

September 21, 2017

Rio Grande Cutthroat Trout Conservation Team

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Dear Conservation Team,

This letter is intended to summarize the 2016 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.

Population Inventory

In 2016, 22 waters (64 individual surveys) were inventoried within the historical range of RGCT. The purpose of the inventories was to survey potentially occupied RGCT waters (3 waters, 8 sites), monitor known populations (11 waters, 17 sites), assess the genetic status of RGCT populations (5 AFLP tests), collect habitat information (2 waters, 99 sites), and test for diseases (6 waters, 8 sites).

Population Maintenance

Sympatric non-native fish were mechanically removed from Tio Grande, Leandro Creek, Elk Creek, Gold Creek, Ricardo Creek, and the Vermejo River. The terminal fish barrier on Rio Costilla was constructed in December 2016.

Population Expansion

Eight events were classified as population expansion. In the lower Rio Grande GMU, a chemical reclamation project was conducted twice on 17 miles in Casias Creek and Costilla Creek; Costilla Reservoir (300 acres) and its tributaries were also chemically reclaimed. In the Rio Grande Headwaters GMU, the Roaring Fork drainage (8 miles) and Haypress Lake (25 surface acres) were chemically reclaimed to restore Colorado's RGCT broodstock. A total of 41 lakes and streams were stocked with Rio Grande cutthroat trout (4 of the waters were post-project stocking, 37 waters were stocked for angler recreation).

Protecting/Restoring Habitat

Turner Enterprises, Inc and Vermejo Park Ranch constructed elk enclosure fencing on approximately 4 miles of current RGCT habitat in the Canadian GMU. Post-wildfire surveys were conducted in Las Animas Creek and Polvadera Creek.

Education

The Native Fish in the Classroom program led 9 classrooms from 3 schools to raise and release RGCT. Forty high school students were given a presentation about RGCT conservation and restoration activities.

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 2016 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,

Bryan Bakevich
Rio Grande Cutthroat Trout Biologist
New Mexico Department of Game and Fish

RGCT Rangewide Report 2016 - Summary by Strategy, January 1 to December 31, 2016					
Strategy	Subhead	Title	Waters/Events	Total	Description
1	Survey	Population Inventory	3	8	Survey potential RGCT waters within historical range; maintain database
1	Monitor	Population Inventory	11	17	Monitor RGCT populations to detect changes; maintain database
1	Taxonomy	Population Inventory	5	5	Collect genetic information within historical range, maintain database
1	Habitat Inventory	Population Inventory	2	9	Collect habitat information within historical range; maintain database
1	Disease	Population Inventory	6	8	Conduct fish health surveys including WD
2	Identify	Population Maintenance	0	0	Identify Core Conservation and Conservation populations
2	Secure	Population Maintenance	7	7	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	4	39	Increase RGCT populations by restoring RGCT habitat through chemical reclamation
3	Augment	Population Expansion	1	1	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	3	41	Stock lakes and streams with RGCT for angler recreation (sum of lakes and streams stocked)
4	Improve	Protect sustaining habitat and restore degraded habitat	3	10	Inventory, maintain, protect, and improve existing habitat; improve fluvial/ hydrological processes
4	Unoccupied	Protect sustaining habitat and restore degraded habitat	2	2	Identify unoccupied habitat for restoration with RGCT
5	Education	Conservation Education and Interpretation	2	34	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	14	14	Share information; identify/ discuss/ solve common conservation problems; prioritize issues
A*	Miscellaneous	Other Activities/ Actions	4	6	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

Year	GMU	Population Code	Water	Water Code	HUC	Biologist	Agency	Strategy	Subhead	Activity	Units Accomplished	Comments
Colorado Parks and Wildlife												
2016	Rio Grande Headwaters	13010005cp006	Osier Creek	44444	13010005	Vigil/Remshardt	CPW	1	Monitor	Two Pass Removal Survey	1	308 fish/mile.
2016	Rio Grande Headwaters	13010005cp006	Osier Creek	44444	13010005	Vigil / Rogers	CPW	1	Taxonomy	AFLP Analysis	1	Genitic samples sent off to Pisces Molecular.
2016	Rio Grande Headwaters	13010005cp010	Cascade Creek	40147	13010005	Vigil / Rogers	CPW	1	Taxonomy	AFLP Analysis	1	Genitic samples sent off to Pisces Molecular.
2016	Rio Grande Headwaters	13010005cp010	Cascade Creek	40147	13010005	Vigil/Remshardt	CPW	1	Monitor	Two Pass Removal Survey	1	557 fish/mile
2016	Rio Grande Headwaters	13010004cp004	East Middle Creek	41587	13010004	Vigil	CPW	1	Monitor	Two Pass Removal Survey	1	785 RGCT/mile. Sampled to determine if any brook trout were above barrier, found 1 brook trout above barrier. Planning mecahnical removal trip in 2017.
2016	Rio Grande Headwaters	13010004cp007	Middle Carnero Creek	38782	13010004	Vigil/Jones	CPW	1	Monitor	Two Pass Removal Survey	2	Sampled 2 sites to monitor population. Average 253 fish/mile
2016	Rio Grande Headwaters	13010005cp008	Lake Fork Conejos	39289	13010005	Vigil/Jones	CPW	1	Monitor	Two/Three pass removal	3	Sampled 3 sites to monitor population. Average 455 fish/mile
2016	Rio Grande Headwaters		Prospect Creek	46967	13010002	Vigil/Remshardt	CPW	1	Monitor	Two Pass Removal Survey	1	481 fish/mile Rec pop
2016	Rio Grande Headwaters		Treasure Creek	49127	13010002	Vigil/Remshardt	CPW	1	Monitor	Two Pass Removal Survey	2	158 fish/mile Rec pop

