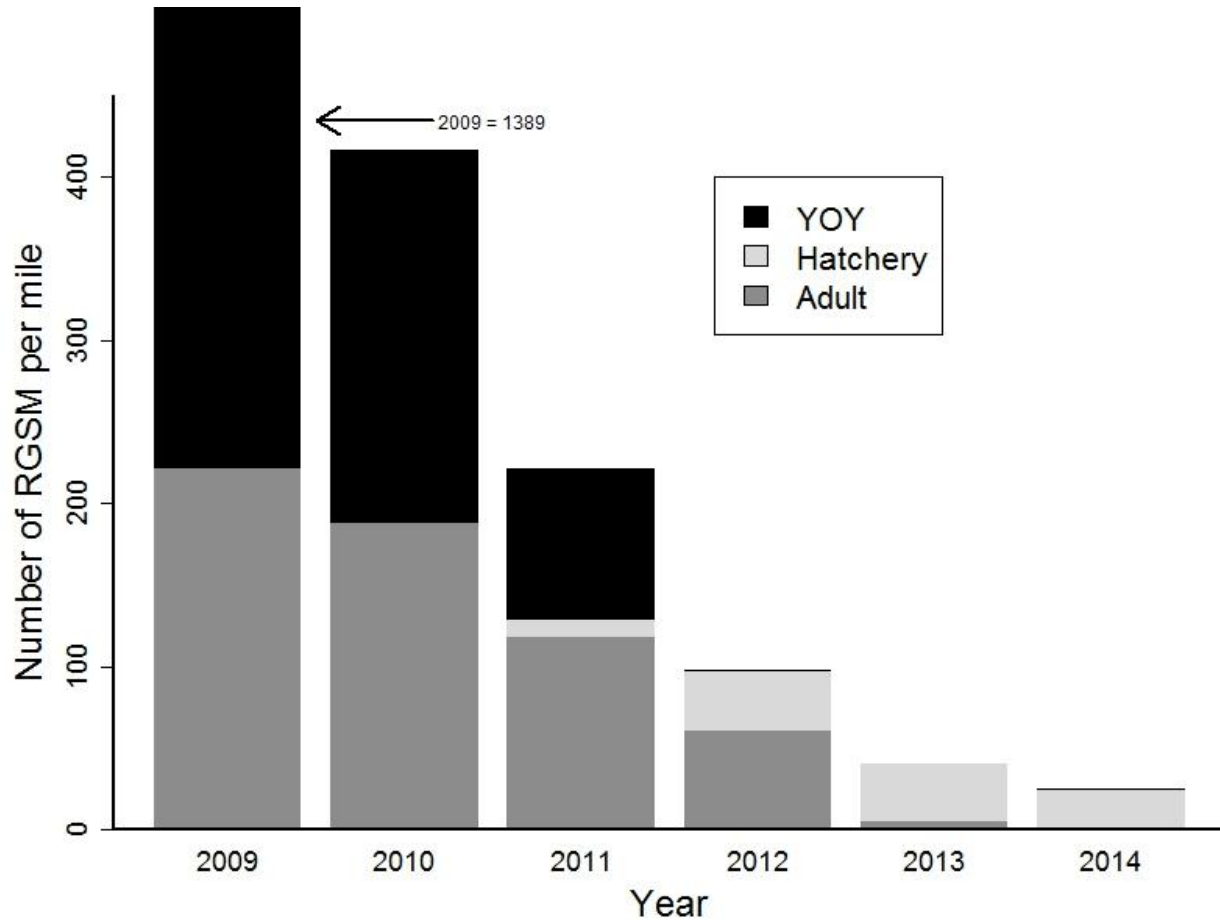


Rio Grande Silvery Minnow Salvage and Rescue 2014 Annual Report



Prepared For:
Middle Rio Grande Endangered Species Collaborative Program

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Albuquerque, NM 87102-2352
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Thomas P. Archdeacon, Kjetil R. Henderson, Rebecca L. Cook, and Tristan J. Austrung
U.S. Fish and Wildlife Service
New Mexico Fish and Wildlife Conservation Office
3800 Commons Avenue NE
Albuquerque, NM 87109
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Executive Summary

Rio Grande Silvery Minnow (RGSM) are often trapped in isolated pools during times of river drying from June to October each year. Salvage of RGSM is performed by staff from the New Mexico Fish and Wildlife Conservation Office with assistance and coordination from several other agencies. Rio Grande Silvery Minnow are collected from isolated pools each day drying occurs and transported on UTVs equipped with water tanks supplied and aerated with pure oxygen. Rescued RGSM are then transported and released into areas with continuous flow. Any RGSM found dead are classified as either incidental take if found during first drying, or attributed to U.S. Fish and Wildlife Service permit if found during secondary drying events.

