

**SOUTHEASTERN REGION
COLORADO RIVER CUTTHROAT TROUT
MANAGEMENT IN THE SOUTHEASTERN
AND SOUTHERN GEOGRAPHIC
MANAGEMENT UNITS DURING 2001**



Suspected Colorado River Cutthroat Trout, Mill Fork Creek

**Utah Department of Natural Resources
Division of Wildlife Resources
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November 2001

**Sport Fish Restoration Act
Project F-44-R**

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INTRODUCTION

Conservation Agreements for preservation and enhancement of native Colorado River cutthroat trout (CRCT) *Oncorhynchus clarki pleuriticus* in Utah were signed in the late 1990's. One of these agreements deals strictly with work in Utah. Parties to this agreement are Utah Division of Wildlife Resources (UDWR), U.S. Fish and Wildlife Service (USFWS), U.S. Forest Service (USFS), U.S. Bureau of Land Management (BLM), U.S. Bureau of Reclamation, and Utah Reclamation Mitigation and Conservation Commission (Lentsch and Converse 1997). The other agreement adds work in other states and is known as a range-wide or tri-state agreement. Parties to this agreement are UDWR, USFWS, Colorado Division of Wildlife, and Wyoming Game and Fish Department (CRCT Task Force 1999).

The Conservation Agreements have an appendage called the Conservation Strategy, which is an annually-updated plan outlining conservation actions to be taken over the next several years. Initial activities focus primarily on identifying populations of CRCT, determining their purity, and searching for potential reintroduction locations. Later work involves habitat enhancement, nonnative fish control, reintroductions, and monitoring.

The document you are reading reports accomplishments and results of activities performed by UDWR Southeastern Region personnel during 2001. A proposed regional Conservation Strategy for 2002 is presented.

SUMMARY OF ACTIVITIES

Work during 2001 was conducted within the Southeastern and Southern Geographic Management Units (GMU) for CRCT (Figure 1). Activities occurred in these areas of the Southeastern GMU:

- (1) South Tavaputs Plateau (in the Price River and Green River Desolation Canyon drainages),
- (2) East Manti Mountain (in the Price River and San Rafael River drainages),
- (3) La Sal Mountains (in the Upper Dolores River and Lower Dolores River drainages),
- (4) Abajo Mountains (in the Middle Colorado River and Montezuma Creek drainages), and
- (5) Henry Mountains (in the Lower Colorado River drainage).

Work in the Southern GMU occurred in the Muddy Creek drainage of the East Manti Mountain area.

Some accomplishments occurred ahead of the 2001 regional Conservation Strategy schedule, and others were in addition to planned work. A wide variety of activities was performed including:

- (1) electrofishing to:
 - (a) find possible populations of CRCT (13 streams),
 - (b) estimate fish population abundance (25 streams),
 - (c) collect cutthroat trout samples for meristic and genetic testing (9 streams),
 - (d) collect CRCT for disease testing (6 streams), and
 - (e) evaluate success of experimental tiger trout *Salmo trutta* x *Salvelinus fontinalis* stocking in fishless waters (3 streams);
- (2) conducting visual surveys to:
 - (a) find possible populations of CRCT (12 streams) and
 - (b) inspect fishless streams to determine if they could be used for range expansion (12 streams);
- (3) evaluating habitat suitability of waters for CRCT (32 streams);
- (4) enhancing habitat for CRCT by completing a major stream restoration project (1 stream);
- (5) conducting reconnaissance for a rotenone treatment/brood lake development project (1 lake, several tributaries);
- (6) controlling the distribution and abundance of nonnative fish by:
 - (a) removing nonnative trout collected during electrofishing surveys (5 streams),
 - (b) ceasing stocking of fertile rainbow trout *Oncorhynchus mykiss* (a portion of 1 stream),
 - (c) making plans to cease all Southeastern Region brook trout *Salvelinus fontinalis* stocking beginning in 2002 (7 lakes),
 - (d) inspecting fish migration barriers (6 streams), and
 - (e) performing maintenance on a fish migration barrier (1 stream); and
- (7) obtaining support for chemical treatments, fish transplants, and other conservation actions by submitting applications/making presentations to:
 - (a) Southeastern Regional Wildlife Advisory Council,
 - (b) Utah Wildlife Board,
 - (c) county commissioners/public lands councils (5 counties),
 - (d) Governor's Office of Planning and Budget,
 - (e) associations of local governments (3 groups), and
 - (f) private landowners (2 individuals).

SURVEY METHODS

Electrofishing survey dates ranged from 24 March to 30 October, 2001. In all cases, electrofishing occurred when water flows and clarity were considered adequate for

effective sampling. The number of sampling stations per stream ranged from one to five, passes from one to two, and segment lengths from 100 ft to 1.1 miles. Trout collected were enumerated and in most cases measured in total length to the nearest millimeter. Fish were not usually measured when the purpose of sampling was disease testing. Estimates of fish population size were made for all streams. In cases where only a single pass was made with sampling gear, estimates were considered minimums. The Zippen depletion estimation technique described in Van Den Avyle (1993) was used to make population estimates with 95% confidence intervals where there were multiple passes.

Visual surveys generally occurred in small streams and under conditions where fish could be easily observed if present. Dates ranged from 7 July to 30 October, 2001. The length of stream searched ranged from 100 ft to 2.2 miles. Streams where electrofishing and/or visual searches occurred are shown in Table 1.

At most streams where electrofishing resulted in the capture of cutthroat trout, samples were collected for meristic and genetic testing. Samples were not taken from streams where adequate sampling for such testing had been previously performed. Samples consisted of whole fish and/or fin clips. After samples were collected, they were held on dry ice in the field, then stored in a freezer for later transportation to UDWRs Salt Lake Office for distribution to meristic and genetic testing labs.

Limited habitat suitability information was gathered in conjunction with all surveys. Water temperature was taken on most streams, and in many cases mean stream width, mean depth, and water flows were estimated. Subjective ratings of substrate and cover conditions were made for all streams using standard criteria of UDWRs stream classification system. Cover ratings involved estimating the percentage of the stream with bank cover and shade, whereas substrate ratings were based on the percentage of the visible stream bottom comprised of gravel, rubble, and boulders. Streams with estimates of 75-100% were given an excellent rating, 50-75% good, 25-50% fair, and 0-25% poor.

ACCOMPLISHMENTS AND FINDINGS

SOUTHEASTERN GEOGRAPHIC MANAGEMENT UNIT

South Tavaputs Plateau - Price River drainage

Electrofishing surveys in the South Tavaputs Plateau were performed in five streams of the Price River drainage (Hydrologic Unit #14060007). The purpose of these surveys was to collect CRCT samples for disease testing in preparation for transplants to the Green River Desolation Canyon drainage. Habitat suitability was evaluated in six streams.

Tabbyune Creek, Sections 1 and 2 contained only cutthroat trout (Table 2). Population estimates were 26-40 trout per mile in Section 1 and 200 trout per mile in Section 2. The Section 2 estimate is much lower than the 1,174 trout per mile obtained at a different site in 1998 (Berg and Slater 1999). However, the 2001 estimates were for a single electrofishing pass, in beaver-pond habitat, and it is estimated that the majority of fish escaped. Sixty samples were collected for disease testing and no prohibited pathogens were found. Section 1 had midsummer water temperatures of 62-69 F, estimated flows of 1.5-1.7 cfs, mean widths of 4.4-5.0 ft, mean depths of 0.3-0.4 ft, fair to good substrate ratings, and poor to excellent cover ratings (Table 5). Section 2 had a midsummer water temperature of 54 F, an adequate flow, a mean width of 16.8 ft, a mean depth of 1.2 ft, a poor substrate rating, and a fair cover rating.

Only one cutthroat trout and three brown trout were collected in White River, Section 1 (Table 2). Population estimates for this stream were 0-6 trout per mile. These estimates are much lower than the 106 trout per mile obtained in 1998 (Berg and Slater 1999). Disease testing was not performed due to the scarcity of trout. Other species found included mottled sculpin *Cottus bairdi*, speckled dace *Rhinichthys osculus*, suckers *Catostomus* sp., redbreast shiners *Richardsonius balteatus*, and Utah chubs *Gila atraria*. White River, Section 1 had a midsummer water temperature of 63 F, adequate flows, mean widths of 13.1-25.5 ft, mean depths of 0.7-1.8 ft, and poor to fair substrate and cover ratings (Table 5).

Cutthroat trout was the only species found in the Middle Fork of White River (Table 2). The population estimate for this stream was 528 trout per mile. This estimate is higher than the 317 trout per mile obtained in 2000 (Berg and Slater 2000). Sixty samples were collected for disease testing and no prohibited pathogens were found. The Middle Fork of White River had a midsummer water temperature of 74 F (below the location where fish were collected), an estimated flow of 2.4 cfs, mean widths of 8.0-8.6 ft, a mean depth of 0.3 ft, good substrate ratings, and poor to good cover ratings (Table 5).

The Right Fork of White River contained cutthroat trout, mottled sculpin, speckled dace, suckers, and redbreast shiners (Table 2). Population estimates for this stream were 0-352 trout per mile. These estimates are lower than the 500-1,003 trout per mile obtained at different sites on the stream in 1998 (Berg and Slater 1999). Sixty samples of cutthroat trout were collected for disease testing and no prohibited pathogens were found. The Right Fork of White River had midsummer water temperatures of 63-68 F, an estimated flow of 10.0 cfs, mean widths of 12.2-18.2 ft, mean depths of 0.6-1.6 ft, poor to fair substrate ratings, and fair to excellent cover ratings (Table 5).

A major stream restoration project was completed on the Right Fork of White River to reduce erosion and sedimentation problems at a point where they begin in the headwaters of the Price River drainage. The project involved creating about 0.5 mile of

new channel to replace a portion which was severely degraded and downcut. Cooperators included UDWR, USFS, Utah Department of Transportation, Trout Unlimited, and a private landowner. Core conservation populations of CRCT in the Right Fork of White River and its tributaries will benefit from the project.

Several actions were taken to control the distribution and abundance of nonnative fish. Stocking of fertile rainbow trout was terminated in Price River Section 5. Sterile triploid rainbow trout were stocked in their place. A request from a private landowner to continue stocking rainbow trout into Kyune Reservoir was denied. State stocking of tiger trout was offered as a temporary replacement for loss of rainbow trout in that water. Brown trout collected during electrofishing of White River, Section 1 were removed from that stream.

Support was sought from the Southeastern Regional Wildlife Advisory Council, Utah Wildlife Board, Utah County Commission, Governor's Office of Planning and Budget, Mountainlands Association of Governments, and a private landowner for introducing CRCT into Kyune Reservoir beginning in 2005.

