I. Project Title: **A Five-Year Experimental Stocking Plan to Evaluate Survival of Various Sizes of Razorback Sucker**

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III. Project Summary:

The study goal is to 1) evaluate the relation between survival of captive-reared razorback sucker and size at release into the river, and 2) reintroduce razorback sucker in the Gunnison River that will result in 10 adult fish per river mile in suitable riverine habitat. The target is re-establish a population of about 600 adult razorback sucker from Austin, CO, downstream 68 river miles to the confluence with the Colorado River. Specific objectives include determining 1) the relationship between various sizes (4-, 8-, and 12-inch) of razorback sucker stocked and their subsequent survival in the wild, and 2) dispersal of stocked fish following release over time. Ultimately, the optimum size(s) of razorback sucker to be stocked into Upper Colorado River Basin rivers will be recommended.

To date, 18,423 juvenile, sub-adult, and adult razorback sucker have been stocked into the Gunnison River between April 1994 and October 2001 and 31,531 juvenile and adult razorback sucker have been stocked in the Upper Colorado River between April 1994 and October 2001.

Two razorback sucker were found dead on the upstream trash grates at the Redlands Dam fish passageway during 2001. From razorback suckers captured in 2001, dispersement following stocking was predominantly downstream (mean: 26.7 miles for 52 fish) from the release site indicating that hatchery-produced and pond-reared razorback suckers are susceptible to downstream drift. To date, 235 razorback sucker stocked in the Gunnison and Colorado rivers were either captured (226) from sampling or were found dead (9) during other research sampling efforts. For razorback suckers that had been at large for at least 6 months following stocking, fish stocked between 300-399 mm and 200-249 mm accounted for 45 and 28%, respectively, of all razorbacks recaptured from 1997-2001 (n=96) local rivers. Final report due March 2002.

IV. Study Schedule:
a. initial year: 1996
b. final year: 2002

V. Relationship to RIPRAP:
Colorado River Action Plan: Mainstem and Gunnison River

IV.	Manage genetic integrity and augment or restore populations.
IV.A.	Augment or restore populations as needed.
IV.A.1.	Razorback sucker.
IV.A.1.a.	Develop experimental augmentation plan and seek Program acceptance.
IV.A.1.b.	Implement experimental augmentation plan.
IV.A.1.b.(2).	Monitor and evaluate results; make recommendations regarding further augmentation.

VI. Accomplishment of FY2001 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:
A. FY2001 Tasks and Deliverables: Tasks 1-3:

Task 1. Stock three groups of fish.
Task modified during FY2001: razorback sucker less than about 200 mm (8 inches) were not stocked; only razorback suckers about 8 inches and greater were stocked during FY2001. Task completed: two size groups stocked (8- to 12-inch and 16 to 24 inch [broodstock].

Task 2. Sample Gunnison and Colorado rivers for stocked fish using various gear types.
Task completed.

Task 3. Analyze and evaluate data; prepare annual progress report.
Task completed.

B. Findings

Stocking--2001

Juvenile razorback suckers were harvested from 21 different sources in 2001, one of these being the 24 Road Hatchery. Razorback sucker were stocked at one location in the Gunnison River (RM 57 [near Delta, CO]) and three locations in the Colorado River (RM's 229.9, 226.5 [near Parachute, CO], and 177.4 [15-mile reach]).

The numbers of razorback sucker harvested and stocked from each of these 21 sources are as follows:

Source	Number	Percent
19 Road Pond	35	0.56
24 Road Hatchery	60	0.96
29 Road Pond	227	3.63
Clymer's Pond	1,758	28.11
Roehmer Pond	37	0.59
Dike Road Pond	101	1.61
Mcquire Pond	254	4.06
Heuton Pond	150	2.40
Tomlinson Pond	130	2.08
Morse Pond	398	6.36
Peters 1	502	8.03
Peters 2	555	8.87
Peters 3	490	7.83
Peters 4	707	11.30
DeBeque Pond (#3)	251	4.01
DeBeque Pond (#5)	69	1.10
DeBeque Pond (#6)	120	1.92
DeBeque Pond (#7)	61	0.98
DeBeque Pond (#8)	196	3.13
Broodstock	99	1.58
RZ Selenium Study	55	0.89
Totals	6,255	100.00

A total of 4,101 juvenile and adult razorbacks were stocked in the Gunnison River from early-April through mid-October during 2001. In the Colorado River, 2,154 juvenile and adult razorback sucker were stocked from mid-May through mid-October. All fish stocked were PIT-tagged.

