AQ 3 – FISH POPULATION
INTERIM TECHNICAL MEMORANDUM

KERN RIVER NO. 1 HYDROELECTRIC PROJECT
FERC PROJECT NO. 1930

PREPARED FOR:

December 2025

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AQ 2 TM	AQ 2 – Water Quality/Water Temperature Technical Memorandum
AQ 3 ITM	AQ 3 – Fish Population Interim Technical Memorandum
AQ 3 TSP	AQ 3 – Fish Population Technical Study Plan

CPUE	catch-per-unit effort
E-Cat	cataraft electrofisher
FERC	Federal Energy Regulatory Commission
fish/mi	fish per mile
FL	fork length
ISR	Initial Study Report
KR1	Kern River No.1
mm	millimeter
n	number
Project	Kern River No. 1 Hydroelectric Project, FERC No. 1930
SCE	Southern California Edison
TL	total length
USR	Updated Study Report

1.0 INTRODUCTION

This revised AQ 3 – Fish Population Interim Technical Memorandum (AQ 3 ITM) provides updated methods and findings for the 2024 fish population monitoring completed in support of Southern California Edison's (SCE) Kern River No. 1 (KR1) Hydroelectric Project (Project) relicensing, Federal Energy Regulatory Commission (FERC) Project No. 1930. The AQ 3 – Fish Population Technical Study Plan (AQ 3 TSP) was included in SCE's Revised Study Plan filed on February 13, 2024 (SCE 2024). In its March 14, 2024 Study Plan Determination, FERC approved the AQ 3 TSP without modifications (FERC 2024). On March 12, 2025, SCE filed with FERC its initial interim technical memorandum describing the 2024 data collection and results in its Initial Study Report (ISR).

Data for this revised interim technical memorandum were collected in October 2024, with sampling from the Democrat Dam Impoundment only. Flows in the Kern River were too high in 2024 to safely sample the bypass reach downstream of Democrat Dam. Field sampling efforts and data analysis completed to date are summarized in this memorandum. As discussed at the ISR meeting in March of 2025, SCE plans to complete fish sampling in the bypass reach and trammel netting in the Democrat Dam Impoundment in the fall of 2025, assuming river flows are safe and suitable to do so. Results from the 2025 sampling will be provided in the Updated Study Report (USR), which is due to FERC in March 2026. Section 7.0 describes the schedule for completing outstanding study plan elements.

2.0 STUDY OBJECTIVES

The objectives of the fish population study, as outlined in the AQ 3 TSP (SCE 2024), include the following:

- Document fish species composition, distribution, and abundance in the Democrat Dam Impoundment and bypass reach.[1]
- Characterize fish size, condition factor, and approximate population age structure in the Democrat Dam Impoundment and bypass reach.

3.0 STUDY AREA AND STUDY SITES

The study sites, which include the Democrat Dam Impoundment and five sites in the Kern River downstream of Democrat Dam (i.e., in the bypass reach), are described in Table 3-1, Figure 3-1, and Map 3-1. Sites in the bypass reach will be approximately 100 meters long, inclusive of historical (ENTRIX 2009) sampling sites, as possible. The specific locations of the river sampling sites will be determined in the field and will approximate the historical sampling locations (adjusted for channel changes and input from resource agencies, as appropriate). Mesohabitat characterization will be based on aerial image mapping and will be used to identify representative reach sampling sites with mesohabitat types in approximately similar proportion to the larger geomorphic river segments. The

[1] The bypass reach is the segment of the Kern River downstream between Democrat Dam and the powerhouse where Project operations result in the diversion of water from the river.

Democrat Dam Impoundment electrofishing sampling locations are shown in Map 4-1 and included the full length of the impoundment (approximately 1 mile).

4.0 METHODS

Study implementation follows the methods described in the AQ 3 TSP (SCE 2024).

4.1 STUDY PLAN VARIANCES

Sampling in the bypass reach could not be completed in 2024 due to high flows and will be completed in 2025.

4.2 2024 DEMOCRAT DAM IMPOUNDMENT SAMPLING

The impoundment sampling methods included electrofishing and trammel netting. Poor water clarity precludes snorkeling at this site.

- Between October 15 and 17, 2024, approximately 4.65 miles (7,483 meters) of electrofishing passes were sampled in the Democrat Dam Impoundment using a Smith-Root™ "E-Cat" light-duty cataraft electrofisher (E-Cat) with oars and a small outboard motor. Biologists sampled most of the 1-mile-long impoundment, including shoreline margins and open waters up to 6-feet-deep. Sampling routes (passes) of the E-Cat are shown in Map 4-1.

- Three days of electrofishing were conducted to capture, if possible, up to 10 of each edible-sized sport fish species for the AQ 2 – Water Quality and Water Temperature Technical Study Plan (AQ 2 TSP) total mercury and methylmercury fish tissue testing,

- During the fall of 2025, trammel nets will be used to sample deep water portions of the impoundment. Sampling will include setting two trammel nets for 4 hours (daylight) in deeper portions of the impoundment.

4.3 BYPASS REACH (RIVER) SAMPLING

As stated above, the bypass reach (river) sites were not sampled in 2024 due to high flows in the Kern River below Democrat Dam. SCE anticipates conducting river sampling in the bypass reach late in the fall of 2025.

- SCE plans to sample the bypass reach study sites using backpack electrofishing and trammel netting. Poor water clarity precludes snorkeling at these sites.

  - Where possible, due to natural river features or the river being amenable to blocknetting, multi-pass electrofishing (e.g., Reynolds 1996; Van Deventer and Platts 1989; Rexstad and Burnham 1992) will be used to sample and estimate fish populations in shallow stream habitats (<1.5 m) at each study site.

  - Captured fish from each pass will be kept in separate live wells or buckets.

- In deeper portions of the sampling sites, trammel nets will be used to sample the fish community; 1 to 2 trammel nets will be set in the river for 4 hours (daylight), if possible.[2]

4.4 FISH PROCESSING (IMPOUNDMENT SAMPLING)

- Fish were anesthetized (CO_2) as needed, enumerated, identified to species, and measured (fork/total length and weight).
- Fish were returned to the study site when the sampling was completed.
- Sampling protocols and field data forms were consistent with those in Flosi et al. 1998.
- The lengths of the habitat units sampled were recorded to calculate fish abundance by length of the sampled area.
  - Captured fish from each pass were kept in separate live wells or buckets.
- If fish mortalities occurred, they were recorded and the fish were properly placed back into the river system for organic decomposition in deep pools by puncturing their air bladders.

4.5 WESTERN POND TURTLE AND INCIDENTAL SPECIES OBSERVATIONS

Incidental observations of northwestern pond turtle (*Actinemys marmorata)* and other aquatic species were recorded during E-Cat sampling in the Democrat Dam Impoundment in 2024, and during sampling using a two-person inflatable kayak in portions of the reservoir inaccessible to the E-Cat.

4.6 DATA ANALYSIS

- Fish abundance was reported by species and, depending on the sampling method used, by either catch-per-unit effort (CPUE) (fish per length/area of stream sampled or by net-hour) in the case of trammel netting and E-Cat electrofishing, or by fish per mile for multi-pass electrofishing.
- After completing data collection in 2025, fish abundance at the bypass river sampling sites will be compared to historical data sets in the Kern River No. 1 bypass reach and recent sampling in the upstream Borel Project river reach (ENTRIX 2009; Cardno 2021).

[2] As noted in the AQ 3 TSP and the AQ 3 Interim Technical Memorandum filed as part of the ISR, an E-Cat was proposed if site conditions and access allowed. After further evaluation of the site, SCE determined that using an E-Cat is not feasible due to access constraints and safety considerations.

- After completing data collection in 2025, a distribution map for each species in the Project study area will be developed using the quantitative abundance estimates and qualitative sampling data.

- After completing data collection in 2025, a fish life stage periodicity chart (or life history chronology chart by month) will be developed for each species based on available literature, consultation with qualified fisheries biologists, and the fish population sampling data.

- Length frequency histograms of sampled fish in 2024 were developed to determine the age structure of fish populations using scale data; this will be done again after completing data collection in 2025.

- Fish condition factors were calculated for fish captured in 2024 using measured weight and length data; this will be done again after completing data collection in 2025.

- Upon request, an electronic database (Excel spreadsheet) will be provided of all fish sampling data (date, location, fish species, fish size, sampling pass, etc.) to resource agencies and interested stakeholders.

5.0 RESULTS SUMMARY

5.1 DEMOCRAT DAM IMPOUNDMENT FISH SAMPLING

5.1.1 Species Captured, Density, and Catch per Unit Effort

Approximately 4.65 miles (7,483 meters) of habitat was sampled using the E-Cat in the Democrat Dam Impoundment between October 15 and 17, 2024 (Map 4-1). A total of 329 fish were collected, consisting of brown bullhead (*Ameiurus nebulosus*), channel catfish (*Ictalurus punctatus*), white catfish (*A. catus*), common carp (*Cyprinus carpio*), hardhead minnow (*Mylopharodon conocephalus*), black crappie (*Pomoxis nigromaculatus*), bluegill sunfish (*Lepomis macrochirus*), largemouth bass (*Micropterus salmoides*), Sacramento sucker (*Catostomus occidentalis*), and threadfin shad (*Dorosoma petenense*). The numbers of each fish species captured and their length ranges are shown in Table 5-1. Native species included hardhead and Sacramento sucker. Introduced species included brown bullhead, channel catfish, white catfish, common carp, black crappie, bluegill sunfish, largemouth bass, and threadfin shad. These species are not currently stocked and are apparently self-sustaining populations. Threadfin shad are likely present in the Democrat Dam Impoundment as a result of spill events from Lake Isabella. No smallmouth bass (*M. dolomieu*) or rainbow trout (*Oncorhynchus mykiss*) were captured.