South Tavaputs Plateau - Green River Desolation Canyon drainage

Support was sought from the Southeastern Regional Wildlife Advisory Council, Utah Wildlife Board, Carbon County Commission, Governor's Office of Planning and Budget, and Southeastern Association of Governments for introducing CRCT into six streams and a private pond of the Green River Desolation Canyon Drainage. These waters include Rock and Bear Canyon creeks (2002); Flat Canyon Creek Sections 1 and 2, and Buckskin Canyon Creek (2003); Summerhouse Canyon Creek (2004); and Bear Springs Pond (2005).

East Manti Mountain - Price River drainage

Electrofishing surveys in the East Manti Mountain area were performed in four streams of the Price River drainage (Hydrologic Unit #14060007). Samples of cutthroat trout were collected for meristic and genetic testing from two of these streams. Trout survival was evaluated in the other two streams by searching for experimentally stocked tiger trout. Habitat suitability was evaluated in all four streams.

Beaver Creek, Section 2 contained only cutthroat trout (Table 2). Population estimates for this stream were 0-158 trout per mile. Average total lengths were 208-224 mm (range 112-354 mm) (Table 3). Samples were collected from 30 fish for meristic and genetic testing (Table 4). Beaver Creek, Section 2 had late spring water temperatures of 46-62 F, adequate flows in three out of four locations, mean widths of 1.7-10.6 ft, mean depths of 0.4-0.5 ft, fair to good substrate ratings, and poor to fair cover ratings (Table 5).

Cutthroat and brown trout were found in Jump Creek (Table 2). Cutthroat trout comprised 75-100% of the trout catch. Population estimates for this stream were 343-634 trout per mile. Average total lengths of cutthroat trout were 155-163 mm (range 105-265 mm) (Table 3). Samples were collected from 31 fish for meristic and genetic testing (Table 4). To control the distribution and abundance of nonnative fish, brown trout collected during electrofishing were removed. Jump Creek had a late spring water temperature of 57 F, an estimated flow of 0.5 cfs, a mean width of 4.5 ft, a mean depth of 0.4 ft, fair to good substrate ratings, and good cover ratings (Table 5).

Tiger trout experimentally stocked during 2000 into the North Fork of Gordon Creek were recovered (Table 2). The population estimate for this stream was 118 trout per mile, suggesting fair to good survival of the approximately 500 fish stocked. Average total length of tiger trout was 179 mm (range 140-205 mm) at recovery (Table 3) compared to 104 mm at stocking. Flow appeared adequate to support a CRCT population (Table 5).

Experimentally stocked tiger trout were recovered from Mud Water Canyon Creek (Table 2). The population estimate for this stream was 440 trout per mile, suggesting fair to good survival of the approximately 1,200 fish stocked into this formerly fishless water. Average total length of tiger trout was 183 mm (range 69-234 mm) at recovery (Table 3) compared to 97 mm at stocking. Mud Water Canyon Creek had an estimated flow of 1.6 cfs, a mean width of 6.4 ft, a mean depth of 0.3 ft, a fair substrate rating, and a fair to good cover rating (Table 5).

Support was sought from the Southeastern Regional Wildlife Advisory Council, Utah Wildlife Board, Carbon County Commission, Governor's Office of Planning and Budget, and Southeastern Association of Governments for rotenoning a portion of the North Fork of Gordon Creek, and introducing CRCT into that stream and Mud Water Canyon Creek, in 2004.

East Manti Mountain - San Rafael River drainage

Electrofishing surveys in the East Manti Mountain area were performed in five streams of the San Rafael River drainage (Hydrologic Unit #14060009). A visual survey was conducted in one stream. Samples of cutthroat trout were collected for meristic and genetic testing from two streams. Habitat suitability was evaluated in five streams. Trout survival was evaluated in one formerly fishless water by searching for experimentally stocked tiger trout.

Boulger Creek, Section 1 contained cutthroat trout and cutthroat/rainbow trout hybrids (Table 2). Cutthroat trout comprised 88% of the trout catch. The population estimate for this stream was 581 trout per mile. This estimate is lower than the 2,294 trout per mile obtained in 2000 (Berg and Slater 2000). However, the 2001 estimate was

for a single electrofishing pass. Average total length of cutthroat trout was 66 mm (range 47-143 mm) (Table 3). Samples were collected from 30 fish for genetic testing (Table 4). Boulger Creek, Section 1 had an early spring water temperature of 36 F, an adequate flow, a mean width of 6.2 ft, a mean depth of 0.4 ft, an excellent substrate rating, and a good cover rating (Table 5).

Cutthroat and brown trout were found in Rolfson Creek, Section 1 (Table 2). Cutthroat trout comprised 97% of the trout catch. The population estimate for this stream was 147 trout per mile. Average total lengths of cutthroat trout were 130-172 mm (range 78-294 mm) (Table 3). Samples were collected from 30 fish for meristic and genetic testing (Table 4). Rolfson Creek, Section 1 had midsummer to midfall water temperatures of 38-56 F, an estimated flow of 0.5 cfs, mean widths of 8.5-9.5 ft, mean depths of 0.2-0.5 ft, good to excellent substrate ratings, and poor cover ratings (Table 5).

No fish were found during electrofishing and a visual survey of Rolfson Creek, Section 2 (Table 2). This stream had an adequate midsummer flow, a mean width of 13.0 ft, a mean depth of 0.6 ft, a good to excellent substrate rating, and a poor cover rating (Table 5). Flows reportedly drop to inadequate levels during winter, so Rolfson Creek, Section 2 should not be included in the Conservation Strategy.

Fish were not discovered in Sawmill Canyon Creek (Table 2). This result is surprising because a few cutthroat trout were collected during a 1999 survey (Berg et. al 2000). Sawmill Canyon Creek had a midsummer water temperature of 50 F, an estimated flow of 0.3 cfs, a mean width of 2.6 ft, a mean depth of 0.3 ft, a fair substrate rating, and an excellent cover rating (Table 5). It appears that Sawmill Canyon Creek has value as an occasional spawning/nursery area for cutthroat trout.

Experimentally stocked tiger trout were recovered from Little Horse Creek (Table 2). Population estimates for this stream were 0-176 fish per mile, suggesting that survival of the approximately 570 fish stocked was fair in some portions of this formerly fishless water and nil in other portions. Average total lengths of tiger trout were 138-178 (range 92-201 mm) at recovery (Table 3) compared to 104 mm at stocking. Little Horse Creek had early summer to late summer water temperatures of 43-55 F, estimated flows of 1.7-4.0 cfs, mean widths of 6.2-13.8 ft, mean depths of 0.2-0.5 ft, good to excellent substrate ratings, and poor to good cover ratings (Table 5).

Several actions were taken to control the distribution and abundance of nonnative fish. Brown trout collected during electrofishing of Rolfson Creek, Section 1 were removed from that stream. Plans were made to switch stocking from brook trout to tiger trout in three lakes beginning in 2002. This eliminates all brook trout stocking in the San Rafael River drainage. Fish migration barriers on Scad Valley, Lake Canyon, Nuck Woodward Canyon, and Tie Fork creeks were inspected to determine if they were

functioning properly. Reconnaissance was performed for a rotenone treatment to remove Yellowstone cutthroat trout from Duck Fork Reservoir and its tributaries.

Support was sought from the Southeastern Regional Wildlife Advisory Council, Utah Wildlife Board, Emery and Sanpete County Commissions, Emery County Public Lands Council, Governor's Office of Planning and Budget, and Six County Association of Governments for conservation actions scheduled to occur in 2002. These actions include rotenoning, introducing CRCT into, and developing a brood lake at Duck Fork Reservoir; and introducing CRCT into Little Horse Creek.

La Sal Mountains - Upper Dolores River drainage

Fish migration barriers were inspected on two streams in the Upper Dolores River drainage (Hydrologic Unit #14030002) of the La Sal Mountains to determine if they were functioning properly. These streams were La Sal Creek, Section 3 and Deer Creek. Minor maintenance was performed on the La Sal Creek, Section 3 barrier.

Support was sought from the Southeastern Regional Wildlife Advisory Council, Utah Wildlife Board, San Juan County Commission, Governor's Office of Planning and Budget, and Southeastern Association of Governments for rotenoning four streams in 2003-2004 and introducing CRCT into them in 2005. These waters include Deer Creek, La Sal Creek Section 3, La Sal Creek Ditch, and La Sal Creek Ditch Main Diversion.

La Sal Mountains - Lower Dolores River drainage

Electrofishing surveys in the La Sal Mountains were performed in two streams of the Lower Dolores River drainage (Hydrologic Unit #14030004). Samples were collected for meristic and genetic testing from those streams, and for whirling disease testing from one of the streams. Habitat suitability was evaluated in both streams.

Beaver Creek, Section 2 contained only cutthroat trout (Table 2), similar to a survey on Section 1 in 1998 (Berg and Slater 1999). The population estimate for Section 2 was 295 trout per mile. Average total length was 194 mm (range 105-294 mm) (Table 3). Samples were collected from 11 fish for meristic and genetic testing (Table 4). When these samples are added to samples collected from Section 1 in 1998, the total number of samples is sufficient for complete meristic and genetic testing. Beaver Creek, Section 2 had a midsummer water temperature of 48 F, an adequate flow, a mean width of 5.7 ft, a mean depth of 0.4 ft, and good substrate and cover ratings (Table 5).

Cutthroat trout was the only species found in Geyser Creek, Section 1 (Table 2). This result is surprising because brook trout were found in addition to cutthroat trout at a different site on the stream in 1999 (Berg et. al 2000). The population estimate in 2001 was 198 trout per mile. Average total length was 178 mm (range 70-280 mm) (Table 3).

Samples were collected from 30 fish for meristic and genetic testing (Table 4). Samples were also collected for whirling disease testing but results are not yet available. Geyser Creek, Section 1 had a midsummer water temperature of 62 F, an adequate flow, a mean width of 8.7 ft, a mean depth of 0.3 ft, a good substrate rating, and a fair cover rating (Table 5).

To control the distribution and abundance of nonnative fish, plans were made to switch stocking from brook trout to tiger trout in one lake beginning in 2002. This eliminates all brook trout stocking in the Lower Dolores River drainage.

Support was sought from the Southeastern Regional Wildlife Advisory Council, Utah Wildlife Board, San Juan County Commission, Governor's Office of Planning and Budget, Southeastern Association of Governments, and a private landowner for introducing CRCT into Geyser Springs Pond beginning in 2001. A presentation to the Fish Health Policy Board is anticipated before the end of the year to seek approval for using Roc Creek as a source of fish for that transplant.