Between 20 June and 27 September 2014, 26.3 unique miles of the main channel of the Middle Rio Grande (MRG) became intermittent, with 3.2 miles in the Isleta reach, and 23.1 miles in the San Acacia reach. We observed 630 RGSM in isolated pools during this time period. Of these, 559 were found alive and transported to a location within the same reach with flowing water. We found 71 dead RGSM. Seventy of the 71 dead RGSM were associated with first river drying and we attributed them as incidental take to water operations in the MRG during the 2014 irrigation season (under the 2003 Biological and Conference Opinions on the effects of the Bureau of Reclamation's Water and River Maintenance Operations, Army Corps of Engineers Flood Control Operation, and related Non-Federal Actions on the Middle Rio Grande). The other RGSM found dead was assigned to the USFWS take permit. The level of approved incidental take (259 observed take multiplied by 50) was 12,952 RGSM for 2014.

Introduction

Since 2001, with the exception of 2008, sections of the Middle Rio Grande (MRG) have become intermittent due to water operations (Smith 2001; Smith and Munoz 2002; Smith and Basham 2003; U.S. Fish and Wildlife Service 2005; U. S. Fish and Wildlife Service 2006b; Remshardt 2008; Remshardt 2010; Remshardt and Archdeacon 2011; Remshardt and Archdeacon 2012; Archdeacon and Remshardt 2013; Archdeacon et al. 2014). In recent years, intermittent summer stream flow conditions existed in significant portions (up to 68 miles) of the Rio Grande Silvery Minnow (RGSM) contemporary range. These areas of intermittent flow are located in the Isleta and San Acacia reaches (Figure 1).

The March 17, 2003, Biological Opinion (BiOp) describe a Reasonable and Prudent Alternative with multiple elements, Reasonable and Prudent Measures, and Conservation Measures that serve in part to secure adequate conditions for RGSM and Southwestern Willow Flycatcher (U.S. Fish and Wildlife Service 2003). As part of the BiOp, the U.S. Fish and Wildlife Service established annual incidental take by mortality limits for RGSM. These limits are established for RGSM over 30 mm standard length (SL) for water operations in the MRG. The limit is amended annually, incorporating a formula that includes October standard population monitoring data (from the previous autumn), habitat conditions during the spawn (spring runoff), and hatchery augmentation numbers from the previous autumn. Action agencies are notified of the annual incidental take limit by April 1 each year. Estimates of incidental take in the field are derived from surveys where observed mortality is multiplied by 50, based on the assumption that the probability of observing a single mortality is 0.02. U.S. Fish and Wildlife Service biologists estimated this value.

The amended incidental take limit for the 2014 season was 12,952 RGSM, which is equivalent to 259 RGSM observed dead (U.S. Fish and Wildlife Service 2014). Each year stream flow intermittency occurred since the 2003 BiOp, salvage and rescue activities have been conducted under a variety of protocols and management actions in an attempt to limit the incidental take by mortality of RGSM due to water operation. Here, we document our efforts to rescue RGSM during periods of stream flow intermittency in 2014.

Methods

Salvage of RGSM

Through coordination with other agencies, we determine what, if any, sections of the MRG were intermittent each day that had not been previously salvaged. We used off-road utility vehicles to access intermittent sections of the river. Once we arrived at areas reduced to isolated pools, we used seines of various sizes to collect RGSM from isolated pools that formed as flow in the MRG became intermittent. We did not salvage RGSM that exhibited advanced clinical signs of poor health (e.g., lethargy and hemorrhagic lesions). Prior to handling RGSM, personnel washed their hands to remove the residue of lotions (e.g., suntan lotions and mosquito repellent).

