



COLORADO

Parks and Wildlife

Department of Natural Resources

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Rio Grande Cutthroat Trout Conservation

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Dear Conservation Team,

This letter is intended to summarize the 2017 range-wide activities for the conservation of the Rio Grande cutthroat trout (RGCT) and to provide that information to conservation team leaders. The activities below are divided into eight main categories identified in the RGCT Conservation Agreement.

<http://cpw.state.co.us/Documents/Research/Aquatic/CutthroatTrout/2013RGCTConservationAgreement.pdf>).

Population Inventory

In 2017, 25 waters (58 individual surveys) were inventoried within the historical range of RGCT. The purpose of the inventories was to survey potentially occupied RGCT waters (6 waters, 8 sites), monitor known populations (19 waters, 50 sites), assess the genetic status of RGCT populations (7 AFLP tests), collect habitat information (10 waters, 24 sites), and test for diseases (3 waters, 3 sites).

Population Maintenance

Sympatric non-native fish were mechanically removed from 10 miles of Leandro Creek in New Mexico, and from sites on Wagon Creek and West Indian Creek in Colorado.



Population Expansion

Five events were classified as population expansion. In the lower Rio Grande GMU, Casias Creek, Costilla Creek, Costilla Reservoir, and Las Animas Creek were stocked with RGCT. In Colorado Haypress Lake was restocked with RGCT. A total of 50 lakes and streams were stocked with Rio Grande cutthroat trout for fishing recreation.

Protecting/Restoring Habitat

New Mexico Department of Game and Fish completed 4.5 miles of stream habitat restoration on Rio Costilla. The Forest Service in New Mexico completed 1.5 miles of habitat improvement on Comanche Creek.

Education

NMDGF presented RGCT information to students at New Mexico State University, and Capitol High School. The 6th Annual Native Fish in the Classroom Program hosted at three elementary schools and a total of eight classrooms consisting 189 students representing 4th/5th grade classes participated in the program.

Database Sharing

The annual RGCT range-wide database workshop was attended by the GMU leaders from New Mexico and Colorado. The range-wide database was updated with the 2017 data using the online editor.

Coordination

The annual rangewide meeting was well attended by all signatory agencies.

Miscellaneous

Miscellaneous activities included continued wild and hatchery spawning operations.

Thank you for your participation in developing this report. The success of our work toward RGCT conservation would not be possible without the continued cooperation, dedication, and professionalism of all team members and their respective agencies and organizations.

Sincerely,

Estevan Vigil
Aquatic Biologist
Colorado Parks and Wildlife

RGCT Rangewide Report 2016 - Summary by Strategy, January 1 to December 31, 2017

Strategy	Subhead	Title	Waters/Events	Total	Description
1	Survey	Population Inventory	6	8	Survey potential RGCT waters within historical range; maintain database
1	Monitor	Population Inventory	19	50	Monitor RGCT populations to detect changes; maintain database
1	Taxonomy	Population Inventory	7	7	Collect genetic information within historical range, maintain database
1	Habitat Inventory	Population Inventory	10	24	Collect habitat information within historical range; maintain database
1	Disease	Population Inventory	3	3	Conduct fish health surveys including WD
2	Identify	Population Maintenance	0	0	Identify Core Conservation and Conservation populations
2	Secure	Population Maintenance	2	10	Secure and enhance distribution and abundance of Conservation and Core Conservation populations
2	Metapopulation	Population Maintenance	0	0	Identify, maintain, and expand connectivity within metapopulations
3	Restore	Population Expansion	5	29	Increase RGCT populations by restoring RGCT habitat through chemical reclamation
3	Augment	Population Expansion	0	0	Augment pure populations within historical range by stocking or transplanting RGCT
3	Connectivity	Population Expansion	0	0	Promote and restore connectivity of populations to enhance metapopulation function
3	Stock RGCT	Population Expansion	50	50	Stock lakes and streams with RGCT for angler recreation (sum of lakes and streams stocked)
4	Improve	Protect sustaining habitat and restore degraded habitat	1	1.5	Inventory, maintain, protect, and improve existing habitat; improve fluvial/ hydrological processes
4	Unoccupied	Protect sustaining habitat and restore degraded habitat	1	4.5	Identify unoccupied habitat for restoration with RGCT
5	Education	Conservation Education and Interpretation	4	31	Subcommittee to develop education and interpretation program providing deliverables and a consistent message regarding RGCT conservation efforts
6	Database	Database Sharing	3	3	Summarize distribution, population genetics and habitat data; centralize data into a database; allow rangewide integrated data analysis, summaries, and comparisons
7	Coordinate	Planning/ Coordination	11	11	Share information; identify/ discuss/ solve common conservation problems; prioritize issues
A*	Miscellaneous	Other Activities/ Actions	1	1	Accomplishments that are not listed in the other titles or strategies
B	Habitat	Private Land Protection or Restoration (stream miles)	0	0	Landowner/ private land habitat protection or restoration



