADFIN SHAD	62	2	.	.
LARGEMOUTH BASS	46	1	.	.
THREADFIN SHAD	65	3	.	.
THREADFIN SHAD	63	3	.	.
SPOTFIN SHINER	.	.	1	3
COMMON CARP	57	3	.	.
COMMON CARP	46	2	.	.

SAMPLING PERIOD:	07-08 Jul	START DATE AND TIME: 7/7/14 13:35	END DATE AND TIME: 7/8/14 13:26
SAMPLING DURATIONS (hrs):	23.85	CW VOLUME SAMPLED (gals x 10 ⁶):	85.9
EXTRAPOLATION PERIOD:	06-19 Jul	CW EXTRAPOLATION VOLUME (gals x 10 ⁶):	1,210
INTAKE TEMPERATURES (C):	MINIMUM= 24.6	MEAN= 25.7	MAXIMUM= 26.6

SPECIES	LENGTH	WEIGHT	PLUS COUNT	BATCH WEIGHT
ROUND GOBY	76	8	.	.
THREADFIN SHAD	68	3	.	.
THREADFIN SHAD	68	2	.	.
THREADFIN SHAD	63	3	.	.
GIZZARD SHAD	59	2	.	.
GIZZARD SHAD	59	2	.	.
GIZZARD SHAD	61	2	.	.
GIZZARD SHAD	73	3	.	.
GIZZARD SHAD	63	2	.	.
BLUEGILL	61	4	.	.
COMMON CARP	54	3	.	.
COMMON CARP	57	3	.	.
COMMON CARP	47	2	.	.
COMMON CARP	47	1	.	.
COMMON CARP	46	2	.	.
COMMON CARP	53	2	.	.
COMMON CARP	58	3	.	.
BLACK CRAPPIE	49	1	.	.
BLACK CRAPPIE	49	2	.	.
BLACK CRAPPIE	51	2	.	.
BLACK CRAPPIE	45	1	.	.
LARGEMOUTH BASS	58	3	.	.
LARGEMOUTH BASS	57	3	.	.
LEPOMIS SP.	50	2	.	.
PROCAMBARUS SP.	.	.	1	.

SAMPLING PERIOD: 28-29 Jul START DATE AND TIME: 7/28/14 13:45 END DATE AND TIME: 7/29/14 13:40
 SAMPLING DURATIONS (hrs): 23.92 CW VOLUME SAMPLED (gals x 10⁶): 86.1
 EXTRAPOLATION PERIOD: 20 Jul-02 Aug CW EXTRAPOLATION VOLUME (gals x 10⁶): 1,210
 INTAKE TEMPERATURES (C): MINIMUM= 26.2 MEAN= 26.9 MAXIMUM= 27.3

SPECIES	LENGTH	WEIGHT	PLUS COUNT	BATCH WEIGHT
COMMON CARP	399	580	.	.
COMMON CARP	285	170	.	.
ROUND GOBY	85	8	.	.
GIZZARD SHAD	64	3	.	.
GIZZARD SHAD	47	1	.	.
GIZZARD SHAD	56	2	.	.
GIZZARD SHAD	53	1	.	.
GIZZARD SHAD	51	1	.	.
GIZZARD SHAD	52	1	.	.
GIZZARD SHAD	51	2	.	.
GIZZARD SHAD	49	1	.	.
GIZZARD SHAD	56	2	.	.
GIZZARD SHAD	55	2	.	.
GIZZARD SHAD	63	3	.	.
GIZZARD SHAD	52	1	.	.
GIZZARD SHAD	51	2	.	.
GIZZARD SHAD	53	2	.	.
GIZZARD SHAD	74	4	.	.
GIZZARD SHAD	57	2	.	.
GIZZARD SHAD	50	2	.	.
GIZZARD SHAD	50	2	.	.
GIZZARD SHAD	55	2	.	.
GIZZARD SHAD	55	2	.	.
GIZZARD SHAD	49	1	.	.
GIZZARD SHAD	51	1	.	.
GIZZARD SHAD	49	1	.	.
GIZZARD SHAD	53	2	.	.
GIZZARD SHAD	53	2	.	.
GIZZARD SHAD	47	1	.	.
GIZZARD SHAD	57	1	.	.
GIZZARD SHAD	50	1	.	.
GIZZARD SHAD	.	.	2	2

SAMPLING PERIOD: 11-12 Aug START DATE AND TIME: 8/11/14 13:45 END DATE AND TIME: 8/12/14 13:45
 SAMPLING DURATIONS (hrs): 24.00 CW VOLUME SAMPLED (gals x 10⁶): 86.4
 EXTRAPOLATION PERIOD: 03-16 Aug CW EXTRAPOLATION VOLUME (gals x 10⁶): 1,210
 INTAKE TEMPERATURES (C): MINIMUM= 27.2 MEAN= 27.6 MAXIMUM= 28.0

SPECIES	LENGTH	WEIGHT	PLUS COUNT	BATCH WEIGHT
THREADFIN SHAD	53	1	.	.
THREADFIN SHAD	62	2	.	.
THREADFIN SHAD	51	1	.	.
THREADFIN SHAD	53	1	.	.
THREADFIN SHAD	52	1	.	.
GREEN SUNFISH	41	1	.	.
BLUNTNOSSE MINNOW	.	.	1	3
DOROSOMA SP.	.	.	1	1
BLUEGILL	51	1	.	.
BLUEGILL	38	1	.	.
PINK HEELSPLITTER	.	.	1	1

SAMPLING PERIOD: 25-26 Aug START DATE AND TIME: 8/25/14 13:30 END DATE AND TIME: 8/26/14 13:36
 SAMPLING DURATIONS (hrs): 24.10 CW VOLUME SAMPLED (gals x 10⁶): 86.8
 EXTRAPOLATION PERIOD: 17-30 Aug CW EXTRAPOLATION VOLUME (gals x 10⁶): 1,210
 INTAKE TEMPERATURES (C): MINIMUM= 25.7 MEAN= 26.8 MAXIMUM= 27.6

SPECIES	LENGTH	WEIGHT	PLUS COUNT	BATCH WEIGHT
CHANNEL CATFISH	293	212	.	.
THREADFIN SHAD	65	2	.	.
THREADFIN SHAD	53	1	.	.
THREADFIN SHAD	62	3	.	.
THREADFIN SHAD	57	2	.	.
GIZZARD SHAD	57	2	.	.
GIZZARD SHAD	74	4	.	.
GIZZARD SHAD	68	3	.	.
GIZZARD SHAD	103	9	.	.
GIZZARD SHAD	106	10	.	.
GIZZARD SHAD	66	2	.	.
GIZZARD SHAD	62	3	.	.
DOROSOMA SP.	41	1	.	.
DOROSOMA SP.	62	2	.	.
DOROSOMA SP.	53	1	.	.
DOROSOMA SP.	54	1	.	.
DOROSOMA SP.	61	2	.	.
DOROSOMA SP.	52	2	.	.
DOROSOMA SP.	71	2	.	.
ROUND GOBY	65	4	.	.
BLUEGILL	44	1	.	.
BLUEGILL	36	1	.	.
GOLDEN REDHORSE	67	4	.	.
NOTROPIS SP.	.	.	1	1
YELLOW BASS	143	49	.	.

SAMPLING PERIOD: 07-08 Sep START DATE AND TIME: 9/7/14 13:15 END DATE AND TIME: 9/8/14 13:30
 SAMPLING DURATIONS (hrs): 24.25 CW VOLUME SAMPLED (gals x 10⁶): 87.3
 EXTRAPOLATION PERIOD: 31 Aug-13 Sep CW EXTRAPOLATION VOLUME (gals x 10⁶): 1,210
 INTAKE TEMPERATURES (C): MINIMUM= 25.8 MEAN= 26.3 MAXIMUM= 26.7

SPECIES	LENGTH	WEIGHT	PLUS COUNT	BATCH WEIGHT
YELLOW BASS	85	7	.	.
GOLDEN SHINER	98	8	.	.
CHANNEL CATFISH	117	10	.	.
CHANNEL CATFISH	72	4	.	.
FRESHWATER DRUM	105	16	.	.
BLUEGILL	50	2	.	.
BLUNTNOST MINNOW	52	1	.	.
THREADFIN SHAD	94	8	.	.
THREADFIN SHAD	63	2	.	.
THREADFIN SHAD	88	5	.	.
THREADFIN SHAD	61	2	.	.
THREADFIN SHAD	58	2	.	.
THREADFIN SHAD	55	2	.	.
THREADFIN SHAD	83	4	.	.
THREADFIN SHAD	57	2	.	.
THREADFIN SHAD	56	1	.	.
THREADFIN SHAD	65	2	.	.
THREADFIN SHAD	58	2	.	.
THREADFIN SHAD	54	1	.	.
THREADFIN SHAD	63	2	.	.
THREADFIN SHAD	57	2	.	.

GIZZARD SHAD	90	6	.	.
GIZZARD SHAD	65	3	.	.
GIZZARD SHAD	66	3	.	.
GIZZARD SHAD	70	3	.	.
DOROSOMA SP.	48	1	.	.
DOROSOMA SP.	38	1	.	.
DOROSOMA SP.	46	1	.	.
DOROSOMA SP.	52	1	.	.
PAPER PONDSHELL	.	.	3	6

SAMPLING PERIOD: 22-23 Sep START DATE AND TIME: 9/22/14 14:00 END DATE AND TIME: 9/23/14 14:45
 SAMPLING DURATIONS (hrs): 24.75 CW VOLUME SAMPLED (gals x 10⁶): 89.1
 EXTRAPOLATION PERIOD: 14 Sep-25 Oct CW EXTRAPOLATION VOLUME (gals x 10⁶): 1,987
 INTAKE TEMPERATURES (C): MINIMUM= 20.1 MEAN= 20.6 MAXIMUM= 21.0

SPECIES	LENGTH	WEIGHT	PLUS COUNT	BATCH WEIGHT
GIZZARD SHAD	95	7	.	.
GIZZARD SHAD	97	8	.	.
GIZZARD SHAD	59	2	.	.
GIZZARD SHAD	56	1	.	.
GIZZARD SHAD	57	2	.	.
THREADFIN SHAD	103	9	.	.
THREADFIN SHAD	73	4	.	.
THREADFIN SHAD	67	3	.	.
THREADFIN SHAD	78	4	.	.
THREADFIN SHAD	56	2	.	.
THREADFIN SHAD	63	2	.	.
THREADFIN SHAD	74	4	.	.
THREADFIN SHAD	61	2	.	.
THREADFIN SHAD	72	3	.	.
THREADFIN SHAD	74	4	.	.
THREADFIN SHAD	73	4	.	.
THREADFIN SHAD	71	3	.	.
THREADFIN SHAD	63	2	.	.
THREADFIN SHAD	59	2	.	.
THREADFIN SHAD	60	2	.	.
THREADFIN SHAD	62	3	.	.
THREADFIN SHAD	65	3	.	.
CHANNEL CATFISH	56	1	.	.
BLUEGILL	61	4	.	.
CREEK CHUB	.	.	1	5
THREADFIN SHAD	74	4	.	.
PAPER PONDSHELL	.	.	1	1
FRAGILE PAPERSHELL	.	.	2	3

SAMPLING PERIOD: 24-25 Nov START DATE AND TIME: 11/24/14 13:30 END DATE AND TIME: 11/25/14 13:33
 SAMPLING DURATIONS (hrs): 24.05 CW VOLUME SAMPLED (gals x 10⁶): 86.6
 EXTRAPOLATION PERIOD: 26 Oct-06 Dec CW EXTRAPOLATION VOLUME (gals x 10⁶): 1,598
 INTAKE TEMPERATURES (C): MINIMUM= 4.4 MEAN= 5.6 MAXIMUM= 7.3

SPECIES	LENGTH	WEIGHT	PLUS COUNT	BATCH WEIGHT
SMALLMOUTH BUFFALO	423	1260	.	.
WARMOUTH	95	29	.	.
FRESHWATER DRUM	154	49	.	.
FRESHWATER DRUM	94	9	.	.
FRESHWATER DRUM	119	17	.	.
FRESHWATER DRUM	113	13	.	.
FRESHWATER DRUM	112	14	.	.
FRESHWATER DRUM	101	10	.	.

FRESHWATER DRUM	107	13	.	.
FRESHWATER DRUM	120	20	.	.
FRESHWATER DRUM	110	13	.	.
FRESHWATER DRUM	110	16	.	.
FRESHWATER DRUM	97	11	.	.
FRESHWATER DRUM	109	12	.	.
FRESHWATER DRUM	133	24	.	.
FRESHWATER DRUM	106	11	.	.
GIZZARD SHAD	122	13	.	.
GIZZARD SHAD	.	.	1	6
LARGEMOUTH BASS	77	7	.	.
LARGEMOUTH BASS	71	6	.	.
BLUEGILL	148	65	.	.
BLUEGILL	147	66	.	.
BLUEGILL	115	32	.	.
BLUEGILL	43	1	.	.
BLUEGILL	44	2	.	.
BLUEGILL	43	2	.	.
BLUEGILL	88	12	.	.
BLUEGILL	56	4	.	.
THREADFIN SHAD	108	12	.	.
THREADFIN SHAD	.	.	1	8
GOLDFISH	92	14	.	.
GOLDFISH	75	8	.	.
GOLDFISH	55	3	.	.
GOLDFISH	86	10	.	.
GOLDFISH	70	6	.	.
BLACK BULLHEAD	145	47	.	.
BLACK BULLHEAD	163	76	.	.
BLACK BULLHEAD	137	37	.	.
BLACK BULLHEAD	143	48	.	.
GREEN SUNFISH	67	7	.	.
GREEN SUNFISH	70	7	.	.
GREEN SUNFISH	63	6	.	.
GREEN SUNFISH	66	7	.	.
GREEN SUNFISH	50	3	.	.
GREEN SUNFISH	51	3	.	.
GREEN SUNFISH	39	1	.	.
GREEN SUNFISH	48	2	.	.
GREEN SUNFISH	55	4	.	.
GREEN SUNFISH	50	3	.	.
GREEN SUNFISH	43	2	.	.
GREEN SUNFISH	47	2	.	.
GREEN SUNFISH	47	2	.	.
GREEN SUNFISH	46	2	.	.
BLACK CRAPPIE	89	9	.	.
BLACK CRAPPIE	76	6	.	.
BULLHEAD MINNOW	56	2	.	.
BULLHEAD MINNOW	61	3	.	.
BULLHEAD MINNOW	56	2	.	.
FRECKLED MADTOM	63	3	.	.
NORTHERN CLEARWATER CRAYFISH	40	2	.	.
PAPER POND SHELL	.	.	2	6

SAMPLING PERIOD: 15-16 Dec START DATE AND TIME: 12/15/14 13:35 END DATE AND TIME: 12/16/14 13:47
 SAMPLING DURATIONS (hrs): 24.20 CW VOLUME SAMPLED (gals x 10^6): 87.1
 EXTRAPOLATION PERIOD: 07-20 Dec CW EXTRAPOLATION VOLUME (gals x 10^6): 1,210
 INTAKE TEMPERATURES (C): MINIMUM= 6.0 MEAN= 6.5 MAXIMUM= 6.8

SPECIES	LENGTH	WEIGHT	PLUS COUNT	BATCH WEIGHT
FRESHWATER DRUM	111	13	.	.
FRESHWATER DRUM	112	14	.	.
FRESHWATER DRUM	105	11	.	.
FRESHWATER DRUM	117	16	.	.
GIZZARD SHAD	102	9	.	.
GIZZARD SHAD	92	7	.	.
GIZZARD SHAD	89	6	.	.
GIZZARD SHAD	118	14	.	.
GIZZARD SHAD	117	14	.	.
GIZZARD SHAD	100	9	.	.
GIZZARD SHAD	93	8	.	.
GIZZARD SHAD	104	8	.	.
GIZZARD SHAD	113	13	.	.
GIZZARD SHAD	118	14	.	.
GIZZARD SHAD	103	9	.	.
LARGEMOUTH BASS	77	6	.	.
BLUEGILL	101	21	.	.
SPOTTAIL SHINER	.	.	1	6
NORTHERN CLEARWATER CRAYFISH	39	2	.	.

SAMPLING PERIOD: 22-23 Dec START DATE AND TIME: 12/22/14 13:35 END DATE AND TIME: 12/23/14 13:35
 SAMPLING DURATIONS (hrs): 24.00 CW VOLUME SAMPLED (gals x 10^6): 86.4
 EXTRAPOLATION PERIOD: 21 Dec-10 Jan CW EXTRAPOLATION VOLUME (gals x 10^6): 1,642
 INTAKE TEMPERATURES (C): MINIMUM= 4.9 MEAN= 5.6 MAXIMUM= 6.8

SPECIES	LENGTH	WEIGHT	PLUS COUNT	BATCH WEIGHT
GIZZARD SHAD	93	8	.	.
GIZZARD SHAD	89	7	.	.
GIZZARD SHAD	96	8	.	.
GIZZARD SHAD	98	8	.	.
GIZZARD SHAD	156	31	.	.
GIZZARD SHAD	91	8	.	.
GIZZARD SHAD	97	9	.	.
GIZZARD SHAD	112	12	.	.
GIZZARD SHAD	104	10	.	.
GIZZARD SHAD	106	11	.	.
GIZZARD SHAD	104	10	.	.
GIZZARD SHAD	101	9	.	.
GIZZARD SHAD	99	9	.	.
GIZZARD SHAD	97	8	.	.
GIZZARD SHAD	99	10	.	.
GIZZARD SHAD	104	10	.	.
GIZZARD SHAD	115	13	.	.
GIZZARD SHAD	113	13	.	.
GIZZARD SHAD	110	12	.	.
GIZZARD SHAD	94	7	.	.
GIZZARD SHAD	116	15	.	.
GIZZARD SHAD	132	19	.	.
GIZZARD SHAD	115	14	.	.
GIZZARD SHAD	87	5	.	.
GIZZARD SHAD	72	3	.	.
GIZZARD SHAD	107	10	.	.
GIZZARD SHAD	101	8	.	.

GIZZARD SHAD	89	6	.	.
GIZZARD SHAD	97	8	.	.
GIZZARD SHAD	102	10	.	.
GIZZARD SHAD	.	.	48	475
FRESHWATER DRUM	122	17	.	.
FRESHWATER DRUM	98	10	.	.
FRESHWATER DRUM	106	10	.	.
FRESHWATER DRUM	120	16	.	.
FRESHWATER DRUM	132	20	.	.
FRESHWATER DRUM	117	15	.	.
BLUEGILL	60	4	.	.
BLUEGILL	53	2	.	.
BLUEGILL	46	2	.	.
DOROSOMA SP.	.	.	4	11
YELLOW BASS	84	7	.	.
NORTHERN CLEARWATER CRAYFISH	70	8	.	.

SAMPLING PERIOD:	26-27 Jan	START DATE AND TIME: 1/26/15 13:40	END DATE AND TIME: 1/27/15 13:31
SAMPLING DURATIONS (hrs):	23.85	CW VOLUME SAMPLED (gals x 10^6):	85.9
EXTRAPOLATION PERIOD:	11-31 Jan	CW EXTRAPOLATION VOLUME (gals x 10^6):	1,728
INTAKE TEMPERATURES (C):	MINIMUM= 1.6	MEAN= 1.8	MAXIMUM= 2.2

SPECIES	LENGTH	WEIGHT	PLUS COUNT	BATCH WEIGHT
LARGEMOUTH BASS	83	8	.	.
GOLDFISH	86	11	.	.
GOLDFISH	67	5	.	.
GOLDFISH	66	5	.	.
GOLDFISH	67	4	.	.
GOLDFISH	58	3	.	.
GOLDFISH	67	5	.	.
GOLDFISH	66	5	.	.
GOLDFISH	66	5	.	.
GOLDFISH	54	3	.	.
GOLDFISH	62	3	.	.
GOLDFISH	56	3	.	.
BLUEGILL	77	7	.	.
BLUEGILL	62	4	.	.
BLUEGILL	71	6	.	.
SPOTFIN SHINER	.	.	3	11
GREEN SUNFISH	46	2	.	.
ORANGESPOTTED SUNFISH	61	4	.	.
BLACK REDHORSE	128	23	.	.
GIZZARD SHAD	.	.	2	12
GIZZARD SHAD	147	26	.	.
GIZZARD SHAD	136	22	.	.
GIZZARD SHAD	104	10	.	.
GIZZARD SHAD	114	15	.	.
GIZZARD SHAD	127	21	.	.
GIZZARD SHAD	124	20	.	.
GIZZARD SHAD	146	28	.	.
GIZZARD SHAD	113	14	.	.
GIZZARD SHAD	106	12	.	.
GIZZARD SHAD	113	10	.	.
GIZZARD SHAD	92	7	.	.
GIZZARD SHAD	104	11	.	.
GIZZARD SHAD	132	21	.	.
GIZZARD SHAD	126	18	.	.
GIZZARD SHAD	108	11	.	.

GIZZARD SHAD	102	9	.	.
GIZZARD SHAD	91	7	.	.
GIZZARD SHAD	107	11	.	.
GIZZARD SHAD	131	20	.	.
GIZZARD SHAD	96	9	.	.
GIZZARD SHAD	118	14	.	.
GIZZARD SHAD	103	5	.	.
GIZZARD SHAD	112	12	.	.
GIZZARD SHAD	99	9	.	.
GIZZARD SHAD	97	8	.	.
GIZZARD SHAD	105	9	.	.
GIZZARD SHAD	113	12	.	.
GIZZARD SHAD	116	14	.	.
GIZZARD SHAD	113	12	.	.
GIZZARD SHAD	116	15	.	.
GIZZARD SHAD	95	9	.	.
GREEN SUNFISH	46	2	.	.
THREADFIN SHAD	.	.	1	5

SAMPLING PERIOD: 09-10 Feb START DATE AND TIME: 2/9/15 13:30 END DATE AND TIME: 2/10/15 13:36
 SAMPLING DURATIONS (hrs): 24.10 CW VOLUME SAMPLED (gals x 10⁶): 86.8
 EXTRAPOLATION PERIOD: 01-25 Feb CW EXTRAPOLATION VOLUME (gals x 10⁶): 1,814
 INTAKE TEMPERATURES (C): MINIMUM= 3.3 MEAN= 3.7 MAXIMUM= 4.0

SPECIES	LENGTH	WEIGHT	PLUS COUNT	BATCH WEIGHT
BLUEGILL	155	87	.	.
BLUEGILL	131	43	.	.
BLUEGILL	110	26	.	.
BLUEGILL	161	88	.	.
FRESHWATER DRUM	104	13	.	.
FRESHWATER DRUM	124	18	.	.
FRESHWATER DRUM	122	16	.	.
COMMON CARP	159	61	.	.
SPOTTAIL SHINER	.	.	5	27
BLACK CRAPPIE	76	5	.	.
BLACK CRAPPIE	79	6	.	.
BLACK CRAPPIE	74	5	.	.
GIZZARD SHAD	97	9	.	.
GIZZARD SHAD	110	13	.	.
GIZZARD SHAD	119	15	.	.
GIZZARD SHAD	100	8	.	.
GOLDFISH	56	3	.	.
GOLDFISH	84	10	.	.
GOLDFISH	69	5	.	.
GOLDFISH	74	6	.	.
GOLDFISH	58	3	.	.
GOLDFISH	60	3	.	.

SAMPLING PERIOD: 16-17 Mar START DATE AND TIME: 3/16/15 13:30 END DATE AND TIME: 3/17/15 13:32
 SAMPLING DURATIONS (hrs): 24.03 CW VOLUME SAMPLED (gals x 10⁶): 86.5
 EXTRAPOLATION PERIOD: 26 Feb-21 Mar CW EXTRAPOLATION VOLUME (gals x 10⁶): 1,728
 INTAKE TEMPERATURES (C): MINIMUM= 8.1 MEAN= 9.1 MAXIMUM= 9.9

SPECIES	LENGTH	WEIGHT	PLUS COUNT	BATCH WEIGHT
BLUEGILL	138	50	.	.
BLUEGILL	140	53	.	.
BLUEGILL	64	4	.	.
BLUEGILL	57	3	.	.
BLUEGILL	50	2	.	.

GOLDFISH	86	11	.	.
GOLDFISH	93	12	.	.
GOLDFISH	93	12	.	.
GOLDFISH	73	5	.	.
GOLDFISH	56	2	.	.
GOLDFISH	53	2	.	.
CENTRAL MUDMINNOW	71	4	.	.
CENTRAL MUDMINNOW	83	7	.	.
CENTRAL MUDMINNOW	83	6	.	.
CENTRAL MUDMINNOW	71	4	.	.
CENTRAL MUDMINNOW	77	6	.	.
CENTRAL MUDMINNOW	73	4	.	.
CENTRAL MUDMINNOW	72	4	.	.
CENTRAL MUDMINNOW	73	5	.	.
GOLDFISH	.	.	1	6
CHANNEL CATFISH	73	2	.	.
GIZZARD SHAD	128	16	.	.
BLACK BULLHEAD	122	21	.	.
BLACK BULLHEAD	134	36	.	.
GREEN SUNFISH	52	3	.	.
GREEN SUNFISH	49	2	.	.
EMERALD SHINER	.	.	1	2
NORTHERN CLEARWATER CRAYFISH	.	.	3	21

SAMPLING PERIOD:	30-31 Mar	START DATE AND TIME: 3/30/15 13:30	END DATE AND TIME: 3/31/15 13:28
SAMPLING DURATIONS (hrs):	23.97	CW VOLUME SAMPLED (gals x 10 ⁶):	86.3
EXTRAPOLATION PERIOD:	22-31 Mar	CW EXTRAPOLATION VOLUME (gals x 10 ⁶):	864
INTAKE TEMPERATURES (C):	MINIMUM= 7.2	MEAN= 8.2	MAXIMUM= 9.2

SPECIES	LENGTH	WEIGHT	PLUS COUNT	BATCH WEIGHT
CENTRAL MUDMINNOW	73	6	.	.
CENTRAL MUDMINNOW	63	4	.	.
FATHEAD MINNOW	60	3	.	.
BROOK SILVERSIDE	66	2	.	.
FRESHWATER DRUM	94	8	.	.
FRESHWATER DRUM	107	10	.	.
FRESHWATER DRUM	96	5	.	.
GIZZARD SHAD	98	7	.	.
GIZZARD SHAD	100	8	.	.
GIZZARD SHAD	89	4	.	.
GOLDEN SHINER	72	3	.	.
SMALLMOUTH BUFFALO	71	8	.	.
ORCONECTES SP.	49	3	.	.

APPENDIX B
Number, biomass, and relative abundance of shellfish and fish
collected during impingement study at LaSalle County Station River
Screen House by sampling date, April 2014-March 2015

APPENDIX B. NUMBER, BIOMASS, AND RELATIVE ABUNDANCE OF CRAYFISH, MUSSELS, AND FISH COLLECTED DURING
IMPINGEMENT AT LASALLE COUNTY STATION RIVER SCREEN HOUSE FOR EACH SAMPLING DATE, APRIL 2014 - MARCH 2015.

SPECIES	02-03 Apr 14				14-15 Apr 14				30 Apr-01 May 14				12-13 May 14			
	#	%	KG	%	#	%	KG	%	#	%	KG	%	#	%	KG	%
Orconectes sp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Northern Clearwater Crayfish	1	12.50%	0.002	1.37%	--	--	--	--	--	--	--	--	--	--	--	--
Procambarus sp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fragile Papershell	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pink Heelsplitter	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Paper Pondshell	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
American Eel	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gizzard Shad	1	12.50%	0.049	33.56%	1	2.13%	0.007	1.03%	--	--	--	--	--	--	--	--
Threadfin Shad	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dorosoma sp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Central Mudminnow	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Grass Pickerel	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Goldfish	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Common Carp	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hornyhead Chub	--	--	--	--	--	--	--	--	--	--	--	--	1	1.04%	0.089	7.81%
Golden Shiner	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Emerald Shiner	--	--	--	--	--	--	--	--	--	--	--	--	1	1.04%	0.003	0.26%
Striped Shiner	--	--	--	--	--	--	--	--	--	--	--	--	1	1.04%	0.028	2.46%
Spottail Shiner	2	25.00%	0.010	6.85%	--	--	--	--	--	--	--	--	4	4.17%	0.025	2.19%
Silverband Shiner	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Spotfin Shiner	1	12.50%	0.001	0.68%	--	--	--	--	--	--	--	--	--	--	--	--
Notropis sp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bluntnose Minnow	--	--	--	--	--	--	--	--	--	--	--	--	30	31.25%	0.086	7.54%
Fathead Minnow	--	--	--	--	--	--	--	--	--	--	--	--	1	1.04%	0.006	0.53%
Bullhead Minnow	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Creek Chub	--	--	--	--	--	--	--	--	--	--	--	--	5	5.21%	0.017	1.49%
Cyprinidae sp.	--	--	--	--	--	--	--	--	--	--	--	--	1	1.04%	0.001	0.09%
White Sucker	--	--	--	--	--	--	--	--	--	--	--	--	5	5.21%	0.038	3.33%
Smallmouth Buffalo	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Black Redhorse	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Golden Redhorse	--	--	--	--	--	--	--	--	--	--	--	--	1	1.04%	0.083	7.28%
Oriental Weatherfish	--	--	--	--	--	--	--	--	--	--	--	--	1	1.04%	0.046	4.04%
Black Bullhead	--	--	--	--	--	--	--	--	--	--	--	--	2	2.08%	0.006	0.53%
Yellow Bullhead	--	--	--	--	--	--	--	--	--	--	--	--	1	1.04%	0.005	0.44%
Channel Catfish	--	--	--	--	1	2.13%	0.017	2.51%	--	--	--	--	--	--	--	--
Freckled Madtom	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Flathead Catfish	--	--	--	--	--	--	--	--	--	--	--	--	1	1.04%	0.003	0.26%
Brook Silverside	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Yellow Bass	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Green Sunfish	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Warmouth	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Orangespotted Sunfish	--	--	--	--	1	2.13%	0.010	1.47%	--	--	--	--	2	2.08%	0.015	1.32%
Bluegill	3	37.50%	0.084	57.53%	2	4.26%	0.004	0.59%	--	--	--	--	5	5.21%	0.040	3.51%
Lepomis sp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Smallmouth Bass	--	--	--	--	--	--	--	--	--	--	--	--	1	1.04%	0.204	17.89%
Largemouth Bass	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Black Crappie	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Banded Darter	--	--	--	--	--	--	--	--	--	--	--	--	1	1.04%	0.001	0.09%
Walleye	--	--	--	--	1	2.13%	0.382	56.34%	--	--	--	--	--	--	--	--
Sander sp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Freshwater Drum	--	--	--	--	--	--	--	--	--	--	--	--	9	9.38%	0.257	22.54%
Round Goby	--	--	--	--	41	87.23%	0.258	38.05%	1	100.00%	0.008	100.00%	23	23.96%	0.187	16.40%
Total Organisms	8	100.00%	0.146	100.00%	47	100.00%	0.678	100.00%	1	100.00%	0.008	100.00%	96	100.00%	1.140	100.00%

APPENDIX B (continued)

SPECIES	27-28 May 14				10-11 Jun 14				24-25 Jun 14				07-08 Jul 14			
	#	%	KG	%	#	%	KG	%	#	%	KG	%	#	%	KG	%
Orconectes sp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Northern Clearwater Crayfish	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Procambarus sp.	--	--	--	--	--	--	--	--	--	--	--	--	1	4.00%	0.000	--
Fragile Papershell	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pink Heelsplitter	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Paper Pondshell	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
American Eel	--	--	--	--	1	7.14%	0.746	90.31%	--	--	--	--	--	--	--	--
Gizzard Shad	--	--	--	--	--	--	--	--	--	--	--	--	5	20.00%	0.011	18.03%
Threadfin Shad	--	--	--	--	--	--	--	--	12	46.15%	0.028	21.05%	3	12.00%	0.008	13.11%
Dorosoma sp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Central Mudminnow	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Grass Pickerel	--	--	--	--	--	--	--	--	1	3.85%	0.008	6.02%	--	--	--	--
Goldfish	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Common Carp	--	--	--	--	--	--	--	--	2	7.69%	0.005	3.76%	7	28.00%	0.016	26.23%
Hornyhead Chub	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Golden Shiner	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Emerald Shiner	2	28.57%	0.011	31.43%	--	--	--	--	--	--	--	--	--	--	--	--
Striped Shiner	1	14.29%	0.004	11.43%	--	--	--	--	--	--	--	--	--	--	--	--
Spottail Shiner	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silverband Shiner	--	--	--	--	1	7.14%	0.003	0.36%	--	--	--	--	--	--	--	--
Spotfin Shiner	--	--	--	--	1	7.14%	0.005	0.61%	1	3.85%	0.003	2.26%	--	--	--	--
Notropis sp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bluntnose Minnow	1	14.29%	0.002	5.71%	--	--	--	--	--	--	--	--	--	--	--	--
Fathead Minnow	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bullhead Minnow	--	--	--	--	8	57.14%	0.028	3.39%	2	7.69%	0.007	5.26%	--	--	--	--
Creek Chub	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyprinidae sp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
White Sucker	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Smallmouth Buffalo	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Black Redhorse	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Golden Redhorse	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oriental Weatherfish	--	--	--	--	--	--	--	--	1	3.85%	0.017	12.78%	--	--	--	--
Black Bullhead	1	14.29%	0.002	5.71%	--	--	--	--	--	--	--	--	--	--	--	--
Yellow Bullhead	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Channel Catfish	--	--	--	--	2	14.29%	0.042	5.08%	2	7.69%	0.032	24.06%	--	--	--	--
Freckled Madtom	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Flathead Catfish	1	14.29%	0.006	17.14%	--	--	--	--	--	--	--	--	--	--	--	--
Brook Silverside	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Yellow Bass	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Green Sunfish	--	--	--	--	--	--	--	--	1	3.85%	0.022	16.54%	--	--	--	--
Warmouth	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Orangespotted Sunfish	--	--	--	--	1	7.14%	0.002	0.24%	--	--	--	--	--	--	--	--
Bluegill	--	--	--	--	--	--	--	--	--	--	--	--	1	4.00%	0.004	6.56%
Lepomis sp.	--	--	--	--	--	--	--	--	--	--	--	--	1	4.00%	0.002	3.28%
Smallmouth Bass	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Largemouth Bass	--	--	--	--	--	--	--	--	1	3.85%	0.001	0.75%	2	8.00%	0.006	9.84%
Black Crappie	--	--	--	--	--	--	--	--	--	--	--	--	4	16.00%	0.006	9.84%
Banded Darter	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Walleye	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sander sp.	--	--	--	--	--	--	--	--	1	3.85%	0.001	0.75%	--	--	--	--
Freshwater Drum	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Round Goby	1	14.29%	0.010	28.57%	--	--	--	--	2	7.69%	0.009	6.77%	1	4.00%	0.008	13.11%
Total Organisms	7	100.00%	0.035	100.00%	14	100.00%	0.826	100.00%	26	100.00%	0.133	100.00%	25	100.00%	0.061	100.00%