Largemouth bass, threadfin shad, and Sacramento sucker were the most numerous species observed during the 2024 sampling in the Democrat Dam Impoundment (Figure 5-1, top chart). By weight, Sacramento sucker and common carp made up the majority of biomass, followed by largemouth bass, during the sampling effort (Figure 5-1, bottom chart).

Linear catch rates ranged from 31 to 125 fish per mile (fish/mi) per pass for all fish species combined (Table 5-2 and Figure 5-2). The lowest species-specific catch rates were found in channel catfish (0.2 fish/mi), hardhead minnow (0.4 fish/mi), and white catfish (0.5 fish/mi). The highest species-specific catch rates were for largemouth bass (28.2 fish/mi) and Sacramento sucker (10.8 fish/mi) (Table 5-2 and Figure 5-2).

Catch composition from 2024 sampling in the Democrat Dam Impoundment was compared to data from sampling conducted in 1994 (ENTRIX 1994) and 1995 (ENTRIX 1995) as part of the last licensing effort (Figure 3-3). Overall, more fish were collected in 2024 (n=329) than in 1994 (n=39) or 1995 (n=226); however, the sampling effort varied across sampling years. The sampling effort in 1994 included four pulls of a 50-foot beach seine, deployment of three monofilament gill nets fished for 24 hours each, nine minnow traps each set for 72 hours, and boat electrofishing (unknown area). The low catch in 2024 was attributed to cold water temperature and high flows during sampling (ENTRIX 1995). In 1995, the sampling effort consisted of four pulls of a 50-foot beach seine, deployment of two monofilament gill nets fished for 24 hours each, nine minnow traps each set for 72 hours, three hoop nets (also called Indiana trap nets) fished for 24 hours each, and boat electrofishing (unknown area).

A low number of all species was collected in 1994; however, high flows (400 cubic feet per second) and cold water likely resulted in reduced fish activity and low catch numbers (ENTRIX 1995). In 1995, 13 species were captured, and the assemblage was dominated by white crappie (*Pomoxis annularis*), (43.6 percent), brown bullhead (32.1 percent), and largemouth bass (11.1 percent); fewer (10 or less) bluegill sunfish, common carp, hitch (*Lavinia exilicauda*), hardhead, mosquitofish (*Gambusia affinis*), rainbow trout (stocked), Sacramento pikeminnow, Sacramento sucker, smallmouth bass, and white catfish made up the rest of the catch. The species composition was generally similar in 1995 and 2024 with the fish community mostly comprised of non-native, warm water fish species. In 2024, more bluegill sunfish, common carp, hardhead, largemouth bass, and white catfish were observed than in 1995. Hitch, mosquitofish, rainbow trout, Sacramento pikeminnow, smallmouth bass, and white crappie were collected in 1994 and/or 1995 but were not observed in 2024. Conversely, black crappie and threadfin shad were observed in 2024 but not in 1994 or 1995.

Additionally, pursuant to the AQ 2 TSP, SCE collected 29 edible-sized sport fish during the 2024 impoundment sampling for total mercury and methylmercury fish tissue analysis. The catch included ten largemouth bass, three black crappie, five bluegill sunfish, one channel catfish, one white catfish, and nine brown bullhead. Fish ranged in size from 151 to 545 millimeters (mm) fork length (FL) or total length (TL). All 29 of the fish tissue samples exceeded or were equal to the reference methylmercury concentration of 0.08 mg/kg. Methylmercury tissue concentrations ranged from 0.08 mg/kg to 0.57 mg/kg and were positively correlated with fish size and trophic level. Additional information on the fish tissue methylmercury analysis is provided in the AQ 2 TM.

5.1.2 Length-Frequency

At the Democrat Dam Impoundment, length frequency histograms were created for species collected during sampling in 2024 and are shown in Figure 5-4 and Appendix A. Fish between 50- and 150-mm FL were the most frequently collected, consisting primarily of threadfin shad and largemouth bass. Low to moderate numbers of fish between 150- and 400-mm FL were observed, consisting of largemouth bass, bluegill sunfish, black crappie, brown bullhead, white catfish, and hardhead. Sacramento sucker and common carp had the most fish of larger size from 400- to over 600-mm FL collected.

5.1.3 Condition Factor and Fish Health

The average condition factor for all species observed in the Democrat Dam Impoundment ranged from 1.10 to 2.35, representing fish in good condition (Table 5-3). Diseases or parasites were encountered incidentally in some fish but were not widespread. A large hardhead was captured in poor health with an unidentified wound (Figure 5-5). The wound was not consistent with an external parasite or electrofishing injury and may have been due to internal infection or injury from catch by recreational fishers.

5.2 BYPASS REACH (RIVER) SAMPLING

The bypass reach (river) sites were not sampled in 2024 as flows in the Kern River were too high to safely sample. SCE plans to conduct river sampling in the bypass reach in the fall of 2025. Results from the 2025 sampling will be provided in the USR, which is due to FERC in March 2026.

5.3 WESTERN POND TURTLE AND INCIDENTAL SPECIES OBSERVATIONS

One juvenile northwestern pond turtle estimated at 2–3 years old was observed along the northern shoreline of the Democrat Dam Impoundment during E-Cat sampling on October 16, 2024. The turtle appeared to be healthy and in good condition. Additionally, one adult male northwestern pond turtle was observed basking in the northeast portion of the impoundment on October 16, 2024, and one red-eared slider was seen foraging underwater.

No other incidental aquatic species were observed.

6.0 STUDY-SPECIFIC CONSULTATION

The following study-specific consultation has been conducted:

- **August 8, 2024:** A Technical Working Group meeting for Aquatic Resources was held to obtain stakeholder and resource agency input on the implementation of the hydrology and fish population studies. Details of field studies were covered, including specific locations of the fish sampling sites.

- **March 11, 2025:** The initial AQ 3 – Fish Population Interim Technical Memorandum was provided to relicensing stakeholders for a 90-day review. SCE

presented the results of the 2024 fish population monitoring study in the ISR and at the ISR meeting held on March 19, 2025. No comments on the AQ 3 Fish Population Interim Technical Memorandum were received.

7.0 OUTSTANDING STUDY PLAN ELEMENTS

Field activities for the AQ 3 TSP were initially planned as a one-year study to be conducted in 2024. However, flows in the bypass reach remained elevated above levels suitable for sampling throughout 2024 precluding safe and effective sampling. Only electrofishing in the Democrat Dam Impoundment was completed in 2024. SCE plans to conduct trammel net sampling in Democrat Dam Impoundment and river sampling in the bypass reach in the fall of 2025. Results from the 2025 sampling will be provided in the USR, which is due to FERC in March 2026.

The anticipated schedule to complete the outstanding study plan elements is outlined in Table 7-1.

8.0 REFERENCES

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Van Deventer, J.S. and W.S. Platts. 1989. Microcomputer software system for generating population statistics from electrofishing data-User's guide for MicroFish 3.0. US Department of Agriculture, Forest Service. Intermountain Research Station, General Technical Report INT-254.

TABLES

Table 3-1. Fish Population Sampling Locations

Study River and Site ID	Sampling Location		Site Length (meters)	Sampling Dates	Sampling Method	Type of Reach	
	River Miles	GPS at Downstream Starting Location (Latitude, Longitude)				Bypass Reach	Impoundment
Democrat Dam Impoundment	RM 54.5 – 55.5	35.526145°, 118.674463°	1,609	Electrofishing Fall 2024 Trammel Net Fall 2025	Electrofishing/Trammel Netting		■
Site A – Kern River Bypass Reach	RM 52.85	TBD	100	Fall 2025	Electrofishing/Trammel Netting	■	
Site B – Kern River Bypass Reach	RM 52.0	TBD	100	Fall 2025	Electrofishing/Trammel Netting	■	
Site C – Kern River Bypass Reach	RM 50.6	TBD	100	Fall 2025	Electrofishing/Trammel Netting	■	
Site D – Kern River Bypass Reach	RM 49.3	TBD	100	Fall 2025	Electrofishing/Trammel Netting	■	
Site E – Kern River Bypass Reach	RM 47.3	TBD	100	Fall 2025	Electrofishing/Trammel Netting	■	

Key: TBD = to be determined in the field; the specific locations of the river sampling sites will be determined in the field.

Table 5-1. Species and Fork Length Range of Fish Collected from Democrat Dam Impoundment, 2024

Species	Total Fish (n)	Length Range (mm)[3]
Brown Bullhead	15	159–251
Black Crappie	7	104–223
Bluegill Sunfish	8	44–169
Common Carp	13	475–610
Channel Catfish	1	545
Hardhead Minnow	2	86–360
Largemouth Bass	131	44–520
Sacramento Sucker	50	81–525
Threadfin Shad	96	43–103
White Catfish	6	150–172

Key: mm = millimeter
n = number

[3] Fork length (tip of snout to fork of tail) was measured for species with a forked caudal fin (i.e., bluegill sunfish, black crappie, and largemouth bass). Total length was measured for species without a forked caudal fin (i.e., brown bullhead, channel catfish, and white catfish).

