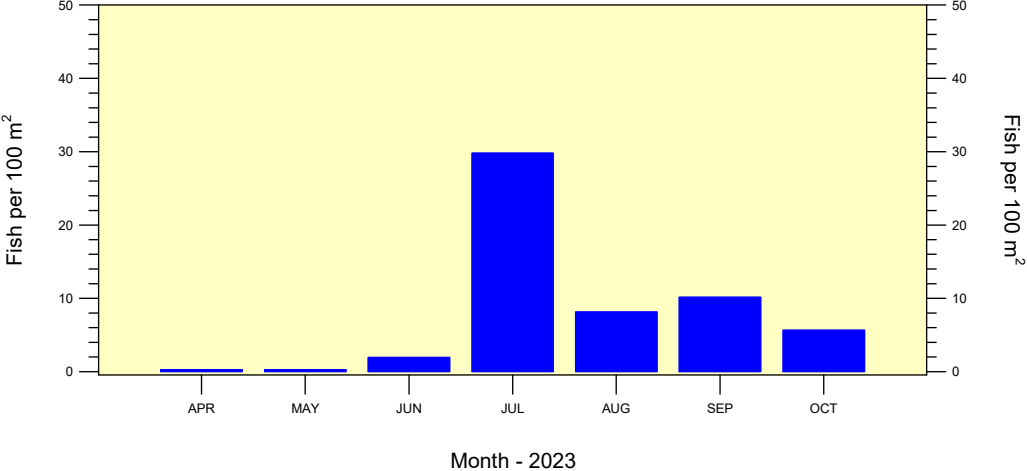
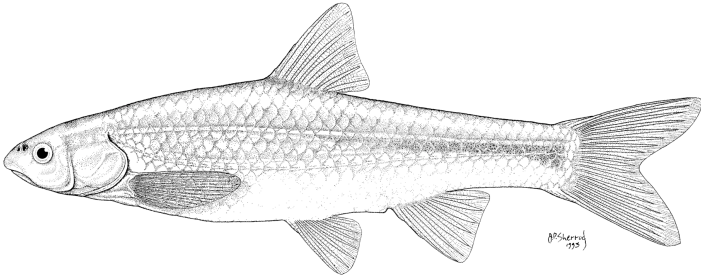


RIO GRANDE SILVERY MINNOW POPULATION MONITORING DURING OCTOBER 2023

**A U.S. BUREAU OF RECLAMATION FUNDED
RESEARCH PROGRAM**



16 November 2023

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RESEARCH PROGRAM***

Contract 140R4019P0048:

Requisition 0040613161
U.S. Bureau of Reclamation
Albuquerque Area Office
555 Broadway NE, Suite 100
Albuquerque, NM 87102

Submitted to:

U.S. Bureau of Reclamation
Albuquerque Area Office
555 Broadway NE, Suite 100
Albuquerque, NM 87102

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16 November 2023

SUMMARY OF OCTOBER 2023 POPULATION MONITORING

The October 2023 population monitoring efforts were conducted at the 20 standard sites and 20 additional sites. We sampled the ten original (old) additional sites, along with ten new additional sites, during October 2023. Ten sites were in the Angostura Reach, fourteen sites were in the Isleta Reach, and sixteen sites were in the San Acacia Reach. For the 2023 monthly trends, data were based on all sites (i.e., standard, additional, and replacement sites) to maintain consistency across all monthly reports. A list of all collection localities is appended (Appendix A). Adult and juvenile fish were obtained by rapidly drawing a 3.0 m x 1.8 m small-mesh (ca. 5 mm) seine through discrete mesohabitats. Larval fish were collected with a 1.2 m x 1.2 m fine-mesh (ca. 1 mm) seine. All fishes were identified to species and enumerated. We used length-age relationships to assign ages (i.e., age-0, age-1, and age-2+) to all Rio Grande Silvery Minnow collected. Age-0 individuals are only present, however, after seasonal spawning events that typically occur from April to June. Figures illustrating fish densities (i.e., fish per 100 m²) were prepared for the ten focal species to facilitate comparisons across reaches.

Angostura Reach

From 16 September to 15 October, provisional U.S. Geological Survey (USGS) mean daily discharge in the Angostura Reach (Albuquerque: USGS Gage-08330000) averaged 53 ft³/s and ranged from 38 to 70 ft³/s. Water temperatures ranged from 12.4 to 28.4 °C during the Angostura Reach sampling efforts (ca. 0830–1500 h). Secchi disk measurements of water clarity ranged from 9 to 33 cm.

Sampling for fishes in the Angostura Reach during October yielded 1,985 individuals with a cumulative fish density of 39.7 individuals per 100 m² sampled. The overall sampling effort in the Angostura Reach covered 4,997.2 m² (surface area) of water. Densities of all fish species combined ranged from 18.6 to 61.9 individuals per 100 m² at the different sampling sites. In October, there were 15 fish species collected in the Angostura Reach. Western Mosquitofish was the most abundant taxon (n = 798), followed by Red Shiner (n = 488), and Rio Grande Silvery Minnow (n = 250). We collected Rio Grande Silvery Minnow (n = 250) in 69 of the 167 seine hauls that yielded fish, and its overall density was 5.00 (range = 0.59–16.77) individuals per 100 m².

Isleta Reach

Provisional mean daily discharge in the Isleta Reach (Bosque Farms: USGS Gage-08331160), from 16 September to 15 October, averaged 38 ft³/s and ranged from 29 to 44 ft³/s. During the Isleta Reach sampling efforts (ca. 0930–1600 h), water temperatures ranged from 11.7 to 26.8 °C. Secchi disk measurements ranged from 14 to 52 cm during sampling.

Isleta Reach population monitoring efforts produced 4,020 individuals in October with a cumulative fish density of 71.4 individuals per 100 m² sampled. The total sampling effort in the Isleta Reach during October covered 5,633.0 m² (surface area) of water. Fish densities (all species combined) at the sampling sites ranged from 0.0 to 550.5 individuals per 100 m² sampled. There were 12 fish species collected in the Isleta Reach during October. Western Mosquitofish was the most abundant taxon (n = 1,285), followed by Red Shiner (n = 1,270), and Common Carp (n = 792). We collected Rio Grande Silvery Minnow (n = 459) in 45 of the 175 seine hauls that yielded fish, and its overall density was 8.15 (range = 0.00–77.93) individuals per 100 m².

San Acacia Reach

From 16 September to 15 October, provisional mean daily discharge at San Acacia (USGS Gage-08354900) was generally higher (average = 23; range = 15–167 ft³/s) than at San Marcial (USGS Gage-08358400) during the same period (average = 1; range = 0–28 ft³/s). Water temperatures in October for the San Acacia Reach ranged from 12.5 to 23.4 °C (ca. 0930–1600 h). Secchi disk measurements ranged from 6 to 29 cm during sampling.

Population monitoring efforts in the San Acacia Reach during October yielded 4,817 individuals with a cumulative fish density of 101.0 individuals per 100 m² sampled. Sampling in the San Acacia Reach covered an area of 4,770.5 m² of water. Fish densities (all species combined) ranged from 0.0 to 5,363.6 individuals per 100 m² at sites sampled in the San Acacia Reach. In October, there were 14 fish species collected in the San Acacia Reach. Western Mosquitofish was the most abundant taxon (n = 3,534), followed by Red Shiner (n = 589), and Common Carp (n = 252). We collected Rio Grande Silvery Minnow (n = 166) in 56 of the 175 seine hauls that yielded fish, and its overall density was 3.48 (range = 0.00–13.53) individuals per 100 m².

Standard Sites (n = 20)

During October, sampling covered 7,637.1 m² (surface area) of water and yielded 4,178 fish. There were no dry sampling sites. Cumulative fish density during October was 54.71 individuals per 100 m² sampled. The three most common species were Western Mosquitofish (n = 1,876), Red Shiner (n = 1,276), and Rio Grande Silvery Minnow (n = 295). The sampling sites yielded a total of 16 fish species.

Rio Grande Silvery Minnow was present in 65 of the 245 seine hauls that yielded fish and at 13 of the 20 sampling sites. Densities of unmarked and marked individuals were 3.86 (n = 295) and 0.00 (n = 0) individuals per 100 m² sampled, respectively. Densities of age-0, age-1, and age-2+ individuals were 3.52 (n = 269), 0.34 (n = 26), and 0.00 (n = 0) individuals per 100 m² sampled, respectively. Based on all October surveys since 1993, the overall density of Rio Grande Silvery Minnow averaged 6.69 (range = 0.00–37.86) individuals per 100 m² sampled. During October 2023, its overall density was 3.86 (n = 295) individuals per 100 m² sampled.

Standard Sites + Additional Sites [old] (n = 30)

During October, sampling covered 12,100.3 m² (surface area) of water and yielded 5,990 fish. There was one dry sampling site. Cumulative fish density during October was 49.50 individuals per 100 m² sampled. The three most common species were Western Mosquitofish (n = 2,402), Red Shiner (n = 1,894), and Rio Grande Silvery Minnow (n = 610). The sampling sites yielded a total of 19 fish species.

Rio Grande Silvery Minnow was present in 134 of the 402 seine hauls that yielded fish and at 22 of the 30 sampling sites. Densities of unmarked and marked individuals were 5.04 (n = 610) and 0.00 (n = 0) individuals per 100 m² sampled, respectively. Densities of age-0, age-1, and age-2+ individuals were 4.58 (n = 554), 0.46 (n = 56), and 0.00 (n = 0) individuals per 100 m² sampled, respectively. Based on all October surveys since 1993, the overall density of Rio Grande Silvery Minnow averaged 6.69 (range = 0.00–37.86) individuals per 100 m² sampled. During October 2023, its overall density was 5.04 (n = 610) individuals per 100 m² sampled.

Standard Sites + Additional Sites [old and new] (n = 40)

During October, sampling covered 15,400.6 m² (surface area) of water and yielded 10,822 fish. There were three dry sampling sites. Cumulative fish density during October was 70.27 individuals per 100 m² sampled. The three most common species were Western Mosquitofish (n = 5,617), Red Shiner (n = 2,347), and Common Carp (n = 1,073). The sampling sites yielded a total of 19 fish species.

Rio Grande Silvery Minnow was present in 170 of the 517 seine hauls that yielded fish and at 27 of the 40 sampling sites. Densities of unmarked and marked individuals were 5.68 (n = 875) and 0.00 (n = 0) individuals per 100 m² sampled, respectively. Densities of age-0, age-1, and age-2+ individuals were

5.28 (n = 813), 0.40 (n = 62), and 0.00 (n = 0) individuals per 100 m² sampled, respectively. Based on all October surveys since 1993, the overall density of Rio Grande Silvery Minnow averaged 6.69 (range = 0.00–37.86) individuals per 100 m² sampled. During October 2023, its overall density was 5.68 (n = 875) individuals per 100 m² sampled.