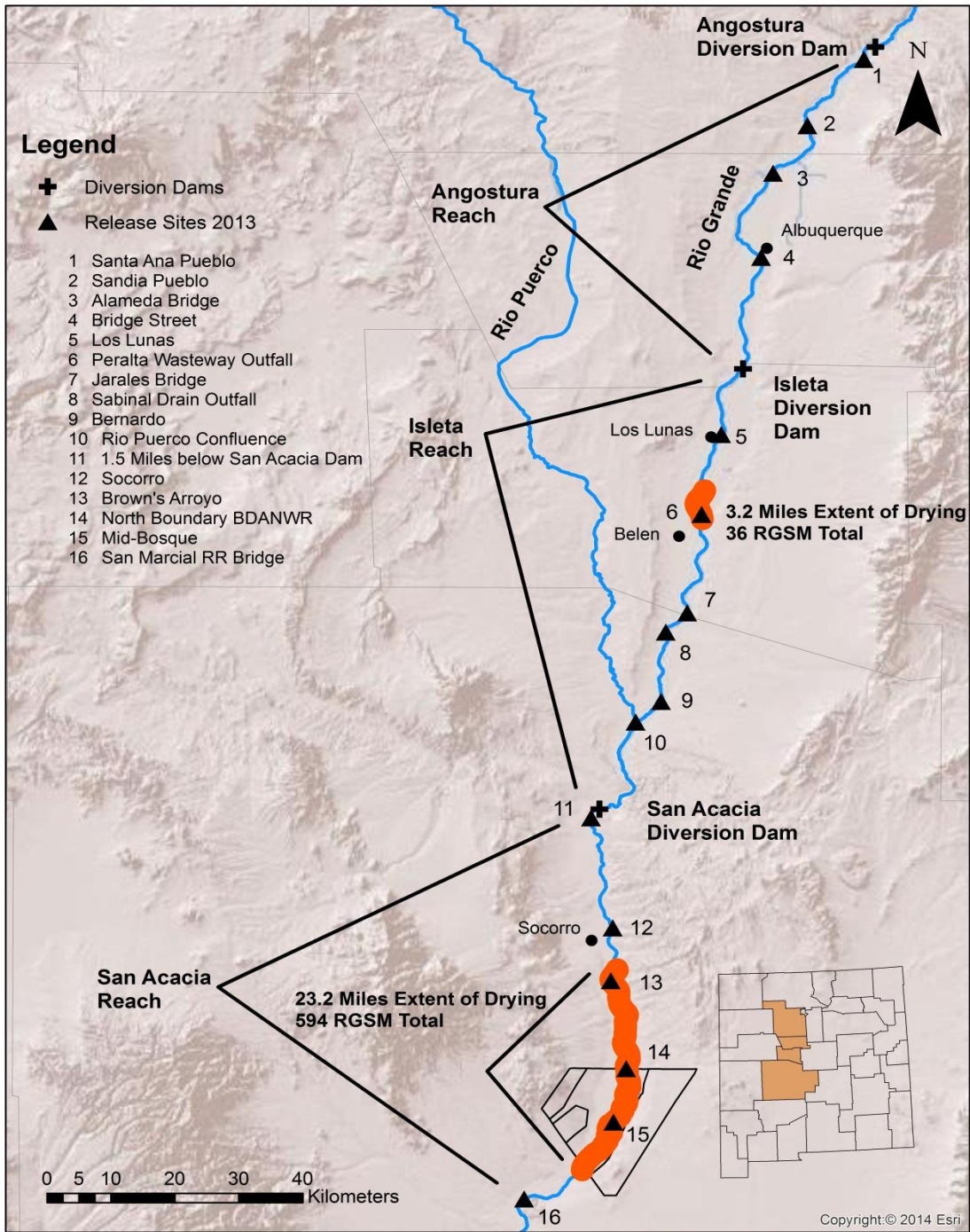


Figure 1-Map of the Middle Rio Grande and areas that dried between June and November 2014. Rio Grande Silvery Minnow were released in November 2013 at the black circles as part of the augmentation program.

In previous years, once a location was identified as a potential salvage site, we applied a set of criteria to determine whether salvage should occur, including dissolved oxygen 1.0 ppm, pH < 9.0, and temperature < 34 °C (Archdeacon et al. 2014). During salvage operations in 2014, we abandoned these criteria and seined all pools that potentially had RGSM. Over past salvage seasons, only the temperature criterion was regularly exceeded; this could be avoided by ending salvage operations at approximately 1400 h daily (Archdeacon et al. 2014), depending on current weather conditions. Thus, to improve efficiency, we no longer recorded any data from pools except temperature, time of day, and location (river mile to nearest 0.1 mile).

We counted all RGSM captured in an individual pool, categorized them as young of year (YOY) < 30 mm standard length (SL), YOY > 30 mm SL, or adult based on size (adults are generally > 55 mm SL by June), and recorded any visible implant elastomer (VIE) tags, which indicates a hatchery-reared fish. We categorized each RGSM as alive (rescued), sick (not rescued and attributed to the U.S. Fish and Wildlife Service permit), or dead (either counted as incidental take during first drying, or on the U.S. Fish and Wildlife Service permit if found during subsequent drying events).

At each pool, we noted the time of day, pool temperature, and river mile to the nearest tenth. When fish were salvaged, we also recorded hatchery-reared fish based on the color and location of VIE tags; pink right dorsal fish were released in November 2013, pink left dorsal fish were released in the Isleta reach in November 2012 and yellow left dorsal fish were released in San Acacia reach in November 2012 (Archdeacon and Remshardt 2013). Any RGSM found dead were fixed in 10% formalin and later transferred to 70% ethanol.