Overall, mean total length of fish stocked was 255 mm (10-inches); range=112–586 mm (Appendix; Figure 1). Five and one-half percent of the fish harvested and stocked were between 100 and 199 mm (4 to 8 inches), 79% of the razorback sucker were between 200 and 299 mm (8 to 12 inches), 13.7% were between 300 and 399 mm (12 to 16 inches), 1.6 % were between 400 and 499 mm (16 to 19 inches), and 0.2% were between 500 and 599 mm (19 to 23 inches).

Monitoring–2001

Gunnison River. Four days each were expended between 9 and 12 August (28.5 electrofishing hours) and 4 and 7 September (32.6 electrofishing hours) 2001 sampling the Gunnison River from Confluence Park (57) to Redlands Diversion Dam (3) with two electrofishing craft to locate razorback sucker that had been

previously stocked between 1995 and 2001. Fifteen razorback sucker were found during these two surveys of the Gunnison River.

Colorado River. Ten days during mid-July 2001 were spent electrofishing (38 hours) the Upper Colorado River from Rifle, CO (RM 241), to Beavertail boat landing (RM 195.7), Price-Stubb Dam to Grand Valley Diversion Dam (RM's 187.6–185.4), and from Corn Lake boat landing (RM 177.4) to Westwater Ranger Station (RM 128) to locate razorback sucker that had been previously stocked in 1999 through July 2001. Only two razorback suckers were captured during this effort. One fish was captured in Ruby Canyon (RM 131.1) and the other in the 15-mile reach (RM 173.6). None of the '91-year class Colorado squawfish that were stocked in late-June 2000 (see RIP No. 105 FY2001 Annual Report) in the Upper Colorado River near Parachute were seen or collected.

Five other stocked razorback sucker were captured alive during the spring and fall centrarchid removal project being conducted by the Grand Junction CRFP office. Service biologists found two razorback suckers dead on the trash grates at the upper end of the Redlands Dam fish passageway at RM 3.0 in May and June. One fish had been at large for 157 days and the other razorback had been at large for over 4.7 years. This later razorback sucker had been stocked in the Gunnison River in October 1996 at RM 57.

Other razorback sucker were captured by personnel from the Colorado Division of Wildlife (CDOW; 4), Utah Division of Wildlife Resources (1), and SWCA private consultants (1). In September and October 2001, CDOW personnel captured 4 juvenile razorback sucker in almost the same location (RM 177.4) in the 15-mile reach where they had been stocked in September 2000. One razorback sucker was recaptured by Utah biologists in the Colorado River at RM 124.2 upstream of Cisco Wash on 8 May. This fish had been at large for 1.5 years days since being stocked in November 1999 in the Gunnison River at RM 57. During this time, this fish moved downstream almost 127 miles. SWCA biologists caught one razorback sucker 65 miles downstream in the 18-mile reach of the Upper Colorado River from where it was stocked 265 days earlier.

One other razorback sucker was collected during a fall salvage operation conducted by the CDOW on 26 November 2001 to remove native fish from the Grand Valley Water User's Association canal. This razorback sucker (TL=211 mm; weight=82 grams) was collected with a seine from an isolated pool in the canal near 31 Road (personal communication, Anita Martinez). This fish was stocked in the Upper Colorado River near Parachute (RM 226.5) 23 August 2001. This razorback sucker was transported and released alive in the Colorado River at Connected Lakes Boat Launch (RM 168.2).

Fifty-three razorback suckers were captured in 2001. Unfortunately, one recaptured razorback was not identified because a PIT-tag reader/scanner unit

was not available. Therefore, no data could be obtained from this fish regarding size at release or where and when it was stocked.

Sixteen razorback suckers stocked in 2001 had been at large (12 to 168 days) for less than 6 months before being recaptured during 2001. For these 16 razorback suckers, dispersement was predominantly downstream (n=16, mean=24.4 miles, range=0.5 to 75.8 miles). All sixteen of these razorback suckers were found downstream from the stocking site. Thirty-three razorback suckers had been at large for 6 months or more following stocking before being recaptured. Their dispersement was also predominantly downstream (mean= 22.0 miles, range=0 to 126.5 miles) and was similar to razorback suckers captured less than six months following stocking. All 33 of these razorback suckers were found downstream of the site where they were stocked.