Table 5-2. Catch Rates by Sampling Pass (Fish per Mile Sampled) from E-Cat Electrofishing in Democrat Dam Impoundment, 2024[1]

Date	Pass	Length of Pass (miles)	Total Fish (n)	Fish/mi	Species																	
					Black Crappie		Bluegill Sunfish		Brown Bullhead		Common Carp		Channel Catfish		Hardhead Minnow		Largemouth Bass		Sacramento Sucker		Threadfin Shad		White Catfish	
					n	Fish/mi	n	Fish/mi	n	Fish/mi	n	Fish/mi	n	Fish/mi	n	Fish/mi	n	Fish/mi	n	Fish/mi	n	Fish/mi	n	Fish/mi
10/15/2024	1	0.48	15	31	–	–	–	–	1	2.1	–	–	–	–	–	–	–	–	9	18.8	4	8.3	1	2.1
	2	0.48	60	125	3	6.3	3	6.3	2	4.2	–	–	–	–	1	2.1	10	20.8	5	10.4	33	68.8	3	6.3
	3	0.41	45	110	2	4.9	–	–	–	–	2	4.9	–	–	1	2.4	17	41.5	3	7.3	20	48.8	–	–
	4	0.47	31	66	–	–	–	–	–	–	2	4.3	–	–	–	–	22	46.8	7	14.9	–	–	–	–
10/16/2024	1	1.09	62	57	1	0.9	2	1.8	5	4.6	2	1.8	1	0.9	–	–	30	27.5	4	3.7	16	14.7	1	0.9
	2	0.37	6	16	–	–	1	2.7	–	–	–	–	–	–	–	–	5	13.5	–	–	–	–	–	–
	3	0.62	25	40	–	–	–	–	2	3.2	4	6.5	–	–	–	–	6	9.7	13	21.0	–	–	–	–
10/17/2024	1	0.46	57	124	–	–	2	4.3	2	4.3	2	4.3	–	–	–	–	29	63.0	6	13.0	14	30.4	1	2.2
	2	0.27	28	104	–	–	–	–	3	11.1	1	3.7	–	–	–	–	12	44.4	3	11.1	9	33.3	–	–
Totals		**4.65**	**329**	**–**	**6**	**1.3**	**8**	**1.7**	**15**	**3.2**	**13**	**2.8**	**1**	**0.2**	**2**	**0.4**	**131**	**28.2**	**50**	**10.8**	**96**	**2.3**	**6**	**0.5**

Notes: [1] Total fish/mi estimates for each species were calculated by dividing the total number of captured fish by the total sample distance (4.65 miles).
Key: fish/mi = fish per mile
n = number

Table 5-3. Average Condition Factors by Species Collected in Democrat Dam Impoundment, 2024

Species	Average Condition Factor	Total Fish (n)[1]
Brown Bullhead	1.30	15
Black Crappie	1.49	7
Bluegill Sunfish	2.35	8
Common Carp	2.02	13
Channel Catfish	1.24	1
Hardhead Minnow	1.10	2
Largemouth Bass	1.29	131
Sacramento Sucker	1.35	50
Threadfin Shad	1.16	96
White Catfish	1.32	6

Notes: [1] Captured fish under 50 mm FL/TL were excluded from condition factor analysis; n = number

Table 7-1. Schedule for Completing Outstanding Study Plan Elements

Date	Activity
December 2025	Distribute Revised Fish Population Interim Technical Memorandum (Year 1 results) in Draft License Application
December 2025–February 2026 (Year 2)	Analyze 2025 data and update draft technical memorandum
March 2026	Submit updated Revised Fish Population Technical Memorandum to stakeholders as part of USR (Year 1 and Year 2 results)
May 2026	Distribute Final Fish Population Technical Memorandum (Year 1 and Year 2 results) in Final License Application

FIGURES

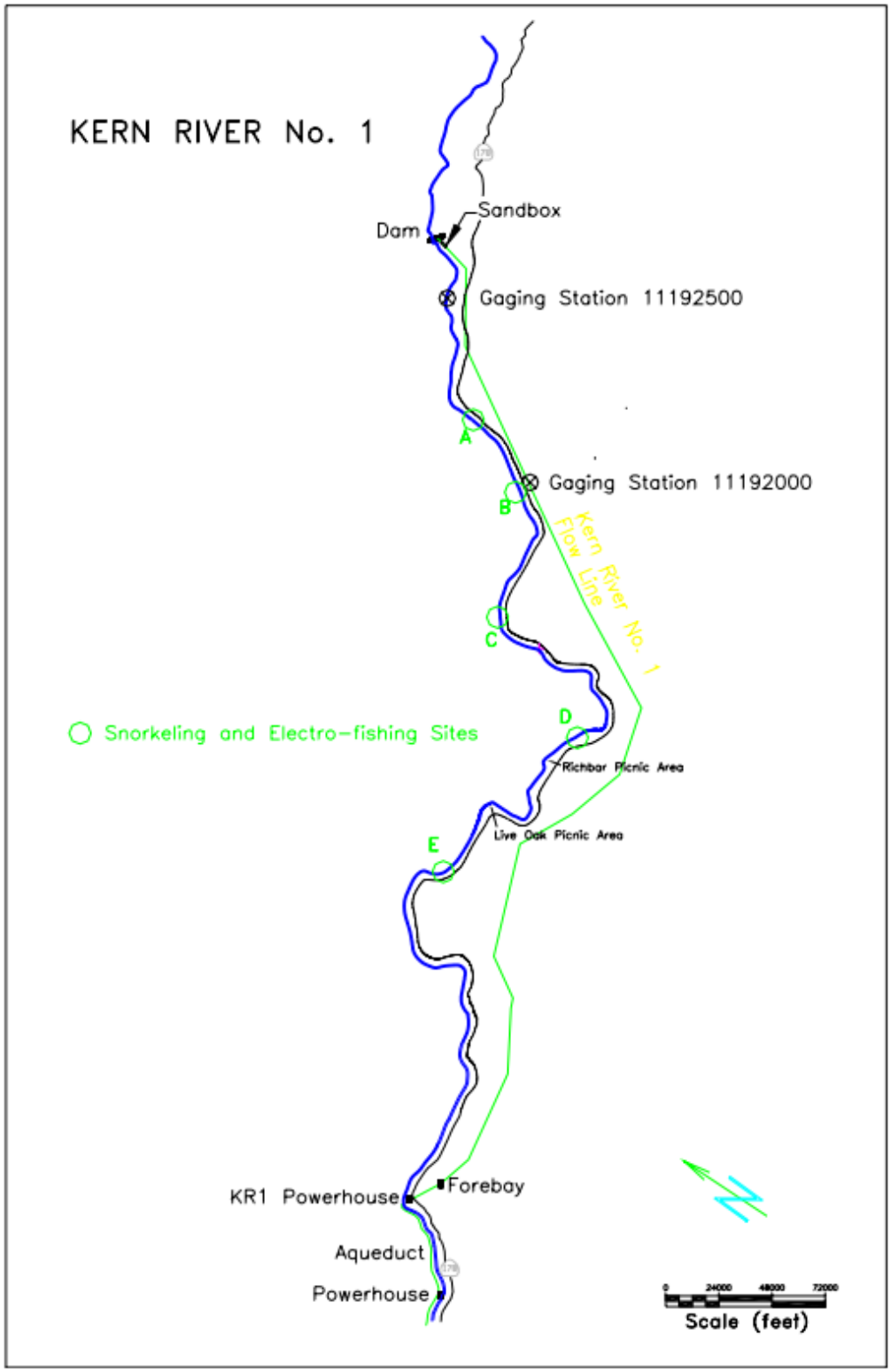


Figure 3-1. Historical Kern River No. 1 Hydroelectric Project Fish Populations Sampling Site Locations