We made efforts to ensure that all RGSM salvaged had the highest probability of survival. We moved salvaged RGSM immediately into five-gallon buckets filled with transport tank water and subsequently transferred them to 50-gallon transport tanks attached to utility terrain vehicles. The transport tanks were equipped with oxygen tanks and filled with water to near capacity (~50 gal) with water from reverse osmosis de-ionized water from a municipal source when possible, or with water from flowing sections of river prior to salvage operations. We supplied pure oxygen to transport tanks through micro-bubble oxygen diffusers, and adjusted the rate with varying water temperatures and loading rates of fish to maintain dissolved oxygen levels near 100% saturation. We added salt (NaCl) to transport tanks at 1.0 % NaCl solution.

We transported and released RGSM in the nearest section of river that would not experience drying, and was within the same reach as captured. Prior to releasing RGSM into the river, we tempered water in the transport tanks by slowly adding river water to the transport tanks until it was within 1° C of the water temperature of the river at the release site.

Determination of Incidental Take

Incidental take of post-embryonic RGSM is defined for two size classes, those shorter ≤ 30 mm SL and those >30 mm SL. All smaller sized post embryonic RGSM (≤ 30 mm SL) are presumed to be taken as a result of federal water operations when the river dries downstream of Isleta Diversion (U. S. Fish and Wildlife Service 2003), but no limit on the amount of incidental take is calculated for RGSM ≤ 30 mm SL is calculated.

Determination of incidental take for the larger size class of RGSM (> 30 mm SL) is conditional. Mortality of the larger sized RGSM that occur in portions of the river that have rewet due to forces that are not directly or indirectly related to the operations of the Action Agencies are not considered to be incidental take under the March 17, 2003 BiOp (U.S. Fish and Wildlife Service 2003). In contrast, RGSM mortalities associated with re-wetting and subsequent re-drying events that were directly or indirectly related to the operations of the Action Agencies are regarded as incidental take. Rio Grande Silvery Minnow mortality involving the larger sized individuals that occurred outside of the active river channel was generally not considered incidental take under the March 17, 2003 BiOp (U. S. Fish and Wildlife Service 2003). The exception to this generalization involves areas outside of the active channel that are wetted as a consequence of federal water pumping operations (i.e., water pumped from the low flow conveyance channel in an effort to maintain specified flows in the river) or river maintenance activities. Finally, the larger sized RGSM that are “rescued” but die in transit to relocation sites are not considered incidental take under the 2003 BiOp, but are attributed to U.S. Fish and Wildlife Service permitted activities during salvage operations. Likewise, RGSM that exhibited advanced clinical signs of poor health (e.g., lethargy and hemorrhagic lesions) are deemed not salvageable and also are not considered incidental take.

Analysis of Data

We calculated reach and overall totals for all categories of RGSM encountered during salvage activities. We also summarized the temporal and spatial extent of each drying period, number of days and number of pools salvaged. For daily data, we totaled the RGSM observed each day of salvage, number of pools salvaged, number of river miles salvaged, and the amount of time required to salvage that distance. We used raw count data, and negative binomial models relating RGSM catch to reach, date, and number of pools salvaged (Crawley 2007; O’Hara and Kotze 2010). A chronological summary of all collections appears in Appendix A.

Results

Rescue and Incidental Take of RGSM

We found 530 live adult RGSM and 29 live young of year within the river channel in 2014 (Table 1). Of these, we released 543 alive in continuous segments of the river within the same reach (97.1% transport survival of salvaged RGSM). Seventy RGSM were found dead due to water operations after June 15th and counted as incidental take. No incidental take was recorded in the Isleta Reach. We found one dead fish during subsequent drying events; this was counted towards the U.S. Fish and Wildlife Service permit. We counted an additional 14 RGSM that died during transport towards the USFWS permit.

Channel Drying

Rio Grande Silvery Minnow salvage operations progressed in synchrony with river recession over the course of the 2014 irrigation season. Ultimately, the linear extent of drying was 26.4 miles of the main channel, with 23.1 unique miles being in the San Acacia Reach and 3.3 unique miles in the Isleta reach (Table 2). The daily extent of drying in salvage operations per day was at or below the 8.0 miles of drying per day rate allowed in the March 17, 2003 BiOp (U. S. Fish and Wildlife Service 2003), as modified on June 15, 2006 (U. S. Fish and Wildlife Service 2006a).

In the San Acacia reach, discontinuous flows occurred from the south boundary of Bosque del Apache National Wildlife Refuge to about Socorro, New Mexico (Figure 1). Multiple re-wetting and drying events were recorded in all three areas due to monsoons, changes in plant transpiration, increasing or decreasing human demand, and irrigation system maintenance.