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2016	Rio Grande Headwaters		Roaring Fork	42616	13010001	Vigil/Felt	CPW	3	Restore	Chemical Reclamation	8	Second year chemically treated Roaring Fork drainage (8 miles) to remove remaining brook trout from Roaring Fork which provides water to Haypress Lake brood stock.
2016	Rio Grande Headwaters	13010001cp001	Haypress Lake	90388	13010001	Vigil/Felt	CPW	1	Monitor	Gill nets	3	Set gill nets to confirm complete kill from 2015 treatment. No fish found, plan to restock fall 2017.
2016	Rio Grande Headwaters	13010002cp018	Cuates Creek	38141	13010002	Vigil/Felt	CPW	1	Disease	Fish Health Assessment	1	All samples disease free
2016	Rio Grande Headwaters	13010002cp008	Jaroso Creek	48066	13010002	Vigil/Felt	CPW	1	Disease	Fish Health Assessment	1	All samples disease free
2016	Rio Grande Headwaters	13010002cp009	Torcido Creek	38137	13010002	Vigil/Felt	CPW	1	Disease	Fish Health Assessment	1	All samples disease free
2016	Rio Grande Headwaters	13010002cp021	Placer Creek	44711	13010002	Vigil/Felt	CPW	1	Disease	Fish Health Assessment	3	All samples above barrier disease free, samples collected downstream of barrier positive for WD
2016	Rio Grande Headwaters	13010002cp021	South Fork Placer Creek	49292	13010002	Vigil/Felt	CPW	1	Disease	Fish Health Assessment	1	All samples disease free
2016	Rio Grande Headwaters	13010002cp021	Middle Fork Placer Creek	49305	13010002	Vigil/Felt	CPW	1	Disease	Fish Health Assessment	1	All samples disease free

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2016	Rio Grande Headwaters					Lamar / Crowder	CPW	A	Miscellaneous	Hatchery spawn take at Pitkin Hatchery	1	
2016	Rio Grande Headwaters					Vigil / Alves		7	Coordinate	Annual Meeting	1	Hosted annual rangewide meeting and gave update on Rio Grande Headwaters GMU.
2016	Rio Grande Headwaters					Crowder / Vigil / Lamar	CPW	3	Stock RGCT	Flight and pack plants of RGCT in recreational waters	25	Stocked 37,040 RGCT through flight and pack plants into 25 different waters
2016	Rio Grande Headwaters					Vigil	CPW	6	Database	Database maintenance	1	Entered 2016 data into database.
2016	Rio Grande Headwaters					Vigil	CPW	7	Coordinate		1	Summarized accomplishments in this form and gathered accomplishments from other signatory agencies to generate annual accomplishments report.

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2016	Rio Grande Headwaters		Roaring Fork	42616	13010001	Vigil	CPW	1	Monitor	Single Pass Survey	1	Single pass electrofishing of Roaring Fork drainage following the chemical reclamation project. Gill Net survey of Wyley lakes in treatment area to confirm effectiveness of project. More electrofishing and eDNA is scheduled for 2017 to confirm drainage is fishless.
New Mexico Game and Fish												
2016	Lower Rio Grande	13020102cp012	East Fork Wolf Creek		13020102	Bakevich	NMDGF	1	Monitor	2 pass depletion estimate	1	592 fish/mile, RGCT only
2016	Lower Rio Grande		Long Canyon		13020101	Bakevich	NMDGF	1	Monitor	3 pass depletion estimate	1	288 fish/mile, RGCT only
2016	Lower Rio Grande	13020101cp002	Costilla Creek		13020101	Bakevich	NMDGF	1	Taxonomy	AFLP Analysis	1	100% pure with standard and CR AFPL tests, 43 fin clips analyzed.
2016	Lower Rio Grande		Seven Springs Hatchery			Bakevich	NMDGF	1	Taxonomy	AFLP Analysis	1	100% pure with standard and CR AFPL tests, 50 fin clips analyzed.
2016	Lower Rio Grande		Rio Costilla		13020101	Bakevich, Gatlin	NMDGF, Carson NF	2	Secure	Fish Barrier Construction	1	Completed construction of terminal fish barrier on Rio Costilla.
2016	Canadian	11080001cp001	Vermejo River		11080001	Leinonen	TEI	2	Secure	Nonnative fish removals	1	22 km, 237 BKT removed