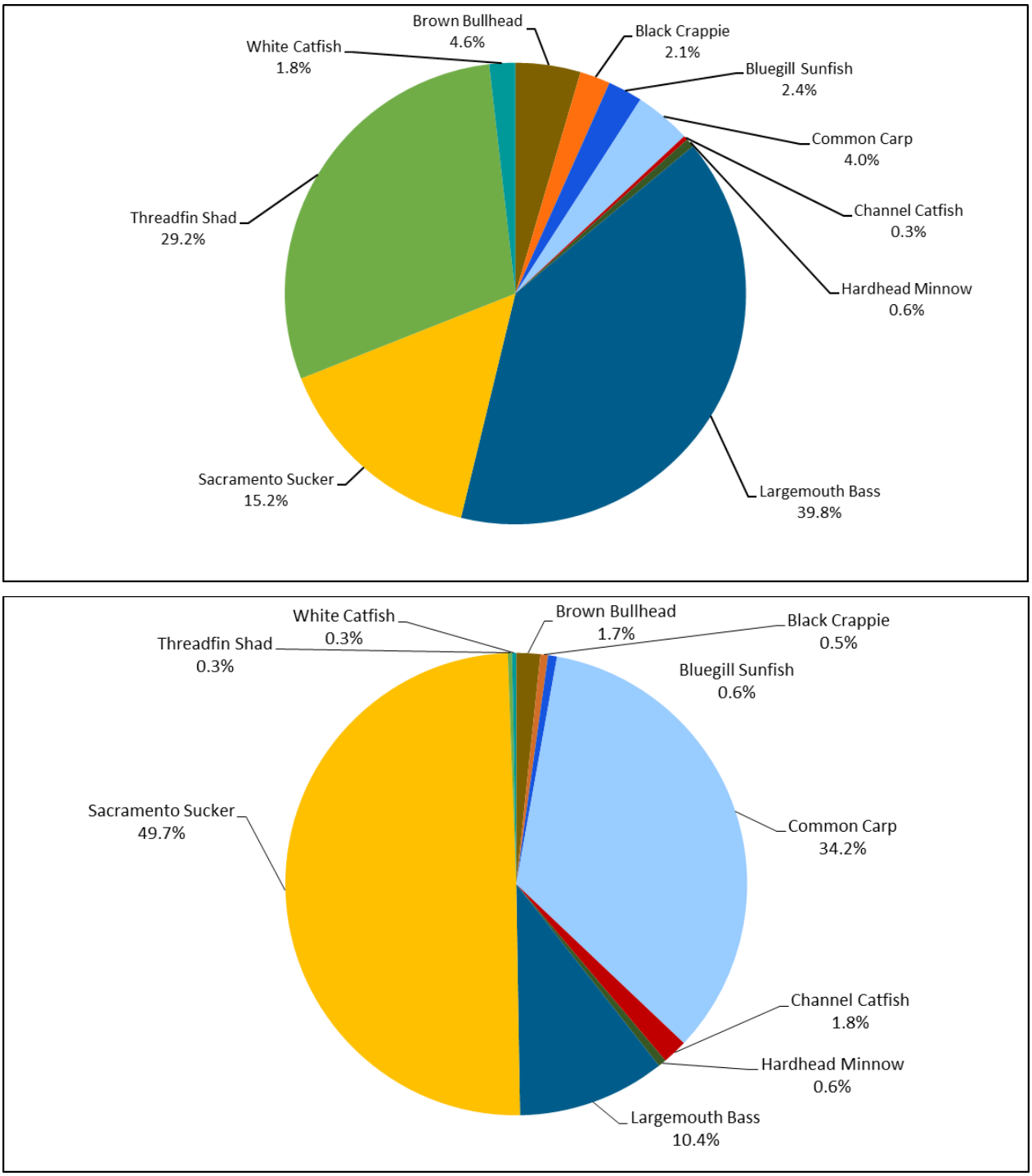


Figure 5-1. Democrat Dam Impoundment Species Composition in 2024 by Number Captured (top) and Biomass (bottom)

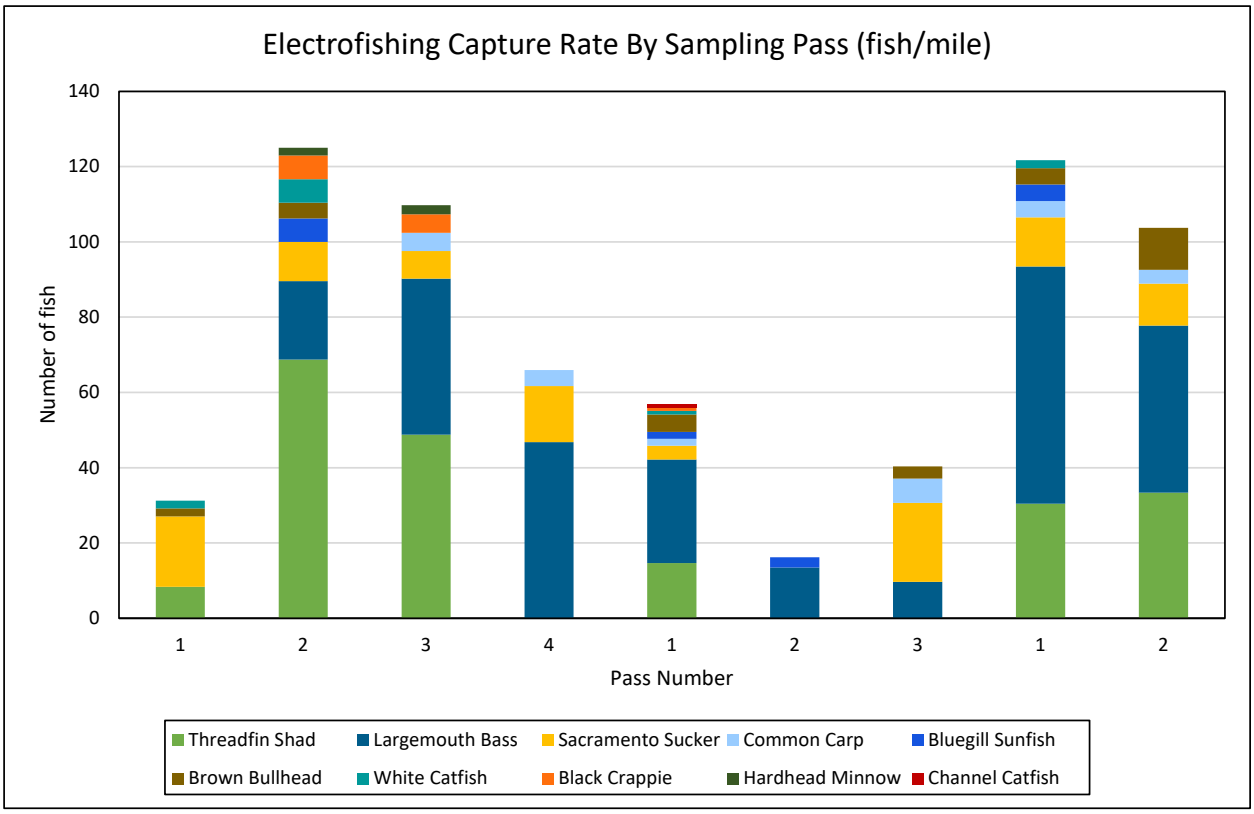


Figure 5-2. Species Capture Rate by Sampling Pass (fish per mile) in Democrat Dam Impoundment in 2024

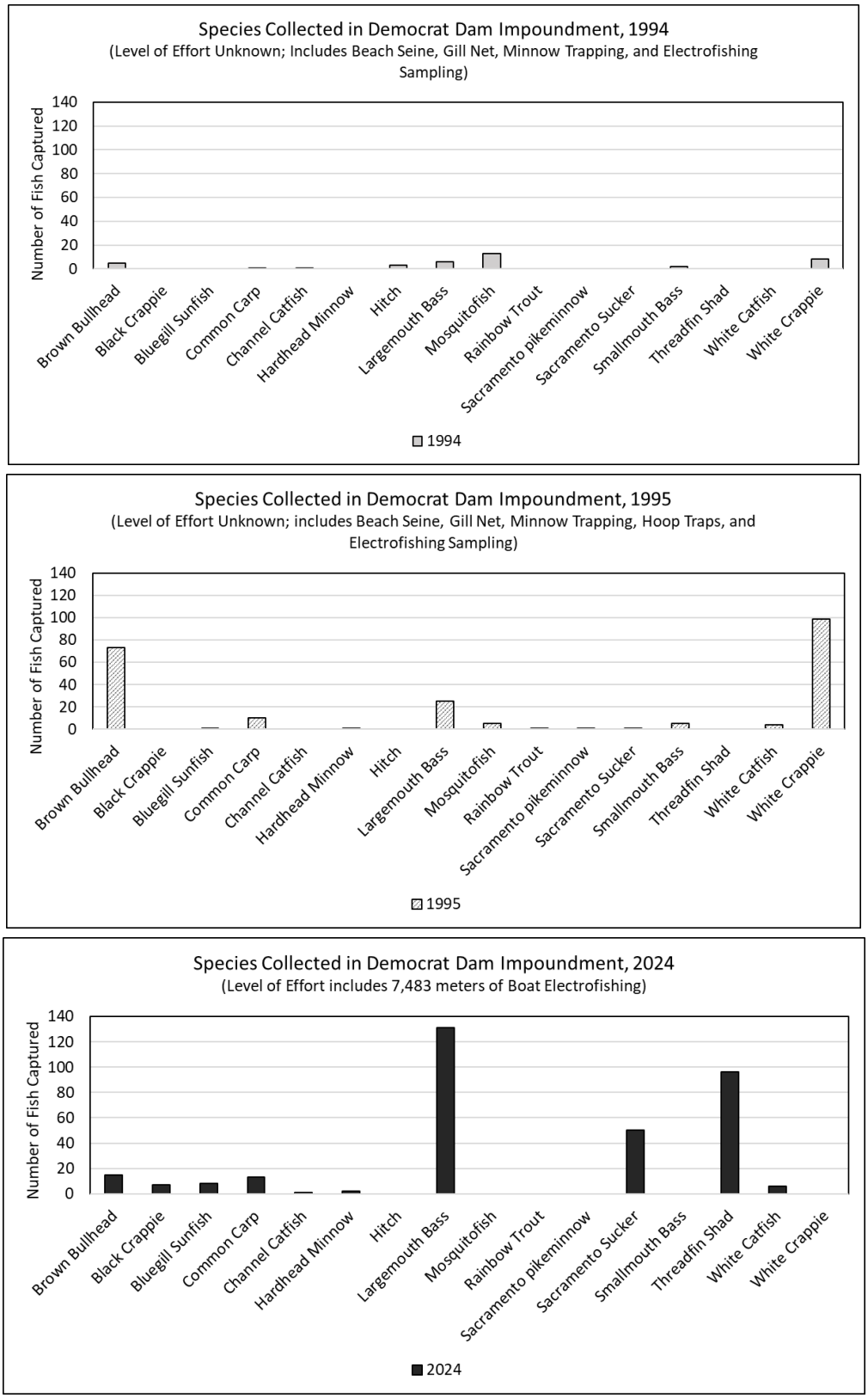


Figure 5-3. Comparison of Species Collected in the Democrat Dam Impoundment in 1994 (top), 1995 (middle), and 2024 (bottom)

