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United States Department of the Interior

FISH AND WILDLIFE SERVICE

Albuquerque, New Mexico
87113
Phone: 505/346-2538 ext.

To: New Mexico Ecological Field Office, U.S. Bureau of Reclamation, and U.S. Army Corps Engineers

From: Jude R. Smith and Julie A. Jackson

Date: 5 January 2000

RE: preliminary 1999 Rio Grande collections Rio Grande silvery minnow only

The following is a preliminary summary of fish collections in the main stem Rio Grande from Coronado State Park just north of NM highway 44 to the San Marcial Railroad crossing. The bulk of data was collected in the Angostura Reach and the Socorro Reach. The Isleta Reach was sampled at one site starting in April 1999 and more intense sampling began in this reach starting in October 1999.

The following is a brief description of the sampling sites and sampling intervals:

Angostura Reach

Sampling in this reach was conducted on a monthly basis by the New Mexico Fishery Resources Office (NMFRO) at seven sites starting in January 1999. This project is funded by the NMFRO, and the project length is indefinite at this time. The seven sites included Coronado State Park, Corrales Siphon, Alameda bridge, Paseo del Norte bridge, Central bridge at the MRGCD return, Bridge blvd. crossing, and Rio Bravo bridge crossing. These sites were sampled on a rotation so that only three to four sites were sampled each month. Sampling was not conducted in May and was limited in June due to very high flows.

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Starting in October 1999, NMFRO began a more intensive study of this reach under contract with the City of Albuquerque as mitigation for a municipal water use project. This study was designed to intensely sample the Rio Grande between NM highway 44 and Rio Bravo bridge crossing. With this study the Rio Grande is floated from NM 44 to Rio Bravo bridge crossing and sampled at points normally inaccessible by vehicle. This study will give a better understanding of the population of Rio Grande silvery minnow in this reach. This project is slated to go through March 2000 with a total of four monthly float trips, consisting 4 days of sampling per trip.

Isleta Reach

Starting in April 1999, the NMFRO began sampling at US highway 60 every 4 to 6 weeks under contract with the U.S. Bureau of Reclamation. In October of 1999, three more sites were added to this reach at Los Lunas bridge, Belen bridge, and Jarales bridge under contract with the City of Albuquerque as mitigation for a municipal water use project. These sites will be sampled monthly through March 2000.

San Acacia Reach

Starting in April 1999, the NMFRO began sampling at Lemitar (RM 108) and at Socorro (RM 100) every 4 to 6 weeks under contract with U.S. Bureau of Reclamation. In June 1999, seven sites were picked up (Brown's Arroyo (RM 94), RM 90, US highway 380 (RM 87), North Boundary of Bosque del Apache (RM 84), Mid Bosque del Apache (RM 82), Tiffany Junction (RM 72), and San Marcial RRXG (RM 69)) under contract with the U.S. Army Corps of Engineers. This sampling is a product of two separate studies by contracting agencies. This sampling is on going at this point.

Methods

All fish were collected using a 3m X 1m X 6mm seine. At three sites in the Angostura Reach during March, fish were collected using a Smith-Root Type VII backpack electrofisher. Qualitative habitat measurements (ie. pool, run, debris), substrate, and the length of each haul were recorded. Between April and August, all fish were identified and enumerated in the field and released back to the river. Fish were preserved in the case of large collections of small fish and for voucher specimens. Starting in September 1999, all fish collected were preserved for voucher specimens. Fish were preserved in the field with a 10% formalin solution and later placed into 70% ETOH alcohol solution. Preserved fish are identified and enumerated in the lab and will be placed into the permanent collection at the University of New Mexico Museum of Southwestern Biology.

Fish Collections by Reach (the following data is preliminary):

Angostura Reach

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Site	Date	Total # of Rio Grande Silvery Minnow		Catch per Unit Effort M ²	
		Adult	Young-of-Year	Adult	Young-of-Year
Coronado State Park	20 Jan. 1999	0	0	0	0
	30 Mar. 1999	2	0	0.10*	0
	1 Sept. 1999	0	0	0	0
	29 Nov. 1999	0	0	0	0

*electrofishing effort in fish/min

Angostura Reach continued.