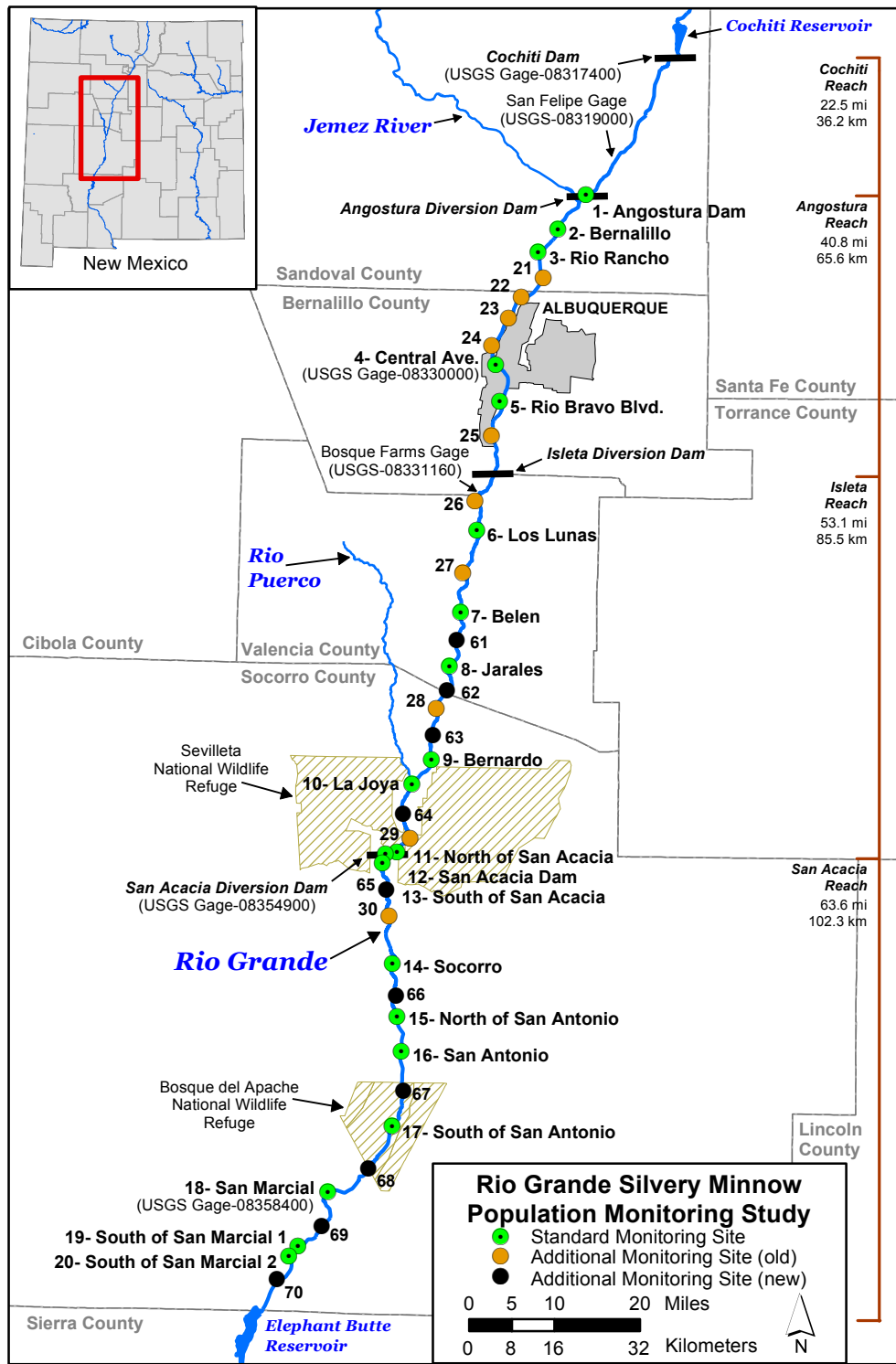


Figure 1. Map of the study area, standard sites, and additional sites for the Rio Grande Silvery Minnow population monitoring study. Sampling site descriptions are provided in Appendix A.

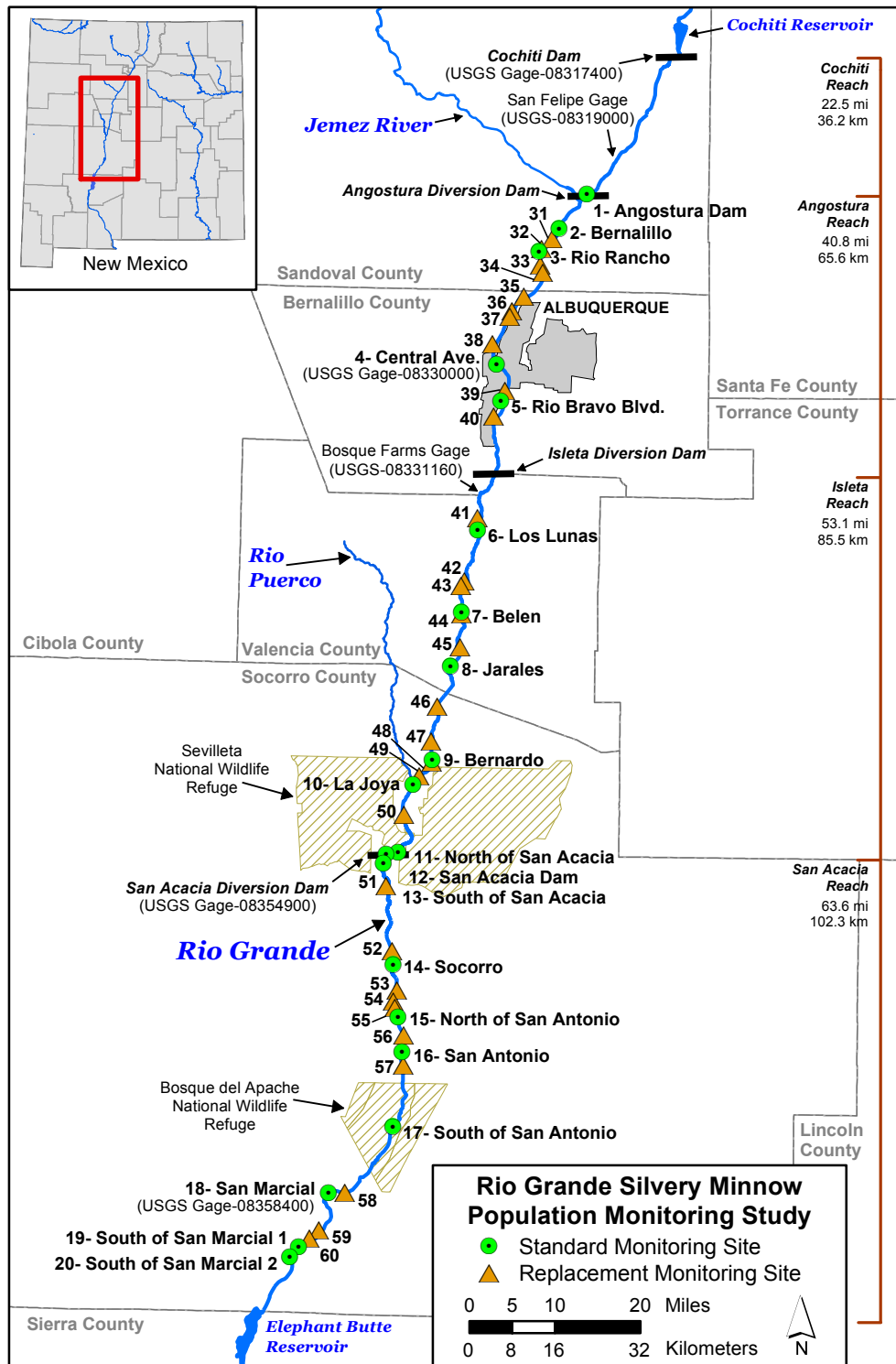


Figure 2. Map of the study area, standard sites, and replacement sites for the Rio Grande Silvery Minnow population monitoring study. Sampling site descriptions are provided in Appendix A.

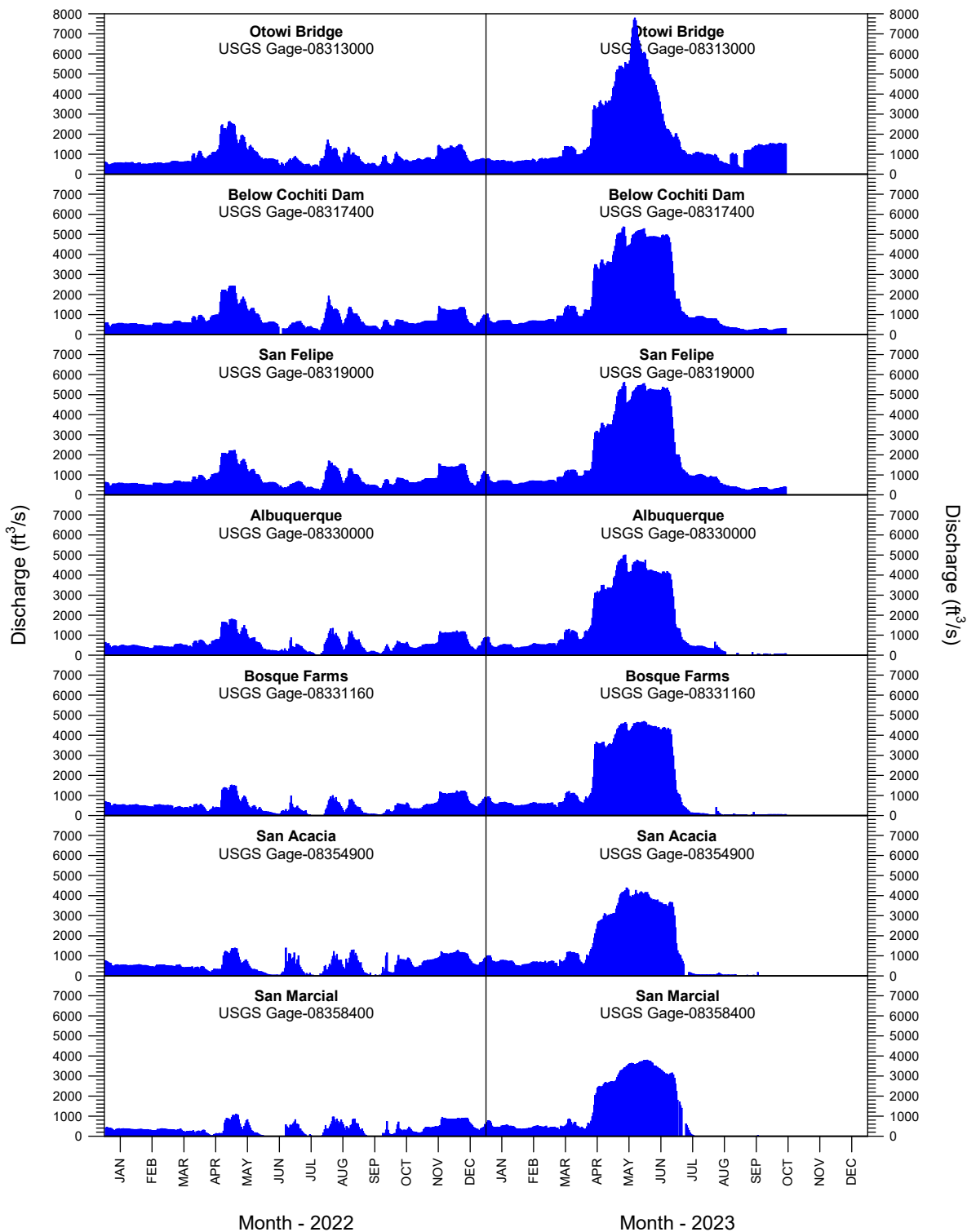


Figure 3. Rio Grande mean-daily discharge, by USGS gaging station, from 1 January 2022 to 15 October 2023. All discharge data are provisional and subject to change.

Table 1. Scientific names, common names, and species codes of fishes collected in the Middle Rio Grande since 1993.

Scientific Name	Common Name	Species Code
Order Clupeiformes		
Family Clupeidae		herrings
<i>Dorosoma cepedianum</i>	Gizzard Shad	(DORCEP)
<i>Dorosoma petenense</i>	Threadfin Shad	(DORPET)
Order Cypriniformes		
Family Cyprinidae		carps and minnows
<i>Campostoma anomalum</i>	Central Stoneroller	(CAMANO)
<i>Carassius auratus</i>	Goldfish	(CARAUR)
<i>Cyprinella lutrensis</i>	Red Shiner ¹	(CYPLUT)
<i>Cyprinus carpio</i>	Common Carp ¹	(CYPCAR)
<i>Gila pandora</i>	Rio Grande Chub	(GILPAN)
<i>Hybognathus amarus</i>	Rio Grande Silvery Minnow ¹	(HYBAMA)
<i>Notemigonus crysoleucas</i>	Golden Shiner	(NOTCRY)
<i>Pimephales promelas</i>	Fathead Minnow ¹	(PIMPRO)
<i>Pimephales vigilax</i>	Bullhead Minnow	(PIMVIG)
<i>Platygobio gracilis</i>	Flathead Chub ¹	(PLAGRA)
<i>Rhinichthys cataractae</i>	Longnose Dace ¹	(RHICAT)
Family Catostomidae		suckers
<i>Carpodes carpio</i>	River Carpsucker ¹	(CARCAR)
<i>Catostomus commersonii</i>	White Sucker ¹	(CATCOM)
<i>Ictiobus bubalus</i>	Smallmouth Buffalo	(ICTBUB)
Order Siluriformes		
Family Ictaluridae		North American catfishes
<i>Ameiurus melas</i>	Black Bullhead	(AMEMEL)
<i>Ameiurus natalis</i>	Yellow Bullhead	(AMENAT)
<i>Ictalurus furcatus</i>	Blue Catfish	(ICTFUR)
<i>Ictalurus punctatus</i>	Channel Catfish ¹	(ICTPUN)
<i>Pylodictis olivaris</i>	Flathead Catfish	(PYLOLI)
Family Loricariidae		suckermouth armored catfishes
<i>Pterygoplichthys disjunctivus</i>	Vermiculated Sailfin Catfish	(PTEDIS)
Order Esociformes		
Family Esocidae		pikes and mudminnows
<i>Esox lucius</i>	Northern Pike	(ESOLUC)

Table 1. Scientific names, common names, and species codes of fishes collected in the Middle Rio Grande since 1993 (continued).