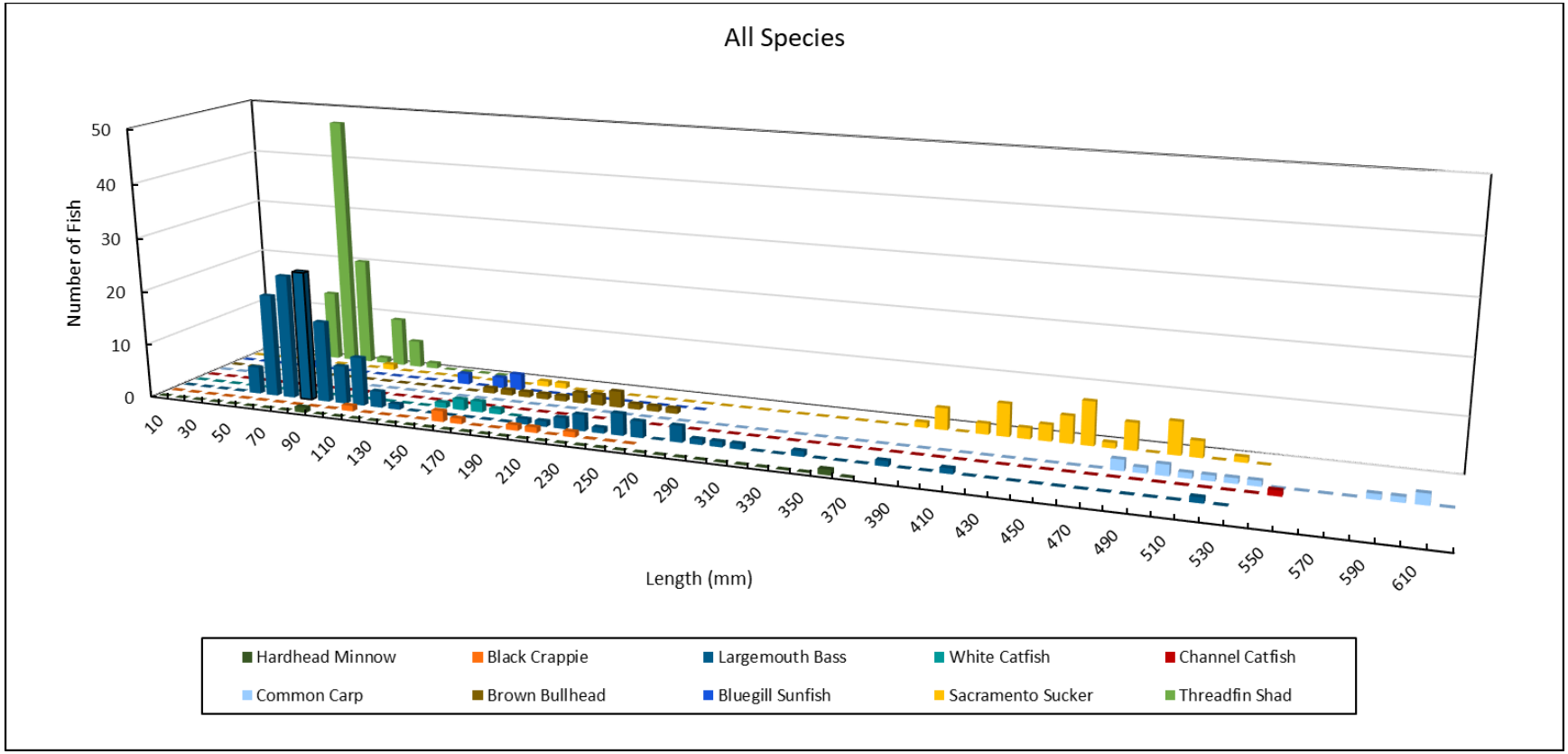
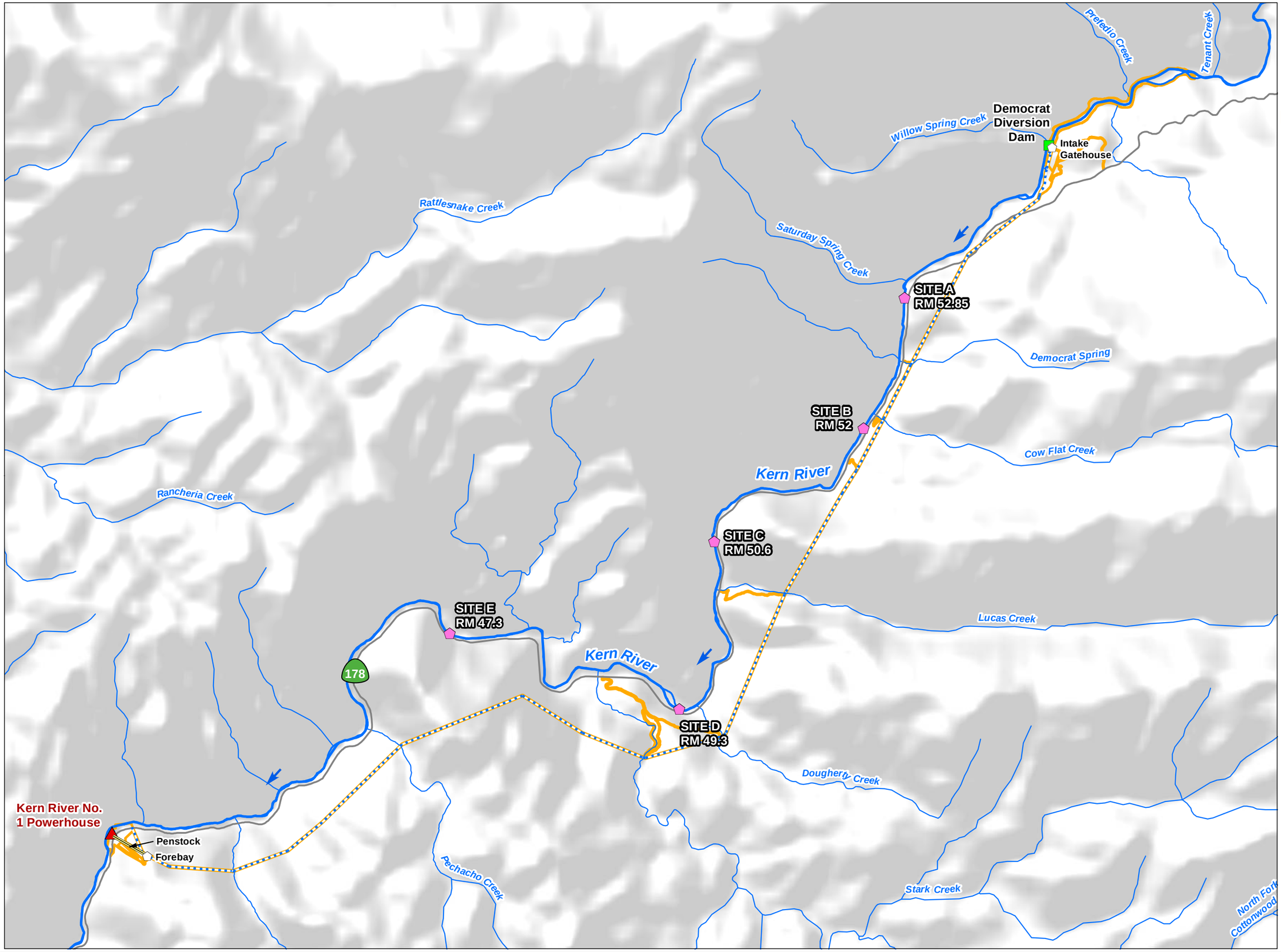


Figure 5-4. Length Frequency Histogram for all Species Captured during E-Cat Sampling in Democrat Dam Impoundment, 2024

Figure 5-5. Adult hardhead captured in Democrat Dam Impoundment with unknown wound or infection

MAPS



Facilities

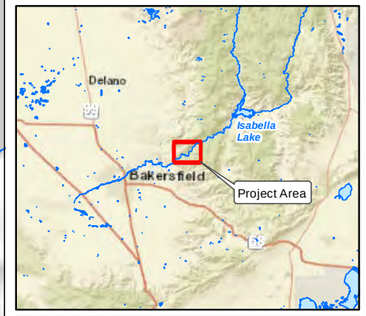
- Dam
- Powerhouse
- Water Conveyence Feature
- Flowline
- Penstock
- FERC Boundary