Abajo Mountains - Middle Colorado River drainage

Electrofishing surveys in the Abajo Mountains were performed in two streams of the Middle Colorado River drainage (Hydrologic Unit #14030005). Visual surveys were conducted in those streams and an additional stream. Habitat suitability was evaluated in all three streams.

No fish were found during electrofishing and a visual survey of North Cottonwood Creek (Table 2). Natural barriers, including one waterfall about 20 ft high, make it unlikely that fish historically occupied this stream. North Cottonwood Creek had a midsummer water temperature of 48 F, an estimated flow of 0.7 cfs, a mean width of 5.2 ft, a mean depth of 0.3 ft, a fair to good substrate rating, and an excellent cover rating (Table 5). This stream has adequate habitat to consider it a potential introduction site for CRCT. However, accessing it to stock fish would be difficult.

Fish were not discovered during a visual survey of Trough Canyon Creek (Table 2). This stream had an inadequate flow, a mean width of 1.0 ft, a mean depth of 0.1 ft, a poor substrate rating, and an excellent cover rating (Table 5). Habitat is not suitable for CRCT so Trough Canyon Creek should not be included in the Conservation Strategy.

No fish were found during electrofishing and visual surveys of Tuerto Canyon Creek (Table 2). A waterfall was present at the lower end of this stream. This barrier, along with those downstream on North Cottonwood Creek, make it unlikely that fish historically occupied Tuerto Canyon Creek. The stream had a midsummer water temperature of 46 F, an estimated flow of 0.6 cfs, a mean width of 5.0 ft, a mean depth of 0.3 ft, a good substrate rating, and an excellent cover rating (Table 5). Habitat appears

adequate in Tuerto Canyon Creek to consider it a potential introduction site for CRCT. However, accessing the stream to stock fish would be difficult.

To control the distribution and abundance of nonnative fish, plans were made to switch stocking from brook trout to tiger trout in one lake beginning in 2002. This eliminates all brook trout stocking in the Middle Colorado River drainage.

Abajo Mountains - Montezuma Creek drainage

Plans were made to control the distribution and abundance of nonnative fish in the Montezuma Creek drainage of the Abajo Mountains by switching stocking from brook trout to tiger trout in one lake beginning in 2002. This eliminates all brook trout stocking in the Montezuma Creek drainage.

Henry Mountains - Lower Colorado River drainage

To control the distribution and abundance of nonnative fish, plans were made to switch stocking from brook trout to tiger trout in one lake beginning in 2002. This eliminates all brook trout stocking in the Lower Colorado River drainage. Some people may not consider this management change a conservation action for CRCT because it is unlikely that any trout historically occurred in the Henry Mountains. However, one stream (Crescent Creek) has adequate habitat to support trout and could be converted from a brook trout water to a CRCT water.

SOUTHERN GEOGRAPHIC MANAGEMENT UNIT

East Manti Mountain - Muddy Creek drainage

Electrofishing surveys in the East Manti Mountain area were performed in seven streams of the Muddy Creek drainage (Hydrologic Unit #14070002). Visual surveys were conducted in eight streams. Samples of cutthroat trout were collected for meristic and genetic testing from three streams. Habitat suitability was evaluated in 12 streams.

Cutthroat trout was the only species found in Beaver Creek (Table 2). The population estimate was 533 trout per mile. Average total length was 169 mm (range 43-234 mm) (Table 3). Samples were collected from 30 fish for meristic and genetic testing (Table 4). Beaver Creek had an early summer to midsummer water temperature of 50 F, an estimated flow of 2.1 cfs, a mean width of 7.2 ft, a mean depth of 0.3 ft, and fair substrate and cover ratings (Table 5).

No fish were discovered during electrofishing and a visual survey of Black Fork Creek (Table 2). This stream had a midsummer water temperature of 40 F, an adequate flow, a mean width of 10.0 ft, a mean depth of 0.3 ft, an excellent substrate rating, and a

good cover rating (Table 5). Low water temperature would probably not allow development of a CRCT population. Therefore, Black Fork Creek should not be included in the Conservation Strategy.

Fish were not found during a visual survey of Box Canyon Creek (Table 2). This stream had an inadequate flow, a mean width of 4.0 ft, a mean depth of 0.4 ft, a poor substrate rating, and an excellent cover rating (Table 5). Box Canyon Creek should not be included in the Conservation Strategy.

Absence of fish was noted during a visual survey of Cowboy Creek (Table 2). This stream had an inadequate flow, a mean width of 2.4 ft, a mean depth of 0.1 ft, a fair to good substrate rating, and a poor cover rating (Table 5). Cowboy Creek should not be included in the Conservation Strategy.

Fish Creek contained cutthroat and brook trout (Table 2). Cutthroat trout comprised 78% of the catch. The population estimate was 396 trout per mile. Average total length of cutthroat trout was 167 mm (range 65-252 mm) (Table 3). Samples were collected from 30 fish for meristic and genetic testing (Table 4). Fish Creek had estimated early summer to midsummer water flows of 4.4-6.6 cfs, mean widths of 6.6-9.1 ft, mean depths of 0.4-1.1 ft, poor to excellent substrate ratings, and fair cover ratings (Table 5).

No fish were found during a visual survey of Greens Hollow Creek (Table 2). This stream had an inadequate flow, a mean width of 1.5 ft, a mean depth of 0.1 ft, a poor substrate rating, and a fair to good cover rating (Table 5). Greens Hollow Creek should not be included in the Conservation Strategy.

Cutthroat and brook trout were found in Mill Fork Creek (Table 2). Cutthroat trout comprised 97% of the catch. The population estimate was 87 trout per mile. This estimate is probably low because little attempt was made to collect juvenile-size fish. Average total length of cutthroat trout was 253 mm (range 80-350 mm) (Table 3). Samples were collected from 30 fish for meristic and genetic testing (Table 4). Mill Fork Creek had a midsummer water temperature of 58 F, an estimated flow of 5.0 cfs, a mean width of 14.1 ft, a mean depth of 0.4 ft, an excellent substrate rating, and a fair cover rating (Table 5).

Fish were not discovered during a visual survey of the North Fork of Muddy Creek (Table 2). This stream had an inadequate flow, a mean width of 3.0 ft, a mean depth of 0.1 ft, an excellent substrate rating, and a poor cover rating (Table 5). The North Fork of Muddy Creek should not be included in the Conservation Strategy.

No fish were found during electrofishing and visual surveys of the North Fork of Quitcupah Creek (Table 2). This stream had a midsummer water temperature of 62 F,

an estimated flow of 5.7 cfs, mean widths of 3.0-9.8 ft, mean depths of 0.3-0.4 ft, fair to good substrate ratings, and poor to good cover ratings (Table 5). At this time the North Fork of Quitchupah Creek should not be included in the Conservation Strategy.

Fish were not found during electrofishing and a visual survey of the South Fork of Quitchupah Creek (Table 2). This stream had an inadequate flow, a mean width of 1.0 ft, a mean depth of 0.7 ft, and fair substrate and cover ratings (Table 5). The South Fork of Quitchupah Creek should not be included in the Conservation Strategy.

Brook trout were discovered during a visual survey of Reservoir Creek (Table 2). This stream had an early summer to midsummer water temperature of 60 F, an estimated flow of 0.1 cfs, a mean width of 6.5 ft, a mean depth of 0.1 ft, an excellent substrate rating, and a poor cover rating (Table 5). Reservoir Creek is often dewatered, making habitat unsuitable for sustaining a CRCT population. This stream should not be included in the Conservation Strategy.

Slide Fork Creek contained only cutthroat trout (Table 2). The population estimate was 35 trout per mile. This estimate is low because it involved a single electrofishing pass and no attempt was made to collect juvenile-size fish. Average total length was 272 mm (range 180-350 mm) (Table 3). Slide Fork Creek had a midsummer water temperature of 58 F, an estimated flow of 2.2 cfs, a mean width of 10.1 ft, a mean depth of 0.3 ft, a good substrate rating, and a fair cover rating (Table 5).

To control the distribution and abundance of nonnative fish, brook trout collected during electrofishing were removed from two streams. These streams were Fish Creek and Mill Fork Creek.

DISCUSSION AND RECOMMENDATIONS

The Southeastern Region remains several years ahead of the initial conservation strategy schedule with regard to surveys. Surveys have resulted in the finding of 38 cutthroat trout populations in a total of 142.5 stream miles. Genetic testing has resulted in nine of these populations being designated conservation populations (28.3 stream miles), of which eight (23.7 stream miles) qualify as core conservation populations. Two populations (1.8 stream miles) have been found to have a moderate to high level of hybridization with rainbow trout and/or nonnative cutthroat trout. Twenty-seven populations (112.4 stream miles) still need genetic testing. We recommend that all remaining scheduled surveys to search for populations of CRCT, collect samples for meristic and genetic testing, and evaluate habitat be completed during years 2002-2003. We encourage finishing genetic testing of all populations by the end of 2003.

We recommend that an exciting new phase of CRCT management begin in 2002: expanding the distribution of CRCT. In an aggressive first year, we plan to treat two

waters with rotenone to remove nonnative trout and introduce CRCT into six waters (two lakes totaling about 48 acres and four streams totaling 10.7 miles). One of these waters, Duck Fork Reservoir, will be developed as a brood lake to allow production of large numbers of CRCT for conservation and sport fishing purposes. Ten additional waters (one lake of about 20 acres and 9 streams totaling 32.8 miles) are scheduled for CRCT introduction during 2003-2010.

Accomplishing proposed work will easily exceed UDWR commitments/long-term objectives for the Southeastern Region under the Utah and range-wide conservation agreements. The proposed 2002 Conservation Strategy shows work completed on each water and the timeline for specific conservation actions (Table 6). The individual status of all waters currently being utilized and/or considered for CRCT management is indicated in Table 7.