Scientific Name	Common Name	Species Code
Order Salmoniformes		
Family Salmonidae		
	trouts and salmons	
<i>Oncorhynchus mykiss</i>	Rainbow Trout	(ONCMYK)
<i>Salmo trutta</i>	Brown Trout	(SALTRU)
Order Cyprinodontiformes		
Family Poeciliidae		
	livebearers	
<i>Gambusia affinis</i>	Western Mosquitofish ¹	(GAMAFF)
Order Perciformes		
Family Moronidae		
	temperate basses	
<i>Morone chrysops</i>	White Bass	(MORCHR)
<i>Morone saxatilis</i>	Striped Bass	(MORSAX)
Family Centrarchidae		
	sunfishes	
<i>Lepomis cyanellus</i>	Green Sunfish	(LEPCYA)
<i>Lepomis macrochirus</i>	Bluegill	(LEPMAC)
<i>Lepomis megalotis</i>	Longear Sunfish	(LEPMEG)
<i>Micropterus dolomieu</i>	Smallmouth Bass	(MICDOL)
<i>Micropterus salmoides</i>	Largemouth Bass	(MICSAL)
<i>Pomoxis annularis</i>	White Crappie	(POMANN)
<i>Pomoxis nigromaculatus</i>	Black Crappie	(POMNIG)
Family Percidae		
	perches and darters	
<i>Perca flavescens</i>	Yellow Perch	(PERFLA)
<i>Percina macrolepida</i>	Bigscale Logperch	(PERMAC)
<i>Sander vitreus</i>	Walleye	(SANVIT)
Family Sciaenidae		
	drums and croakers	
<i>Aplodinotus grunniens</i>	Freshwater Drum	(APLGRU)

¹ = Focal taxa were typically the 10 most abundant species collected during October.

Table 2. Rio Grande Silvery Minnow abundance, by reach, site, and mesohabitat, during October 2023. Marked and unmarked individuals were included. Blank cells indicate site-specific mesohabitats that were unavailable for sampling.

Reach	Site	Locality	BW	PO	RU	SHPO	SHRU	Total
Angostura	1	Angostura Dam		0	0	0	6	6
Angostura	2	Bernalillo		3	1	1	3	8
Angostura	3	Rio Rancho		30	0	1	15	46
Angostura	21	Site 21	0	0	16	10	52	78
Angostura	22	Site 22	0	9	1	4	9	23
Angostura	23	Site 23	0	1	6	4	5	16
Angostura	24	Site 24	6		0	1	40	47
Angostura	4	Central Ave.	0	0	4	0	11	15
Angostura	5	Rio Bravo Blvd.	0	0	2	6	0	8
Angostura	25	Site 25			3	0	0	3
<i>Angostura Totals</i>			6	43	33	27	141	250
Isleta	26	Site 26	0	12	16	0	13	41
Isleta	6	Los Lunas	0	0	15	10	31	56
Isleta	27	Site 27						0
Isleta	7	Belen	0	3		0	0	3
Isleta	61	Site 61	0		0	87	0	87
Isleta	8	Jarales	0		0	1	50	51
Isleta	62	Site 62	0		0	0	0	0
Isleta	28	Site 28	0	2	0	0	66	68
Isleta	63	Site 63		110				110
Isleta	9	Bernardo	0		0	25	0	25
Isleta	10	La Joya	0	0	0		0	0
Isleta	64	Site 64	0	1	2	0	1	4
Isleta	29	Site 29	0	0	10	2	2	14
Isleta	11	North of San Acacia		0				0
<i>Isleta Totals</i>			0	128	43	125	163	459
San Acacia	12	San Acacia Dam		0	0	2	0	2
San Acacia	13	South of San Acacia		0	4	4	1	9
San Acacia	65	Site 65	2	1	9	13	23	48
San Acacia	30	Site 30	2	0	2	9	12	25
San Acacia	14	Socorro	0	22	4	27	12	65
San Acacia	66	Site 66	1		0	3	12	16
San Acacia	15	North of San Antonio	0		0	0	0	0
San Acacia	16	San Antonio		0		0		0
San Acacia	67	Site 67						0
San Acacia	17	South of San Antonio		1				1
San Acacia	68	Site 68						0
San Acacia	18	San Marcial		0				0
San Acacia	69	Site 69		0				0
San Acacia	19	South of San Marcial 1		0	0	0	0	0
San Acacia	20	South of San Marcial 2	0	0		0	0	0
San Acacia	70	Site 70	0		0	0	0	0
<i>San Acacia Totals</i>			5	24	19	58	60	166
Monthly Totals			11	195	95	210	364	875

Table 3. Rio Grande Silvery Minnow abundance, by reach, site, and month, during 2023. Marked individuals are shown in parentheses, as a subset of the site-specific total. Blank cells indicate months when a site was not visited or will not be visited.

Reach	Site	Locality	Apr	May	Jun	Jul	Aug	Sep	Oct	Total
Angostura	1	Angostura Dam	0	0	0	0	0	0	6(0)	6
Angostura	2	Bernalillo	0	0	0	9(0)	62(0)	3(0)	8(0)	82
Angostura	3	Rio Rancho	0	0	0	2(0)	19(0)	14(0)	46(0)	81
Angostura	21	Site 21	0						78(0)	78
Angostura	22	Site 22	2(0)						23(0)	25
Angostura	23	Site 23	0						16(0)	16
Angostura	24	Site 24	0						47(0)	47
Angostura	4	Central Ave.	0	0	57(0)	81(0)	23(0)	22(0)	15(0)	198
Angostura	5	Rio Bravo Blvd.	4(4)	0	8(0)	358(0)	21(0)	13(0)	8(0)	412
Angostura	25	Site 25	0						3(0)	3
<i>Angostura Totals</i>			6	0	65	450	125	52	250	948
Isleta	26	Site 26	1(1)						41(0)	42
Isleta	6	Los Lunas	1(1)	0	8(0)	317(0)	13(0)	292(0)	56(0)	687
Isleta	27	Site 27	0						0	0
Isleta	7	Belen	0	0	1(0)	488(0)	104(0)	54(0)	3(0)	650
Isleta	61	Site 61							87(0)	87
Isleta	8	Jarales	0						51(0)	306
Isleta	62	Site 62							0	0
Isleta	28	Site 28	0						68(0)	68
Isleta	63	Site 63							110(0)	110
Isleta	9	Bernardo	0	0	4(0)	132(0)	10(0)	79(0)	25(0)	250
Isleta	10	La Joya	0	0	2(0)	278(0)	7(0)	16(0)	0	303
Isleta	64	Site 64							4(0)	4
Isleta	29	Site 29	0						14(0)	14
Isleta	11	North of San Acacia	0	0	0	3(0)	2(0)	3(0)	0	8
<i>Isleta Totals</i>			2	0	16	1,377	148	527	459	2,529
San Acacia	12	San Acacia Dam	4(2)	0	0	1(0)	117(3)	225(0)	2(0)	349
San Acacia	13	South of San Acacia	1(1)	1(1)	7(1)	2(0)	153(0)	56(0)	9(0)	229
San Acacia	65	Site 65							48(0)	48
San Acacia	30	Site 30	3(3)						25(0)	28
San Acacia	14	Socorro	0	0	0	4(0)	0	25(0)	65(0)	94
San Acacia	66	Site 66							16(0)	16
San Acacia	54	Site 54					5(0)			5
San Acacia	15	North of San Antonio	0	0	0	31(0)	1(1)	0	0	32
San Acacia	16	San Antonio	2(2)	3(2)	13(1)	72(0)	0	0	0	90
San Acacia	67	Site 67							0	0
San Acacia	17	South of San Antonio	0	0	0	6(0)	32(0)	0	1(0)	39
San Acacia	68	Site 68							0	0
San Acacia	18	San Marcial	1(1)	0	0	2(0)	1(0)	0	0	4
San Acacia	69	Site 69							0	0
San Acacia	59	Site 59						1(0)		1
San Acacia	60	Site 60						0		0
San Acacia	19	South of San Marcial 1	2(2)	0	29(0)	195(0)	96(0)	0	0	322
San Acacia	20	South of San Marcial 2	0	0	0	0	0	0	0	0
San Acacia	70	Site 70							0	0
<i>San Acacia Totals</i>			13	4	49	313	405	307	166	1,257
Monthly Totals			21	4	130	2,140	678	886	875	4,734

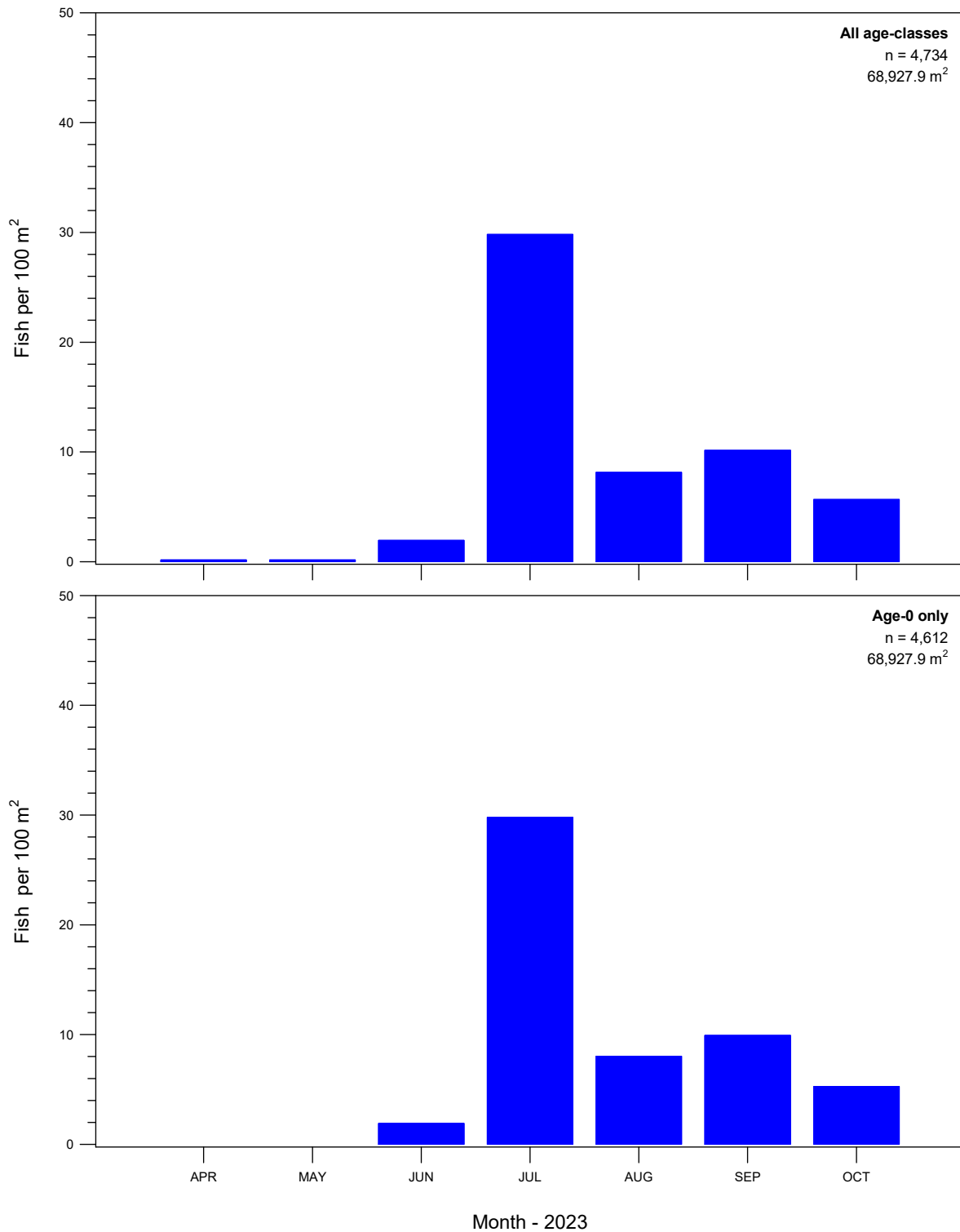


Figure 4. Rio Grande Silvery Minnow densities based on all sites, by age-class and month, during 2023. Marked and unmarked individuals were included.

Table 4. Ichthyofaunal summary based on standard sites, by species, during October 2023. Marked and unmarked Rio Grande Silvery Minnow were included. Dashes (-) indicate species that were absent during sampling.