Site	Date	Total # of Rio Grande Silvery Minnow		Catch per Unit Effort M ²	
		Adult	Young-of-Year	Adult	Young-of-Year
Corrales Siphon	22 Feb. 1999	0	0	0	0
	29 April 1999	0	0	0	0
	15 July 1999	0	1	0	0.006
	20 Oct. 1999	2	0	0.013	0
	28 Dec. 1999	0	0	0	0

Site	Date	Total # of Rio Grande Silvery Minnow		Catch per Unit Effort M ²	
		Adult	Young-of-Year	Adult	Young-of-Year
Alameda Bridge	20 Jan. 1999	0	0	0	0
	30 Mar. 1999	12	0	0.10*	0
	1 June 1999	0	0	0	0
	1 Sept. 1999	0	0	0	0
	29 Nov. 1999	0	0	0	0

*electrofishing effort in fish/min

Site	Date	Total # of Rio Grande Silvery Minnow		Catch per Unit Effort M ²	
		Adult	Young-of-Year	Adult	Young-of-Year
Paseo del	25 Feb. 1999	0	0	0	0

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Norte Bridge	29 April 1999	0	0	0	0
	15 July 1999	0	0	0	0
	20 Oct. 1999	1	0	0.004	0
	28 Dec. 1999	0	0	0	0

Site	Date	Total # of Rio Grande Silvery Minnow		Catch per Unit Effort M ²	
		Adult	Young-of-Year	Adult	Young-of-Year
Central Bridge (MRGCD return)	20 Jan. 1999	0	0	0	0
	30 Mar. 1999	1	0	0.043*	0
	1 June 1999	0	0	0	0
	1 Sept. 1999	0	0	0	0
	29 Nov. 1999	0	0	0	0

*electrofishing effort in fish/min

Angostura Reach continued.

Site	Date	Total # of Rio Grande Silvery Minnow		Catch per Unit Effort M ²	
		Adult	Young-of-Year	Adult	Young-of-Year
Bridge Blvd.	22 Feb. 1999	0	0	0	0
	29 April 1999	0	0	0	0
	15 July 1999	0	0	0	0
	20 Oct. 1999	0	0	0	0
	28 Dec. 1999	0	0	0	0

Site	Date	Total # of Rio Grande Silvery Minnow		Catch per Unit Effort M ²	
		Adult	Young-of-Year	Adult	Young-of-Year
Rio Bravo Bridge	20 Jan. 1999	0	0	0	0
	29 April 1999	0	0	0	0
	15 July 1999	0	2	0	0.012
	20 Sept. 1999	0	0	0	0
	29 Nov. 1999	0	0	0	0

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Reach	Date	Total # of Rio Grande Silvery Minnow
Central Bridge to Rio Bravo Bridge	27 Oct. 1999	1

Reach	Date	Total # of Rio Grande Silvery Minnow
Corrals Siphon to Paseo del Norte	30 Nov. 1999	8

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Isleta Reach

Site	Date	Total # of Rio Grande Silvery Minnow
Los Lunas Bridge	28 Oct. 1999	2

Site	Date	Total # of Rio Grande Silvery Minnow
Los Lunas Bridge	3 Dec. 1999	4
Jarales Bridge	3 Dec. 1999	1

Site	Date	Total # of Rio Grande Silvery Minnow		Catch per Unit Effort M ²	
		Adult	Young-of-Year	Adult	Young-of-Year
US 60 XG	4 April 1999	0	0	0	0
	6 June 1999	0	0	0	0
	13 July 1999	0	2	0	0.007
	1 Sept. 1999	0	1	0	0.003
	30 Sept. 1999	0	0	0	0