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Rio Grande Cutthroat Trout Rangewide Report 2016 - Summary by Signatory Agency, January 1 to December 31, 2016

Year	GMU	Water	WaterCo de	Biologist	Agency	Strategy	Subhead	Activity	Acco mplish	Comments
Colorado Parks and Wildlife										
2017	Rio Grande Headwaters	Jacks Creek	38579	Vigil	CPW	1	Monitor	Population monitoring	1	211 RGCT/mile
2017	Rio Grande Headwaters	Cross Creek	38581	Vigil	CPW	1	Monitor	Population monitoring	1	453 RGCT/mile
2017	Rio Grande Headwaters	Jim Creek	44254	Vigil	CPW	1	Monitor	Population monitoring	1	No RGCT sampled at historic site
2017	Rio Grande Headwaters	Torsido Creek	43668	Vigil	CPW	1	Monitor	Population monitoring	2	23 RGCT/mile
2017	Rio Grande Headwaters	Wagon Creek	44456	Vigil	CPW	1	Monitor	Population monitoring	2	52 RGCT/mile
2017	Rio Grande Headwaters	West Indian Creek	44709	Vigil	CPW	1	Monitor	Population monitoring	2	23 RGCT/mile
2017	Rio Grande Headwaters	Medano Creek	41501	Vigil	CPW	1	Monitor	Population monitoring	2	787 RGCT/mile
2017	Rio Grande Headwaters	Lake Fork Conejos River	39289	Vigil	CPW	1	Monitor	Population monitoring	1	449 RGCT/mile
2017	Rio Grande Headwaters	Osier Creek	44444	Vigil	CPW	1	Monitor	Population monitoring	1	437 RGCT/mile
2017	Rio Grande Headwaters	S. Fork West Indian Creek	39530	Vigil	CPW	1	Monitor	Population monitoring	1	151 RGCT/mile
2017	Rio Grande Headwaters	Osier Creek	44444	Vigil	CPW	1	Disease	Fish Health Analysis	1	No pathogens detected
2017	Rio Grande Headwaters	Medano Creek	41501	Vigil	CPW	1	Disease	Fish Health Analysis	1	No pathogens detected
2017	Rio Grande Headwaters	Medano Creek	41501	Vigil	CPW	1	Taxonomy	AFLP Analysis	1	100% pure - 30 fin clips
2017	Rio Grande Headwaters	Wagon Creek	44456	Vigil	CPW	1	Taxonomy	AFLP Analysis	1	100% pure - 30 fin clips
2017	Rio Grande Headwaters	Jacks Creek	38579	Vigil	CPW	1	Taxonomy	AFLP Analysis	1	100% pure - 30 fin clips
2017	Rio Grande Headwaters			Vigil	CPW	3	Stock RGCT	Recreation stocking	39	Stocked recreation RGCT into 39 lakes/streams
2017	Rio Grande Headwaters			Vigil	CPW	6	Database	Updated RGCT database	1	Updated RGCT database with 2017 data
2017	Rio Grande Headwaters			Vigil	CPW	7	Coordinate	Attend RGCT range-wide meeting	1	Attended RGCT range-wide meeting
2018	Rio Grande Headwaters	Haypress Lake		Vigil	CPW	3	Restore	Post-restoration stocking	1	Stocked 103 juveniles and adults from Osier Creek