Family	Common Name	Residence Status ¹	Total Number of Individuals	Percent (%) of Total	Frequency of Occurrence ²	% Frequency of Occurrence ²
Clupeidae	Gizzard Shad	N	-	-	-	-
Clupeidae	Threadfin Shad	I	-	-	-	-
Cyprinidae	Central Stoneroller	I	-	-	-	-
Cyprinidae	Goldfish	I	-	-	-	-
Cyprinidae	Red Shiner	N	1,276	30.54	17	85.00
Cyprinidae	Common Carp	I	282	6.75	14	70.00
Cyprinidae	Rio Grande Chub	N	-	-	-	-
Cyprinidae	Rio Grande Silvery Minnow	N	295	7.06	13	65.00
Cyprinidae	Golden Shiner	I	-	-	-	-
Cyprinidae	Fathead Minnow	N	117	2.80	8	40.00
Cyprinidae	Bullhead Minnow	I	3	0.07	1	5.00
Cyprinidae	Flathead Chub	N	140	3.35	8	40.00
Cyprinidae	Longnose Dace	N	39	0.93	4	20.00
Catostomidae	River Carpsucker	N	21	0.50	5	25.00
Catostomidae	White Sucker	I	42	1.01	5	25.00
Catostomidae	Smallmouth Buffalo	N	-	-	-	-
Ictaluridae	Black Bullhead	I	-	-	-	-
Ictaluridae	Yellow Bullhead	I	3	0.07	2	10.00
Ictaluridae	Blue Catfish	N	3	0.07	1	5.00
Ictaluridae	Channel Catfish	I	74	1.77	14	70.00
Ictaluridae	Flathead Catfish	N	1	0.02	1	5.00
Loricariidae	Vermiculated Sailfin Catfish	I	-	-	-	-
Esocidae	Northern Pike	I	-	-	-	-
Salmonidae	Rainbow Trout	I	-	-	-	-
Salmonidae	Brown Trout	I	-	-	-	-
Poeciliidae	Western Mosquitofish	I	1,876	44.90	19	95.00
Moronidae	White Bass	I	-	-	-	-
Moronidae	Striped Bass	I	-	-	-	-
Centrarchidae	Green Sunfish	I	-	-	-	-
Centrarchidae	Bluegill	N	3	0.07	1	5.00
Centrarchidae	Longear Sunfish	I	-	-	-	-
Centrarchidae	Smallmouth Bass	I	-	-	-	-
Centrarchidae	Largemouth Bass	I	3	0.07	1	5.00
Centrarchidae	White Crappie	I	-	-	-	-
Centrarchidae	Black Crappie	I	-	-	-	-
Percidae	Yellow Perch	I	-	-	-	-
Percidae	Bigscale Logperch	I	-	-	-	-
Percidae	Walleye	I	-	-	-	-
Sciaenidae	Freshwater Drum	N	-	-	-	-
Monthly Total			4,178	100.00		

¹ = Native (N) or introduced (I) species

² = Based on standard sites

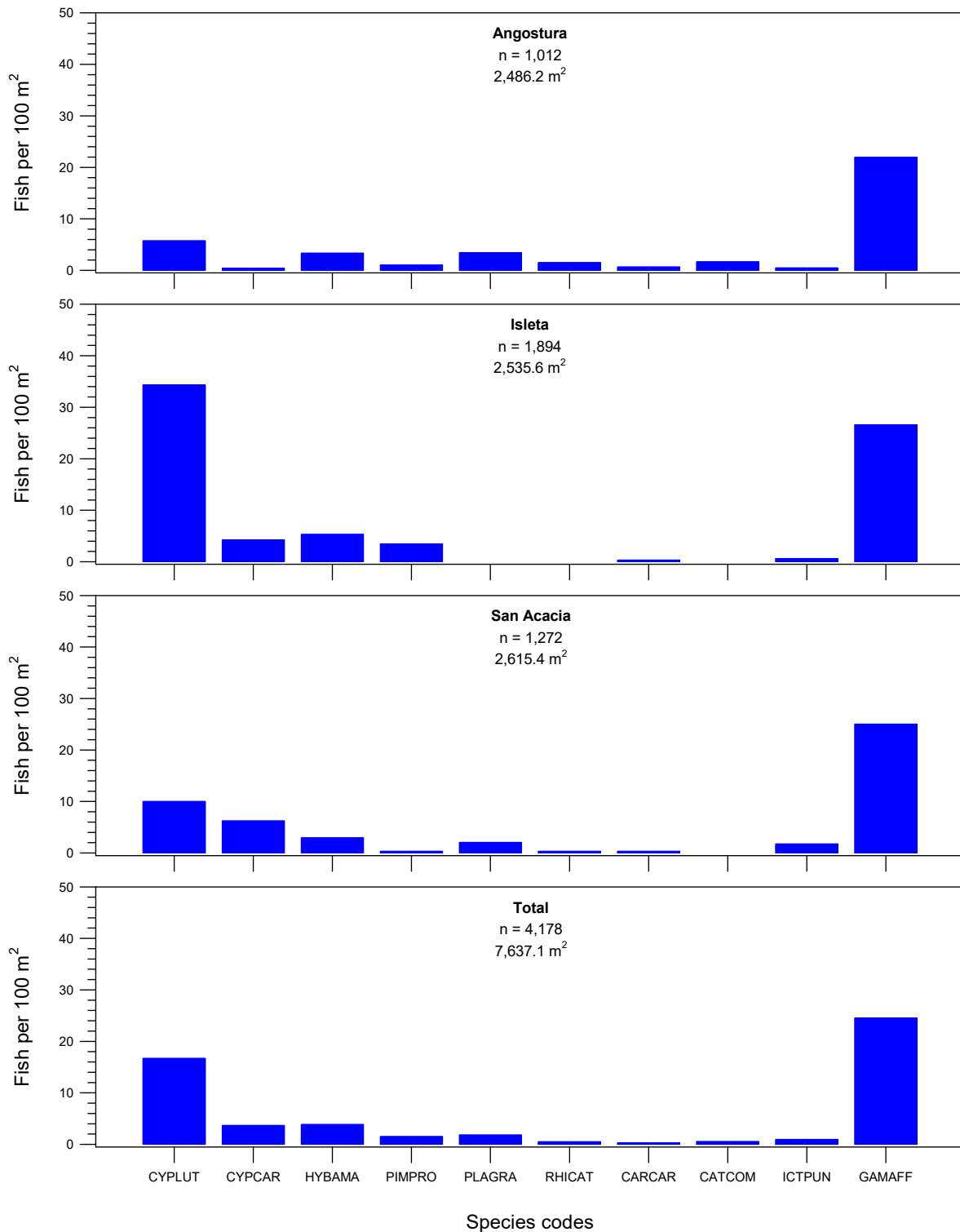


Figure 5. Fish densities based on standard sites, by reach and focal taxa, during October 2023. Marked and unmarked Rio Grande Silvery Minnow were included.

Table 5. Ichthyofaunal summary based on all sites, by species, during October 2023. Marked and unmarked Rio Grande Silvery Minnow were included. Dashes (-) indicate species that were absent during sampling.

Family	Common Name	Residence Status ¹	Total Number of Individuals	Percent (%) of Total	Frequency of Occurrence ²	% Frequency of Occurrence ²
Clupeidae	Gizzard Shad	N	18	0.17	3	7.50
Clupeidae	Threadfin Shad	I	-	-	-	-
Cyprinidae	Central Stoneroller	I	-	-	-	-
Cyprinidae	Goldfish	I	-	-	-	-
Cyprinidae	Red Shiner	N	2,347	21.69	34	85.00
Cyprinidae	Common Carp	I	1,073	9.91	31	77.50
Cyprinidae	Rio Grande Chub	N	-	-	-	-
Cyprinidae	Rio Grande Silvery Minnow	N	875	8.09	27	67.50
Cyprinidae	Golden Shiner	I	-	-	-	-
Cyprinidae	Fathead Minnow	N	150	1.39	18	45.00
Cyprinidae	Bullhead Minnow	I	4	0.04	2	5.00
Cyprinidae	Flathead Chub	N	265	2.45	17	42.50
Cyprinidae	Longnose Dace	N	61	0.56	7	17.50
Catostomidae	River Carpsucker	N	57	0.53	12	30.00
Catostomidae	White Sucker	I	53	0.49	9	22.50
Catostomidae	Smallmouth Buffalo	N	-	-	-	-
Ictaluridae	Black Bullhead	I	-	-	-	-
Ictaluridae	Yellow Bullhead	I	5	0.05	4	10.00
Ictaluridae	Blue Catfish	N	7	0.06	2	5.00
Ictaluridae	Channel Catfish	I	264	2.44	27	67.50
Ictaluridae	Flathead Catfish	N	1	0.01	1	2.50
Loricariidae	Vermiculated Sailfin Catfish	I	-	-	-	-
Esocidae	Northern Pike	I	-	-	-	-
Salmonidae	Rainbow Trout	I	-	-	-	-
Salmonidae	Brown Trout	I	-	-	-	-
Poeciliidae	Western Mosquitofish	I	5,617	51.90	36	90.00
Moronidae	White Bass	I	4	0.04	3	7.50
Moronidae	Striped Bass	I	-	-	-	-
Centrarchidae	Green Sunfish	I	1	0.01	1	2.50
Centrarchidae	Bluegill	N	3	0.03	1	2.50
Centrarchidae	Longear Sunfish	I	-	-	-	-
Centrarchidae	Smallmouth Bass	I	-	-	-	-
Centrarchidae	Largemouth Bass	I	17	0.16	6	15.00
Centrarchidae	White Crappie	I	-	-	-	-
Centrarchidae	Black Crappie	I	-	-	-	-
Percidae	Yellow Perch	I	-	-	-	-
Percidae	Bigscale Logperch	I	-	-	-	-
Percidae	Walleye	I	-	-	-	-
Sciaenidae	Freshwater Drum	N	-	-	-	-
Monthly Total			10,822	100.00		

¹ = Native (N) or introduced (I) species

² = Based on all sites

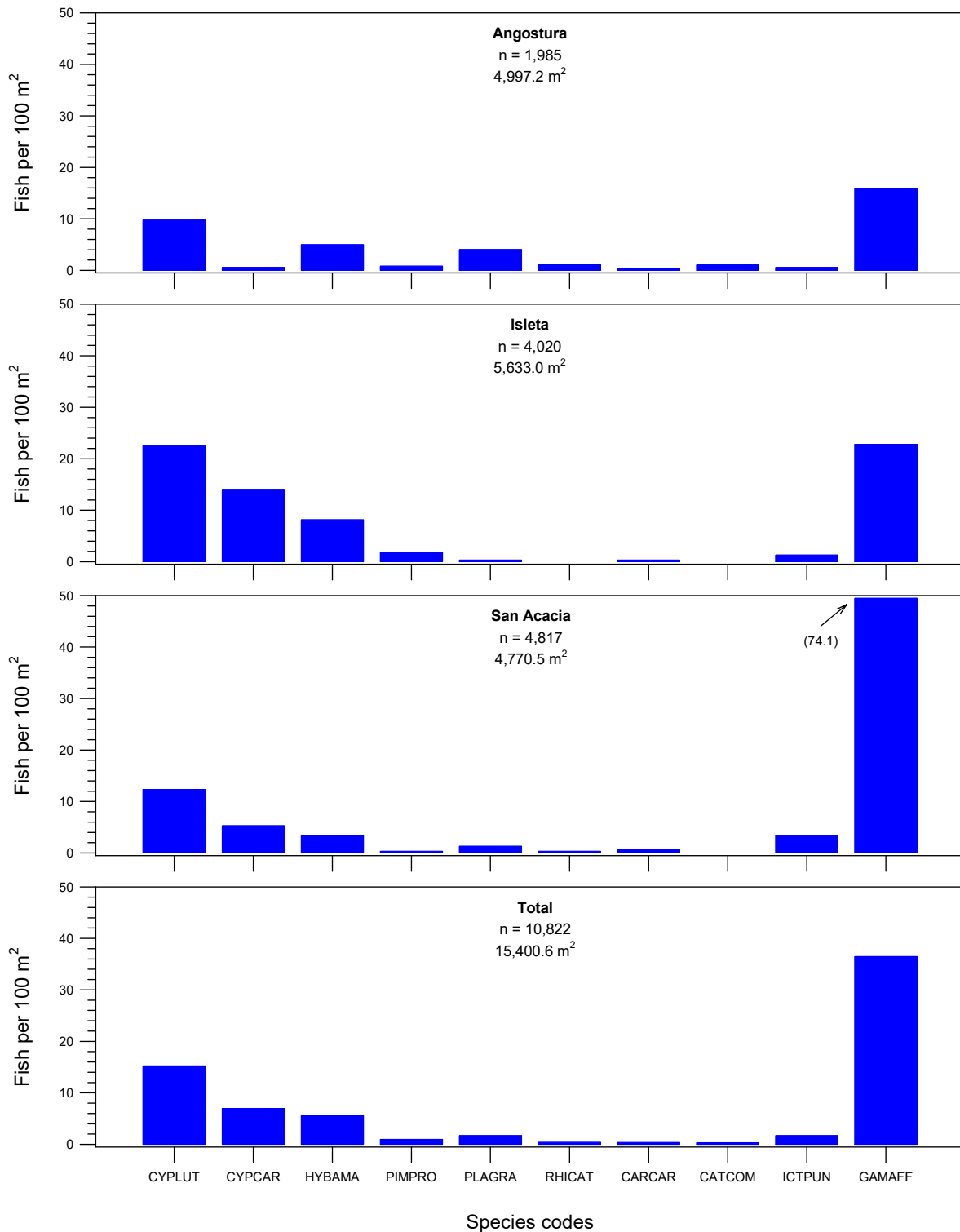


Figure 6. Fish densities based on all sites, by reach and focal taxa, during October 2023. Marked and unmarked Rio Grande Silvery Minnow were included.