We conducted salvage operations on 25 days during the 2014 irrigation season, with 20 days in the San Acacia reach, and five days in the Isleta reach (Table 2). Salvage occurred between 20 June and 27 September 2014. In total, we salvaged 58.2 river miles in the San Acacia reach, and 4.4 miles in the Isleta reach (Table 2). This includes salvage operations in miles that experienced repeated drying events. For a chronological summary of salvage operations, see Appendix A.

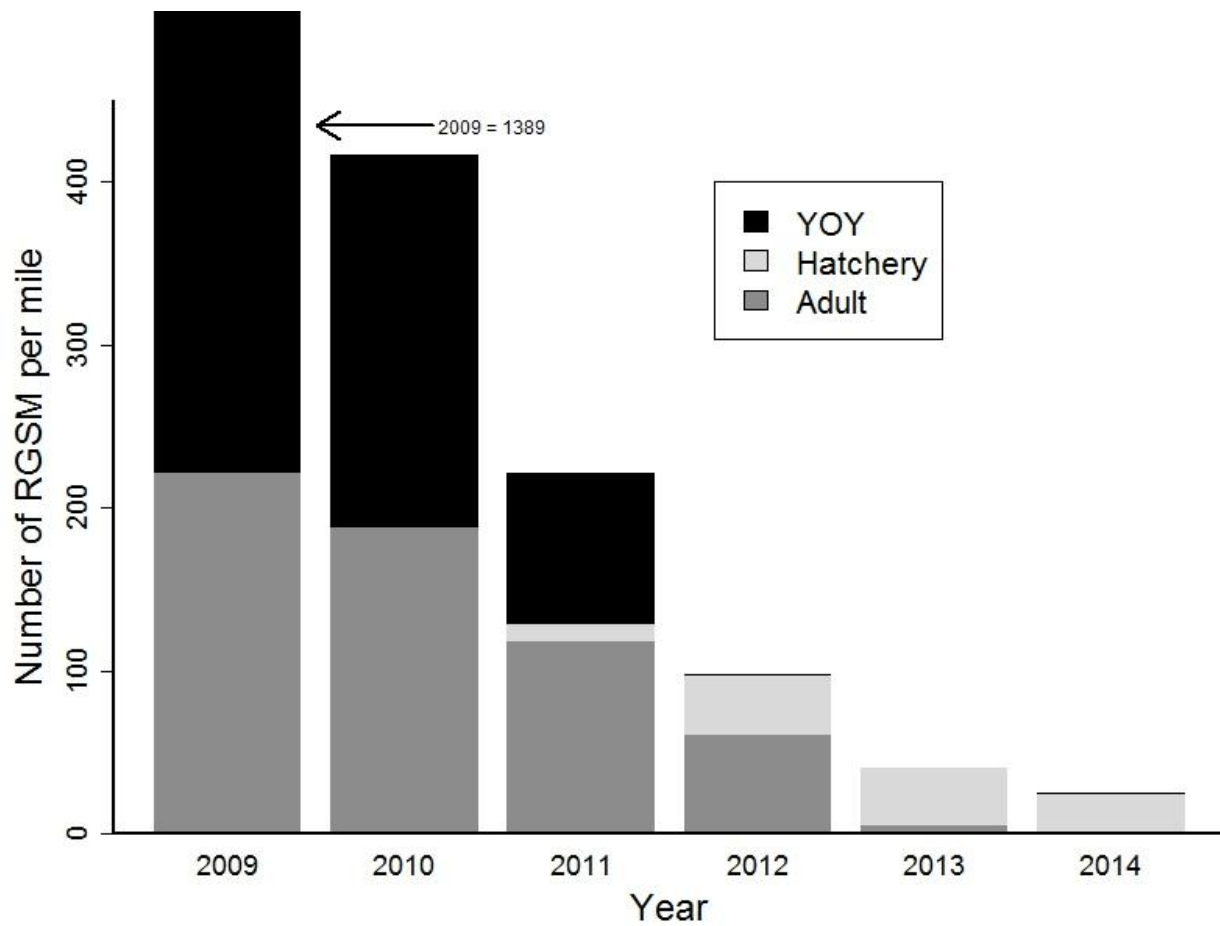


Figure 2-Number of young of year (YOY), hatchery marked, and adult Rio Grande Silvery Minnow collected per mile during salvage activities in the Middle Rio Grande.

Monitoring Activities

Nearly all the RGSM collected in 2014 were hatchery marked fish (Figure 2). We continued to collect fewer RGSM (Table 4) compared to previous years and the proportion of hatchery to wild fish continued to increase. Observing fewer RGSM is partly because the total number of miles salvaged was lower than previous years due to long periods of time when the river was continuous, and partly because there were likely less RGSM to be captured. We collected only 28 YOY in 2014, which was more than in 2013 but much lower than even a relatively poor year like 2011 (Figure 2).

