INITIAL STUDY REPORT

APPENDIX B

LA GRANGE PROJECT FISH BARRIER ASSESSMENT PROGRESS REPORT

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LA GRANGE PROJECT
FISH BARRIER ASSESSMENT
PROGRESS REPORT

LA GRANGE HYDROELECTRIC PROJECT
FERC NO. 14581

Prepared for:
Turlock Irrigation District – Turlock, California
Modesto Irrigation District – Modesto, California

Prepared by:
FISHBIO

February 2016

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La Grange Project Fish Barrier Assessment
Progress Report

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List of Acronyms and Abbreviations

ac-ft .....acre-foot
BLM.....Bureau of Land Management
BOR .....Bureau of Reclamation
CCSF.....City and County of San Francisco
CDFG.....California Department of Fish and Game, now CDFW
CDFW.....California Department of Fish and Wildlife
cfs.....cubic feet per second
CG.....Conservation Group
Districts.....Turlock Irrigation District and Modesto Irrigation District
FERC.....Federal Energy Regulatory Commission
FLA .....Final License Application
FPA .....Federal Power Act
GIS .....geographic information system
ILP.....Integrated Licensing Process
ISR .....Initial Study Report
LGDD .....La Grange Diversion Dam
LP.....Licensing Participant
M&I.....municipal and industrial
MID.....Modesto Irrigation District
NMFS.....National Marine Fisheries Service
NPS .....National Park Service
O&M.....operation and maintenance
PAD.....Pre-Application Document
PSP.....Proposed Study Plan
QA/QC .....quality assurance/quality control
RM .....river mile
RSP .....Revised Study Plan
SD2 .....Scoping Document 2
SPD .....Study Plan Determination
TAF .....thousand acre-feet
TID.....Turlock Irrigation District
TM.....technical memorandum
USFWS .....United States Fish and Wildlife Service
USGS .....United States Geological Survey
USR.....Updated Study Report

1.0 INTRODUCTION

1.1 Background

The Turlock Irrigation District (TID) and Modesto Irrigation District (MID) (collectively, the Districts) own the La Grange Diversion Dam (LGDD) located on the Tuolumne River in Stanislaus County, California (Figures 1.1-1 and 1.1-2). LGDD is 131 feet high and is located at river mile (RM) 52.2 at the exit of a narrow canyon, the walls of which contain the pool formed by the diversion dam. Under normal river flows, the pool formed by the diversion dam extends for approximately one mile upstream. When not in spill mode, the water level upstream of the diversion dam is between elevation 294 feet and 296 feet approximately 90 percent of the time. Within this 2-foot range, the pool storage is estimated to be less than 100 acre-feet of water.

The drainage area of the Tuolumne River upstream of LGDD is approximately 1,550 square miles. Tuolumne River flows upstream of LGDD are regulated by four upstream reservoirs: Hetch Hetchy, Lake Eleanor, Cherry Lake, and Don Pedro. The Don Pedro Hydroelectric Project (Federal Energy Regulatory Commission [the Commission or FERC] No. 2299) is owned jointly by the Districts, and the other three dams are owned by the City and County of San Francisco (CCSF). Inflow to the La Grange pool is the sum of releases from the Don Pedro Project, located 2.3 miles upstream, and very minor contributions from two small intermittent streams downstream of Don Pedro Dam.

LGDD was constructed from 1891 to 1893 displacing Wheaton Dam, which was built by other parties in the early 1870s. LGDD raised the level of the Tuolumne River to permit the diversion and delivery of water by gravity to irrigation systems owned by TID and MID. The Districts' irrigation systems currently provide water to over 200,000 acres of prime Central Valley farmland and drinking water to the City of Modesto. Built in 1924, the La Grange hydroelectric plant is located approximately 0.2 miles downstream of LGDD on the east (left) bank of the Tuolumne River and is owned and operated by TID. The powerhouse has a capacity of slightly less than five megawatts. The La Grange Hydroelectric Project (La Grange Project or Project; FERC No. 14581) operates in a run-of-river mode. The LGDD provides no flood control benefits, and there are no recreation facilities associated with the Project or the La Grange pool.

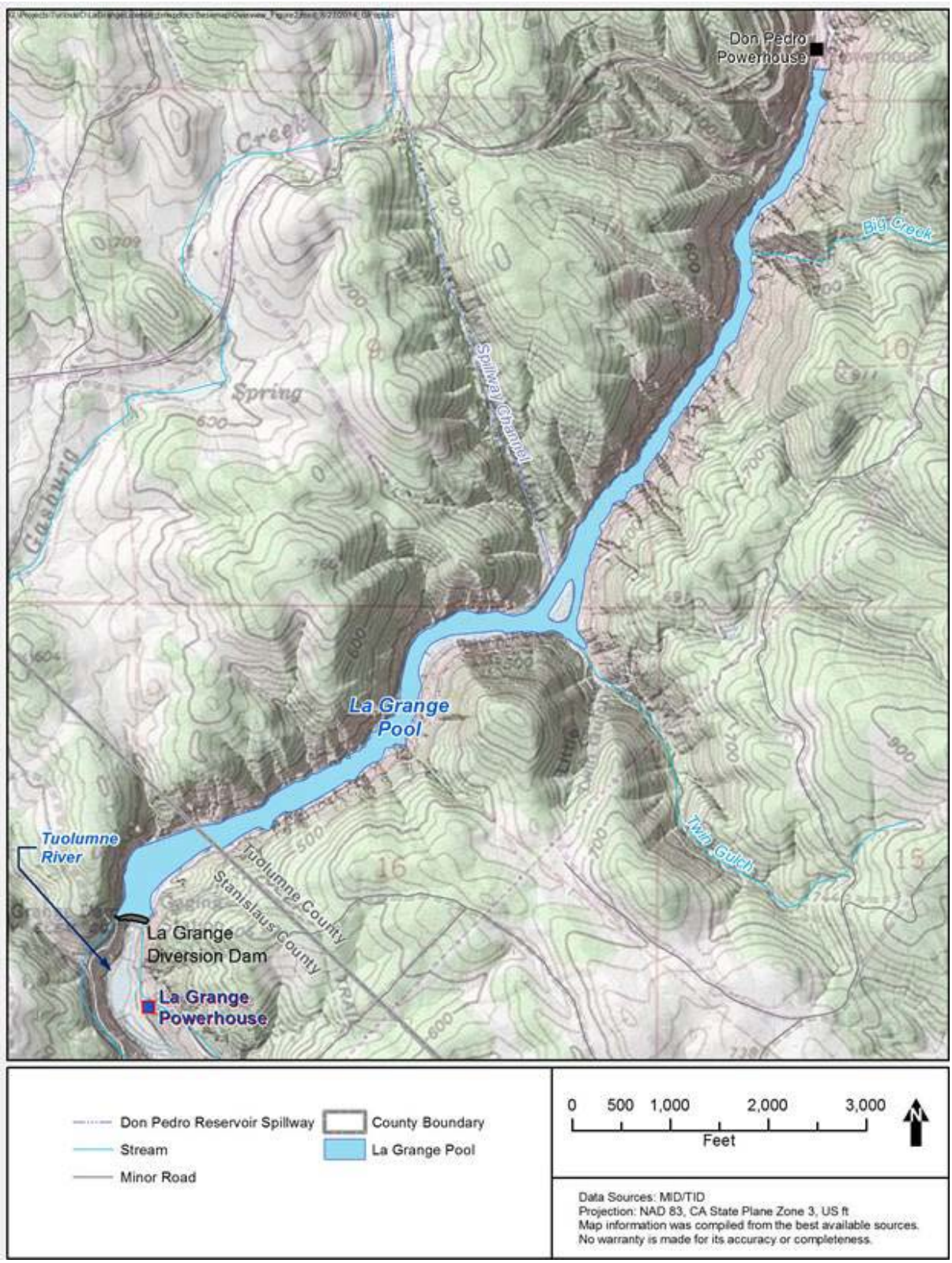

Figure 1.1-1. La Grange Hydroelectric Project location map.

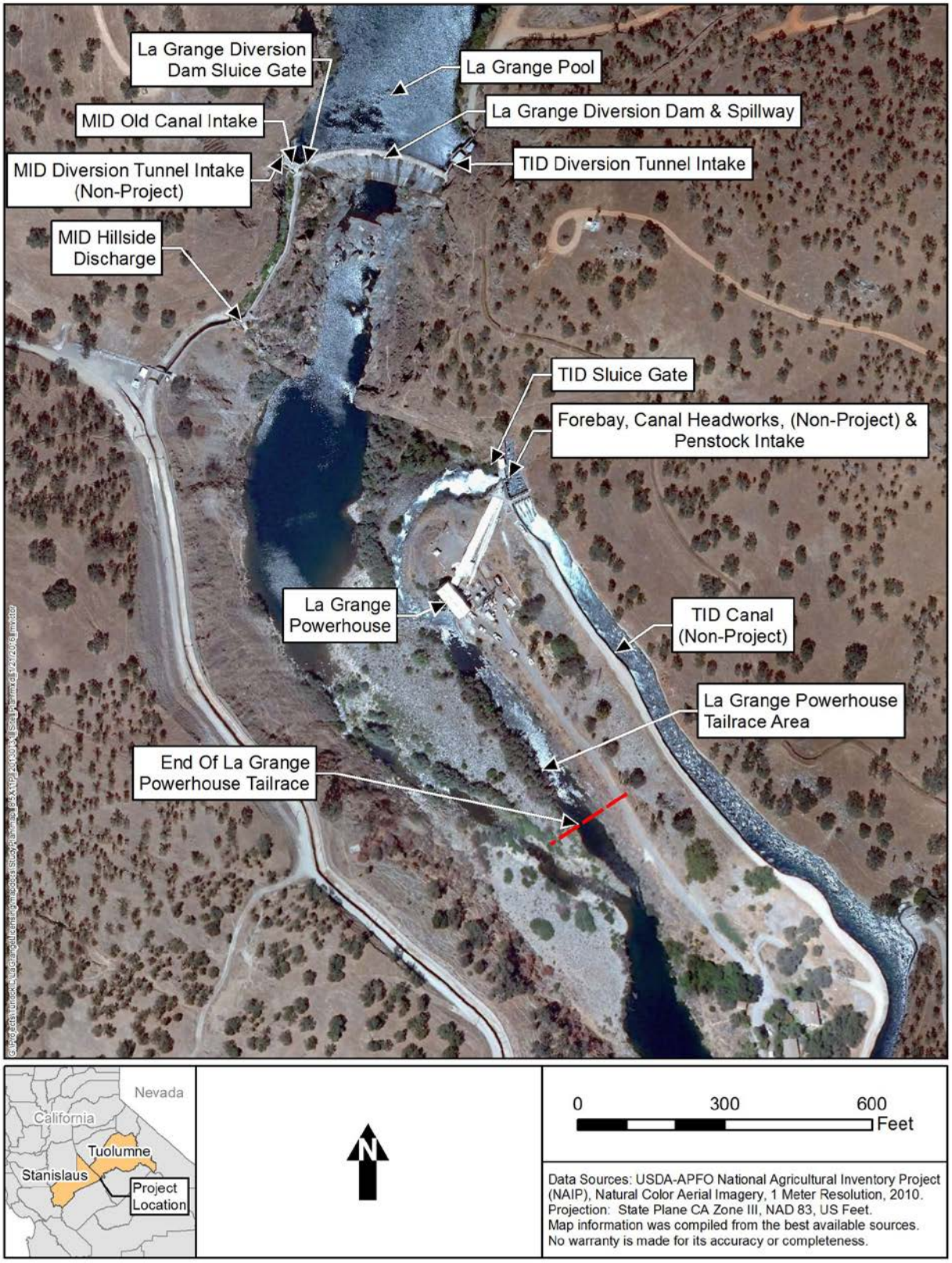

Figure 1.1-2. La Grange Hydroelectric Project site plan.

1.2 Licensing Process

On January 29, 2014, the Districts commenced the pre-filing process for the licensing of the La Grange Project by filing a Pre-Application Document (PAD) with FERC[1]. The Districts' PAD included descriptions of the Project facilities, operations, and lands as well as a summary of existing information available on Project area resources.

On September 5, 2014, the Districts filed their Proposed Study Plan (PSP) to assess Project effects on fish and aquatic resources, recreation, and cultural resources in support of their intent to license the Project. On October 6, 2014, the Districts held a PSP meeting at MID's offices in Modesto, California. Based on discussion at the PSP meeting, the Districts prepared an Updated Study Plan document that went to licensing participants (LP) for review and comment on November 21, 2014. On December 4, 2014, the National Marine Fisheries Service (NMFS), the Conservation Groups (CG), and the California Department of Fish and Wildlife (CDFW) filed comments on the PSP and/or Updated Study Plan.