San Acacia Reach

Site	Date	Total # of Rio Grande Silvery Minnow		Catch per Unit Effort M ²	
		Adult	Young-of-Year	Adult	Young-of-Year
Lemitar	4 April 1999	2	0	0.012	0
	13 July 1999	1	240	1.12	0.005
	1 Sept. 1999	1	17	0.003	0.05
	30 Sept. 1999	1	0	0.003	0

Site	Date	Total # of Rio Grande Silvery Minnow		Catch per Unit Effort M ²	
		Adult	Young-of-Year	Adult	Young-of-Year
Socorro Park	4 April 1999	142	0	0.763	0
	2 June 1999	28	0	0.179	0

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	13 July 1999	2	111	0.008	0.44
	1 Sept. 1999	2	144	0.009	0.71
	30 Sept. 1999	1	16	0.002	0.04

San Acacia Reach continued.

Site	Date	Total # of Rio Grande Silvery Minnow		Catch per Unit Effort M ²	
		Adult	Young-of-Year	Adult	Young-of-Year
Brown's Arroyo	16 June 1999	0	0	0	0
	8 July 1999	1	152	0.5758	0.0038
	28 July 1999	3	57	0.01	0.55
	8 Sept. 1999	0	91	0	0.248
	30 Sept. 1999	3	4	0.007	0.01

Site	Date	Total # of Rio Grande Silvery Minnow		Catch per Unit Effort M ²	
		Adult	Young-of-Year	Adult	Young-of-Year
RM 90	16 June 1999	0	17	0	0.05
	8 July 1999	0	166	0	0.55
	28 July 1999	3	136	0.01	0.55
	17 Aug. 1999	0	26	0	0.12
	8 Sept. 1999	0	63	0	0.134
	30 Sept. 1999	2	11	0.005	0.03

Site	Date	Total # of Rio Grande Silvery Minnow		Catch per Unit Effort M ²	
		Adult	Young-of-Year	Adult	Young-of-Year
US 380 XG	16 June 1999	0	0	0	0
	8 July 1999	0	372	0	1.15
	28 July 1999	1	17	0.004	0.06
	8 Sept. 1999	3	28	0.006	0.06
	30 Sept. 1999	0	1	0	0.003

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San Acacia Reach continued.

Site	Date	Total # of Rio Grande Silvery Minnow		Catch per Unit Effort M ²	
		Adult	Young-of-Year	Adult	Young-of-Year
North Boundary of Bosque del Apache	16 June 1999	0	3	0	0.15
	8 July 1999	0	154	0	0.55
	28 July 1999	1	244	0.002	0.64
	8 Sept. 1999	0	25	0	0.07
	30 Sept. 1999	2	42	0.005	0.12

Site	Date	Total # of Rio Grande Silvery Minnow		Catch per Unit Effort M ²	
		Adult	Young-of-Year	Adult	Young-of-Year
Bosque del Apache	16 June 1999	0	449	0	1.12
	8 July 1999	0	1549	0	5.4
	28 July 1999	0	769	0	1.94
	17 Aug. 1999	0	129	0	0.67
	8 Sept. 1999	5	213	0.0172	0.73
	30 Sept. 1999	1	36	0.002	0.08

Site	Date	Total # of Rio Grande Silvery Minnow		Catch per Unit Effort M ²	
		Adult	Young-of-Year	Adult	Young-of-Year
Tiffany Junction	16 June 1999	0	923	0	2.96
	8 July 1999	0	883	0	2.8
	28 July 1999	1	72	0.0026	0.18
	17 Aug. 1999	0	71	0	0.34
	8 Sept. 1999	0	20	0	0.08
	30 Sept. 1999	0	33	0	0.1

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San Acacia Reach continued.

Site	Date	Total # of Rio Grande Silvery Minnow		Catch per Unit Effort M ²	
		Adult	Young-of-Year	Adult	Young-of-Year
San Marcial RRXG	16 June 1999	0	582	0	2.1
	8 July 1999	0	282	0	0.95
	28 July 1999	0	936	0	2.94
	17 Aug. 1999	0	0	0	0
	8 Sept. 1999	2	136	0.008	0.58
	30 Sept. 1999	0	58	0	0.19