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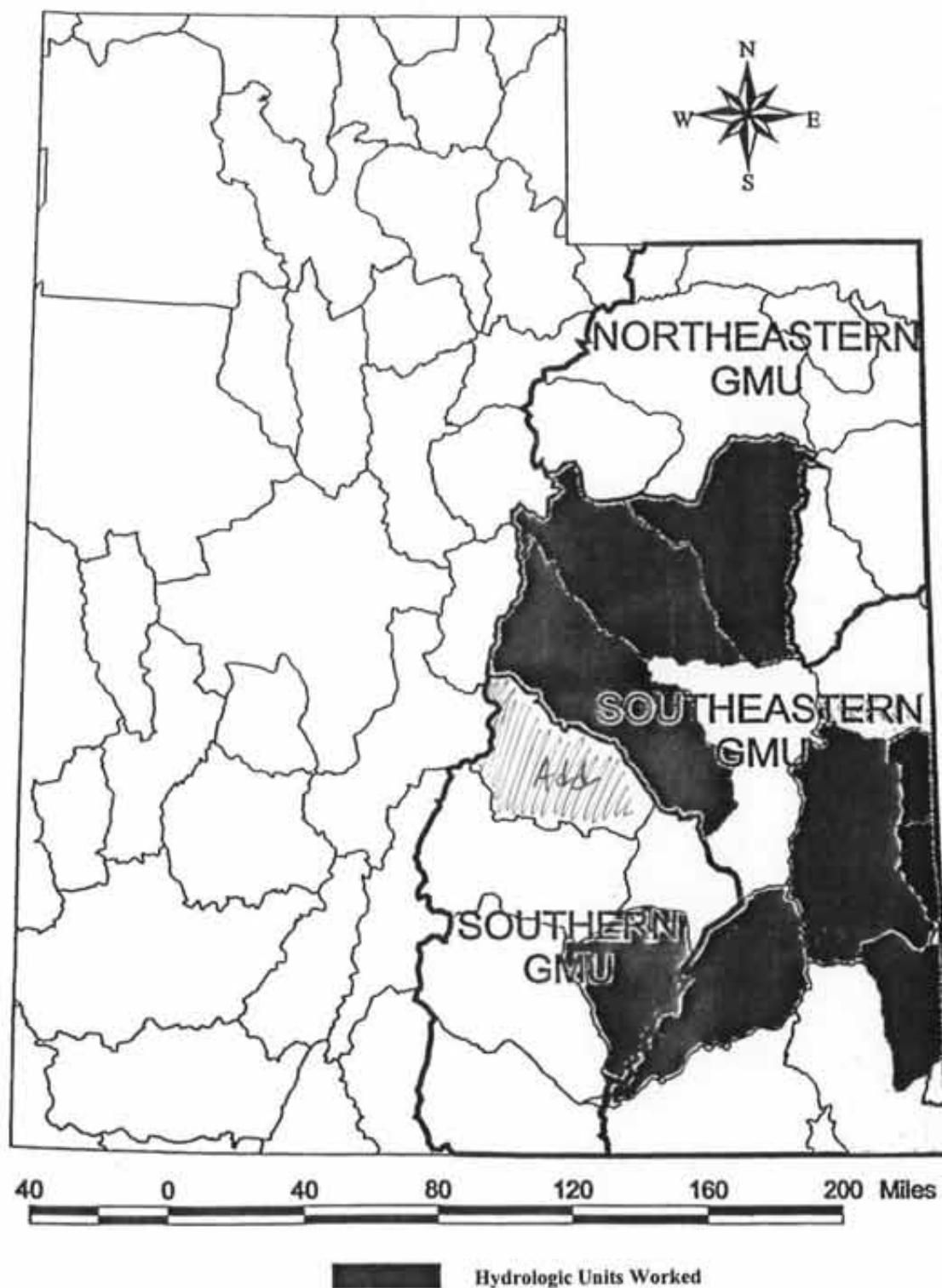


Figure 1. Areas where Colorado River cutthroat trout management occurred during 2001.

Table 1. Streams surveyed by electrofishing and visual observations during 2001.

Area	Drainage	Stream name	Water I. D. number	Survey date	Station location	Electro-fishing area	Visual search area
South Tawaputs Plateau	Price River (14060007)	Tabbyune Creek Section 1	II AK 190C 01	07/24/01	Beginning at confluence with White River Beginning about 1.0 mile above confluence with White River	200 ft	None
		Tabbyune Creek Section 2	II AK 190C 02	07/24/01	Beginning about 0.3 mile below forks	1,320 ft	None
		White River Section 1	II AK 190 01	07/23/01	Beginning at confluence with Price River Beginning at Hwy 96 bridge Beginning about 0.3 mile below bridge on road to Tabbyune Creek	1,320 ft 2,500 ft 1,320 ft	None None None
		White River, Middle Fork	II AK 190B 01 01	09/04/01	Beginning 800 ft below Watch Canyon	600 ft	None
		White River, Right Fork	II AK 190A 01	07/24/01	Beginning about 0.3 mile above confluence with White River Beginning 900 ft below confluence with Johnson Fork Creek	200 ft 900 ft	None None

Table 1. Continued.

Area	Drainage	Stream name	Water I. D. number	Survey date	Station location	Electro-fishing area	Visual search area
East Manti Mountain	Price River (14060007)	Beaver Creek Section 2	II AK 180 02	06/06/01	Beginning at road crossing 100 ft below culvert/outlet of Thorup Pond dam	100 ft	None
				06/06/01	Beginning about 0.3 mile below road crossing and culvert/outlet of Thorup Pond dam	855 ft	None
				06/06/01	Beginning about 0.3 mile below confluence with Jump Creek	450 ft	None
				07/03/01	Beginning about 0.2 mile above confluence with Sand Gulch	100 ft	None
		Gordon Creek, North Fork	II AK 100A 01	07/29/01	Beginning about 1.8 miles above Bryner Canyon	492 ft	None
				06/06/01	Beginning about 2.2 miles above confluence with Beaver Creek	780 ft	None
		Jump Creek	II AK 180A 01		Beginning about 2.1 miles above confluence with Beaver Creek	100 ft	None
				07/05/01	Beginning 528 ft below Summerhouse Pond	528 ft	None
	San Rafael River (14060009)	Mud Water Canyon Creek	II AK 100B 03 01	07/05/01	Beginning 528 ft below Summerhouse Pond	528 ft	None
		Boulger Creek Section 1	II AI 130U 01	03/24/01	Beginning about 0.1 mile above Electric Lake	300 ft	None

Table 1. Continued.

Area	Drainage	Stream name	Water I. D. number	Survey date	Station location	Electro-fishing area	Visual search area
East Manti Mountain	San Rafael River (14060009)	Little Horse Creek	II AI 120J 01 01	06/11/01	Beginning 450 ft below main road crossing	450 ft	None
				08/21/01	Beginning at main road crossing	540 ft	None
				08/21/01	Beginning 540 ft above main road crossing	642 ft	None
				06/25/01	Beginning 100 ft below first crossing on Buck Flat Road	150 ft	None
				06/25/01	Beginning about 0.3 mile above first crossing on Buck Flat Road	100 ft	None
		Rolfson Creek Section 1	II AI 130M 04 01	08/08/01	Beginning 1,000 ft below main road crossing	1,400 ft	None
		Rolfson Creek Section 2	II AI 130M 04 02	10/26/01	Beginning 300 ft below main road crossing	500 ft	None
		Sawmill Canyon Creek	Unassigned	08/08/01	Beginning 600 ft above Rolfson Reservoir	200 ft	200 ft
		Beaver Creek	I AZ 120J 01 01	08/08/01	Beginning 400 ft below main road crossing	700 ft	None
		Muddy Creek (14070002)		08/21/01	Beginning 700 ft below confluence with Julius Flat Reservoir outlet	700 ft	None
		Black Fork Creek	I AZ 120J 03 02	08/01/01	Beginning 300 ft below upper road crossing	300 ft*	300 ft

Table 1. Continued.

Area	Drainage	Stream name	Water I. D. number	Survey date	Station location	Electro-fishing area	Visual search area
East Manti Mountain	Muddy Creek (14070002)	Box Canyon Creek	Unassigned	10/22/01	Beginning about 1.5 miles above The Box	None	3,960 ft
		Cowboy Creek	Unassigned	10/22/01	Beginning 300 ft below road crossing	None	300 ft
		Fish Creek	1 AZ 1201 02 01	07/06/01	Beginning at main road crossing	700 ft	None
		Greens Hollow Creek	Unassigned	10/22/01	Beginning at confluence with Reservoir Creek	400 ft	None
		Mill Fork Creek	1 AZ 1201 02A 01	08/01/01	Beginning 300 ft below main road crossing	None	300 ft
		Muddy Creek, North Fork	1 AZ 1201 01	10/22/01	Beginning 528 ft below main road crossing	1.1 miles	None
		Quitichupah Creek, North Fork	1 AZ 120G 06 01	07/10/01	Beginning 1,800 ft above road crossing	None	300 ft
					Beginning about 2.7 miles above confluence with Quitichupah Creek	500 ft	None
					Beginning at upper road crossing	100 ft	100 ft
		Quitichupah Creek, South Fork	1 AZ 120G 07 01	10/22/01	Beginning at upper road crossing	None	0.5 mile
				07/10/01	Beginning 600 ft above road crossing	150 ft	150 ft

Table 1. Continued.

Area	Drainage	Stream name	Water I. D. number	Survey date	Station location	Electro-fishing area	Visual search area
East Maniti Mountain	Muddy Creek (14070002)	Reservoir Creek	Unassigned	07/07/01	Beginning about 1.3 miles below Henningson Reservoir	None	300 ft
		Slide Fork Creek	Unassigned	08/01/01	Beginning 1,584 ft above confluence with Mill Fork Creek	600 ft	None
La Sal Mountains	Lower Dolores River (14030004)	Beaver Creek Section 2	1 BQ 030 01	07/12/01	Beginning about 0.5 mile above main road crossing	197 ft	None
		Geyser Creek Section 1	1 BQ 050B 01	07/12/01	Beginning about 1.0 mile above confluence with Roc Creek	800 ft	None
Ahajito Mountains	Middle Colorado River (14030005)	North Cottonwood Creek	Unassigned	07/18/01	Beginning 900 ft below confluence of Trough and Tuerto canyon creeks	None	900 ft
				10/30/01	Beginning 100 ft below confluence of Trough and Tuerto canyon creeks	100 ft	None
		Trough Canyon Creek	Unassigned	07/18/01	Beginning at confluence with North Cottonwood Creek	None	400 ft
		Tuerto Canyon Creek	Unassigned	07/18/01	Beginning at confluence with North Cottonwood Creek	None	700 ft
				10/30/01	Beginning at trail crossing about 2.2 miles above confluence with North Cottonwood Creek	300 ft	2.2 miles

*Spot sampling rather than continuous electrofishing.

Table 2. Population estimates and visual observations of trout at streams surveyed during 2001. CTT = cutthroat trout, CTH = cutthroat/rainbow trout hybrid, BNT = brown trout, BKT = brook trout, TGT = tiger trout, MSC = mottled sculpin, SPD = speckled dace, RSS = redeye shiner, USK = unidentified sucker, and UTC = Utah chub.