APPENDIX B (continued)

SPECIES	28-29 Jul 14				11-12 Aug 14				25-26 Aug 14				07-08 Sep 14			
	#	%	KG	%	#	%	KG	%	#	%	KG	%	#	%	KG	%
Orconectes sp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Northern Clearwater Crayfish	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Procambarus sp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fragile Papershell	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pink Heelsplitter	--	--	--	--	1	9.09%	0.001	7.14%	--	--	--	--	--	--	--	--
Paper Pondshell	--	--	--	--	--	--	--	--	--	--	--	--	3	9.38%	0.006	5.45%
American Eel	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gizzard Shad	30	90.91%	0.050	6.19%	--	--	--	--	7	28.00%	0.033	10.19%	4	12.50%	0.015	13.64%
Threadfin Shad	--	--	--	--	5	45.45%	0.006	42.86%	4	16.00%	0.008	2.47%	14	43.75%	0.037	33.64%
Dorosoma sp.	--	--	--	--	1	9.09%	0.001	7.14%	7	28.00%	0.011	3.40%	4	12.50%	0.004	3.64%
Central Mudminnow	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Grass Pickerel	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Goldfish	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Common Carp	2	6.06%	0.750	92.82%	--	--	--	--	--	--	--	--	--	--	--	--
Hornyhead Chub	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Golden Shiner	--	--	--	--	--	--	--	--	--	--	--	--	1	3.13%	0.008	7.27%
Emerald Shiner	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Striped Shiner	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Spottail Shiner	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silverband Shiner	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Spotfin Shiner	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Notropis sp.	--	--	--	--	--	--	--	--	1	4.00%	0.001	0.31%	--	--	--	--
Bluntnose Minnow	--	--	--	--	1	9.09%	0.003	21.43%	--	--	--	--	1	3.13%	0.001	0.91%
Fathead Minnow	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bullhead Minnow	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Creek Chub	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyprinidae sp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
White Sucker	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Smallmouth Buffalo	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Black Redhorse	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Golden Redhorse	--	--	--	--	--	--	--	--	1	4.00%	0.004	1.23%	--	--	--	--
Oriental Weatherfish	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Black Bullhead	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Yellow Bullhead	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Channel Catfish	--	--	--	--	--	--	--	--	1	4.00%	0.212	65.43%	2	6.25%	0.014	12.73%
Freckled Madtom	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Flathead Catfish	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Brook Silverside	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Yellow Bass	--	--	--	--	--	--	--	--	1	4.00%	0.049	15.12%	1	3.13%	0.007	6.36%
Green Sunfish	--	--	--	--	1	9.09%	0.001	7.14%	--	--	--	--	--	--	--	--
Warmouth	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Orangespotted Sunfish	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bluegill	--	--	--	--	2	18.18%	0.002	14.29%	2	8.00%	0.002	0.62%	1	3.13%	0.002	1.82%
Lepomis sp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Smallmouth Bass	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Largemouth Bass	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Black Crappie	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Banded Darter	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Walleye	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sander sp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Freshwater Drum	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Round Goby	1	3.03%	0.008	0.99%	--	--	--	--	1	4.00%	0.004	1.23%	--	--	--	--
Total Organisms	33	100.00%	0.808	100.00%	11	100.00%	0.014	100.00%	25	100.00%	0.324	100.00%	32	100.00%	0.110	100.00%

APPENDIX B (continued)

SPECIES	22-23 Sep 14				24-25 Nov 14				15-16 Dec 14				22-23 Dec 14			
	#	%	KG	%	#	%	KG	%	#	%	KG	%	#	%	KG	%
Orconectes sp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Northern Clearwater Crayfish	--	--	--	--	1	1.61%	0.002	0.10%	1	5.26%	0.002	1.00%	1	1.08%	0.008	0.88%
Procambarus sp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fragile Papershell	2	6.90%	0.003	3.19%	--	--	--	--	--	--	--	--	--	--	--	--
Pink Heelsplitter	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Paper Pondshell	1	3.45%	0.001	1.06%	2	3.23%	0.006	0.29%	--	--	--	--	--	--	--	--
American Eel	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gizzard Shad	5	17.24%	0.020	21.28%	2	3.23%	0.019	0.91%	11	57.89%	0.111	55.50%	78	83.87%	0.786	86.56%
Threadfin Shad	18	62.07%	0.060	63.83%	2	3.23%	0.020	0.96%	--	--	--	--	--	--	--	--
Dorosoma sp.	--	--	--	--	--	--	--	--	--	--	--	--	4	4.30%	0.011	1.21%
Central Mudminnow	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Grass Pickerel	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Goldfish	--	--	--	--	5	8.06%	0.041	1.96%	--	--	--	--	--	--	--	--
Common Carp	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hornyhead Chub	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Golden Shiner	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Emerald Shiner	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Striped Shiner	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Spottail Shiner	--	--	--	--	--	--	--	--	1	5.26%	0.006	3.00%	--	--	--	--
Silverband Shiner	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Spotfin Shiner	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Notropis sp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bluntnose Minnow	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fathead Minnow	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bullhead Minnow	--	--	--	--	3	4.84%	0.007	0.33%	--	--	--	--	--	--	--	--
Creek Chub	1	3.45%	0.005	5.32%	--	--	--	--	--	--	--	--	--	--	--	--
Cyprinidae sp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
White Sucker	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Smallmouth Buffalo	--	--	--	--	1	1.61%	1.260	60.29%	--	--	--	--	--	--	--	--
Black Redhorse	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Golden Redhorse	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oriental Weatherfish	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Black Bullhead	--	--	--	--	4	6.45%	0.208	9.95%	--	--	--	--	--	--	--	--
Yellow Bullhead	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Channel Catfish	1	3.45%	0.001	1.06%	--	--	--	--	--	--	--	--	--	--	--	--
Freckled Madtom	--	--	--	--	1	1.61%	0.003	0.14%	--	--	--	--	--	--	--	--
Flathead Catfish	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Brook Silverside	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Yellow Bass	--	--	--	--	--	--	--	--	--	--	--	--	1	1.08%	0.007	0.77%
Green Sunfish	--	--	--	--	14	22.58%	0.051	2.44%	--	--	--	--	--	--	--	--
Warmouth	--	--	--	--	1	1.61%	0.029	1.39%	--	--	--	--	--	--	--	--
Orangespotted Sunfish	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bluegill	1	3.45%	0.004	4.26%	8	12.90%	0.184	8.80%	1	5.26%	0.021	10.50%	3	3.23%	0.008	0.88%
Lepomis sp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Smallmouth Bass	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Largemouth Bass	--	--	--	--	2	3.23%	0.013	0.62%	1	5.26%	0.006	3.00%	--	--	--	--
Black Crappie	--	--	--	--	2	3.23%	0.015	0.72%	--	--	--	--	--	--	--	--
Banded Darter	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Walleye	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sander sp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Freshwater Drum	--	--	--	--	14	22.58%	0.232	11.10%	4	21.05%	0.054	27.00%	6	6.45%	0.088	9.69%
Round Goby	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Organisms	29	100.00%	0.094	100.00%	62	100.00%	2.090	100.00%	19	100.00%	0.200	100.00%	93	100.00%	0.908	100.00%

APPENDIX B (continued)

SPECIES	26-27 Jan 15				09-10 Feb 15				16-17 Mar 15				30-31 Mar 15			
	#	%	KG	%	#	%	KG	%	#	%	KG	%	#	%	KG	%
Orconectes sp.	--	--	--	--	--	--	--	--	--	--	--	--	1	7.69%	0.003	4.23%
Northern Clearwater Crayfish	--	--	--	--	--	--	--	--	3	10.00%	0.021	6.89%	--	--	--	--
Procambarus sp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fragile Papershell	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pink Heelsplitter	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Paper Pondshell	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
American Eel	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gizzard Shad	33	58.93%	0.433	77.74%	4	15.38%	0.045	9.57%	1	3.33%	0.016	5.25%	3	23.08%	0.019	26.76%
Threadfin Shad	1	1.79%	0.005	0.90%	--	--	--	--	--	--	--	--	--	--	--	--
Dorosoma sp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Central Mudminnow	--	--	--	--	--	--	--	--	8	26.67%	0.040	13.11%	2	15.38%	0.010	14.08%
Grass Pickerel	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Goldfish	11	19.64%	0.052	9.34%	6	23.08%	0.030	6.38%	7	23.33%	0.050	16.39%	--	--	--	--
Common Carp	--	--	--	--	1	3.85%	0.061	12.98%	--	--	--	--	--	--	--	--
Hornyhead Chub	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Golden Shiner	--	--	--	--	--	--	--	--	--	--	--	--	1	7.69%	0.003	4.23%
Emerald Shiner	--	--	--	--	--	--	--	--	1	3.33%	0.002	0.66%	--	--	--	--
Striped Shiner	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Spottail Shiner	--	--	--	--	5	19.23%	0.027	5.74%	--	--	--	--	--	--	--	--
Silverband Shiner	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Spotfin Shiner	3	5.36%	0.011	1.97%	--	--	--	--	--	--	--	--	--	--	--	--
Notropis sp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bluntnose Minnow	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fathead Minnow	--	--	--	--	--	--	--	--	--	--	--	--	1	7.69%	0.003	4.23%
Bullhead Minnow	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Creek Chub	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyprinidae sp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
White Sucker	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Smallmouth Buffalo	--	--	--	--	--	--	--	--	--	--	--	--	1	7.69%	0.008	11.27%
Black Redhorse	1	1.79%	0.023	4.13%	--	--	--	--	--	--	--	--	--	--	--	--
Golden Redhorse	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oriental Weatherfish	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Black Bullhead	--	--	--	--	--	--	--	--	2	6.67%	0.057	18.69%	--	--	--	--
Yellow Bullhead	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Channel Catfish	--	--	--	--	--	--	--	--	1	3.33%	0.002	0.66%	--	--	--	--
Freckled Madtom	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Flathead Catfish	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Brook Silverside	--	--	--	--	--	--	--	--	--	--	--	--	1	7.69%	0.002	2.82%
Yellow Bass	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Green Sunfish	2	3.57%	0.004	0.72%	--	--	--	--	2	6.67%	0.005	1.64%	--	--	--	--
Warmouth	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Orangespotted Sunfish	1	1.79%	0.004	0.72%	--	--	--	--	--	--	--	--	--	--	--	--
Bluegill	3	5.36%	0.017	3.05%	4	15.38%	0.244	51.91%	5	16.67%	0.112	36.72%	--	--	--	--
Lepomis sp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Smallmouth Bass	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Largemouth Bass	1	1.79%	0.008	1.44%	--	--	--	--	--	--	--	--	--	--	--	--
Black Crappie	--	--	--	--	3	11.54%	0.016	3.40%	--	--	--	--	--	--	--	--
Banded Darter	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Walleye	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sander sp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Freshwater Drum	--	--	--	--	3	11.54%	0.047	10.00%	--	--	--	--	3	23.08%	0.023	32.39%
Round Goby	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Organisms	56	100.00%	0.557	100.00%	26	100.00%	0.470	100.00%	30	100.00%	0.305	100.00%	13	100.00%	0.071	100.00%

APPENDIX C
CPE by number (No. per volume) and weight (Kg. per volume) for
shellfish and fish collected during impingement study at LaSalle
County Station River Screen House by sampling date, April 2014-
March 2015

APPENDIX C. CPE BY NUMBER (No. per million gallons) AND WEIGHT (Kg. per million gallons) FOR CRAYFISH, MUSSELS, AND FISH COLLECTED DURING
IMPINGEMENT AT LASALLE COUNTY STATION RIVER SCREEN HOUSE FOR EACH SAMPLING DATE, APRIL 2014 - MARCH 2015.

SPECIES	02-03 Apr 14		14-15 Apr 14		30 Apr-01 May 14		12-13 May 14		27-28 May 14	
	#/MG	KG/MG	#/MG	KG/MG	#/MG	KG/MG	#/MG	KG/MG	#/MG	KG/MG
Orconectes sp.	--	--	--	--	--	--	--	--	--	--
Northern Clearwater Crayfish	0.01157407	0.00002315	--	--	--	--	--	--	--	--
Procambarus sp.	--	--	--	--	--	--	--	--	--	--
Fragile Papershell	--	--	--	--	--	--	--	--	--	--
Pink Heelsplitter	--	--	--	--	--	--	--	--	--	--
Paper Pondshell	--	--	--	--	--	--	--	--	--	--
American Eel	--	--	--	--	--	--	--	--	--	--
Gizzard Shad	0.01157407	0.00056713	0.01157407	0.00008102	--	--	--	--	--	--
Threadfin Shad	--	--	--	--	--	--	--	--	--	--
Dorosoma sp.	--	--	--	--	--	--	--	--	--	--
Central Mudminnow	--	--	--	--	--	--	--	--	--	--
Grass Pickerel	--	--	--	--	--	--	--	--	--	--
Goldfish	--	--	--	--	--	--	--	--	--	--
Common Carp	--	--	--	--	--	--	--	--	--	--
Hornyhead Chub	--	--	--	--	--	--	0.01155802	0.00102866	--	--
Golden Shiner	--	--	--	--	--	--	--	--	--	--
Emerald Shiner	--	--	--	--	--	--	0.01155802	0.00003467	0.02311604	0.00012714
Striped Shiner	--	--	--	--	--	--	0.01155802	0.00032362	0.01155802	0.00004623
Spottail Shiner	0.02314815	0.00011574	--	--	--	--	0.04623209	0.00028895	--	--
Silverband Shiner	--	--	--	--	--	--	--	--	--	--
Spotfin Shiner	0.01157407	0.00001157	--	--	--	--	--	--	--	--
Notropis sp.	--	--	--	--	--	--	--	--	--	--
Bluntnose Minnow	--	--	--	--	--	--	0.34674064	0.00099399	0.01155802	0.00002312
Fathead Minnow	--	--	--	--	--	--	0.01155802	0.00006935	--	--
Bullhead Minnow	--	--	--	--	--	--	--	--	--	--
Creek Chub	--	--	--	--	--	--	0.05779011	0.00019649	--	--
Cyprinidae sp.	--	--	--	--	--	--	0.01155802	0.00001156	--	--
White Sucker	--	--	--	--	--	--	0.05779011	0.00043920	--	--
Smallmouth Buffalo	--	--	--	--	--	--	--	--	--	--
Black Redhorse	--	--	--	--	--	--	--	--	--	--
Golden Redhorse	--	--	--	--	--	--	0.01155802	0.00095932	--	--
Oriental Weatherfish	--	--	--	--	--	--	0.01155802	0.00053167	--	--
Black Bullhead	--	--	--	--	--	--	0.02311604	0.00006935	0.01155802	0.00002312
Yellow Bullhead	--	--	--	--	--	--	0.01155802	0.00005779	--	--
Channel Catfish	--	--	0.01157407	0.00019676	--	--	--	--	--	--
Freckled Madtom	--	--	--	--	--	--	--	--	--	--
Flathead Catfish	--	--	--	--	--	--	0.01155802	0.00003467	0.01155802	0.00006935
Brook Silverside	--	--	--	--	--	--	--	--	--	--
Yellow Bass	--	--	--	--	--	--	--	--	--	--
Green Sunfish	--	--	--	--	--	--	--	--	--	--
Warmouth	--	--	--	--	--	--	--	--	--	--
Orangespotted Sunfish	--	--	0.01157407	0.00011574	--	--	0.02311604	0.00017337	--	--
Bluegill	0.03472222	0.00097222	0.02314815	0.00004630	--	--	0.05779011	0.00046232	--	--
Lepomis sp.	--	--	--	--	--	--	--	--	--	--
Smallmouth Bass	--	--	--	--	--	--	0.01155802	0.00235784	--	--
Largemouth Bass	--	--	--	--	--	--	--	--	--	--
Black Crappie	--	--	--	--	--	--	--	--	--	--
Banded Darter	--	--	--	--	--	--	0.01155802	0.00001156	--	--
Walleye	--	--	0.01157407	0.00442130	--	--	--	--	--	--
Sander sp.	--	--	--	--	--	--	--	--	--	--
Freshwater Drum	--	--	--	--	--	--	0.10402219	0.00297041	--	--
Round Goby	--	--	0.47453704	0.00298611	0.01163061	0.00009304	0.26583449	0.00216135	0.01155802	0.00011558
TOTAL ORGANISMS	0.09259259	0.00168981	0.54398148	0.00784722	0.01163061	0.00009304	1.10957004	0.01317614	0.08090615	0.00040453

APPENDIX C. CPE BY NUMBER (No
IMPINGEMENT AT LA)

APPENDIX C (continued)

SPECIES	10-11 Jun 14		24-25 Jun 14		07-08 Jul 14		28-29 Jul 14		11-12 Aug 14	
	#/MG	KG/MG	#/MG	KG/MG	#/MG	KG/MG	#/MG	KG/MG	#/MG	KG/MG
Orconectes sp.	--	--	--	--	--	--	--	--	--	--
Northern Clearwater Crayfish	--	--	--	--	--	--	--	--	--	--
Procambarus sp.	--	--	--	--	0.01164687	0.00000000	--	--	--	--
Fragile Papershell	--	--	--	--	--	--	--	--	--	--
Pink Heelsplitter	--	--	--	--	--	--	--	--	0.01157407	0.00001157
Paper Pondshell	--	--	--	--	--	--	--	--	--	--
American Eel	0.01157407	0.00863426	--	--	--	--	--	--	--	--
Gizzard Shad	--	--	--	--	0.05823433	0.00012812	0.34843206	0.00058072	--	--
Threadfin Shad	--	--	0.13888889	0.00032407	0.03494060	0.00009317	--	--	0.05787037	0.00006944
Dorosoma sp.	--	--	--	--	--	--	--	--	0.01157407	0.00001157
Central Mudminnow	--	--	--	--	--	--	--	--	--	--
Grass Pickerel	--	--	0.01157407	0.00009259	--	--	--	--	--	--
Goldfish	--	--	--	--	--	--	--	--	--	--
Common Carp	--	--	0.02314815	0.00005787	0.08152807	0.00018635	0.02322880	0.00871080	--	--
Hornyhead Chub	--	--	--	--	--	--	--	--	--	--
Golden Shiner	--	--	--	--	--	--	--	--	--	--
Emerald Shiner	--	--	--	--	--	--	--	--	--	--
Striped Shiner	--	--	--	--	--	--	--	--	--	--
Spottail Shiner	--	--	--	--	--	--	--	--	--	--
Silverband Shiner	0.01157407	0.00003472	--	--	--	--	--	--	--	--
Spotfin Shiner	0.01157407	0.00005787	0.01157407	0.00003472	--	--	--	--	--	--
Notropis sp.	--	--	--	--	--	--	--	--	--	--
Bluntnose Minnow	--	--	--	--	--	--	--	--	0.01157407	0.00003472
Fathead Minnow	--	--	--	--	--	--	--	--	--	--
Bullhead Minnow	0.09259259	0.00032407	0.02314815	0.00008102	--	--	--	--	--	--
Creek Chub	--	--	--	--	--	--	--	--	--	--
Cyprinidae sp.	--	--	--	--	--	--	--	--	--	--
White Sucker	--	--	--	--	--	--	--	--	--	--
Smallmouth Buffalo	--	--	--	--	--	--	--	--	--	--
Black Redhorse	--	--	--	--	--	--	--	--	--	--
Golden Redhorse	--	--	--	--	--	--	--	--	--	--
Oriental Weatherfish	--	--	0.01157407	0.00019676	--	--	--	--	--	--
Black Bullhead	--	--	--	--	--	--	--	--	--	--
Yellow Bullhead	--	--	--	--	--	--	--	--	--	--
Channel Catfish	0.02314815	0.00048611	0.02314815	0.00037037	--	--	--	--	--	--
Freckled Madtom	--	--	--	--	--	--	--	--	--	--
Flathead Catfish	--	--	--	--	--	--	--	--	--	--
Brook Silverside	--	--	--	--	--	--	--	--	--	--
Yellow Bass	--	--	--	--	--	--	--	--	--	--
Green Sunfish	--	--	0.01157407	0.00025463	--	--	--	--	0.01157407	0.00001157
Warmouth	--	--	--	--	--	--	--	--	--	--
Orangespotted Sunfish	0.01157407	0.00002315	--	--	--	--	--	--	--	--
Bluegill	--	--	--	--	0.01164687	0.00004659	--	--	0.02314815	0.00002315
Lepomis sp.	--	--	--	--	0.01164687	0.00002329	--	--	--	--
Smallmouth Bass	--	--	--	--	--	--	--	--	--	--
Largemouth Bass	--	--	0.01157407	0.00001157	0.02329373	0.00006988	--	--	--	--
Black Crappie	--	--	--	--	0.04658747	0.00006988	--	--	--	--
Banded Darter	--	--	--	--	--	--	--	--	--	--
Walleye	--	--	--	--	--	--	--	--	--	--
Sander sp.	--	--	0.01157407	0.00001157	--	--	--	--	--	--
Freshwater Drum	--	--	--	--	--	--	--	--	--	--
Round Goby	--	--	0.02314815	0.00010417	0.01164687	0.00009317	0.01161440	0.00009292	--	--
TOTAL ORGANISMS	0.16203704	0.00956019	0.30092593	0.00153935	0.29117167	0.00071046	0.38327526	0.00938444	0.12731481	0.00016204

APPENDIX C. CPE BY NUMBER (No
IMPINGEMENT AT LA)

APPENDIX C (continued)

SPECIES	25-26 Aug 14		07-08 Sep 14		22-23 Sep 14		24-25 Nov 14		15-16 Dec 14	
	#/MG	KG/MG	#/MG	KG/MG	#/MG	KG/MG	#/MG	KG/MG	#/MG	KG/MG
Orconectes sp.	--	--	--	--	--	--	--	--	--	--
Northern Clearwater Crayfish	--	--	--	--	--	--	0.01155001	0.00002310	0.01147842	0.00002296
Procambarus sp.	--	--	--	--	--	--	--	--	--	--
Fragile Papershell	--	--	--	--	0.02244669	0.00003367	--	--	--	--
Pink Heelsplitter	--	--	--	--	--	--	--	--	--	--
Paper Pondshell	--	--	0.03436426	0.00006873	0.01122334	0.00001122	0.02310002	0.00006930	--	--
American Eel	--	--	--	--	--	--	--	--	--	--
Gizzard Shad	0.08068234	0.00038036	0.04581901	0.00017182	0.05611672	0.00022447	0.02310002	0.00021945	0.12626263	0.00127410
Threadfin Shad	0.04610420	0.00009221	0.16036655	0.00042383	0.20202020	0.00067340	0.02310002	0.00023100	--	--
Dorosoma sp.	0.08068234	0.00012679	0.04581901	0.00004582	--	--	--	--	--	--
Central Mudminnow	--	--	--	--	--	--	--	--	--	--
Grass Pickerel	--	--	--	--	--	--	--	--	--	--
Goldfish	--	--	--	--	--	--	0.05775006	0.00047355	--	--
Common Carp	--	--	--	--	--	--	--	--	--	--
Hornyhead Chub	--	--	--	--	--	--	--	--	--	--
Golden Shiner	--	--	0.01145475	0.00009164	--	--	--	--	--	--
Emerald Shiner	--	--	--	--	--	--	--	--	--	--
Striped Shiner	--	--	--	--	--	--	--	--	--	--
Spottail Shiner	--	--	--	--	--	--	--	--	0.01147842	0.00006887
Silverband Shiner	--	--	--	--	--	--	--	--	--	--
Spotfin Shiner	--	--	--	--	--	--	--	--	--	--
Notropis sp.	0.01152605	0.00001153	--	--	--	--	--	--	--	--
Bluntnose Minnow	--	--	0.01145475	0.00001145	--	--	--	--	--	--
Fathead Minnow	--	--	--	--	--	--	--	--	--	--
Bullhead Minnow	--	--	--	--	--	--	0.03465003	0.00008085	--	--
Creek Chub	--	--	--	--	0.01122334	0.00005612	--	--	--	--
Cyprinidae sp.	--	--	--	--	--	--	--	--	--	--
White Sucker	--	--	--	--	--	--	--	--	--	--
Smallmouth Buffalo	--	--	--	--	--	--	0.01155001	0.01455301	--	--
Black Redhorse	--	--	--	--	--	--	--	--	--	--
Golden Redhorse	0.01152605	0.00004610	--	--	--	--	--	--	--	--
Oriental Weatherfish	--	--	--	--	--	--	--	--	--	--
Black Bullhead	--	--	--	--	--	--	0.04620005	0.00240240	--	--
Yellow Bullhead	--	--	--	--	--	--	--	--	--	--
Channel Catfish	0.01152605	0.00244352	0.02290951	0.00016037	0.01122334	0.00001122	--	--	--	--
Freckled Madtom	--	--	--	--	--	--	0.01155001	0.00003465	--	--
Flathead Catfish	--	--	--	--	--	--	--	--	--	--
Brook Silverside	--	--	--	--	--	--	--	--	--	--
Yellow Bass	0.01152605	0.00056478	0.01145475	0.00008018	--	--	--	--	--	--
Green Sunfish	--	--	--	--	--	--	0.16170016	0.00058905	--	--
Warmouth	--	--	--	--	--	--	0.01155001	0.00033495	--	--
Orangespotted Sunfish	--	--	--	--	--	--	--	--	--	--
Bluegill	0.02305210	0.00002305	0.01145475	0.00002291	0.01122334	0.00004489	0.09240009	0.00212520	0.01147842	0.00024105
Lepomis sp.	--	--	--	--	--	--	--	--	--	--
Smallmouth Bass	--	--	--	--	--	--	--	--	--	--
Largemouth Bass	--	--	--	--	--	--	0.02310002	0.00015015	0.01147842	0.00006887
Black Crappie	--	--	--	--	--	--	0.02310002	0.00017325	--	--
Banded Darter	--	--	--	--	--	--	--	--	--	--
Walleye	--	--	--	--	--	--	--	--	--	--
Sander sp.	--	--	--	--	--	--	--	--	--	--
Freshwater Drum	--	--	0.01145475	0.00018328	--	--	0.16170016	0.00267960	0.04591368	0.00061983
Round Goby	0.01152605	0.00004610	--	--	--	--	--	--	--	--
TOTAL ORGANISMS	0.28815122	0.00373444	0.36655212	0.00126002	0.32547699	0.00105499	0.71610072	0.02413952	0.21808999	0.00229568

SPECIES	22-23 Dec 14		26-27 Jan 15		09-10 Feb 15		16-17 Mar 15		30-31 Mar 15	
	#/MG	KG/MG	#/MG	KG/MG	#/MG	KG/MG	#/MG	KG/MG	#/MG	KG/MG
<i>Orconectes</i> sp.	--	--	--	--	--	--	--	--	0.01159017	0.00003477
Northern Clearwater Crayfish	0.01157407	0.00009259	--	--	--	--	0.03467406	0.00024272	--	--
<i>Procambarus</i> sp.	--	--	--	--	--	--	--	--	--	--
Fragile Papershell	--	--	--	--	--	--	--	--	--	--
Pink Heelsplitter	--	--	--	--	--	--	--	--	--	--
Paper Pondshell	--	--	--	--	--	--	--	--	--	--
American Eel	--	--	--	--	--	--	--	--	--	--
Gizzard Shad	0.90277778	0.00909722	0.38434661	0.00504309	0.04610420	0.00051867	0.01155802	0.00018493	0.03477051	0.00022021
Threadfin Shad	--	--	0.01164687	0.00005823	--	--	--	--	--	--
<i>Dorosoma</i> sp.	0.04629630	0.00012731	--	--	--	--	--	--	--	--
Central Mudminnow	--	--	--	--	--	--	0.09246417	0.00046232	0.02318034	0.00011590
Grass Pickerel	--	--	--	--	--	--	--	--	--	--
Goldfish	--	--	0.12811554	0.00060564	0.06915629	0.00034578	0.08090615	0.00057790	--	--
Common Carp	--	--	--	--	0.01152605	0.00070309	--	--	--	--
Hornyhead Chub	--	--	--	--	--	--	--	--	--	--
Golden Shiner	--	--	--	--	--	--	--	--	0.01159017	0.00003477
Emerald Shiner	--	--	--	--	--	--	0.01155802	0.00002312	--	--
Striped Shiner	--	--	--	--	--	--	--	--	--	--
Spottail Shiner	--	--	--	--	0.05763024	0.00031120	--	--	--	--
Silverband Shiner	--	--	--	--	--	--	--	--	--	--
Spotfin Shiner	--	--	0.03494060	0.00012812	--	--	--	--	--	--
<i>Notropis</i> sp.	--	--	--	--	--	--	--	--	--	--
Bluntnose Minnow	--	--	--	--	--	--	--	--	--	--
Fathead Minnow	--	--	--	--	--	--	--	--	0.01159017	0.00003477
Bullhead Minnow	--	--	--	--	--	--	--	--	--	--
Creek Chub	--	--	--	--	--	--	--	--	--	--
Cyprinidae sp.	--	--	--	--	--	--	--	--	--	--
White Sucker	--	--	--	--	--	--	--	--	--	--
Smallmouth Buffalo	--	--	--	--	--	--	--	--	0.01159017	0.00009272
Black Redhorse	--	--	0.01164687	0.00026788	--	--	--	--	--	--
Golden Redhorse	--	--	--	--	--	--	--	--	--	--
Oriental Weatherfish	--	--	--	--	--	--	--	--	--	--
Black Bullhead	--	--	--	--	--	--	0.02311604	0.00065881	--	--
Yellow Bullhead	--	--	--	--	--	--	--	--	--	--
Channel Catfish	--	--	--	--	--	--	0.01155802	0.00002312	--	--
Freckled Madtom	--	--	--	--	--	--	--	--	--	--
Flathead Catfish	--	--	--	--	--	--	--	--	--	--
Brook Silverside	--	--	--	--	--	--	--	--	0.01159017	0.00002318
Yellow Bass	0.01157407	0.00008102	--	--	--	--	--	--	--	--
Green Sunfish	--	--	0.02329373	0.00004659	--	--	0.02311604	0.00005779	--	--
Warmouth	--	--	--	--	--	--	--	--	--	--
Orangespotted Sunfish	--	--	0.01164687	0.00004659	--	--	--	--	--	--
Bluegill	0.03472222	0.00009259	0.03494060	0.00019800	0.04610420	0.00281236	0.05779011	0.00129450	--	--
<i>Lepomis</i> sp.	--	--	--	--	--	--	--	--	--	--
Smallmouth Bass	--	--	--	--	--	--	--	--	--	--
Largemouth Bass	--	--	0.01164687	0.00009317	--	--	--	--	--	--
Black Crappie	--	--	--	--	0.03457815	0.00018442	--	--	--	--
Banded Darter	--	--	--	--	--	--	--	--	--	--
Walleye	--	--	--	--	--	--	--	--	--	--
<i>Sander</i> sp.	--	--	--	--	--	--	--	--	--	--
Freshwater Drum	0.06944444	0.00101852	--	--	0.03457815	0.00054172	--	--	0.03477051	0.00026657
Round Goby	--	--	--	--	--	--	--	--	--	--
TOTAL ORGANISMS	1.07638889	0.01050926	0.65222455	0.00648730	0.29967727	0.00541724	0.34674064	0.00352520	0.15067223	0.00082290

APPENDIX D
Raw Ichthyoplankton Entrainment Data Collected at LaSalle
County Station River Screen House, April 2014–August 2014

APPENDIX D - RAW ENTRAINMENT DATA LISTING, LASALLE COUNTY STATION RIVER SCREEN HOUSE, 2014.

SAMPLE DATE: 3 April START DATE and TIME: 03APR14:18:02 SAMPLE DURATION (minutes): 23.00
 DIEL PERIOD: Day DEPTH: SUR REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.013674
 STUDY GRAB TEMPERATURE (F): 47.5 STUDY GRAB DISSOLVED OXYGEN (mg/L): 11.4 FOREBAY CURRENT VELOCITY (ft/sec): 1.50
 EXTRAPOLATION PERIOD: 30 March-16 April MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1555.2

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
NO ICHTHYOPLANKTON			0

SAMPLE DATE: 3 April START DATE and TIME: 03APR14:18:02 SAMPLE DURATION (minutes): 20.00
 DIEL PERIOD: Day DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.014106
 STUDY GRAB TEMPERATURE (F): 47.5 STUDY GRAB DISSOLVED OXYGEN (mg/L): 11.4 FOREBAY CURRENT VELOCITY (ft/sec): 1.50
 EXTRAPOLATION PERIOD: 30 March-16 April MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1555.2

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
NO ICHTHYOPLANKTON			0

SAMPLE DATE: 3 April START DATE and TIME: 03APR14:18:53 SAMPLE DURATION (minutes): 11.00
 DIEL PERIOD: Day DEPTH: BOT REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.014829
 STUDY GRAB TEMPERATURE (F): 47.5 STUDY GRAB DISSOLVED OXYGEN (mg/L): 11.4 FOREBAY CURRENT VELOCITY (ft/sec): 1.30
 EXTRAPOLATION PERIOD: 30 March-16 April MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1555.2

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
NO ICHTHYOPLANKTON			0

SAMPLE DATE: 3 April START DATE and TIME: 03APR14:18:53 SAMPLE DURATION (minutes): 11.00
 DIEL PERIOD: Day DEPTH: BOT REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.014950
 STUDY GRAB TEMPERATURE (F): 47.5 STUDY GRAB DISSOLVED OXYGEN (mg/L): 11.4 FOREBAY CURRENT VELOCITY (ft/sec): 1.30
 EXTRAPOLATION PERIOD: 30 March-16 April MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1555.2

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
NO ICHTHYOPLANKTON			0

SAMPLE DATE: 3 April START DATE and TIME: 03APR14:20:51 SAMPLE DURATION (minutes): 20.00
 DIEL PERIOD: Night DEPTH: SUR REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.015076
 STUDY GRAB TEMPERATURE (F): 47.5 STUDY GRAB DISSOLVED OXYGEN (mg/L): 11.2 FOREBAY CURRENT VELOCITY (ft/sec): 1.50
 EXTRAPOLATION PERIOD: 30 March-16 April MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1555.2

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
FRESHWATER DRUM	Egg	1.5	

SAMPLE DATE: 3 April START DATE and TIME: 03APR14:20:51 SAMPLE DURATION (minutes): 20.00
 DIEL PERIOD: Night DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.018947
 STUDY GRAB TEMPERATURE (F): 47.5 STUDY GRAB DISSOLVED OXYGEN (mg/L): 11.2 FOREBAY CURRENT VELOCITY (ft/sec): 1.50
 EXTRAPOLATION PERIOD: 30 March-16 April MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1555.2

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
NO ICHTHYOPLANKTON			0

SAMPLE DATE: 3 April START DATE and TIME: 03APR14:21:30 SAMPLE DURATION (minutes): 11.00
 DIEL PERIOD: Night DEPTH: BOT REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.013705
 STUDY GRAB TEMPERATURE (F): 47.7 STUDY GRAB DISSOLVED OXYGEN (mg/L): 11.2 FOREBAY CURRENT VELOCITY (ft/sec): 1.30
 EXTRAPOLATION PERIOD: 30 March-16 April MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1555.2

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
NO ICHTHYOPLANKTON			0

SAMPLE DATE: 3 April START DATE and TIME: 03APR14:21:30 SAMPLE DURATION (minutes): 11.00
 DIEL PERIOD: Night DEPTH: BOT REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.014804
 STUDY GRAB TEMPERATURE (F): 47.7 STUDY GRAB DISSOLVED OXYGEN (mg/L): 11.2 FOREBAY CURRENT VELOCITY (ft/sec): 1.30
 EXTRAPOLATION PERIOD: 30 March-16 April MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1555.2

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
NO ICHTHYOPLANKTON			0

APPENDIX D (cont.)