On January 5, 2015, in response to comments from LPs, the Districts filed their Revised Study Plan (RSP) containing three study plans: (1) Cultural Resources Study Plan; (2) Recreation Access and Safety Assessment Study Plan; and (3) Fish Passage Assessment Study Plan[2]. Comments on the RSP were received from CDFW on January 16, 2015, and from NMFS, the CGs and the City of Modesto on January 20, 2015.

On February 2, 2015, FERC issued the Study Plan Determination (SPD), approving or approving with modifications six studies (Table 1.2-1). Of those six studies, five had been proposed by the Districts in the RSP. The Districts note that although FERC's SPD identified the Fish Passage Barrier Assessment, Fish Passage Facilities Alternatives Assessment, and Fish Habitat and Stranding Assessment below La Grange Diversion Dam as three separate studies, all three assessments are elements of the larger Fish Passage Assessment as described in the RSP. The sixth study approved by FERC, Effects of the Project and Related Activities on the Losses of Marine-Derived Nutrients in the Tuolumne River, was requested by NMFS in its July 22, 2014 comment letter. Of the eight studies requested by LPs, FERC approved only the NMFS study noted above.

Although FERC's SPD did not require the Districts to undertake the Upper Tuolumne River Basin Habitat Assessment studies contained in the RSP, the Districts are voluntarily conducting the Upper River Barriers Study and the Water Temperature Monitoring and Modeling Study. Regarding the third component of the Upper Tuolumne River Basin Habitat Assessment, the ongoing upstream habitat characterization work being completed by NMFS, the Districts

[1] On December 19, 2012, Commission staff issued an order finding that the La Grange Hydroelectric Project is required to be licensed under Section 23(b)(1) of the Federal Power Act. Turlock Irrigation District and Modesto Irrigation District, 141 FERC ¶ 62,211 (2012), aff'd Turlock Irrigation District and Modesto Irrigation District, 144 FERC ¶ 61,051 (2013). On May 15, 2015, the U.S. Court of Appeals for the District of Columbia Circuit denied the Districts' appeal and affirmed the Commission's finding that the La Grange Hydroelectric Project requires licensing. Turlock Irrigation District, et al., v. FERC, et al., No. 13-1250 (D.C. Cir. May 15, 2015).

[2] The Fish Passage Assessment Study Plan contained a number of individual, but related, study elements.

anticipate the results of this work becoming available for consideration in this licensing proceeding.

Table 1.2-1. Studies approved or approved with modifications in FERC's Study Plan Determination.

No.	Study	Approved by FERC in SPD without Modifications	Approved by FERC in SPD with Modifications
1	Recreation Access and Safety Assessment		X
2	Cultural Resources Study		X
3	Fish Passage Barrier Assessment		X[1]
4	Fish Passage Facilities Alternatives Assessment		X
5	Fish Habitat and Stranding Assessment below La Grange Dam		X
6	Effects of the Project and Related Activities on the Losses of Marine-Derived Nutrients in the Tuolumne River	X[2]	

[1] Page A-1 of Appendix A of FERC's SPD states that FERC approved with modifications the Fish Passage Barrier Assessment. However, the Districts found no modifications to this study plan in the SPD and page B-7 of the SPD states that "no modifications to the study plan are recommended."

[2] FERC directed the Districts to conduct the study plan as proposed by NMFS.

In addition to the six studies noted in Table 1.2-1, the SPD required the Districts to develop a plan to monitor anadromous fish movement in the Project's powerhouse draft tubes and to determine the potential for injury or mortality from contact with the turbine runners. Per the SPD, the Districts developed a study plan in consultation with NMFS and other LPs. The Districts filed the Investigation of Fish Attraction to La Grange Powerhouse Draft Tubes study plan with FERC on June 11, 2015, and on August 12, 2015, FERC approved the study plan as filed.

This progress report describes the objectives, methods, and results of the La Grange Project Fish Barrier Assessment (herein referred to as the Fish Barrier Assessment), which is one component of the Fish Passage Facilities Assessment as implemented by the Districts in accordance with the SPD. Documents relating to the Project licensing are publicly available on the Districts' licensing website at www.lagrange-licensing.com/.

1.3 Study Plan

FERC's Scoping Document 2 (SD2) issued on September 5, 2014 identified potential effects of Project operations on the upstream migration of anadromous fish.

FERC's SPD approved without modification the Districts' Fish Barrier Assessment as proposed in the RSP. In comments on the PAD, NMFS, CDFW, and the CGs state that LGDD and the La Grange powerhouse are barriers to upstream anadromous fish migration, and a study to evaluate whether the dam and powerhouse are barriers is not needed. However, FERC staff approved the study stating that the information collected in this study would help define the nature and degree to which the dam and powerhouse are barriers or impediments to the upstream migration of anadromous salmonids. No comments were filed in response to the Fish Barrier Assessment as proposed in the RSP.

2.0 STUDY GOALS AND OBJECTIVES

The purpose of the Fish Barrier Assessment is to evaluate the potential impact of LGDD and the La Grange powerhouse as barriers to the upstream migration of adult fall-run Chinook salmon and, if they occur, steelhead. This includes documenting the proportion of the fall-run Chinook salmon population that may migrate upstream to these facilities and evaluating potential impacts to the spawning of these fish. Objectives of this study are to:

- Determine the number of fall-run Chinook salmon and steelhead migrating upstream to LGDD and the La Grange powerhouse during the 2015/2016 and 2016/2017 migration seasons.
- Compare the number of fall-run Chinook salmon and steelhead migrating upstream to the LGDD and the La Grange powerhouse to total escapement during the 2015/2016 and 2016/2017 migration seasons.
- Document carcass condition (egg retention) to evaluate pre-spawn mortality rates of fall-run Chinook salmon and steelhead migrating upstream to LGDD and the La Grange powerhouse, which do not move back downstream to spawn.
- Implement formal documentation of incidental fish observations in the vicinity of LGDD, La Grange powerhouse tailrace, and TID sluice gate channel. Note that this objective is being addressed as part of the Fish Presence and Stranding Assessment (TID/MID 2016).

3.0 STUDY AREA

The study area includes the Tuolumne River from LGDD (RM 52.2) downstream to the mainstem channel fish counting weir, and the La Grange powerhouse tailrace channel downstream to the tailrace channel fish counting weir (Figure 3.0-1). The study also includes data collected from monitoring conducted at a fish counting weir operated by the Districts at RM 24.5.

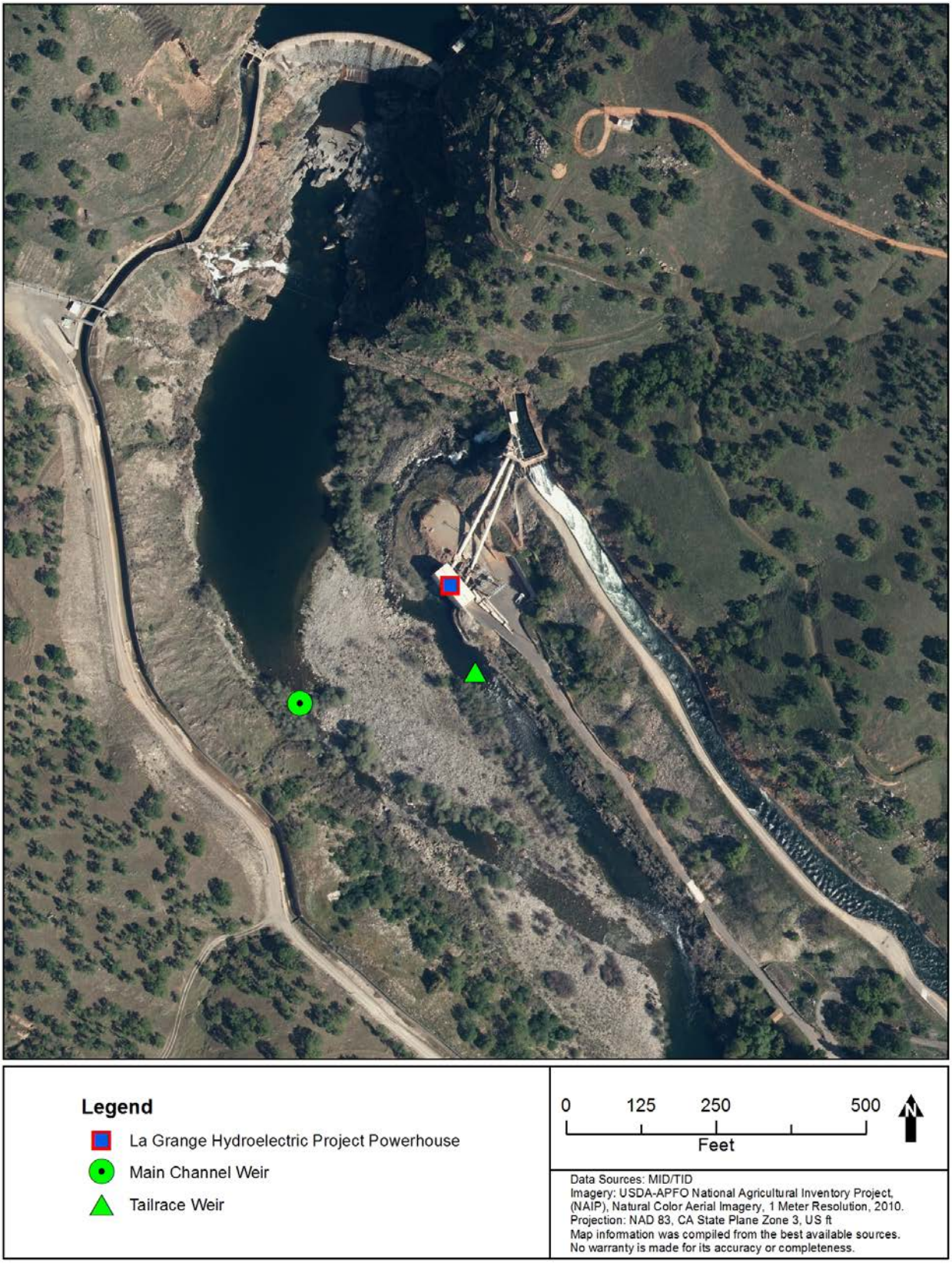

Figure 3.0-1. Location of main channel weir and tailrace channel weir.

4.0 METHODOLOGY

4.1 Weir Configurations

Two fish counting weirs were installed in the Tuolumne River on September 11, 2015. After a brief testing period, weir operation and monitoring began on September 23, 2015. Flows permitting, weir operation and monitoring will continue through April 2016. Sampling is scheduled to occur during the same timeframe for the 2016/2017 field season. One weir segment was placed downstream of the large pool below LGDD in the Tuolumne River main channel, and the second segment was placed just below the La Grange powerhouse in the tailrace channel (Figure 3.0-1). Each weir structure consisted of rigid weir panels that directed fish passage through a passing chute that was continuously monitored by a video system. Each weir panel was constructed of steel angle and horizontal pipe with 1 1/8-inch spacing and secured in-channel diagonal to the river flow.

The passing chute of the main channel weir (Figure 4.1-1) consisted of a 3-foot-wide by 4-foot-long white high-density polyethylene floor that was secured to the substrate. An overhead camera and an underwater side-view camera were positioned to view the entire passing chute. The tailrace weir (Figure 4.1-2) consisted of a 6-foot wide by 6-foot long high-density polyethylene passing chute equipped with an overhead camera and two underwater side-view cameras. Each passing chute was equipped with an infrared lighting system for 24-hour monitoring. Similar video systems have been operated by CDFW to monitor the passage of Chinook salmon and steelhead on Sacramento River tributaries (Killiam and Johnson 2008)

The overhead cameras at each weir provided full coverage of the passing chute area and were used to detect fish passage events. Underwater cameras were used to assist with species identification for each passage event. A multi-camera video surveillance application (SecuritySpy) was used to route footage to computers for storage. Hourly video files from each camera were saved to external hard drives and downloaded daily for data back-up. Additionally, motion detection settings in the video surveillance application were used to create five-second clips of all potential passage events.

Figure 4.1-1. Upstream view of main channel weir and passing chute.

Figure 4.1-2. Overhead view of tailrace channel weir and passing chute.

4.2 Weir Operations

The weirs were cleaned, weir performance was documented, and video footage was downloaded daily. Environmental data collected during each weir check included dissolved oxygen (mg/L), stream stage (feet), turbidity (NTU), and water velocity at the opening of the fish passage chute. Provisional daily average flow data for the Tuolumne River at La Grange was obtained from U.S. Geological Survey (USGS) Gage 11289650 (http://waterdata.usgs.gov/ca/nwis). Water temperature data were obtained from hourly recording Hobo Pro v2 water temperature data loggers (Onset Computer Corporation) maintained at each weir site. Visual assessments were also conducted daily to ensure that fish were not stacking on either side of the weir. Boat surveys were conducted in both channels from LGDD to 0.3 miles downstream of the weir locations. Any spawning activity, live Chinook salmon (*Oncorhynchus tshawytscha*) or *Oncorhynchus mykiss* (*O. mykiss*), or carcasses observed upstream of the weir were recorded. Daily stacking counts were reported to CDFW three times per week ("stacking" was defined as 30 or more individuals on either side of the weir).