For razorback suckers that had been at large for more than 6 months following stocking (n=33), the average period of time that a razorback sucker was at large was 1.2 years. Four razorbacks had been at large for 4.6 to 4.9 years. These four razorback suckers were from the 1992 year-class of fish that were stocked in October 1996 in the Gunnison River at RM 57 near Delta. However, two razorback suckers captured in the Redlands passageway fish trap in August 2001 moved upstream in the Gunnison River after being released at the fish trap. One razorback sucker captured in the fish trap on 7 August 2001 was recaptured 30 days later 14.9 miles upstream. Another razorback sucker captured in the Redlands passageway fish trap on 28 August 2001 was recaptured only 8 days later. This razorback sucker, though, was captured 31.3 miles upstream. This razorback sucker, then, moved further upstream in a shorter duration than the other razorback sucker that was initially found in the fish trap (see RIP No. C-4b FY2001 Annual Report).

For razorback sucker that have been at large at least six months following stocking, the 200-399 mm size class accounted for the majority (30; 86%) of razorback sucker recaptured alive during 2001 (Table 1). Fish between 400 and 499 represented 14% of these razorback sucker recaptured. This is significant because only 1% of the total number of razorback sucker stocked (39,111) through 2000 were represented by this size class. At release, 77% of these same fish were represented from the 150-249 mm size class; 6% were from the 250-299, 11% from the 300-349 mm class, and 6% from the 350-399 size class.

Table 1. Number and percentage of stocked razorback sucker (RZ) by size classes (total length, mm) that had been at large for at least six months following release in the Gunnison and Colorado rivers and were captured alive during 2001. Note: the 2001 stocking of razorback suckers in the Upper Colorado and Gunnison rivers were not included below.

Size Class Total Length (mm)	Number and Percent of the Total Number of RZ's Stocked Apr. 1994-Nov. 2000[a] That Were Measured	During 2001 Of 35 RZ's Stocked and Later Recaptured (at large for at least 6 months post-stocking) Size at Release Number	Size at Release Percentage	Size at Capture Number	Size at Capture Percentage
< 100	940 (2.4%)	0	0.0	0	0.0
100-149	15,407 (39.4%)	0	0.0	0	0.0
150-199	8,433 (21.6%)	8	22.9	0	0.0
200-249	8,309 (21.2%)	19	54.3	16	45.7
250-299	2,975 (7.6%)	2	5.7	4	11.4
300-349	1,122 (2.9%)	4	11.4	5	14.3
350-399	1,452 (3.7%)	2	5.7	5	14.3
400-449	281 (0.7%)	0	0.0	2	5.7
450-499[b]	124 (0.3%)	0	0.0	2	8.6
500-549[b]	68 (0.2%)	0	0.0	0	0.0
550-599	0 (0.0%)	0	0.0	0	0.0
> 600	0 (0.0%)	0	0.0	0	0.0
Total	39,111 100.0%	35	100.0	35	100.0

[a] total number of razorback suckers stocked into the Colorado and Gunnison rivers, April 1994 to November 2000: 43,700. Note: 4,189 razorback suckers stocked in 2000 were not individually measured for total length.
[b] includes fish collected from Etter Pond in April 1994, implanted with radio transmitters, and stocked into the Upper Colorado and Gunnison rivers.

About 43% of the total number of razorback sucker stocked in the Gunnison and Colorado rivers from April 1994 to November 2000 were represented from the 150-249 mm size class. Thirty-nine percent of the total razorback suckers stocked during this same period were between 100 and 149 mm. This total number includes the 45 razorback suckers collected from Etter Pond, implanted with radio transmitters, and stocked in the Gunnison and Upper Colorado rivers in April 1994.

Summary: Fifty-three different domestic-reared razorback suckers that had been previously stocked in local rivers were recaptured in 2001. Two of these razorback sucker were recaptured twice in 2001. Both of these two fish had previously been captured in the fish trap at the Redlands Dam passageway.

Summary of Past Years Stocking (1995-2001)

A total of 316, 4-6-inch pond-reared razorback sucker was stocked on 13 October 1995 at RM 59.3 in the Gunnison River. In October 1996, a total of 282, 11-16-inch razorback sucker was stocked 4 October 1996 at RM 57.0 in the Gunnison River.