SAMPLE DATE: 24 April START DATE and TIME: 24APR14:17:40 SAMPLE DURATION (minutes): 10.00
 DIEL PERIOD: Day DEPTH: SUR REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.015063
 STUDY GRAB TEMPERATURE (F): 60.6 STUDY GRAB DISSOLVED OXYGEN (mg/L): 14.3 FOREBAY CURRENT VELOCITY (ft/sec): 1.60
 EXTRAPOLATION PERIOD: 17 April-3 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1468.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Morone sp.	Yolk-sac	3.0	.
LOGPERCH type	Yolk-sac	6.9	.
LOGPERCH type	Yolk-sac	6.4	.

SAMPLE DATE: 24 April START DATE and TIME: 24APR14:18:10 SAMPLE DURATION (minutes): 14.00
 DIEL PERIOD: Day DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.018359
 STUDY GRAB TEMPERATURE (F): 60.6 STUDY GRAB DISSOLVED OXYGEN (mg/L): 13.6 FOREBAY CURRENT VELOCITY (ft/sec): 1.60
 EXTRAPOLATION PERIOD: 17 April-3 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1468.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
UNIDENTIFIED	Yolk-sac	5.9	.

SAMPLE DATE: 24 April START DATE and TIME: 24APR14:18:40 SAMPLE DURATION (minutes): 22.00
 DIEL PERIOD: Day DEPTH: BOT REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.015395
 STUDY GRAB TEMPERATURE (F): 60.4 STUDY GRAB DISSOLVED OXYGEN (mg/L): 12.9 FOREBAY CURRENT VELOCITY (ft/sec): 1.50
 EXTRAPOLATION PERIOD: 17 April-3 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1468.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	7.2	.
Dorosoma sp.	Post Yolk-sac	6.0	.
LOGPERCH type	Yolk-sac	6.2	.
LOGPERCH type	Yolk-sac	5.8	.
LOGPERCH type	Yolk-sac	6.2	.
LOGPERCH type	Yolk-sac	9.0	.
LOGPERCH type	Yolk-sac	6.4	.
LOGPERCH type	Yolk-sac	6.5	.
LOGPERCH type	Yolk-sac	6.4	.
LOGPERCH type	Yolk-sac	8.5	.

SAMPLE DATE: 24 April START DATE and TIME: 24APR14:18:40 SAMPLE DURATION (minutes): 12.00
 DIEL PERIOD: Day DEPTH: BOT REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.016079
 STUDY GRAB TEMPERATURE (F): 60.4 STUDY GRAB DISSOLVED OXYGEN (mg/L): 12.9 FOREBAY CURRENT VELOCITY (ft/sec): 1.50
 EXTRAPOLATION PERIOD: 17 April-3 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1468.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	5.7	.
Morone sp.	Yolk-sac	2.7	.
Morone sp.	Yolk-sac	3.0	.
Morone sp.	Yolk-sac	2.8	.
LOGPERCH type	Yolk-sac	6.5	.
LOGPERCH type	Yolk-sac	6.0	.
LOGPERCH type	Yolk-sac	8.0	.

SAMPLE DATE: 24 April START DATE and TIME: 24APR14:21:45 SAMPLE DURATION (minutes): 11.00
 DIEL PERIOD: Night DEPTH: SUR REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.017476
 STUDY GRAB TEMPERATURE (F): 59.7 STUDY GRAB DISSOLVED OXYGEN (mg/L): 11.5 FOREBAY CURRENT VELOCITY (ft/sec): 1.60
 EXTRAPOLATION PERIOD: 17 April-3 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1468.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Morone sp.	Yolk-sac	3.1	.
Sander sp.	Yolk-sac	8.1	.
Sander sp.	Yolk-sac	8.5	.
Sander sp.	Yolk-sac	7.9	.
Sander sp.	Yolk-sac	8.2	.
Sander sp.	Yolk-sac	8.0	.
Sander sp.	Yolk-sac	9.4	.
Sander sp.	Yolk-sac	7.8	.
LOGPERCH type	Yolk-sac	6.0	.
LOGPERCH type	Yolk-sac	7.2	.
LOGPERCH type	Yolk-sac	6.7	.
LOGPERCH type	Yolk-sac	6.5	.
UNIDENTIFIED	Yolk-sac	5.7	.

APPENDIX D (cont.)

SAMPLE DATE: 24 April START DATE and TIME: 24APR14:21:45 SAMPLE DURATION (minutes): 11.00
 DIEL PERIOD: Night DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.015715
 STUDY GRAB TEMPERATURE (F): 59.7 STUDY GRAB DISSOLVED OXYGEN (mg/L): 11.5 FOREBAY CURRENT VELOCITY (ft/sec): 1.60
 EXTRAPOLATION PERIOD: 17 April-3 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1468.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Sander sp.	Yolk-sac	8.7	.
Sander sp.	Yolk-sac	8.2	.
Sander sp.	Yolk-sac	7.9	.
Sander sp.	Yolk-sac	7.9	.
Sander sp.	Yolk-sac	8.2	.
Sander sp.	Yolk-sac	8.1	.
Sander sp.	Yolk-sac	8.0	.
LOGPERCH type	Yolk-sac	6.4	.
LOGPERCH type	Yolk-sac	7.3	.

SAMPLE DATE: 24 April START DATE and TIME: 24APR14:22:17 SAMPLE DURATION (minutes): 12.00
 DIEL PERIOD: Night DEPTH: BOT REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.013408
 STUDY GRAB TEMPERATURE (F): 59.7 STUDY GRAB DISSOLVED OXYGEN (mg/L): 11.2 FOREBAY CURRENT VELOCITY (ft/sec): 1.30
 EXTRAPOLATION PERIOD: 17 April-3 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1468.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Sander sp.	Yolk-sac	8.3	.
Sander sp.	Yolk-sac	7.9	.
Sander sp.	Yolk-sac	7.8	.
Sander sp.	Yolk-sac	8.4	.
Sander sp.	Yolk-sac	7.6	.
Sander sp.	Yolk-sac	7.0	.
LOGPERCH type	Yolk-sac	7.0	.

SAMPLE DATE: 24 April START DATE and TIME: 24APR14:22:17 SAMPLE DURATION (minutes): 12.00
 DIEL PERIOD: Night DEPTH: BOT REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.015636
 STUDY GRAB TEMPERATURE (F): 59.7 STUDY GRAB DISSOLVED OXYGEN (mg/L): 11.2 FOREBAY CURRENT VELOCITY (ft/sec): 1.30
 EXTRAPOLATION PERIOD: 17 April-3 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1468.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
ICTIOBINAЕ sp.	Yolk-sac	5.7	.
Sander sp.	Yolk-sac	8.0	.
Sander sp.	Yolk-sac	7.5	.
Sander sp.	Yolk-sac	8.2	.
Sander sp.	Yolk-sac	8.2	.
Sander sp.	Yolk-sac	9.3	.
Sander sp.	Yolk-sac	8.0	.
Sander sp.	Yolk-sac	7.8	.
LOGPERCH type	Yolk-sac	6.8	.
LOGPERCH type	Yolk-sac	6.7	.
LOGPERCH type	Yolk-sac	6.6	.

SAMPLE DATE: 6 May START DATE and TIME: 06MAY14:18:23 SAMPLE DURATION (minutes): 16.00
 DIEL PERIOD: Day DEPTH: SUR REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.021023
 STUDY GRAB TEMPERATURE (F): 60.8 STUDY GRAB DISSOLVED OXYGEN (mg/L): 13.6 FOREBAY CURRENT VELOCITY (ft/sec): 0.90
 EXTRAPOLATION PERIOD: 4-10 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	7.4	.
Dorosoma sp.	Post Yolk-sac	8.3	.
Dorosoma sp.	Post Yolk-sac	7.4	.
ICTIOBINAЕ sp.	Yolk-sac	8.1	.
ICTIOBINAЕ sp.	Yolk-sac	7.5	.
Morone sp.	Yolk-sac	3.2	.
LOGPERCH type	Yolk-sac	6.9	.
LOGPERCH type	Yolk-sac	5.6	.

SAMPLE DATE: 6 May START DATE and TIME: 06MAY14:18:23 SAMPLE DURATION (minutes): 16.00
 DIEL PERIOD: Day DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.020882
 STUDY GRAB TEMPERATURE (F): 60.8 STUDY GRAB DISSOLVED OXYGEN (mg/L): 13.6 FOREBAY CURRENT VELOCITY (ft/sec): 0.90
 EXTRAPOLATION PERIOD: 4-10 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	7.5	.
Dorosoma sp.	Post Yolk-sac	7.3	.
ICTIOBINAЕ sp.	Yolk-sac	7.1	.
ICTIOBINAЕ sp.	Yolk-sac	6.7	.

APPENDIX D (cont.)

SAMPLE DATE: 6 May START DATE and TIME: 06MAY14:18:56 SAMPLE DURATION (minutes): 10.00
 DIEL PERIOD: Day DEPTH: BOT REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.016915
 STUDY GRAB TEMPERATURE (F): 60.6 STUDY GRAB DISSOLVED OXYGEN (mg/L): 13.6 FOREBAY CURRENT VELOCITY (ft/sec): 1.50
 EXTRAPOLATION PERIOD: 4-10 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
ICTIOBINAE sp.	Yolk-sac	8.0	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
Sander sp.	Yolk-sac	9.5	.
LOGPERCH type	Yolk-sac	6.3	.
LOGPERCH type	Yolk-sac	6.5	.

SAMPLE DATE: 6 May START DATE and TIME: 06MAY14:18:56 SAMPLE DURATION (minutes): 10.00
 DIEL PERIOD: Day DEPTH: BOT REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.014484
 STUDY GRAB TEMPERATURE (F): 60.6 STUDY GRAB DISSOLVED OXYGEN (mg/L): 13.6 FOREBAY CURRENT VELOCITY (ft/sec): 1.50
 EXTRAPOLATION PERIOD: 4-10 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	8.1	.
Dorosoma sp.	Post Yolk-sac	9.3	.
ICTIOBINAE sp.	Yolk-sac	7.7	.

SAMPLE DATE: 6 May START DATE and TIME: 06MAY14:21:01 SAMPLE DURATION (minutes): 12.00
 DIEL PERIOD: Night DEPTH: SUR REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.015896
 STUDY GRAB TEMPERATURE (F): 59.7 STUDY GRAB DISSOLVED OXYGEN (mg/L): 10.2 FOREBAY CURRENT VELOCITY (ft/sec): 1.20
 EXTRAPOLATION PERIOD: 4-10 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.7	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
ICTIOBINAE sp.	Yolk-sac	7.8	.
ICTIOBINAE sp.	Yolk-sac	7.6	.
ICTIOBINAE sp.	Yolk-sac	7.1	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
ICTIOBINAE sp.	Yolk-sac	7.9	.
ICTIOBINAE sp.	Yolk-sac	7.1	.
ICTIOBINAE sp.	Yolk-sac	8.2	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
ICTIOBINAE sp.	Yolk-sac	7.5	.
ICTIOBINAE sp.	Yolk-sac	7.7	.
ICTIOBINAE sp.	Yolk-sac	7.8	.
ICTIOBINAE sp.	Yolk-sac	8.0	.
ICTIOBINAE sp.	Yolk-sac	6.8	.
ICTIOBINAE sp.	Yolk-sac	8.3	.
ICTIOBINAE sp.	Yolk-sac	7.9	.
ICTIOBINAE sp.	Yolk-sac	7.8	.
ICTIOBINAE sp.	Yolk-sac	6.8	.
ICTIOBINAE sp.	Yolk-sac	7.7	.
ICTIOBINAE sp.	Yolk-sac	7.5	.
UNIDENTIFIED	Yolk-sac	5.5	.
UNIDENTIFIED	Yolk-sac	5.4	.

SAMPLE DATE: 6 May START DATE and TIME: 06MAY14:21:01 SAMPLE DURATION (minutes): 12.00
 DIEL PERIOD: Night DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.016160
 STUDY GRAB TEMPERATURE (F): 59.7 STUDY GRAB DISSOLVED OXYGEN (mg/L): 10.2 FOREBAY CURRENT VELOCITY (ft/sec): 1.20
 EXTRAPOLATION PERIOD: 4-10 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
ICTIOBINAE sp.	Yolk-sac	7.0	.
ICTIOBINAE sp.	Yolk-sac	7.6	.
ICTIOBINAE sp.	Yolk-sac	7.5	.
ICTIOBINAE sp.	Yolk-sac	7.7	.
ICTIOBINAE sp.	Yolk-sac	7.6	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
ICTIOBINAE sp.	Yolk-sac	7.5	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.6	.
ICTIOBINAE sp.	Yolk-sac	7.5	.
ICTIOBINAE sp.	Yolk-sac	7.8	.
ICTIOBINAE sp.	Yolk-sac	7.6	.
ICTIOBINAE sp.	Yolk-sac	8.0	.
ICTIOBINAE sp.	Yolk-sac	7.9	.
ICTIOBINAE sp.	Yolk-sac	6.7	.
ICTIOBINAE sp.	Yolk-sac	6.8	.
UNIDENTIFIED	Yolk-sac	5.4	.
UNIDENTIFIED	Yolk-sac	5.3	.

APPENDIX D (cont.)

SAMPLE DATE: 6 May START DATE and TIME: 06MAY14:21:26 SAMPLE DURATION (minutes): 10.00
 DIEL PERIOD: Night DEPTH: BOT REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.013851
 STUDY GRAB TEMPERATURE (F): 59.7 STUDY GRAB DISSOLVED OXYGEN (mg/L): 10.2 FOREBAY CURRENT VELOCITY (ft/sec): 1.50
 EXTRAPOLATION PERIOD: 4-10 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	9.0	.
ICTIOBINAE sp.	Yolk-sac	7.6	.
ICTIOBINAE sp.	Yolk-sac	7.8	.
ICTIOBINAE sp.	Yolk-sac	8.4	.
ICTIOBINAE sp.	Yolk-sac	8.2	.
ICTIOBINAE sp.	Yolk-sac	7.7	.
ICTIOBINAE sp.	Yolk-sac	7.8	.
ICTIOBINAE sp.	Yolk-sac	7.0	.

SAMPLE DATE: 6 May START DATE and TIME: 06MAY14:21:26 SAMPLE DURATION (minutes): 10.00
 DIEL PERIOD: Night DEPTH: BOT REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.015163
 STUDY GRAB TEMPERATURE (F): 59.7 STUDY GRAB DISSOLVED OXYGEN (mg/L): 10.2 FOREBAY CURRENT VELOCITY (ft/sec): 1.50
 EXTRAPOLATION PERIOD: 4-10 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Yolk-sac	8.6	.
ICTIOBINAE sp.	Yolk-sac	8.5	.
ICTIOBINAE sp.	Yolk-sac	8.6	.
ICTIOBINAE sp.	Yolk-sac	7.6	.
ICTIOBINAE sp.	Yolk-sac	7.8	.
ICTIOBINAE sp.	Yolk-sac	8.1	.
ICTIOBINAE sp.	Yolk-sac	8.3	.
ICTIOBINAE sp.	Yolk-sac	7.8	.
ICTIOBINAE sp.	Yolk-sac	7.9	.
ICTIOBINAE sp.	Yolk-sac	7.1	.
ICTIOBINAE sp.	Yolk-sac	7.6	.
ICTIOBINAE sp.	Yolk-sac	8.0	.
ICTIOBINAE sp.	Yolk-sac	8.3	.
ICTIOBINAE sp.	Yolk-sac	8.3	.
ICTIOBINAE sp.	Yolk-sac	8.2	.
ICTIOBINAE sp.	Yolk-sac	7.9	.
Sander sp.	Yolk-sac	9.3	.

SAMPLE DATE: 13 May START DATE and TIME: 13MAY14:18:37 SAMPLE DURATION (minutes): 13.00
 DIEL PERIOD: Day DEPTH: SUR REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.015182
 STUDY GRAB TEMPERATURE (F): 68.0 STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.2 FOREBAY CURRENT VELOCITY (ft/sec): 1.40
 EXTRAPOLATION PERIOD: 11-17 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
COMMON CARP	Yolk-sac	7.0	.
COMMON CARP	Yolk-sac	7.1	.
COMMON CARP	Yolk-sac	7.1	.
COMMON CARP	Yolk-sac	6.8	.
COMMON CARP	Yolk-sac	6.8	.
COMMON CARP	Yolk-sac	6.8	.
COMMON CARP	Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	6.8	.
COMMON CARP	Yolk-sac	7.1	.
COMMON CARP	Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	6.8	.
COMMON CARP	Yolk-sac	6.4	.
COMMON CARP	Yolk-sac	6.8	.
COMMON CARP	Yolk-sac	7.4	.
COMMON CARP	Yolk-sac	6.8	.
COMMON CARP	Yolk-sac	6.6	.
COMMON CARP	Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	7.0	.
COMMON CARP	Yolk-sac	6.8	.
COMMON CARP	Yolk-sac	6.4	.
COMMON CARP	Egg	1.8	.
COMMON CARP	Egg	1.8	.
COMMON CARP	Egg	1.8	.
COMMON CARP	Yolk-sac	.	41
Moxostoma sp.	Post Yolk-sac	14.2	.
Moxostoma sp.	Post Yolk-sac	13.6	.
Moxostoma sp.	Yolk-sac	10.8	.
ICTIOBINAE sp.	Yolk-sac	9.1	.
ICTIOBINAE sp.	Yolk-sac	9.3	.
ICTIOBINAE sp.	Yolk-sac	8.7	.
ICTIOBINAE sp.	Yolk-sac	8.8	.
ICTIOBINAE sp.	Yolk-sac	8.5	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.6	.
ICTIOBINAE sp.	Yolk-sac	7.2	.

APPENDIX D (cont.)

ICTIOBINAE sp.	Yolk-sac	7.3	.
ICTIOBINAE sp.	Yolk-sac	7.3	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
ICTIOBINAE sp.	Yolk-sac	6.9	.
ICTIOBINAE sp.	Yolk-sac	7.3	.
ICTIOBINAE sp.	Yolk-sac	6.9	.
ICTIOBINAE sp.	Yolk-sac	6.7	.
ICTIOBINAE sp.	Yolk-sac	6.9	.
ICTIOBINAE sp.	Yolk-sac	6.7	.
ICTIOBINAE sp.	Yolk-sac	7.7	.
ICTIOBINAE sp.	Yolk-sac	6.8	.
ICTIOBINAE sp.	Yolk-sac	6.8	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
ICTIOBINAE sp.	Yolk-sac	.	52
ICTIOBINAE sp.	Yolk-sac	.	13
LOGPERCH type	Yolk-sac	6.2	.
LOGPERCH type	Yolk-sac	6.9	.
LOGPERCH type	Yolk-sac	6.1	.
DARTER sp.	Post Yolk-sac	10.1	.
DARTER sp.	Post Yolk-sac	7.8	.
DARTER sp.	Yolk-sac	7.7	.
DARTER sp.	Yolk-sac	6.0	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.4	.
UNIDENTIFIED	Yolk-sac	6.0	.

SAMPLE DATE: 13 May START DATE and TIME: 13MAY14:18:11 SAMPLE DURATION (minutes): 13.00
 DIEL PERIOD: Day DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.014277
 STUDY GRAB TEMPERATURE (F): 68.0 STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.2 FOREBAY CURRENT VELOCITY (ft/sec): 1.40
 EXTRAPOLATION PERIOD: 11-17 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	8.5	.
Dorosoma sp.	Post Yolk-sac	5.3	.
Dorosoma sp.	Post Yolk-sac	5.6	.
Dorosoma sp.	Post Yolk-sac	5.3	.
COMMON CARP	Yolk-sac	6.2	.
COMMON CARP	Yolk-sac	6.2	.
COMMON CARP	Yolk-sac	6.1	.
COMMON CARP	Yolk-sac	7.1	.
COMMON CARP	Yolk-sac	6.7	.
COMMON CARP	Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	6.2	.
COMMON CARP	Yolk-sac	6.8	.
COMMON CARP	Yolk-sac	7.6	.
COMMON CARP	Yolk-sac	7.0	.
COMMON CARP	Yolk-sac	6.3	.
COMMON CARP	Yolk-sac	6.7	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	5.9	.
COMMON CARP	Yolk-sac	6.4	.
COMMON CARP	Yolk-sac	6.3	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	6.2	.
COMMON CARP	Yolk-sac	7.1	.
COMMON CARP	Yolk-sac	6.0	.
COMMON CARP	Yolk-sac	.	28
Semotilus type	Yolk-sac	9.0	.
Semotilus type	Yolk-sac	9.3	.
Semotilus type	Yolk-sac	9.2	.
ICTIOBINAE sp.	Yolk-sac	6.2	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
ICTIOBINAE sp.	Yolk-sac	8.7	.
ICTIOBINAE sp.	Yolk-sac	6.9	.
ICTIOBINAE sp.	Yolk-sac	7.1	.
ICTIOBINAE sp.	Yolk-sac	7.5	.
ICTIOBINAE sp.	Yolk-sac	6.4	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
ICTIOBINAE sp.	Yolk-sac	6.8	.
ICTIOBINAE sp.	Yolk-sac	7.6	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
ICTIOBINAE sp.	Yolk-sac	7.6	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.5	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.9	.
ICTIOBINAE sp.	Yolk-sac	6.8	.
ICTIOBINAE sp.	Yolk-sac	7.0	.
ICTIOBINAE sp.	Yolk-sac	6.9	.

APPENDIX D (cont.)

ICTIOBINAE sp.	Yolk-sac	6.7	.
ICTIOBINAE sp.	Yolk-sac	7.1	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	.	48
ICTIOBINAE sp.	Yolk-sac	10.0	.
ICTIOBINAE sp.	Yolk-sac	9.8	.
ICTIOBINAE sp.	Yolk-sac	9.7	.
ICTIOBINAE sp.	Yolk-sac	8.3	.
ICTIOBINAE sp.	Yolk-sac	.	3
ICTIOBINAE sp.	Yolk-sac	.	9
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	5.9	.
CATOSTOMIDAE sp.	Yolk-sac	3.6	.
CATOSTOMIDAE sp.	Yolk-sac	5.5	.
CATOSTOMIDAE sp.	Yolk-sac	5.4	.
LOGPERCH type	Yolk-sac	5.6	.
LOGPERCH type	Yolk-sac	5.9	.
LOGPERCH type	Yolk-sac	6.2	.
LOGPERCH type	Yolk-sac	5.2	.
LOGPERCH type	Yolk-sac	6.2	.
LOGPERCH type	Yolk-sac	6.8	.
DARTER sp.	Yolk-sac	6.0	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.
UNIDENTIFIED	Yolk-sac	5.4	.
UNIDENTIFIED	Yolk-sac	5.3	.
UNIDENTIFIED	Egg	1.1	.
UNIDENTIFIED	Egg	1.2	.
UNIDENTIFIED	Egg	1.1	.

SAMPLE DATE: 13 May START DATE and TIME: 13MAY14:18:55 SAMPLE DURATION (minutes): 11.00
DIEL PERIOD: Day DEPTH: BOT REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.014638
STUDY GRAB TEMPERATURE (F): 67.8 STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.2 FOREBAY CURRENT VELOCITY (ft/sec): 1.30
EXTRAPOLATION PERIOD: 11-17 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	5.8	.
Dorosoma sp.	Post Yolk-sac	5.7	.
COMMON CARP	Yolk-sac	6.8	.
COMMON CARP	Yolk-sac	5.9	.
COMMON CARP	Yolk-sac	6.9	.
COMMON CARP	Yolk-sac	7.1	.
COMMON CARP	Yolk-sac	7.0	.
COMMON CARP	Yolk-sac	6.9	.
COMMON CARP	Yolk-sac	7.4	.
COMMON CARP	Yolk-sac	6.7	.
COMMON CARP	Yolk-sac	6.6	.
COMMON CARP	Yolk-sac	6.3	.
COMMON CARP	Yolk-sac	6.8	.
COMMON CARP	Yolk-sac	6.3	.
COMMON CARP	Yolk-sac	6.6	.
COMMON CARP	Yolk-sac	6.7	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	7.1	.
COMMON CARP	Yolk-sac	7.6	.
COMMON CARP	Yolk-sac	6.9	.
COMMON CARP	Yolk-sac	6.2	.
COMMON CARP	Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	.	38
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.5	.
Semotilus type	Yolk-sac	9.4	.
Semotilus type	Yolk-sac	9.3	.
Semotilus type	Yolk-sac	9.8	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	6.6	.
CYPRINIDAE sp.	Yolk-sac	5.8	.
ICTIOBINAE sp.	Yolk-sac	9.1	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.6	.
ICTIOBINAE sp.	Yolk-sac	7.3	.
ICTIOBINAE sp.	Yolk-sac	7.1	.
ICTIOBINAE sp.	Yolk-sac	7.4	.

APPENDIX D (cont.)

ICTIOBINAE sp.	Yolk-sac	8.0	.
ICTIOBINAE sp.	Yolk-sac	7.9	.
ICTIOBINAE sp.	Yolk-sac	7.3	.
ICTIOBINAE sp.	Yolk-sac	7.1	.
ICTIOBINAE sp.	Yolk-sac	7.6	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.0	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.1	.
ICTIOBINAE sp.	Yolk-sac	7.9	.
ICTIOBINAE sp.	Yolk-sac	7.1	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.1	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
ICTIOBINAE sp.	Yolk-sac	7.5	.
ICTIOBINAE sp.	Yolk-sac	.	36
ICTIOBINAE sp.	Yolk-sac	.	1
Sander sp.	Post Yolk-sac	10.0	.
LOGPERCH type	Yolk-sac	6.2	.
LOGPERCH type	Yolk-sac	5.9	.
LOGPERCH type	Yolk-sac	6.6	.
LOGPERCH type	Yolk-sac	4.5	.
DARTER sp.	Yolk-sac	6.2	.
DARTER sp.	Yolk-sac	6.0	.
DARTER sp.	Yolk-sac	6.3	.
DARTER sp.	Yolk-sac	5.8	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.8	.
FRESHWATER DRUM	Egg	1.7	.
FRESHWATER DRUM	Egg	1.7	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.7	.
FRESHWATER DRUM	Egg	1.9	.
UNIDENTIFIED	Egg	1.0	.
UNIDENTIFIED	Egg	1.0	.
UNIDENTIFIED	Egg	1.1	.
UNIDENTIFIED	Egg	0.9	.
UNIDENTIFIED	Egg	0.9	.

SAMPLE DATE: 13 May	START DATE and TIME: 13MAY14:18:55	SAMPLE DURATION (minutes): 18.00
DIEL PERIOD: Day	DEPTH: BOT	REPLICATE: B
STUDY GRAB TEMPERATURE (F): 67.8	STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.2	VOLUME SAMPLED (gals x 10 ⁶): 0.014900
EXTRAPOLATION PERIOD: 11-17 May	MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10 ⁶): 604.8	FOREBAY CURRENT VELOCITY (ft/sec): 1.30

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	5.1	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	5.9	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	6.0	.
COMMON CARP	Yolk-sac	6.6	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	7.0	.
COMMON CARP	Yolk-sac	6.8	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	5.6	.
COMMON CARP	Yolk-sac	6.6	.
COMMON CARP	Yolk-sac	6.7	.
COMMON CARP	Yolk-sac	6.3	.
COMMON CARP	Yolk-sac	6.0	.
COMMON CARP	Yolk-sac	6.6	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	6.2	.
COMMON CARP	Yolk-sac	6.0	.
COMMON CARP	Yolk-sac	6.8	.
COMMON CARP	Yolk-sac	6.1	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	5.5	.
CYPRINIDAE sp.	Yolk-sac	6.1	.

APPENDIX D (cont.)

CYPRINIDAE sp.	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
ICTIOBINAE sp.	Post Yolk-sac	9.5	.
ICTIOBINAE sp.	Post Yolk-sac	9.0	.
ICTIOBINAE sp.	Post Yolk-sac	8.6	.
ICTIOBINAE sp.	Post Yolk-sac	8.8	.
ICTIOBINAE sp.	Post Yolk-sac	8.6	.
ICTIOBINAE sp.	Post Yolk-sac	9.7	.
ICTIOBINAE sp.	Yolk-sac	7.3	.
ICTIOBINAE sp.	Yolk-sac	7.6	.
ICTIOBINAE sp.	Yolk-sac	7.3	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
ICTIOBINAE sp.	Yolk-sac	7.6	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.1	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.1	.
ICTIOBINAE sp.	Yolk-sac	7.3	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
ICTIOBINAE sp.	Yolk-sac	7.0	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
ICTIOBINAE sp.	Yolk-sac	7.3	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.3	.
ICTIOBINAE sp.	Yolk-sac	7.0	.
ICTIOBINAE sp.	Yolk-sac	.	93
ICTIOBINAE sp.	Yolk-sac	8.7	.
ICTIOBINAE sp.	Yolk-sac	9.1	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	9.2	.
ICTIOBINAE sp.	Yolk-sac	.	1
LOGPERCH type	Yolk-sac	5.9	.
LOGPERCH type	Yolk-sac	6.6	.
LOGPERCH type	Yolk-sac	5.8	.
LOGPERCH type	Yolk-sac	6.2	.
LOGPERCH type	Yolk-sac	5.8	.
LOGPERCH type	Yolk-sac	6.0	.
LOGPERCH type	Yolk-sac	5.7	.
LOGPERCH type	Yolk-sac	5.8	.
LOGPERCH type	Yolk-sac	6.2	.
LOGPERCH type	Yolk-sac	6.2	.
LOGPERCH type	Yolk-sac	5.8	.
LOGPERCH type	Yolk-sac	5.7	.
LOGPERCH type	Yolk-sac	6.7	.
LOGPERCH type	Yolk-sac	6.2	.
LOGPERCH type	Yolk-sac	6.6	.
LOGPERCH type	Yolk-sac	6.1	.
LOGPERCH type	Yolk-sac	6.6	.
LOGPERCH type	Yolk-sac	5.8	.
DARTER sp.	Yolk-sac	8.0	.
DARTER sp.	Yolk-sac	7.2	.
DARTER sp.	Yolk-sac	7.2	.
DARTER sp.	Yolk-sac	6.5	.
DARTER sp.	Yolk-sac	6.3	.
DARTER sp.	Yolk-sac	6.7	.
DARTER sp.	Yolk-sac	8.2	.
DARTER sp.	Yolk-sac	8.9	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.0	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.5	.

APPENDIX D (cont.)

FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.6	.
UNIDENTIFIED	Egg	1.1	.
UNIDENTIFIED	Egg	1.2	.
UNIDENTIFIED	Egg	1.1	.
UNIDENTIFIED	Egg	1.1	.

SAMPLE DATE: 13 May START DATE and TIME: 13MAY14:21:24 SAMPLE DURATION (minutes): 13.00
DIEL PERIOD: Night DEPTH: SUR REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.014510
STUDY GRAB TEMPERATURE (F): 67.5 STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.1 FOREBAY CURRENT VELOCITY (ft/sec): 1.40
EXTRAPOLATION PERIOD: 11-17 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	10.7	.
Dorosoma sp.	Post Yolk-sac	5.2	.
COMMON CARP	Yolk-sac	6.9	.
COMMON CARP	Yolk-sac	6.2	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	6.0	.
COMMON CARP	Yolk-sac	6.4	.
COMMON CARP	Yolk-sac	7.6	.
COMMON CARP	Yolk-sac	6.0	.
COMMON CARP	Yolk-sac	6.7	.
COMMON CARP	Yolk-sac	6.7	.
COMMON CARP	Yolk-sac	6.3	.
COMMON CARP	Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	6.4	.
COMMON CARP	Yolk-sac	6.9	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	6.8	.
COMMON CARP	Yolk-sac	6.4	.
COMMON CARP	Yolk-sac	7.7	.
COMMON CARP	Yolk-sac	6.2	.
COMMON CARP	Yolk-sac	6.4	.
COMMON CARP	Yolk-sac	6.7	.
COMMON CARP	Yolk-sac	.	101
Semotilus type	Yolk-sac	7.0	.
Semotilus type	Yolk-sac	9.7	.
Semotilus type	Yolk-sac	9.2	.
Semotilus type	Yolk-sac	9.2	.
Semotilus type	Yolk-sac	9.0	.
Semotilus type	Yolk-sac	9.4	.
Semotilus type	Yolk-sac	9.6	.
Semotilus type	Yolk-sac	8.7	.
Semotilus type	Yolk-sac	9.7	.
Semotilus type	Yolk-sac	8.8	.
Semotilus type	Yolk-sac	8.7	.
Semotilus type	Yolk-sac	7.5	.
Semotilus type	Yolk-sac	6.5	.
Semotilus type	Yolk-sac	6.6	.
Semotilus type	Yolk-sac	6.7	.
Semotilus type	Yolk-sac	6.6	.
Semotilus type	Yolk-sac	6.4	.
Semotilus type	Yolk-sac	8.7	.
Semotilus type	Yolk-sac	8.2	.
Semotilus type	Yolk-sac	7.9	.
CYPRINIDAE sp.	Yolk-sac	8.6	.
CYPRINIDAE sp.	Yolk-sac	8.5	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	5.8	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	7.2	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	5.1	.
CYPRINIDAE sp.	Yolk-sac	5.1	.
CYPRINIDAE sp.	Yolk-sac	5.1	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
Moxostoma sp.	Yolk-sac	14.2	.
Moxostoma sp.	Yolk-sac	12.2	.
Moxostoma sp.	Yolk-sac	13.1	.
Moxostoma sp.	Yolk-sac	10.7	.
ICTIOBINAE sp.	Yolk-sac	8.9	.
ICTIOBINAE sp.	Yolk-sac	9.1	.
ICTIOBINAE sp.	Yolk-sac	9.2	.
ICTIOBINAE sp.	Yolk-sac	9.1	.
ICTIOBINAE sp.	Yolk-sac	9.1	.
ICTIOBINAE sp.	Yolk-sac	7.1	.
ICTIOBINAE sp.	Yolk-sac	7.7	.
ICTIOBINAE sp.	Yolk-sac	7.2	.