Area	Drainage	Stream name	Survey date	Station location	Electrofishing			Visual observations
					Number of trout per mile	Trout species composition	Other species	
South Tavaputs Plateau	Price River (14060007)	Tabbyune Creek Section 1	07/24/01	Beginning at confluence with White River Beginning about 1.0 mile above confluence with White River	26*	100% CTT	None	-
		Tabbyune Creek Section 2	07/24/01	Beginning about 0.3 mile below forks	40*	100% CTT	None	-
		White River Section 1	07/23/01	Beginning at confluence with Price River	200*	100% CTT	None	-
				Beginning at Hwy 96 bridge Beginning about 0.3 mile below bridge on road to Tabbyune Creek	0* 6* 4*	- 33% CTT 67% BNT 100% BNT	MSC SPD USK RSS MSC SPD USK RSS UTC MSC SPD USK RSS UTC	- - -

Table 2. Continued.

Area	Drainage	Stream name	Survey date	Station location	Electrofishing			Visual observations
					Number of trout per mile	Trout species composition	Other species	
South Tawaputs Plateau	Price River (14060007)	White River, Middle Fork	07/24/01	Beginning 800 ft below Watch Canyon	528*	100% CTT	None	-
		White River, Right Fork	07/24/01	Beginning about 0.3 mile above confluence with White River	0*	-	MSC SPD USK RSS	-
				Beginning 900 ft below confluence with Johnson Fork Creek	352*	100% CTT	MSC SPD USK	-
East Manti Mountain	Price River (14060007)	Beaver Creek Section 2	06/06/01	Beginning at road crossing 100 ft below culvert/outlet of Thorup Pond dam	158*	100% CTT	USK	-
				Beginning about 0.3 mile below road crossing and culvert/outlet of Thorup Pond dam	25*	100% CTT	MSC USK	-
				Beginning about 0.3 mile below confluence with Jump Creek	47*	100% CTT	MSC	-
			07/03/01	Beginning about 0.2 mile above confluence with Sand Gulch	0*	-	None	-
		Gordon Creek, North Fork	07/29/01	Beginning about 1.8 miles above Bryner Canyon	118*	100% TGT	None	-

Table 2. Continued.

Area	Drainage	Stream name	Survey date	Station location	Electrofishing			Visual observations
					Number of trout per mile	Trout species composition	Other species	
East Manti Mountain	Price River (14060007)	Jump Creek	06/06/01	Beginning about 2.2 miles above confluence with Beaver Creek	343*	75% CTT 25% BNT	None	-
				Beginning about 2.1 miles above confluence with Beaver Creek	634*	100 % CTT	None	-
		Mud Water Canyon Creek	07/05/01	Beginning 528 ft below Summerhouse Pond	440*	100% TGT	None	-
		Boulger Creek Section 1	03/24/01	Beginning about 0.1 mile above Electric Lake	581*	88% CTT 12% CTH	MSC	-
		Little Horse Creek	06/11/01	Beginning 450 ft below main road crossing	176*	100% TGT	None	-
			08/21/01	Beginning at main road crossing	0*	-	None	-
				Beginning 540 ft above main road crossing	176*	100% TGT	None	-
			06/25/01	Beginning 100 ft below first crossing on Buck Flat Road	0*	-	None	-
				Beginning about 0.3 mile above first crossing on Buck Flat Road	0*	-	None	-

Table 2. Continued.

Area	Drainage	Stream name	Survey date	Station location	Electrofishing			Visual observations
					Number of trout per mile	Trout species composition	Other species	
East Manti Mountain	San Rafael River (14060009)	Rolfson Creek Section 1	08/08/01	Beginning 1,000 ft below main road crossing	147*	97% CTT 3% BNT	None	-
			10/26/01	Beginning 300 ft below main road crossing				
		Rolfson Creek Section 2	08/08/01	Beginning 600 ft above Rolfson Reservoir	0*	-	None	No fish
		Sawmill Canyon Creek	08/08/01	Beginning 400 ft below main road crossing	0*	-	None	-
	Muddy Creek (14070002)	Beaver Creek	08/21/01	Beginning 700 ft below confluence with Julius Flat Reservoir outlet	533 (+1,026)	100% CTT	None	-
		Black Fork Creek	08/01/01	Beginning 300 ft below upper road crossing	0*	-	None	No fish
		Box Canyon Creek	10/22/01	Beginning about 1.5 miles above The Box	-	-	-	No fish
		Cowboy Creek	10/22/01	Beginning 300 ft below road crossing	-	-	-	No fish
		Fish Creek	07/06/01	Beginning at main road crossing	396 (+50)	78% CTT 22% BKT	None	-
				Beginning at confluence with Reservoir Creek	0*	-	None	-

Table 2. Continued.

Area	Drainage	Stream name	Survey date	Station location	Electrofishing			Visual observations
					Number of trout per mile	Trout species composition	Other species	
East Manti Mountain	Muddy Creek (14070002)	Greens Hollow Creek	10/22/01	Beginning 300 ft below main road crossing	-	-	-	No fish
		Mill Fork Creek	08/01/01	Beginning 528 ft below main road crossing	87 (+30)	97% CTT 3% BKT	None	-
		Muddy Creek, North Fork	10/22/01	Beginning 1,800 ft above road crossing	-	-	-	No fish
		Quitcupah Creek, North Fork	7/10/01	Beginning about 2.7 miles above confluence with Quitcupah Creek	0*	-	None	-
				Beginning at upper road crossing	0*	-	None	No fish
			10/22/01	Beginning at upper road crossing	-	-	-	No fish
La Sal Mountains		Quitcupah Creek, South Fork	07/10/01	Beginning 600 ft above road crossing	0*	-	None	No fish
		Reservoir Creek	07/07/01	Beginning about 1.3 miles below Hemmingson Reservoir	-	-	-	BKT
		Slide Fork Creek	08/01/01	Beginning 1,584 ft above confluence with Mill Fork Creek	35***	100% CTT	None	-
		Beaver Creek Section 2	07/12/01	Beginning about 0.5 mile above main road crossing	295*	100% CTT	None	-
		Lower Dolores River (14030004)						

Table 2. Continued.

Area	Drainage	Stream name	Survey date	Station location	Electrofishing			Visual observations
					Number of trout per mile	Trout species composition	Other species	
La Sal Mountains	Lower Dolores River (14030004)	Geysers Creek Section I	07/12/01	Beginning about 1.0 mile above confluence with Roc Creek	198*	100% CTT	None	-
Abajo Mountains	Middle Colorado River (14030005)	North Cottonwood Creek	07/18/01	Beginning 900 ft below confluence of Trough and Tuerto canyon creeks	-	-	-	No fish
			10/30/01	Beginning 100 ft below confluence of Trough and Tuerto canyon creeks	0*	-	None	-
		Trough Canyon Creek	07/18/01	Beginning at confluence with North Cottonwood Creek	-	-	-	No fish
		Tuerto Canyon Creek	07/18/01 10/30/01	Beginning at confluence with North Cottonwood Creek Beginning at trail crossing about 2.2 miles above confluence with North Cottonwood Creek	- 0*	- -	- None	No fish No fish

*Minimum estimate based on single pass with electrofishing gear.

**Adult fish (>180 mm) only.

Table 3. Average and range in total length of trout sampled from streams during 2001. CTT = cutthroat trout, CTH = cutthroat/rainbow trout hybrid, BNT = brown trout, BKT = brook trout, and TGT = tiger trout.

Area	Drainage	Stream name	Survey date	Station location	Species	Sample size (n)	Mean total length (and range) in millimeters
East Manti Mountain	Price River (14060007)	Beaver Creek Section 2	06/06/01	Beginning at road crossing 100 ft below culvert/outlet of Thorup Pond dam	CTT	3	213 (165-305)
				Beginning about 0.3 mile below road crossing and culvert/outlet of Thorup Pond dam	CTT	4	224 (152-260)
				Beginning about 0.3 mile below confluence with Jump Creek	CTT	23	208 (112-354)
	Gordon Creek, North Fork	Jump Creek	06/06/01	Beginning about 1.8 miles above Bryner Canyon	TGT	11	179 (140-205)
				Beginning about 2.2 miles above confluence with Beaver Creek	CTT BNT	24 6	155 (105-215) 108 (98-115)
				Beginning about 2.1 miles above confluence with Beaver Creek	CTT	12	163 (126-265)
	San Rafael River (14060009)	Mud Water Canyon Creek	07/05/01	Beginning 528 ft below Summerhouse Pond	TGT	44	183 (69-234)
				Beginning about 0.1 mile above Electric Lake	CTT CTH	29 4	66 (47-143) 80 (70-89)
				Beginning 450 ft below main road crossing	TGT	15	138 (92-178)
				Beginning 540 ft above main road crossing	TGT	11	178 (145-201)

Table 3. Continued.

Area	Drainage	Stream name	Survey date	Station location	Species	Sample size (n)	Mean total length (and range) in millimeters
East Manti Mountains	San Rafael River (14060009)	Rolfson Creek Section 1	08/08/01	Beginning 1,000 ft below main road crossing	CTT BNT	32 1	130 (100-237) 160
			10/26/01	Beginning 300 ft below main road crossing	CTT BNT	9 3	172 (78-294) 142 (97-224)
	Muddy Creek (14070002)	Beaver Creek	08/21/01	Beginning 700 ft below confluence with Julius Flat Reservoir outlet	CTT	30	169 (43-234)
		Fish Creek	07/06/01	Beginning at main road crossing	CTT BKT	38 11	167 (65-252) 133 (72-210)
		Mill Fork Creek	08/01/01	Beginning 528 ft below main road crossing	CTT BKT	30 1	253 (80-350) 200
La Sal Mountains	Lower Dolores River (14030004)	Slide Fork Creek	08/01/01	Beginning 1,584 ft above confluence with Mill Fork Creek	CTT	4	272 (180-350)
		Beaver Creek Section 2	07/12/01	Beginning about 0.5 mile above main road crossing	CTT	11	194 (105-294)
		Geyser Creek Section 1	07/12/01	Beginning about 1.0 mile above confluence with Roc Creek	CTT	30	178 (70-280)

Table 4. Cutthroat trout samples collected from streams during 2001 for meristic and genetic testing.

Area	Drainage	Stream name	Survey date	Station location	Number of			Preservation method
					Large whole fish	Fin clips or fingerlings	Fish represented	
East Mamti Mountain	Price River (14060007)	Beaver Creek Section 2	06/06/01	Beginning at road crossing 100 ft below culvert/outlet of Thorup Pond dam	0	3	3	Freezing
				Beginning about 0.3 mile below road crossing and culvert/outlet of Thorup Pond dam	0	4	4	Freezing
				Beginning about 0.3 mile below confluence with Jump Creek	10	13	23	Freezing
		Jump Creek	06/06/01	Beginning about 2.2 miles above confluence with Beaver Creek	10	19	19	Freezing
				Beginning about 2.1 miles above confluence with Beaver Creek	0	12	12	Freezing
				Beginning about 0.1 mile above Electric Lake	0	30	30	Freezing
	San Rafael River (14060009)	Boulger Creek Section 1	03/24/01	Beginning 1,000 ft below main road crossing	10	11	21	Freezing
		Rolison Creek Section 1	10/26/01	Beginning 300 ft below main road crossing	0	9	9	Freezing

Table 4. Continued.