The number of RGSM encountered per day was dependent on the number of river miles salvaged during that day, the date, and the reach (Table 3). Unsurprisingly, the number of RGSM collected increased as more miles were salvaged, and decreased as the summer progressed.

We collected fewer RGSM per mile on subsequent dryings (Appendix A). During the latter part of the summer, re-wetting and drying (often within a day) occurred faster than we could salvage. Later in the summer and early autumn San Acacia was continuous for extended periods of time. Isleta remained continuous until September.

Table 1-Summary of salvage operations for Rio Grande Silvery Minnow in the Middle Rio Grande, 2014. Salvaged numbers of RGSM do not include transport losses. Age-0 <30 mm SL column includes incidental take, USFWS permit, dead/dying fish, and live fish. Fish origin (i.e. hatchery or wild) is given parenthetically (wild; pink right dorsal; yellow left dorsal; pink left dorsal).

Reach	Age-0 <30 mm	Age-0 >30 mm	Adults	USFWS Permit	IT	Total Wild	Total Hatchery
San Acacia	2	9	512 (30; 480; 1; 1)	1 (0; 1; 0; 0)	70 (1; 69; 0; 0)	42	552
Isleta	0	18	18 (2; 16; 0; 0)	0	0	20	16
Total	2	27	530 (32; 496; 1; 1)	1 (0; 1; 0; 0)	70 (1; 69; 0; 0)	62	568

Table 2-Number of days salvaged, number of pools evaluated, number of miles salvaged, and extent of drying per reach during 2014 salvage operations. The miles salvaged include repeated drying events. Extent of drying is the number of unique river miles of discontinuous flow observed for the season.

Reach	Number of Days	Number of Pools	Miles Salvaged	Extent of Drying
San Acacia	20	647	58.2	23.2
Isleta	5	107	4.4	3.2
Total	25	754	62.6	26.4

Table 3-Regression output for the number of Rio Grande Silvery Minnow collected per day of salvage in 2014.

Variable	Estimate	Error	z-value	P
Intercept	9.29	1.65	5.63	<0.0001
Miles	0.33	0.08	4.10	<0.0001
Date	-0.08	0.02	-5.11	<0.0001
Reach (SA)	-4.34	1.32	-3.29	0.0009

Table 4-Summary of salvage activities in the Middle Rio Grande, New Mexico, during summer intermittency, 2007-2014. Total Rio Grande Silvery Minnow (RGSM) is the number of fish found alive.

Year	Extent of Drying	Miles Salvaged	Pools Salvaged	Total RGSM
2007	30.0	119.2	1,052	15,636
2008	0.0	0.0	0	0
2009	19.9	65.0	522	27,712
2010	28.2	118.2	1,232	12,349
2011	40.2	163.7	2,054	9,277
2012	51.0	204.0	2,774	5,014
2013	36.5	47.4	1,037	1,492
2014	26.4	62.6	754	559

Discussion

Trends in the declining numbers of RGSM continued in 2014. We found fewer RGSM in 2014 than in any year since 2003 when the program was initiated. Additionally, the proportion of hatchery-reared fish increased from 87% in 2013 to 90% in 2014, though the percentage in Isleta was much lower due to an increase in YOY and an overall total of only 33 RGSM salvaged (44% hatchery). This is partly because less drying occurred, but we found fewer RGSM on a per mile basis as well, a consequence of antecedent conditions. The number of wild adult RGSM found during salvage has declined each year since 2009, while YOY have remained extremely low since 2012. With essentially no increased spring runoff due to snowmelt in 2014, there was a decrease in the number of RGSM collected during salvage, in spite of reduced extent of drying. This was similar to 2013, when the extent and severity of drying was limited compared to 2012, but there was no change in the status of RGSM (Dudley et al. 2014). Spring run-off is the overriding factor in RGSM recruitment, specifically peak discharge in May and June and the number of days in May and June with >3,000 cfs measured at the Albuquerque gage (Dudley et al. 2013). However, summer drying should not be ignored, as the short life span of RGSM (Horowitz et al. 2011), lack of recruitment, and increased mortality during summer drying led to the sharp decline of wild adults from 2011 to 2014, as clearly shown in Figure 2.