APPENDIX D (cont.)

ICTIOBINAE sp.	Yolk-sac	8.2	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
ICTIOBINAE sp.	Yolk-sac	7.7	.
ICTIOBINAE sp.	Yolk-sac	7.3	.
ICTIOBINAE sp.	Yolk-sac	6.9	.
ICTIOBINAE sp.	Yolk-sac	7.7	.
ICTIOBINAE sp.	Yolk-sac	8.3	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
ICTIOBINAE sp.	Yolk-sac	7.7	.
ICTIOBINAE sp.	Yolk-sac	8.1	.
ICTIOBINAE sp.	Yolk-sac	7.7	.
ICTIOBINAE sp.	Yolk-sac	7.5	.
ICTIOBINAE sp.	Yolk-sac	.	191
ICTIOBINAE sp.	Yolk-sac	.	5
Sander sp.	Yolk-sac	6.9	.
Sander sp.	Yolk-sac	6.7	.
LOGPERCH type	Yolk-sac	6.0	.
LOGPERCH type	Yolk-sac	6.3	.
LOGPERCH type	Yolk-sac	6.0	.
LOGPERCH type	Yolk-sac	6.1	.
LOGPERCH type	Yolk-sac	6.1	.
LOGPERCH type	Yolk-sac	6.4	.
LOGPERCH type	Yolk-sac	6.6	.
LOGPERCH type	Yolk-sac	6.5	.
DARTER sp.	Yolk-sac	7.0	.
DARTER sp.	Yolk-sac	6.6	.
DARTER sp.	Yolk-sac	9.2	.
DARTER sp.	Yolk-sac	9.2	.
DARTER sp.	Yolk-sac	9.2	.
DARTER sp.	Yolk-sac	5.9	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.7	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.8	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.5	.
UNIDENTIFIED	Larvae	2.6	.
UNIDENTIFIED	Egg	1.1	.
UNIDENTIFIED	Egg	1.2	.
UNIDENTIFIED	Egg	1.2	.
UNIDENTIFIED	Egg	1.4	.
UNIDENTIFIED	Egg	1.1	.

SAMPLE DATE: 13 May START DATE and TIME: 13MAY14:21:04 SAMPLE DURATION (minutes): 22.00
DIEL PERIOD: Night DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.013761
STUDY GRAB TEMPERATURE (F): 67.5 STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.1 FOREBAY CURRENT VELOCITY (ft/sec): 1.40
EXTRAPOLATION PERIOD: 11-17 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	5.1	.
Dorosoma sp.	Post Yolk-sac	8.8	.
COMMON CARP	Yolk-sac	6.3	.
COMMON CARP	Yolk-sac	7.1	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	7.4	.
COMMON CARP	Yolk-sac	6.3	.
COMMON CARP	Yolk-sac	6.7	.
COMMON CARP	Yolk-sac	7.0	.
COMMON CARP	Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	6.1	.
COMMON CARP	Yolk-sac	6.3	.
COMMON CARP	Yolk-sac	6.4	.
COMMON CARP	Yolk-sac	7.5	.
COMMON CARP	Yolk-sac	6.6	.
COMMON CARP	Yolk-sac	6.0	.
COMMON CARP	Yolk-sac	6.6	.
COMMON CARP	Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	6.0	.
COMMON CARP	Yolk-sac	6.2	.
COMMON CARP	Yolk-sac	6.3	.
COMMON CARP	Yolk-sac	.	51

APPENDIX D (cont.)

COMMON CARP	Yolk-sac	.	14
COMMON CARP	Yolk-sac	.	136
COMMON CARP	Egg	1.6	.
COMMON CARP	Egg	1.7	.
CYPRINIDAE sp.	Yolk-sac	7.0	.
CYPRINIDAE sp.	Yolk-sac	6.7	.
CYPRINIDAE sp.	Yolk-sac	7.8	.
CYPRINIDAE sp.	Yolk-sac	8.6	.
CYPRINIDAE sp.	Yolk-sac	7.7	.
CYPRINIDAE sp.	Yolk-sac	8.2	.
CYPRINIDAE sp.	Yolk-sac	8.7	.
CYPRINIDAE sp.	Yolk-sac	8.6	.
CYPRINIDAE sp.	Yolk-sac	7.8	.
CYPRINIDAE sp.	Yolk-sac	8.1	.
CYPRINIDAE sp.	Yolk-sac	7.6	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	6.8	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	5.5	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	5.8	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	5.4	.
CYPRINIDAE sp.	Yolk-sac	.	35
CYPRINIDAE sp.	Yolk-sac	.	4
Moxostoma sp.	Yolk-sac	11.9	.
Moxostoma sp.	Yolk-sac	14.4	.
Moxostoma sp.	Yolk-sac	14.3	.
ICTIOBINAE sp.	Yolk-sac	9.7	.
ICTIOBINAE sp.	Yolk-sac	8.8	.
ICTIOBINAE sp.	Yolk-sac	8.7	.
ICTIOBINAE sp.	Yolk-sac	8.9	.
ICTIOBINAE sp.	Post Yolk-sac	9.5	.
ICTIOBINAE sp.	Post Yolk-sac	10.0	.
ICTIOBINAE sp.	Post Yolk-sac	8.6	.
ICTIOBINAE sp.	Yolk-sac	8.1	.
ICTIOBINAE sp.	Post Yolk-sac	9.7	.
ICTIOBINAE sp.	Post Yolk-sac	9.6	.
ICTIOBINAE sp.	Post Yolk-sac	8.7	.
ICTIOBINAE sp.	Post Yolk-sac	9.1	.
ICTIOBINAE sp.	Post Yolk-sac	9.2	.
ICTIOBINAE sp.	Post Yolk-sac	9.3	.
ICTIOBINAE sp.	Post Yolk-sac	8.7	.
ICTIOBINAE sp.	Post Yolk-sac	8.9	.
ICTIOBINAE sp.	Post Yolk-sac	8.2	.
ICTIOBINAE sp.	Post Yolk-sac	9.1	.
ICTIOBINAE sp.	Post Yolk-sac	8.7	.
ICTIOBINAE sp.	Post Yolk-sac	9.0	.
ICTIOBINAE sp.	Post Yolk-sac	8.8	.
ICTIOBINAE sp.	Post Yolk-sac	8.7	.
ICTIOBINAE sp.	Post Yolk-sac	8.4	.
ICTIOBINAE sp.	Yolk-sac	.	146
ICTIOBINAE sp.	Post Yolk-sac	13.6	.
ICTIOBINAE sp.	Yolk-sac	.	446
ICTIOBINAE sp.	Yolk-sac	.	2
WALLEYE	Post Yolk-sac	15.1	.
Sander sp.	Yolk-sac	7.2	.
Sander sp.	Yolk-sac	10.2	.
Sander sp.	Yolk-sac	9.9	.
Sander sp.	Yolk-sac	10.3	.
Sander sp.	Yolk-sac	9.5	.
Sander sp.	Yolk-sac	9.1	.
LOGPERCH type	Yolk-sac	5.8	.
LOGPERCH type	Yolk-sac	5.4	.
LOGPERCH type	Yolk-sac	5.6	.
LOGPERCH type	Yolk-sac	6.1	.
LOGPERCH type	Yolk-sac	6.2	.
LOGPERCH type	Yolk-sac	6.2	.
LOGPERCH type	Yolk-sac	6.7	.
LOGPERCH type	Yolk-sac	6.1	.
LOGPERCH type	Yolk-sac	5.9	.
LOGPERCH type	Yolk-sac	6.3	.
LOGPERCH type	Yolk-sac	6.2	.
LOGPERCH type	Yolk-sac	6.2	.
LOGPERCH type	Yolk-sac	6.0	.
LOGPERCH type	Yolk-sac	6.1	.
LOGPERCH type	Yolk-sac	6.3	.
LOGPERCH type	Yolk-sac	6.1	.
LOGPERCH type	Yolk-sac	5.7	.
LOGPERCH type	Yolk-sac	6.2	.
LOGPERCH type	Yolk-sac	6.4	.

APPENDIX D (cont.)

LOGPERCH type	Yolk-sac	5.7	.
LOGPERCH type	Yolk-sac	.	14
LOGPERCH type	Yolk-sac	.	2
LOGPERCH type	Yolk-sac	.	9
DARTER sp.	Yolk-sac	7.2	.
DARTER sp.	Yolk-sac	7.2	.
DARTER sp.	Yolk-sac	7.0	.
DARTER sp.	Yolk-sac	6.1	.
DARTER sp.	Yolk-sac	6.6	.
DARTER sp.	Yolk-sac	9.1	.
DARTER sp.	Yolk-sac	6.5	.
DARTER sp.	Yolk-sac	6.2	.
DARTER sp.	Yolk-sac	6.1	.
DARTER sp.	Yolk-sac	6.2	.
DARTER sp.	Yolk-sac	6.6	.
DARTER sp.	Yolk-sac	7.0	.
DARTER sp.	Yolk-sac	7.1	.
DARTER sp.	Yolk-sac	8.1	.
DARTER sp.	Yolk-sac	7.6	.
DARTER sp.	Yolk-sac	7.4	.
DARTER sp.	Yolk-sac	7.5	.
DARTER sp.	Yolk-sac	6.1	.
DARTER sp.	Yolk-sac	7.0	.
DARTER sp.	Yolk-sac	7.1	.
DARTER sp.	Yolk-sac	5.9	.
DARTER sp.	Yolk-sac	6.1	.
FRESHWATER DRUM	Egg	1.8	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.7	.
FRESHWATER DRUM	Egg	1.7	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.7	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.7	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.8	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.6	.
UNIDENTIFIED	Larvae	.	1
UNIDENTIFIED	Yolk-sac	7.1	.
UNIDENTIFIED	Yolk-sac	.	3
UNIDENTIFIED	Egg	1.1	.

SAMPLE DATE: 13 May START DATE and TIME: 13MAY14:21:47 SAMPLE DURATION (minutes): 13.00
DIEL PERIOD: Night DEPTH: BOT REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.016856
STUDY GRAB TEMPERATURE (F): 67.3 STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.1 FOREBAY CURRENT VELOCITY (ft/sec): 1.50
EXTRAPOLATION PERIOD: 11-17 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	6.8	.
COMMON CARP	Yolk-sac	6.7	.
COMMON CARP	Yolk-sac	6.9	.
COMMON CARP	Yolk-sac	6.6	.
COMMON CARP	Yolk-sac	6.7	.
COMMON CARP	Yolk-sac	6.7	.
COMMON CARP	Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	7.1	.
COMMON CARP	Yolk-sac	7.0	.
COMMON CARP	Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	6.2	.
COMMON CARP	Yolk-sac	6.1	.
COMMON CARP	Yolk-sac	7.0	.
COMMON CARP	Yolk-sac	7.0	.
COMMON CARP	Yolk-sac	6.7	.
COMMON CARP	Yolk-sac	6.8	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	6.6	.
COMMON CARP	Yolk-sac	.	108
COMMON CARP	Egg	1.5	.
CYPRINIDAE sp.	Yolk-sac	5.6	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	5.4	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	6.3	.

APPENDIX D (cont.)

CYPRINIDAE sp.	Yolk-sac	5.6	.
CYPRINIDAE sp.	Yolk-sac	6.7	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
Moxostoma sp.	Post Yolk-sac	14.7	.
Moxostoma sp.	Yolk-sac	13.3	.
ICTIOBINAE sp.	Yolk-sac	7.5	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
ICTIOBINAE sp.	Yolk-sac	7.5	.
ICTIOBINAE sp.	Yolk-sac	6.9	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.7	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
ICTIOBINAE sp.	Yolk-sac	7.0	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.5	.
ICTIOBINAE sp.	Yolk-sac	7.7	.
ICTIOBINAE sp.	Yolk-sac	7.0	.
ICTIOBINAE sp.	Yolk-sac	7.6	.
ICTIOBINAE sp.	Yolk-sac	7.9	.
ICTIOBINAE sp.	Yolk-sac	8.6	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.1	.
ICTIOBINAE sp.	Yolk-sac	.	154
LOGPERCH type	Yolk-sac	6.5	.
LOGPERCH type	Yolk-sac	6.2	.
LOGPERCH type	Yolk-sac	6.0	.
LOGPERCH type	Yolk-sac	6.1	.
LOGPERCH type	Yolk-sac	5.5	.
DARTER sp.	Yolk-sac	6.1	.
DARTER sp.	Yolk-sac	6.3	.
DARTER sp.	Yolk-sac	9.9	.
DARTER sp.	Yolk-sac	7.9	.
DARTER sp.	Yolk-sac	8.2	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.7	.
UNIDENTIFIED	Egg	1.7	.
UNIDENTIFIED	Egg	1.6	.
UNIDENTIFIED	Egg	1.6	.
UNIDENTIFIED	Egg	1.5	.
UNIDENTIFIED	Egg	1.6	.
UNIDENTIFIED	Egg	1.5	.
UNIDENTIFIED	Egg	1.4	.
UNIDENTIFIED	Egg	1.3	.
UNIDENTIFIED	Egg	1.6	.
UNIDENTIFIED	Egg	1.6	.
UNIDENTIFIED	Egg	1.6	.
UNIDENTIFIED	Egg	1.4	.
UNIDENTIFIED	Egg	1.5	.

SAMPLE DATE: 13 May START DATE and TIME: 13MAY14:21:42 SAMPLE DURATION (minutes): 18.00
 DIEL PERIOD: Night DEPTH: BOT REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.016505
 STUDY GRAB TEMPERATURE (F): 67.3 STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.1 FOREBAY CURRENT VELOCITY (ft/sec): 1.50
 EXTRAPOLATION PERIOD: 11-17 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	6.1	.
Dorosoma sp.	Post Yolk-sac	11.0	.
COMMON CARP	Yolk-sac	6.6	.
COMMON CARP	Yolk-sac	6.7	.
COMMON CARP	Yolk-sac	6.1	.
COMMON CARP	Yolk-sac	6.7	.
COMMON CARP	Yolk-sac	6.2	.
COMMON CARP	Yolk-sac	6.6	.
COMMON CARP	Yolk-sac	6.4	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	6.0	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	6.3	.
COMMON CARP	Yolk-sac	6.7	.
COMMON CARP	Yolk-sac	6.4	.
COMMON CARP	Yolk-sac	5.7	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	6.2	.
COMMON CARP	Yolk-sac	6.2	.
COMMON CARP	Yolk-sac	6.2	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	6.2	.
COMMON CARP	Egg	1.7	.
COMMON CARP	Egg	1.6	.
COMMON CARP	Egg	1.5	.

APPENDIX D (cont.)

COMMON CARP	Egg	1.6	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	5.1	.
CYPRINIDAE sp.	Yolk-sac	5.4	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	5.8	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	5.4	.
CYPRINIDAE sp.	Yolk-sac	6.1	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	5.5	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	5.6	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	.	22
Moxostoma sp.	Yolk-sac	13.3	.
Moxostoma sp.	Yolk-sac	12.9	.
ICTIOBINAE sp.	Post Yolk-sac	13.7	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	6.9	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.3	.
ICTIOBINAE sp.	Yolk-sac	7.5	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.1	.
ICTIOBINAE sp.	Yolk-sac	7.0	.
ICTIOBINAE sp.	Yolk-sac	6.9	.
ICTIOBINAE sp.	Yolk-sac	7.0	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	6.8	.
ICTIOBINAE sp.	Yolk-sac	7.3	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.1	.
PUMPKINSEED type	Yolk-sac	4.3	.
PUMPKINSEED type	Yolk-sac	6.3	.
PUMPKINSEED type	Yolk-sac	4.7	.
Sander sp.	Yolk-sac	9.1	.
LOGPERCH type	Yolk-sac	6.7	.
LOGPERCH type	Yolk-sac	6.0	.
LOGPERCH type	Yolk-sac	6.0	.
LOGPERCH type	Yolk-sac	6.2	.
LOGPERCH type	Yolk-sac	5.8	.
LOGPERCH type	Yolk-sac	6.1	.
LOGPERCH type	Yolk-sac	6.8	.
LOGPERCH type	Yolk-sac	6.4	.
LOGPERCH type	Yolk-sac	6.6	.
LOGPERCH type	Yolk-sac	6.5	.
LOGPERCH type	Yolk-sac	6.1	.
LOGPERCH type	Yolk-sac	6.2	.
LOGPERCH type	Yolk-sac	6.4	.
DARTER sp.	Yolk-sac	6.2	.
DARTER sp.	Yolk-sac	6.0	.
DARTER sp.	Yolk-sac	5.9	.
DARTER sp.	Yolk-sac	5.0	.
DARTER sp.	Yolk-sac	5.1	.
DARTER sp.	Yolk-sac	5.7	.
DARTER sp.	Yolk-sac	10.2	.
DARTER sp.	Yolk-sac	6.0	.
DARTER sp.	Yolk-sac	6.2	.
DARTER sp.	Yolk-sac	5.2	.
DARTER sp.	Yolk-sac	6.0	.
DARTER sp.	Yolk-sac	6.1	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.4	.
UNIDENTIFIED	Yolk-sac	5.8	.

APPENDIX D (cont.)

UNIDENTIFIED	Yolk-sac	5.5	.
UNIDENTIFIED	Yolk-sac	5.5	.
UNIDENTIFIED	Egg	1.1	.
UNIDENTIFIED	Egg	1.0	.
UNIDENTIFIED	Egg	1.1	.
UNIDENTIFIED	Egg	1.0	.

SAMPLE DATE: 20 May START DATE and TIME: 20MAY14:17:18 SAMPLE DURATION (minutes): 17.00
 DIEL PERIOD: Day DEPTH: SUR REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.016534
 STUDY GRAB TEMPERATURE (F): 62.6 STUDY GRAB DISSOLVED OXYGEN (mg/L): 10.4 FOREBAY CURRENT VELOCITY (ft/sec): 0.96
 EXTRAPOLATION PERIOD: 18-24 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Semotilus type	Yolk-sac	7.7	.
CYPRINIDAE sp.	Yolk-sac	7.1	.
CYPRINIDAE sp.	Yolk-sac	6.7	.
CYPRINIDAE sp.	Yolk-sac	6.5	.
Moxostoma sp.	Yolk-sac	13.5	.
ICTIOBINAE sp.	Yolk-sac	8.2	.
ICTIOBINAE sp.	Yolk-sac	8.2	.
ICTIOBINAE sp.	Yolk-sac	7.8	.
ICTIOBINAE sp.	Yolk-sac	8.8	.
ICTIOBINAE sp.	Yolk-sac	8.7	.
ICTIOBINAE sp.	Yolk-sac	8.2	.
LOGPERCH type	Yolk-sac	6.1	.
LOGPERCH type	Yolk-sac	6.0	.
LOGPERCH type	Yolk-sac	6.1	.
DARTER sp.	Yolk-sac	6.4	.
DARTER sp.	Yolk-sac	9.4	.
DARTER sp.	Yolk-sac	8.0	.
Morone/Pomoxis type	Egg	0.8	.
Morone/Pomoxis type	Egg	0.8	.

SAMPLE DATE: 20 May START DATE and TIME: 20MAY14:17:18 SAMPLE DURATION (minutes): 17.00
 DIEL PERIOD: Day DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.016931
 STUDY GRAB TEMPERATURE (F): 62.6 STUDY GRAB DISSOLVED OXYGEN (mg/L): 10.4 FOREBAY CURRENT VELOCITY (ft/sec): 0.96
 EXTRAPOLATION PERIOD: 18-24 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
COMMON CARP	Egg	1.7	.
CYPRINIDAE sp.	Yolk-sac	5.8	.
ICTIOBINAE sp.	Yolk-sac	7.1	.

SAMPLE DATE: 20 May START DATE and TIME: 20MAY14:17:58 SAMPLE DURATION (minutes): 13.00
 DIEL PERIOD: Day DEPTH: BOT REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.015820
 STUDY GRAB TEMPERATURE (F): 62.4 STUDY GRAB DISSOLVED OXYGEN (mg/L): 9.8 FOREBAY CURRENT VELOCITY (ft/sec): 1.34
 EXTRAPOLATION PERIOD: 18-24 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
ICTIOBINAE sp.	Yolk-sac	6.8	.
ICTIOBINAE sp.	Yolk-sac	6.8	.
ICTIOBINAE sp.	Yolk-sac	9.0	.
ICTIOBINAE sp.	Yolk-sac	9.1	.
ICTIOBINAE sp.	Yolk-sac	8.7	.
LOGPERCH type	Yolk-sac	6.2	.
LOGPERCH type	Yolk-sac	5.9	.
LOGPERCH type	Yolk-sac	6.4	.

SAMPLE DATE: 20 May START DATE and TIME: 20MAY14:17:58 SAMPLE DURATION (minutes): 23.00
 DIEL PERIOD: Day DEPTH: BOT REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.018595
 STUDY GRAB TEMPERATURE (F): 62.4 STUDY GRAB DISSOLVED OXYGEN (mg/L): 9.8 FOREBAY CURRENT VELOCITY (ft/sec): 1.34
 EXTRAPOLATION PERIOD: 18-24 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
ICTIOBINAE sp.	Yolk-sac	7.0	.
ICTIOBINAE sp.	Yolk-sac	8.3	.
DARTER sp.	Yolk-sac	7.8	.
FRESHWATER DRUM	Egg	1.8	.

SAMPLE DATE: 20 May START DATE and TIME: 20MAY14:21:11 SAMPLE DURATION (minutes): 16.00
 DIEL PERIOD: Night DEPTH: SUR REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.016802
 STUDY GRAB TEMPERATURE (F): 62.1 STUDY GRAB DISSOLVED OXYGEN (mg/L): 9.5 FOREBAY CURRENT VELOCITY (ft/sec): 1.30
 EXTRAPOLATION PERIOD: 18-24 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Semotilus type	Yolk-sac	10.0	.
Semotilus type	Yolk-sac	9.2	.

APPENDIX D (cont.)

Semotilus type	Yolk-sac	8.8	.
Semotilus type	Yolk-sac	9.7	.
CYPRINIDAE sp.	Yolk-sac	5.8	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	6.6	.
CYPRINIDAE sp.	Yolk-sac	7.0	.
CYPRINIDAE sp.	Yolk-sac	7.5	.
CYPRINIDAE sp.	Yolk-sac	7.4	.
Moxostoma sp.	Yolk-sac	13.1	.
Moxostoma sp.	Yolk-sac	13.4	.
Moxostoma sp.	Yolk-sac	13.3	.
Moxostoma sp.	Yolk-sac	13.9	.
Moxostoma sp.	Yolk-sac	13.9	.
Moxostoma sp.	Post Yolk-sac	14.8	.
Moxostoma sp.	Post Yolk-sac	14.8	.
Moxostoma sp.	Yolk-sac	14.1	.
Moxostoma sp.	Yolk-sac	14.2	.
Moxostoma sp.	Yolk-sac	14.1	.
Moxostoma sp.	Yolk-sac	13.8	.
Moxostoma sp.	Yolk-sac	13.4	.
ICTIOBINAE sp.	Yolk-sac	7.5	.
ICTIOBINAE sp.	Yolk-sac	7.7	.
ICTIOBINAE sp.	Yolk-sac	7.7	.
ICTIOBINAE sp.	Yolk-sac	8.3	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
ICTIOBINAE sp.	Post Yolk-sac	10.1	.
ICTIOBINAE sp.	Yolk-sac	8.2	.
ICTIOBINAE sp.	Yolk-sac	8.1	.
ICTIOBINAE sp.	Yolk-sac	8.2	.
ICTIOBINAE sp.	Yolk-sac	9.0	.
ICTIOBINAE sp.	Yolk-sac	6.8	.
ICTIOBINAE sp.	Yolk-sac	9.4	.
ICTIOBINAE sp.	Yolk-sac	8.6	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	8.9	.
ICTIOBINAE sp.	Yolk-sac	6.7	.
ICTIOBINAE sp.	Yolk-sac	6.8	.
ICTIOBINAE sp.	Yolk-sac	8.2	.
ICTIOBINAE sp.	Yolk-sac	7.7	.
ICTIOBINAE sp.	Post Yolk-sac	10.6	.
ICTIOBINAE sp.	Post Yolk-sac	9.9	.
ICTIOBINAE sp.	Post Yolk-sac	9.4	.
ICTIOBINAE sp.	Post Yolk-sac	10.6	.
ICTIOBINAE sp.	Yolk-sac	8.2	.
ICTIOBINAE sp.	Yolk-sac	8.7	.
ICTIOBINAE sp.	Yolk-sac	8.4	.
ICTIOBINAE sp.	Yolk-sac	8.3	.
ICTIOBINAE sp.	Yolk-sac	.	2
ICTIOBINAE sp.	Post Yolk-sac	.	5
LOGPERCH type	Yolk-sac	6.2	.
LOGPERCH type	Yolk-sac	6.3	.
LOGPERCH type	Yolk-sac	7.0	.
LOGPERCH type	Yolk-sac	6.3	.
LOGPERCH type	Yolk-sac	7.0	.
DARTER sp.	Yolk-sac	9.4	.
DARTER sp.	Yolk-sac	10.2	.
DARTER sp.	Yolk-sac	10.2	.
DARTER sp.	Yolk-sac	6.7	.
DARTER sp.	Yolk-sac	7.2	.
DARTER sp.	Yolk-sac	9.4	.
DARTER sp.	Yolk-sac	8.9	.
DARTER sp.	Yolk-sac	7.0	.
DARTER sp.	Yolk-sac	7.7	.
DARTER sp.	Yolk-sac	7.8	.
DARTER sp.	Yolk-sac	7.8	.
DARTER sp.	Yolk-sac	8.2	.
Morone/Pomoxis type	Egg	0.7	.

SAMPLE DATE: 20 May START DATE and TIME: 20MAY14:21:11 SAMPLE DURATION (minutes): 16.00
 DIEL PERIOD: Night DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.020249
 STUDY GRAB TEMPERATURE (F): 62.1 STUDY GRAB DISSOLVED OXYGEN (mg/L): 9.5 FOREBAY CURRENT VELOCITY (ft/sec): 1.30
 EXTRAPOLATION PERIOD: 18-24 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
COMMON CARP	Yolk-sac	6.7	.
COMMON CARP	Post Yolk-sac	13.8	.
Semotilus type	Post Yolk-sac	12.7	.
Semotilus type	Post Yolk-sac	10.1	.
CYPRINIDAE sp.	Yolk-sac	7.6	.
CYPRINIDAE sp.	Yolk-sac	7.3	.
CYPRINIDAE sp.	Yolk-sac	6.8	.
Moxostoma sp.	Yolk-sac	13.4	.
ICTIOBINAE sp.	Yolk-sac	10.0	.
ICTIOBINAE sp.	Yolk-sac	10.0	.
ICTIOBINAE sp.	Yolk-sac	10.1	.

APPENDIX D (cont.)

ICTIOBINAЕ sp.	Post Yolk-sac	10.5	.
ICTIOBINAЕ sp.	Yolk-sac	7.5	.
ICTIOBINAЕ sp.	Post Yolk-sac	10.4	.
ICTIOBINAЕ sp.	Post Yolk-sac	10.4	.
ICTIOBINAЕ sp.	Post Yolk-sac	10.3	.
ICTIOBINAЕ sp.	Yolk-sac	.	2
LOGPERCH type	Yolk-sac	6.8	.

SAMPLE DATE: 20 May START DATE and TIME: 20MAY14:21:42 SAMPLE DURATION (minutes): 16.00
 DIEL PERIOD: Night DEPTH: BOT REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.021624
 STUDY GRAB TEMPERATURE (F): 61.9 STUDY GRAB DISSOLVED OXYGEN (mg/L): 10.0 FOREBAY CURRENT VELOCITY (ft/sec): 1.40
 EXTRAPOLATION PERIOD: 18-24 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
COMMON CARP	Yolk-sac	7.1	.
Semotilus type	Post Yolk-sac	9.8	.
Semotilus type	Post Yolk-sac	9.0	.
Semotilus type	Post Yolk-sac	7.9	.
Semotilus type	Post Yolk-sac	7.9	.
Semotilus type	Post Yolk-sac	10.9	.
CYPRINIDAE sp.	Yolk-sac	6.5	.
Moxostoma sp.	Yolk-sac	14.1	.
Moxostoma sp.	Yolk-sac	14.2	.
Moxostoma sp.	Yolk-sac	13.8	.
ICTIOBINAЕ sp.	Yolk-sac	6.2	.
ICTIOBINAЕ sp.	Yolk-sac	7.6	.
ICTIOBINAЕ sp.	Post Yolk-sac	9.6	.
ICTIOBINAЕ sp.	Post Yolk-sac	10.0	.
ICTIOBINAЕ sp.	Yolk-sac	8.7	.
ICTIOBINAЕ sp.	Yolk-sac	7.9	.
ICTIOBINAЕ sp.	Yolk-sac	8.5	.
ICTIOBINAЕ sp.	Yolk-sac	6.7	.
ICTIOBINAЕ sp.	Post Yolk-sac	10.1	.
ICTIOBINAЕ sp.	Post Yolk-sac	10.4	.
ICTIOBINAЕ sp.	Yolk-sac	8.7	.
ICTIOBINAЕ sp.	Post Yolk-sac	9.5	.
ICTIOBINAЕ sp.	Post Yolk-sac	10.2	.
ICTIOBINAЕ sp.	Yolk-sac	8.0	.
ICTIOBINAЕ sp.	Yolk-sac	8.7	.
ICTIOBINAЕ sp.	Yolk-sac	7.7	.
ICTIOBINAЕ sp.	Yolk-sac	7.5	.
ICTIOBINAЕ sp.	Yolk-sac	7.6	.
ICTIOBINAЕ sp.	Yolk-sac	8.1	.
LOGPERCH type	Yolk-sac	7.0	.
DARTER sp.	Yolk-sac	7.2	.
DARTER sp.	Yolk-sac	7.8	.
DARTER sp.	Yolk-sac	9.1	.
DARTER sp.	Yolk-sac	10.2	.
DARTER sp.	Yolk-sac	8.7	.

SAMPLE DATE: 20 May START DATE and TIME: 20MAY14:21:42 SAMPLE DURATION (minutes): 23.00
 DIEL PERIOD: Night DEPTH: BOT REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.015906
 STUDY GRAB TEMPERATURE (F): 61.9 STUDY GRAB DISSOLVED OXYGEN (mg/L): 10.0 FOREBAY CURRENT VELOCITY (ft/sec): 1.40
 EXTRAPOLATION PERIOD: 18-24 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
COMMON CARP	Egg	1.9	.
Moxostoma sp.	Yolk-sac	12.2	.
Moxostoma sp.	Yolk-sac	12.7	.
ICTIOBINAЕ sp.	Yolk-sac	8.2	.
ICTIOBINAЕ sp.	Yolk-sac	8.0	.
ICTIOBINAЕ sp.	Yolk-sac	7.1	.
ICTIOBINAЕ sp.	Post Yolk-sac	9.9	.
ICTIOBINAЕ sp.	Post Yolk-sac	11.0	.
ICTIOBINAЕ sp.	Post Yolk-sac	10.2	.
DARTER sp.	Post Yolk-sac	10.2	.

SAMPLE DATE: 28 May START DATE and TIME: 28MAY14:18:55 SAMPLE DURATION (minutes): 10.00
 DIEL PERIOD: Day DEPTH: SUR REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.015019
 STUDY GRAB TEMPERATURE (F): 75.2 STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.5 FOREBAY CURRENT VELOCITY (ft/sec): 1.70
 EXTRAPOLATION PERIOD: 25-31 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	6.2	.
Dorosoma sp.	Post Yolk-sac	5.1	.
COMMON CARP	Yolk-sac	6.7	.
COMMON CARP	Yolk-sac	6.9	.
COMMON CARP	Yolk-sac	5.7	.
COMMON CARP	Yolk-sac	6.8	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	1.9	.

APPENDIX D (cont.)

CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	2.0	.
CYPRINIDAE sp.	Yolk-sac	2.2	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.6	.
CYPRINIDAE sp.	Yolk-sac	2.1	.
CYPRINIDAE sp.	Yolk-sac	2.2	.
CYPRINIDAE sp.	Yolk-sac	1.9	.
CYPRINIDAE sp.	Yolk-sac	2.4	.
CYPRINIDAE sp.	Yolk-sac	2.5	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.3	.
CYPRINIDAE sp.	Yolk-sac	1.8	.
CYPRINIDAE sp.	Yolk-sac	1.2	.
CYPRINIDAE sp.	Yolk-sac	1.2	.
CYPRINIDAE sp.	Yolk-sac	1.8	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	.	5
CYPRINIDAE sp.	Egg	2.0	.
CYPRINIDAE sp.	Egg	1.8	.
CYPRINIDAE sp.	Egg	1.8	.
ICTIOBINAE sp.	Yolk-sac	7.0	.
ICTIOBINAE sp.	Yolk-sac	7.7	.
ICTIOBINAE sp.	Yolk-sac	7.5	.
ICTIOBINAE sp.	Yolk-sac	7.8	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
LOGPERCH type	Yolk-sac	5.8	.
LOGPERCH type	Post Yolk-sac	9.8	.
LOGPERCH type	Post Yolk-sac	10.2	.
DARTER sp.	Yolk-sac	7.1	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.7	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.4	.

SAMPLE DATE: 28 May START DATE and TIME: 28MAY14:18:55 SAMPLE DURATION (minutes): 10.00
DIEL PERIOD: Day DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.014093
STUDY GRAB TEMPERATURE (F): 75.2 STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.5 FOREBAY CURRENT VELOCITY (ft/sec): 1.70
EXTRAPOLATION PERIOD: 25-31 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
COMMON CARP	Yolk-sac	7.7	.
COMMON CARP	Yolk-sac	6.6	.
COMMON CARP	Yolk-sac	7.0	.
COMMON CARP	Yolk-sac	7.2	.
CYPRINIDAE sp.	Yolk-sac	1.2	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	1.8	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	2.0	.
CYPRINIDAE sp.	Egg	1.1	.
CYPRINIDAE sp.	Egg	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	2.2	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	2.1	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Egg	1.5	.
CYPRINIDAE sp.	Egg	1.7	.
CYPRINIDAE sp.	Egg	1.6	.
CYPRINIDAE sp.	Egg	1.7	.
CYPRINIDAE sp.	Egg	1.8	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.8	.
CYPRINIDAE sp.	Yolk-sac	1.2	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	.	7
ICTIOBINAE sp.	Yolk-sac	6.5	.
ICTIOBINAE sp.	Yolk-sac	7.6	.
ICTIOBINAE sp.	Yolk-sac	8.0	.
ICTIOBINAE sp.	Yolk-sac	7.9	.