Area	Drainage	Stream name	Survey date	Station location	Number of			Preservation method
					Large whole fish	Fin clips or fingerlings	Fish represented	
East Manti Mountain	Muddy Creek (14070002)	Beaver Creek	08/21/01	Beginning 700 ft below confluence with Julius Flat Reservoir outlet.	10	20	30	Freezing
		Fish Creek	07/06/01	Beginning at main road crossing	10	20	30	Freezing
		Mill Fork Creek	08/01/01	Beginning 528 ft below main road crossing	10	20	30	Freezing
La Sal Mountains	Lower Dolores River (14030004)	Beaver Creek Section 2	07/12/01	Beginning about 0.5 mile above main road crossing	7	4	11	Freezing
		Geyser Creek Section 1	07/12/01	Beginning about 1.0 mile above confluence with Roc Creek	10	20	30	Freezing

Table 5. Habitat characteristics of streams surveyed during 2001.

Area	Drainage	Stream name	Survey date	Station location	Water temperature (°F)	Water flow (cfs)	Mean width (ft)	Mean depth (ft)	Substrate rating	Cover rating
South Tawaputs Plateau	Price River (14060007)	Tabbyune Creek Section 1	07/24/01	Beginning at confluence with White River	62 (5:30 p.m.)	1.5	4.4	0.4	Fair	Excellent
				Beginning about 1.0 mile above confluence with White River	69 (4:15 p.m.)	1.7	5.0	0.3	Good	Poor
		Tabbyune Creek Section 2	07/24/01	Beginning about 0.3 mile below forks	54 (4:00 p.m.)	Adequate	16.8	1.2	Poor	Fair
		White River Section 1	07/23/01	Beginning at confluence with Price River	-	Adequate	25.5	1.8	Poor	Poor
				Beginning at Hwy 96 bridge	63 (2:30 p.m.)	Adequate	13.1	0.7	Poor-fair	Poor
				Beginning about 0.3 mile below bridge on road to Tabbyune Creek	-	Adequate	-	-	Poor	Fair

Table 5. Continued.

Area	Drainage	Stream name	Survey date	Station location	Water temperature (°F)	Water flow (cfs)	Mean width (ft)	Mean depth (ft)	Substrate rating	Cover rating
South Tawaputs Plateau	Price River (14060007)	White River, Left Fork	07/24/01	Beginning 600 ft below road crossing, near confluence with White River	73 (2:00 p.m.)	1.4	8.5	0.4	Fair	Poor
				Beginning 100 ft below confluence with Middle Fork of the White River	74 (2:45 p.m.)	1.3	12.5	0.3	Good	Fair
				Beginning about 2.0 miles above confluence with Middle Fork of the White River	71 (3:00 p.m.)	0.6	6.0	0.1	Fair-good	Poor
		White River, Middle Fork	07/24/01	Beginning at confluence with Left Fork of the White River	74 (2:50 p.m.)	2.4	8.6	0.3	Good	Good
			09/04/01	Beginning 800 ft below Watch Canyon	-	Adequate	8.0	0.3	Good	Poor

Table 5. Continued.

Area	Drainage	Stream name	Survey date	Station location	Water temperature (°F)	Water flow (cfs)	Mean width (ft)	Mean depth (ft)	Substrate rating	Cover rating
South Tawaputs Plateau	Price River (14060007)	White River, Right Fork	07/24/01	Beginning about 0.3 mile above confluence with White River.	63 (1:00 p.m.)	Adequate	18.2	1.6	Poor	Good-excellent
				Beginning 900 ft below confluence with Johnson Fork Creek	68 (4:00 p.m.)	10.0	12.2	0.6	Fair	Fair

Table 5. Continued.

Area	Drainage	Stream name	Survey date	Station location	Water temperature (°F)	Water flow (cfs)	Mean width (ft)	Mean depth (ft)	Substrate rating	Cover rating
East Manti Mountain	Price River (14060007)	Beaver Creek Section 2	06/06/01	Beginning at road crossing 100 ft below culvert/outlet of Thorup Pond dam	-	Adequate	10.6	0.4	Good	Fair
				Beginning about 0.3 mile below road crossing and culvert/outlet of Thorup Pond dam	46 (10:00 a.m.)	Adequate	10.6	0.4	Good	Fair
				Beginning about 0.3 mile below confluence with Jump Creek	62 (3:00 p.m.)	Adequate	6.0	0.5	Poor	Poor
			7/3/01	Beginning about 0.2 mile above confluence with Sand Gulch	-	Inadequate	1.7	0.5	Fair	Fair

Table 5. Continued.

Area	Drainage	Stream name	Survey date	Station location	Water temperature (°F)	Water flow (cfs)	Mean width (ft)	Mean depth (ft)	Substrate rating	Cover rating
East Manti Mountain	Price River (14060007)	Gordon Creek, North Fork	07/29/01	Beginning about 1.8 miles above Bryner Canyon	-	Adequate	-	-	-	-
		Jump Creek	06/06/01	Beginning about 2.2 miles above confluence with Beaver Creek	57 (noon)	0.5	4.5	0.4	Fair-good	Good
				Beginning about 2.1 miles above confluence with Beaver Creek	-	Adequate	-	-	Fair-good	Good
		Mud Water Canyon Creek	07/05/01	Beginning 528 ft below Summerhouse Pond	-	1.6	6.4	0.3	Fair	Fair-good
	San Rafael River (14060009)	Boulger Creek Section 1	03/24/01	Beginning about 0.1 mile above Electric Lake	36 (9:30 a.m.)	Adequate	6.2	0.4	Excellent	Good

Table 5. Continued.

Area	Drainage	Stream name	Survey date	Station location	Water temperature (°F)	Water flow (cfs)	Mean width (ft)	Mean depth (ft)	Substrate rating	Cover rating
East Mantle Mountain	San Rafael River (14/060009)	Little Horse Creek	06/11/01	Beginning 450 ft below main road crossing	-	Adequate	13.8	0.5	Excellent	Good
			08/21/01	Beginning at main road crossing	43 (11:00 a.m.)	Adequate	9.9	0.2	Excellent	Poor
				Beginning 540 ft above main road crossing	44 (11:20 a.m.)	1.7	7.2	0.3	Good	Good
			06/25/01	Beginning 100 ft below first crossing on Buck Flat Road	55 (3:00 p.m.)	4.0	10.9	0.4	Excellent	Poor
				Beginning about 0.3 mile above first crossing on Buck Flat Road	55 (3:40 p.m.)	3.7	6.2	0.3	Excellent	Poor

Table 5. Continued.

Area	Drainage	Stream name	Survey date	Station location	Water temperature (°F)	Water flow (cfs)	Mean width (ft)	Mean depth (ft)	Substrate rating	Cover rating
East Manti Mountain	San Rafael River (14060009)	Rolfson Creek Section 1	08/08/01	Beginning 1,000 ft below main road crossing	56 (10:20 a.m.)	0.5	8.5	0.2	Good	Poor
			10/26/01	Beginning 300 ft below main road crossing	38 (11:00 a.m.)	Adequate	9.5	0.5	Excellent	Poor
		Rolfson Creek Section 2	08/08/01	Beginning 600 ft above Rolfson Reservoir	-	Adequate	13.0	0.6	Good-excellent	Poor
		Sawmill Canyon Creek	08/08/01	Beginning 400 ft below main road crossing	50 (8:50 a.m.)	0.3	2.6	0.3	Fair	Excellent
	Muddy Creek (14070002)	Beaver Creek	07/07/01	Beginning 700 ft below confluence with Julius Flat Reservoir outlet	50 (9:30 a.m.)	2.1	7.2	0.3	Fair	Fair
		Black Fork Creek	08/01/01	Beginning 300 ft below upper road crossing	40 (5:30 p.m.)	Adequate	10.0	0.3	Excellent	Good
		Box Canyon Creek	10/22/01	Beginning about 1.5 miles above The Box	-	Inadequate	4.0	0.4	Poor	Excellent

Table 5. Continued.

Area	Drainage	Stream name	Survey date	Station location	Water temperature (°F)	Water flow (cfs)	Mean width (ft)	Mean depth (ft)	Substrate rating	Cover rating
East Mamit Mountain	Muddy Creek (14070002)	Cowboy Creek	10/22/01	Beginning 300 ft below road crossing	-	Inadequate	2.4	0.1	Fair-good	Poor
		Fish Creek	07/06/01	Beginning at main road crossing	-	6.6	9.1	1.1	Poor	Fair
				Beginning at confluence with Reservoir Creek	-	4.4	6.6	0.4	Excellent	Fair
		Greens Hollow Creek	10/22/01	Beginning 300 ft below main road crossing	-	Inadequate	1.5	0.1	Poor	Fair-good
		Mill Fork Creek	08/01/01	Beginning 528 ft below main road crossing	58 (3:00 p.m.)	5.0	14.1	0.4	Excellent	Fair
		Muddy Creek, North Fork	10/22/01	Beginning 1,800 ft above road crossing	-	Inadequate	3.0	0.1	Excellent	Poor

Table 5. Continued.

Area	Drainage	Stream name	Survey date	Station location	Water temperature (°F)	Water flow (cfs)	Mean width (ft)	Mean depth (ft)	Substrate rating	Cover rating
East Manti Mountain	Muddy Creek (14070002)	Quitcupah Creek, North Fork	07/10/01	Beginning about 2.7 miles above confluence with Quitcupah Creek	62 (11:45 a.m.)	5.7	9.8	0.4	Fair	Poor
				Beginning at upper road crossing	-	Marginal	3.0	0.4	Good	Fair
			10/22/01	Beginning at upper road crossing	-	Marginal	3.5	0.3	Good	Fair-good
		Quitcupah Creek, South Fork	07/10/01	Beginning 600 ft above road crossing	-	Inadequate	1.0	0.7	Fair	Fair
		Reservoir Creek	07/07/01	Beginning about 1.3 miles below Henningson Reservoir	60 (11:35 a.m.)	0.1	6.5	0.1	Excellent	Poor
		Slide Fork	08/01/01	Beginning 1,584 ft above confluence with Mill Fork Creek	58 (4:00 p.m.)	2.2	10.1	0.3	Good	Fair

Table 5. Continued.