Trends in occurrence of RGSM in pools during 2014 was similar to previous years. More RGSM were found with each mile salvaged; however the number of RGSM per mile and per pool both decreased as the summer progressed. This is likely due to attrition and lack of recruitment to adult life stage. Periodic dewatering during the summer months leads to severely reduced local RGSM abundance, even when beginning densities are poor. In San Acacia in 2012, we found over 90 RGSM per mile in San Acacia, in 2013 only 46 RGSM per mile in San Acacia, and only about 26 RGSM per mile on first drying in San Acacia in 2014. This rate dropped to less than 1 RGSM per mile on the second drying in the San Acacia reach. It is clear that repeated dewatering resulted in locally reduced abundance of RGSM and local extirpation (Archdeacon and Remshardt 2013). Compared to 2013, we salvaged fewer days, fewer miles,

and fewer pools. Monsoons provided continuous flows for part of the summer, which resulted in fewer subsequent drying events. Fewer drying events potentially lowered the number of RGSM we observed; however, there were fewer RGSM on first drying than in previous years.

Trends in abundance of RGSM observed during salvage mirror those of standardized monitoring from 2012 to 2014 (Dudley et al. 2014a; R. Dudley, personal communication). Standardized monitoring found no RGSM at any of 20 monitoring sites in October of 2012, only 3 sites in 2013, and zero again in 2014 (Dudley et al. 2014b); these are the lowest levels since the monitoring began in 1993. Given the historically low RGSM survey numbers going into the 2014 spawn and the low magnitude spring flows in 2014, extremely few wild RGSM collected during 2014 salvage operations. Although not presented here, any calculation of density or comparison of marked to non-marked fish (Lincoln-Peterson estimator, etc.) reinforces the severity of the situation, e.g., 9 times as many hatchery fish as wild fish were collected in the San Acacia and Isleta reaches. The strong downward trend in the number of YOY fish observed over the past four years shows the lack of recruitment. We found only 62 wild fish in 26.4 miles of river, an incredibly low number especially compared to previous years. Our data, as well as standardized monitoring (Dudley et al. 2014a), show critically low numbers of wild fish and little evidence of recruitment for the past three years.

The proportion of hatchery fish collected during salvage operations indicates a population that is dependent on augmentation. Salvage and monitoring data make it apparent that river conditions and management over the last three years cannot support RGSM recruitment. In the face of low spring runoff flows and summer drying, the continued existence of RGSM in the San Acacia and Isleta reaches requires heavy annual augmentation with hatchery fish. If current river conditions continue, RGSM will continue to be fully dependent on hatchery stocking.

Acknowledgments

The Middle Rio Grande Endangered Species Collaborative Program supported this work under Interagency Agreement 02-AA-40-8190 as administered by the Bureau of Reclamation. The contributions of everyone are greatly appreciated. Success in RGSM operations during 2014 can be attributed to the tremendous cooperation and the professionalism of all involved. Personnel of the New Mexico Fish and Wildlife Conservation Office served to plan and coordinate salvage operations, and represented the core of the salvage workforce, including Tom Sinclair, Stephen Davenport, Andy Dean, and Angela James. Field assistance was also provided by the Bureau of Reclamation. Special thanks to Bosque Del Apache National Wildlife Refuge for providing housing.

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Appendix A: Chronology of Salvage Operations

Note: FWS permit includes those found dead that could not be attributed to Incidental Take including fish not salvaged due to health criteria, those sacrificed for research, or died prior to release. Salvaged fish are those released alive > 30 mm SL, number after the slash is the number of adults. Release locations: a - Valle De Oro, b - Isleta Diversion Dam, c - Peralta Wasteway, d - Highway 346 Bridge, e - U.S. 60 Bridge, f - 1 mile below San Acacia Diversion Dam, g - Escondida Bridge, h - San Marcial Railroad Bridge, n/a - no fish released.

20 Jun 2014	^f San Acacia Reach	TPA14-028
Rio Grande silvery minnow - Salvaged		14/14
Rio Grande silvery minnow - FWS Permit		0
Rio Grande silvery minnow - Incidental Take		0
21 Jun 2014	^f San Acacia Reach	TPA14-029
Rio Grande silvery minnow - Salvaged		103/103
Rio Grande silvery minnow - FWS Permit		7
Rio Grande silvery minnow - Incidental Take		21
23 Jun 2014	^f San Acacia Reach	TPA14-030
Rio Grande silvery minnow - Salvaged		71/71
Rio Grande silvery minnow - FWS Permit		3
Rio Grande silvery minnow - Incidental Take		3
24 Jun 2014	^f San Acacia Reach	TPA14-031
Rio Grande silvery minnow - Salvaged		13/13
Rio Grande silvery minnow - FWS Permit		0
Rio Grande silvery minnow - Incidental Take		0
25 Jun 2014	^f San Acacia Reach	TPA14-033
Rio Grande silvery minnow - Salvaged		85/85
Rio Grande silvery minnow - FWS Permit		2
Rio Grande silvery minnow - Incidental Take		6
26 Jun 2014	^g San Acacia Reach	TJA14-017
Rio Grande silvery minnow - Salvaged		11/11
Rio Grande silvery minnow - FWS Permit		0
Rio Grande silvery minnow - Incidental Take		8