Table 6. Ichthyofaunal summary based on all sites, by species and month, during 2023. Marked and unmarked Rio Grande Silvery Minnow were included.

Family	Common Name	Apr	May	Jun	Jul	Aug	Sep	Oct	Total
Clupeidae	Gizzard Shad	0	5	0	0	35	58	18	116
Clupeidae	Threadfin Shad	0	0	0	0	0	0	0	0
Cyprinidae	Central Stoneroller	0	0	0	0	0	0	0	0
Cyprinidae	Goldfish	0	0	0	0	0	0	0	0
Cyprinidae	Red Shiner	981	169	101	719	1,958	1,605	2,347	7,880
Cyprinidae	Common Carp	3	155	258	1,487	1,414	438	1,073	4,828
Cyprinidae	Rio Grande Chub	0	0	0	0	0	0	0	0
Cyprinidae	Rio Grande Silvery Minnow	21	4	130	2,140	678	886	875	4,734
Cyprinidae	Golden Shiner	0	0	0	0	0	0	0	0
Cyprinidae	Fathead Minnow	6	0	6	87	100	83	150	432
Cyprinidae	Bullhead Minnow	0	0	0	0	0	1	4	5
Cyprinidae	Flathead Chub	239	39	66	97	139	114	265	959
Cyprinidae	Longnose Dace	27	24	14	40	69	100	61	335
Catostomidae	River Carpsucker	0	0	1	26	282	36	57	402
Catostomidae	White Sucker	3	2	57	121	123	57	53	416
Catostomidae	Smallmouth Buffalo	0	0	14	2	0	0	0	16
Ictaluridae	Black Bullhead	0	0	0	9	2	0	0	11
Ictaluridae	Yellow Bullhead	0	0	1	0	4	9	5	19
Ictaluridae	Blue Catfish	0	0	13	10	0	77	7	107
Ictaluridae	Channel Catfish	130	10	4	1	199	88	264	696
Ictaluridae	Flathead Catfish	0	0	0	0	0	0	1	1
Loricariidae	Vermiculated Sailfin Catfish	0	0	0	0	0	0	0	0
Esocidae	Northern Pike	0	0	0	0	1	0	0	1
Salmonidae	Rainbow Trout	0	0	0	0	0	0	0	1
Salmonidae	Brown Trout	0	0	1	0	0	0	0	32
Poeciliidae	Western Mosquitofish	16	9	7	191	2,831	3,355	5,617	11,994
Moronidae	White Bass	0	0	0	15	1	4	4	24
Moronidae	Striped Bass	0	0	0	0	0	0	0	7
Centrarchidae	Green Sunfish	1	6	0	1	1	2	1	5
Centrarchidae	Bluegill	0	0	0	2	0	0	3	5
Centrarchidae	Longear Sunfish	0	0	0	0	0	0	0	0
Centrarchidae	Smallmouth Bass	0	0	0	1	0	0	0	1
Centrarchidae	Largemouth Bass	0	0	0	6	13	2	17	38
Centrarchidae	White Crappie	0	0	0	4	11	1	0	16
Centrarchidae	Black Crappie	0	0	0	0	0	0	0	0
Percidae	Yellow Perch	0	0	0	0	0	0	0	0
Percidae	Bigscale Logperch	0	0	0	0	0	1	0	1
Percidae	Walleye	0	0	0	0	0	0	0	0
Sciaenidae	Freshwater Drum	0	0	0	0	1	0	0	1
Monthly Totals		1,427	423	673	4,959	7,862	6,917	10,822	33,083

APPENDIX A (Sampling Sites)

Middle Rio Grande Fish Sampling Sites

Table A1. Sampling reaches and standard sites for population monitoring of Rio Grande Silvery Minnow in the Middle Rio Grande.

Reach and Site	Locality
Angostura Reach	
1	New Mexico, Sandoval County, Rio Grande, just downstream of Angostura Diversion Dam, Algodones. River Mile: 209.9; UTM Easting: 363665; UTM Northing: 3916331; Zone: 13; Datum: NAD83
2	New Mexico, Sandoval County, Rio Grande, at US HWY 550 bridge crossing, Bernalillo. River Mile: 203.9; UTM Easting: 358457; UTM Northing: 3909887; Zone: 13; Datum: NAD83
3	New Mexico, Sandoval County, Rio Grande, ca. 4.0 mi downstream of US HWY 550 bridge crossing, Rio Rancho. River Mile: 199.9; UTM Easting: 354728; UTM Northing: 3905587; Zone: 13; Datum: NAD83
4	New Mexico, Bernalillo County, Rio Grande, at Central Ave. bridge crossing (US HWY 66), Albuquerque. River Mile: 183.4; UTM Easting: 346719; UTM Northing: 3884331; Zone: 13; Datum: NAD83
5	New Mexico, Bernalillo County, Rio Grande, at Rio Bravo Blvd. bridge crossing (NM State HWY 500), Albuquerque. River Mile: 178.4; UTM Easting: 347468; UTM Northing: 3877400; Zone: 13; Datum: NAD83
Isleta Reach	
6	New Mexico, Valencia County, Rio Grande, just upstream of NM State HWY 6 bridge crossing, Los Lunas. River Mile: 161.7; UTM Easting: 343149; UTM Northing: 3853187; Zone: 13; Datum: NAD83
7	New Mexico, Valencia County, Rio Grande, ca. 1.0 mi upstream of NM State HWY 309 bridge crossing, Belen. River Mile: 150.8; UTM Easting: 340105; UTM Northing: 3837722; Zone: 13; Datum: NAD83
8	New Mexico, Valencia County, Rio Grande, ca. 2.2 mi upstream of NM State HWY 346 bridge crossing, Jarales. River Mile: 143.2; UTM Easting: 338020; UTM Northing: 3827545; Zone: 13; Datum: NAD83
9	New Mexico, Socorro County, Rio Grande, at US HWY 60 bridge crossing, Bernardo. River Mile: 130.6; UTM Easting: 334578; UTM Northing: 3809921; Zone: 13; Datum: NAD83
10	New Mexico, Socorro County, Rio Grande, ca. 3.7 mi downstream of US HWY 60 bridge crossing, Bernardo. River Mile: 126.8; UTM Easting: 330946; UTM Northing: 3805307; Zone: 13; Datum: NAD83
11	New Mexico, Socorro County, Rio Grande, ca. 1.2 mi upstream of San Acacia Diversion Dam, San Acacia. River Mile: 117.3; UTM Easting: 328152; UTM Northing: 3792564; Zone: 13; Datum: NAD83

Table A1. Sampling reaches and standard sites for population monitoring of Rio Grande Silvery Minnow in the Middle Rio Grande (continued).

Reach and Site	Locality
San Acacia Reach	
12	New Mexico, Socorro County, Rio Grande, just downstream of San Acacia Diversion Dam, San Acacia. River Mile: 115.6; UTM Easting: 325960; UTM Northing: 3792182; Zone: 13; Datum: NAD83
13	New Mexico, Socorro County, Rio Grande, ca. 1.5 mi downstream of San Acacia Diversion Dam, San Acacia. River Mile: 114.1; UTM Easting: 325390; UTM Northing: 3790397; Zone: 13; Datum: NAD83
14	New Mexico, Socorro County, Rio Grande, ca. 0.5 mi upstream of Socorro Low Flow Conveyance Channel bridge crossing, Socorro. River Mile: 99.6; UTM Easting: 327231; UTM Northing: 3771432; Zone: 13; Datum: NAD83
15	New Mexico, Socorro County, Rio Grande, ca. 4.5 mi upstream of US HWY 380 bridge crossing, San Antonio. River Mile: 92.0; UTM Easting: 328151; UTM Northing: 3761487; Zone: 13; Datum: NAD83
16	New Mexico, Socorro County, Rio Grande, at US HWY 380 bridge crossing, San Antonio. River Mile: 87.8; UTM Easting: 328907; UTM Northing: 3754926; Zone: 13; Datum: NAD83
17	New Mexico, Socorro County, Rio Grande, east of Bosque del Apache NWR headquarters, San Antonio. River Mile: 79.0; UTM Easting: 327219; UTM Northing: 3740906; Zone: 13; Datum: NAD83
18	New Mexico, Socorro County, Rio Grande, at San Marcial Railroad bridge crossing, San Marcial. River Mile: 68.3; UTM Easting: 315091; UTM Northing: 3728487; Zone: 13; Datum: NAD83
19	New Mexico, Socorro County, Rio Grande, ca. 8.0 mi downstream of San Marcial Railroad bridge crossing, San Marcial. River Mile: 60.1; UTM Easting: 309441; UTM Northing: 3718309; Zone: 13; Datum: NAD83
20	New Mexico, Socorro County, Rio Grande, ca. 10.0 mi downstream of San Marcial Railroad bridge crossing, San Marcial. River Mile: 58.5; UTM Easting: 307767; UTM Northing: 3716360; Zone: 13; Datum: NAD83

Table A2. Sampling reaches and additional sites (old) for population monitoring of Rio Grande Silvery Minnow in the Middle Rio Grande.

Reach and Site	Locality
Angostura Reach	
21	New Mexico, Sandoval County, Rio Grande, ca. 4.4 miles upstream of Alameda Blvd. (NM State Hwy. 528) bridge crossing, Corrales. River Mile: 196.6; UTM Easting: 355531; UTM Northing: 3900626; Zone: 13; Datum: NAD83
22	New Mexico, Sandoval County, Rio Grande, ca. 1.1 miles upstream of Alameda Blvd. (NM State Hwy. 528) bridge crossing, Corrales. River Mile: 193.1; UTM Easting: 351562; UTM Northing: 3897190; Zone: 13; Datum: NAD83
23	New Mexico, Bernalillo County, Rio Grande, ca. 1.0 miles downstream of Paseo del Norte Blvd. (NM State Hwy. 423) bridge crossing Albuquerque. River Mile: 190.0; UTM Easting: 349214; UTM Northing: 3893063; Zone: 13; Datum: NAD83
24	New Mexico, Bernalillo County, Rio Grande, ca. 1.1 miles upstream of I-40 bridge crossing, Albuquerque. River Mile: 186.1; UTM Easting: 346011; UTM Northing: 3887973; Zone: 13; Datum: NAD83
25	New Mexico, Bernalillo County, Rio Grande, ca. 1.5 miles upstream of I-25 bridge crossing, Isleta. River Mile: 174.0; UTM Easting: 345900; UTM Northing: 3870990; Zone: 13; Datum: NAD83
Isleta Reach	
26	New Mexico, Valencia County, Rio Grande, ca. 4.1 miles upstream of NM State Hwy. 6 bridge crossing, Los Lunas. River Mile: 165.2; UTM Easting: 342799; UTM Northing: 3858637; Zone: 13; Datum: NAD83
27	New Mexico, Valencia County, Rio Grande, ca. 6.2 miles upstream of NM State Hwy. 309 bridge crossing, Belen. River Mile: 156.0; UTM Easting: 340647; UTM Northing: 3845146; Zone: 13; Datum: NAD83
28	New Mexico, Socorro County, Rio Grande, ca. 6.3 miles upstream of U.S. Hwy. 60 bridge crossing, Bernardo. River Mile: 137.1; UTM Easting: 335554; UTM Northing: 3819543; Zone: 13; Datum: NAD83
29	New Mexico, Socorro County, Rio Grande, ca. 1.5 miles upstream of confluence with the Rio Salado, San Acacia. River Mile: 120.1; UTM Easting: 330498; UTM Northing: 3795053; Zone: 13; Datum: NAD83
San Acacia Reach	
30	New Mexico, Socorro County, Rio Grande, ca. 2.6 miles upstream of Pueblitos Rd. bridge crossing, Escondida. River Mile: 107.1; UTM Easting: 326303; UTM Northing: 3781123; Zone: 13; Datum: NAD83

Table A3. Sampling reaches and replacement sites for population monitoring of Rio Grande Silvery Minnow in the Middle Rio Grande.