Area	Drainage	Stream name	Survey date	Station location	Water temperature (°F)	Water flow (cfs)	Mean width (ft)	Mean depth (ft)	Substrate rating	Cover rating
La Sal Mountains	Lower Dolores River (14030004)	Beaver Creek Section 2	07/12/01	Beginning about 0.5 mile above main road crossing	48 (11:00 a.m.)	Adequate	5.7	0.4	Good	Good
		Geysers Creek Section 1	07/12/01	Beginning about 1.0 mile above confluence with Roc Creek	62 (5:00 p.m.)	Adequate	8.7	0.3	Good	Fair
Abajo Mountains	Middle Colorado River (14030005)	North Cottonwood Creek	07/18/01	Beginning 900 ft below confluence of Trough and Tuerto canyon creeks	48 (11:00 a.m.)	0.7	5.2	0.3	Fair-good	Excellent
		Trough Canyon Creek	07/18/01	Beginning at confluence with North Cottonwood Creek	-	Inadequate	1.0	0.1	Poor	Excellent
		Tuerto Canyon Creek	07/18/01	Beginning at confluence with North Cottonwood Creek	46 (9:30 a.m.)	0.6	5.0	0.3	Good	Excellent

Table 6. Proposed year 2002 Southeastern Region Colorado River Cutthroat Trout Conservation Strategy.

Drainage Stream Tributary	State Water ID #	Fish surveys	Genetic analysis	Habitat surveys	Habitat enhancement	Constructed barrier	Native control	Introduction/reintroduction	Monitoring
Green River Devolution Canyon (14060005)									
Argyle Creek	II BA 030 01	Completed	NA	More 2003	? (BLM)	Unnecessary	Unnecessary	No plans	No plans
Flat Canyon Creek	II AX 01-02	Completed	NA	Completed	No plans	Unnecessary	Unnecessary	2003	2005
Summerhouse Canyon Creek	II AX 040 01-02	Completed	NA	Completed	No plans	Unnecessary	Unnecessary	2004	2006
Range Creek Section 4	II AQ 04	Completed	2002	Completed	No plans	No plans	No plans	No plans	2009
Rock Creek Section 2	II AW 02	Completed	NA	Completed	No plans	Unnecessary	Unnecessary	2002	2004
Bear Canyon Creek	II AW 040 01	Completed	NA	Completed	No plans	Unnecessary	Unnecessary	2002	2004
Buckskin Canyon Creek	II AW 030 01	Completed	NA	Completed	No plans	Unnecessary	Unnecessary	2003	2005
Price River (14060007)									
Beaver Creek	II AK 180 01-02	Completed	2003	Completed	No plans	No plans	No plans	No plans	2011
Jump Creek	II AK 180A 01	Completed	2003	Completed	No plans	No plans	No plans	No plans	2011
Kynae Creek	II AK 170 01	Completed	NA	Completed	No plans	No plans	No plans	No plans	2010
Right Fork Kynae Creek	II AK 170A 01	Completed	2003	Completed	No plans	No plans	No plans	No plans	2010
Kynae Reservoir Creek	II AK 170A 01 01	Completed	2003	Completed	No plans	No plans	No plans	No plans	2010
Kynae Reservoir	II 714	NA	NA	Completed	No plans	Unnecessary	Unnecessary	2005-2007	2007
Mud Water Canyon Creek	II AK 100B 03 01	Completed	NA	Completed	No plans	Unnecessary	Unnecessary	2004	2006
North Fork Gordon Creek	II AK 100A 01	Completed	2002	Completed	Completed	Unnecessary	2004	2004	2006
Right Fork Grassy Trail Creek	II AK 020A 01	Completed	NA	Completed	No plans	No plans	No plans	No plans	No plans
White River	II AK 190 01-02	Completed	NA	Completed	2003	No plans	No plans	No plans	2011
Left Fork White River	II AK 190B 01	Completed	Completed	Completed	? (FS)	No plans	No plans	No plans	2011

Table 6. Continued.

Drainage Stream Tributary	State Water ID #	Fish surveys	Genetic analysis	Habitat surveys	Habitat enhancement	Constructed barrier	Nonnative control	Introduction/ reintroduction	Monitoring
Price River (14060007)									
White River									
Left Fork White River	II AK 190B 01 01	Completed	2002	Completed	? (FS)	No plans	No plans	No plans	2011
Middle Fork White River	II AK 190A 01	Completed	Completed	Completed	Completed	No plans	No plans	No plans	2011
Right Fork White River	II AK 190A 01 01	Completed	NA	Completed	? (FS)	No plans	No plans	No plans	2008
Johnson Fork Creek	II AK 190A 02 01	Completed	NA	Completed	? (FS)	No plans	No plans	No plans	2008
Trail Hollow Creek	II AK 190C 01-02	Completed	Completed	Completed	No plans	No plans	No plans	No plans	2011
Tahyane Creek									
Upper Colorado River (14030001)									
Nash Wash Section 2	I BR 02	Completed	NA	Completed	Completed	Unnecessary	No plans	2006	2008
San Rafael River (14060009)									
Big Bear Creek	II AJ 120G 01	Completed	2002	Completed	? (FS)	No plans	No plans	No plans	2010
Boulder Creek Section 1	II AJ 130U 01	Completed	2002	Completed	No plans	No plans	No plans	No plans	No plans
Boulder Creek Section 2	II AJ 130U 02	Completed	2003	Completed	? (FS)	No plans	No plans	No plans	2009
Crandall Creek Section 2	II AJ 130I 01	Completed	Completed	Completed	? (FS)	Unnecessary	No plans	No plans	2004
Duck Fork Creek Section 2	II AJ 120I 02	Completed	NA	Completed	? (FS)	Unnecessary	2002	2002	2003
Duck Fork Reservoir	II 447	Completed	NA	Completed	No plans	Unnecessary	2002	2002	2003
Indian Creek	II AJ 150E 02 01	Completed	NA	Completed	? (FS)	2008	2009-2010	2010	2012
Lake Canyon Creek	II AJ 130M 05 01-02	Completed	2002	Completed	? (FS)	Completed	No plans	No plans	2009

Table 6. Continued.

Drainage Stream Tributary	State Water ID #	Fish surveys	Genetic analysis	Habitat surveys	Habitat enhancement	Constructed barrier	Nonnative control	Introduction/ restoration	Monitoring
San Rafael River (14060009)									
Little Horse Creek	II AI 120I 01 01	Completed	NA	Completed	7 (FS)	Unnecessary	Unnecessary	2002	2004
Nash Woodward Creek	II AI 130N 01	Completed	2003	Completed	7 (FS)	Completed	No plans	No plans	2009
Rollison Creek Section 1	II AI 130M 04 01	Completed	2003	Completed	7 (FS)	No plans	No plans	No plans	2011
Sawmill Canyon Creek	Unassigned	Completed	NA	Completed	7 (FS)	No plans	No plans	No plans	2010
Scad Valley Creek	II AI 130M 01 01	Completed	2003	More 2002	2002	Completed	No plans	No plans	2002
Spring Creek Section 2	II AI 130M 06 02	Completed	2002	Completed	7 (FS)	Unnecessary	No plans	No plans	2010
Tie Fork Creek	II AI 130I 01	Completed	Completed	Completed	7 (FS)	Completed	No plans	No plans	2007
Muddy Creek (14070002)									
Muddy Creek Section 5	I AZ 120 05	2002	2003	2002	7 (FS)	No plans	No plans	No plans	2012
South Fork Muddy Creek	I AZ 120I 01	2002	2003	2002	7 (FS)	No plans	No plans	No plans	2012
Fish Creek	I AZ 120I 02 01	Completed	2002	Completed	7 (FS)	No plans	No plans	No plans	2011
Mill Fork Creek	I AZ 120I 02A 01	Completed	2002	Completed	7 (FS)	No plans	No plans	No plans	2011
Side Fork Creek	Unassigned	Completed	NA	Completed	7 (FS)	No plans	No plans	No plans	2011
Beaver Creek	I AZ 120I 01 01	Completed	2002	Completed	7 (FS)	No plans	No plans	No plans	2011
Upper Dolores River (14050002)									
Greyson Creek Ditch (Backeye Creek)	I BQ 050B 02 01	2002	2003	Completed	No plans	No plans	No plans	No plans	2012
La Sal Creek Ditch	I BQ 060B 01	Completed	NA	Completed	No plans	Unnecessary	2003-2004	2005	2007
Beaver Creek	I BQ 070D 01	Completed	Completed	Completed	7 (FS)	No plans	No plans	No plans	2006

Table 6. Continued.

Drainage Stream, Tributary	State Water ID #	Fish surveys	Genetic analysis	Habitat surveys	Habitat enhancement	Constructed barrier	Native control	Introduction/ reintroduction	Monitoring
Upper Dolores River (14030002)									
La Sal Creek Ditch									
Deer Creek Section 2	1 BQ 0708B 01	Completed	NA	Completed	? (FS)	Fiscal 1998	2003-2004	2005	2007
La Sal Creek Section 3	1 BQ 070 03	Completed	Completed	Completed	? (FS)	Fiscal 2000	2003-2004	2005	2007
La Sal Creek Ditch Main Diversion	Unassigned	Completed	Completed	Completed	No plans	2003	2003-2004	No plans	2007
Lower Dolores River (14030004)									
Beaver Creek Section 1	1 BQ 030 01	Completed	2003	Completed	? (BLM)	No plans	No plans	No plans	2011
Roe Creek	1 BQ 050 01	Completed	2002	Completed	? (FS)	No plans	No plans	No plans	2010
Deep Creek Section 2	1 BQ 050A 01 02	Completed	NA	2002	? (FS)	No plans	No plans	No plans	No plans
Deep Creek Section 3	1 BQ 050A 01 03	Completed	NA	2002	? (FS)	No plans	No plans	No plans	No plans
Geyser Creek Section 1	1 BQ 050B 01	Completed	2003	Completed	No plans	No plans	No plans	No plans	2011
Geyser Springs Pond	1 429D	NA	NA	2002	No plans	Unnecessary	Unnecessary	2002	2004
Geyser Creek Section 2	1 BQ 050B 02	Completed	Completed	Completed	No plans	No plans	No plans	No plans	2010
Taylor Creek	1 BQ 050A 01	Completed	2002	Completed	No plans	No plans	No plans	No plans	2010
Middle Colorado River (14030005)									
Indian Creek Section 3	1 BQ 01-04	Completed	2003	Completed	? (BLM/FS)	Unnecessary	No plans	No plans	2010
North Cottonwood Creek	Unassigned	Completed	NA	Completed	? (USFS)	No plans	No plans	No plans	No plans
Tuente Canyon Creek	Unassigned	Completed	NA	Completed	? (USFS)	No plans	No plans	No plans	No plans
North Fork Mill Creek	1 BQ 020 01	Completed	NA	Completed	? (BLM/FS)	Unnecessary	Unnecessary	No plans	No plans

Table 7. Current status of waters containing, or which may receive, Colorado River cutthroat trout in the Southeastern Region. Barrier codes: 0 = none apparent; 1 = constructed barrier, road culvert, or water diversion; 2 = chemical/temperature/biological barrier; 3 = gradient/velocity barrier; 4 = natural, single-point barrier; 5 = natural, multiple-site barrier; and 6 = no information.