New Mexico Game and Fish										
2017		Rito de los Frijoles		Bakevich, McFarland	NMDGF, NPS	1	Survey	Post-Wildfire survey	1	Conducted eDNA surveys on Bandelier National Monument
2017		Comanche Creek - above barrier		Bakevich	NMDGF	1	Monitor	Population monitoring	4	Electrofishing survey 4 miles.
2017		Casias Creek		Bakevich	NMDGF	1	Monitor	Population monitoring	2	Spot Electrofishing surveys, only RGCT detected
2017		Vermejo River		Leinonen	TEI	1	Monitor	Population monitoring	6	Pop estimates at 6 sites
2017		Ricardo Creek		Leinonen	TEI	1	Monitor	Population monitoring	3	Pop estimates at 3 sites
2017		Little Vermejo Creek		Leinonen	TEI	1	Monitor	Population monitoring	2	Pop estimates at 2 sites
2017		Costilla Creek		Leinonen	TEI	1	Monitor	Population monitoring	8	Pop estimates at 8 sites
2017		Casias Creek		Leinonen	TEI	1	Monitor	Population monitoring	5	Pop estimates at 5 sites
2017		Leandro Creek		Leinonen	TEI	2	Secure	Non-native removal	10	Removed brook trout from 10 miles of stream
2017		Cañones Creek		Bakevich	NMDGF	1	Taxonomy	AFLP Analysis	1	100% pure - 49 clips of Cañones fish transfered to Las Animas Creek
2017		Comanche Creek - above barrier		Bakevich	NMDGF	1	Taxonomy	AFLP Analysis	1	100% pure, except two putative adult rbt/rgct hybrids- Comanche above barrier
2017		Rio Chiquito		Bakevich	NMDGF	1	Taxonomy	AFLP Analysis	1	100% pure - 30 clips taken above borrego crossing
2017		East Fork Wolf Creek		Bakevich	NMDGF	1	Taxonomy	AFLP Analysis	1	100% pure - East Wolf Creek on East Lobo ranch
2017		Cañones Creek		Bakevich, Peralta	NMDGF	1	Disease	Fish Health Analysis	1	No pathogens detected
2017		Casias Creek		Bakevich	NMDGF	3	Restore	Post-restoration stocking	7	Stocked age-0, -1, and -2 RGCT
2017		Costilla Creek		Bakevich	NMDGF	3	Restore	Post-restoration stocking	8	Stocked age-0, -1, and -2 RGCT
2017		Costilla Reservoir		Bakevich	NMDGF	3	Restore	Post-restoration stocking	1	Stocked age-0 RGCT
2017		Las Animas Creek		Bakevich	NMDGF	3	Restore	Post-wildfire stocking	12	Stocked 48 RGCT from Cañones Creek
2017				D'Allesandro	NMDGF	3	Stock RGCT	Recreation stocking	10	Stocked recreation RGCT into 10 lakes/streams
2017		Rio Costilla		Frey, Gatlin	NMDGF, USFS	4	Unoccupied	Habitat restoration	4.5	4.5 miles of stream habitat restoration
2017				Bakevich	NMDGF	5	Education	RGCT presentations	2	RGCT talks to NM State Univ., Capitol High School
2017				Bakevich		6	Database	Updated RGCT database	1	Updated RGCT database with 2016 data
2017				Bakevich	NMDGF	7	Coordinate	end RGCT range-wide meeti	1	Attended RGCT range-wide meeting
2017						A*	Miscellaneous	even Springs Hatchery spaw	1	Collected ~600,000 fertilized eggs

United States Forest Service - Colorado										
2017				Jason Remshardt	USFS	7	Coordinate	Attended range-wide meeting	1	
United States Forest Service - New Mexico										
2017	Rio Grande Headwaters	Rio Chiquito		Gatlin	USFS	1	Survey	Genetic samples of RGCT pop	1	Confirmed genetic purity of population.
2017	Rio Grande Headwaters	Comanche Creek		Gatlin	USFS	4	Improve	Trail along approximately 1.5 miles	1	
United States Fish and Wildlife Service										
2017	Lower Rio Grande	Santa Clara Creek		Kitcheyan	FWS	7	Planning		2	Field trip within the Santa Clara Creek Watershed to assess stream habitat and benthic community.
2017	Lower Rio Grande	Santa Fe River		Kitcheyan	FWS	7	Planning		2	Met with Cochiti Pueblo Department of Natural Resources & Conservation to schedule non-native removal efforts on the Santa Fe River.
2017	Lower Rio Grande	Santa Fe River		Kitcheyan, Wilkins, Abil	FWS	7	Monitor	Nonnative fish removal	2	Removed 425 nonnative fishes from 4.8 km of stream and one pond.
2017	Lower Rio Grande	Rio Lucero & Rio Pueblo de Taos		Kitcheyan, Sinclair, Dav	FWS	7	Planning		4	Completion the cooperative agreement with the Taos Pueblo Division of Natural Resources to inventory and assess in two major watersheds.
2017	Lower Rio Grande	Rio Grande		James, Davenport, Abila, Henry	FWS	7	Education		27	6th Annual Native Fish in the Classroom Program hosted at three elementary schools (Emerson, Zia, and Monte Vista Elementary schools participated in this event); total of eight
2017	Lower Rio Grande	Rio Grande		James, Sinclair, Carrillo	FWS	5	Education		1	6th Annual Native Fish in the Classroom - "Releasing the Natives Field Day" event at the Orilla Verde Recreation Area near Pilar, New Mexico; 51 students (Emerson, Zia, and Monte
2017				Kitcheyan	FWS	6	Database	Annual database entry	1	
2017				Kitcheyan	FWS	7	Coordinate	NM RGCT Working Group meeting	1	
2017				Kitcheyan	FWS	7	Coordinate	Range-Wide meeting	1	
2017				Kitcheyan	FWS	7	Coordinate	Filled out this form	1	
Bureau of Land Management - Colorado										
2017				Sue Swift-Miller	BLM	7	Coordinate	Attended range-wide meeting	1	