Reach and Site	Locality
Isleta Reach	
44	New Mexico, Valencia County, Rio Grande, ca. 1.0 mi upstream of NM State HWY 309 bridge crossing, Belen. River Mile: 150.5; UTM Easting: 340084; UTM Northing: 3837308; Zone: 13; Datum: NAD83
San Acacia Reach	
51	New Mexico, Socorro County, Rio Grande, ca. 5.0 mi downstream of San Acacia Diversion Dam, San Acacia. River Mile: 110.8; UTM Easting: 325855; UTM Northing: 3786216; Zone: 13; Datum: NAD83
52	New Mexico, Socorro County, Rio Grande, ca. 2.2 mi. downstream of Pueblitos Rd. bridge crossing, Escondida. River Mile: 101.7; UTM Easting: 327091; UTM Northing: 3773950; Zone: 13; Datum: NAD83
53	New Mexico, Socorro County, Rio Grande, ca. 3.1 mi downstream of the Socorro Low Flow Conveyance Channel bridge crossing, Socorro. River Mile: 96.0; UTM Easting: 327933; UTM Northing: 3766570; Zone: 13; Datum: NAD83
54	New Mexico, Socorro County, Rio Grande, ca. 4.7 mi. downstream of Socorro LFCC bridge crossing, Socorro. River Mile: 94.2; UTM Easting: 327288; UTM Northing: 3764453; Zone: 13; Datum: NAD83
56	New Mexico, Socorro County, Rio Grande, ca. 2.1 miles upstream of San Antonio bridge crossing, San Antonio. River Mile: 89.3; UTM Easting: 329188; UTM Northing: 3758027; Zone: 13; Datum: NAD83
58	New Mexico, Socorro County, Rio Grande, ca. 1.8 mi. upstream of San Marcial Railroad bridge crossing, San Marcial. River Mile: 70.1; UTM Easting: 318083; UTM Northing: 3728535; Zone: 13; Datum: NAD83
59	New Mexico, Socorro County, Rio Grande, ca. 5.1 mi. downstream of San Marcial Railroad bridge crossing, San Marcial. River Mile: 63.3; UTM Easting: 313269; UTM Northing: 3721434; Zone: 13; Datum: NAD83
60	New Mexico, Socorro County, Rio Grande, ca. 6.4 mi. downstream of San Marcial Railroad bridge crossing, San Marcial. River Mile: 61.8; UTM Easting: 311422; UTM Northing: 3719873; Zone: 13; Datum: NAD83

Table A4. Sampling reaches and additional sites (new) for population monitoring of Rio Grande Silvery Minnow in the Middle Rio Grande.

Reach and Site	Locality
Isleta Reach	
61	New Mexico, Valencia County, Rio Grande, ca. 6.2 mi upstream of NM State HWY 346 bridge crossing, Jarales. River Mile: 147.0; UTM Easting: 339379; UTM Northing: 3832429; Zone: 13; Datum: NAD83
62	New Mexico, Valencia County, Rio Grande, ca. 0.7 mi downstream of NM State HWY 346 bridge crossing, Jarales. River Mile: 140.0; UTM Easting: 337520; UTM Northing: 3822964; Zone: 13; Datum: NAD83
63	New Mexico, Socorro County, Rio Grande, ca. 3.1 mi upstream of US HWY 60 bridge crossing, Bernardo. River Mile: 133.7; UTM Easting: 334853; UTM Northing: 3814593; Zone: 13; Datum: NAD83
64	New Mexico, Socorro County, Rio Grande, ca. 4.7 mi upstream of the Rio Salado confluence, San Acacia. River Mile: 123.2; UTM Easting: 329215; UTM Northing: 3799784; Zone: 13; Datum: NAD83
San Acacia Reach	
65	New Mexico, Socorro County, Rio Grande, ca. 5.4 mi downstream of San Acacia Diversion Dam, San Acacia. River Mile: 110.3; UTM Easting: 326105; UTM Northing: 3785502; Zone: 13; Datum: NAD83
66	New Mexico, Socorro County, Rio Grande, ca. 3.8 mi downstream of Socorro Low Flow Conveyance Channel bridge crossing, Socorro. River Mile: 95.1; UTM Easting: 327905; UTM Northing: 3765463; Zone: 13; Datum: NAD83
67	New Mexico, Socorro County, Rio Grande, ca. 4.3 mi downstream of San Antonio bridge crossing, San Antonio. River Mile: 83.3; UTM Easting: 329319; UTM Northing: 3747431; Zone: 13; Datum: NAD83
68	New Mexico, Socorro County, Rio Grande, ca. 5.3 mi upstream of San Marcial Railroad bridge crossing, San Marcial. River Mile: 73.7; UTM Easting: 322751; UTM Northing: 3732864; Zone: 13; Datum: NAD83
69	New Mexico, Socorro County, Rio Grande, ca. 4.4 mi downstream of San Marcial Railroad bridge crossing, San Marcial. River Mile: 63.9; UTM Easting: 313940; UTM Northing: 3722027; Zone: 13; Datum: NAD83
70	New Mexico, Socorro County, Rio Grande, ca. 12.9 mi downstream of San Marcial Railroad bridge crossing, San Marcial. River Mile: 55.5; UTM Easting: 305502; UTM Northing: 3711951; Zone: 13; Datum: NAD83

APPENDIX B (Site-Specific Population Monitoring Data)

Site-specific data, collected in October 2023, as part of the
Rio Grande Silvery Minnow Population Monitoring Program
(Any blanks in this database output indicate null data)

** Data are provisional and should be verified by direct inspection of field data **

**Rio Grande Silvery Minnow Population Monitoring
 October 2023**

NEW MEXICO: SANDOVAL County, RIO GRANDE Drainage
 Rio Grande, just downstream of Angostura Diversion Dam, Algodones.
 Site Number: 1 River Mile: 209.9
 UTM Easting: 363665 UTM Northing: 3916331 Zone: 13
 Collector(s): Farrington, M.A.; Clark-Barkalow, S.L.; Chavez, M.J.

RKD23-151

04 October 2023
 USGS Quad: San Felipe Pueblo
 Effort: 477.3 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	26
76	<i>Cyprinus carpio</i>	1
76	<i>Hybognathus amarus*</i>	6
76	<i>Platygobio gracilis</i>	7
76	<i>Rhinichthys cataractae</i>	24
81	<i>Catostomus commersonii</i>	17
93	<i>Ameiurus natalis</i>	2
212	<i>Gambusia affinis</i>	197
294	<i>Lepomis macrochirus</i>	3
294	<i>Micropterus salmoides</i>	3

***Hybognathus amarus (age-classes):**

age-0	6
age-1	
age-2+	

NEW MEXICO: SANDOVAL County, RIO GRANDE Drainage
 Rio Grande, at US HWY 550 bridge crossing, Bernalillo.
 Site Number: 2 River Mile: 203.9
 UTM Easting: 358457 UTM Northing: 3909887 Zone: 13
 Collector(s): Farrington, M.A.; Clark-Barkalow, S.L.; Chavez, M.J.

RKD23-152

04 October 2023
 USGS Quad: Bernalillo
 Effort: 492.5 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	22
76	<i>Hybognathus amarus*</i>	8
76	<i>Platygobio gracilis</i>	10
76	<i>Rhinichthys cataractae</i>	13
81	<i>Catostomus commersonii</i>	12
93	<i>Ictalurus punctatus</i>	5
212	<i>Gambusia affinis</i>	165

***Hybognathus amarus (age-classes):**

age-0	6
age-1	2
age-2+	

**Rio Grande Silvery Minnow Population Monitoring
 October 2023**

NEW MEXICO: SANDOVAL County, RIO GRANDE Drainage
 Rio Grande, ca. 4.0 mi downstream of US HWY 550 bridge crossing, Rio Rancho.
 Site Number: 3 River Mile: 199.9
 UTM Easting: 354728 UTM Northing: 3905587 Zone: 13
 Collector(s): Farrington, M.A.; Clark-Barkalow, S.L.; Chavez, M.J.

RKD23-153
 04 October 2023
 USGS Quad: Bernalillo
 Effort: 494.7 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	17
76	<i>Hybognathus amarus*</i>	46
76	<i>Pimephales promelas</i>	2
76	<i>Platygobio gracilis</i>	2
81	<i>Catostomus commersonii</i>	9
212	<i>Gambusia affinis</i>	16

***Hybognathus amarus (age-classes):**

age-0	46
age-1	
age-2+	

NEW MEXICO: Sandoval County, RIO GRANDE Drainage
 Rio Grande, ca. 4.5 mi upstream of Alameda Blvd. bridge crossing (NM State HWY 528), Corrales.
 Site Number: 21 River Mile: 196.5
 UTM Easting: 355670 UTM Northing: 3900620 Zone: 13
 Collector(s): Dudley, R.K.; Urioste, A.D.; Keller, R.C.

RKD23-163
 09 October 2023
 USGS Quad: Alameda
 Effort: 465.1 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	23
76	<i>Cyprinus carpio</i>	3
76	<i>Hybognathus amarus*</i>	78
76	<i>Pimephales promelas</i>	9
76	<i>Platygobio gracilis</i>	16
76	<i>Rhinichthys cataractae</i>	20
81	<i>Carpionodes carpio</i>	1
81	<i>Catostomus commersonii</i>	3
93	<i>Ictalurus punctatus</i>	1
212	<i>Gambusia affinis</i>	32
283	<i>Morone chrysops</i>	1

***Hybognathus amarus (age-classes):**

age-0	78
age-1	
age-2+	

**Rio Grande Silvery Minnow Population Monitoring
 October 2023**

NEW MEXICO: Sandoval County, RIO GRANDE Drainage **RKD23-162**
 Rio Grande, ca. 1.0 mi upstream of Alameda Blvd. bridge crossing (NM State HWY 528), Corrales.
 Site Number: 22 River Mile: 193.0 09 October 2023
 UTM Easting: 351565 UTM Northing: 3897088 Zone: 13 USGS Quad: Los Griegos
 Collector(s): Dudley, R.K.; Urioste, A.D.; Keller, R.C. Effort: 497.6 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	13
76	<i>Cyprinus carpio</i>	4
76	<i>Hybognathus amarus*</i>	23
76	<i>Platygobio gracilis</i>	73
76	<i>Rhinichthys cataractae</i>	1
81	<i>Carpiodes carpio</i>	2
81	<i>Catostomus commersonii</i>	2
212	<i>Gambusia affinis</i>	37

***Hybognathus amarus (age-classes):**
 age-0 22
 age-1 1
 age-2+

NEW MEXICO: Bernalillo County, RIO GRANDE Drainage **RKD23-161**
 Rio Grande, ca. 1.2 mi downstream of Paseo del Norte Blvd. bridge crossing (NM State HWY 423), Albuquerque.
 Site Number: 23 River Mile: 189.9 09 October 2023
 UTM Easting: 349121 UTM Northing: 3893113 Zone: 13 USGS Quad: Los Griegos
 Collector(s): Dudley, R.K.; Urioste, A.D.; Keller, R.C. Effort: 516.4 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	17
76	<i>Cyprinus carpio</i>	6
76	<i>Hybognathus amarus*</i>	16
76	<i>Pimephales promelas</i>	1
76	<i>Platygobio gracilis</i>	9
76	<i>Rhinichthys cataractae</i>	1
81	<i>Catostomus commersonii</i>	3
93	<i>Ictalurus punctatus</i>	5
212	<i>Gambusia affinis</i>	55
294	<i>Lepomis cyanellus</i>	1
294	<i>Micropterus salmoides</i>	1

***Hybognathus amarus (age-classes):**
 age-0 15
 age-1 1
 age-2+

**Rio Grande Silvery Minnow Population Monitoring
 October 2023**

NEW MEXICO: Bernalillo County, RIO GRANDE Drainage
 Rio Grande, ca. 1.1 mi upstream of US Interstate HWY I-40 bridge crossing, Albuquerque.
 Site Number: 24 River Mile: 186.1
 UTM Easting: 346011 UTM Northing: 3887973 Zone: 13
 Collector(s): Dudley, R.K.; Urioste, A.D.; Keller, R.C.

RKD23-160
 09 October 2023
 USGS Quad: Albuquerque West
 Effort: 524.5 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	22
76	<i>Cyprinus carpio</i>	2
76	<i>Hybognathus amarus*</i>	47
76	<i>Pimephales promelas</i>	2
76	<i>Platygobio gracilis</i>	12
81	<i>Carpiodes carpio</i>	3
81	<i>Catostomus commersonii</i>	3
93	<i>Ictalurus punctatus</i>	2
212	<i>Gambusia affinis</i>	108
283	<i>Morone chrysops</i>	1

***Hybognathus amarus (age-classes):**

age-0	44
age-1	3
age-2+	

NEW MEXICO: BERNALILLO County, RIO GRANDE Drainage
 Rio Grande, at Central Ave. bridge crossing (US HWY 66), Albuquerque.
 Site Number: 4 River Mile: 183.4
 UTM Easting: 346719 UTM Northing: 3884331 Zone: 13
 Collector(s): Farrington, M.A.; Clark-Barkalow, S.L.; Chavez, M.J.