Drainage Stream Tributary	State Water ID #	County	Status	Conservation population status for 2001		
				Origin (year identified or transplanted)	Occupied stream miles (Total / allepoitic)	Available stream miles
Green River Desolation Canyon (14060005)						
Argyle Creek	II BA 000 01	Carbon, Duchesne	To be determined in 2003		0.0 / 0.0	Unknown
Flat Canyon Creek	II AX 01-02	Carbon	Fishless, planned introduction		0.0 / 0.0	3.0
Summerhouse Canyon Creek	II AX 040 01-02	Carbon	Fishless, planned introduction		0.0 / 0.0	2.0
Range Creek Section 4	II AQ 04	Carbon, Emery	Purity unknown, genetic analysis needed		6.5 / 0.0	6.5
Rock Creek Section 2	II AW 02	Carbon	Fishless, planned introduction		0.0 / 0.0	5.0
Blair Canyon Creek	II AW 040 01	Carbon	Fishless, planned introduction		0.0 / 0.0	4.0
Blackfoot Canyon Creek	II AW 030 01	Carbon	Fishless, planned introduction		0.0 / 0.0	3.0
Price River (14060007)						
Beaver Creek	II AK 180 01-02	Carbon, Utah	Purity unknown, genetic analysis needed		11.7 / 9.0	11.7
Jump Creek	II AK 180A 01	Carbon	Purity unknown, genetic analysis needed		5.8 / 0.0	5.8
Kyane Creek	II AK 170 01	Utah	Purity unknown, genetic analysis needed		1.7 / 1.7	1.7
Right Fork Kyane Creek	II AK 170A 01	Utah	Purity unknown, genetic analysis needed		0.7 / 0.7	0.7
Kyane Reservoir Creek	II AK 170A 01 01	Utah	Purity unknown, genetic analysis needed		0.7 / 0.7	0.7
Kyane Reservoir	II 784	Utah	Planned introduction		NA	NA
Mud Water Canyon Creek	II AK 000 03 01	Carbon	Fishless, planned introduction		0.0 / 0.0	1.5

Table 7. Continued.

Drainage Stream Tributary	State Water ID #	County	Status	Conservation population status for 2000			
				Origin (year identified or transplanted)	Occupied stream miles (Total / allopatric)	Available stream miles	Barrier
Price River (14060007)	II AK 100A 01	Carbon	Planned rotenone treatment and introduction, genetic analysis needed first		3.0 / 3.0	5.0	4
North Fork Gordon Creek	II AK 020A 01	Carbon	Possible reintroduction, currently inactive due to political considerations		0.0 / 0.0	3.8	0
Right Fork Grassy Trail Creek	II AK 190 01-02	Utah, Wasatch	Purity unknown, not enough fish present for genetic analysis		5.2 / 0.0	5.2	0
White River	II AK 190B 01	Wasatch	Core conservation population	Identified 2001	3.0 / 3.0	3.0	0
Left Fork White River	II AK 190B 01 01	Wasatch	Purity unknown, genetic analysis needed		2.2 / 2.2	2.2	0
Middle Fork White River	II AK 190A 01	Wasatch	Core conservation population	Identified 1999	6.0 / 6.0	6.0	0
Right Fork White River	II AK 190A 01 01	Wasatch	Core conservation population	Identified 1999	2.4 / 2.4	2.4	0
Johnson Fork Creek	II AK 190A 02 01	Wasatch	Core conservation population	Identified 1999	2.0 / 2.0	2.0	0
Trail Hollow Creek	II AK 190C 01-02	Utah, Wasatch	Core conservation population	Identified 2000	2.8 / 2.8	2.8	0
Tabbyone Creek							
Upper Colorado River (14030001)	I BR 01-02	Grand	Fishless, planned introduction		0.0 / 0.0	2.5	2
Nash Wash Section 2							
San Rafael River (14060009)	II AI 120G 01	Sangre	Purity unknown, genetic analysis needed		8.0 / 0.0	8.0	0
Big Bear Creek	II AI 130U 02	Sangre	Purity unknown, genetic analysis needed		2.0 / 2.0	2.0	0
Boulder Creek Section 2	II AI 130I 02	Emery	Highly hybridized population		0.3 / 0.3	0.3	1
Crandall Creek Section 2	II AI 120I 02	Sangre	Planned reintroduction		0.0 / 0.0	0.5	1*
Duck Fork Creek Section 2	II 447	Sangre	Planned introduction		NA	NA	1
Duck Fork Reservoir							

Table 7. Continued.

Drainage Stream Tributary	State Water ID #	County	Status	Conservation population status for 2000			
				Origin (year identified or transplanted)	Occupied stream miles (Total / allotment)	Available stream miles	Barrier
San Rafael River (140600009)							
Indian Creek	II AZ 120E 02 01	Emery	Planned reintroduction		0.0 / 0.0	10.0	0
Lake Canyon Creek	II AZ 120H 01 01-02	Emery, Sanpete	Purity unknown, genetic analysis needed		4.0 / 0.0	4.0	1
Little House Creek	II AZ 120H 01 01	Sanpete	Fishless, Planned introduction		0.0 / 0.0	1.2	1, 4
Nuck Woodward Creek	II AZ 120N 01	Emery	Purity unknown, genetic analysis needed		5.0 / 5.0	5.0	1
Rodfson Creek Section 1	II AZ 130M 04 01	Emery	Purity unknown, genetic analysis needed		1.4 / 0.0	1.4	0
Sawmill Canyon Creek	Unassigned	Emery	Purity unknown, genetic analysis needed		0.5 / 0.5	0.5	1*
Scad Valley Creek	II AZ 130M 01 01	Emery	Purity unknown, genetic analysis needed		4.0 / 0.0	4.0	1
Spring Creek Section 2	II AZ 130M 06 02	Sanpete	Purity unknown, genetic analysis needed		1.7 / 0.0	1.7	1*
Tie Fork Creek	II AZ 130I 01	Carbon, Emery	Care conservation population	Identified 1999	2.0 / 0.0	2.0	1
Muddy Creek (140700002)							
Muddy Creek Section 5	I AZ 120 05	Sanpete	To be determined in 2003		Unknown	4.7	0
South Fork Muddy Creek	I AZ 120J 01	Sanpete	To be determined in 2003		Unknown	2.4	0
Fish Creek	I AZ 120J 02 01	Sanpete	Purity unknown, genetic analysis needed		1.6 / 0.0	1.6	0
McGill Fork Creek	I AZ 120I 02A 01	Sanpete, Sevier	Purity unknown, genetic analysis needed		2.1 / 0.0	2.1	0
Slide Fork Creek	Unassigned	Sevier	Purity unknown, not enough fish present for genetic analysis		0.4 / 0.0	0.4	0
Beaver Creek	I AZ 120J 01 01	Sanpete	Purity unknown, genetic analysis needed		1.0+ / 1.0+	1.0+	0
Upper Dolores River (140300002)							
Geysers Creek Ditch (Blackeye Creek)	I HQ 0508 02 01	San Juan	Purity unknown, genetic analysis needed		5.4 / 5.4	5.4	0

Table 7. Continued.

Drainage Stream Tributary	State Water ID #	County	Status	Conservation population status for 2000			
				Origin (year identified or transplanted)	Occupied stream miles (Total/ allopatric)	Available stream miles	Barrier
Upper Dolores River (14030002)							
La Sal Creek Ditch	1 BQ 080B 01	San Juan	Planned rotenone treatment and introduction		0.0 / 0.0	5.9	4
Beaver Creek	1 BQ 070D 01	San Juan	Moderate to highly hybridized population		1.5 / 1.5	1.5	6
Deer Creek Section 2	1 BQ 070B01 02	San Juan	Planned rotenone treatment and reintroduction		0.0 / 0.0	0.8	1
La Sal Creek Section 3	1 BQ 070 03	San Juan	Core conservation population	Identified 2001	3.2 / 0.4	3.2	1
La Sal Creek Ditch Main Diversion	Unassigned	San Juan	Core conservation population	Identified 2001	2.3 / 0.0	2.3	0
Lower Dolores River (14030004)							
Beaver Creek Section 1	1 BQ 030 01	Grand	Purity unknown, genetic analysis needed		14.0 / 14.0	14.0	0
Roe Creek	1 BQ 050 01	San Juan	Purity unknown, genetic analysis needed		2.6 / 2.6	2.6	0
Deep Creek Section 2	1 BQ 050A 01 01	San Juan	To be determined in 2003		0.0 / 0.0	Unknown	6
Deep Creek Section 3	1 BQ 050A 01 03	Grand	To be determined in 2003		0.0 / 0.0	Unknown	6
Geyser Creek Section 1	1 BQ 050B 01	San Juan	Purity unknown, genetic analysis needed		4.2 / 4.2	4.2	0
Geyser Creek Section 2	1 BQ 050B 02	San Juan	Conservation population, slight hybridization		4.6 / 4.6	4.6	0
Taylor Creek	1 BQ 050A 01	Grand	Purity unknown, genetic analysis needed		4.0 / 0.0	4.0	0
Middle Colorado River (14030005)							
Indian Creek Sections 3 and 4	1 BQ 03-04	San Juan	Purity unknown, genetic analysis needed		13.0 / 13.0	13.0	2
North Cottonwood Creek	Unassigned	San Juan	Fishless, possible introduction		0.0 / 0.0	Unknown	5
Tuero Canyon Creek	Unassigned	San Juan	Fishless, possible introduction		0.0 / 0.0	Unknown	4

Table 7. Continued.

Drainage Stream Tributary	State Water ID #	County	Status	Conservation population status for 2000		
				Origin (year identified or transplanted)	Occupied stream miles (Total / allotment)	Available stream miles
Middle Colorado River (14030005) North Fork of Mill Creek	1 BE 020 01	Grand	Fishless, possible introduction		0.0 / 0.0	3.0+
						4

*The barrier(s) are on a downstream water and eliminate the need for a barrier on the listed stream.