APPENDIX D (cont.)

ICTIOBINAE sp.	Yolk-sac	8.6	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
DARTER sp.	Yolk-sac	6.2	.
FRESHWATER DRUM	Egg	1.7	.
FRESHWATER DRUM	Egg	2.0	.
FRESHWATER DRUM	Egg	1.7	.

SAMPLE DATE: 28 May START DATE and TIME: 28MAY14:19:19 SAMPLE DURATION (minutes): 10.00
 DIEL PERIOD: Day DEPTH: BOT REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.014447
 STUDY GRAB TEMPERATURE (F): 75.2 STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.5 FOREBAY CURRENT VELOCITY (ft/sec): 1.50
 EXTRAPOLATION PERIOD: 25-31 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	10.3	.
Dorosoma sp.	Post Yolk-sac	10.0	.
Dorosoma sp.	Post Yolk-sac	7.7	.
Dorosoma sp.	Post Yolk-sac	7.4	.
COMMON CARP	Yolk-sac	6.3	.
COMMON CARP	Yolk-sac	7.0	.
COMMON CARP	Yolk-sac	7.0	.
COMMON CARP	Yolk-sac	6.9	.
COMMON CARP	Yolk-sac	6.6	.
COMMON CARP	Yolk-sac	6.7	.
COMMON CARP	Yolk-sac	7.7	.
CYPRINIDAE sp.	Yolk-sac	2.3	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	1.6	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.3	.
CYPRINIDAE sp.	Egg	1.3	.
CYPRINIDAE sp.	Egg	1.6	.
CYPRINIDAE sp.	Egg	1.3	.
CYPRINIDAE sp.	Egg	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.6	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.3	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	2.1	.
CYPRINIDAE sp.	Yolk-sac	2.2	.
CYPRINIDAE sp.	Yolk-sac	2.0	.
CYPRINIDAE sp.	Yolk-sac	1.6	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	.	8
ICTIOBINAE sp.	Yolk-sac	7.4	.
ICTIOBINAE sp.	Yolk-sac	7.7	.
ICTIOBINAE sp.	Yolk-sac	7.6	.
ICTIOBINAE sp.	Yolk-sac	7.1	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
ICTIOBINAE sp.	Yolk-sac	6.8	.
ICTIOBINAE sp.	Yolk-sac	7.0	.
ICTIOBINAE sp.	Yolk-sac	7.6	.
ICTIOBINAE sp.	Yolk-sac	8.0	.
ICTIOBINAE sp.	Yolk-sac	7.9	.
ICTIOBINAE sp.	Yolk-sac	7.5	.
ICTIOBINAE sp.	Yolk-sac	6.4	.
Morone sp.	Yolk-sac	2.7	.
FRESHWATER DRUM	Egg	1.1	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.4	.

SAMPLE DATE: 28 May START DATE and TIME: 28MAY14:19:19 SAMPLE DURATION (minutes): 10.00
 DIEL PERIOD: Day DEPTH: BOT REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.013676
 STUDY GRAB TEMPERATURE (F): 75.2 STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.5 FOREBAY CURRENT VELOCITY (ft/sec): 1.50
 EXTRAPOLATION PERIOD: 25-31 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	10.2	.
Dorosoma sp.	Post Yolk-sac	5.8	.
Dorosoma sp.	Post Yolk-sac	8.1	.
Dorosoma sp.	Post Yolk-sac	5.0	.
Dorosoma sp.	Post Yolk-sac	5.0	.
COMMON CARP	Yolk-sac	7.1	.
COMMON CARP	Yolk-sac	6.9	.
COMMON CARP	Yolk-sac	7.0	.
COMMON CARP	Yolk-sac	7.1	.
COMMON CARP	Post Yolk-sac	9.3	.
CYPRINIDAE sp.	Yolk-sac	5.5	.

APPENDIX D (cont.)

CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Egg	1.7	.
CYPRINIDAE sp.	Egg	1.8	.
CYPRINIDAE sp.	Egg	1.7	.
CYPRINIDAE sp.	Egg	1.5	.
CYPRINIDAE sp.	Egg	1.6	.
CYPRINIDAE sp.	Egg	1.6	.
CYPRINIDAE sp.	Egg	1.8	.
CYPRINIDAE sp.	Egg	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.3	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	1.2	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	2.0	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.6	.
CYPRINIDAE sp.	Yolk-sac	1.2	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	2.1	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.8	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	.	10
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	6.7	.
ICTIOBINAE sp.	Yolk-sac	7.1	.
ICTIOBINAE sp.	Yolk-sac	7.0	.
ICTIOBINAE sp.	Yolk-sac	7.0	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.1	.
ICTIOBINAE sp.	Yolk-sac	7.5	.
ICTIOBINAE sp.	Yolk-sac	7.7	.
ICTIOBINAE sp.	Yolk-sac	7.0	.
ICTIOBINAE sp.	Yolk-sac	6.7	.
ICTIOBINAE sp.	Yolk-sac	6.8	.
ICTIOBINAE sp.	Yolk-sac	7.3	.
ICTIOBINAE sp.	Yolk-sac	7.0	.
ICTIOBINAE sp.	Yolk-sac	7.3	.
ICTIOBINAE sp.	Yolk-sac	6.6	.
LOGPERCH type	Yolk-sac	4.0	.
LOGPERCH type	Yolk-sac	5.9	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.

SAMPLE DATE: 28 May START DATE and TIME: 28MAY14:21:19 SAMPLE DURATION (minutes): 10.00
DIEL PERIOD: Night DEPTH: SUR REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.013593
STUDY GRAB TEMPERATURE (F): 74.8 STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.7 FOREBAY CURRENT VELOCITY (ft/sec): 1.70
EXTRAPOLATION PERIOD: 25-31 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	10.1	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	6.4	.
COMMON CARP	Yolk-sac	6.9	.
COMMON CARP	Yolk-sac	6.9	.
COMMON CARP	Yolk-sac	6.9	.
COMMON CARP	Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	7.0	.
COMMON CARP	Yolk-sac	7.1	.
COMMON CARP	Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	6.8	.
COMMON CARP	Yolk-sac	7.0	.
COMMON CARP	Yolk-sac	7.4	.
COMMON CARP	Yolk-sac	6.6	.
COMMON CARP	Yolk-sac	7.0	.
COMMON CARP	Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	6.7	.
COMMON CARP	Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	6.7	.
COMMON CARP	Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	6.8	.
COMMON CARP	Yolk-sac	.	6
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	1.9	.
CYPRINIDAE sp.	Yolk-sac	2.1	.
CYPRINIDAE sp.	Yolk-sac	1.8	.

APPENDIX D (cont.)

Moxostoma sp.	Post Yolk-sac	14.1	.
Moxostoma sp.	Post Yolk-sac	14.7	.
ICTIOBINAЕ sp.	Yolk-sac	6.2	.
ICTIOBINAЕ sp.	Yolk-sac	6.5	.
ICTIOBINAЕ sp.	Yolk-sac	6.6	.
ICTIOBINAЕ sp.	Yolk-sac	8.1	.
ICTIOBINAЕ sp.	Yolk-sac	6.3	.
ICTIOBINAЕ sp.	Yolk-sac	6.6	.
ICTIOBINAЕ sp.	Yolk-sac	7.9	.
ICTIOBINAЕ sp.	Yolk-sac	7.1	.
ICTIOBINAЕ sp.	Yolk-sac	6.9	.
ICTIOBINAЕ sp.	Yolk-sac	6.6	.
ICTIOBINAЕ sp.	Yolk-sac	7.9	.
ICTIOBINAЕ sp.	Yolk-sac	7.8	.
ICTIOBINAЕ sp.	Yolk-sac	7.0	.
ICTIOBINAЕ sp.	Yolk-sac	6.9	.
ICTIOBINAЕ sp.	Yolk-sac	8.2	.
ICTIOBINAЕ sp.	Yolk-sac	7.2	.
ICTIOBINAЕ sp.	Yolk-sac	6.6	.
ICTIOBINAЕ sp.	Yolk-sac	8.2	.
ICTIOBINAЕ sp.	Yolk-sac	6.7	.
ICTIOBINAЕ sp.	Yolk-sac	7.2	.
ICTIOBINAЕ sp.	Yolk-sac	.	24
LOGPERCH type	Yolk-sac	5.9	.
DARTER sp.	Yolk-sac	8.7	.
DARTER sp.	Yolk-sac	4.9	.
DARTER sp.	Yolk-sac	5.3	.
FRESHWATER DRUM	Egg	1.7	.
FRESHWATER DRUM	Egg	1.5	.
ROUND GOBY	Juvenile	7.2	.
ROUND GOBY	Juvenile	8.2	.
ROUND GOBY	Juvenile	7.1	.
ROUND GOBY	Juvenile	7.4	.
ROUND GOBY	Juvenile	7.5	.
ROUND GOBY	Juvenile	7.4	.
ROUND GOBY	Juvenile	7.2	.
ROUND GOBY	Juvenile	7.7	.
ROUND GOBY	Juvenile	7.1	.
ROUND GOBY	Juvenile	8.7	.
ROUND GOBY	Juvenile	7.5	.
ROUND GOBY	Juvenile	7.0	.

SAMPLE DATE: 28 May START DATE and TIME: 28MAY14:21:19 SAMPLE DURATION (minutes): 10.00
DIEL PERIOD: Night DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.013655
STUDY GRAB TEMPERATURE (F): 74.8 STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.7 FOREBAY CURRENT VELOCITY (ft/sec): 1.70
EXTRAPOLATION PERIOD: 25-31 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	7.7	.
COMMON CARP	Yolk-sac	6.7	.
COMMON CARP	Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	7.4	.
COMMON CARP	Yolk-sac	7.6	.
COMMON CARP	Yolk-sac	6.8	.
COMMON CARP	Yolk-sac	6.9	.
COMMON CARP	Yolk-sac	6.4	.
COMMON CARP	Yolk-sac	7.9	.
COMMON CARP	Yolk-sac	6.4	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	6.6	.
COMMON CARP	Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	6.7	.
COMMON CARP	Yolk-sac	8.0	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	1.8	.
CYPRINIDAE sp.	Yolk-sac	2.6	.
CYPRINIDAE sp.	Yolk-sac	2.7	.
CYPRINIDAE sp.	Yolk-sac	2.1	.
CYPRINIDAE sp.	Yolk-sac	1.2	.
ICTIOBINAЕ sp.	Yolk-sac	6.3	.
ICTIOBINAЕ sp.	Yolk-sac	7.2	.
ICTIOBINAЕ sp.	Yolk-sac	6.7	.
ICTIOBINAЕ sp.	Yolk-sac	7.3	.
ICTIOBINAЕ sp.	Yolk-sac	6.2	.
ICTIOBINAЕ sp.	Yolk-sac	7.0	.
ICTIOBINAЕ sp.	Yolk-sac	6.3	.
ICTIOBINAЕ sp.	Yolk-sac	7.6	.
ICTIOBINAЕ sp.	Yolk-sac	7.4	.
ICTIOBINAЕ sp.	Yolk-sac	7.6	.
ICTIOBINAЕ sp.	Yolk-sac	7.0	.
ICTIOBINAЕ sp.	Yolk-sac	7.1	.
ICTIOBINAЕ sp.	Yolk-sac	7.7	.

APPENDIX D (cont.)

ICTIOBINAE sp.	Yolk-sac	6.6	.
ICTIOBINAE sp.	Yolk-sac	6.7	.
ICTIOBINAE sp.	Yolk-sac	6.3	.
ICTIOBINAE sp.	Yolk-sac	6.8	.
ICTIOBINAE sp.	Yolk-sac	7.9	.
ICTIOBINAE sp.	Yolk-sac	6.7	.
ICTIOBINAE sp.	Yolk-sac	6.7	.
ICTIOBINAE sp.	Yolk-sac	.	13
PUMPKINSEED type	Yolk-sac	4.5	.
LOGPERCH type	Yolk-sac	6.4	.
ROUND GOBY	Juvenile	7.0	.
ROUND GOBY	Juvenile	7.8	.
ROUND GOBY	Juvenile	7.1	.
ROUND GOBY	Juvenile	7.5	.
ROUND GOBY	Juvenile	7.6	.
ROUND GOBY	Juvenile	7.2	.
ROUND GOBY	Juvenile	7.5	.
ROUND GOBY	Juvenile	7.1	.
ROUND GOBY	Juvenile	7.3	.
Morone/Pomoxis type	Egg	0.9	.
Morone/Pomoxis type	Egg	1.1	.
Morone/Pomoxis type	Egg	1.0	.
Morone/Pomoxis type	Egg	0.9	.
Morone/Pomoxis type	Egg	1.1	.

SAMPLE DATE: 28 May START DATE and TIME: 28MAY14:21:44 SAMPLE DURATION (minutes): 10.00
 DIEL PERIOD: Night DEPTH: BOT REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.015853
 STUDY GRAB TEMPERATURE (F): 75.0 STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.8 FOREBAY CURRENT VELOCITY (ft/sec): 1.50
 EXTRAPOLATION PERIOD: 25-31 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	7.2	.
Dorosoma sp.	Post Yolk-sac	9.0	.
Dorosoma sp.	Post Yolk-sac	9.1	.
COMMON CARP	Yolk-sac	7.1	.
COMMON CARP	Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	6.6	.
COMMON CARP	Yolk-sac	7.5	.
COMMON CARP	Yolk-sac	6.9	.
COMMON CARP	Yolk-sac	6.4	.
COMMON CARP	Yolk-sac	6.7	.
COMMON CARP	Yolk-sac	7.5	.
COMMON CARP	Yolk-sac	7.0	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	7.1	.
COMMON CARP	Yolk-sac	6.6	.
COMMON CARP	Yolk-sac	7.8	.
COMMON CARP	Yolk-sac	7.5	.
COMMON CARP	Yolk-sac	7.4	.
COMMON CARP	Yolk-sac	7.7	.
COMMON CARP	Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	7.6	.
COMMON CARP	Yolk-sac	7.7	.
COMMON CARP	Yolk-sac	7.5	.
COMMON CARP	Yolk-sac	.	9
COMMON CARP	Yolk-sac	.	2
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	2.0	.
CYPRINIDAE sp.	Yolk-sac	2.1	.
CYPRINIDAE sp.	Yolk-sac	2.0	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.8	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	3.0	.
CYPRINIDAE sp.	Yolk-sac	2.6	.
CYPRINIDAE sp.	Yolk-sac	2.7	.
CYPRINIDAE sp.	Yolk-sac	1.6	.
ICTIOBINAE sp.	Yolk-sac	7.5	.
ICTIOBINAE sp.	Yolk-sac	6.3	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
ICTIOBINAE sp.	Yolk-sac	7.6	.
ICTIOBINAE sp.	Yolk-sac	7.0	.
ICTIOBINAE sp.	Yolk-sac	7.1	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.7	.
ICTIOBINAE sp.	Yolk-sac	6.7	.
ICTIOBINAE sp.	Yolk-sac	7.4	.
ICTIOBINAE sp.	Yolk-sac	7.3	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.0	.
ICTIOBINAE sp.	Yolk-sac	7.2	.

APPENDIX D (cont.)

ICTIOBINAE sp.	Yolk-sac	7.3	.
ICTIOBINAE sp.	Yolk-sac	6.6	.
ICTIOBINAE sp.	Yolk-sac	.	50
LOGPERCH type	Yolk-sac	5.2	.
LOGPERCH type	Yolk-sac	5.6	.
ROUND GOBY	Juvenile	7.7	.
ROUND GOBY	Juvenile	7.1	.
ROUND GOBY	Juvenile	7.9	.
ROUND GOBY	Juvenile	7.9	.
ROUND GOBY	Juvenile	8.8	.
ROUND GOBY	Juvenile	7.7	.
ROUND GOBY	Juvenile	7.1	.
ROUND GOBY	Juvenile	7.5	.
ROUND GOBY	Juvenile	7.4	.
ROUND GOBY	Juvenile	7.3	.

SAMPLE DATE: 28 May START DATE and TIME: 28MAY14:21:44 SAMPLE DURATION (minutes): 10.00
DIEL PERIOD: Night DEPTH: BOT REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.014447
STUDY GRAB TEMPERATURE (F): 75.0 STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.8 FOREBAY CURRENT VELOCITY (ft/sec): 1.50
EXTRAPOLATION PERIOD: 25-31 May MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	7.1	.
COMMON CARP	Yolk-sac	7.5	.
COMMON CARP	Yolk-sac	7.7	.
COMMON CARP	Yolk-sac	6.8	.
COMMON CARP	Yolk-sac	7.1	.
COMMON CARP	Yolk-sac	6.2	.
COMMON CARP	Yolk-sac	6.8	.
COMMON CARP	Yolk-sac	7.1	.
COMMON CARP	Yolk-sac	7.5	.
COMMON CARP	Yolk-sac	6.9	.
COMMON CARP	Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	7.0	.
COMMON CARP	Yolk-sac	7.0	.
COMMON CARP	Yolk-sac	6.6	.
COMMON CARP	Yolk-sac	6.8	.
COMMON CARP	Yolk-sac	7.1	.
COMMON CARP	Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	6.6	.
COMMON CARP	Yolk-sac	7.1	.
COMMON CARP	Yolk-sac	7.7	.
COMMON CARP	Yolk-sac	6.9	.
COMMON CARP	Yolk-sac	.	2
COMMON CARP	Yolk-sac	7.5	.
BLUNTNOSE MINNOW	Juvenile	13.4	.
BLUNTNOSE MINNOW	Juvenile	16.4	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	2.4	.
CYPRINIDAE sp.	Yolk-sac	2.5	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	2.1	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	2.4	.
CYPRINIDAE sp.	Yolk-sac	2.7	.
CYPRINIDAE sp.	Yolk-sac	2.3	.
CYPRINIDAE sp.	Yolk-sac	2.4	.
CYPRINIDAE sp.	Yolk-sac	2.3	.
ICTIOBINAE sp.	Yolk-sac	6.3	.
ICTIOBINAE sp.	Yolk-sac	6.7	.
ICTIOBINAE sp.	Yolk-sac	7.5	.
ICTIOBINAE sp.	Yolk-sac	6.7	.
ICTIOBINAE sp.	Yolk-sac	7.1	.
ICTIOBINAE sp.	Yolk-sac	7.6	.
ICTIOBINAE sp.	Yolk-sac	7.6	.
ICTIOBINAE sp.	Yolk-sac	7.7	.
ICTIOBINAE sp.	Yolk-sac	7.1	.
ICTIOBINAE sp.	Yolk-sac	6.7	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.0	.
ICTIOBINAE sp.	Yolk-sac	6.4	.
ICTIOBINAE sp.	Yolk-sac	6.9	.
ICTIOBINAE sp.	Yolk-sac	7.3	.
ICTIOBINAE sp.	Yolk-sac	7.9	.
ICTIOBINAE sp.	Yolk-sac	7.3	.
ICTIOBINAE sp.	Yolk-sac	8.0	.
ICTIOBINAE sp.	Yolk-sac	8.6	.
ICTIOBINAE sp.	Yolk-sac	7.9	.
ICTIOBINAE sp.	Yolk-sac	.	17
PUMPKINSEED type	Yolk-sac	4.6	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.

APPENDIX D (cont.)

FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.2	.
ROUND GOBY	Juvenile	7.6	.
ROUND GOBY	Juvenile	7.0	.
ROUND GOBY	Juvenile	7.3	.
ROUND GOBY	Juvenile	6.5	.
ROUND GOBY	Juvenile	7.7	.
ROUND GOBY	Juvenile	7.2	.
ROUND GOBY	Juvenile	7.2	.
ROUND GOBY	Juvenile	7.5	.
ROUND GOBY	Juvenile	8.0	.
Morone/Pomoxis type	Egg	0.8	.

SAMPLE DATE: 3 June START DATE and TIME: 03JUN14:17:52 SAMPLE DURATION (minutes): 13.00
DIEL PERIOD: Day DEPTH: SUR REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.013974
STUDY GRAB TEMPERATURE (F): 77.9 STUDY GRAB DISSOLVED OXYGEN (mg/L): 9.7 FOREBAY CURRENT VELOCITY (ft/sec): 1.27
EXTRAPOLATION PERIOD: 1-7 June MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	6.7	.
Dorosoma sp.	Post Yolk-sac	7.0	.
Dorosoma sp.	Post Yolk-sac	5.8	.
Dorosoma sp.	Post Yolk-sac	4.7	.
Dorosoma sp.	Post Yolk-sac	9.2	.
Dorosoma sp.	Post Yolk-sac	5.2	.
Dorosoma sp.	Post Yolk-sac	5.8	.
Dorosoma sp.	Post Yolk-sac	7.2	.
Dorosoma sp.	Post Yolk-sac	6.0	.
Dorosoma sp.	Post Yolk-sac	6.9	.
Dorosoma sp.	Post Yolk-sac	5.7	.
Dorosoma sp.	Post Yolk-sac	6.7	.
Dorosoma sp.	Post Yolk-sac	5.3	.
Dorosoma sp.	Post Yolk-sac	5.5	.
CYPRINIDAE sp.	Yolk-sac	4.8	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	2.1	.
CYPRINIDAE sp.	Yolk-sac	2.2	.
CYPRINIDAE sp.	Yolk-sac	2.3	.
CYPRINIDAE sp.	Yolk-sac	2.2	.
CYPRINIDAE sp.	Yolk-sac	1.8	.
CYPRINIDAE sp.	Yolk-sac	2.2	.
CYPRINIDAE sp.	Yolk-sac	2.0	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.6	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	2.2	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.6	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	.	121
Lepomis sp.	Post Yolk-sac	7.8	.
Sander sp.	Yolk-sac	8.2	.
FRESHWATER DRUM	Post Yolk-sac	4.8	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.7	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	.	33

APPENDIX D (cont.)

SAMPLE DATE: 3 June START DATE and TIME: 03JUN14:17:52 SAMPLE DURATION (minutes): 13.00
 DIEL PERIOD: Day DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.014854
 STUDY GRAB TEMPERATURE (F): 77.9 STUDY GRAB DISSOLVED OXYGEN (mg/L): 9.7 FOREBAY CURRENT VELOCITY (ft/sec): 1.27
 EXTRAPOLATION PERIOD: 1-7 June MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
COMMON CARP	Yolk-sac	8.0	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	1.2	.
CYPRINIDAE sp.	Yolk-sac	1.3	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	1.9	.
CYPRINIDAE sp.	Yolk-sac	2.2	.
CYPRINIDAE sp.	Yolk-sac	2.0	.
CYPRINIDAE sp.	Yolk-sac	2.3	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.2	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.2	.
CYPRINIDAE sp.	Yolk-sac	1.9	.
CYPRINIDAE sp.	Yolk-sac	1.8	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	1.3	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	.	53
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.7	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	.	5

SAMPLE DATE: 3 June START DATE and TIME: 03JUN14:18:18 SAMPLE DURATION (minutes): 11.00
 DIEL PERIOD: Day DEPTH: BOT REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.016012
 STUDY GRAB TEMPERATURE (F): 77.9 STUDY GRAB DISSOLVED OXYGEN (mg/L): 9.7 FOREBAY CURRENT VELOCITY (ft/sec): 1.71
 EXTRAPOLATION PERIOD: 1-7 June MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	5.3	.
Dorosoma sp.	Post Yolk-sac	5.1	.
Dorosoma sp.	Post Yolk-sac	4.7	.
Dorosoma sp.	Post Yolk-sac	4.5	.
Dorosoma sp.	Post Yolk-sac	4.4	.
Dorosoma sp.	Post Yolk-sac	4.7	.
Dorosoma sp.	Post Yolk-sac	4.6	.
Dorosoma sp.	Post Yolk-sac	4.5	.
COMMON CARP	Yolk-sac	7.7	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	2.2	.
CYPRINIDAE sp.	Yolk-sac	2.3	.
CYPRINIDAE sp.	Yolk-sac	2.5	.
CYPRINIDAE sp.	Yolk-sac	2.4	.
CYPRINIDAE sp.	Yolk-sac	2.3	.
CYPRINIDAE sp.	Yolk-sac	1.8	.
CYPRINIDAE sp.	Yolk-sac	1.3	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.9	.
CYPRINIDAE sp.	Yolk-sac	1.6	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.2	.
CYPRINIDAE sp.	Yolk-sac	1.3	.
CYPRINIDAE sp.	Yolk-sac	1.5	.

APPENDIX D (cont.)

CYPRINIDAE sp.	Yolk-sac	1.2	.
CYPRINIDAE sp.	Yolk-sac	1.2	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	.	73
CYPRINIDAE sp.	Yolk-sac	.	29
CYPRINIDAE sp.	Yolk-sac	.	49
PUMPKINSEED type	Yolk-sac	4.2	.
DARTER sp.	Yolk-sac	9.5	.
DARTER sp.	Yolk-sac	9.7	.
DARTER sp.	Yolk-sac	6.4	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	.	12

SAMPLE DATE: 3 June START DATE and TIME: 03JUN14:18:18 SAMPLE DURATION (minutes): 9.00
 DIEL PERIOD: Day DEPTH: BOT REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.014314
 STUDY GRAB TEMPERATURE (F): 77.9 STUDY GRAB DISSOLVED OXYGEN (mg/L): 9.7 FOREBAY CURRENT VELOCITY (ft/sec): 1.71
 EXTRAPOLATION PERIOD: 1-7 June MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Yolk-sac	4.7	.
Dorosoma sp.	Yolk-sac	4.9	.
COMMON CARP	Yolk-sac	7.6	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	5.0	.
CYPRINIDAE sp.	Yolk-sac	5.1	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	1.8	.
CYPRINIDAE sp.	Yolk-sac	2.2	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	2.4	.
CYPRINIDAE sp.	Yolk-sac	2.5	.
CYPRINIDAE sp.	Yolk-sac	2.2	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.8	.
CYPRINIDAE sp.	Yolk-sac	2.6	.
CYPRINIDAE sp.	Yolk-sac	2.4	.
CYPRINIDAE sp.	Yolk-sac	2.2	.
CYPRINIDAE sp.	Yolk-sac	2.5	.
CYPRINIDAE sp.	Yolk-sac	2.2	.
CYPRINIDAE sp.	Yolk-sac	2.6	.
CYPRINIDAE sp.	Yolk-sac	2.2	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	2.7	.
CYPRINIDAE sp.	Yolk-sac	2.0	.
CYPRINIDAE sp.	Yolk-sac	2.3	.
CYPRINIDAE sp.	Yolk-sac	2.0	.
CYPRINIDAE sp.	Yolk-sac	.	25
PUMPKINSEED type	Yolk-sac	4.0	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.7	.
FRESHWATER DRUM	Egg	1.5	.

APPENDIX D (cont.)

[illegible]

APPENDIX D (cont.)

SAMPLE DATE: 3 June START DATE and TIME: 03JUN14:20:36 SAMPLE DURATION (minutes): 10.00
 DIEL PERIOD: Night DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.013382
 STUDY GRAB TEMPERATURE (F): 77.2 STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.5 FOREBAY CURRENT VELOCITY (ft/sec): 1.80
 EXTRAPOLATION PERIOD: 1-7 June MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	5.0	.
COMMON CARP	Yolk-sac	8.8	.
CYPRINIDAE sp.	Yolk-sac	5.6	.
CYPRINIDAE sp.	Yolk-sac	2.9	.
CYPRINIDAE sp.	Yolk-sac	2.7	.
CYPRINIDAE sp.	Yolk-sac	2.8	.
CYPRINIDAE sp.	Yolk-sac	2.6	.
CYPRINIDAE sp.	Yolk-sac	3.1	.
CYPRINIDAE sp.	Yolk-sac	2.6	.
CYPRINIDAE sp.	Yolk-sac	3.2	.
CYPRINIDAE sp.	Yolk-sac	2.8	.
CYPRINIDAE sp.	Yolk-sac	2.6	.
CYPRINIDAE sp.	Yolk-sac	2.7	.
CYPRINIDAE sp.	Yolk-sac	2.7	.
CYPRINIDAE sp.	Yolk-sac	2.9	.
CYPRINIDAE sp.	Yolk-sac	2.8	.
CYPRINIDAE sp.	Yolk-sac	2.6	.
CYPRINIDAE sp.	Yolk-sac	2.4	.
CYPRINIDAE sp.	Yolk-sac	3.2	.
CYPRINIDAE sp.	Yolk-sac	2.3	.
CYPRINIDAE sp.	Yolk-sac	2.6	.
CYPRINIDAE sp.	Yolk-sac	2.4	.
CYPRINIDAE sp.	Yolk-sac	3.2	.
CYPRINIDAE sp.	Yolk-sac	.	7
ICTIOBINA sp.	Yolk-sac	9.7	.
PUMPKINSEED type	Yolk-sac	6.5	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	.	4

SAMPLE DATE: 3 June START DATE and TIME: 03JUN14:21:02 SAMPLE DURATION (minutes): 11.00
 DIEL PERIOD: Night DEPTH: BOT REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.015820
 STUDY GRAB TEMPERATURE (F): 77.2 STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.4 FOREBAY CURRENT VELOCITY (ft/sec): 1.70
 EXTRAPOLATION PERIOD: 1-7 June MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	8.3	.
Dorosoma sp.	Post Yolk-sac	5.9	.
Dorosoma sp.	Post Yolk-sac	5.2	.
Dorosoma sp.	Post Yolk-sac	8.7	.
Dorosoma sp.	Post Yolk-sac	8.9	.
Dorosoma sp.	Post Yolk-sac	5.4	.
Dorosoma sp.	Post Yolk-sac	8.2	.
Dorosoma sp.	Post Yolk-sac	4.5	.
Dorosoma sp.	Post Yolk-sac	7.9	.
Dorosoma sp.	Post Yolk-sac	7.9	.
Dorosoma sp.	Post Yolk-sac	7.9	.
Dorosoma sp.	Post Yolk-sac	6.6	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	4.9	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	5.7	.

APPENDIX D (cont.)

Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	4.8	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	4.8	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	.	11
Semotilus type	Yolk-sac	8.0	.
CYPRINIDAE sp.	Yolk-sac	5.0	.
CYPRINIDAE sp.	Yolk-sac	5.1	.
CYPRINIDAE sp.	Yolk-sac	5.0	.
CYPRINIDAE sp.	Yolk-sac	5.0	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	4.9	.
CYPRINIDAE sp.	Yolk-sac	5.0	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	4.8	.
CYPRINIDAE sp.	Yolk-sac	2.9	.
CYPRINIDAE sp.	Yolk-sac	2.9	.
CYPRINIDAE sp.	Yolk-sac	2.7	.
CYPRINIDAE sp.	Yolk-sac	2.5	.
CYPRINIDAE sp.	Yolk-sac	2.5	.
CYPRINIDAE sp.	Yolk-sac	2.0	.
CYPRINIDAE sp.	Yolk-sac	3.0	.
CYPRINIDAE sp.	Yolk-sac	3.0	.
CYPRINIDAE sp.	Yolk-sac	3.1	.
CYPRINIDAE sp.	Yolk-sac	2.8	.
CYPRINIDAE sp.	Yolk-sac	2.9	.
CYPRINIDAE sp.	Yolk-sac	2.7	.
CYPRINIDAE sp.	Yolk-sac	2.7	.
CYPRINIDAE sp.	Yolk-sac	2.8	.
CYPRINIDAE sp.	Yolk-sac	3.0	.
CYPRINIDAE sp.	Yolk-sac	2.7	.
CYPRINIDAE sp.	Yolk-sac	1.9	.
CYPRINIDAE sp.	Yolk-sac	2.4	.
CYPRINIDAE sp.	Yolk-sac	2.9	.
CYPRINIDAE sp.	Yolk-sac	2.5	.
CYPRINIDAE sp.	Yolk-sac	.	43
PUMPKINSEED type	Yolk-sac	5.0	.
LOGPERCH type	Yolk-sac	5.5	.
DARTER sp.	Post Yolk-sac	13.4	.
DARTER sp.	Yolk-sac	7.2	.
DARTER sp.	Yolk-sac	6.9	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.1	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.1	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	.	11
ROUND GOBY	Juvenile	7.3	.
ROUND GOBY	Juvenile	7.6	.
ROUND GOBY	Juvenile	7.2	.
ROUND GOBY	Juvenile	7.4	.
ROUND GOBY	Juvenile	7.4	.
ROUND GOBY	Juvenile	7.8	.
ROUND GOBY	Juvenile	7.7	.
ROUND GOBY	Juvenile	7.6	.
ROUND GOBY	Juvenile	7.4	.
ROUND GOBY	Juvenile	7.4	.
ROUND GOBY	Juvenile	7.7	.
ROUND GOBY	Juvenile	7.7	.
ROUND GOBY	Juvenile	7.4	.
ROUND GOBY	Juvenile	7.6	.
ROUND GOBY	Juvenile	7.1	.
ROUND GOBY	Juvenile	7.5	.
ROUND GOBY	Juvenile	6.9	.
ROUND GOBY	Juvenile	7.4	.
ROUND GOBY	Juvenile	7.4	.

APPENDIX D (cont.)