RKD23-150
 04 October 2023
 USGS Quad: Albuquerque West
 Effort: 518.2 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	55
76	<i>Cyprinus carpio</i>	2
76	<i>Hybognathus amarus*</i>	15
76	<i>Platygobio gracilis</i>	51
76	<i>Rhinichthys cataractae</i>	1
81	<i>Catostomus commersonii</i>	3
93	<i>Ictalurus punctatus</i>	5
212	<i>Gambusia affinis</i>	105

***Hybognathus amarus (age-classes):**

age-0	14
age-1	1
age-2+	

**Rio Grande Silvery Minnow Population Monitoring
 October 2023**

NEW MEXICO: BERNALILLO County, RIO GRANDE Drainage
 Rio Grande, at Rio Bravo Blvd. bridge crossing (NM State HWY 500), Albuquerque.
 Site Number: 5 River Mile: 178.4
 UTM Easting: 347468 UTM Northing: 3877400 Zone: 13
 Collector(s): Farrington, M.A.; Clark-Barkalow, S.L.; Chavez, M.J.

RKD23-149
 04 October 2023
 USGS Quad: Albuquerque West
 Effort: 503.6 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	23
76	<i>Cyprinus carpio</i>	8
76	<i>Hybognathus amarus*</i>	8
76	<i>Pimephales promelas</i>	24
76	<i>Platygobio gracilis</i>	16
81	<i>Carpiodes carpio</i>	17
81	<i>Catostomus commersonii</i>	1
93	<i>Ictalurus punctatus</i>	2
212	<i>Gambusia affinis</i>	63

***Hybognathus amarus (age-classes):**

age-0	6
age-1	2
age-2+	

NEW MEXICO: Bernalillo County, RIO GRANDE Drainage
 Rio Grande, ca. 1.4 mi upstream of US Interstate HWY I-25 bridge crossing, Isleta.
 Site Number: 25 River Mile: 174.0
 UTM Easting: 345874 UTM Northing: 3870990 Zone: 13
 Collector(s): Dudley, R.K.; Damron, T.D.; Keller, R.C.

RKD23-159
 06 October 2023
 USGS Quad: Isleta
 Effort: 507.6 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	270
76	<i>Cyprinus carpio</i>	3
76	<i>Hybognathus amarus*</i>	3
76	<i>Pimephales promelas</i>	3
76	<i>Platygobio gracilis</i>	6
93	<i>Ictalurus punctatus</i>	9
212	<i>Gambusia affinis</i>	20

***Hybognathus amarus (age-classes):**

age-0	3
age-1	
age-2+	

**Rio Grande Silvery Minnow Population Monitoring
 October 2023**

NEW MEXICO: Valencia County, RIO GRANDE Drainage
 Rio Grande, ca. 4.1 mi upstream of NM State HWY 6 bridge crossing, Los Lunas.
 Site Number: 26 River Mile: 165.2
 UTM Easting: 342799 UTM Northing: 3858637 Zone: 13
 Collector(s): Dudley, R.K.; Damron, T.D.; Keller, R.C.

RKD23-158
 06 October 2023
 USGS Quad: Los Lunas
 Effort: 542.0 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	176
76	<i>Cyprinus carpio</i>	11
76	<i>Hybognathus amarus*</i>	41
76	<i>Pimephales promelas</i>	1
76	<i>Platygobio gracilis</i>	1
93	<i>Ictalurus punctatus</i>	2
212	<i>Gambusia affinis</i>	122

***Hybognathus amarus (age-classes):**

age-0	41
age-1	
age-2+	

NEW MEXICO: VALENCIA County, RIO GRANDE Drainage
 Rio Grande, just upstream of NM State HWY 6 bridge crossing, Los Lunas.
 Site Number: 6 River Mile: 161.7
 UTM Easting: 343149 UTM Northing: 3853187 Zone: 13
 Collector(s): Dudley, R.K.; Damron, T.D.; Keller, R.C.

RKD23-148
 06 October 2023
 USGS Quad: Los Lunas
 Effort: 517.4 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	220
76	<i>Cyprinus carpio</i>	16
76	<i>Hybognathus amarus*</i>	56
76	<i>Pimephales promelas</i>	1
93	<i>Ictalurus punctatus</i>	2
212	<i>Gambusia affinis</i>	6

***Hybognathus amarus (age-classes):**

age-0	56
age-1	
age-2+	

NEW MEXICO: Valencia County, RIO GRANDE Drainage
 Rio Grande, ca. 6.5 mi upstream of NM State HWY 309 bridge crossing, Belen.
 Site Number: 27 River Mile: 156.0
 UTM Easting: 340512 UTM Northing: 3845124 Zone: 13
 Collector(s): Dudley, R.K.; Damron, T.D.; Keller, R.C.

RKD23-157
 06 October 2023
 USGS Quad: Tome
 Effort: sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
	Site Dry	

**Rio Grande Silvery Minnow Population Monitoring
 October 2023**

NEW MEXICO: VALENCIA County, RIO GRANDE Drainage
 Rio Grande, ca. 1.0 mi upstream of NM State HWY 309 bridge crossing, Belen.
 Site Number: 7 River Mile: 150.8
 UTM Easting: 340105 UTM Northing: 3837722 Zone: 13 USGS Quad: Tome
 Collector(s): Dudley, R.K.; Damron, T.D.; Keller, R.C.

RKD23-147

05 October 2023
 Effort: 376.6 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	231
76	<i>Cyprinus carpio</i>	44
76	<i>Hybognathus amarus*</i>	3
76	<i>Pimephales promelas</i>	71
212	<i>Gambusia affinis</i>	299

***Hybognathus amarus (age-classes):**

age-0	3
age-1	
age-2+	

NEW MEXICO: Valencia County, RIO GRANDE Drainage
 Rio Grande, ca. 6.2 mi upstream of NM State HWY 346 bridge crossing, Jarales.
 Site Number: 61 River Mile: 147.0
 UTM Easting: 339379 UTM Northing: 3832429 Zone: 13 USGS Quad: Veguita
 Collector(s): Dudley, R.K.; Damron, T.D.; Keller, R.C.

RKD23-173

05 October 2023
 Effort: 497.6 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	48
76	<i>Cyprinus carpio</i>	66
76	<i>Hybognathus amarus*</i>	87
76	<i>Pimephales promelas</i>	4
81	<i>Carpoides carpio</i>	2
212	<i>Gambusia affinis</i>	127
294	<i>Micropterus salmoides</i>	1

***Hybognathus amarus (age-classes):**

age-0	85
age-1	2
age-2+	

**Rio Grande Silvery Minnow Population Monitoring
 October 2023**

NEW MEXICO: VALENCIA County, RIO GRANDE Drainage
 Rio Grande, ca. 2.2 mi upstream of NM State HWY 346 bridge crossing, Jarales.
 Site Number: 8 River Mile: 143.2
 UTM Easting: 338020 UTM Northing: 3827545 Zone: 13
 Collector(s): Dudley, R.K.; Damron, T.D.; Keller, R.C.

RKD23-146
 05 October 2023
 USGS Quad: Veguita
 Effort: 561.5 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	129
76	<i>Cyprinus carpio</i>	19
76	<i>Hybognathus amarus*</i>	51
76	<i>Pimephales promelas</i>	8
93	<i>Ictalurus punctatus</i>	11
212	<i>Gambusia affinis</i>	206

***Hybognathus amarus (age-classes):**

age-0	31
age-1	20
age-2+	

NEW MEXICO: Valencia County, RIO GRANDE Drainage
 Rio Grande, ca. 0.7 mi downstream of NM State HWY 346 bridge crossing, Jarales.
 Site Number: 62 River Mile: 140.0
 UTM Easting: 337520 UTM Northing: 3822964 Zone: 13
 Collector(s): Dudley, R.K.; Damron, T.D.; Keller, R.C.

RKD23-172
 05 October 2023
 USGS Quad: Veguita
 Effort: 510.8 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	17
76	<i>Cyprinus carpio</i>	4
81	<i>Carpiodes carpio</i>	1
212	<i>Gambusia affinis</i>	167

**Rio Grande Silvery Minnow Population Monitoring
 October 2023**

NEW MEXICO: Socorro County, RIO GRANDE Drainage
 Rio Grande, ca. 3.8 mi downstream of NM State HWY 346 bridge crossing, Jarales.
 Site Number: 28 River Mile: 137.0
 UTM Easting: 335506 UTM Northing: 3819543 Zone: 13
 Collector(s): Dudley, R.K.; Damron, T.D.; Keller, R.C.

RKD23-156
 04 October 2023
 USGS Quad: Veguita
 Effort: 440.7 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
69	<i>Dorosoma cepedianum</i>	1
76	<i>Cyprinella lutrensis</i>	43
76	<i>Cyprinus carpio</i>	34
76	<i>Hybognathus amarus*</i>	68
93	<i>Ictalurus punctatus</i>	1
212	<i>Gambusia affinis</i>	11
294	<i>Micropterus salmoides</i>	2

***Hybognathus amarus (age-classes):**

age-0	44
age-1	24
age-2+	

NEW MEXICO: Socorro County, RIO GRANDE Drainage
 Rio Grande, ca. 3.1 mi upstream of US HWY 60 bridge crossing, Bernardo.
 Site Number: 63 River Mile: 133.7
 UTM Easting: 334853 UTM Northing: 3814593 Zone: 13
 Collector(s): Dudley, R.K.; Damron, T.D.; Keller, R.C.

RKD23-171
 04 October 2023
 USGS Quad: Abeytas
 Effort: 141.2 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
69	<i>Dorosoma cepedianum</i>	11
76	<i>Cyprinella lutrensis</i>	77
76	<i>Cyprinus carpio</i>	513
76	<i>Hybognathus amarus*</i>	110
76	<i>Pimephales promelas</i>	5
81	<i>Carpionodes carpio</i>	1
93	<i>Ameiurus natalis</i>	1
93	<i>Ictalurus punctatus</i>	14
212	<i>Gambusia affinis</i>	36
283	<i>Morone chrysops</i>	2
294	<i>Micropterus salmoides</i>	7

***Hybognathus amarus (age-classes):**

age-0	106
age-1	4
age-2+	

**Rio Grande Silvery Minnow Population Monitoring
 October 2023**

NEW MEXICO: SOCORRO County, RIO GRANDE Drainage
 Rio Grande, at US HWY 60 bridge crossing, Bernardo.
 Site Number: 9 River Mile: 130.6
 UTM Easting: 334578 UTM Northing: 3809921 Zone: 13
 Collector(s): Dudley, R.K.; Damron, T.D.; Keller, R.C.

RKD23-145

04 October 2023
 USGS Quad: Abeytas
 Effort: 474.9 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	287
76	<i>Cyprinus carpio</i>	26
76	<i>Hybognathus amarus*</i>	25
76	<i>Pimephales promelas</i>	8
81	<i>Carpiodes carpio</i>	1
93	<i>Ictalurus punctatus</i>	2
212	<i>Gambusia affinis</i>	134

***Hybognathus amarus (age-classes):**

age-0	25
age-1	
age-2+	

NEW MEXICO: SOCORRO County, RIO GRANDE Drainage
 Rio Grande, ca. 3.7 mi downstream of US HWY 60 bridge crossing, Bernardo.
 Site Number: 10 River Mile: 126.8
 UTM Easting: 330946 UTM Northing: 3805307 Zone: 13
 Collector(s): Dudley, R.K.; Damron, T.D.; Keller, R.C.

RKD23-144

04 October 2023
 USGS Quad: Abeytas
 Effort: 531.9 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	4
76	<i>Cyprinus carpio</i>	3
212	<i>Gambusia affinis</i>	30

**Rio Grande Silvery Minnow Population Monitoring
 October 2023**

NEW MEXICO: Socorro County, RIO GRANDE Drainage
 Rio Grande, ca. 4.7 mi upstream of the Rio Salado confluence, San Acacia.
 Site Number: 64 River Mile: 123.2
 UTM Easting: 329215 UTM Northing: 3799784 Zone: 13
 Collector(s): Dudley, R.K.; Damron, T.D.; Keller, R.C.

RKD23-170
 03 October 2023
 USGS Quad: La Joya
 Effort: 492.5 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	15
76	<i>Cyprinus carpio</i>	27
76	<i>Hybognathus amarus*</i>	4
76	<i>Pimephales promelas</i>	2
93	<i>Ameiurus natalis</i>	1
93	<i>Ictalurus punctatus</i>	25
212	<i>Gambusia affinis</i>	57

***Hybognathus amarus (age-classes):**

age-0	4
age-1	
age-2+	

NEW MEXICO: Socorro County, RIO GRANDE Drainage
 Rio Grande, ca. 1.4 mi upstream of the Rio Salado confluence, San Acacia.
 Site Number: 29 River Mile: 120.0
 UTM Easting: 330550 UTM Northing: 3795050 Zone: 13
 Collector(s): Dudley, R.K.; Damron, T.D.; Keller, R.C.

RKD23-155
 03 October 2023
 USGS Quad: La Joya
 Effort: 472.9 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	23
76	<i>Cyprinus carpio</i>	29
76	<i>Hybognathus amarus*</i>	14
76	<i>Pimephales promelas</i>	5
93	<i>Ictalurus punctatus</i>	16
212	<i>Gambusia affinis</i>	90
294	<i>Micropterus salmoides</i>	3

***Hybognathus amarus (age-classes):**

age-0	13
age-1	1
age-2+	

NEW MEXICO: SOCORRO County, RIO GRANDE Drainage
 Rio Grande, ca. 1.2 mi upstream of San Acacia Diversion Dam, San Acacia.
 Site Number: 11 River Mile: 117.3
 UTM Easting: 328152 UTM Northing: 3792564 Zone: 13
 Collector(s): Farrington, M.A.; Clark-Barkalow, S.L.; Chavez, M.J.