In 1997, 3,732 razorback sucker were stocked in the Gunnison River at RM 57

on nine different dates from three different sources between 12 September and 14 October. The total number, size, and number of lots of razorback sucker stocked from each of these sources were: 24-Road Hatchery (2,147, 4–12-inch; 7 lots), Clymer's Pond (1,294, 4–13-inch; 6 lots), and Wahweap Pond near Wahweap, UT (291, 15-inch; 14 lots).

In 1998, 608 juvenile and sub-adult razorback sucker were stocked in the Gunnison River near Delta.

In 1999, 2,742 juvenile and sub-adult razorback sucker were stocked into the Gunnison River. Another 30 adult razorback suckers were stocked in the Gunnison River during 1999. In September and October 1999, 3,498 juvenile razorback sucker were stocked in the Upper Colorado River upstream from Parachute, CO (RM 227). In addition to 20 adult razorback suckers that were stocked in the Upper Colorado River in April 1994, this marked the first juvenile razorback sucker stocked in this stream reach.

During 2000, 6,587 razorback suckers were stocked in the Gunnison River near Delta. In the Colorado River, 25,859 razorback suckers were stocked at three different locations.

In 2001, 4,101 juvenile and adult razorback suckers were stocked into the Gunnison River between 3 April and 22 October. Between 17 May and 25 October, 2,154 juvenile and adult razorback suckers were stocked into the Upper Colorado River at three different locations, RMs 229.9, 226.6, and 177.4.

To date, 18,423 juvenile, sub-adult, and adult razorback sucker have been stocked into the Gunnison River between April 1994 and October 2001 and 31,531 juvenile and adult razorback sucker have been stocked in the Upper Colorado River between April 1994 and October 2001 (Table 2).

Summary of Recaptured Razorback Suckers (1997-2001)

To date, 235 razorback sucker stocked in the Gunnison and Colorado rivers were either captured (226) from sampling or were found dead (9) during other research sampling efforts. This represents about 0. 5% of all razorback suckers stocked to date in the Gunnison and Colorado rivers (50,254). Five razorback suckers were caught twice following stocking. Two different razorback sucker were captured in two different years following being stocked. One of these razorback suckers was caught three different times following stocking (twice in 2000 and once in 2001).

Table 2. Projected number of fish by size group needed to evaluate the relation between survival of razorback sucker and size at release into the river, FY96 through FY2001 and actual numbers of razorback sucker stocked, 1996 through 2001 in the Gunnison and Colorado rivers, Colorado.

Year	Stocking Location	Mean Size of Fish	Number of Fish[a]	Actual Number of Fish Stocked
Prior to FY96	Gunnison River	18-21-inch	---	25
	Colorado River	18-21-inch	---	20
FY96	Gunnison River near Delta	4-inch[b]	10,000[c]	
		8-inch	2,500	316
		12-inch	600	
FY97	Gunnison River near Delta	4-inch	10,000	
		8-inch	2,500	3,732
		12-inch	600	282
FY98[d]	Gunnison River near Delta	4-inch	20,000	
		8-inch	5,000	
		12-inch	1,200	608
FY99	Gunnison River near Delta	4-inch	30,000	
		8-inch	7,500	2,742
		12-inch	1,800	30
FY99	Colorado River near Parachute	4-inch	30,000	
		8-inch	7,500	3,498
		12-inch	1,800	
FY2000	Gunnison River near Delta	4-inch	40,000	
		8-inch	10,000	6,587
		12-inch	2,400	
FY2000	Colorado River near Parachute & 15-Mile Reach	4-inch	40,000	
		8-inch	10,000	25,859
		12-inch	2,400	
FY2001	Gunnison River near Delta	4-inch	40,000	
		8-inch	10,000	4,101
		12-inch	2,400	
FY2001	Colorado River near Parachute & 15-Mile Reach	4-inch	40,000	
		8-inch	10,000	2,154
		12-inch	2,400	

[a] Number of fish may have to be adjusted depending upon the number of fish produced from paired matings, survival to stocking, and available rearing space

[b] Minimum size of razorback sucker that can be safely PIT tagged

[c] Numbers determined from a 75:20:5 ratio

[d] Additional propagation facilities available in FY98 allowed increased production

In 1999, 22 razorback sucker stocked in the Gunnison and Colorado rivers were either captured (21) or were found dead (1). In 2000, an additional 23 razorback sucker were found dead on the trash grates at the Redlands fish passageway during August , September, and October. In 1999, 72 razorbacks were found on these same grates.