4.3 Video Review

A fisheries biologist or technician with prior video review experience reviewed digital video footage to determine passage events. Video review consisted of viewing 5-second motion detection clips from the overhead camera to determine fish presence, estimated length, and direction of passage. The underwater camera views were used for species identification, sex determination, and presence of an adipose fin. During periods when motion detection was ineffective, hourly overhead video files were reviewed at 10x speed to identify fish passage events. Passage date, time, direction of passage, species, and estimated fish size were recorded for each passage event. The certainty of each fish observation was recorded as high, medium, or low. A high certainty rating signified complete confidence in determining species and the presence or absence of an adipose fin; medium suggested confidence in determining species but sex and/or presence of an adipose fin was unknown; and low suggested uncertainty in determining species.

Video review quality assurance procedures consisted of an independent review of a subsample of video data by a separate fisheries biologist with extensive video review experience. Data selected for a second review included species identified as unknown, passages with a low observational certainty, and all recorded *O. mykiss* passages. Additionally, select hourly files were reviewed for passage events that were not captured by motion detection.

Raw data were summarized to determine daily upstream and downstream weir counts and the total number of fish exhibiting persistent upstream migration behavior (upstream counts minus downstream counts). The total number of fish exhibiting persistent upstream migration behavior was divided by total escapement determined at the lower weir (at RM 24.5) to estimate the extent to which the La Grange facilities are actually a barrier to upstream migration and spawning.

4.4 Pre-spawn Mortality Evaluation

Salmon encountering barriers to migration may experience pre-spawn mortality. During carcass surveys conducted to estimate salmon escapement, CDFW examines female Chinook salmon carcasses for egg retention to estimate pre-spawn mortality. Assessments of pre-spawn mortality have been conducted in several Central Valley streams in some years; however, these assessments have been intermittent and inconsistent due to a lack of available funding and staff. CDFW has documented low levels of pre-spawn or partial-spawn mortality of fall-run Chinook in the Tuolumne River during surveys conducted in 1993, 1999, 2008, 2013, and 2014 (CDFW 2014). Of the years evaluated, the maximum annual occurrence of pre-spawn or partial-spawn mortality documented has been five individuals (2013).

To evaluate the potential effect of LGDD and the La Grange powerhouse on the spawning of upstream migrants, daily surveys above the counting weir were conducted to assess the presence/absence of live Chinook salmon, spawning activity, or carcasses.

5.0 RESULTS

5.1 Weir Operations

At the time of reporting, data was available for analysis from September 23, 2015 (the start of monitoring) to October 31, 2015, and is included in this progress report. Both weirs operated almost continuously during this period, with the exception of a high-debris flow event on October 17 that washed out a portion of the tailrace channel rigid weir structure. Sections of the rigid weir were temporarily removed and reinstalled in order to make the weir fish tight, and resulted in the system being inoperable for a total of 40 hours.

During the monitoring period, average daily flow recorded at La Grange ranged from 91 to 169 cfs (Figure 5.1-1). River flow through the main channel weir came from the MID hillside discharge and was estimated to be approximately 25 cfs throughout the study period. Instantaneous water velocity recorded in the main channel fish counting weir passage chute ranged from 0.8 to 2.1 feet per second (ft/sec) (mean 1.2 ft/sec). The remainder of the flow recorded at La Grange originated from the powerhouse and/or TID sluice gate channel and flowed through the tailrace channel fish counting weir.[3] Instantaneous water velocity recorded at the tailrace channel fish counting weir passage chute ranged from 1.5 to 4.7 ft/sec (mean 2.7 ft/sec).

Average daily water temperatures recorded at each weir site ranged from 55.2° to 64.2° F in the tailrace channel and 59.3° to 67.4° F in the main channel (Figure 5.1-1). Instantaneous turbidity ranged from 0.77 to 2.76 NTU (mean 1.49 NTU) in the tailrace channel and from 0.54 to 4.02 NTU (mean 1.64 NTU) in the main channel. Instantaneous dissolved oxygen ranged from 4.03 to 10.38 mg/L (mean 7.02 mg/L) in the tailrace channel and from 8.96 to 10.47 mg/L (mean 9.70 mg/L) in the main channel.

[3] TID currently maintains in an open position an 18-inch pipe that continuously delivers flow from the TID forebay to the channel downstream of the sluice gates. This water flows into the tailrace just upstream of the powerhouse. The flow quantity is not measured and is unknown, but is roughly estimated to be about five cfs.

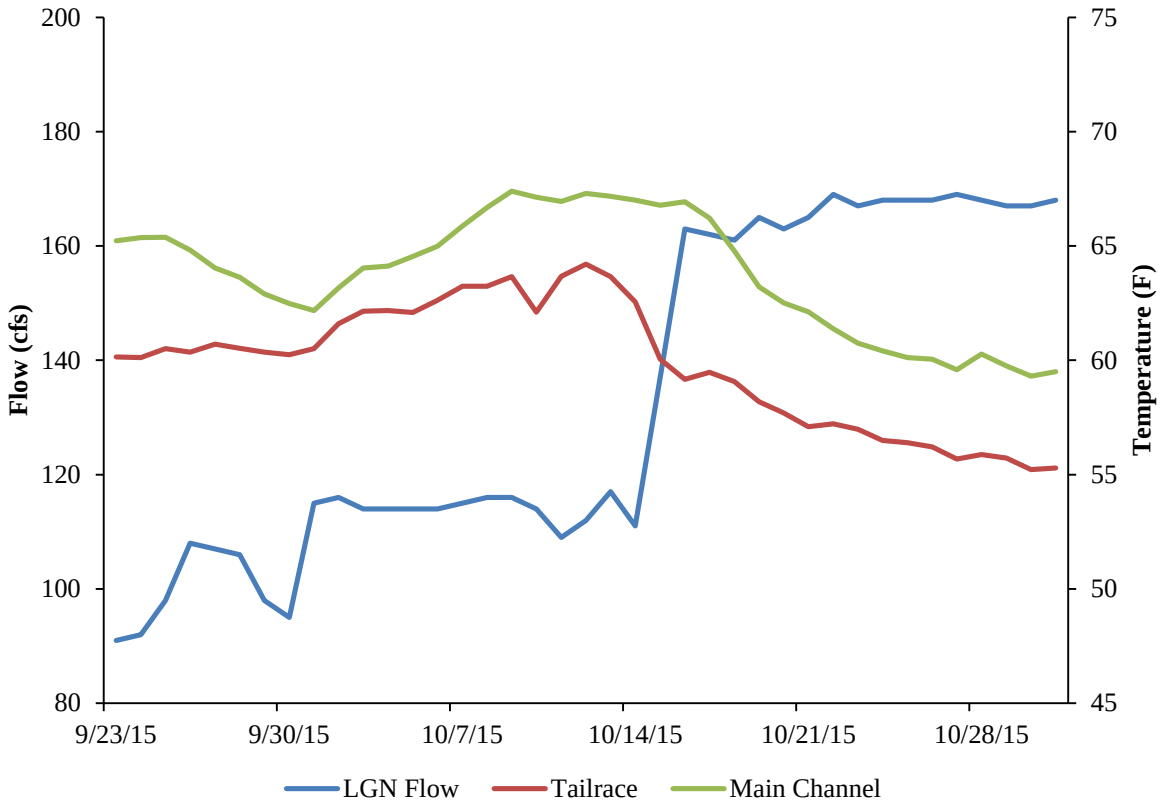

Figure 5.1-1. Mean daily flow (cfs) at the USGS gage (LGN) and daily mean water temperatures at the tailrace channel weir and the main channel weir.

5.2 Fish Passage

5.2.1 Tailrace Channel Weir

Based on data collected through October 31, 2015, a total of 223 Chinook salmon passages (108 upstream, 115 downstream) were detected at the tailrace channel weir (Table 5.2-1). Individual fish were identified based on estimated fish length, sex, and general morphological characteristics. This classification resulted in a total of eight Chinook salmon accounting for the 223 passages at the tailrace channel weir. The net upstream Chinook salmon passage was zero, as no salmon remained upstream of the weir. Passage events by salmon were generally characterized as "milling", with multiple consecutive upstream and downstream passages by an individual fish.

Table 5.2-1. Tailrace channel weir Chinook salmon passage information, September 23, 2015 through October 31, 2015.

Fish ID	Est. Length (cm)	Sex	Ad-clip	Initial passage	Final passage	Passage Events	
						# Up	# Down
M1	60-80	Male	No	9/23/15 7:48	10/27/15 15:42	41 (2)[1]	43
F1	50-70	Female	No	10/21/15 22:08	10/29/15 9:33	18 (3)[1]	21
F3	60-65	Female	Yes	10/25/15 21:32	10/27/15 18:45	11	11
F2	50-65	Female	No	10/25/15 22:10	10/29/15 16:30	5	5
Unk1	60-70	Unknown	No	10/25/15 22:10	10/26/15 4:02	1	1
M2	60-80	Male	No	10/28/15 2:43	10/31/15 1:29	9 (1)[1]	10
F4	65-80	Female	Yes	10/28/15 15:15	10/31/15 16:01	8	8
F5	60-80	Female	No	10/29/15 20:19	10/31/15 14:58	15 (1)[1]	16

[1] Number in parenthesis represents undetected upstream passage.

To date, 13 *O. mykiss* passage events (4 upstream, 9 downstream) have been recorded (Table 5.2-2). Unlike Chinook salmon, it was not possible to identify individual *O. mykiss* from passage events using fish length, sex, and general morphological characteristics. The estimated length of observed *O. mykiss* ranged from 10 cm to 50 cm. All *O. mykiss* observed were considered "resident", as no potentially anadromous *O. mykiss* were observed passing the Tuolumne River weir at RM 24.5 (FISHBIO, unpublished).

Additional fish species observed passing the tailrace weir include bluegill (*Lepomis macrochirus*), Sacramento pikeminnow (*Ptychocheilus grandis*), Sacramento sucker (*Catostomus occidentalis*), and striped bass (*Morone saxatilis*) (Attachment A, Table A-1). Mammals observed included beaver (*Castor canadensis*) and river otter (*Lontra Canadensis*).

Table 5.2-2. Tailrace channel weir O. mykiss passage information, September 23, 2015 through October 31, 2015.

Date	Time	Est. Length (cm)	Sex	Ad-Clip	Passage Direction	Observational Certainty
10/6/15	14:07:18	40	Unknown	No	Down	Low
10/7/15	12:44:46	50	Female	No	Down	High
10/15/15	18:44:02	10	Unknown	Unknown	Down	Medium
10/24/15	9:13:51	30	Unknown	No	Up	Medium
10/24/15	16:22:49	30	Unknown	No	Down	High
10/25/15	1:49:27	20	Unknown	Unknown	Down	Low
10/25/15	7:04:01	20	Unknown	No	Up	High
10/25/15	7:13:21	20	Unknown	No	Up	Medium
10/25/15	20:58:16	15	Unknown	Unknown	Down	Medium
10/29/15	7:03:14	25	Unknown	Unknown	Up	Medium
10/29/15	14:47:06	45	Unknown	No	Down	High
10/30/15	17:28:04	25	Unknown	No	Down	Low
10/31/15	18:54:05	35	Unknown	Unknown	Down	Medium

5.2.2 Main Channel Weir

Through October 31, 2015, no salmonid species have been detected passing the main channel weir. Fish species observed to date have been limited to bluegill, Sacramento pikeminnow, and

unidentified juvenile species (Attachment A, Table A-2). Mammals observed included beaver and river otter.

5.3 Pre-spawn Mortality

Based on daily observations through October 31, 2015, there was no Chinook salmon spawning activity, carcasses, or pre-spawn mortality upstream of the tailrace channel weir or the main channel weir.

6.0 DISCUSSION AND FINDINGS

Fieldwork for the Fish Barrier Assessment is anticipated for the 2016 fall-run Chinook salmon migration season and 2017 steelhead migration season. This report section will be completed upon the availability of final study results.

7.0 STUDY VARIANCES AND MODIFICATIONS

This study was conducted consistent with the FERC-approved study plan. No variances or modifications occurred.

8.0 REFERENCES

California Department of Fish and Wildlife (CDFW). 2014. Comments on La Grange Hydroelectric Project Federal Energy Regulatory Commission Project No. 14581 Tuolumne River [comments submitted on the TID/MID La Grange Hydroelectric Project Preliminary Study Plan (PSP)].

Killiam, D., and M. Johnson. 2008. The 2007 Mill Creek video station steelhead and spring-run Chinook salmon counts. California Department of Fish and Game, SRSSAP Tech. Report No. 08-1.