RKD23-143
 05 October 2023
 USGS Quad: La Joya
 Effort: 73.3 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
93	<i>Ictalurus punctatus</i>	1

**Rio Grande Silvery Minnow Population Monitoring
 October 2023**

NEW MEXICO: SOCORRO County, RIO GRANDE Drainage
 Rio Grande, just downstream of San Acacia Diversion Dam, San Acacia.
 Site Number: 12 River Mile: 115.6
 UTM Easting: 325960 UTM Northing: 3792183 Zone: 13
 Collector(s): Farrington, M.A.; Clark-Barkalow, S.L.; Chavez, M.J.

RKD23-142

05 October 2023
 USGS Quad: San Acacia
 Effort: 437.1 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	113
76	<i>Cyprinus carpio</i>	64
76	<i>Hybognathus amarus*</i>	2
76	<i>Platygobio gracilis</i>	24
81	<i>Carpiodes carpio</i>	1
93	<i>Ictalurus punctatus</i>	1
212	<i>Gambusia affinis</i>	5

***Hybognathus amarus (age-classes):**

age-0	2
age-1	
age-2+	

NEW MEXICO: SOCORRO County, RIO GRANDE Drainage
 Rio Grande, ca. 1.5 mi downstream of San Acacia Diversion Dam, San Acacia.
 Site Number: 13 River Mile: 114.1
 UTM Easting: 325390 UTM Northing: 3790397 Zone: 13
 Collector(s): Farrington, M.A.; Clark-Barkalow, S.L.; Chavez, M.J.

RKD23-141

05 October 2023
 USGS Quad: Lemitar
 Effort: 462.8 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	19
76	<i>Cyprinus carpio</i>	11
76	<i>Hybognathus amarus*</i>	9
76	<i>Pimephales promelas</i>	1
76	<i>Platygobio gracilis</i>	6
76	<i>Rhinichthys cataractae</i>	1
93	<i>Ictalurus punctatus</i>	9
212	<i>Gambusia affinis</i>	15

***Hybognathus amarus (age-classes):**

age-0	9
age-1	
age-2+	

**Rio Grande Silvery Minnow Population Monitoring
 October 2023**

NEW MEXICO: Socorro County, RIO GRANDE Drainage
 Rio Grande, ca. 5.4 mi downstream of San Acacia Diversion Dam, San Acacia.
 Site Number: 65 River Mile: 110.3
 UTM Easting: 326105 UTM Northing: 3785502 Zone: 13
 Collector(s): Dudley, R.K.; Damron, T.D.; Keller, R.C.

RKD23-169
 03 October 2023
 USGS Quad: Lemitar
 Effort: 537.4 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	26
76	<i>Cyprinus carpio</i>	9
76	<i>Hybognathus amarus*</i>	48
76	<i>Platygobio gracilis</i>	1
93	<i>Ictalurus punctatus</i>	29
212	<i>Gambusia affinis</i>	43

***Hybognathus amarus (age-classes):**

age-0	48
age-1	
age-2+	

NEW MEXICO: Socorro County, RIO GRANDE Drainage
 Rio Grande, ca. 2.1 mi upstream of Pueblitos Rd. bridge crossing, Lemitar.
 Site Number: 30 River Mile: 106.3
 UTM Easting: 326666 UTM Northing: 3780246 Zone: 13
 Collector(s): Dudley, R.K.; Damron, T.D.; Keller, R.C.

RKD23-154
 03 October 2023
 USGS Quad: Lemitar
 Effort: 496.8 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	31
76	<i>Cyprinus carpio</i>	11
76	<i>Hybognathus amarus*</i>	25
76	<i>Platygobio gracilis</i>	3
93	<i>Ictalurus punctatus</i>	24
212	<i>Gambusia affinis</i>	51

***Hybognathus amarus (age-classes):**

age-0	25
age-1	
age-2+	

**Rio Grande Silvery Minnow Population Monitoring
 October 2023**

NEW MEXICO: SOCORRO County, RIO GRANDE Drainage **RKD23-140**
 Rio Grande, ca. 0.5 mi upstream of Socorro Low Flow Conveyance Channel bridge crossing, Socorro.
 Site Number: 14 River Mile: 99.6 05 October 2023
 UTM Easting: 327231 UTM Northing: 3771432 Zone: 13 USGS Quad: Loma de las Canas
 Collector(s): Farrington, M.A.; Clark-Barkalow, S.L.; Chavez, M.J. Effort: 480.5 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	48
76	<i>Cyprinus carpio</i>	11
76	<i>Hybognathus amarus*</i>	65
76	<i>Pimephales promelas</i>	2
76	<i>Platygobio gracilis</i>	24
81	<i>Carpiodes carpio</i>	1
93	<i>Ictalurus punctatus</i>	21
93	<i>Pylodictis olivaris</i>	1
212	<i>Gambusia affinis</i>	13

***Hybognathus amarus (age-classes):**

age-0	64
age-1	1
age-2+	

NEW MEXICO: Socorro County, RIO GRANDE Drainage **RKD23-168**
 Rio Grande, ca. 3.8 mi downstream of Socorro Low Flow Conveyance Channel bridge crossing, Socorro.
 Site Number: 66 River Mile: 95.1 02 October 2023
 UTM Easting: 327905 UTM Northing: 3765463 Zone: 13 USGS Quad: Loma de las Canas
 Collector(s): Dudley, R.K.; Damron, T.D.; Keller, R.C. Effort: 562.0 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	145
76	<i>Cyprinus carpio</i>	37
76	<i>Hybognathus amarus*</i>	16
76	<i>Pimephales promelas</i>	1
76	<i>Platygobio gracilis</i>	4
81	<i>Carpiodes carpio</i>	26
93	<i>Ictalurus punctatus</i>	60
212	<i>Gambusia affinis</i>	67

***Hybognathus amarus (age-classes):**

age-0	16
age-1	
age-2+	

**Rio Grande Silvery Minnow Population Monitoring
October 2023**

NEW MEXICO: SOCORRO County, RIO GRANDE Drainage
Rio Grande, ca. 4.5 mi upstream of US HWY 380 bridge crossing, San Antonio.
Site Number: 15 River Mile: 92.0
UTM Easting: 328151 UTM Northing: 3761487 Zone: 13
Collector(s): Farrington, M.A.; Clark-Barkalow, S.L.; Chavez, M.J.

RKD23-139

05 October 2023
USGS Quad: San Antonio
Effort: 516.1 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	1
76	<i>Cyprinus carpio</i>	1
93	<i>Ictalurus punctatus</i>	4
212	<i>Gambusia affinis</i>	32

NEW MEXICO: SOCORRO County, RIO GRANDE Drainage
Rio Grande, at US HWY 380 bridge crossing, San Antonio.
Site Number: 16 River Mile: 87.8
UTM Easting: 328907 UTM Northing: 3754926 Zone: 13
Collector(s): Farrington, M.A.; Clark-Barkalow, S.L.; Chavez, M.J.

RKD23-138

03 October 2023
USGS Quad: San Antonio
Effort: 62.8 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
212	<i>Gambusia affinis</i>	5

NEW MEXICO: Socorro County, RIO GRANDE Drainage
Rio Grande, ca. 4.3 mi downstream of San Antonio bridge crossing, San Antonio.
Site Number: 67 River Mile: 83.3
UTM Easting: 329319 UTM Northing: 3747431 Zone: 13
Collector(s): Dudley, R.K.; Damron, T.D.; Keller, R.C.

RKD23-167

02 October 2023
USGS Quad: San Antonio SE
Effort: sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
	Site Dry	

**Rio Grande Silvery Minnow Population Monitoring
 October 2023**

NEW MEXICO: SOCORRO County, RIO GRANDE Drainage
 Rio Grande, east of Bosque del Apache NWR headquarters, San Antonio.
 Site Number: 17 River Mile: 79.0
 UTM Easting: 327219 UTM Northing: 3740906 Zone: 13
 Collector(s): Farrington, M.A.; Clark-Barkalow, S.L.; Chavez, M.J.

RKD23-137

03 October 2023
 USGS Quad: San Antonio SE
 Effort: 17.7 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	4
76	<i>Hybognathus amarus*</i>	1
81	<i>Carpodes carpio</i>	1
93	<i>Ameiurus natalis</i>	1
93	<i>Ictalurus punctatus</i>	1
212	<i>Gambusia affinis</i>	113

***Hybognathus amarus (age-classes):**

age-0	1
age-1	
age-2+	

NEW MEXICO: Socorro County, RIO GRANDE Drainage
 Rio Grande, ca. 5.3 mi upstream of San Marcial Railroad bridge crossing, San Marcial.
 Site Number: 68 River Mile: 73.7
 UTM Easting: 322751 UTM Northing: 3732864 Zone: 13
 Collector(s): Dudley, R.K.; Damron, T.D.; Keller, R.C.

RKD23-166

02 October 2023
 USGS Quad: San Marcial
 Effort: sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
	Site Dry	

NEW MEXICO: SOCORRO County, RIO GRANDE Drainage
 Rio Grande, at San Marcial Railroad bridge crossing, San Marcial.
 Site Number: 18 River Mile: 68.3
 UTM Easting: 315091 UTM Northing: 3728487 Zone: 13
 Collector(s): Farrington, M.A.; Clark-Barkalow, S.L.; Chavez, M.J.

RKD23-136

03 October 2023
 USGS Quad: San Marcial
 Effort: 43.7 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
93	<i>Ictalurus furcatus</i>	3
93	<i>Ictalurus punctatus</i>	4
212	<i>Gambusia affinis</i>	5

Rio Grande Silvery Minnow Population Monitoring October 2023

NEW MEXICO: Socorro County, RIO GRANDE Drainage **RKD23-165**
Rio Grande, ca. 4.4 mi downstream of San Marcial Railroad bridge crossing, San Marcial.
Site Number: 69 River Mile: 63.9 02 October 2023
UTM Easting: 313940 UTM Northing: 3722027 Zone: 13 USGS Quad: Paraje Well
Collector(s): Dudley, R.K.; Damron, T.D.; Keller, R.C. Effort: 41.8 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	12
76	<i>Cyprinus carpio</i>	2
212	<i>Gambusia affinis</i>	2,228

NEW MEXICO: SOCORRO County, RIO GRANDE Drainage **RKD23-135**
Rio Grande, ca. 8.0 mi downstream of San Marcial Railroad bridge crossing, San Marcial.
Site Number: 19 River Mile: 60.1 03 October 2023
UTM Easting: 309441 UTM Northing: 3718309 Zone: 13 USGS Quad: Paraje Well
Collector(s): Farrington, M.A.; Clark-Barkalow, S.L.; Chavez, M.J. Effort: 327.1 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	30
76	<i>Cyprinus carpio</i>	37
93	<i>Ictalurus punctatus</i>	6
212	<i>Gambusia affinis</i>	259

NEW MEXICO: SOCORRO County, RIO GRANDE Drainage **RKD23-134**
Rio Grande, ca. 10.0 mi downstream of San Marcial Railroad bridge crossing, San Marcial.
Site Number: 20 River Mile: 58.5 03 October 2023
UTM Easting: 307767 UTM Northing: 3716360 Zone: 13 USGS Quad: Paraje Well
Collector(s): Farrington, M.A.; Clark-Barkalow, S.L.; Chavez, M.J. Effort: 267.6 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
76	<i>Cyprinella lutrensis</i>	47
76	<i>Cyprinus carpio</i>	39
76	<i>Pimephales vigilax</i>	3
212	<i>Gambusia affinis</i>	208

Rio Grande Silvery Minnow Population Monitoring October 2023

NEW MEXICO: Socorro County, RIO GRANDE Drainage

RKD23-164

Rio Grande, ca. 12.9 mi downstream of San Marcial Railroad bridge crossing, San Marcial.

Site Number: 70

River Mile: 55.5

02 October 2023

UTM Easting: 305502

UTM Northing: 3711951

Zone: 13

USGS Quad: Paraje Well

Collector(s): Dudley, R.K.; Damron, T.D.; Keller, R.C.

Effort: 517.2 sq. m

<u>Family</u>	<u>Species</u>	<u>Total</u>
69	<i>Dorosoma cepedianum</i>	6
76	<i>Cyprinella lutrensis</i>	113
76	<i>Cyprinus carpio</i>	30
76	<i>Pimephales vigilax</i>	1
93	<i>Ictalurus furcatus</i>	4
93	<i>Ictalurus punctatus</i>	2
212	<i>Gambusia affinis</i>	490