Fish dispersement following stocking has been predominantly downstream of the release site. In 2001, average displacement for 52 fish was 26.7 miles downstream; average upstream movement for two fish was 23.1 miles. In previous years, average displacement has significantly been downstream, also (1996: 4.3 miles [7 fish]; 1997: 17.7 miles [17 fish]; 1998: 50.3 miles [15 fish]; 1999: 55.3 miles [21 fish]; 2000: 61.6 miles [43 fish]).

Recaptured razorback suckers were represented from various family lots from different year-classes produced. Two recaptured razorback sucker were from lots produced in 1991 (Green River stock), 14 from lots produced in 1992, 32 from lots in 1995, 19 from 1996, 4 from 1997, 33 from 1998, 42 from 1999, and 2 from 2000. Another 50 razorback sucker from nine, 1999 family lots were not included with the previous 1999 year-class total because they were captured only 1 day after stocking. Eleven razorback sucker were positively sighted but not netted, three in 1996, four in 1997, one each in 1998 and 2000, and two in 2001. None of the 316, 4- to 6-inch, juvenile razorback sucker stocked in 1995 were recaptured. Only 13 of the 2,287 juvenile razorback sucker stocked in the Gunnison River during August, September, October, and November 1999 were subsequently collected alive during followup monitoring during other intensive, ongoing sampling programs in the Upper Colorado or Gunnison rivers.

Although data has not been examined to determine if stocking date (i. e., spring vs. summer vs. fall), influences post-stocking survival, results from razorback sucker captured in the Upper Colorado and Gunnison rivers from 1997-2001 following stocking strongly suggest that survival is related to the size of fish stocked. Razorback sucker stocked at sizes greater than 200 mm appear to have better short-term survival following release in the river than smaller fish stocked (e. g., < 200 mm). Five years of monitoring data between 1997 and 2001 were compiled (Table 3). To date, survival of razorback sucker stocked at sizes less than 200 mm into local rivers appears to be very low (e. g., 3.1%; Table 3).

Only three razorback sucker smaller than 200 mm have been recaptured (for fish at large at least six months following stocking) in either the Colorado or Gunnison rivers since stocking commenced in the mid-1990's.

Table 3. Number and percentage of stocked razorback sucker (RZ) by size classes (total length, mm) that had been at large for at least six months following release in the Gunnison and Colorado rivers and were captured alive between 1997 and 2001. Note: the 2001 stocking of razorback suckers in the Upper Colorado and Gunnison rivers were not included below.

Size Class Total Length (mm)	Number and Percent of the Total Number of RZ's Stocked Apr. 1994-Nov. 2000[a] That Were Measured	During 1997-2001 Of 96 RZ's Stocked and Later Recaptured (at large for at least 6 months post-stocking) Size at Release Number	Size at Release Percentage	Size at Capture Number	Size at Capture Percentage
< 100	940 (2.4%)	0	0.0	0	0.0
100-149	15,407 (39.4%)	0	0.0	0	0.0
150-199	8,433 (21.6%)	13	13.5	3	3.1
200-249	8,309 (21.2%)	27	28.1	23	23.9
250-299	2,975 (7.6%)	6	6.3	11	11.5
300-349	1,122 (2.9%)	19	19.8	12	12.5
350-399	1,452 (3.7%)	24	25.0	19	19.8
400-449	281 (0.7%)	6	6.3	18	18.8
450-499[b]	124 (0.3%)	1	1.0	10	10.4
500-549[b]	68 (0.2%)	0	0.0	0	0.0
550-599	0 (0.0%)	0	0.0	0	0.0
> 600	0 (0.0%)	0	0.0	0	0.0
Total	39,111 100.0%	96	100.0	96[c]	100.0

[a] total number of razorback suckers stocked into the Colorado and Gunnison rivers, April 1994 to November 2000: 43,700. Note: 4,189 razorback suckers stocked in 2000 were not individually measured for total length.
[b] includes fish collected from Etter Pond in April 1994, implanted with radio transmitters, and stocked into the Upper Colorado and Gunnison rivers.
[c] total RZ's captured by year: 1997=2; 1998=10; 1999=7; 2000=30; 2001=35.