SAMPLE DATE: 3 June START DATE and TIME: 03JUN14:21:01 SAMPLE DURATION (minutes): 11.00
 DIEL PERIOD: Night DEPTH: BOT REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.014004
 STUDY GRAB TEMPERATURE (F): 77.2 STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.4 FOREBAY CURRENT VELOCITY (ft/sec): 1.70
 EXTRAPOLATION PERIOD: 1-7 June MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	5.0	.
Dorosoma sp.	Post Yolk-sac	7.2	.
Dorosoma sp.	Post Yolk-sac	5.1	.
COMMON CARP	Yolk-sac	7.0	.
COMMON CARP	Yolk-sac	7.0	.
BLUNTNOSE MINNOW	Post Yolk-sac	16.6	.
Pimephales type	Yolk-sac	5.3	.
Pimephales type	Yolk-sac	4.9	.
Pimephales type	Yolk-sac	5.5	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	4.9	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	4.9	.
Pimephales type	Yolk-sac	5.1	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	6.7	.
CYPRINIDAE sp.	Yolk-sac	2.9	.
CYPRINIDAE sp.	Yolk-sac	2.4	.
CYPRINIDAE sp.	Yolk-sac	2.9	.
CYPRINIDAE sp.	Yolk-sac	2.6	.
CYPRINIDAE sp.	Yolk-sac	2.8	.
CYPRINIDAE sp.	Yolk-sac	2.4	.
CYPRINIDAE sp.	Yolk-sac	2.7	.
CYPRINIDAE sp.	Yolk-sac	2.7	.
CYPRINIDAE sp.	Yolk-sac	2.8	.
CYPRINIDAE sp.	Yolk-sac	2.9	.
CYPRINIDAE sp.	Yolk-sac	2.6	.
CYPRINIDAE sp.	Yolk-sac	2.9	.
CYPRINIDAE sp.	Yolk-sac	3.2	.
CYPRINIDAE sp.	Yolk-sac	2.6	.
CYPRINIDAE sp.	Yolk-sac	3.0	.
CYPRINIDAE sp.	Yolk-sac	2.6	.
CYPRINIDAE sp.	Yolk-sac	1.8	.
CYPRINIDAE sp.	Yolk-sac	2.6	.
CYPRINIDAE sp.	Yolk-sac	.	8
CYPRINIDAE sp.	Yolk-sac	2.4	.
CYPRINIDAE sp.	Yolk-sac	2.3	.
Moxostoma sp.	Post Yolk-sac	17.0	.
ICTIOBINAE sp.	Post Yolk-sac	7.9	.
DARTER sp.	Yolk-sac	6.5	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	.	5
FRESHWATER DRUM	Yolk-sac	2.5	.
ROUND GOBY	Juvenile	7.4	.
ROUND GOBY	Juvenile	7.5	.
ROUND GOBY	Juvenile	7.3	.
ROUND GOBY	Juvenile	7.6	.
ROUND GOBY	Juvenile	7.4	.
ROUND GOBY	Juvenile	7.7	.
ROUND GOBY	Juvenile	7.2	.
ROUND GOBY	Juvenile	7.0	.
ROUND GOBY	Juvenile	7.3	.
ROUND GOBY	Juvenile	7.4	.
ROUND GOBY	Juvenile	7.3	.
UNIDENTIFIED	Yolk-sac	1.9	.
UNIDENTIFIED	Yolk-sac	2.3	.
UNIDENTIFIED	Yolk-sac	1.9	.

APPENDIX D (cont.)

SAMPLE DATE: 11 June START DATE and TIME: 11JUN14:18:00 SAMPLE DURATION (minutes): 14.00
 DIEL PERIOD: Day DEPTH: SUR REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.013635
 STUDY GRAB TEMPERATURE (F): 72.1 STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.7 FOREBAY CURRENT VELOCITY (ft/sec): 1.00
 EXTRAPOLATION PERIOD: 8-14 June MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.3	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.3	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.0	.
COMMON CARP	Egg	1.6	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.6	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.0	.
COMMON CARP	Egg	1.1	.
COMMON CARP	Egg	1.7	.
COMMON CARP	Egg	.	46
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	5.1	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Post Yolk-sac	9.6	.
Pimephales type	Post Yolk-sac	10.4	.
CYPRINIDAE sp.	Yolk-sac	5.4	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	6.4	.
CYPRINIDAE sp.	Yolk-sac	5.4	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	6.1	.
Moxostoma sp.	Post Yolk-sac	12.2	.
ROCK BASS	Post Yolk-sac	10.3	.
LOGPERCH type	Yolk-sac	5.2	.

SAMPLE DATE: 11 June START DATE and TIME: 11JUN14:17:32 SAMPLE DURATION (minutes): 15.00
 DIEL PERIOD: Day DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.014296
 STUDY GRAB TEMPERATURE (F): 72.1 STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.7 FOREBAY CURRENT VELOCITY (ft/sec): 1.00
 EXTRAPOLATION PERIOD: 8-14 June MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	10.7	.
Dorosoma sp.	Post Yolk-sac	15.1	.
Dorosoma sp.	Post Yolk-sac	10.6	.
Dorosoma sp.	Post Yolk-sac	7.1	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.6	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.6	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.6	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.6	.
COMMON CARP	Egg	.	58
CYPRINIDAE sp.	Post Yolk-sac	6.7	.
CYPRINIDAE sp.	Post Yolk-sac	5.9	.
CYPRINIDAE sp.	Post Yolk-sac	6.3	.
CYPRINIDAE sp.	Post Yolk-sac	6.3	.
CYPRINIDAE sp.	Post Yolk-sac	6.6	.

APPENDIX D (cont.)

CYPRINIDAE sp.	Post Yolk-sac	5.8	.
CYPRINIDAE sp.	Post Yolk-sac	6.6	.
CYPRINIDAE sp.	Post Yolk-sac	6.9	.
CYPRINIDAE sp.	Post Yolk-sac	5.8	.
CYPRINIDAE sp.	Post Yolk-sac	6.3	.
CYPRINIDAE sp.	Yolk-sac	4.8	.
CYPRINIDAE sp.	Yolk-sac	4.6	.
CYPRINIDAE sp.	Yolk-sac	4.8	.
Moxostoma sp.	Post Yolk-sac	13.0	.
LOGPERCH type	Yolk-sac	5.7	.
LOGPERCH type	Yolk-sac	5.8	.
DARTER sp.	Post Yolk-sac	13.4	.
DARTER sp.	Post Yolk-sac	9.7	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.7	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.1	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	.	9

SAMPLE DATE: 11 June START DATE and TIME: 11JUN14:18:05 SAMPLE DURATION (minutes): 16.00
 DIEL PERIOD: Day DEPTH: BOT REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.013728
 STUDY GRAB TEMPERATURE (F): 71.8 STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.8 FOREBAY CURRENT VELOCITY (ft/sec): 1.46
 EXTRAPOLATION PERIOD: 8-14 June MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
-----	-----	-----	-----
GAR sp.	Post Yolk-sac	26.1	.
Dorosoma sp.	Post Yolk-sac	6.2	.
Dorosoma sp.	Post Yolk-sac	10.2	.
Dorosoma sp.	Post Yolk-sac	13.5	.
Dorosoma sp.	Post Yolk-sac	8.3	.
Dorosoma sp.	Post Yolk-sac	8.2	.
Dorosoma sp.	Post Yolk-sac	15.2	.
Dorosoma sp.	Post Yolk-sac	10.2	.
COMMON CARP	Yolk-sac	5.5	.
COMMON CARP	Yolk-sac	6.6	.
COMMON CARP	Yolk-sac	4.5	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.6	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.6	.
COMMON CARP	Egg	1.6	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.0	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.1	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.2	.
COMMON CARP	Egg	1.2	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.6	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	.	31
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	5.8	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	5.0	.
CYPRINIDAE sp.	Yolk-sac	5.0	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Post Yolk-sac	8.2	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	5.8	.
PUMPKINSEED type	Yolk-sac	5.7	.

APPENDIX D (cont.)

LOGPERCH type	Yolk-sac	6.1	.
LOGPERCH type	Yolk-sac	5.0	.
DARTER sp.	Yolk-sac	8.5	.
DARTER sp.	Post Yolk-sac	7.5	.
DARTER sp.	Post Yolk-sac	10.8	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	0.8	.
FRESHWATER DRUM	Egg	0.9	.
FRESHWATER DRUM	Egg	1.1	.
FRESHWATER DRUM	Egg	1.2	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.3	.
ROUND GOBY	Juvenile	7.7	.
UNIDENTIFIED	Yolk-sac	2.9	.

SAMPLE DATE: 11 June START DATE and TIME: 11JUN14:18:33 SAMPLE DURATION (minutes): 14.00
 DIEL PERIOD: Day DEPTH: BOT REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.015437
 STUDY GRAB TEMPERATURE (F): 71.8 STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.8 FOREBAY CURRENT VELOCITY (ft/sec): 1.46
 EXTRAPOLATION PERIOD: 8-14 June MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	7.6	.
Dorosoma sp.	Post Yolk-sac	15.2	.
Dorosoma sp.	Post Yolk-sac	13.7	.
Dorosoma sp.	Post Yolk-sac	10.5	.
Dorosoma sp.	Post Yolk-sac	8.7	.
Dorosoma sp.	Post Yolk-sac	8.8	.
COMMON CARP	Yolk-sac	7.4	.
COMMON CARP	Yolk-sac	5.1	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.1	.
COMMON CARP	Egg	1.0	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.0	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.2	.
COMMON CARP	Egg	1.3	.
COMMON CARP	Egg	1.2	.
COMMON CARP	Egg	1.2	.
COMMON CARP	Egg	1.3	.
COMMON CARP	Egg	1.0	.
COMMON CARP	Egg	1.0	.
COMMON CARP	Egg	1.3	.
COMMON CARP	Egg	1.0	.
COMMON CARP	Egg	1.1	.
COMMON CARP	Egg	1.1	.
COMMON CARP	Egg	.	59
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	6.6	.
CYPRINIDAE sp.	Yolk-sac	7.0	.
CYPRINIDAE sp.	Yolk-sac	6.6	.
CYPRINIDAE sp.	Yolk-sac	8.2	.
CYPRINIDAE sp.	Yolk-sac	6.6	.
CYPRINIDAE sp.	Yolk-sac	6.7	.
CYPRINIDAE sp.	Yolk-sac	6.6	.
CYPRINIDAE sp.	Yolk-sac	6.4	.
CYPRINIDAE sp.	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	5.8	.
CYPRINIDAE sp.	Yolk-sac	6.8	.
CYPRINIDAE sp.	Yolk-sac	6.4	.
CYPRINIDAE sp.	Yolk-sac	7.9	.
CYPRINIDAE sp.	Yolk-sac	6.3	.
CYPRINIDAE sp.	Yolk-sac	6.7	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	6.5	.
CYPRINIDAE sp.	Yolk-sac	6.8	.
CYPRINIDAE sp.	Yolk-sac	7.0	.
CYPRINIDAE sp.	Yolk-sac	5.5	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
PUMPKINSEED type	Yolk-sac	4.7	.
PUMPKINSEED type	Yolk-sac	5.2	.
DARTER sp.	Post Yolk-sac	13.8	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.

APPENDIX D (cont.)

FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.4	.

SAMPLE DATE: 11 June	START DATE and TIME: 11JUN14:20:43	SAMPLE DURATION (minutes): 15.00	
DIEL PERIOD: Night	DEPTH: SUR	REPLICATE: A	VOLUME SAMPLED (gals x 10^6): 0.013742
STUDY GRAB TEMPERATURE (F): 71.4	STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.4	FOREBAY CURRENT VELOCITY (ft/sec): 1.00	
EXTRAPOLATION PERIOD: 8-14 June	MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10^6): 604.8		

TAXA	LIFE STAGE	LENGTH	PLUS COUNT

Dorosoma sp.	Post Yolk-sac	4.3	.
Dorosoma sp.	Post Yolk-sac	5.2	.
Dorosoma sp.	Post Yolk-sac	6.6	.
Dorosoma sp.	Post Yolk-sac	10.1	.
Dorosoma sp.	Post Yolk-sac	10.7	.
COMMON CARP	Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	7.5	.
COMMON CARP	Yolk-sac	7.3	.
COMMON CARP	Yolk-sac	5.7	.
COMMON CARP	Yolk-sac	6.4	.
COMMON CARP	Yolk-sac	6.3	.
COMMON CARP	Yolk-sac	5.9	.
COMMON CARP	Egg	1.2	.
COMMON CARP	Egg	1.3	.
COMMON CARP	Egg	1.2	.
COMMON CARP	Egg	1.3	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.0	.
COMMON CARP	Egg	1.1	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.0	.
COMMON CARP	Egg	1.0	.
COMMON CARP	Egg	1.0	.
COMMON CARP	Egg	1.2	.
COMMON CARP	Egg	1.1	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.3	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.3	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	.	11
Pimephales type	Yolk-sac	6.1	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	4.9	.
Pimephales type	Yolk-sac	5.1	.
Pimephales type	Yolk-sac	5.1	.
Pimephales type	Yolk-sac	4.8	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	6.1	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	6.3	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	6.1	.
CYPRINIDAE sp.	Yolk-sac	6.5	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	6.1	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	6.3	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	6.1	.
CYPRINIDAE sp.	Yolk-sac	5.6	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	5.0	.
CYPRINIDAE sp.	Yolk-sac	5.4	.
CYPRINIDAE sp.	Yolk-sac	5.4	.
Moxostoma sp.	Post Yolk-sac	14.7	.
ICTIOBINAE sp.	Post Yolk-sac	20.2	.
PUMPKINSEED type	Yolk-sac	5.8	.
LOGPERCH type	Yolk-sac	5.3	.
DARTER sp.	Yolk-sac	8.7	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.3	.
ROUND GOBY	Juvenile	8.9	.

APPENDIX D (cont.)

SAMPLE DATE: 11 June START DATE and TIME: 11JUN14:20:43 SAMPLE DURATION (minutes): 15.00
 DIEL PERIOD: Night DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.017308
 STUDY GRAB TEMPERATURE (F): 71.4 STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.4 FOREBAY CURRENT VELOCITY (ft/sec): 1.00
 EXTRAPOLATION PERIOD: 8-14 June MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	7.2	.
Dorosoma sp.	Post Yolk-sac	7.0	.
Dorosoma sp.	Post Yolk-sac	9.2	.
Dorosoma sp.	Post Yolk-sac	10.2	.
Dorosoma sp.	Post Yolk-sac	12.0	.
Dorosoma sp.	Post Yolk-sac	15.7	.
Dorosoma sp.	Post Yolk-sac	8.3	.
Dorosoma sp.	Post Yolk-sac	12.2	.
Dorosoma sp.	Post Yolk-sac	9.1	.
COMMON CARP	Yolk-sac	6.0	.
COMMON CARP	Yolk-sac	6.9	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	5.8	.
COMMON CARP	Yolk-sac	5.4	.
COMMON CARP	Yolk-sac	5.3	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.1	.
COMMON CARP	Egg	1.6	.
COMMON CARP	Egg	1.3	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.1	.
COMMON CARP	Egg	1.1	.
COMMON CARP	Egg	1.2	.
COMMON CARP	Egg	1.3	.
COMMON CARP	Egg	1.6	.
COMMON CARP	Egg	1.2	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.3	.
COMMON CARP	Egg	1.3	.
COMMON CARP	Egg	1.3	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.6	.
Pimephales type	Yolk-sac	4.7	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	4.9	.
Semotilus type	Post Yolk-sac	12.2	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	4.5	.
CYPRINIDAE sp.	Yolk-sac	4.7	.
CYPRINIDAE sp.	Yolk-sac	1.6	.
CYPRINIDAE sp.	Yolk-sac	1.2	.
CYPRINIDAE sp.	Yolk-sac	1.2	.
CYPRINIDAE sp.	Yolk-sac	1.3	.
CYPRINIDAE sp.	Yolk-sac	1.6	.
CYPRINIDAE sp.	Yolk-sac	1.2	.
CYPRINIDAE sp.	Yolk-sac	1.3	.
DARTER sp.	Yolk-sac	8.2	.
DARTER sp.	Post Yolk-sac	16.5	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.
ROUND GOBY	Juvenile	7.2	.
ROUND GOBY	Juvenile	13.4	.
ROUND GOBY	Juvenile	11.8	.

SAMPLE DATE: 11 June START DATE and TIME: 11JUN14:21:12 SAMPLE DURATION (minutes): 13.00
 DIEL PERIOD: Night DEPTH: BOT REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.014231
 STUDY GRAB TEMPERATURE (F): 71.4 STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.3 FOREBAY CURRENT VELOCITY (ft/sec): 1.55
 EXTRAPOLATION PERIOD: 8-14 June MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	13.6	.
Dorosoma sp.	Post Yolk-sac	8.9	.
Dorosoma sp.	Post Yolk-sac	8.2	.
Dorosoma sp.	Post Yolk-sac	11.7	.
Dorosoma sp.	Post Yolk-sac	13.3	.
COMMON CARP	Yolk-sac	6.6	.
COMMON CARP	Yolk-sac	6.4	.

APPENDIX D (cont.)

COMMON CARP	Yolk-sac	5.6	.
COMMON CARP	Yolk-sac	5.5	.
COMMON CARP	Yolk-sac	7.4	.
COMMON CARP	Egg	1.1	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.1	.
COMMON CARP	Egg	1.3	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.2	.
COMMON CARP	Egg	1.3	.
COMMON CARP	Egg	1.3	.
COMMON CARP	Egg	1.2	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	6.1	.
Pimephales type	Yolk-sac	4.9	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	4.8	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	7.2	.
CYPRINIDAE sp.	Yolk-sac	6.6	.
CYPRINIDAE sp.	Yolk-sac	5.6	.
CYPRINIDAE sp.	Yolk-sac	6.6	.
CYPRINIDAE sp.	Yolk-sac	6.4	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	5.6	.
CYPRINIDAE sp.	Yolk-sac	5.4	.
CYPRINIDAE sp.	Yolk-sac	6.7	.
CYPRINIDAE sp.	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.2	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.3	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	2.1	.
CYPRINIDAE sp.	Yolk-sac	1.2	.
Moxostoma sp.	Post Yolk-sac	12.4	.
Moxostoma sp.	Post Yolk-sac	13.7	.
Moxostoma sp.	Post Yolk-sac	14.9	.
DARTER sp.	Post Yolk-sac	9.8	.
FRESHWATER DRUM	Egg	1.4	.
ROUND GOBY	Juvenile	7.7	.
ROUND GOBY	Juvenile	6.9	.
ROUND GOBY	Juvenile	7.9	.
ROUND GOBY	Juvenile	7.4	.
ROUND GOBY	Juvenile	7.7	.
ROUND GOBY	Juvenile	7.5	.
ROUND GOBY	Juvenile	15.3	.
ROUND GOBY	Juvenile	17.7	.

SAMPLE DATE: 11 June START DATE and TIME: 11JUN14:21:12 SAMPLE DURATION (minutes): 13.00
 DIEL PERIOD: Night DEPTH: BOT REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.013914
 STUDY GRAB TEMPERATURE (F): 71.4 STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.3 FOREBAY CURRENT VELOCITY (ft/sec): 1.55
 EXTRAPOLATION PERIOD: 8-14 June MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	10.7	.
Dorosoma sp.	Post Yolk-sac	11.3	.
Dorosoma sp.	Post Yolk-sac	8.2	.
COMMON CARP	Yolk-sac	5.6	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	6.7	.
COMMON CARP	Egg	1.1	.
COMMON CARP	Egg	1.0	.
COMMON CARP	Egg	1.0	.
COMMON CARP	Egg	1.3	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.1	.
COMMON CARP	Egg	1.1	.
COMMON CARP	Egg	1.3	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.3	.
Pimephales type	Yolk-sac	4.8	.
Pimephales type	Yolk-sac	4.9	.
Pimephales type	Yolk-sac	5.5	.
CYPRINIDAE sp.	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	7.2	.
CYPRINIDAE sp.	Yolk-sac	2.4	.
CYPRINIDAE sp.	Yolk-sac	1.7	.

APPENDIX D (cont.)

CYPRINIDAE sp.	Yolk-sac	1.2	.
CYPRINIDAE sp.	Yolk-sac	2.0	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
ROCK BASS	Post Yolk-sac	7.5	.
DARTER sp.	Post Yolk-sac	13.1	.
DARTER sp.	Post Yolk-sac	12.3	.
DARTER sp.	Post Yolk-sac	10.0	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.3	.
ROUND GOBY	Juvenile	7.2	.
ROUND GOBY	Juvenile	7.0	.
ROUND GOBY	Juvenile	7.3	.
ROUND GOBY	Juvenile	7.0	.
ROUND GOBY	Juvenile	8.0	.
ROUND GOBY	Juvenile	7.9	.
ROUND GOBY	Juvenile	7.7	.
ROUND GOBY	Juvenile	21.5	.

SAMPLE DATE: 17 June START DATE and TIME: 17JUN14:17:30 SAMPLE DURATION (minutes): 21.00
DIEL PERIOD: Day DEPTH: SUR REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.013897
STUDY GRAB TEMPERATURE (F): 77.9 STUDY GRAB DISSOLVED OXYGEN (mg/L): 9.5 FOREBAY CURRENT VELOCITY (ft/sec): 1.00
EXTRAPOLATION PERIOD: 15-21 June MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	5.4	.
Dorosoma sp.	Post Yolk-sac	5.3	.
Dorosoma sp.	Post Yolk-sac	5.2	.
Dorosoma sp.	Post Yolk-sac	6.0	.
Dorosoma sp.	Post Yolk-sac	5.5	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.2	.
COMMON CARP	Egg	1.2	.
Pimephales type	Yolk-sac	6.4	.
Pimephales type	Yolk-sac	7.0	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	6.1	.
Pimephales type	Yolk-sac	4.9	.
Pimephales type	Yolk-sac	5.3	.
Pimephales type	Yolk-sac	6.1	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	6.3	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	5.3	.
Pimephales type	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	5.8	.
CYPRINIDAE sp.	Yolk-sac	6.4	.
CYPRINIDAE sp.	Yolk-sac	7.0	.
CYPRINIDAE sp.	Yolk-sac	6.3	.
CYPRINIDAE sp.	Yolk-sac	6.3	.
CYPRINIDAE sp.	Yolk-sac	6.1	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	1.3	.
CYPRINIDAE sp.	Yolk-sac	1.8	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.3	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	2.1	.
CYPRINIDAE sp.	Yolk-sac	1.3	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.3	.
CYPRINIDAE sp.	Yolk-sac	1.3	.
CYPRINIDAE sp.	Yolk-sac	1.8	.
CYPRINIDAE sp.	Yolk-sac	1.2	.
CYPRINIDAE sp.	Yolk-sac	1.8	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.3	.
CYPRINIDAE sp.	Yolk-sac	1.8	.
CYPRINIDAE sp.	Yolk-sac	2.1	.
CYPRINIDAE sp.	Yolk-sac	2.8	.
CYPRINIDAE sp.	Yolk-sac	.	71
DARTER sp.	Yolk-sac	7.1	.
DARTER sp.	Yolk-sac	6.8	.

APPENDIX D (cont.)

SAMPLE DATE: 17 June START DATE and TIME: 17JUN14:17:30 SAMPLE DURATION (minutes): 17.00
 DIEL PERIOD: Day DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.013677
 STUDY GRAB TEMPERATURE (F): 77.9 STUDY GRAB DISSOLVED OXYGEN (mg/L): 9.5 FOREBAY CURRENT VELOCITY (ft/sec): 1.00
 EXTRAPOLATION PERIOD: 15-21 June MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Yolk-sac	6.6	.
Dorosoma sp.	Yolk-sac	6.5	.
Dorosoma sp.	Yolk-sac	7.4	.
Dorosoma sp.	Yolk-sac	6.7	.
Dorosoma sp.	Yolk-sac	7.7	.
Dorosoma sp.	Post Yolk-sac	11.8	.
Dorosoma sp.	Post Yolk-sac	9.1	.
Dorosoma sp.	Yolk-sac	5.7	.
Dorosoma sp.	Post Yolk-sac	11.9	.
Dorosoma sp.	Yolk-sac	6.2	.
Dorosoma sp.	Yolk-sac	6.7	.
Dorosoma sp.	Yolk-sac	6.6	.
Dorosoma sp.	Yolk-sac	5.6	.
Dorosoma sp.	Yolk-sac	5.9	.
Dorosoma sp.	Yolk-sac	7.0	.
Dorosoma sp.	Yolk-sac	6.1	.
Dorosoma sp.	Yolk-sac	5.2	.
Dorosoma sp.	Yolk-sac	5.9	.
COMMON CARP	Yolk-sac	7.3	.
COMMON CARP	Egg	1.2	.
COMMON CARP	Egg	1.3	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	6.3	.
Pimephales type	Yolk-sac	5.3	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	5.0	.
CYPRINIDAE sp.	Yolk-sac	6.3	.
CYPRINIDAE sp.	Yolk-sac	6.5	.
CYPRINIDAE sp.	Yolk-sac	6.6	.
CYPRINIDAE sp.	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	.	4
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	1.6	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	2.1	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	2.1	.
CYPRINIDAE sp.	Yolk-sac	1.3	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.6	.
CYPRINIDAE sp.	Yolk-sac	1.9	.
CYPRINIDAE sp.	Yolk-sac	2.1	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	1.6	.
CYPRINIDAE sp.	Yolk-sac	2.4	.
CYPRINIDAE sp.	Yolk-sac	1.9	.
CYPRINIDAE sp.	Yolk-sac	.	49
ICTIOBINAE sp.	Yolk-sac	6.2	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	7.5	.
ICTIOBINAE sp.	Yolk-sac	6.2	.
ICTIOBINAE sp.	Yolk-sac	6.3	.
ICTIOBINAE sp.	Yolk-sac	6.6	.
ICTIOBINAE sp.	Yolk-sac	7.3	.
ICTIOBINAE sp.	Yolk-sac	6.1	.
Lepomis sp.	Post Yolk-sac	6.1	.
DARTER sp.	Yolk-sac	6.6	.
FRESHWATER DRUM	Yolk-sac	3.9	.

SAMPLE DATE: 17 June START DATE and TIME: 17JUN14:18:07 SAMPLE DURATION (minutes): 18.00
 DIEL PERIOD: Day DEPTH: BOT REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.013563
 STUDY GRAB TEMPERATURE (F): 77.5 STUDY GRAB DISSOLVED OXYGEN (mg/L): 9.5 FOREBAY CURRENT VELOCITY (ft/sec): 1.53
 EXTRAPOLATION PERIOD: 15-21 June MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	7.2	.
Dorosoma sp.	Post Yolk-sac	6.3	.
Dorosoma sp.	Post Yolk-sac	10.1	.

APPENDIX D (cont.)

Dorosoma sp.	Post Yolk-sac	12.1	.
Dorosoma sp.	Post Yolk-sac	10.9	.
Dorosoma sp.	Post Yolk-sac	16.5	.
COMMON CARP	Egg	1.3	.
COMMON CARP	Egg	1.2	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.3	.
COMMON CARP	Yolk-sac	7.6	.
COMMON CARP	Yolk-sac	6.4	.
Pimephales type	Yolk-sac	5.5	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	6.1	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	6.1	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	6.1	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	6.5	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	.	36
Pimephales type	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	1.2	.
CYPRINIDAE sp.	Yolk-sac	1.2	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.3	.
CYPRINIDAE sp.	Yolk-sac	1.2	.
CYPRINIDAE sp.	Yolk-sac	1.2	.
CYPRINIDAE sp.	Yolk-sac	1.8	.
CYPRINIDAE sp.	Yolk-sac	1.2	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	1.8	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.2	.
CYPRINIDAE sp.	Yolk-sac	1.3	.
CYPRINIDAE sp.	Yolk-sac	2.0	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	.	15
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	5.0	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	5.8	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	5.5	.
CYPRINIDAE sp.	Yolk-sac	5.6	.
CYPRINIDAE sp.	Yolk-sac	5.6	.
CYPRINIDAE sp.	Yolk-sac	5.8	.
CYPRINIDAE sp.	Yolk-sac	5.5	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	6.1	.
CYPRINIDAE sp.	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	5.5	.
CYPRINIDAE sp.	Yolk-sac	.	5
ICTIOBINAE sp.	Yolk-sac	6.3	.
ICTIOBINAE sp.	Yolk-sac	6.8	.
ICTIOBINAE sp.	Yolk-sac	6.6	.
PUMPKINSEED type	Yolk-sac	5.7	.
PUMPKINSEED type	Yolk-sac	5.3	.
DARTER sp.	Post Yolk-sac	13.4	.
DARTER sp.	Yolk-sac	8.8	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.4	.

APPENDIX D (cont.)

FRESHWATER DRUM	Egg	2.1	.
FRESHWATER DRUM	Egg	1.9	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.7	.
UNIDENTIFIED	Yolk-sac	3.9	.

SAMPLE DATE: 17 June	START DATE and TIME: 17JUN14:18:07	SAMPLE DURATION (minutes): 10.00
DIEL PERIOD: Day	DEPTH: BOT	REPLICATE: B
STUDY GRAB TEMPERATURE (F): 77.5	STUDY GRAB DISSOLVED OXYGEN (mg/L): 9.5	VOLUME SAMPLED (gals x 10 ⁶): 0.013734
EXTRAPOLATION PERIOD: 15-21 June	MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10 ⁶): 604.8	FOREBAY CURRENT VELOCITY (ft/sec): 1.53

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	11.1	.
Dorosoma sp.	Post Yolk-sac	10.0	.
Dorosoma sp.	Post Yolk-sac	6.6	.
Dorosoma sp.	Post Yolk-sac	6.1	.
Dorosoma sp.	Post Yolk-sac	10.1	.
Dorosoma sp.	Post Yolk-sac	6.8	.
Dorosoma sp.	Post Yolk-sac	6.4	.
Dorosoma sp.	Post Yolk-sac	6.2	.
Dorosoma sp.	Post Yolk-sac	4.7	.
Dorosoma sp.	Post Yolk-sac	6.8	.
Dorosoma sp.	Post Yolk-sac	9.5	.
COMMON CARP	Egg	1.3	.
COMMON CARP	Egg	1.4	.
Pimephales type	Yolk-sac	5.3	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	4.7	.
Pimephales type	Yolk-sac	6.4	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	4.9	.
Pimephales type	Yolk-sac	4.7	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	6.1	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	.	11
CYPRINIDAE sp.	Yolk-sac	5.6	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	6.1	.
CYPRINIDAE sp.	Yolk-sac	6.3	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	5.5	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	5.8	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.2	.
CYPRINIDAE sp.	Yolk-sac	2.1	.
CYPRINIDAE sp.	Yolk-sac	1.9	.
CYPRINIDAE sp.	Yolk-sac	2.1	.
CYPRINIDAE sp.	Yolk-sac	2.2	.
CYPRINIDAE sp.	Yolk-sac	1.8	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	2.2	.
CYPRINIDAE sp.	Yolk-sac	1.3	.
CYPRINIDAE sp.	Yolk-sac	1.3	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	1.9	.
CYPRINIDAE sp.	Yolk-sac	1.7	.
CYPRINIDAE sp.	Yolk-sac	1.2	.
CYPRINIDAE sp.	Yolk-sac	1.2	.
CYPRINIDAE sp.	Yolk-sac	2.5	.
CYPRINIDAE sp.	Yolk-sac	1.6	.
CYPRINIDAE sp.	Yolk-sac	1.3	.
CYPRINIDAE sp.	Yolk-sac	1.5	.

APPENDIX D (cont.)

CYPRINIDAE sp.	Yolk-sac	.	51
ICTIOBINAE sp.	Yolk-sac	6.4	.
ICTIOBINAE sp.	Yolk-sac	6.7	.
ICTIOBINAE sp.	Yolk-sac	6.9	.
ICTIOBINAE sp.	Yolk-sac	6.4	.
PUMPKINSEED type	Yolk-sac	5.7	.
DARTER sp.	Yolk-sac	7.4	.
DARTER sp.	Yolk-sac	7.2	.
DARTER sp.	Yolk-sac	6.9	.
DARTER sp.	Post Yolk-sac	10.0	.

SAMPLE DATE: 17 June	START DATE and TIME: 17JUN14:20:32	SAMPLE DURATION (minutes): 15.00
DIEL PERIOD: Night	DEPTH: SUR	REPLICATE: A
STUDY GRAB TEMPERATURE (F): 77.2	STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.3	VOLUME SAMPLED (gals x 10 ⁶): 0.013794
EXTRAPOLATION PERIOD: 15-21 June	MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10 ⁶): 604.8	FOREBAY CURRENT VELOCITY (ft/sec): 1.00

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	6.1	.
Dorosoma sp.	Post Yolk-sac	9.4	.
Dorosoma sp.	Post Yolk-sac	8.5	.
Dorosoma sp.	Post Yolk-sac	7.7	.
Dorosoma sp.	Post Yolk-sac	8.1	.
Dorosoma sp.	Post Yolk-sac	6.4	.
COMMON CARP	Egg	1.2	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.3	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	4.7	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	4.8	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	5.3	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	5.1	.
Pimephales type	Yolk-sac	6.3	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	5.5	.
Pimephales type	Yolk-sac	5.1	.
Pimephales type	Yolk-sac	5.3	.
Pimephales type	Yolk-sac	6.1	.
Pimephales type	Yolk-sac	6.1	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	6.1	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	5.1	.
CYPRINIDAE sp.	Yolk-sac	5.6	.
CYPRINIDAE sp.	Yolk-sac	5.1	.
CYPRINIDAE sp.	Yolk-sac	6.4	.
CYPRINIDAE sp.	Yolk-sac	6.3	.
CYPRINIDAE sp.	Yolk-sac	6.3	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	2.2	.
CYPRINIDAE sp.	Yolk-sac	2.7	.
CYPRINIDAE sp.	Yolk-sac	3.0	.
CYPRINIDAE sp.	Yolk-sac	2.8	.
CYPRINIDAE sp.	Yolk-sac	1.8	.
CYPRINIDAE sp.	Yolk-sac	2.6	.
CYPRINIDAE sp.	Yolk-sac	2.8	.
CYPRINIDAE sp.	Yolk-sac	2.5	.
CYPRINIDAE sp.	Yolk-sac	1.5	.
CYPRINIDAE sp.	Yolk-sac	2.2	.
CYPRINIDAE sp.	Yolk-sac	2.7	.
CYPRINIDAE sp.	Yolk-sac	2.5	.
CYPRINIDAE sp.	Yolk-sac	1.9	.
CYPRINIDAE sp.	Yolk-sac	2.7	.
CYPRINIDAE sp.	Yolk-sac	2.3	.
CYPRINIDAE sp.	Yolk-sac	2.4	.
CYPRINIDAE sp.	Yolk-sac	2.8	.
ICTIOBINAE sp.	Yolk-sac	7.7	.
PUMPKINSEED type	Yolk-sac	5.6	.
LOGPERCH type	Yolk-sac	6.7	.
LOGPERCH type	Yolk-sac	6.3	.
DARTER sp.	Yolk-sac	7.5	.
DARTER sp.	Yolk-sac	7.0	.
DARTER sp.	Yolk-sac	7.2	.
DARTER sp.	Yolk-sac	7.2	.

APPENDIX D (cont.)

DARTER sp.	Yolk-sac	6.8	.
DARTER sp.	Yolk-sac	6.1	.
DARTER sp.	Yolk-sac	6.3	.
FRESHWATER DRUM	Post Yolk-sac	9.7	.
FRESHWATER DRUM	Post Yolk-sac	7.3	.
FRESHWATER DRUM	Post Yolk-sac	7.4	.
FRESHWATER DRUM	Egg	1.3	.
FRESHWATER DRUM	Egg	1.4	.
FRESHWATER DRUM	Egg	1.5	.