Other Features

- Flow Direction
- Watercourse
- Highway

Fish Population Sampling Location

- Site Location w/ID and Rivermile



SOUTHERN CALIFORNIA EDISON
Energy for What's Ahead

Kern River No. 1 Hydroelectric Project
FERC Project No. 1930

Map 3-1

Fish Population Sampling Locations

0 0.25 0.5
Miles
Projection: UTM Zone 11
Datum: NAD 83

Date: 11/11/2025

Prefedio Creek

Democrat Dam Impoundment

Willow Spring Creek Road
(also referred to as Democrat Dam Road)

Democrat Dam

Intake Gatehouse

Powerline Road

178

Facilities
- Dam
- Water Conveyence Feature
- FERC Boundary

Hydrology
- Watercourse
- Waterbody

Transportation
- Project Road
- Other Road

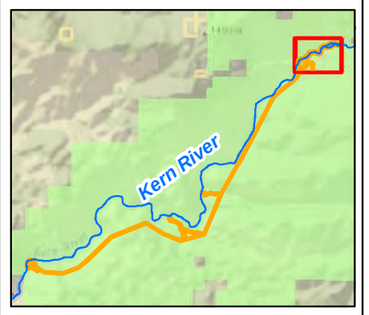
Electrofishing Cataraft Sampling

10/15/24
- Pass 1
- Pass 2
- Pass 3
- Pass 4

10/16/24
- Pass 1
- Pass 2
- Pass 3

10/17/24
- Pass 1
- Pass 2

Species Observations
- Northwestern Pond Turtle Observation



SOUTHERN CALIFORNIA EDISON
Energy for What's Ahead

Kern River No. 1 Hydroelectric Project
FERC Project No. 1930

Map 4-1

2024 Democrat Dam Impoundment Sampling

0 250 500
Feet
Projection: UTM Zone 11
Datum: NAD 83

Date: 11/10/2025

C:\GIS\237800343\map\Kern River 1\AquaticsMaps\SCE_Kern1_AQ3_FishPop_2024_17i11i_01.mxd

APPENDIX A

Length Frequency Histograms by Species

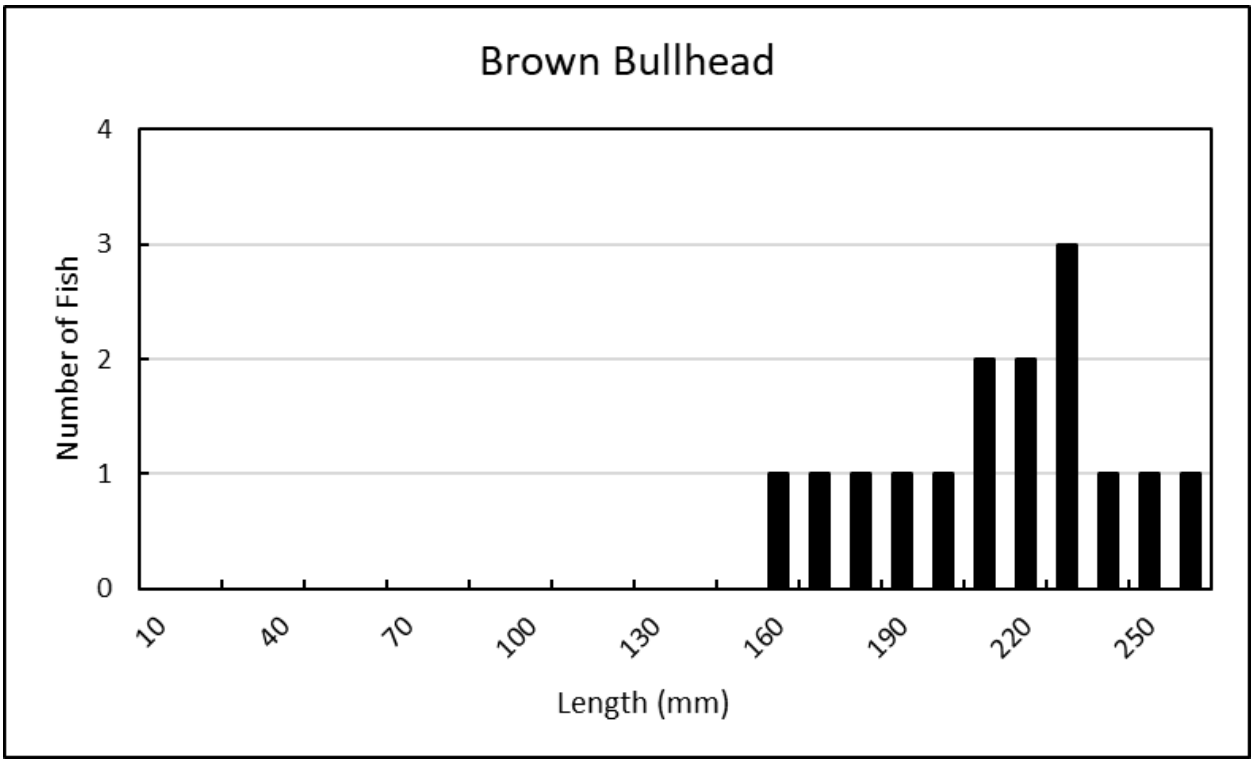


Figure A-1. Length-Frequency Histogram for Brown Bullhead collected in Democrat Dam Impoundment, 2024.

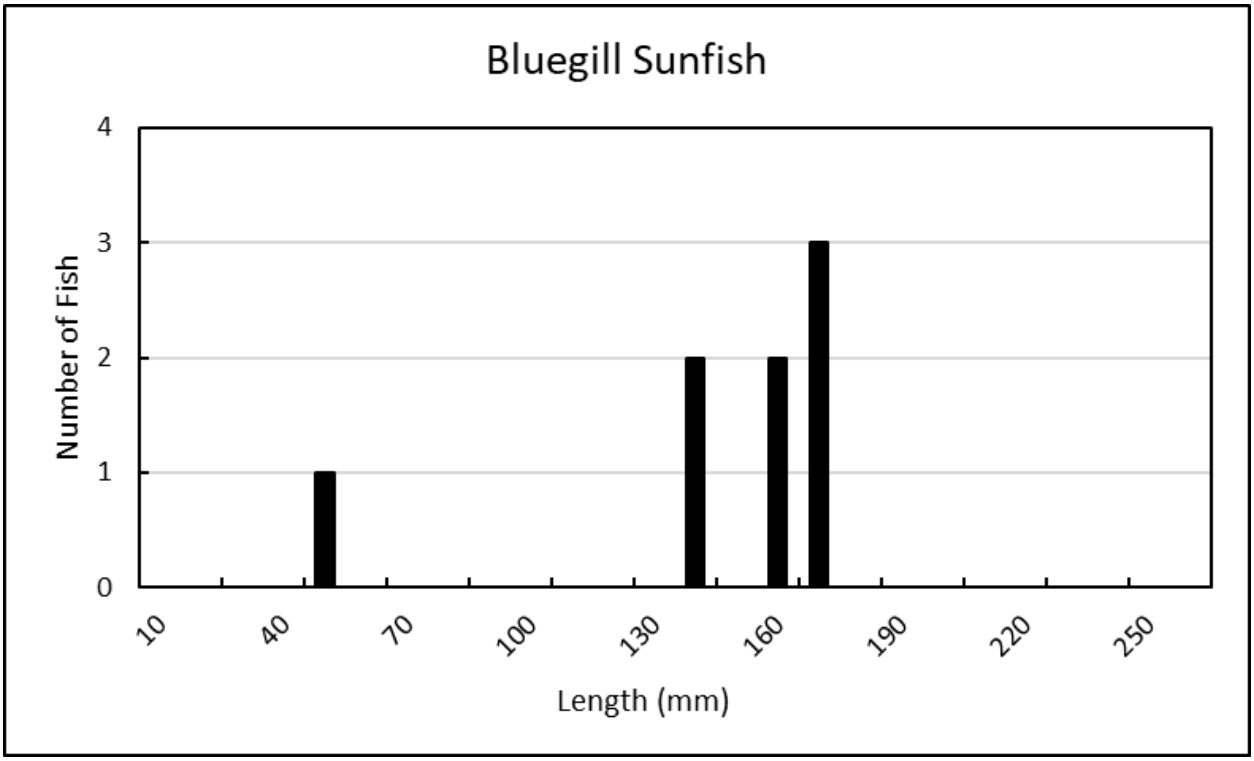


Figure A-2. Length-Frequency Histogram for Bluegill Sunfish collected in Democrat Dam Impoundment, 2024.