However, a few more years of monitoring may be necessary to determine if razorback suckers stocked at 200 mm or less are detected. Then, possibly conclusions can be made with a higher degree of certainty as to whether these sizes of stocked fish survived or not.

The highest percentage (24%) of razorback suckers were captured from the 200–249 mm class, followed by the 350-399 mm group (20%), 400–449 mm group (19%), and 300–349 mm class (13%). For razorback suckers that had been at large at least 6 months following stocking, the 250–499 mm size class accounted for 73% of the total number of stocked razorback sucker recaptured from 1997–2001. These size classes comprised only about 15% of the total number of razorback sucker stocked (5,954) prior to April 2001 (Table 3).

For comparison, similar results have been obtained in the San Juan River where various sizes of razorback sucker have also been stocked. Razorback suckers stocked at ≥ 300 mm total length accounted for 89.9% of all recapture events (i .e., first-, second-, and third-time recaptures) as of 29 September 2001. This is even more significant when only 12.9% of the total number of razorback sucker stocked (6,148) prior to October 2001 were ≥ 300 mm total length (personal communication, Dale Ryden, Fish and Wildlife Service, Grand Junction).

This 5-year monitoring study is nearly complete and the data collected to date strongly suggest that stocking razorback sucker smaller than 200 mm may be futile because their post-release recapture rates [i. e., survival] in the river has been poor. In light of these data, the strategy may be to not stock razorback sucker in the river until they reach a minimum size of at least 200 mm.

VII. Recommendations:

A. Stock razorback sucker in the river at a minimum size of 200 mm.

VIII. Project Status:

A. Gunnison River. Juvenile and sub-adult razorback sucker were stocked during October 1995 and 1996, September and October 1997, June and September 1998, August, September, October, and November 1999, August, September, and November 2000, and April, July, August, September, and October 2001, respectively. Adult-size razorback sucker were stocked during late-October 1998 and May 1999 and again in April, June, July, August, and September 2001.

Upper Colorado River. Juvenile razorback sucker were stocked in the Upper Colorado River in September and October 1999, in April, August, September, October, November 2000, and May, August, September, and October 2001. Adult-size razorback sucker were stocked during May, August, September, and October 2001.

Monitoring to determine immediate and long-term dispersal of fish following stocking was conducted during the fall of 1995 and 1996, spring of 1996, and summer and fall of 1997, 1998, 1999, 2000, and 2001.

B. Final Report due March 2002.

IX. FY 2001 Budget

A. Funds Provided: $51,000
B. Funds Expended: $51,000
C. Difference: $ 0
D. Status of Work--Percent of Work Completed (if BR-funded project):
100% Completed. N/A
E. Publication Costs: $ 0

X. Status of Data Submission:

Records of all PIT-tagged razorback sucker stocked in 1995, 1996, 1997, 1998, 1999, 2000, and 2001 were computerized and are available from the UCRB database manager in Grand Junction, CO. Records of stocked razorback sucker that have been

subsequently captured during followup monitoring have also been computerized. These computerized records of recaptured razorbacks are provided to the UCRB database manager at his request.

XI. Signed: Bob D. Burdick 2001/12/03
Principal Investigator Date

APPENDIX:

A. More comprehensive/final project reports. If distributed previously, simply reference the document or report.

Burdick, B. D., R. S. Wydoski, and C. W. McAda. 1995. Stocking plan for razorback sucker in the Upper Colorado and Gunnison rivers. Final report prepared for the Recovery Implementation Program for the Endangered Fishes of the Upper Colorado River Basin, U. S. Fish and Wildlife Service. Denver, Colorado. 13 pp.

Burdick, B. D., and R. B. Bonar. 1997. Experimental stocking of adult razorback sucker in the Upper Colorado and Gunnison rivers. Final Report prepared for the Recovery Implementation Program for the Endangered Fishes of the Upper Colorado River Basin, U. S. Fish and Wildlife Service. Denver, Colorado. 28 pp. + Appendices.

B. Attached: Appendix: one figure.

Prepared and compiled by Bob D. Burdick, 01/12/03
RZEXSTK.01

Appendix

Figure 1. Length frequency distribution of razorback sucker harvested from 21 different sources and stocked into the Gunnison (upper) and Colorado (lower) rivers during 2001.