Turlock Irrigation District and Modesto Irrigation District (TID/MID). 2016. Fish Presence and Stranding Assessment Technical Memorandum. Prepared by FISHBIO. Attachment to La Grange Hydroelectric Project Initial Study Report. February 2016.

LA GRANGE PROJECT FISH BARRIER ASSESSMENT PROGRESS REPORT

ATTACHMENT A

WEIR FISH PASSAGE INFORMATION, SEPTEMBER 23, 2015 THROUGH OCTOBER 31, 2015

Table A-1. Tailrace channel weir fish passage information, September 23, 2015 through October 31, 2015.

Date	Time	Species[1]	Estimated Length (cm)	Sex	Ad-Clip	Passage Direction	Observational Certainty
9/23/15	2:37:29	UNID	25	Unknown	NA	Up	Low
9/23/15	3:37:36	BGS	10	Unknown	NA	Down	High
9/23/15	7:48:58	CHN	80	Male	No	Up	High
9/23/15	17:34:56	STB	60	Unknown	NA	Up	High
9/23/15	18:17:32	SASQ	--	Unknown	NA	Up	High
9/23/15	20:51:07	STB	--	Unknown	NA	Down	High
9/24/15	1:43:43	SASQ	--	Unknown	NA	Down	High
9/24/15	18:39:29	SASQ	60	Unknown	NA	Up	High
9/24/15	21:00:29	STB	--	Unknown	NA	Down	High
9/24/15	22:20:13	CHN	80	Male	Unknown	Up	Medium
9/25/15	0:01:06	CHN	80	Male	Unknown	Down	Medium
9/25/15	0:02:11	CHN	--	Male	Unknown	Up	Medium
9/25/15	0:20:37	STB	--	Unknown	NA	Down	Low
9/25/15	16:50:57	STB	65	Unknown	NA	Up	High
9/25/15	18:23:08	SASQ	65	Unknown	NA	Down	High
9/25/15	21:20:08	STB	65	Unknown	NA	Down	High
9/26/15	15:05:43	STB	65	Unknown	NA	Up	Low
9/26/15	15:15:36	UNID	--	Unknown	NA	Down	Low
9/26/15	18:15:52	STB	65	Unknown	NA	Up	Low
9/26/15	19:14:00	UNID	--	Unknown	NA	Down	Low
9/26/15	20:45:29	UNID	--	Unknown	NA	Down	Low
9/26/15	20:51:54	STB	--	Unknown	NA	Down	High
9/26/15	21:45:59	STB	--	Unknown	NA	Up	Medium
9/26/15	22:23:53	STB	--	Unknown	NA	Down	High
9/27/15	1:47:28	STB	60	Unknown	NA	Up	High
9/27/15	2:32:22	STB	--	Unknown	NA	Down	High
9/27/15	2:36:55	STB	60	Unknown	NA	Up	High
9/27/15	3:45:26	STB	60	Unknown	NA	Down	High
9/27/15	13:58:29	STB	65	Unknown	NA	Up	High
9/27/15	17:17:22	SASQ	65	Unknown	NA	Down	High
9/27/15	17:25:16	SASQ	65	Unknown	NA	Up	High
9/27/15	18:07:00	SASQ	65	Unknown	NA	Down	High
9/27/15	20:42:20	SASQ	65	Unknown	NA	Down	High
9/27/15	21:10:52	STB	65	Unknown	NA	Down	High
9/27/15	21:31:55	STB	65	Unknown	NA	Up	High
9/28/15	0:00:07	STB	65	Unknown	NA	Down	High
9/28/15	1:04:15	STB	60	Unknown	NA	Up	High
9/28/15	2:02:00	STB	60	Unknown	NA	Down	High
9/28/15	3:00:47	STB	60	Unknown	NA	Down	High
9/28/15	15:16:57	STB	65	Unknown	NA	Up	High
9/28/15	16:52:58	SASQ	65	Unknown	NA	Up	High
9/28/15	17:21:32	CHN	80	Male	No	Down	High
9/28/15	21:40:22	SASQ	70	Unknown	NA	Down	High
9/29/15	0:48:18	UNID	65	Unknown	NA	Up	Low
9/29/15	2:15:40	STB	55	Unknown	NA	Down	High
9/29/15	2:41:56	UNID	20	Unknown	NA	Up	Low
9/29/15	17:01:35	SASQ	60	Unknown	NA	Up	High
9/29/15	17:53:05	STB	65	Unknown	NA	Up	High

Date	Time	Species[1]	Estimated Length (cm)	Sex	Ad-Clip	Passage Direction	Observational Certainty
9/29/15	19:16:45	STB	60	Unknown	NA	Down	High
9/29/15	22:37:26	SASQ	60	Unknown	NA	Down	Low
9/30/15	0:36:59	STB	70	Unknown	NA	Down	High
9/30/15	3:20:12	STB	60	Unknown	NA	Up	High
9/30/15	3:48:14	STB	65	Unknown	NA	Down	High
9/30/15	16:23:50	SASQ	60	Unknown	NA	Up	High
9/30/15	17:13:32	STB	70	Unknown	NA	Up	High
9/30/15	21:41:09	STB	60	Unknown	NA	Down	High
9/30/15	21:52:46	BGS	10	Unknown	NA	Up	High
9/30/15	21:52:47	STB	60	Unknown	NA	Up	High
9/30/15	22:30:51	BGS	5	Unknown	NA	Up	High
9/30/15	23:18:40	STB	60	Unknown	NA	Down	High
10/1/15	0:10:21	STB	--	Unknown	NA	Up	High
10/1/15	0:23:38	STB	--	Unknown	NA	Down	High
10/1/15	0:27:40	STB	--	Unknown	NA	Up	High
10/1/15	0:50:17	STB	--	Unknown	NA	Down	High
10/1/15	1:16:08	STB	--	Unknown	NA	Up	High
10/1/15	1:29:54	STB	--	Unknown	NA	Down	High
10/1/15	2:15:31	STB	--	Unknown	NA	Up	High
10/1/15	2:23:04	STB	--	Unknown	NA	Down	High
10/1/15	3:48:05	SASQ	--	Unknown	NA	Down	Medium
10/1/15	16:31:25	SASQ	60	Unknown	NA	Up	High
10/1/15	16:51:57	STB	65	Unknown	NA	Up	High
10/1/15	22:55:05	STB	--	Unknown	NA	Down	High
10/2/15	0:08:54	SASU	45	Unknown	NA	Up	Low
10/2/15	0:10:50	SASU	45	Unknown	NA	Down	Medium
10/2/15	2:18:39	UNID	45	Unknown	NA	Down	Low
10/2/15	16:28:39	STB	50	Unknown	NA	Up	Medium
10/2/15	19:22:46	STB	50	Unknown	NA	Down	High
10/2/15	23:05:13	STB	50	Unknown	NA	Down	Medium
10/3/15	0:32:46	UNID	50	Unknown	NA	Down	Low
10/3/15	2:15:13	STB	50	Unknown	NA	Down	High
10/3/15	15:34:06	STB	60	Unknown	NA	Up	High
10/3/15	19:20:37	UNID	60	Unknown	NA	Up	Low
10/3/15	21:49:50	STB	60	Unknown	NA	Down	Medium
10/3/15	22:30:35	UNID	60	Unknown	NA	Down	Low
10/4/15	15:22:16	STB	60	Unknown	NA	Up	High
10/4/15	16:02:55	SASQ	60	Unknown	NA	Up	High
10/4/15	19:37:06	STB	60	Unknown	NA	Down	Low
10/4/15	20:01:30	STB	60	Unknown	NA	Down	Medium
10/4/15	21:31:23	STB	60	Unknown	NA	Down	Low
10/5/15	14:33:12	SASQ	60	Unknown	NA	Up	High
10/5/15	15:11:21	STB	60	Unknown	NA	Up	Medium
10/5/15	16:57:01	SASQ	60	Unknown	NA	Down	High
10/5/15	16:57:10	SASQ	60	Unknown	NA	Up	High
10/5/15	17:02:04	SASQ	60	Unknown	NA	Down	High
10/5/15	18:54:48	STB	60	Unknown	NA	Down	High
10/5/15	19:15:45	STB	60	Unknown	NA	Up	Medium
10/5/15	19:28:01	STB	60	Unknown	NA	Down	High
10/5/15	19:37:03	UNID	60	Unknown	NA	Down	Low

Date	Time	Species[1]	Estimated Length (cm)	Sex	Ad-Clip	Passage Direction	Observational Certainty
10/5/15	21:34:59	SASQ	60	Unknown	NA	Down	Low
10/6/15	7:08:58	SASQ	50	Unknown	NA	Down	High
10/6/15	14:07:18	RBT	40	Unknown	No	Down	Low
10/6/15	14:51:15	STB	60	Unknown	NA	Up	High
10/6/15	15:51:48	SASQ	60	Unknown	NA	Up	High
10/6/15	16:18:46	SASQ	60	Unknown	NA	Down	High
10/6/15	18:47:37	STB	60	Unknown	NA	Down	Low
10/6/15	19:40:31	STB	60	Unknown	NA	Up	High
10/6/15	19:42:04	STB	60	Unknown	NA	Down	High
10/6/15	20:12:41	STB	60	Unknown	NA	Up	High
10/6/15	20:24:35	STB	60	Unknown	NA	Down	Medium
10/7/15	2:13:58	STB	50	Unknown	NA	Down	High
10/7/15	2:30:25	STB	50	Unknown	NA	Down	High
10/7/15	3:23:40	UNID	50	Unknown	NA	Down	Low
10/7/15	4:12:43	STB	50	Unknown	NA	Down	High
10/7/15	12:44:46	RBT	50	Female	No	Down	High
10/7/15	16:32:29	BGS	15	Unknown	NA	Down	High
10/7/15	16:52:55	STB	60	Unknown	NA	Up	High
10/7/15	17:32:41	SASQ	60	Unknown	NA	Up	High
10/7/15	17:39:17	BGS	15	Unknown	NA	Down	High
10/7/15	20:21:40	UNID	50	Unknown	NA	Down	Low
10/7/15	20:23:43	UNID	50	Unknown	NA	Up	Low
10/7/15	20:38:21	STB	60	Unknown	NA	Down	High
10/7/15	20:43:25	STB	60	Unknown	NA	Down	High
10/7/15	20:44:18	STB	60	Unknown	NA	Up	High
10/7/15	20:46:28	STB	60	Unknown	NA	Down	High
10/7/15	22:15:05	STB	60	Unknown	NA	Down	High
10/8/15	3:17:46	BGS	20	Unknown	NA	Up	Low
10/8/15	3:17:46	SASQ	60	Unknown	NA	Up	Low
10/8/15	6:30:18	SASQ	60	Unknown	NA	Down	High
10/8/15	18:42:18	STB	65	Unknown	NA	Up	High
10/8/15	19:16:16	STB	80	Unknown	NA	Up	High
10/8/15	19:18:34	UNID	65	Unknown	NA	Down	Low
10/8/15	19:53:21	UNID	65	Unknown	NA	Down	Low
10/9/15	14:52:23	STB	65	Unknown	NA	Up	High
10/9/15	15:05:49	CHN	75	Male	No	Up	High
10/9/15	18:23:01	SASQ	65	Unknown	NA	Up	High
10/9/15	18:46:12	STB	65	Unknown	NA	Down	High
10/9/15	18:47:09	STB	65	Unknown	NA	Up	High
10/9/15	18:49:02	STB	65	Unknown	NA	Down	High
10/9/15	18:49:38	STB	65	Unknown	NA	Up	High
10/9/15	18:55:20	STB	65	Unknown	NA	Down	High
10/9/15	21:24:47	CHN	65	Unknown	No	Down	Low
10/10/15	5:23:43	UNID	10	Unknown	NA	Down	Low
10/10/15	6:33:00	STB	65	Unknown	NA	Down	Low
10/10/15	6:41:12	SASQ	65	Unknown	NA	Down	High
10/10/15	16:13:33	CHN	75	Male	No	Up	High
10/10/15	17:57:44	STB	70	Unknown	NA	Up	High
10/10/15	18:12:13	STB	75	Unknown	NA	Down	High
10/10/15	18:15:29	STB	75	Unknown	NA	Up	High