SAMPLE DATE: 17 June START DATE and TIME: 17JUN14:20:32 SAMPLE DURATION (minutes): 17.00
 DIEL PERIOD: Night DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.013818
 STUDY GRAB TEMPERATURE (F): 77.2 STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.3 FOREBAY CURRENT VELOCITY (ft/sec): 1.00
 EXTRAPOLATION PERIOD: 15-21 June MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	9.7	.
Dorosoma sp.	Post Yolk-sac	10.3	.
Dorosoma sp.	Post Yolk-sac	5.1	.
Dorosoma sp.	Post Yolk-sac	10.0	.
Dorosoma sp.	Post Yolk-sac	7.6	.
Dorosoma sp.	Post Yolk-sac	5.2	.
Dorosoma sp.	Post Yolk-sac	11.5	.
Dorosoma sp.	Post Yolk-sac	16.7	.
Dorosoma sp.	Post Yolk-sac	7.1	.
Dorosoma sp.	Post Yolk-sac	9.2	.
Dorosoma sp.	Post Yolk-sac	10.0	.
Dorosoma sp.	Post Yolk-sac	12.4	.
Dorosoma sp.	Post Yolk-sac	17.2	.
Dorosoma sp.	Post Yolk-sac	6.1	.
Dorosoma sp.	Post Yolk-sac	5.3	.
COMMON CARP	Egg	1.3	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.3	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.0	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.3	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.5	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	6.1	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	6.3	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	6.4	.
Pimephales type	Yolk-sac	4.9	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	6.3	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	5.1	.
Pimephales type	Yolk-sac	5.5	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	7.8	.
CYPRINIDAE sp.	Yolk-sac	7.0	.
CYPRINIDAE sp.	Yolk-sac	5.5	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	6.1	.
CYPRINIDAE sp.	Yolk-sac	5.8	.
CYPRINIDAE sp.	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	6.4	.
CYPRINIDAE sp.	Yolk-sac	7.1	.
CYPRINIDAE sp.	Yolk-sac	6.4	.
CYPRINIDAE sp.	Yolk-sac	6.3	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	5.1	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	5.1	.
CYPRINIDAE sp.	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	3.0	.
CYPRINIDAE sp.	Yolk-sac	2.6	.
CYPRINIDAE sp.	Yolk-sac	2.5	.
CYPRINIDAE sp.	Yolk-sac	2.4	.
CYPRINIDAE sp.	Yolk-sac	2.8	.
CYPRINIDAE sp.	Yolk-sac	2.6	.

APPENDIX D (cont.)

CYPRINIDAE sp.	Yolk-sac	1.8	.
CYPRINIDAE sp.	Yolk-sac	2.8	.
CYPRINIDAE sp.	Yolk-sac	1.3	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	6.8	.
ICTIOBINAE sp.	Yolk-sac	7.5	.
PUMPKINSEED type	Post Yolk-sac	8.4	.
PUMPKINSEED type	Post Yolk-sac	8.1	.
PUMPKINSEED type	Yolk-sac	5.2	.
Sander sp.	Yolk-sac	5.1	.
DARTER sp.	Post Yolk-sac	12.2	.
DARTER sp.	Post Yolk-sac	7.8	.
DARTER sp.	Post Yolk-sac	6.9	.
DARTER sp.	Post Yolk-sac	8.2	.
DARTER sp.	Yolk-sac	5.7	.
DARTER sp.	Post Yolk-sac	7.0	.
FRESHWATER DRUM	Post Yolk-sac	10.1	.
FRESHWATER DRUM	Post Yolk-sac	15.8	.

SAMPLE DATE: 17 June START DATE and TIME: 17JUN14:21:04 SAMPLE DURATION (minutes): 15.00
 DIEL PERIOD: Night DEPTH: BOT REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.013972
 STUDY GRAB TEMPERATURE (F): 77.2 STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.4 FOREBAY CURRENT VELOCITY (ft/sec): 1.50
 EXTRAPOLATION PERIOD: 15-21 June MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	6.3	.
Dorosoma sp.	Post Yolk-sac	8.4	.
Dorosoma sp.	Post Yolk-sac	12.7	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.2	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.0	.
COMMON CARP	Egg	1.3	.
Pimephales type	Yolk-sac	5.1	.
Pimephales type	Yolk-sac	4.9	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	4.9	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	6.1	.
Pimephales type	Yolk-sac	4.9	.
Pimephales type	Yolk-sac	4.8	.
Pimephales type	Yolk-sac	.	5
Pimephales type	Yolk-sac	.	30
CYPRINIDAE sp.	Yolk-sac	6.7	.
CYPRINIDAE sp.	Yolk-sac	4.9	.
CYPRINIDAE sp.	Yolk-sac	4.4	.
CYPRINIDAE sp.	Yolk-sac	6.4	.
CYPRINIDAE sp.	Yolk-sac	6.8	.
CYPRINIDAE sp.	Yolk-sac	5.8	.
CYPRINIDAE sp.	Yolk-sac	6.3	.
CYPRINIDAE sp.	Yolk-sac	4.9	.
CYPRINIDAE sp.	Yolk-sac	5.1	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	6.1	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	6.5	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	5.4	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	2.6	.
CYPRINIDAE sp.	Yolk-sac	2.4	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
Moxostoma sp.	Post Yolk-sac	13.3	.
Moxostoma sp.	Post Yolk-sac	12.7	.
ICTIOBINAE sp.	Yolk-sac	7.0	.
ICTIOBINAE sp.	Yolk-sac	7.1	.
ICTIOBINAE sp.	Yolk-sac	6.8	.
ICTIOBINAE sp.	Yolk-sac	7.6	.
DARTER sp.	Yolk-sac	8.1	.
DARTER sp.	Post Yolk-sac	15.1	.
DARTER sp.	Post Yolk-sac	14.0	.
FRESHWATER DRUM	Egg	1.3	.
ROUND GOBY	Juvenile	7.7	.

APPENDIX D (cont.)

ROUND GOBY	Juvenile	7.5	.
ROUND GOBY	Juvenile	7.3	.
ROUND GOBY	Juvenile	6.7	.

SAMPLE DATE: 17 June START DATE and TIME: 17JUN14:21:04 SAMPLE DURATION (minutes): 12.00
 DIEL PERIOD: Night DEPTH: BOT REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.014803
 STUDY GRAB TEMPERATURE (F): 77.2 STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.4 FOREBAY CURRENT VELOCITY (ft/sec): 1.50
 EXTRAPOLATION PERIOD: 15-21 June MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	10.9	.
Dorosoma sp.	Post Yolk-sac	10.6	.
Dorosoma sp.	Post Yolk-sac	10.2	.
Dorosoma sp.	Post Yolk-sac	7.3	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.2	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	6.1	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	4.9	.
Pimephales type	Yolk-sac	5.5	.
Pimephales type	Yolk-sac	5.1	.
Pimephales type	Yolk-sac	4.9	.
Pimephales type	Yolk-sac	4.5	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	6.1	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	.	15
CYPRINIDAE sp.	Yolk-sac	6.4	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	5.8	.
CYPRINIDAE sp.	Yolk-sac	6.1	.
CYPRINIDAE sp.	Yolk-sac	6.3	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	6.7	.
CYPRINIDAE sp.	Yolk-sac	5.1	.
CYPRINIDAE sp.	Yolk-sac	6.6	.
CYPRINIDAE sp.	Yolk-sac	2.3	.
CYPRINIDAE sp.	Yolk-sac	2.6	.
CYPRINIDAE sp.	Yolk-sac	1.4	.
CYPRINIDAE sp.	Yolk-sac	2.6	.
CYPRINIDAE sp.	Yolk-sac	2.2	.
CYPRINIDAE sp.	Yolk-sac	2.6	.
CYPRINIDAE sp.	Yolk-sac	2.9	.
CYPRINIDAE sp.	Yolk-sac	2.5	.
CYPRINIDAE sp.	Yolk-sac	2.9	.
Moxostoma sp.	Post Yolk-sac	12.7	.
Moxostoma sp.	Post Yolk-sac	15.2	.
ICTIOBINAE sp.	Yolk-sac	7.7	.
GREEN SUNFISH	Juvenile	15.2	.
PUMPKINSEED type	Yolk-sac	5.1	.
PUMPKINSEED type	Yolk-sac	5.2	.
DARTER sp.	Yolk-sac	8.3	.
DARTER sp.	Post Yolk-sac	15.1	.
DARTER sp.	Post Yolk-sac	9.9	.
FRESHWATER DRUM	Yolk-sac	6.6	.
ROUND GOBY	Juvenile	7.4	.
ROUND GOBY	Juvenile	7.6	.
ROUND GOBY	Juvenile	7.6	.
ROUND GOBY	Juvenile	7.5	.
ROUND GOBY	Juvenile	8.1	.
ROUND GOBY	Juvenile	7.1	.
ROUND GOBY	Juvenile	7.3	.
ROUND GOBY	Juvenile	7.0	.

APPENDIX D (cont.)

SAMPLE DATE: 24 June START DATE and TIME: 24JUN14:18:29 SAMPLE DURATION (minutes): 36.00
 DIEL PERIOD: Day DEPTH: SUR REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.013515
 STUDY GRAB TEMPERATURE (F): 77.5 STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.2 FOREBAY CURRENT VELOCITY (ft/sec): 1.30
 EXTRAPOLATION PERIOD: 22-30 June MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 777.6

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	12.8	.
Dorosoma sp.	Post Yolk-sac	13.4	.
Dorosoma sp.	Post Yolk-sac	10.6	.
Dorosoma sp.	Post Yolk-sac	13.8	.
Dorosoma sp.	Post Yolk-sac	11.2	.
Dorosoma sp.	Post Yolk-sac	12.2	.
Dorosoma sp.	Post Yolk-sac	9.8	.
Dorosoma sp.	Post Yolk-sac	7.5	.
Dorosoma sp.	Yolk-sac	3.7	.
COMMON CARP	Yolk-sac	6.1	.
COMMON CARP	Yolk-sac	6.0	.
COMMON CARP	Yolk-sac	6.4	.
COMMON CARP	Yolk-sac	6.7	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	5.1	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	5.3	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	6.1	.
Pimephales type	Yolk-sac	5.6	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	7.6	.
CYPRINIDAE sp.	Yolk-sac	5.1	.
CYPRINIDAE sp.	Yolk-sac	4.9	.
CYPRINIDAE sp.	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	6.7	.
CYPRINIDAE sp.	Yolk-sac	4.2	.
CYPRINIDAE sp.	Yolk-sac	5.6	.
CYPRINIDAE sp.	Yolk-sac	5.6	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
PUMPKINSEED type	Yolk-sac	5.5	.
PUMPKINSEED type	Yolk-sac	5.4	.
DARTER sp.	Yolk-sac	6.0	.
DARTER sp.	Yolk-sac	6.7	.
FRESHWATER DRUM	Post Yolk-sac	4.9	.
FRESHWATER DRUM	Egg	1.3	.
UNIDENTIFIED	Yolk-sac	3.1	.

SAMPLE DATE: 24 June START DATE and TIME: 24JUN14:18:29 SAMPLE DURATION (minutes): 27.00
 DIEL PERIOD: Day DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.014211
 STUDY GRAB TEMPERATURE (F): 77.5 STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.2 FOREBAY CURRENT VELOCITY (ft/sec): 1.30
 EXTRAPOLATION PERIOD: 22-30 June MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 777.6

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	5.4	.
Dorosoma sp.	Post Yolk-sac	10.4	.
Dorosoma sp.	Post Yolk-sac	9.7	.
COMMON CARP	Yolk-sac	7.1	.
COMMON CARP	Yolk-sac	7.1	.
COMMON CARP	Yolk-sac	5.3	.
COMMON CARP	Yolk-sac	6.0	.
COMMON CARP	Yolk-sac	5.5	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.2	.
Hypophthalmichthys type	Egg	3.2	.
Hypophthalmichthys type	Egg	3.7	.
Hypophthalmichthys type	Egg	2.1	.
Hypophthalmichthys type	Egg	3.8	.
Hypophthalmichthys type	Egg	3.8	.
Hypophthalmichthys type	Egg	3.4	.
Hypophthalmichthys type	Egg	3.6	.
Hypophthalmichthys type	Egg	2.8	.
Hypophthalmichthys type	Egg	2.9	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	5.5	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	6.1	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	6.2	.

APPENDIX D (cont.)

Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	5.5	.
Pimephales type	Yolk-sac	5.3	.
Pimephales type	Yolk-sac	5.5	.
Pimephales type	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	5.0	.
CYPRINIDAE sp.	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
PUMPKINSEED type	Yolk-sac	5.7	.
DARTER sp.	Post Yolk-sac	10.2	.
FRESHWATER DRUM	Egg	1.3	.

SAMPLE DATE: 24 June START DATE and TIME: 24JUN14:19:17 SAMPLE DURATION (minutes): 10.00
 DIEL PERIOD: Day DEPTH: BOT REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.013968
 STUDY GRAB TEMPERATURE (F): 77.2 STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.2 FOREBAY CURRENT VELOCITY (ft/sec): 1.50
 EXTRAPOLATION PERIOD: 22-30 June MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 777.6

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	11.3	.
Dorosoma sp.	Post Yolk-sac	16.1	.
COMMON CARP	Yolk-sac	5.6	.
Hypophthalmichthys type	Egg	4.3	.
Hypophthalmichthys type	Egg	4.6	.
Hypophthalmichthys type	Egg	3.8	.
Hypophthalmichthys type	Egg	3.1	.
Pimephales type	Yolk-sac	6.3	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	6.8	.
CYPRINIDAE sp.	Yolk-sac	6.6	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
BLACKSTRIPE TOPMINNOW	Yolk-sac	6.1	.
DARTER sp.	Yolk-sac	6.9	.

SAMPLE DATE: 24 June	START DATE and TIME: 24JUN14:19:17	SAMPLE DURATION (minutes): 10.00
DIEL PERIOD: Day	DEPTH: BOT	REPLICATE: B
STUDY GRAB TEMPERATURE (F): 77.2	STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.2	VOLUME SAMPLED (gals x 10 ⁶): 0.013368
EXTRAPOLATION PERIOD: 22-30 June	MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10 ⁶): 777.6	FOREBAY CURRENT VELOCITY (ft/sec): 1.50

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	10.0	.
Dorosoma sp.	Post Yolk-sac	7.2	.
Dorosoma sp.	Post Yolk-sac	9.6	.
Dorosoma sp.	Post Yolk-sac	10.1	.
COMMON CARP	Yolk-sac	5.9	.
Hypophthalmichthys type	Egg	4.5	.
Hypophthalmichthys type	Egg	3.2	.
Hypophthalmichthys type	Egg	4.1	.
Hypophthalmichthys type	Egg	4.2	.
Hypophthalmichthys type	Egg	4.7	.
Hypophthalmichthys type	Egg	4.3	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	5.4	.
CYPRINIDAE sp.	Yolk-sac	6.4	.
CYPRINIDAE sp.	Yolk-sac	6.4	.
DARTER sp.	Yolk-sac	6.9	.
FRESHWATER DRUM	Egg	1.8	.

SAMPLE DATE: 24 June	START DATE and TIME: 24JUN14:21:41	SAMPLE DURATION (minutes): 21.00
DIEL PERIOD: Night	DEPTH: SUR	REPLICATE: A
STUDY GRAB TEMPERATURE (F): 76.6	STUDY GRAB DISSOLVED OXYGEN (mg/L): 6.8	VOLUME SAMPLED (gals x 10 ⁶): 0.013720
EXTRAPOLATION PERIOD: 22-30 June	MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10 ⁶): 777.6	FOREBAY CURRENT VELOCITY (ft/sec): 1.50

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	12.1	.
Dorosoma sp.	Post Yolk-sac	7.4	.
Dorosoma sp.	Post Yolk-sac	10.0	.
Dorosoma sp.	Post Yolk-sac	11.2	.
Dorosoma sp.	Post Yolk-sac	12.8	.
Dorosoma sp.	Post Yolk-sac	9.2	.
Dorosoma sp.	Post Yolk-sac	8.7	.
Dorosoma sp.	Post Yolk-sac	12.5	.
Dorosoma sp.	Post Yolk-sac	13.7	.
COMMON CARP	Yolk-sac	6.2	.
COMMON CARP	Yolk-sac	6.1	.

APPENDIX D (cont.)

COMMON CARP	Yolk-sac	7.4	.
COMMON CARP	Yolk-sac	5.8	.
COMMON CARP	Yolk-sac	6.3	.
COMMON CARP	Yolk-sac	6.8	.
COMMON CARP	Yolk-sac	6.8	.
COMMON CARP	Yolk-sac	6.3	.
COMMON CARP	Yolk-sac	7.9	.
COMMON CARP	Yolk-sac	8.2	.
COMMON CARP	Yolk-sac	6.0	.
COMMON CARP	Yolk-sac	5.9	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.3	.
Hypophthalmichthys type	Egg	.	1
Hypophthalmichthys type	Egg	4.0	.
BLUNTNOSE MINNOW	Juvenile	17.9	.
Pimephales type	Yolk-sac	4.7	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	5.1	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	5.3	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	5.1	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	5.1	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	.	37
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	5.1	.
CYPRINIDAE sp.	Yolk-sac	6.6	.
CYPRINIDAE sp.	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	5.4	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	6.5	.
CYPRINIDAE sp.	Yolk-sac	5.6	.
CYPRINIDAE sp.	Yolk-sac	5.0	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	6.7	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	5.8	.
CYPRINIDAE sp.	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	6.5	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	5.4	.
CYPRINIDAE sp.	Yolk-sac	5.4	.
CYPRINIDAE sp.	Yolk-sac	5.4	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	6.7	.
ICTIOBINAE sp.	Yolk-sac	6.1	.
ICTIOBINAE sp.	Yolk-sac	7.2	.
ICTIOBINAE sp.	Yolk-sac	6.7	.
ICTIOBINAE sp.	Yolk-sac	6.1	.
BLACKSTRIPE TOPMINNOW	Juvenile	10.2	.
PUMPKINSEED type	Post Yolk-sac	10.0	.
PUMPKINSEED type	Yolk-sac	6.0	.
PUMPKINSEED type	Yolk-sac	3.7	.
LOGPERCH type	Yolk-sac	5.7	.
DARTER sp.	Yolk-sac	8.0	.
FRESHWATER DRUM	Post Yolk-sac	10.4	.
FRESHWATER DRUM	Post Yolk-sac	6.6	.
FRESHWATER DRUM	Post Yolk-sac	7.6	.
FRESHWATER DRUM	Post Yolk-sac	8.7	.
FRESHWATER DRUM	Post Yolk-sac	9.7	.
FRESHWATER DRUM	Post Yolk-sac	6.7	.
ROUND GOBY	Juvenile	6.8	.

APPENDIX D (cont.)

SAMPLE DATE: 24 June START DATE and TIME: 24JUN14:21:41 SAMPLE DURATION (minutes): 21.00
 DIEL PERIOD: Night DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.023002
 STUDY GRAB TEMPERATURE (F): 76.6 STUDY GRAB DISSOLVED OXYGEN (mg/L): 6.8 FOREBAY CURRENT VELOCITY (ft/sec): 1.50
 EXTRAPOLATION PERIOD: 22-30 June MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 777.6

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
GIZZARD SHAD	Juvenile	21.2	.
GIZZARD SHAD	Juvenile	21.0	.
GIZZARD SHAD	Juvenile	18.7	.
Dorosoma sp.	Post Yolk-sac	15.2	.
Dorosoma sp.	Post Yolk-sac	6.8	.
Dorosoma sp.	Post Yolk-sac	8.7	.
Dorosoma sp.	Post Yolk-sac	8.2	.
Dorosoma sp.	Post Yolk-sac	8.0	.
Dorosoma sp.	Post Yolk-sac	10.0	.
Dorosoma sp.	Post Yolk-sac	6.5	.
Dorosoma sp.	Post Yolk-sac	10.1	.
COMMON CARP	Yolk-sac	5.7	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	6.7	.
COMMON CARP	Yolk-sac	6.2	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	5.9	.
COMMON CARP	Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	7.5	.
COMMON CARP	Yolk-sac	6.0	.
COMMON CARP	Yolk-sac	6.2	.
COMMON CARP	Yolk-sac	7.1	.
COMMON CARP	Yolk-sac	5.8	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	6.4	.
COMMON CARP	Yolk-sac	5.8	.
COMMON CARP	Yolk-sac	7.4	.
COMMON CARP	Yolk-sac	1.0	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.4	.
Hypophthalmichthys type	Egg	4.4	.
Hypophthalmichthys type	Egg	3.9	.
Hypophthalmichthys type	Egg	4.4	.
Hypophthalmichthys type	Egg	4.8	.
Hypophthalmichthys type	Egg	3.9	.
BLUNTNOSE MINNOW	Juvenile	24.1	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	4.8	.
Pimephales type	Yolk-sac	6.1	.
Pimephales type	Yolk-sac	5.1	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	5.1	.
Pimephales type	Yolk-sac	5.5	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	5.1	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	5.1	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	4.8	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	.	7
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	5.6	.
CYPRINIDAE sp.	Yolk-sac	6.1	.
CYPRINIDAE sp.	Yolk-sac	5.8	.
CYPRINIDAE sp.	Yolk-sac	5.4	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	5.5	.
ICTIOBINAE sp.	Juvenile	19.8	.
BROOK SILVERSIDE	Yolk-sac	5.2	.
PUMPKINSEED type	Yolk-sac	5.2	.
PUMPKINSEED type	Yolk-sac	4.9	.
Lepomis sp.	Post Yolk-sac	9.0	.
Lepomis sp.	Post Yolk-sac	15.6	.
Lepomis sp.	Post Yolk-sac	10.2	.
LOGPERCH type	Yolk-sac	6.2	.
DARTER sp.	Yolk-sac	6.5	.
DARTER sp.	Yolk-sac	6.2	.
DARTER sp.	Post Yolk-sac	11.2	.

APPENDIX D (cont.)

FRESHWATER DRUM	Post Yolk-sac	6.1	.
FRESHWATER DRUM	Post Yolk-sac	8.0	.
ROUND GOBY	Juvenile	7.3	.
ROUND GOBY	Juvenile	7.8	.
ROUND GOBY	Juvenile	9.0	.
ROUND GOBY	Juvenile	7.7	.
ROUND GOBY	Juvenile	7.7	.
ROUND GOBY	Juvenile	7.5	.

SAMPLE DATE: 24 June START DATE and TIME: 24JUN14:22:17 SAMPLE DURATION (minutes): 14.00
 DIEL PERIOD: Night DEPTH: BOT REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.015147
 STUDY GRAB TEMPERATURE (F): 76.6 STUDY GRAB DISSOLVED OXYGEN (mg/L): 6.8 FOREBAY CURRENT VELOCITY (ft/sec): 1.50
 EXTRAPOLATION PERIOD: 22-30 June MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 777.6

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	13.4	.
Dorosoma sp.	Post Yolk-sac	14.7	.
COMMON CARP	Yolk-sac	6.8	.
COMMON CARP	Yolk-sac	5.5	.
COMMON CARP	Yolk-sac	7.0	.
COMMON CARP	Yolk-sac	6.0	.
COMMON CARP	Yolk-sac	7.1	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	6.4	.
Hypophthalmichthys type	Egg	4.8	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	5.3	.
Pimephales type	Yolk-sac	5.3	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	6.1	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	4.8	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	4.9	.
CYPRINIDAE sp.	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	7.0	.
CYPRINIDAE sp.	Yolk-sac	6.7	.
CYPRINIDAE sp.	Yolk-sac	6.5	.
CYPRINIDAE sp.	Yolk-sac	5.5	.
CYPRINIDAE sp.	Yolk-sac	6.1	.
CYPRINIDAE sp.	Yolk-sac	7.0	.
CYPRINIDAE sp.	Yolk-sac	5.6	.
ICTIOBINAE sp.	Juvenile	24.5	.
BROOK SILVERSIDE	Yolk-sac	5.6	.
LARGEMOUTH BASS	Juvenile	35.5	.
LOGPERCH type	Yolk-sac	5.5	.
DARTER sp.	Yolk-sac	7.0	.
DARTER sp.	Yolk-sac	8.4	.
DARTER sp.	Juvenile	13.1	.
DARTER sp.	Juvenile	13.7	.
DARTER sp.	Post Yolk-sac	10.3	.
FRESHWATER DRUM	Post Yolk-sac	7.7	.
FRESHWATER DRUM	Post Yolk-sac	7.9	.
FRESHWATER DRUM	Post Yolk-sac	11.3	.
ROUND GOBY	Juvenile	8.0	.
ROUND GOBY	Juvenile	14.5	.
ROUND GOBY	Juvenile	15.5	.

SAMPLE DATE: 24 June START DATE and TIME: 24JUN14:22:17 SAMPLE DURATION (minutes): 11.00
 DIEL PERIOD: Night DEPTH: BOT REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.014204
 STUDY GRAB TEMPERATURE (F): 76.6 STUDY GRAB DISSOLVED OXYGEN (mg/L): 6.8 FOREBAY CURRENT VELOCITY (ft/sec): 1.50
 EXTRAPOLATION PERIOD: 22-30 June MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 777.6

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	9.6	.
Dorosoma sp.	Post Yolk-sac	10.4	.
Dorosoma sp.	Post Yolk-sac	14.3	.
COMMON CARP	Yolk-sac	6.5	.
COMMON CARP	Yolk-sac	6.3	.
COMMON CARP	Yolk-sac	5.3	.
COMMON CARP	Yolk-sac	5.7	.
COMMON CARP	Yolk-sac	6.4	.
COMMON CARP	Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	7.6	.
COMMON CARP	Yolk-sac	6.1	.
Hypophthalmichthys type	Egg	4.8	.
Hypophthalmichthys type	Egg	4.2	.
Hypophthalmichthys type	Egg	.	1
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	5.5	.
Pimephales type	Yolk-sac	4.4	.
Pimephales type	Yolk-sac	4.7	.

APPENDIX D (cont.)

Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	5.1	.
CYPRINIDAE sp.	Yolk-sac	6.4	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	5.4	.
ICTIOBINAE sp.	Post Yolk-sac	13.4	.
PUMPKINSEED type	Yolk-sac	5.5	.
PUMPKINSEED type	Yolk-sac	4.8	.
LOGPERCH type	Yolk-sac	6.0	.
DARTER sp.	Post Yolk-sac	13.0	.
FRESHWATER DRUM	Juvenile	26.1	.
FRESHWATER DRUM	Post Yolk-sac	13.2	.
FRESHWATER DRUM	Post Yolk-sac	5.2	.
ROUND GOBY	Juvenile	7.6	.
ROUND GOBY	Juvenile	13.0	.

SAMPLE DATE: 9 July	START DATE and TIME: 09JUL14:18:08	SAMPLE DURATION (minutes): 22.00	
DIEL PERIOD: Day	DEPTH: SUR	REPLICATE: A	VOLUME SAMPLED (gals x 10^6): 0.013343
STUDY GRAB TEMPERATURE (F): 80.1	STUDY GRAB DISSOLVED OXYGEN (mg/L): 9.0	FOREBAY CURRENT VELOCITY (ft/sec): 1.10	
EXTRAPOLATION PERIOD: 1-12 July	MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10^6): 1036.8		
TAXA	LIFE STAGE	LENGTH	PLUS COUNT
-----	-----	-----	-----
Lepomis sp.	Post Yolk-sac	7.6	.
LOGPERCH type	Yolk-sac	6.2	.
DARTER sp.	Yolk-sac	8.6	.

SAMPLE DATE: 9 July	START DATE and TIME: 09JUL14:18:08	SAMPLE DURATION (minutes): 13.00	
DIEL PERIOD: Day	DEPTH: SUR	REPLICATE: B	VOLUME SAMPLED (gals x 10^6): 0.015999
STUDY GRAB TEMPERATURE (F): 80.1	STUDY GRAB DISSOLVED OXYGEN (mg/L): 9.0	FOREBAY CURRENT VELOCITY (ft/sec): 1.10	
EXTRAPOLATION PERIOD: 1-12 July	MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10^6): 1036.8		
TAXA	LIFE STAGE	LENGTH	PLUS COUNT
-----	-----	-----	-----
GIZZARD SHAD	Juvenile	36.0	.
Hypophthalmichthys type	Egg	3.2	.

SAMPLE DATE: 9 July	START DATE and TIME: 09JUL14:18:40	SAMPLE DURATION (minutes): 11.00	
DIEL PERIOD: Day	DEPTH: BOT	REPLICATE: A	VOLUME SAMPLED (gals x 10^6): 0.014534
STUDY GRAB TEMPERATURE (F): 80.1	STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.9	FOREBAY CURRENT VELOCITY (ft/sec): 1.40	
EXTRAPOLATION PERIOD: 1-12 July	MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10^6): 1036.8		
TAXA	LIFE STAGE	LENGTH	PLUS COUNT
-----	-----	-----	-----
COMMON CARP	Egg	1.4	.
Hypophthalmichthys type	Egg	2.8	.
Hypophthalmichthys type	Egg	2.6	.

SAMPLE DATE: 9 July	START DATE and TIME: 09JUL14:18:40	SAMPLE DURATION (minutes): 11.00	
DIEL PERIOD: Day	DEPTH: BOT	REPLICATE: B	VOLUME SAMPLED (gals x 10^6): 0.015402
STUDY GRAB TEMPERATURE (F): 80.1	STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.9	FOREBAY CURRENT VELOCITY (ft/sec): 1.40	
EXTRAPOLATION PERIOD: 1-12 July	MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10^6): 1036.8		
TAXA	LIFE STAGE	LENGTH	PLUS COUNT
-----	-----	-----	-----
COMMON CARP	Egg	1.3	.
Hypophthalmichthys type	Egg	3.0	.
Pimephales type	Yolk-sac	5.6	.
ICTIOBINAE sp.	Yolk-sac	6.0	.

SAMPLE DATE: 9 July	START DATE and TIME: 09JUL14:21:31	SAMPLE DURATION (minutes): 14.00	
DIEL PERIOD: Night	DEPTH: SUR	REPLICATE: A	VOLUME SAMPLED (gals x 10^6): 0.018442
STUDY GRAB TEMPERATURE (F): 79.0	STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.1	FOREBAY CURRENT VELOCITY (ft/sec): 0.90	
EXTRAPOLATION PERIOD: 1-12 July	MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10^6): 1036.8		
TAXA	LIFE STAGE	LENGTH	PLUS COUNT
-----	-----	-----	-----
GAR sp.	Post Yolk-sac	25.2	.
GAR sp.	Post Yolk-sac	26.1	.
Dorosoma sp.	Post Yolk-sac	17.1	.
Dorosoma sp.	Post Yolk-sac	8.5	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	5.3	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	6.0	.

APPENDIX D (cont.)

Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	4.9	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Post Yolk-sac	6.0	.
Pimephales type	Post Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	6.3	.
CYPRINIDAE sp.	Yolk-sac	6.7	.
CYPRINIDAE sp.	Yolk-sac	4.7	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	5.1	.
CYPRINIDAE sp.	Yolk-sac	5.1	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	6.3	.
CYPRINIDAE sp.	Yolk-sac	5.6	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
ICTIOBINAE sp.	Yolk-sac	6.2	.
ICTIOBINAE sp.	Yolk-sac	6.7	.
PUMPKINSEED type	Post Yolk-sac	8.1	.
PUMPKINSEED type	Post Yolk-sac	7.2	.
FRESHWATER DRUM	Egg	1.2	.
ROUND GOBY	Juvenile	6.9	.
ROUND GOBY	Juvenile	7.3	.
ROUND GOBY	Juvenile	6.7	.
ROUND GOBY	Juvenile	6.8	.
ROUND GOBY	Juvenile	6.7	.
ROUND GOBY	Juvenile	7.0	.
ROUND GOBY	Juvenile	6.9	.
ROUND GOBY	Juvenile	7.0	.
ROUND GOBY	Juvenile	6.8	.

SAMPLE DATE: 9 July START DATE and TIME: 09JUL14:21:31 SAMPLE DURATION (minutes): 14.00
 DIEL PERIOD: Night DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.017087
 STUDY GRAB TEMPERATURE (F): 79.0 STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.1 FOREBAY CURRENT VELOCITY (ft/sec): 0.90
 EXTRAPOLATION PERIOD: 1-12 July MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1036.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	12.2	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	6.4	.
Pimephales type	Yolk-sac	6.4	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	6.7	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	6.5	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	6.3	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	6.7	.
CHANNEL CATFISH	Juvenile	18.0	.
CHANNEL CATFISH	Juvenile	17.6	.
CHANNEL CATFISH	Juvenile	16.0	.
FRESHWATER DRUM	Egg	1.5	.
ROUND GOBY	Juvenile	7.5	.
ROUND GOBY	Juvenile	7.4	.
ROUND GOBY	Juvenile	7.6	.
ROUND GOBY	Juvenile	7.2	.

SAMPLE DATE: 9 July START DATE and TIME: 09JUL14:21:55 SAMPLE DURATION (minutes): 11.00
 DIEL PERIOD: Night DEPTH: BOT REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.014709
 STUDY GRAB TEMPERATURE (F): 79.0 STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.0 FOREBAY CURRENT VELOCITY (ft/sec): 1.50
 EXTRAPOLATION PERIOD: 1-12 July MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1036.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
COMMON CARP	Egg	1.4	.
Pimephales type	Yolk-sac	6.4	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	5.8	.
CYPRINIDAE sp.	Yolk-sac	6.6	.
CHANNEL CATFISH	Juvenile	17.0	.
PUMPKINSEED type	Juvenile	13.8	.
PUMPKINSEED type	Juvenile	14.7	.

APPENDIX D (cont.)

FRESHWATER DRUM	Egg	1.6	.
FRESHWATER DRUM	Egg	1.5	.
ROUND GOBY	Juvenile	6.9	.
ROUND GOBY	Juvenile	7.3	.
ROUND GOBY	Juvenile	7.1	.
ROUND GOBY	Juvenile	7.8	.
ROUND GOBY	Juvenile	7.2	.
ROUND GOBY	Juvenile	8.5	.
ROUND GOBY	Juvenile	6.9	.
ROUND GOBY	Juvenile	7.0	.
ROUND GOBY	Juvenile	7.4	.
ROUND GOBY	Juvenile	7.5	.
ROUND GOBY	Juvenile	7.5	.
ROUND GOBY	Juvenile	7.7	.
ROUND GOBY	Juvenile	7.4	.

SAMPLE DATE: 9 July	START DATE and TIME: 09JUL14:21:55	SAMPLE DURATION (minutes): 11.00
DIEL PERIOD: Night	DEPTH: BOT	REPLICATE: B
STUDY GRAB TEMPERATURE (F): 79.0	STUDY GRAB DISSOLVED OXYGEN (mg/L): 8.0	VOLUME SAMPLED (gals x 10 ⁶): 0.015056
EXTRAPOLATION PERIOD: 1-12 July	MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10 ⁶): 1036.8	FOREBAY CURRENT VELOCITY (ft/sec): 1.50

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
COMMON CARP	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	5.5	.
ICTIOBINAE sp.	Yolk-sac	6.8	.
FRESHWATER DRUM	Yolk-sac	4.9	.
ROUND GOBY	Juvenile	7.2	.
ROUND GOBY	Juvenile	7.5	.
ROUND GOBY	Juvenile	7.2	.