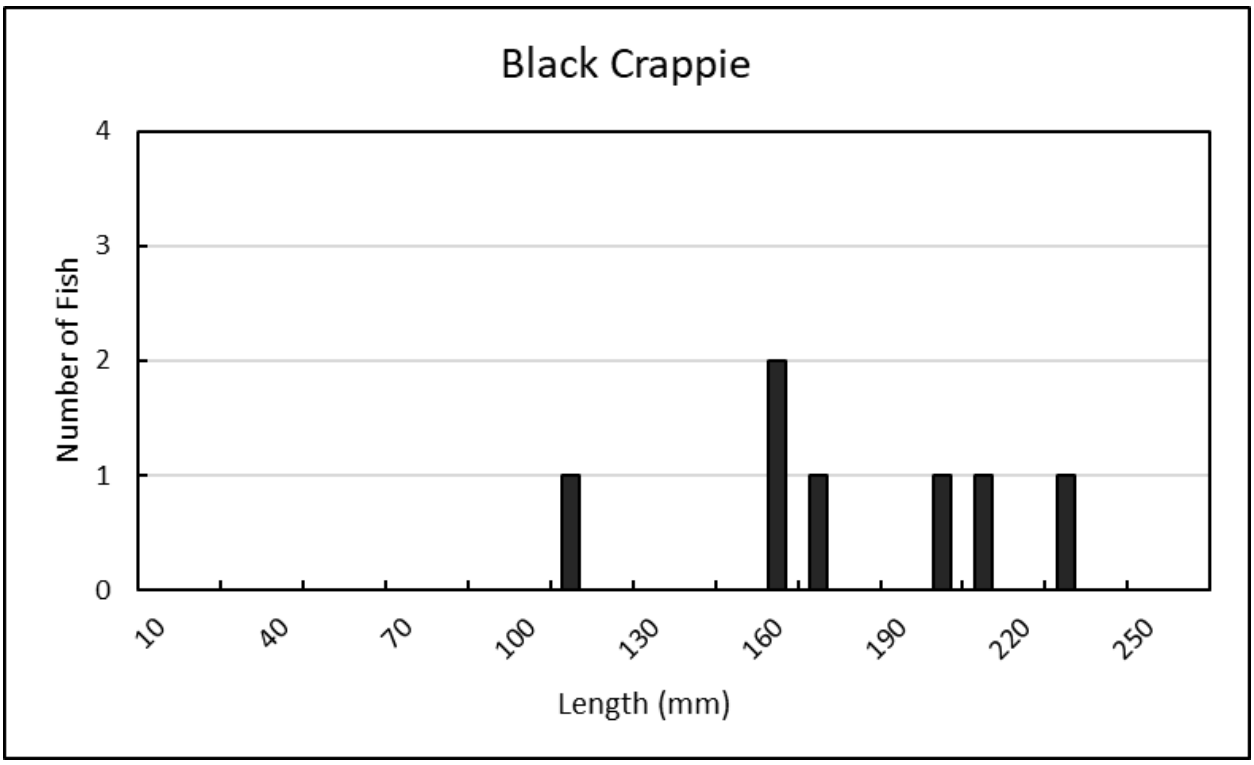


Figure A-3. Length-Frequency Histogram for Black Crappie collected in Democrat Dam Impoundment, 2024.

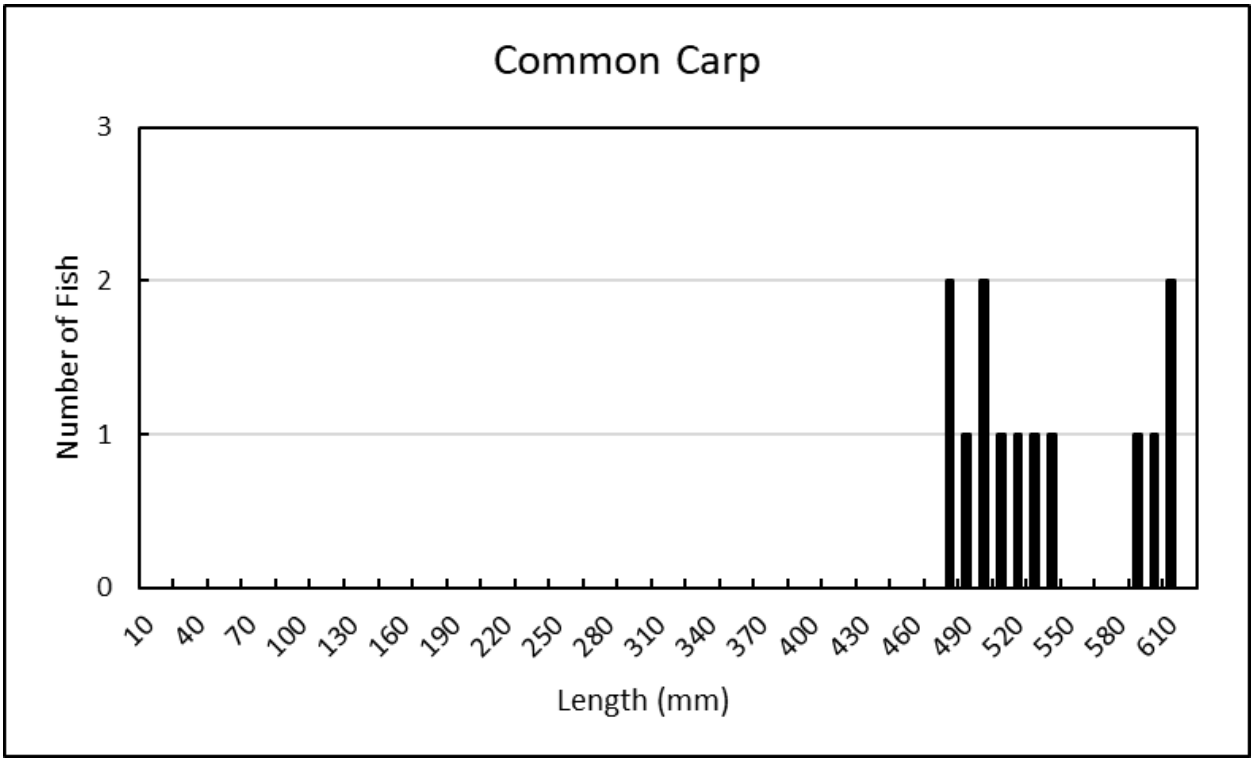


Figure A-4. Length-Frequency Histogram for Common Carp collected in Democrat Dam Impoundment, 2024.

Figure A-5. Length-Frequency Histogram for Hardhead Minnow collected in Democrat Dam Impoundment, 2024.

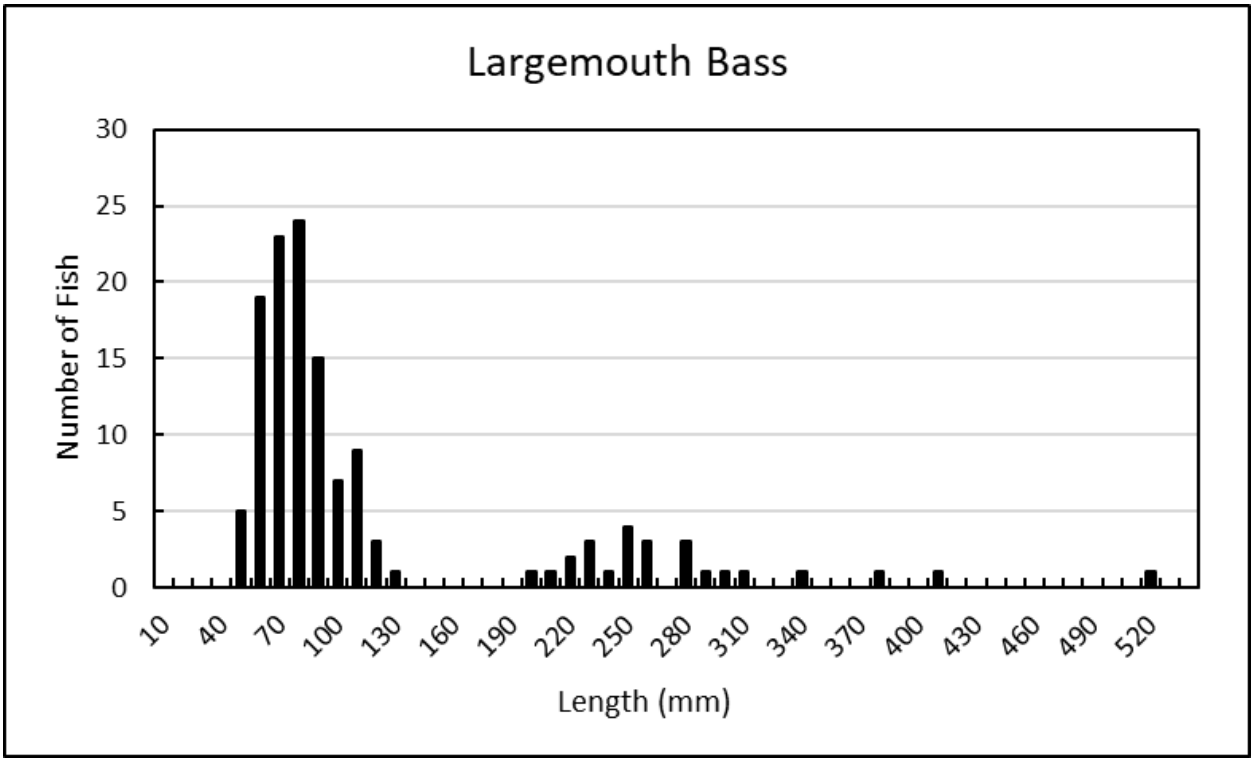


Figure A-6. Length-Frequency Histogram for Largemouth Bass collected in Democrat Dam Impoundment, 2024.