Date	Time	Species[1]	Estimated Length (cm)	Sex	Ad-Clip	Passage Direction	Observational Certainty
10/10/15	18:18:23	CHN	75	Male	No	Down	High
10/10/15	18:18:23	STB	70	Unknown	NA	Down	High
10/10/15	18:18:57	CHN	80	Male	No	Up	High
10/10/15	18:31:43	CHN	80	Male	No	Down	Medium
10/10/15	19:48:38	STB	70	Unknown	NA	Up	High
10/10/15	19:50:27	STB	70	Unknown	NA	Down	High
10/10/15	20:07:05	STB	70	Unknown	NA	Up	High
10/10/15	20:12:30	STB	60	Unknown	NA	Down	High
10/10/15	21:00:13	STB	70	Unknown	NA	Up	High
10/11/15	6:57:35	CHN	75	Male	No	Up	High
10/11/15	14:27:55	CHN	75	Male	No	Down	High
10/11/15	15:08:39	STB	65	Unknown	NA	Up	High
10/11/15	17:34:56	CHN	75	Male	No	Up	High
10/11/15	18:17:10	CHN	75	Male	No	Down	High
10/11/15	18:37:13	STB	65	Unknown	NA	Down	High
10/11/15	18:58:26	STB	65	Unknown	NA	Up	High
10/11/15	19:16:36	UNID	65	Unknown	NA	Up	Low
10/11/15	19:20:36	STB	65	Unknown	NA	Down	High
10/12/15	4:15:23	SASQ	65	Unknown	NA	Down	High
10/12/15	12:24:44	CHN	75	Male	No	Up	High
10/12/15	13:23:10	CHN	75	Male	No	Down	High
10/12/15	14:19:48	SASQ	65	Unknown	NA	Up	High
10/12/15	14:44:51	SASQ	65	Unknown	NA	Down	High
10/12/15	15:44:00	STB	65	Unknown	NA	Up	High
10/12/15	16:25:56	SASQ	65	Unknown	NA	Up	High
10/12/15	17:01:24	BGS	15	Unknown	NA	Up	High
10/12/15	18:45:02	STB	65	Unknown	NA	Down	High
10/12/15	18:45:32	STB	65	Unknown	NA	Up	High
10/12/15	18:49:47	STB	65	Unknown	NA	Down	High
10/12/15	19:00:00	STB	65	Unknown	NA	Up	High
10/12/15	21:47:49	STB	65	Unknown	NA	Up	High
10/12/15	22:19:24	UNID	10	Unknown	NA	Up	Low
10/12/15	22:34:57	STB	65	Unknown	NA	Down	High
10/12/15	22:44:40	SASQ	65	Unknown	NA	Down	High
10/12/15	23:17:50	SASQ	65	Unknown	NA	Down	High
10/13/15	1:31:22	SASQ	60	Unknown	NA	Down	High
10/13/15	5:17:50	SASQ	65	Unknown	NA	Up	High
10/13/15	5:21:16	SASQ	60	Unknown	NA	Down	Low
10/13/15	5:48:33	SASQ	60	Unknown	NA	Up	Medium
10/13/15	7:15:14	SASQ	65	Unknown	NA	Down	High
10/13/15	13:27:21	SASQ	65	Unknown	NA	Up	High
10/13/15	18:23:39	SASQ	60	Unknown	NA	Down	High
10/13/15	18:30:24	SASQ	60	Unknown	NA	Up	High
10/13/15	18:45:24	SASQ	60	Unknown	NA	Down	High
10/13/15	18:58:38	STB	60	Unknown	NA	Up	High
10/13/15	19:01:23	STB	60	Unknown	NA	Down	High
10/13/15	19:10:31	SASQ	60	Unknown	NA	Down	High
10/13/15	19:26:16	SASQ	60	Unknown	NA	Up	Low
10/13/15	19:37:23	SASQ	60	Unknown	NA	Down	High
10/13/15	20:05:19	SASQ	60	Unknown	NA	Down	High

Date	Time	Species[1]	Estimated Length (cm)	Sex	Ad-Clip	Passage Direction	Observational Certainty
10/13/15	20:26:06	SASQ	60	Unknown	NA	Up	High
10/13/15	20:26:13	SASQ	60	Unknown	NA	Up	High
10/13/15	20:26:46	SASQ	60	Unknown	NA	Down	High
10/13/15	20:30:14	SASQ	60	Unknown	NA	Up	Medium
10/13/15	20:52:11	SASQ	60	Unknown	NA	Up	High
10/13/15	20:57:42	SASQ	60	Unknown	NA	Down	Medium
10/13/15	21:09:00	SASQ	60	Unknown	NA	Up	High
10/13/15	21:33:35	SASQ	60	Unknown	NA	Up	High
10/13/15	21:50:11	SASQ	60	Unknown	NA	Down	High
10/13/15	22:08:30	UNID	60	Unknown	NA	Up	Low
10/13/15	22:29:59	SASQ	60	Unknown	NA	Up	High
10/13/15	22:30:21	SASQ	60	Unknown	NA	Up	High
10/13/15	23:34:48	UNID	60	Unknown	NA	Down	Low
10/14/15	0:34:41	SASQ	60	Unknown	NA	Up	Low
10/14/15	0:40:47	SASQ	60	Unknown	NA	Down	Low
10/14/15	1:11:35	SASQ	60	Unknown	NA	Up	High
10/14/15	1:14:44	SASQ	60	Unknown	NA	Down	High
10/14/15	1:15:45	SASQ	60	Unknown	NA	Up	High
10/14/15	1:19:00	SASQ	60	Unknown	NA	Down	Low
10/14/15	1:35:44	SASQ	60	Unknown	NA	Down	Low
10/14/15	1:43:18	SASQ	60	Unknown	NA	Down	High
10/14/15	2:02:19	SASQ	60	Unknown	NA	Down	Medium
10/14/15	2:22:36	SASQ	60	Unknown	NA	Up	Medium
10/14/15	2:22:44	SASQ	60	Unknown	NA	Down	Medium
10/14/15	2:31:58	SASQ	60	Unknown	NA	Down	High
10/14/15	2:34:57	SASQ	60	Unknown	NA	Up	High
10/14/15	2:37:24	SASQ	60	Unknown	NA	Down	High
10/14/15	2:38:51	SASQ	60	Unknown	NA	Up	High
10/14/15	2:39:01	SASQ	60	Unknown	NA	Down	High
10/14/15	2:42:21	SASQ	60	Unknown	NA	Down	High
10/14/15	3:09:25	SASQ	60	Unknown	NA	Up	High
10/14/15	3:09:58	SASQ	60	Unknown	NA	Up	High
10/14/15	3:10:03	SASQ	60	Unknown	NA	Up	High
10/14/15	4:19:03	SASQ	60	Unknown	NA	Up	Low
10/14/15	5:32:13	SASQ	60	Unknown	NA	Down	Medium
10/14/15	5:32:20	SASQ	60	Unknown	NA	Down	High
10/14/15	5:45:47	SASQ	60	Unknown	NA	Up	High
10/14/15	5:46:38	SASQ	60	Unknown	NA	Down	High
10/14/15	5:48:37	SASQ	60	Unknown	NA	Up	High
10/14/15	5:48:43	SASQ	60	Unknown	NA	Up	High
10/14/15	6:51:58	SASQ	60	Unknown	NA	Up	High
10/14/15	6:52:53	SASQ	60	Unknown	NA	Down	High
10/14/15	6:57:31	SASQ	60	Unknown	NA	Up	High
10/14/15	9:10:51	CHN	80	Male	No	Up	High
10/14/15	11:49:02	SASQ	60	Unknown	NA	Up	High
10/14/15	12:28:14	CHN	80	Male	No	Down	High
10/14/15	17:00:55	STB	6	Unknown	NA	Up	High
10/14/15	17:06:15	SASQ	60	Unknown	NA	Up	High
10/14/15	17:46:40	SASQ	60	Unknown	NA	Down	High
10/14/15	17:47:03	SASQ	60	Unknown	NA	Down	High

Date	Time	Species[1]	Estimated Length (cm)	Sex	Ad-Clip	Passage Direction	Observational Certainty
10/14/15	17:59:08	SASQ	60	Unknown	NA	Down	High
10/14/15	18:12:29	SASQ	60	Unknown	NA	Up	High
10/14/15	18:16:59	SASQ	60	Unknown	NA	Down	High
10/14/15	18:31:45	STB	60	Unknown	NA	Down	High
10/14/15	18:38:46	SASQ	60	Unknown	NA	Down	High
10/14/15	19:27:45	SASQ	60	Unknown	NA	Up	Low
10/14/15	19:28:08	SASQ	60	Unknown	NA	Down	High
10/14/15	20:00:37	SASQ	60	Unknown	NA	Up	Low
10/14/15	20:29:46	SASQ	60	Unknown	NA	Down	Low
10/14/15	21:54:09	SASQ	60	Unknown	NA	Down	Low
10/14/15	22:51:43	SASQ	60	Unknown	NA	Down	Low
10/15/15	0:24:41	SASQ	65	Unknown	NA	Up	Low
10/15/15	0:25:29	SASQ	65	Unknown	NA	Down	Medium
10/15/15	0:26:44	SASQ	65	Unknown	NA	Up	Low
10/15/15	1:26:48	SASQ	65	Unknown	NA	Up	Medium
10/15/15	3:16:03	SASQ	65	Unknown	NA	Down	Medium
10/15/15	4:31:12	UNID	10	Unknown	NA	Up	Low
10/15/15	4:50:37	SASQ	65	Unknown	NA	Up	High
10/15/15	5:24:12	SASQ	65	Unknown	NA	Down	High
10/15/15	6:14:52	BGS	15	Unknown	NA	Up	High
10/15/15	6:18:13	SASQ	65	Unknown	NA	Down	High
10/15/15	6:45:08	STB	60	Unknown	NA	Down	High
10/15/15	7:01:10	SASQ	45	Unknown	NA	Up	High
10/15/15	7:04:31	SASQ	65	Unknown	NA	Up	High
10/15/15	7:28:48	SASQ	65	Unknown	NA	Up	Low
10/15/15	8:13:58	SASQ	60	Unknown	NA	Down	High
10/15/15	8:14:08	SASQ	65	Unknown	NA	Down	High
10/15/15	15:11:43	SASQ	60	Unknown	NA	Up	High
10/15/15	18:01:58	SASQ	60	Unknown	NA	Up	High
10/15/15	18:14:51	STB	60	Unknown	NA	Up	High
10/15/15	18:44:02	BGS	5	Unknown	NA	Down	High
10/15/15	18:44:02	RBT	10	Unknown	NA	Down	Medium
10/15/15	18:45:08	UNID	15	Unknown	NA	Down	Low
10/15/15	19:04:50	STB	75	Unknown	NA	Up	High
10/15/15	19:16:37	STB	75	Unknown	NA	Down	High
10/15/15	19:28:48	SASQ	45	Unknown	NA	Up	Low
10/15/15	19:30:14	SASQ	55	Unknown	NA	Down	Medium
10/15/15	20:01:22	SASQ	55	Unknown	NA	Up	Low
10/15/15	20:07:26	SASQ	60	Unknown	NA	Down	High
10/15/15	20:08:23	SASQ	50	Unknown	NA	Up	High
10/15/15	20:10:36	SASQ	60	Unknown	NA	Down	High
10/15/15	20:52:12	STB	65	Unknown	NA	Down	High
10/15/15	22:38:35	SASQ	50	Unknown	NA	Up	High
10/15/15	23:01:13	STB	60	Unknown	NA	Up	High
10/15/15	23:11:51	STB	65	Unknown	NA	Down	Medium
10/15/15	23:47:50	SASQ	0	Unknown	NA	Up	Low
10/16/15	0:45:13	UNID	50	Unknown	NA	Down	Low
10/16/15	2:56:03	SASQ	50	Unknown	NA	Up	High
10/16/15	3:40:14	SASQ	50	Unknown	NA	Up	High
10/16/15	3:58:54	UNID	50	Unknown	NA	Up	Low