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2016	Canadian	11080001cp002	Ricardo Creek		11080001	Leinonen	TEI	2	Secure	Nonnative fish removals	1	14 km, 1297 BKT removed
2016	Canadian	11080001cp001	Leandro Creek		11080001	Leinonen	TEI	2	Secure	Nonnative fish removals	1	4 km, 2184 BKT removed
2016	Canadian	11080001cp001	Gold Creek		11080001	Leinonen	TEI	2	Secure	Nonnative fish removals	1	7 km, 46 BKT removed
2016	Canadian	11080001cp001	Elk Creek		11080001	Leinonen	TEI	2	Secure	Nonnative fish removals	1	1 km, 41 BKT removed
2016						Bakevich	NMDGF /TEI	3	Restore	Chemical Reclamation	15	July stream treatments, tribs to Costilla Reservoir
2016						Bakevich	NMDGF /TEI	3	Restore	Chemical Reclamation	15	August stream treatments, tribs to Costilla Reservoir
2016						Bakevich	NMDGF /TEI	3	Restore	Chemical Reclamation	1	Costilla Reservoir treatment, 250 acres
2016						Bakevich	NMDGF	3	Stock RGCT	Post-reclamation stocking	4	Stocked age 1 RGCT into Beaver, Long Canyon, Costilla Creek, 7 Lakes
2016						Bakevich	NMDGF	3	Stock RGCT	Recreational stocking	12	Stocked 350,000 RGCT into 12 recreation waters
2016	Canadian	11080001cp001	Vermejo River		11080001	Leinonen	TEI	4	Improve	Elk enclosure construction	8	1/4 to 1/2 mile each.
2016	Canadian	11080001cp001	Little Vermejo River		11080001	Leinonen	TEI	4	Improve	Elk enclosure construction	1	1/4 to 1/2 mile each.
2016	Canadian	11080001cp002	Ricardo Creek		11080001	Leinonen	TEI	4	Improve	Elk enclosure construction	1	1/4 to 1/2 mile each.
2016	Lower Rio Grande	13020102cp009	Polvadera Creek		13020102	Bakevich	NMDGF	4	Unoccupied	Post-fire surveys	1	Reintroduce RGCT in 2017 or 2018
2016	Caballo		Las Animas Creek		13030101	Bakevich, Kruse	NMDGF /TEI	4	Unoccupied	Post-fire surveys	1	Reintroduce RGCT in 2017
2016						Bakevich	NMDGF	6	Database	Updated database	1	Coordinated with CPW to review new database entries

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2016						Bakevich	NMDGF	7	Coordinate	Attended annual RGCT rangewide meeting	1	
2016						Bakevich	NMDGF	7	Coordinate	Completed annual report	1	
2016	Lower Rio Grande	13020101cp027	Middle Fork Rio Santa Barbara		13020101	Bakevich	NMDGF	7	Coordinate	Led NM RGCT working group meeting	1	
2016	Lower Rio Grande	13020101cp027	Middle Fork Rio Santa Barbara		13020101	Bakevich	NMDGF	A	Miscellaneous	Wild spawn	1	Collected 200 eggs
United States Forest Service - Colorado												
2016	Rio Grande Headwaters		Little Squaw Creek	43377	13010001	Remshardt	USFS	1	Taxonomy	Tissue sample	1	Collected fin clips for AFLP analysis from population of RGCT observed in kettle lakes below Chief Mountain / Squaw Peak. 13 2016 samples from Chief Mountain combined with 4 samples collected in 2014 analyzed along with 10 samples from Little Squaw Creek. Results indicated that they were 95% CRCT in Chief Mountain and 90% in Little Squaw Creek. Remaining was likely YSCT.