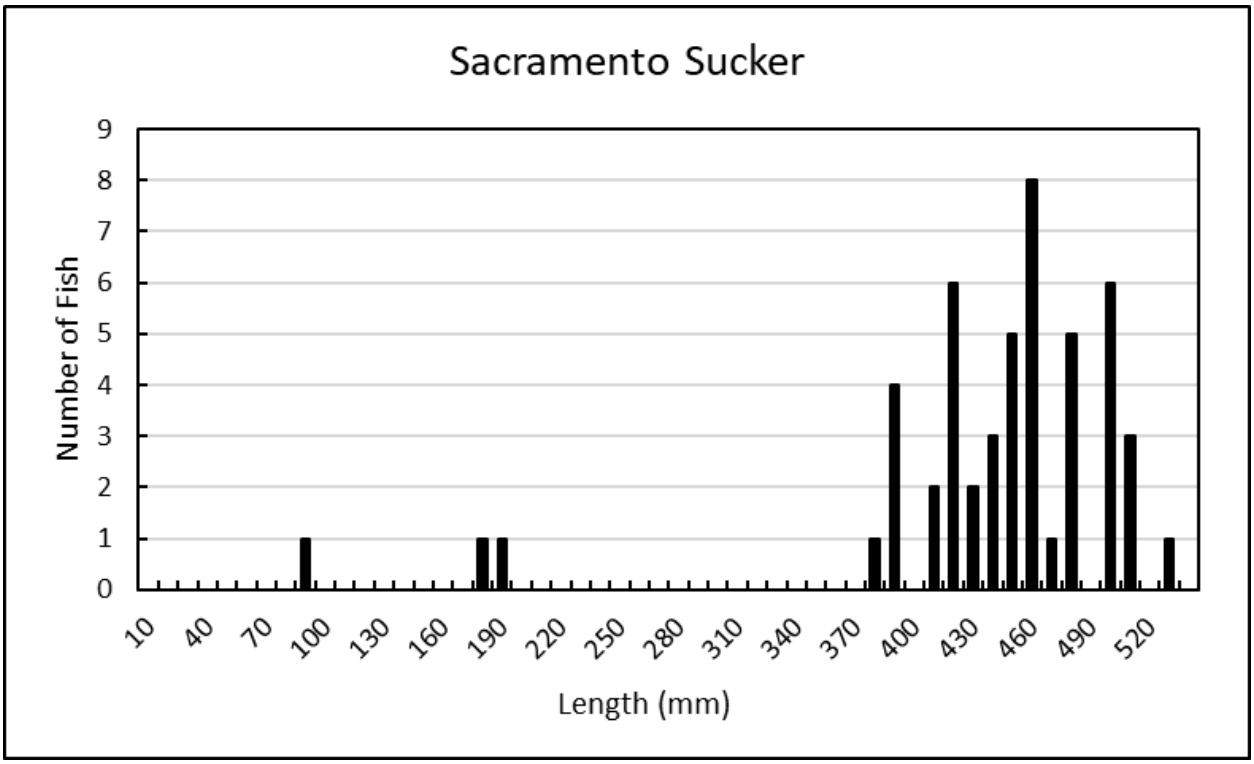


Figure A-7. Length-Frequency Histogram for Sacramento Sucker collected in Democrat Dam Impoundment, 2024.

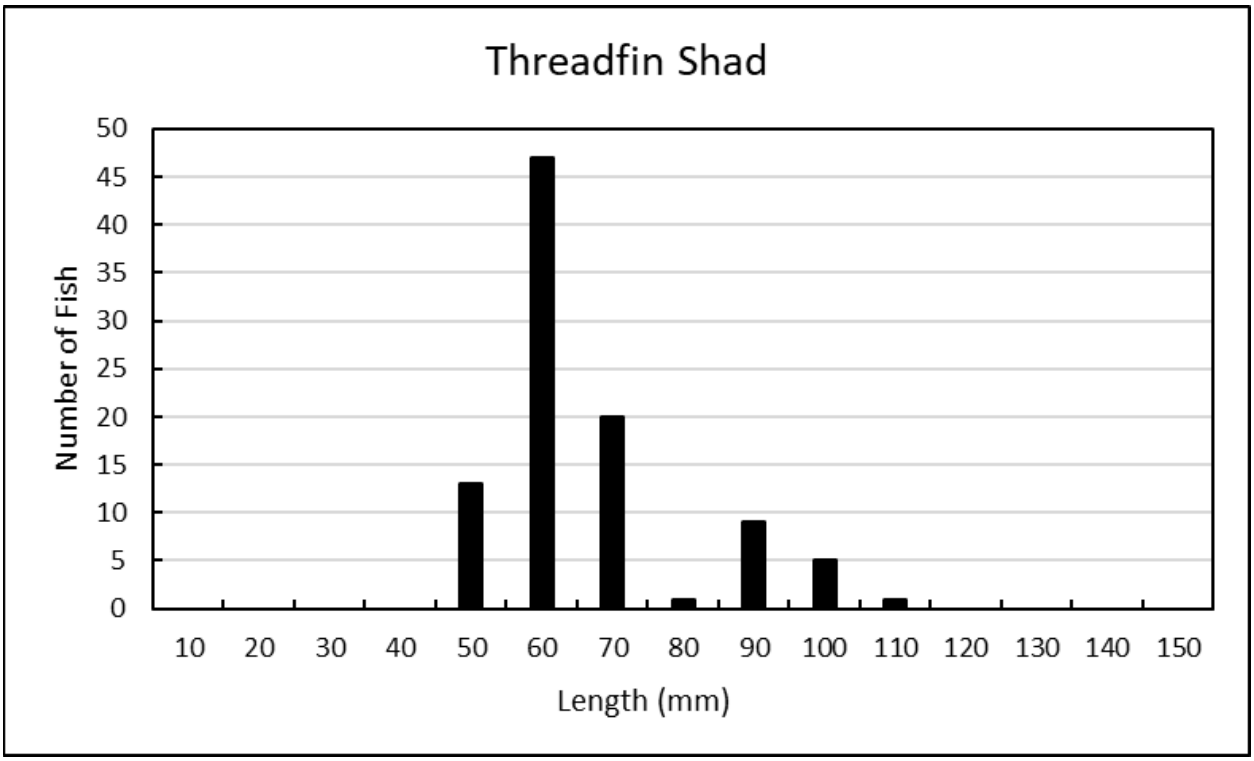


Figure A-8. Length-Frequency Histogram for Threadfin Shad collected in Democrat Dam Impoundment, 2024.

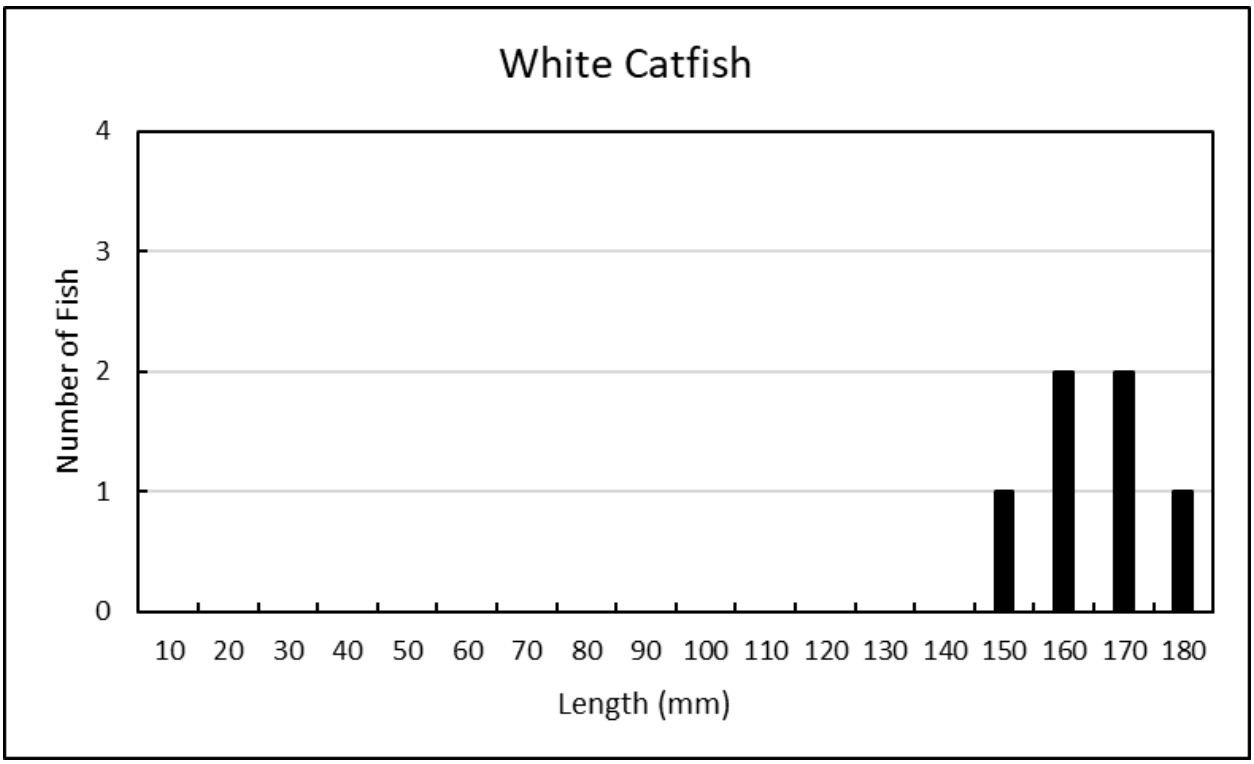


Figure A-9. Length-Frequency Histogram for Threadfin Shad collected in Democrat Dam Impoundment, 2024.