Date	Time	Species[1]	Estimated Length (cm)	Sex	Ad-Clip	Passage Direction	Observational Certainty
10/16/15	4:10:01	STB	60	Unknown	NA	Down	High
10/16/15	5:30:00	SASQ	50	Unknown	NA	Down	High
10/16/15	5:31:51	UNID	50	Unknown	NA	Up	Low
10/16/15	6:58:54	UNID	15	Unknown	NA	Up	Low
10/16/15	15:51:16	SASQ	60	Unknown	NA	Up	High
10/16/15	16:54:51	STB	60	Unknown	NA	Up	High
10/16/15	18:38:01	STB	60	Unknown	NA	Down	High
10/16/15	19:54:24	SASQ	30	Unknown	NA	Down	Low
10/16/15	20:44:32	UNID	20	Unknown	NA	Down	Low
10/16/15	20:57:21	UNID	20	Unknown	NA	Down	Low
10/16/15	22:04:17	SASQ	50	Unknown	NA	Down	High
10/16/15	22:55:13	STB	60	Unknown	NA	Up	High
10/16/15	23:37:00	STB	60	Unknown	NA	Down	High
10/17/15	1:14:28	UNID	30	Unknown	NA	Down	Low
10/17/15	2:21:11	STB	60	Unknown	NA	Up	High
10/17/15	3:05:56	STB	60	Unknown	NA	Down	High
10/17/15	5:19:43	UNID	60	Unknown	NA	Up	Low
10/17/15	15:47:21	STB	65	Unknown	NA	Up	High
10/17/15	15:47:22	STB	60	Unknown	NA	Up	High
10/17/15	16:05:55	SASQ	65	Unknown	NA	Up	High
10/17/15	18:14:55	STB	65	Unknown	NA	Down	High
10/17/15	18:14:55	STB	60	Unknown	NA	Down	High
10/17/15	18:24:55	SASQ	60	Unknown	NA	Down	High
10/17/15	18:51:34	SASQ	60	Unknown	NA	Up	Medium
10/17/15	19:01:57	STB	65	Unknown	NA	Up	High
10/17/15	19:06:42	STB	60	Unknown	NA	Down	High
10/17/15	19:07:50	STB	65	Unknown	NA	Up	High
10/17/15	19:14:14	STB	60	Unknown	NA	Down	High
10/17/15	19:35:20	UNID	50	Unknown	NA	Down	Low
10/17/15	19:51:39	STB	60	Unknown	NA	Down	High
10/17/15	19:52:11	STB	50	Unknown	NA	Up	High
10/17/15	19:52:18	STB	60	Unknown	NA	Up	High
10/17/15	19:55:44	SASQ	60	Unknown	NA	Down	High
10/17/15	19:57:21	SASQ	50	Unknown	NA	Down	Low
10/17/15	20:01:04	UNID	40	Unknown	NA	Up	Low
10/17/15	20:07:55	SASQ	45	Unknown	NA	Down	Low
10/17/15	20:24:44	STB	60	Unknown	NA	Down	High
10/17/15	20:33:32	STB	60	Unknown	NA	Down	High
10/17/15	21:57:24	SASQ	45	Unknown	NA	Up	Medium
10/17/15	22:04:40	UNID	45	Unknown	NA	Up	Low
10/17/15	22:59:42	SASQ	45	Unknown	NA	Down	Medium
10/19/15	16:36:56	CHN	80	Male	No	Down	High
10/19/15	17:59:15	STB	60	Unknown	NA	Up	High
10/19/15	18:36:46	STB	60	Unknown	NA	Down	High
10/19/15	18:52:45	UNID	20	Unknown	NA	Down	Low
10/19/15	18:54:55	STB	60	Unknown	NA	Down	High
10/19/15	18:59:43	STB	60	Unknown	NA	Up	High
10/19/15	23:08:22	STB	65	Unknown	NA	Up	High
10/19/15	23:54:42	STB	65	Unknown	NA	Down	High
10/20/15	0:37:26	STB	60	Unknown	NA	Up	High

Date	Time	Species[1]	Estimated Length (cm)	Sex	Ad-Clip	Passage Direction	Observational Certainty
10/20/15	0:51:34	STB	60	Unknown	NA	Down	High
10/20/15	1:46:08	STB	60	Unknown	NA	Up	High
10/20/15	2:26:29	STB	60	Unknown	NA	Down	High
10/20/15	2:49:01	STB	60	Unknown	NA	Up	High
10/20/15	2:55:03	STB	60	Unknown	NA	Down	High
10/20/15	7:25:45	SASQ	60	Unknown	NA	Down	High
10/20/15	8:42:23	SASQ	60	Unknown	NA	Up	High
10/20/15	17:14:38	STB	60	Unknown	NA	Up	High
10/20/15	17:50:21	SASQ	60	Unknown	NA	Up	High
10/20/15	18:11:10	STB	60	Unknown	NA	Down	High
10/20/15	18:18:26	STB	60	Unknown	NA	Up	High
10/20/15	18:25:46	SASQ	60	Unknown	NA	Down	High
10/20/15	18:26:47	STB	60	Unknown	NA	Down	High
10/20/15	18:59:33	STB	60	Unknown	NA	Up	High
10/20/15	19:03:50	STB	60	Unknown	NA	Up	High
10/20/15	19:06:03	STB	60	Unknown	NA	Up	Medium
10/20/15	19:08:48	STB	60	Unknown	NA	Down	High
10/20/15	19:31:14	STB	60	Unknown	NA	Up	High
10/20/15	19:32:11	STB	60	Unknown	NA	Down	High
10/20/15	19:33:48	UNID	20	Unknown	NA	Down	Low
10/20/15	23:43:55	SASQ	60	Unknown	NA	Up	High
10/21/15	4:48:15	SASQ	30	Unknown	NA	Up	High
10/21/15	17:46:03	STB	60	Unknown	NA	Up	High
10/21/15	18:32:01	STB	60	Unknown	NA	Down	High
10/21/15	18:34:17	UNID	20	Unknown	NA	Down	Low
10/21/15	18:37:06	UNID	10	Unknown	NA	Down	Low
10/21/15	18:38:33	STB	60	Unknown	NA	Up	High
10/21/15	18:41:37	SASQ	60	Unknown	NA	Down	High
10/21/15	18:42:49	STB	60	Unknown	NA	Down	High
10/21/15	21:09:45	SASQ	60	Unknown	NA	Up	Medium
10/21/15	22:08:55	CHN	70	Female	Unknown	Up	High
10/22/15	0:22:20	CHN	70	Female	Yes	Down	High
10/22/15	0:35:41	SASQ	60	Unknown	NA	Down	High
10/22/15	1:08:46	SASQ	60	Unknown	NA	Down	High
10/22/15	5:13:52	SASQ	60	Unknown	NA	Down	High
10/22/15	5:19:10	SASQ	60	Unknown	NA	Up	Low
10/22/15	5:22:18	SASQ	20	Unknown	NA	Up	Low
10/22/15	6:34:03	UNID	15	Unknown	NA	Up	Low
10/22/15	6:53:42	UNID	15	Unknown	NA	Up	Low
10/23/15	7:32:29	CHN	70	Female	No	Up	High
10/23/15	9:51:42	CHN	70	Female	No	Down	High
10/23/15	13:46:37	SASQ	60	Unknown	NA	Down	High
10/23/15	18:35:24	UNID	10	Unknown	NA	Down	Low
10/23/15	19:07:38	SASQ	60	Unknown	NA	Up	Low
10/23/15	21:03:58	UNID	70	Unknown	NA	Down	Low
10/23/15	21:26:18	UNID	20	Unknown	NA	Up	Low
10/24/15	3:57:38	SASQ	70	Unknown	NA	Down	High
10/24/15	4:33:44	SASQ	60	Unknown	NA	Up	High
10/24/15	4:52:35	SASQ	60	Unknown	NA	Up	High
10/24/15	9:13:51	RBT	30	Unknown	No	Up	Medium

Date	Time	Species[1]	Estimated Length (cm)	Sex	Ad-Clip	Passage Direction	Observational Certainty
10/24/15	16:22:49	RBT	30	Unknown	No	Down	High
10/24/15	18:20:47	SASQ	45	Unknown	NA	Down	High
10/24/15	19:38:03	UNID	10	Unknown	NA	Down	Low
10/24/15	23:29:38	SASQ	60	Unknown	NA	Up	Medium
10/25/15	1:49:27	RBT	20	Unknown	Unknown	Down	Low
10/25/15	5:16:48	UNID	60	Unknown	NA	Down	Low
10/25/15	6:06:29	CHN	70	Male	No	Up	Medium
10/25/15	6:56:34	UNID	20	Unknown	NA	Up	Low
10/25/15	7:04:01	RBT	20	Unknown	No	Up	High
10/25/15	7:05:49	SASQ	45	Unknown	NA	Down	Medium
10/25/15	7:05:50	SASQ	60	Unknown	NA	Down	High
10/25/15	7:13:21	RBT	20	Unknown	No	Up	Medium
10/25/15	7:13:39	UNID	10	Unknown	NA	Up	Low
10/25/15	7:14:24	UNID	10	Unknown	NA	Up	Low
10/25/15	7:37:01	CHN	60	Female	No	Down	High
10/25/15	7:54:13	CHN	60	Female	No	Up	High
10/25/15	8:18:02	CHN	60	Female	No	Down	High
10/25/15	13:26:25	CHN	60	Male	No	Up	High
10/25/15	13:58:22	CHN	70	Male	No	Down	High
10/25/15	19:17:42	CHN	60	Male	No	Up	Medium
10/25/15	19:20:37	SASQ	60	Unknown	NA	Up	Medium
10/25/15	19:21:36	UNID	15	Unknown	NA	Down	Low
10/25/15	19:26:04	CHN	70	Female	No	Down	High
10/25/15	19:35:07	CHN	60	Female	No	Up	High
10/25/15	19:45:14	CHN	65	Female	Unknown	Down	Medium
10/25/15	19:50:53	CHN	65	Female	No	Up	High
10/25/15	20:12:10	CHN	70	Unknown	Unknown	Down	Medium
10/25/15	20:18:23	CHN	70	Female	Unknown	Up	Medium
10/25/15	20:18:25	UNID	65	Unknown	NA	Up	Low
10/25/15	20:35:25	CHN	70	Unknown	Unknown	Down	Medium
10/25/15	20:58:16	RBT	15	Unknown	Unknown	Down	Medium
10/25/15	21:32:35	CHN	65	Unknown	Unknown	Up	Medium
10/25/15	22:10:00	CHN	65	Unknown	No	Up	Low
10/25/15	22:10:03	CHN	60	Unknown	Unknown	Up	Low
10/25/15	22:20:37	UNID	30	Unknown	NA	Down	Low
10/25/15	22:20:42	UNID	30	Unknown	NA	Down	Low
10/25/15	22:59:44	CHN	60	Unknown	Unknown	Up	Low
10/25/15	23:17:44	UNID	45	Unknown	NA	Down	Low
10/25/15	23:35:14	UNID	45	Unknown	NA	Up	Low
10/25/15	23:40:37	CHN	60	Female	Unknown	Down	Medium
10/26/15	0:40:16	CHN	65	Male	Unknown	Down	High
10/26/15	0:40:16	CHN	65	Female	Unknown	Down	High
10/26/15	0:56:06	CHN	65	Male	No	Up	High
10/26/15	1:49:14	UNID	60	Unknown	NA	Down	Low
10/26/15	1:54:36	UNID	60	Unknown	NA	Down	Low
10/26/15	1:54:45	CHN	70	Male	Unknown	Down	High
10/26/15	2:00:35	CHN	70	Male	No	Up	High
10/26/15	2:09:20	CHN	70	Male	Unknown	Down	High
10/26/15	2:54:06	UNID	80	Unknown	NA	Up	Low
10/26/15	3:46:49	UNID	70	Unknown	NA	Down	Low

Date	Time	Species[1]	Estimated Length (cm)	Sex	Ad-Clip	Passage Direction	Observational Certainty
10/26/15	3:58:12	SASQ	60	Unknown	NA	Down	Medium
10/26/15	4:02:27	CHN	70	Female	No	Down	High
10/26/15	4:09:19	CHN	70	Male	No	Up	High
10/26/15	4:12:51	CHN	70	Male	No	Down	High
10/26/15	4:15:31	CHN	70	Male	No	Up	High
10/26/15	4:17:02	CHN	70	Male	No	Down	High
10/26/15	4:19:21	CHN	70	Male	No	Up	High
10/26/15	4:58:18	CHN	60	Female	No	Down	High
10/26/15	4:58:19	CHN	70	Male	No	Down	High
10/26/15	4:59:48	CHN	70	Male	No	Up	High
10/26/15	5:03:03	CHN	70	Male	No	Down	High
10/26/15	5:07:20	CHN	70	Male	No	Up	High
10/26/15	5:15:29	CHN	60	Female	No	Up	High
10/26/15	5:44:49	CHN	70	Male	No	Down	Medium
10/26/15	5:46:00	CHN	70	Male	No	Up	High
10/26/15	6:10:29	CHN	70	Male	No	Down	Low
10/26/15	9:54:36	CHN	70	Male	No	Down	High
10/26/15	12:27:26	CHN	60	Male	No	Up	High
10/26/15	13:30:12	CHN	60	Male	No	Down	High
10/26/15	14:37:51	CHN	60	Female	No	Up	High
10/26/15	15:25:30	CHN	60	Male	No	Up	High
10/26/15	17:09:13	CHN	70	Male	No	Down	High
10/26/15	17:09:13	CHN	60	Female	No	Down	High
10/26/15	17:16:15	CHN	70	Male	No	Up	High
10/26/15	17:19:27	CHN	60	Female	No	Down	High
10/26/15	17:19:30	CHN	70	Male	No	Down	High
10/26/15	17:21:12	CHN	70	Male	No	Up	High
10/26/15	17:32:18	CHN	70	Male	No	Down	High
10/26/15	17:49:32	SASQ	50	Unknown	NA	Up	High
10/26/15	18:32:25	SASQ	60	Unknown	NA	Up	Low
10/26/15	18:40:49	SASQ	60	Unknown	NA	Up	Medium
10/26/15	19:02:55	UNID	60	Unknown	NA	Up	Low
10/26/15	19:42:22	CHN	70	Male	No	Up	High
10/26/15	20:10:26	CHN	70	Male	No	Down	High
10/26/15	20:23:53	CHN	70	Male	No	Up	High
10/26/15	20:31:41	CHN	70	Male	No	Down	High
10/26/15	22:38:37	CHN	60	Male	No	Up	High
10/26/15	22:56:39	CHN	60	Female	Yes	up	Medium
10/26/15	23:37:41	CHN	70	Male	No	Down	High
10/26/15	23:41:40	CHN	60	Unknown	Unknown	Down	Medium
10/26/15	23:59:10	CHN	60	Female	Yes	Up	High
10/27/15	0:02:04	CHN	70	Male	No	Up	Medium
10/27/15	0:20:10	CHN	70	Male	No	Down	Medium
10/27/15	0:34:29	CHN	70	Male	No	Up	High
10/27/15	0:48:00	CHN	60	Male	No	Down	High
10/27/15	0:48:01	CHN	60	Female	Unknown	Down	Medium
10/27/15	0:53:08	CHN	60	Female	Unknown	Up	Medium
10/27/15	1:07:35	CHN	60	Male	No	Up	High
10/27/15	1:09:53	CHN	60	Male	No	Down	High
10/27/15	1:16:38	CHN	60	Male	No	Up	High