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2016							USFS	7	Coordinate	Attended annual RGCT rangewide meeting	1	
United States Forest Service - New Mexico												
2016						Paroz, Rich, Gatlin	NF	7	Coordinate	Annual Meeting	1	Attended rangewide meeting.
2016	Lower Rio Grande		Rio Chama			Rich	NF	5	Education	Public Education	1	Spoke to a group of about 40 high school students on a NMWF-led rafting trip about fish conservation including RGCT issues and restoration efforts.
2016	Lower Rio Grande	13010005cp001	Tio Grande			Gatlin	NF	2	Secure	Nonnative removal	1	Brown trout removal in Tio Grande
United States Fish and Wildlife Service												
2016	Lower Rio Grande		Santa Clara Creek		13020101	Kitcheyan	FWS	7	Planning		2	Meetings with Santa Clara Pueblo-Office of Environmental Affairs to potential rehabilitation projects and post-fire surveys in the Santa Clara Creek Drainage due to the Los Conchas Fire.

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2016	Lower Rio Grande		Santa Fe River			Kitcheyan	FWS	7	Planning		2	Meetings with Cochiti Pueblo Department of Natural Resources & Conservation to discuss non-native removal efforts on the Santa Fe River to support future reintroduction efforts of Rio Grande cutthroat trout into this system.
2016	Lower Rio Grande		Rio Lucer & Rio Pueblo de Taos			Kitcheyan, Sinclair, Davis	FWS	7	Planning		8	Development and completion of a cooperative agreement with the Taos Pueblo Game & Fish Program to inventory barriers in two major watersheds on the Pueblo.
2016	Lower Rio Grande		Rio Grande			James, Austring, Ulibarri, Kitcheyan	FWS	5	Education		33	5th Annual Native Fish in the Classroom - "Releasing the Natives Field Day"; 99 students (Emerson, Zia, and Monte Vista Elementary schools participated in this event); nine classrooms consisting of 4th/5th grade classes (2 = Monte Vista Elementary, 3 = Emerson Elementary, and 4 = Zia Elementary) participated.

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2016						Kitcheyan	FWS	6	Database	Annual database entry	1	
2016						Kitcheyan	FWS	7	Coordinate	NM RGCT Working Group meeting	1	
2016						Kitcheyan	FWS	7	Coordinate	Range-Wide meeting	1	
Bureau of Land Management - Colorado												
2016							BLM	7	Coordinate	Attended annual RGCT rangewide meeting	1	
Bureau of Land Management-New Mexico												
2016						Frey, Besser	BLM	7	Coordinate	Attended range-wide meeting	1	
2016	Lower Rio Grande		Rio Grande Upper box/Red River confluence			Ryan Besser	BLM/N MDGF/USFS	3	Augment	RGCT stocking	1	Stocking: recreational, not into pure population.
2016	Lower Rio Grande		Rio Grande Lower Box			Besser, Dunn, Green, Dalessandro, Wellington	BLM/N MDGF	1	Survey	One pass CPUE, 4, 1 mile long sections	4	No Oncorhynchus clarki virginalis detected. Salmo trutta and Oncorhynchus mykiss detected.
2016	Lower Rio Grande		Rio Grande Middle Box			Besser, Dunn, Green, D'Alessandro	BLM/N MDGF	1	Survey	One pass CPUE, 3, 1 mile long sections	3	No Oncorhynchus clarki virginalis detected. Salmo trutta and Oncorhynchus mykiss detected.

Year	GMU	Population Code	Water	Water Code	HUC	Biologist	Agency	Strategy	Subhead	Activity	Units Accomplished	Comments
2016	Pecos		Rio Bonito			Frey, Caldwell, Falco, Beyhan	BLM/N MDGF	1	Survey	Electroshock , seine surveys	1	No O.c. virginalis captured; 1 juvenile Salmo t. collected.
2016	Pecos		Rio Bonito			Frey, Caldwell, Falco, Beyhan	BLM/N MDGF	1	Habitat Inventory	Installed water quality loggers along Rio Bonito (BLM portion)	1	We installed 4 HOBO STICs in 3 sections of the RIO Bonito. 1 on the NCA, and 3 in the BLM Acquired Lands (Tracks) downstream.
National Parks Service - Colorado												
2016							NPS	7	Planning/ Coordination	Attended Annual Meeting	1	
National Parks Service - New Mexico												
2016						Sweat	NPS	7	Coordinate	Attended rangewide meeting	1	
Taos Pueblo												
2016						Henriksen	Taos Pueblo	7	Coordinate	Attended rangewide meeting	1	

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Page -14-

Year	GMU	Population Code	Water	Water Code	HUC	Biologist	Agency	Strategy	Subhead	Activity	Units Accomplished	Comments
Jicarilla Apache Nation												
2016						Mazzone	JAN	7	Coordinate	Attended rangewide meeting	1	
2016						Mazzone	JAN	A	Miscellaneous	Started Temperature Study	3	
2016						Mazzone	JAN	1	Inventory	Electrofishing, and visual inspection	8	
Mescalero Apache Tribe												