27 Jun 2014	^f San Acacia Reach	TJA14-018
Rio Grande silvery minnow - Salvaged		22/22
Rio Grande silvery minnow - FWS Permit		0
Rio Grande silvery minnow - Incidental Take		10
28 Jun 2014	^f San Acacia Reach	TJA14-019
Rio Grande silvery minnow - Salvaged		47/47
Rio Grande silvery minnow - FWS Permit		1
Rio Grande silvery minnow - Incidental Take		1
29 Jun 2014	^f San Acacia Reach	TPA14-034
Rio Grande silvery minnow - Salvaged		10/10
Rio Grande silvery minnow - FWS Permit		0
Rio Grande silvery minnow - Incidental Take		0
30 Jun 2014	^f San Acacia Reach	TPA14-035
Rio Grande silvery minnow - Salvaged		15/15
Rio Grande silvery minnow - FWS Permit		0
Rio Grande silvery minnow - Incidental Take		1
1 Jul 2014	^g San Acacia Reach	TPA14-036
Rio Grande silvery minnow - Salvaged		4/4
Rio Grande silvery minnow - FWS Permit		0
Rio Grande silvery minnow - Incidental Take		1
2 Jul 2014	^g San Acacia Reach	TPA14-037
Rio Grande silvery minnow - Salvaged		28/28
Rio Grande silvery minnow - FWS Permit		1
Rio Grande silvery minnow - Incidental Take		0
3 Jul 2014	^g San Acacia Reach	TPA14-039
Rio Grande silvery minnow - Salvaged		26/26
Rio Grande silvery minnow - FWS Permit		0
Rio Grande silvery minnow - Incidental Take		1

4 Jul 2014	^f San Acacia Reach	TPA14-040
Rio Grande silvery minnow - Salvaged		6/6
Rio Grande silvery minnow - FWS Permit		0
Rio Grande silvery minnow - Incidental Take		1
5 Jul 2014	^g San Acacia Reach	TPA14-041
Rio Grande silvery minnow - Salvaged		15/15
Rio Grande silvery minnow - FWS Permit		0
Rio Grande silvery minnow - Incidental Take		5
27 Jul 2014	^{n/a} San Acacia Reach	TJA14-036
Rio Grande silvery minnow - Salvaged		0/0
Rio Grande silvery minnow - FWS Permit		0
Rio Grande silvery minnow - Incidental Take		0
28 Jul 2014	^g San Acacia Reach	TJA14-037
Rio Grande silvery minnow - Salvaged		4/3
Rio Grande silvery minnow - FWS Permit		1
Rio Grande silvery minnow - Incidental Take		0
28 Jul 2014	^g San Acacia Reach	TJA14-038
Rio Grande silvery minnow - Salvaged		10/8
Rio Grande silvery minnow - FWS Permit		0
Rio Grande silvery minnow - Incidental Take		0
30 Jul 2014	^g San Acacia Reach	TJA14-040
Rio Grande silvery minnow - Salvaged		12/11
Rio Grande silvery minnow - FWS Permit		1
Rio Grande silvery minnow - Incidental Take		0
8 Sep 2014	^g San Acacia Reach	TPA14-042
Rio Grande silvery minnow - Salvaged		11/6
Rio Grande silvery minnow - FWS Permit		0
Rio Grande silvery minnow - Incidental Take		0

10 Sep 2014	^b Isleta Reach	TPA14-043
Rio Grande silvery minnow - Salvaged		24/11
Rio Grande silvery minnow - FWS Permit		0
Rio Grande silvery minnow - Incidental Take		0
13 Sep 2014	^b Isleta Reach	TPA14-044
Rio Grande silvery minnow - Salvaged		1/0
Rio Grande silvery minnow - FWS Permit		0
Rio Grande silvery minnow - Incidental Take		0
14 Sep 2014	^{n/a} Isleta Reach	TPA14-045
Rio Grande silvery minnow - Salvaged		0/0
Rio Grande silvery minnow - FWS Permit		0
Rio Grande silvery minnow - Incidental Take		0
26 Sep 2014	^b Isleta Reach	TPA14-046
Rio Grande silvery minnow - Salvaged		4/1
Rio Grande silvery minnow - FWS Permit		0
Rio Grande silvery minnow - Incidental Take		0
27 Sep 2014	^b Isleta Reach	TPA14-047
Rio Grande silvery minnow - Salvaged		4/3
Rio Grande silvery minnow - FWS Permit		0
Rio Grande silvery minnow - Incidental Take		0
	Grand Total	
Rio Grande silvery minnow - Salvaged		540/513
Rio Grande silvery minnow - FWS Permit		16
Rio Grande silvery minnow - Incidental Take		58