Date	Time	Species[1]	Estimated Length (cm)	Sex	Ad-Clip	Passage Direction	Observational Certainty
10/27/15	1:20:57	CHN	60	Female	Yes	Down	High
10/27/15	1:25:18	CHN	70	Male	No	Down	High
10/27/15	1:57:12	SASQ	60	Unknown	NA	Down	Low
10/27/15	2:00:34	CHN	60	Female	No	Down	High
10/27/15	2:03:42	CHN	70	Male	No	Down	High
10/27/15	2:04:30	CHN	70	Male	No	Up	High
10/27/15	2:05:02	CHN	40	Unknown	Unknown	Up	Low
10/27/15	2:12:37	CHN	60	Female	Unknown	Down	Medium
10/27/15	2:17:59	CHN	50	Unknown	Unknown	Up	Low
10/27/15	2:23:21	CHN	70	Male	No	Down	High
10/27/15	2:23:22	CHN	60	Female	Yes	Down	High
10/27/15	2:29:15	CHN	60	Female	Yes	Up	Medium
10/27/15	2:29:43	CHN	70	Male	No	Up	High
10/27/15	2:37:02	CHN	60	Female	Unknown	Down	Medium
10/27/15	2:37:03	CHN	70	Male	No	Down	Med
10/27/15	2:41:26	CHN	60	Unknown	No	Up	Medium
10/27/15	2:50:29	CHN	70	Male	No	Down	High
10/27/15	2:56:31	CHN	60	Female	Yes	Down	High
10/27/15	3:02:50	CHN	60	Male	No	Up	High
10/27/15	3:06:32	CHN	60	Female	Yes	Up	High
10/27/15	3:16:11	CHN	70	Male	No	Down	High
10/27/15	3:32:45	CHN	70	Male	No	Up	High
10/27/15	3:41:10	CHN	60	Male	No	Up	High
10/27/15	3:41:11	CHN	60	Female	Yes	Down	High
10/27/15	3:42:21	CHN	70	Male	No	Up	High
10/27/15	3:45:04	CHN	60	Female	Yes	Up	High
10/27/15	3:51:00	CHN	70	Male	No	Down	High
10/27/15	4:02:29	CHN	60	Female	Yes	Down	High
10/27/15	4:29:23	CHN	60	Female	Yes	Up	High
10/27/15	4:52:42	SASQ	60	Unknown	NA	Down	High
10/27/15	5:28:59	SASQ	60	Unknown	NA	Down	High
10/27/15	5:52:42	SASQ	70	Unknown	NA	Down	High
10/27/15	7:21:20	CHN	60	Male	No	Up	High
10/27/15	8:30:42	CHN	65	Female	Yes	Down	High
10/27/15	8:39:54	CHN	65	Female	Yes	Up	High
10/27/15	10:19:24	CHN	65	Male	No	Down	High
10/27/15	10:21:11	CHN	65	Male	No	Up	High
10/27/15	10:21:37	CHN	65	Male	No	Down	High
10/27/15	10:24:03	CHN	55	Male	No	Up	High
10/27/15	10:40:27	CHN	45	Female	No	Up	High
10/27/15	11:57:16	CHN	50	Female	No	Up	High
10/27/15	12:01:27	CHN	50	Female	No	Down	High
10/25/15	7:05:49	UNID	15	Unknown	NA	Up	Low
10/27/15	14:55:42	CHN	45	Female	No	Down	High
10/27/15	15:42:28	CHN	60	Male	No	Down	High
10/27/15	16:48:54	SASQ	50	Unknown	NA	Up	High
10/27/15	17:18:23	STB	55	Unknown	NA	Up	High
10/27/15	18:45:02	CHN	60	Female	Yes	Down	High
10/27/15	22:47:49	STB	55	Unknown	NA	Up	High
10/27/15	22:49:13	STB	55	Unknown	NA	Down	High

Date	Time	Species[1]	Estimated Length (cm)	Sex	Ad-Clip	Passage Direction	Observational Certainty
10/27/15	22:55:22	STB	55	Unknown	NA	Up	High
10/27/15	22:58:24	STB	60	Unknown	NA	Up	High
10/27/15	22:58:30	STB	45	Unknown	NA	Up	High
10/28/15	0:36:09	STB	60	Unknown	NA	Down	High
10/28/15	2:43:04	CHN	70	Male	No	Down	High
10/28/15	2:57:24	UNID	65	Unknown	NA	Down	Low
10/28/15	5:46:00	SASQ	60	Unknown	NA	Up	High
10/28/15	7:12:52	SASQ	55	Unknown	NA	Down	High
10/28/15	7:34:53	CHN	60	Female	Yes	Up	High
10/28/15	8:04:11	CHN	60	Female	Yes	Down	High
10/28/15	8:43:18	CHN	60	Male	No	Up	High
10/28/15	9:06:13	CHN	60	Male	No	Down	High
10/28/15	9:19:36	CHN	50	Female	No	Down	High
10/28/15	9:24:29	CHN	50	Female	No	Up	High
10/28/15	10:58:12	CHN	60	Female	No	Down	High
10/28/15	10:59:56	CHN	60	Female	No	Up	High
10/28/15	11:21:54	CHN	70	Female	No	Down	High
10/28/15	11:24:17	CHN	60	Female	No	Up	High
10/28/15	11:25:30	CHN	65	Female	No	Down	High
10/28/15	11:28:30	CHN	60	Female	No	Up	High
10/28/15	11:37:15	CHN	60	Female	No	Down	High
10/28/15	11:39:21	CHN	60	Female	No	Up	High
10/28/15	11:39:55	CHN	60	Female	No	Down	High
10/28/15	11:51:58	CHN	60	Female	No	Up	High
10/28/15	11:52:43	CHN	60	Female	No	Down	High
10/28/15	12:46:51	CHN	60	Female	No	Up	High
10/28/15	15:15:25	CHN	80	Female	Yes	Up	High
10/28/15	17:23:07	CHN	80	Female	Yes	Down	High
10/28/15	17:25:45	STB	65	Unknown	NA	Up	High
10/28/15	18:00:20	STB	65	Unknown	NA	Up	High
10/28/15	18:00:28	UNID	25	Unknown	NA	Down	Low
10/28/15	18:11:54	STB	65	Unknown	NA	Down	High
10/28/15	18:41:37	STB	75	Unknown	NA	Up	High
10/28/15	18:43:32	STB	65	Unknown	NA	Down	High
10/28/15	18:48:27	STB	65	Unknown	NA	Up	High
10/28/15	18:57:33	STB	70	Unknown	NA	Up	Medium
10/28/15	19:01:16	STB	70	Unknown	NA	Down	High
10/28/15	19:05:25	STB	80	Unknown	NA	Up	Low
10/28/15	19:13:53	STB	60	Unknown	NA	Down	High
10/28/15	19:14:11	UNID	80	Unknown	NA	Up	Low
10/28/15	19:49:26	UNID	30	Unknown	NA	Up	Low
10/28/15	20:49:09	STB	65	Unknown	NA	Down	High
10/28/15	23:20:33	UNID	65	Unknown	NA	Up	Low
10/28/15	23:33:05	UNID	65	Unknown	NA	Down	Low
10/29/15	0:46:39	CHN	70	Male	Unknown	Up	Low
10/29/15	1:18:24	CHN	70	Male	Unknown	Down	Low
10/29/15	2:04:52	SASQ	65	Unknown	NA	Down	Low
10/29/15	2:04:54	SASQ	70	Unknown	NA	Down	Low
10/29/15	2:55:01	SASQ	65	Unknown	NA	Up	Medium
10/29/15	3:57:04	CHN	65	Female	No	Up	High

Date	Time	Species[1]	Estimated Length (cm)	Sex	Ad-Clip	Passage Direction	Observational Certainty
10/29/15	4:18:34	CHN	65	Male	Unknown	Down	Low
10/29/15	5:29:56	CHN	60	Unknown	Unknown	Up	Low
10/29/15	5:31:55	UNID	25	Unknown	NA	Up	Low
10/29/15	6:19:14	CHN	60	Female	Unknown	Down	Medium
10/29/15	6:23:58	CHN	60	Female	Unknown	Up	Medium
10/29/15	6:38:35	UNID	60	Unknown	Unknown	Down	Low
10/29/15	6:38:37	UNID	70	Unknown	Unknown	Down	Low
10/29/15	7:00:28	UNID	25	Unknown	NA	Up	Low
10/29/15	7:03:14	RBT	25	Unknown	NA	Up	Medium
10/29/15	7:37:11	SASQ	70	Unknown	NA	Down	High
10/29/15	7:43:35	CHN	60	Male	Yes	Down	High
10/29/15	8:13:30	CHN	60	Female	No	Up	High
10/29/15	9:33:19	CHN	65	Female	No	Down	High
10/29/15	14:47:06	RBT	45	Unknown	No	Down	High
10/29/15	16:30:30	CHN	60	Female	No	Down	High
10/29/15	17:21:01	STB	70	Unknown	NA	Up	High
10/29/15	17:52:07	SASQ	60	Unknown	NA	Up	High
10/29/15	17:56:23	STB	70	Unknown	NA	Down	High
10/29/15	17:57:19	STB	70	Unknown	NA	Up	High
10/29/15	18:06:18	STB	70	Unknown	NA	Down	High
10/29/15	18:06:44	STB	70	Unknown	NA	Up	High
10/29/15	18:14:52	STB	70	Unknown	NA	Down	High
10/29/15	18:15:24	STB	70	Unknown	NA	Up	High
10/29/15	18:27:53	STB	70	Unknown	NA	Down	High
10/29/15	18:28:03	STB	70	Unknown	NA	Up	High
10/29/15	18:31:02	STB	65	Unknown	NA	Down	High
10/29/15	18:35:19	SASQ	65	Unknown	NA	Up	Low
10/29/15	18:36:09	UNID	60	Unknown	NA	Down	Low
10/29/15	19:04:42	STB	70	Unknown	NA	Up	Low
10/29/15	19:07:20	UNID	25	Unknown	NA	Down	Low
10/29/15	19:08:53	UNID	30	Unknown	NA	Down	Low
10/29/15	19:08:54	UNID	70	Unknown	NA	Up	Low
10/29/15	19:13:54	UNID	80	Unknown	NA	Up	Low
10/29/15	19:31:28	UNID	70	Unknown	NA	Down	Low
10/29/15	20:19:20	CHN	65	Female	No	Up	High
10/29/15	20:32:41	SASQ	60	Unknown	NA	Up	High
10/29/15	21:51:28	CHN	80	Female	No	Down	High
10/29/15	23:00:38	CHN	70	Male	Unknown	Up	Medium
10/29/15	23:00:53	SASQ	80	Unknown	NA	Down	Medium
10/29/15	23:40:27	CHN	70	Male	Unknown	Down	Medium
10/30/15	1:23:43	CHN	80	Male	Unknown	Up	Medium
10/30/15	1:51:37	CHN	80	Male	Unknown	Down	High
10/30/15	2:20:15	UNID	70	Unknown	NA	Up	Low
10/30/15	2:31:17	SASQ	70	Unknown	NA	Down	Medium
10/30/15	2:31:19	SASQ	70	Unknown	NA	Down	Medium
10/30/15	3:10:08	CHN	65	Female	No	Down	High
10/30/15	4:23:35	CHN	60	Female	Unknown	Up	Medium
10/30/15	5:11:42	CHN	65	Female	Unknown	Down	Medium
10/30/15	5:14:11	CHN	65	Unknown	No	Up	Low
10/30/15	5:15:23	CHN	65	Male	No	Down	Medium