Bureau of Land Management-New Mexico										
2017				Ryan Besser	BLM	7	Coordinate	Attended range-wide meeting	1	
2017	50 and 53	Rio Grande Upper box/Red River confluence		Besser, Gatlan, Dalessandro	BLM/NMDGF/USFS	3	Augment	RGCT stocking	1	Stocking: recreational, not into pure population.
2017	49	Agua Caliente		Besser, Dalessandro, Green	BLM/NMDGF	1	Survey	Depletion survey	1	<i>Oncorhynchus clarki virginalis</i> NOT detected. <i>Salmo trutta</i> and <i>Oncorhynchus mykiss</i> detected.
2017	54	Manueles Creek		Besser, Dalessandro, Green	BLM/NMDGF	1	Survey	Depletion survey	1	<i>Oncorhynchus clarki virginalis</i> NOT detected. <i>Oncorhynchus mykiss</i> detected.
2017	53	Rio Hondo		Besser, Dalessandro, Green	BLM/NMDGF	1	Survey	Depletion survey	1	<i>Oncorhynchus clarki virginalis</i> NOT detected. <i>Salmo trutta</i> and <i>Oncorhynchus mykiss</i> detected.
2017	50	Ojo Caliente		Besser, Dunn, Boyes, Dongo-Olsen	BLM	1	Habitat Inventory	AIM National Aquatic Monitoring Framework:	2	One mile units covering water quality, watershed function and instream habitat quality, biodiversity and riparian habitat quality and ecological processes
2017	49, 50, 53	Rio Grande		Besser, Dunn, Boyes, Dongo-Olsen	BLM	1	Habitat Inventory	AIM National Aquatic Monitoring Framework:	10	One mile units covering water quality, watershed function and instream habitat quality, biodiversity and riparian habitat quality and ecological processes
2017	45	Embudo Creek		Besser, Dunn, Boyes, Dongo-Olsen	BLM	1	Habitat Inventory	AIM National Aquatic Monitoring Framework:	2	One mile units covering water quality, watershed function and instream habitat quality, biodiversity and riparian habitat quality and ecological processes
2017	45	Rio de las Trampas		Besser, Dunn, Boyes, Dongo-Olsen	BLM	1	Habitat Inventory	AIM National Aquatic Monitoring Framework:	2	One mile units covering water quality, watershed function and instream habitat quality, biodiversity and riparian habitat quality and ecological processes
2017	53	Rio Hondo		Besser, Dunn, Boyes, Dongo-Olsen	BLM	1	Habitat Inventory	AIM National Aquatic Monitoring Framework:	1	One mile units covering water quality, watershed function and instream habitat quality, biodiversity and riparian habitat quality and ecological processes
2017	6C	Santa Fe River		Besser, Dunn, Boyes, Dongo-Olsen	BLM	1	Habitat Inventory	AIM National Aquatic Monitoring Framework:	2	One mile units covering water quality, watershed function and instream habitat quality, biodiversity and riparian habitat quality and ecological processes
2017	45	Rio Medio		Besser, Dunn, Boyes, Dongo-Olsen	BLM	1	Habitat Inventory	AIM National Aquatic Monitoring Framework:	1	One mile units covering water quality, watershed function and instream habitat quality, biodiversity and riparian habitat quality and ecological processes
2017	53	Red River		Besser, Dunn, Boyes, Dongo-Olsen	BLM	1	Habitat Inventory	AIM National Aquatic Monitoring Framework:	1	One mile units covering water quality, watershed function and instream habitat quality, biodiversity and riparian habitat quality and ecological processes
2017	5B, 51B	Rio Chama		Besser, Dunn, Boyes, Dongo-Olsen	BLM	1	Habitat Inventory	AIM National Aquatic Monitoring Framework:	2	One mile units covering water quality, watershed function and instream habitat quality, biodiversity and riparian habitat quality and ecological processes
2017	52	Rio San Antonio		Besser, Dunn, Boyes, Dongo-Olsen	BLM	1	Habitat Inventory	AIM National Aquatic Monitoring Framework:	1	One mile units covering water quality, watershed function and instream habitat quality, biodiversity and riparian habitat quality and ecological processes
National Parks Service - Colorado										
2017				Fred Bunch/Dewane Mosher	NPS	7	Coordinate	Attended range-wide meeting	1	
National Parks Service - New Mexico										
Taos Pueblo										
Jicarilla Apache Nation										
2017				Mazzone	JGFD	7	Coordinate	Attended annual RGCT rangewide meeting	1	
2017				Mazzone	JGFD	7	Coordinate	Coordinate access/construction	1	
2017				Mazzone	JGFD	1	Monitor	Temperature	4	
2017				Mazzone	JGFD	5	Education	Assist USWFS with Native Fish in the Classroom	1	
2017				Mazzone	JGFD	1	Survey	Regular survey activites	3	
Mescalero Apache Tribe										