SAMPLE DATE: 15 July	START DATE and TIME: 15JUL14:18:03	SAMPLE DURATION (minutes): 12.00
DIEL PERIOD: Day	DEPTH: SUR	REPLICATE: A
STUDY GRAB TEMPERATURE (F): 75.2	STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.6	VOLUME SAMPLED (gals x 10 ⁶): 0.013773
EXTRAPOLATION PERIOD: 13-19 July	MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10 ⁶): 604.8	FOREBAY CURRENT VELOCITY (ft/sec): 1.60

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.1	.
COMMON CARP	Egg	1.4	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	5.1	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CATOSTOMIDAE sp.	Yolk-sac	4.8	.

SAMPLE DATE: 15 July	START DATE and TIME: 15JUL14:18:03	SAMPLE DURATION (minutes): 13.00
DIEL PERIOD: Day	DEPTH: SUR	REPLICATE: B
STUDY GRAB TEMPERATURE (F): 75.2	STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.6	VOLUME SAMPLED (gals x 10 ⁶): 0.013440
EXTRAPOLATION PERIOD: 13-19 July	MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10 ⁶): 604.8	FOREBAY CURRENT VELOCITY (ft/sec): 1.60

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
COMMON CARP	Egg	1.2	.
Pimephales type	Yolk-sac	4.9	.
CYPRINIDAE sp.	Yolk-sac	5.6	.
Lepomis sp.	Yolk-sac	5.5	.
FRESHWATER DRUM	Egg	1.2	.

SAMPLE DATE: 15 July	START DATE and TIME: 15JUL14:18:30	SAMPLE DURATION (minutes): 12.00
DIEL PERIOD: Day	DEPTH: BOT	REPLICATE: A
STUDY GRAB TEMPERATURE (F): 75.0	STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.6	VOLUME SAMPLED (gals x 10 ⁶): 0.014907
EXTRAPOLATION PERIOD: 13-19 July	MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10 ⁶): 604.8	FOREBAY CURRENT VELOCITY (ft/sec): 1.60

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	9.3	.
Dorosoma sp.	Post Yolk-sac	7.8	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.4	.
Pimephales type	Yolk-sac	6.5	.
Pimephales type	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	4.7	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
FRESHWATER DRUM	Yolk-sac	5.4	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.5	.

APPENDIX D (cont.)

SAMPLE DATE: 15 July START DATE and TIME: 15JUL14:18:30 SAMPLE DURATION (minutes): 12.00
 DIEL PERIOD: Day DEPTH: BOT REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.016430
 STUDY GRAB TEMPERATURE (F): 75.0 STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.6 FOREBAY CURRENT VELOCITY (ft/sec): 1.60
 EXTRAPOLATION PERIOD: 13-19 July MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.3	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.5	.
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.3	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	5.3	.
Pimephales type	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	6.7	.
CYPRINIDAE sp.	Yolk-sac	5.6	.
CYPRINIDAE sp.	Yolk-sac	4.9	.
CYPRINIDAE sp.	Yolk-sac	4.7	.
FRESHWATER DRUM	Yolk-sac	5.4	.

SAMPLE DATE: 15 July START DATE and TIME: 15JUL14:21:37 SAMPLE DURATION (minutes): 12.00
 DIEL PERIOD: Night DEPTH: SUR REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.014132
 STUDY GRAB TEMPERATURE (F): 74.5 STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.3 FOREBAY CURRENT VELOCITY (ft/sec): 1.40
 EXTRAPOLATION PERIOD: 13-19 July MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
GIZZARD SHAD	Juvenile	24.1	.
Dorosoma sp.	Post Yolk-sac	10.3	.
COMMON CARP	Yolk-sac	6.2	.
COMMON CARP	Yolk-sac	7.0	.
COMMON CARP	Yolk-sac	7.0	.
COMMON CARP	Yolk-sac	6.6	.
COMMON CARP	Egg	1.5	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	4.8	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	4.8	.
Pimephales type	Yolk-sac	4.8	.
Pimephales type	Yolk-sac	6.1	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	.	18
CYPRINIDAE sp.	Yolk-sac	6.4	.
CYPRINIDAE sp.	Yolk-sac	6.5	.
CYPRINIDAE sp.	Yolk-sac	6.5	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	6.6	.
CYPRINIDAE sp.	Yolk-sac	6.4	.
CYPRINIDAE sp.	Yolk-sac	5.1	.
CYPRINIDAE sp.	Yolk-sac	5.6	.
CYPRINIDAE sp.	Yolk-sac	6.4	.
CYPRINIDAE sp.	Yolk-sac	6.1	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	5.1	.
CYPRINIDAE sp.	Yolk-sac	6.7	.
CYPRINIDAE sp.	Yolk-sac	5.4	.
CHANNEL CATFISH	Juvenile	16.0	.
BANDED KILLIFISH	Juvenile	17.5	.
PUMPKINSEED type	Yolk-sac	5.8	.
PUMPKINSEED type	Yolk-sac	5.8	.
PUMPKINSEED type	Yolk-sac	4.8	.
PUMPKINSEED type	Yolk-sac	6.0	.
Lepomis sp.	Post Yolk-sac	10.7	.
Lepomis sp.	Post Yolk-sac	8.8	.
Lepomis sp.	Juvenile	15.0	.
Lepomis sp.	Juvenile	15.3	.
Lepomis sp.	Juvenile	16.2	.
Lepomis sp.	Juvenile	16.4	.
ROUND GOBY	Juvenile	6.7	.

APPENDIX D (cont.)

SAMPLE DATE: 15 July START DATE and TIME: 15JUL14:21:37 SAMPLE DURATION (minutes): 15.00
 DIEL PERIOD: Night DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.013992
 STUDY GRAB TEMPERATURE (F): 74.5 STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.3 FOREBAY CURRENT VELOCITY (ft/sec): 1.40
 EXTRAPOLATION PERIOD: 13-19 July MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	9.7	.
COMMON CARP	Yolk-sac	7.3	.
COMMON CARP	Juvenile	29.0	.
COMMON CARP	Egg	1.7	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	4.9	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	5.5	.
Pimephales type	Yolk-sac	4.4	.
Pimephales type	Yolk-sac	4.8	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	6.5	.
Pimephales type	Yolk-sac	5.3	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	5.5	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	5.5	.
Pimephales type	Yolk-sac	4.8	.
Pimephales type	Yolk-sac	5.6	.
CYPRINIDAE sp.	Yolk-sac	6.4	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	5.8	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CHANNEL CATFISH	Juvenile	16.9	.
CHANNEL CATFISH	Juvenile	18.7	.
CHANNEL CATFISH	Juvenile	15.4	.
CHANNEL CATFISH	Juvenile	16.8	.
Lepomis sp.	Juvenile	10.4	.
Lepomis sp.	Juvenile	13.2	.
Lepomis sp.	Juvenile	14.0	.
Lepomis sp.	Juvenile	14.2	.
Lepomis sp.	Juvenile	13.9	.
DARTER sp.	Post Yolk-sac	10.3	.
ROUND GOBY	Juvenile	7.8	.
ROUND GOBY	Juvenile	7.6	.

SAMPLE DATE: 15 July START DATE and TIME: 15JUL14:22:11 SAMPLE DURATION (minutes): 13.00
 DIEL PERIOD: Night DEPTH: BOT REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.016009
 STUDY GRAB TEMPERATURE (F): 74.3 STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.3 FOREBAY CURRENT VELOCITY (ft/sec): 1.40
 EXTRAPOLATION PERIOD: 13-19 July MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	8.2	.
COMMON CARP	Egg	1.1	.
COMMON CARP	Egg	1.1	.
Pimephales type	Yolk-sac	4.8	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	5.3	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	5.3	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	4.7	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	.	1
Pimephales type	Yolk-sac	.	3
CYPRINIDAE sp.	Yolk-sac	6.7	.
CYPRINIDAE sp.	Yolk-sac	5.4	.
CYPRINIDAE sp.	Yolk-sac	6.1	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	6.5	.
CYPRINIDAE sp.	Yolk-sac	6.0	.

APPENDIX D (cont.)

CYPRINIDAE sp.	Yolk-sac	5.9	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CHANNEL CATFISH	Juvenile	15.6	.
CHANNEL CATFISH	Juvenile	16.1	.
PUMPKINSEED type	Yolk-sac	4.6	.
PUMPKINSEED type	Yolk-sac	5.4	.
PUMPKINSEED type	Yolk-sac	5.2	.
PUMPKINSEED type	Yolk-sac	5.1	.
Lepomis sp.	Juvenile	14.1	.
Lepomis sp.	Juvenile	11.2	.

SAMPLE DATE: 15 July START DATE and TIME: 15JUL14:22:11 SAMPLE DURATION (minutes): 13.00
 DIEL PERIOD: Night DEPTH: BOT REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.017717
 STUDY GRAB TEMPERATURE (F): 74.3 STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.3 FOREBAY CURRENT VELOCITY (ft/sec): 1.40
 EXTRAPOLATION PERIOD: 13-19 July MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	8.9	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	6.1	.
Pimephales type	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	7.2	.
CHANNEL CATFISH	Juvenile	10.2	.
CHANNEL CATFISH	Juvenile	10.4	.
CHANNEL CATFISH	Juvenile	10.6	.
CHANNEL CATFISH	Juvenile	12.7	.
CHANNEL CATFISH	Juvenile	10.6	.
PUMPKINSEED type	Yolk-sac	5.6	.
PUMPKINSEED type	Yolk-sac	4.7	.
Lepomis sp.	Juvenile	9.6	.
Lepomis sp.	Juvenile	10.6	.
Lepomis sp.	Juvenile	11.0	.
Lepomis sp.	Juvenile	10.0	.
Lepomis sp.	Juvenile	15.5	.
Lepomis sp.	Juvenile	14.8	.
Lepomis sp.	Juvenile	16.2	.
Lepomis sp.	Juvenile	18.3	.
LOGPERCH type	Yolk-sac	6.2	.
LOGPERCH type	Yolk-sac	6.3	.
LOGPERCH type	Yolk-sac	5.6	.
FRESHWATER DRUM	Egg	1.5	.
FRESHWATER DRUM	Egg	1.6	.

SAMPLE DATE: 22 July START DATE and TIME: 22JUL14:18:11 SAMPLE DURATION (minutes): 11.00
 DIEL PERIOD: Day DEPTH: SUR REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.014226
 STUDY GRAB TEMPERATURE (F): 83.3 STUDY GRAB DISSOLVED OXYGEN (mg/L): 10.5 FOREBAY CURRENT VELOCITY (ft/sec): 1.60
 EXTRAPOLATION PERIOD: 20-26 July MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Pimephales type	Yolk-sac	4.8	.
FRESHWATER DRUM	Yolk-sac	4.2	.
FRESHWATER DRUM	Yolk-sac	3.2	.
FRESHWATER DRUM	Yolk-sac	4.2	.
UNIDENTIFIED	Yolk-sac	2.7	.
UNIDENTIFIED	Yolk-sac	2.9	.

SAMPLE DATE: 22 July START DATE and TIME: 22JUL14:18:11 SAMPLE DURATION (minutes): 11.00
 DIEL PERIOD: Day DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.015016
 STUDY GRAB TEMPERATURE (F): 83.3 STUDY GRAB DISSOLVED OXYGEN (mg/L): 10.5 FOREBAY CURRENT VELOCITY (ft/sec): 1.60
 EXTRAPOLATION PERIOD: 20-26 July MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Pimephales type	Yolk-sac	3.8	.
UNIDENTIFIED	Egg	1.2	.

SAMPLE DATE: 22 July START DATE and TIME: 22JUL14:18:34 SAMPLE DURATION (minutes): 11.00
 DIEL PERIOD: Day DEPTH: BOT REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.013453
 STUDY GRAB TEMPERATURE (F): 82.9 STUDY GRAB DISSOLVED OXYGEN (mg/L): 10.4 FOREBAY CURRENT VELOCITY (ft/sec): 1.60
 EXTRAPOLATION PERIOD: 20-26 July MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	5.6	.
CYPRINIDAE sp.	Yolk-sac	6.6	.

APPENDIX D (cont.)

FRESHWATER DRUM	Yolk-sac	3.8	.
UNIDENTIFIED	Egg	1.3	.
UNIDENTIFIED	Egg	1.4	.
UNIDENTIFIED	Egg	1.4	.

SAMPLE DATE: 22 July START DATE and TIME: 22JUL14:18:34 SAMPLE DURATION (minutes): 11.00
 DIEL PERIOD: Day DEPTH: BOT REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.014740
 STUDY GRAB TEMPERATURE (F): 82.9 STUDY GRAB DISSOLVED OXYGEN (mg/L): 10.4 FOREBAY CURRENT VELOCITY (ft/sec): 1.60
 EXTRAPOLATION PERIOD: 20-26 July MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Pimephales type	Yolk-sac	5.0	.

SAMPLE DATE: 22 July START DATE and TIME: 22JUL14:21:23 SAMPLE DURATION (minutes): 11.00
 DIEL PERIOD: Night DEPTH: SUR REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.015126
 STUDY GRAB TEMPERATURE (F): 82.6 STUDY GRAB DISSOLVED OXYGEN (mg/L): 9.4 FOREBAY CURRENT VELOCITY (ft/sec): 1.60
 EXTRAPOLATION PERIOD: 20-26 July MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	6.3	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	5.1	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	6.3	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	6.7	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	5.0	.
FRESHWATER DRUM	Yolk-sac	3.6	.

SAMPLE DATE: 22 July START DATE and TIME: 22JUL14:21:23 SAMPLE DURATION (minutes): 11.00
 DIEL PERIOD: Night DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.015126
 STUDY GRAB TEMPERATURE (F): 82.6 STUDY GRAB DISSOLVED OXYGEN (mg/L): 9.4 FOREBAY CURRENT VELOCITY (ft/sec): 1.60
 EXTRAPOLATION PERIOD: 20-26 July MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Pimephales type	Yolk-sac	5.5	.
Pimephales type	Yolk-sac	6.4	.
CYPRINIDAE sp.	Yolk-sac	6.6	.
CYPRINIDAE sp.	Yolk-sac	6.5	.
FRESHWATER DRUM	Yolk-sac	3.1	.

SAMPLE DATE: 22 July START DATE and TIME: 22JUL14:21:53 SAMPLE DURATION (minutes): 11.00
 DIEL PERIOD: Night DEPTH: BOT REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.014890
 STUDY GRAB TEMPERATURE (F): 82.4 STUDY GRAB DISSOLVED OXYGEN (mg/L): 9.1 FOREBAY CURRENT VELOCITY (ft/sec): 1.60
 EXTRAPOLATION PERIOD: 20-26 July MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
NO ICHTHYOPLANKTON	.	.	0

SAMPLE DATE: 22 July START DATE and TIME: 22JUL14:21:53 SAMPLE DURATION (minutes): 11.00
 DIEL PERIOD: Night DEPTH: BOT REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.013822
 STUDY GRAB TEMPERATURE (F): 82.4 STUDY GRAB DISSOLVED OXYGEN (mg/L): 9.1 FOREBAY CURRENT VELOCITY (ft/sec): 1.60
 EXTRAPOLATION PERIOD: 20-26 July MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	4.8	.
Pimephales type	Yolk-sac	5.1	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	6.1	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	5.4	.
CYPRINIDAE sp.	Yolk-sac	6.1	.

APPENDIX D (cont.)

SAMPLE DATE: 29 July START DATE and TIME: 29JUL14:18:12 SAMPLE DURATION (minutes): 13.00
 DIEL PERIOD: Day DEPTH: SUR REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.018102
 STUDY GRAB TEMPERATURE (F): 80.4 STUDY GRAB DISSOLVED OXYGEN (mg/L): 11.0 FOREBAY CURRENT VELOCITY (ft/sec): 1.20
 EXTRAPOLATION PERIOD: 27 July-2 August MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
CYPRINIDAE sp.	Yolk-sac	5.5	.
CYPRINIDAE sp.	Yolk-sac	1.9	.
CYPRINIDAE sp.	Yolk-sac	2.7	.
FRESHWATER DRUM	Yolk-sac	2.5	.
UNIDENTIFIED	Egg	1.2	.

SAMPLE DATE: 29 July START DATE and TIME: 29JUL14:18:12 SAMPLE DURATION (minutes): 13.00
 DIEL PERIOD: Day DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.014622
 STUDY GRAB TEMPERATURE (F): 80.4 STUDY GRAB DISSOLVED OXYGEN (mg/L): 11.0 FOREBAY CURRENT VELOCITY (ft/sec): 1.20
 EXTRAPOLATION PERIOD: 27 July-2 August MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
COMMON CARP	Egg	1.2	.
COMMON CARP	Egg	1.3	.
COMMON CARP	Egg	1.2	.
Pimephales type	Yolk-sac	4.9	.
CYPRINIDAE sp.	Yolk-sac	5.3	.
CYPRINIDAE sp.	Yolk-sac	3.0	.
ICTIOBINAE sp.	Yolk-sac	8.2	.
PUMPKINSEED type	Yolk-sac	5.2	.
UNIDENTIFIED	Egg	1.2	.

SAMPLE DATE: 29 July START DATE and TIME: 29JUL14:18:40 SAMPLE DURATION (minutes): 12.00
 DIEL PERIOD: Day DEPTH: BOT REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.016894
 STUDY GRAB TEMPERATURE (F): 79.5 STUDY GRAB DISSOLVED OXYGEN (mg/L): 10.6 FOREBAY CURRENT VELOCITY (ft/sec): 1.50
 EXTRAPOLATION PERIOD: 27 July-2 August MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
CYPRINIDAE sp.	Yolk-sac	6.8	.
CYPRINIDAE sp.	Yolk-sac	6.3	.
CYPRINIDAE sp.	Yolk-sac	6.4	.
CYPRINIDAE sp.	Yolk-sac	6.3	.

SAMPLE DATE: 29 July START DATE and TIME: 29JUL14:18:40 SAMPLE DURATION (minutes): 12.00
 DIEL PERIOD: Day DEPTH: BOT REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.016752
 STUDY GRAB TEMPERATURE (F): 79.5 STUDY GRAB DISSOLVED OXYGEN (mg/L): 10.6 FOREBAY CURRENT VELOCITY (ft/sec): 1.50
 EXTRAPOLATION PERIOD: 27 July-2 August MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
COMMON CARP	Egg	1.4	.
COMMON CARP	Egg	1.3	.
CYPRINIDAE sp.	Yolk-sac	7.2	.

SAMPLE DATE: 29 July START DATE and TIME: 29JUL14:21:15 SAMPLE DURATION (minutes): 13.00
 DIEL PERIOD: Night DEPTH: SUR REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.018989
 STUDY GRAB TEMPERATURE (F): 79.0 STUDY GRAB DISSOLVED OXYGEN (mg/L): 9.6 FOREBAY CURRENT VELOCITY (ft/sec): 1.60
 EXTRAPOLATION PERIOD: 27 July-2 August MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	8.2	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	6.1	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	5.1	.
Pimephales type	Yolk-sac	6.7	.
Pimephales type	Yolk-sac	4.8	.
Pimephales type	Yolk-sac	5.5	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	4.9	.
CYPRINIDAE sp.	Yolk-sac	6.8	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	6.3	.
CYPRINIDAE sp.	Yolk-sac	6.4	.
CYPRINIDAE sp.	Yolk-sac	6.8	.
CYPRINIDAE sp.	Yolk-sac	7.5	.
CYPRINIDAE sp.	Yolk-sac	6.1	.
PUMPKINSEED type	Yolk-sac	5.7	.

APPENDIX D (cont.)

SAMPLE DATE: 29 July START DATE and TIME: 29JUL14:21:15 SAMPLE DURATION (minutes): 13.00
 DIEL PERIOD: Night DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.016178
 STUDY GRAB TEMPERATURE (F): 79.0 STUDY GRAB DISSOLVED OXYGEN (mg/L): 9.6 FOREBAY CURRENT VELOCITY (ft/sec): 1.60
 EXTRAPOLATION PERIOD: 27 July-2 August MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	7.2	.
COMMON CARP	Yolk-sac	7.3	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	6.1	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	5.5	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	5.3	.
Pimephales type	Yolk-sac	4.9	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	5.8	.
CYPRINIDAE sp.	Yolk-sac	6.0	.
CYPRINIDAE sp.	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	6.5	.
CYPRINIDAE sp.	Yolk-sac	6.4	.
PUMPKINSEED type	Yolk-sac	5.0	.

SAMPLE DATE: 29 July START DATE and TIME: 29JUL14:21:41 SAMPLE DURATION (minutes): 13.00
 DIEL PERIOD: Night DEPTH: BOT REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.019218
 STUDY GRAB TEMPERATURE (F): 78.8 STUDY GRAB DISSOLVED OXYGEN (mg/L): 9.4 FOREBAY CURRENT VELOCITY (ft/sec): 1.60
 EXTRAPOLATION PERIOD: 27 July-2 August MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Pimephales type	Yolk-sac	5.5	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	4.5	.
Pimephales type	Yolk-sac	5.3	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	5.4	.
CYPRINIDAE sp.	Yolk-sac	7.2	.
CYPRINIDAE sp.	Yolk-sac	6.1	.
CYPRINIDAE sp.	Yolk-sac	6.1	.
CYPRINIDAE sp.	Yolk-sac	6.3	.
CYPRINIDAE sp.	Yolk-sac	5.0	.
CYPRINIDAE sp.	Yolk-sac	6.4	.
CYPRINIDAE sp.	Yolk-sac	6.9	.

SAMPLE DATE: 29 July START DATE and TIME: 29JUL14:21:41 SAMPLE DURATION (minutes): 13.00
 DIEL PERIOD: Night DEPTH: BOT REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.018993
 STUDY GRAB TEMPERATURE (F): 78.8 STUDY GRAB DISSOLVED OXYGEN (mg/L): 9.4 FOREBAY CURRENT VELOCITY (ft/sec): 1.60
 EXTRAPOLATION PERIOD: 27 July-2 August MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 604.8

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	5.3	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	5.1	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	6.2	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	4.9	.
Pimephales type	Yolk-sac	6.2	.
CYPRINIDAE sp.	Yolk-sac	5.6	.
CYPRINIDAE sp.	Yolk-sac	6.4	.
CYPRINIDAE sp.	Yolk-sac	6.5	.
CYPRINIDAE sp.	Yolk-sac	6.4	.
CYPRINIDAE sp.	Yolk-sac	6.5	.
CYPRINIDAE sp.	Yolk-sac	6.1	.
CYPRINIDAE sp.	Yolk-sac	6.6	.
CYPRINIDAE sp.	Yolk-sac	7.1	.

APPENDIX D (cont.)

SAMPLE DATE: 12 August START DATE and TIME: 12AUG14:18:03 SAMPLE DURATION (minutes): 8.00
 DIEL PERIOD: Day DEPTH: SUR REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.014289
 STUDY GRAB TEMPERATURE (F): 80.8 STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.6 FOREBAY CURRENT VELOCITY (ft/sec): 1.60
 EXTRAPOLATION PERIOD: 3-16 August MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1209.6

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Hypophthalmichthys type	Egg	3.1	.
UNIDENTIFIED	Egg	1.8	.

SAMPLE DATE: 12 August START DATE and TIME: 12AUG14:18:03 SAMPLE DURATION (minutes): 8.00
 DIEL PERIOD: Day DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.015501
 STUDY GRAB TEMPERATURE (F): 80.8 STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.6 FOREBAY CURRENT VELOCITY (ft/sec): 1.60
 EXTRAPOLATION PERIOD: 3-16 August MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1209.6

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
NO ICHTHYOPLANKTON		.	0

SAMPLE DATE: 12 August START DATE and TIME: 12AUG14:18:28 SAMPLE DURATION (minutes): 10.00
 DIEL PERIOD: Day DEPTH: BOT REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.014557
 STUDY GRAB TEMPERATURE (F): 80.8 STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.9 FOREBAY CURRENT VELOCITY (ft/sec): 1.70
 EXTRAPOLATION PERIOD: 3-16 August MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1209.6

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
UNIDENTIFIED	Yolk-sac	3.2	.
UNIDENTIFIED	Yolk-sac	3.1	.

SAMPLE DATE: 12 August START DATE and TIME: 12AUG14:18:28 SAMPLE DURATION (minutes): 10.00
 DIEL PERIOD: Day DEPTH: BOT REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.014343
 STUDY GRAB TEMPERATURE (F): 80.8 STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.9 FOREBAY CURRENT VELOCITY (ft/sec): 1.70
 EXTRAPOLATION PERIOD: 3-16 August MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1209.6

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
NO ICHTHYOPLANKTON		.	0

SAMPLE DATE: 12 August START DATE and TIME: 12AUG14:21:05 SAMPLE DURATION (minutes): 10.00
 DIEL PERIOD: Night DEPTH: SUR REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.014348
 STUDY GRAB TEMPERATURE (F): 80.4 STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.3 FOREBAY CURRENT VELOCITY (ft/sec): 1.50
 EXTRAPOLATION PERIOD: 3-16 August MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1209.6

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	4.3	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	5.0	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	5.4	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	5.8	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	4.8	.
CYPRINIDAE sp.	Yolk-sac	5.6	.
CYPRINIDAE sp.	Yolk-sac	7.6	.
CYPRINIDAE sp.	Yolk-sac	8.1	.
CYPRINIDAE sp.	Yolk-sac	6.6	.
CYPRINIDAE sp.	Yolk-sac	5.1	.
CYPRINIDAE sp.	Yolk-sac	5.7	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	6.3	.
PUMPKINSEED type	Yolk-sac	5.1	.

SAMPLE DATE: 12 August START DATE and TIME: 12AUG14:21:05 SAMPLE DURATION (minutes): 10.00
 DIEL PERIOD: Night DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.013684
 STUDY GRAB TEMPERATURE (F): 80.4 STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.3 FOREBAY CURRENT VELOCITY (ft/sec): 1.50
 EXTRAPOLATION PERIOD: 3-16 August MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1209.6

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Pimephales type	Yolk-sac	4.6	.
Pimephales type	Yolk-sac	4.8	.
Pimephales type	Yolk-sac	5.7	.
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	4.7	.
Pimephales type	Yolk-sac	4.8	.

APPENDIX D (cont.)

Pimephales type	Yolk-sac	4.5	.
Pimephales type	Yolk-sac	4.8	.
CYPRINIDAE sp.	Yolk-sac	4.9	.
CYPRINIDAE sp.	Yolk-sac	4.8	.
CYPRINIDAE sp.	Yolk-sac	6.9	.
CYPRINIDAE sp.	Yolk-sac	7.0	.
CYPRINIDAE sp.	Yolk-sac	5.2	.
CYPRINIDAE sp.	Yolk-sac	6.7	.
CYPRINIDAE sp.	Yolk-sac	7.9	.
CYPRINIDAE sp.	Yolk-sac	6.3	.
CYPRINIDAE sp.	Yolk-sac	7.6	.
CYPRINIDAE sp.	Yolk-sac	6.5	.
CYPRINIDAE sp.	Yolk-sac	5.1	.

SAMPLE DATE: 12 August	START DATE and TIME: 12AUG14:21:32	SAMPLE DURATION (minutes): 10.00
DIEL PERIOD: Night	DEPTH: BOT	REPLICATE: A
STUDY GRAB TEMPERATURE (F): 80.4	STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.3	VOLUME SAMPLED (gals x 10 ⁶): 0.014978
EXTRAPOLATION PERIOD: 3-16 August	MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10 ⁶): 1209.6	FOREBAY CURRENT VELOCITY (ft/sec): 1.60

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Dorosoma sp.	Post Yolk-sac	5.8	.
Pimephales type	Yolk-sac	4.8	.
CYPRINIDAE sp.	Post Yolk-sac	9.3	.
CYPRINIDAE sp.	Post Yolk-sac	7.9	.
CYPRINIDAE sp.	Post Yolk-sac	10.0	.
CYPRINIDAE sp.	Post Yolk-sac	6.2	.
CYPRINIDAE sp.	Post Yolk-sac	11.6	.
CYPRINIDAE sp.	Post Yolk-sac	10.5	.
CYPRINIDAE sp.	Post Yolk-sac	10.5	.
CYPRINIDAE sp.	Post Yolk-sac	7.8	.
CYPRINIDAE sp.	Post Yolk-sac	7.7	.
CYPRINIDAE sp.	Post Yolk-sac	13.6	.
CYPRINIDAE sp.	Post Yolk-sac	5.0	.

SAMPLE DATE: 12 August	START DATE and TIME: 12AUG14:21:32	SAMPLE DURATION (minutes): 10.00
DIEL PERIOD: Night	DEPTH: BOT	REPLICATE: B
STUDY GRAB TEMPERATURE (F): 80.4	STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.3	VOLUME SAMPLED (gals x 10 ⁶): 0.015262
EXTRAPOLATION PERIOD: 3-16 August	MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10 ⁶): 1209.6	FOREBAY CURRENT VELOCITY (ft/sec): 1.60

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Pimephales type	Yolk-sac	5.6	.
Pimephales type	Yolk-sac	5.2	.
Pimephales type	Yolk-sac	6.0	.
Pimephales type	Yolk-sac	5.9	.
Pimephales type	Yolk-sac	5.1	.
Pimephales type	Yolk-sac	5.1	.
CYPRINIDAE sp.	Post Yolk-sac	8.7	.
CYPRINIDAE sp.	Post Yolk-sac	9.5	.
CYPRINIDAE sp.	Post Yolk-sac	7.1	.
CYPRINIDAE sp.	Yolk-sac	4.6	.
PUMPKINSEED type	Yolk-sac	6.7	.

SAMPLE DATE: 26 August	START DATE and TIME: 26AUG14:16:30	SAMPLE DURATION (minutes): 25.00
DIEL PERIOD: Day	DEPTH: SUR	REPLICATE: A
STUDY GRAB TEMPERATURE (F): 81.1	STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.1	VOLUME SAMPLED (gals x 10 ⁶): 0.015189
EXTRAPOLATION PERIOD: 17-30 August	MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10 ⁶): 1209.6	FOREBAY CURRENT VELOCITY (ft/sec): 1.30

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
NO ICHTHYOPLANKTON			0

SAMPLE DATE: 26 August	START DATE and TIME: 26AUG14:16:30	SAMPLE DURATION (minutes): 25.00
DIEL PERIOD: Day	DEPTH: SUR	REPLICATE: B
STUDY GRAB TEMPERATURE (F): 81.1	STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.1	VOLUME SAMPLED (gals x 10 ⁶): 0.014638
EXTRAPOLATION PERIOD: 17-30 August	MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10 ⁶): 1209.6	FOREBAY CURRENT VELOCITY (ft/sec): 1.30

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Notropis sp.	Juvenile	18.3	.

SAMPLE DATE: 26 August	START DATE and TIME: 26AUG14:17:19	SAMPLE DURATION (minutes): 15.00
DIEL PERIOD: Day	DEPTH: BOT	REPLICATE: A
STUDY GRAB TEMPERATURE (F): 80.8	STUDY GRAB DISSOLVED OXYGEN (mg/L): 6.9	VOLUME SAMPLED (gals x 10 ⁶): 0.019048
EXTRAPOLATION PERIOD: 17-30 August	MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10 ⁶): 1209.6	FOREBAY CURRENT VELOCITY (ft/sec): 1.60

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
CYPRINIDAE sp.	Yolk-sac	5.8	.
CYPRINIDAE sp.	Yolk-sac	3.1	.

APPENDIX D (cont.)

SAMPLE DATE: 26 August START DATE and TIME: 26AUG14:17:12 SAMPLE DURATION (minutes): 15.00
 DIEL PERIOD: Day DEPTH: BOT REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.015857
 STUDY GRAB TEMPERATURE (F): 80.8 STUDY GRAB DISSOLVED OXYGEN (mg/L): 6.9 FOREBAY CURRENT VELOCITY (ft/sec): 1.60
 EXTRAPOLATION PERIOD: 17-30 August MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1209.6

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
NO ICHTHYOPLANKTON			0

SAMPLE DATE: 26 August START DATE and TIME: 26AUG14:20:37 SAMPLE DURATION (minutes): 13.00
 DIEL PERIOD: Night DEPTH: SUR REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.013773
 STUDY GRAB TEMPERATURE (F): 80.6 STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.0 FOREBAY CURRENT VELOCITY (ft/sec): 1.20
 EXTRAPOLATION PERIOD: 17-30 August MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1209.6

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Notropis sp.	Juvenile	13.6	.
Notropis sp.	Juvenile	11.7	.
Pimephales type	Yolk-sac	5.2	.

SAMPLE DATE: 26 August START DATE and TIME: 26AUG14:20:37 SAMPLE DURATION (minutes): 13.00
 DIEL PERIOD: Night DEPTH: SUR REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.013993
 STUDY GRAB TEMPERATURE (F): 80.6 STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.0 FOREBAY CURRENT VELOCITY (ft/sec): 1.20
 EXTRAPOLATION PERIOD: 17-30 August MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1209.6

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
BULLHEAD MINNOW	Juvenile	25.1	.
BULLHEAD MINNOW	Juvenile	12.2	.
PUMPKINSEED type	Post Yolk-sac	9.1	.

SAMPLE DATE: 26 August START DATE and TIME: 26AUG14:21:08 SAMPLE DURATION (minutes): 11.00
 DIEL PERIOD: Night DEPTH: BOT REPLICATE: A VOLUME SAMPLED (gals x 10⁶): 0.013304
 STUDY GRAB TEMPERATURE (F): 80.6 STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.0 FOREBAY CURRENT VELOCITY (ft/sec): 1.35
 EXTRAPOLATION PERIOD: 17-30 August MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1209.6

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Notropis sp.	Juvenile	12.1	.

SAMPLE DATE: 26 August START DATE and TIME: 26AUG14:21:08 SAMPLE DURATION (minutes): 13.00
 DIEL PERIOD: Night DEPTH: BOT REPLICATE: B VOLUME SAMPLED (gals x 10⁶): 0.014060
 STUDY GRAB TEMPERATURE (F): 80.6 STUDY GRAB DISSOLVED OXYGEN (mg/L): 7.0 FOREBAY CURRENT VELOCITY (ft/sec): 1.35
 EXTRAPOLATION PERIOD: 17-30 August MAKEUP WATER VOLUME FOR EXTRAPOLATION PERIOD (gals x 10⁶): 1209.6

TAXA	LIFE STAGE	LENGTH	PLUS COUNT
Pimephales sp.	Juvenile	9.8	.