Date	Time	Species[1]	Estimated Length (cm)	Sex	Ad-Clip	Passage Direction	Observational Certainty
10/30/15	5:18:53	CHN	65	Male	No	Up	Medium
10/30/15	5:29:40	CHN	80	Male	Unknown	Down	Low
10/30/15	5:42:38	CHN	65	Unknown	No	Up	Medium
10/30/15	5:49:12	CHN	65	Unknown	Unknown	Down	Medium
10/30/15	6:42:41	SASQ	60	Unknown	NA	Up	Medium
10/30/15	7:20:14	SASQ	70	Unknown	NA	Down	High
10/30/15	14:04:55	CHN	80	Female	Yes	Up	High
10/30/15	16:31:29	STB	65	Unknown	NA	Up	High
10/30/15	17:05:52	SASQ	65	Unknown	NA	Up	High
10/30/15	17:19:24	SASQ	60	Unknown	NA	Up	High
10/30/15	17:28:04	RBT	25	Unknown	No	Down	Low
10/30/15	17:34:06	CHN	8	Female	Yes	Down	High
10/30/15	17:35:09	STB	70	Unknown	NA	Down	High
10/30/15	17:35:27	STB	65	Unknown	NA	Up	High
10/30/15	17:40:40	STB	70	Unknown	NA	Down	High
10/30/15	17:40:52	STB	65	Unknown	NA	Up	High
10/30/15	17:42:38	STB	65	Unknown	NA	Down	High
10/30/15	18:23:41	BGS	15	Unknown	NA	Down	Medium
10/30/15	18:38:09	UNID	30	Unknown	NA	Down	Low
10/30/15	18:41:20	UNID	65	Unknown	NA	Up	Low
10/30/15	18:49:29	UNID	80	Unknown	NA	Up	Low
10/30/15	18:50:30	UNID	80	Unknown	NA	Down	Low
10/30/15	18:56:02	STB	65	Unknown	NA	Up	High
10/30/15	18:57:33	UNID	25	Unknown	NA	Down	Low
10/30/15	19:03:29	STB	65	Unknown	NA	Up	High
10/30/15	19:04:00	STB	65	Unknown	NA	Down	Medium
10/30/15	19:49:31	STB	70	Unknown	NA	Up	High
10/30/15	20:04:10	CHN	65	Female	Unknown	Up	High
10/30/15	20:37:35	CHN	65	Unknown	Unknown	Down	Low
10/30/15	20:59:43	UNID	45	Unknown	NA	Up	Low
10/30/15	21:15:54	UNID	65	Unknown	NA	Up	Low
10/30/15	21:42:15	UNID	65	Unknown	NA	Down	Low
10/30/15	21:49:37	CHN	65	Male	Unknown	Up	Medium
10/30/15	21:59:51	SASQ	60	Unknown	NA	Down	Low
10/30/15	22:05:41	CHN	65	Female	No	Down	High
10/31/15	0:31:03	CHN	65	Female	No	Up	High
10/31/15	0:31:03	CHN	65	Unknown	Unknown	Up	Low
10/31/15	0:46:49	SASQ	65	Unknown	NA	Down	Medium
10/31/15	1:08:32	CHN	65	Unknown	No	Down	Medium
10/31/15	1:10:34	CHN	65	Male	Unknown	Down	Medium
10/31/15	1:16:33	CHN	65	Unknown	Unknown	Up	Low
10/31/15	1:29:16	CHN	65	Male	Unknown	Down	Medium
10/31/15	1:39:52	CHN	65	Female	Unknown	Up	High
10/31/15	1:39:56	CHN	65	Unknown	Unknown	Up	Medium
10/31/15	1:41:56	CHN	65	Female	Unknown	Down	Medium
10/31/15	1:53:23	STB	65	Unknown	NA	Up	High
10/31/15	1:54:54	CHN	65	Unknown	Unknown	Up	Medium
10/31/15	2:06:08	CHN	65	Unknown	Unknown	Down	Low
10/31/15	2:12:45	CHN	70	Unknown	No	Down	Medium
10/31/15	2:15:29	CHN	65	Female	Unknown	Up	Medium

Date	Time	Species[1]	Estimated Length (cm)	Sex	Ad-Clip	Passage Direction	Observational Certainty
10/31/15	2:22:40	CHN	70	Male	Unknown	Down	Medium
10/31/15	2:31:24	CHN	65	Unknown	Unknown	Down	Low
10/31/15	2:41:32	CHN	65	Female	Unknown	Up	High
10/31/15	2:58:51	CHN	70	Female	Unknown	Down	High
10/31/15	2:59:51	CHN	75	Unknown	Unknown	Up	Medium
10/31/15	3:12:46	CHN	75	Unknown	Unknown	Down	Medium
10/31/15	3:20:15	CHN	70	Female	Unknown	Up	Medium
10/31/15	3:33:15	CHN	80	Male	Unknown	Down	Medium
10/31/15	3:50:58	CHN	75	Unknown	Unknown	Up	Medium
10/31/15	4:17:15	CHN	75	Male	No	Down	Medium
10/31/15	4:27:12	CHN	65	Unknown	Unknown	Up	Medium
10/31/15	4:44:12	CHN	80	Unknown	No	Down	Medium
10/31/15	5:03:52	CHN	65	Unknown	Unknown	Up	Medium
10/31/15	6:13:06	SASQ	75	Unknown	NA	Down	Medium
10/31/15	6:57:19	UNID	30	Unknown	NA	Up	Low
10/31/15	6:57:26	UNID	30	Unknown	NA	Up	Low
10/31/15	7:12:04	SASQ	65	Unknown	NA	Down	High
10/31/15	7:24:37	SASQ	65	Unknown	NA	Up	High
10/31/15	13:07:59	CHN	80	Female	Yes	Up	High
10/31/15	14:57:06	CHN	60	Female	No	Down	High
10/31/15	14:57:30	CHN	60	Female	No	Up	High
10/31/15	14:58:21	CHN	65	Female	No	Down	High
10/31/15	16:01:41	CHN	80	Female	Yes	Down	High
10/31/15	16:41:44	STB	65	Unknown	NA	Up	High
10/31/15	17:25:41	STB	65	Unknown	NA	Down	High
10/31/15	17:42:16	SASQ	65	Unknown	NA	Down	High
10/31/15	18:20:40	SASQ	65	Unknown	NA	Up	High
10/31/15	18:54:05	RBT	35	Unknown	Unknown	Down	Medium
10/31/15	19:31:22	STB	80	Unknown	NA	Down	High
10/31/15	22:31:18	UNID	65	Unknown	NA	Down	Low
10/31/15	23:42:34	STB	65	Unknown	NA	Up	High

[1] BGS-bluegill, CHN-Chinook salmon, RBT-rainbow trout, SASQ-Sacramento pikeminnow, SASU-Sacramento sucker, STB-striped bass, and UNID-unidentified.

Table A-2. Main channel weir fish passage information, September 23, 2015 through October 31, 2015.

Date	Time	Species[1]	Estimated Length (cm)	Sex	Ad-Clip	Passage Direction	Observational Certainty
9/23/15	5:00:02	SASQ	15	Unknown	NA	Up	Medium
9/23/15	9:05:42	UNID	15	Unknown	NA	Down	Low
9/23/15	9:25:54	UNID	10	Unknown	NA	Down	Low
9/25/15	0:25:31	SASQ	--	Unknown	NA	Up	Medium
9/25/15	1:05:38	SASQ	--	Unknown	NA	Down	Medium
9/25/15	4:39:58	SASQ	--	Unknown	NA	Up	Medium
9/25/15	5:37:28	UNID	--	Unknown	NA	Up	Medium
9/25/15	5:57:20	UNID	--	Unknown	NA	Up	Low
9/26/15	9:13:23	BGS	15	Unknown	NA	Up	High
9/27/15	0:25:38	UNID	--	Unknown	NA	Down	Low
9/27/15	0:36:26	UNID	--	Unknown	NA	Up	Low

Date	Time	Species[1]	Estimated Length (cm)	Sex	Ad-Clip	Passage Direction	Observational Certainty
9/27/15	8:49:32	UNID	--	Unknown	NA	Down	Low
9/27/15	11:46:12	BGS	15	Unknown	NA	Up	High
9/27/15	15:45:40	BGS	15	Unknown	NA	Up	High
9/27/15	21:51:56	UNID	--	Unknown	NA	Up	Low
9/28/15	14:26:06	BGS	7	Unknown	NA	Up	High
9/28/15	14:33:48	BGS	20	Unknown	NA	Up	High
9/28/15	15:04:33	BGS	18	Unknown	NA	Up	High
9/28/15	15:37:00	BGS	18	Unknown	NA	Up	High
9/28/15	22:16:16	UNID	10	Unknown	NA	Up	Low
9/28/15	22:16:28	UNID	10	Unknown	NA	Down	Low
9/28/15	22:16:40	UNID	10	Unknown	NA	Up	Low
9/28/15	22:36:08	UNID	10	Unknown	NA	Up	Low
9/28/15	23:04:33	UNID	10	Unknown	NA	Up	Low
9/29/15	5:11:57	UNID	--	Unknown	NA	Up	Low
9/29/15	21:39:05	UNID	20	Unknown	NA	Up	Low
9/30/15	21:02:01	SASQ	25	Unknown	NA	Up	Low
9/30/15	21:39:36	UNID	25	Unknown	NA	Up	Low
10/1/15	19:52:08	UNID	25	Unknown	NA	Up	Low
10/2/15	19:49:01	UNID	20	Unknown	NA	Down	Low
10/3/15	19:53:49	UNID	20	Unknown	NA	Down	Low
10/4/15	8:45:28	UNID	20	Unknown	NA	Down	Low
10/4/15	22:30:30	UNID	20	Unknown	NA	Down	Low
10/6/15	19:50:22	UNID	10	Unknown	NA	Up	Low
10/8/15	3:29:22	SASQ	20	Unknown	NA	Up	Low
10/9/15	23:18:38	UNID	20	Unknown	NA	Up	Low
10/11/15	19:24:05	UNID	20	Unknown	NA	Down	Low
10/13/15	2:06:59	UNID	25	Unknown	NA	Up	Low
10/14/15	1:22:37	UNID	25	Unknown	NA	Down	Low
10/15/15	7:00:02	UNID	15	Unknown	NA	Up	Low
10/18/15	1:31:38	BGS	20	Unknown	NA	Down	Low
10/18/15	5:27:10	UNID	20	Unknown	NA	Up	Low
10/18/15	19:50:39	UNID	20	Unknown	NA	Down	Low
10/19/15	0:59:47	UNID	20	Unknown	NA	Up	Low
10/19/15	1:00:41	UNID	20	Unknown	NA	Down	Low
10/19/15	4:39:08	UNID	20	Unknown	NA	Up	Low
10/19/15	5:52:36	UNID	20	Unknown	NA	Up	Low
10/20/15	19:10:14	UNID	20	Unknown	NA	Up	Low
10/20/15	23:19:32	UNID	20	Unknown	NA	Down	Low
10/21/15	6:18:49	UNID	50	Unknown	NA	Up	Low
10/21/15	6:18:49	UNID	50	Unknown	NA	Up	Low
10/22/15	5:33:41	UNID	30	Unknown	NA	Up	Low
10/22/15	5:33:41	UNID	30	Unknown	NA	Up	Low
10/22/15	22:59:31	SASQ	30	Unknown	NA	Down	Low
10/22/15	22:59:31	SASQ	30	Unknown	NA	Down	Low
10/23/15	0:23:38	UNID	30	Unknown	NA	Down	Low
10/23/15	0:23:38	UNID	30	Unknown	NA	Down	Low
10/24/15	6:24:23	UNID	30	Unknown	NA	Up	Low
10/24/15	6:24:23	UNID	30	Unknown	NA	Up	Low
10/25/15	0:07:45	UNID	25	Unknown	NA	Down	Low
10/25/15	0:07:45	UNID	25	Unknown	NA	Down	Low

Date	Time	Species[1]	Estimated Length (cm)	Sex	Ad-Clip	Passage Direction	Observational Certainty
10/25/15	3:30:24	UNID	20	Unknown	NA	Down	Low
10/25/15	3:30:24	UNID	20	Unknown	NA	Down	Low
10/25/15	6:12:42	SASQ	20	Unknown	NA	Up	Medium
10/25/15	6:12:42	SASQ	20	Unknown	NA	Up	Medium
10/26/15	6:32:02	UNID	30	Unknown	NA	Up	Low
10/29/15	20:56:50	UNID	35	Unknown	NA	Down	Low
10/30/15	19:54:38	UNID	35	Unknown	NA	Down	Low
10/31/15	20:27:04	UNID	30	Unknown	NA	Down	Low

[1] BGS-bluegill, SASQ-Sacramento pikeminnow, and UNID-unidentified.