Rio Grande Cutthroat Trout Conservation Team

Pamela Sponholtz, USFWS Region 6
Yvette Paroz, USFS Region 3
William Remshardt, USFS Region 2
John Alves, CPW
Kirk Patten, NMDGF
Sue Swift-Miller, BLM
Ryan Besser, BLM
Fred Bunch, NPS
Jeremy Sweat, NPS
Jacob Mazzone, Jicarilla Apache Nation
Talisa Puentes Ortega, Taos Pueblo
Tori Marden, Mescalero Apache Nation

Dear Conservation Team,

This letter is intended to summarize the 2020 range-wide activities for the conservation of Rio Grande Cutthroat Trout (RGCT) and to provide that information to conservation team leaders. The activities below are divided into eight primary categories identified in the RGCT Conservation Agreement.

Population Inventory

In 2020, 37 waters (41 individual surveys) were inventoried within the historical range of RGCT. The purpose of the inventories was to monitor known populations (27 waters, 31 surveys), assess the genetic status of RGCT populations (5 AFLP tests), collect habitat information (2 waters), and test for diseases (3 waters).

Population Maintenance

Fish barriers were constructed in Willow Creek by NMDGF and in Poso Creek by Jicarilla Apache Nation.

Population Expansion

Seventeen events were classified as population expansion. In the Lower Rio Grande GMU, nonnative fish were removed from 9 creeks using piscicide. Pure RGCT were also reintroduced into Capulin Creek located on Bandelier National Monument. Additionally, a fish barrier was removed in Casias Creek to restore population connectivity in the Rio Costilla basin. In the Rio Grande Headwaters GMU, Sand Creek and Sand Creek lakes were restored using piscicide. Haypress Lake and Roaring Fork were restocked with RGCT after being chemically reclaimed and a total of 32 lakes and streams were stocked with RGCT for angler recreation in Colorado.

Protecting/Restoring Habitat

USFS-Carson and Trout Unlimited constructed 4 ungulate exclosures, 10 beaver dam analogs, and 20 post assisted structures in Rio San Antonio. Habitat was restored along 2.1 miles of stream and 77 acres of wetland in Cabresto Creek and Vidal Creek in the Carson National Forest.

Education

Colorado Parks and Wildlife presented information regarding RGCT conservation to Living Waters Fly Shop in Texas.

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 previous year's data using the online editor.

Coordination

The annual RGCT Conservation Team meeting was well attended by all signatory agencies.

Miscellaneous

Seven Springs Hatchery in New Mexico completed its annual RGCT spawn, producing over 300,000 fry for conservation and recreational stocking purposes. Taos Pueblo mechanically removed nonnative Brown Trout from 1.7 miles of Rio Lucero to benefit native fishes.

Thank you all for your help 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,

Tucker Brauer Rio Grande Cutthroat Trout Biologist New Mexico Department of Game and Fish RGCT Rangewide Report 2020 - Summary by Strategy, January 1 to December 31, 2020

		ort 2020 - Summary by			
Strategy	Subhead	Title	Waters/Events	Total	Description
1	Survey	Population Inventory	0	0	Survey potential RGCT waters within historical range; maintain database
1	Monitor	Population Inventory	27	31	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	2	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	1	1	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	12	12	Increase RGCT populations by restoring RGCT habitat through chemical reclamation
3	Augment	Population Expansion	3	3	Augment pure populations within historical range by stocking or transplanting RGCT
3	Connectivity	Population Expansion	1	1	Promote and restore connectivity of populations to enhance metapopulation function
3	Stock RGCT	Population Expansion	1	32	Stock lakes and streams with RGCT for angler recreation (sum of lakes and streams stocked)
4	Improve	Protect sustaining habitat and restore degraded habitat	8	8	Inventory, maintain, protect, and improve existing habitat; improve fluvial/ hydrological processes
4	Unoccupied	Protect sustaining habitat and restore degraded habitat	0	0	Identify unoccupied habitat for restoration with RGCT
5	Education	Conservation Education and Interpretation	1	1	Subcommittee to develop education and interpretation program providing deliverables and a consistent message regarding RGCT conservation efforts
6	Database	Database Sharing	2	2	Summarize distribution, population genetics and habitat data; centralize data into a database; allow rangewide integrated data analysis, summaries, and comparisons
7	Coordinate	Planning/ Coordination	16	18	Share information; identify/ discuss/ solve common conservation problems; prioritize issues
A*	Miscellaneous	Other Activities/ Actions	2	2	Accomplishments that are not listed in the other titles or strategies
В	Habitat	Private Land Protection or Restoration (stream miles)	0	0	Landowner/ private land habitat protection or restoration

Year	CM.	Population Co.	Make	WaterC		Biologist.	Acar	Strate	Cubba- 4		Units	
olorac	GMU lo Parks an	Population Code d Wildlife	Water	ode	нис	Biologist	Agency	Strategy	Subhead	Activity	Accomplished	Comments
2020	Rio Grande	13010004cp003	Cross Creek	38581	Saguache	Vigil	CPW	1	Monitor	Population	1	
2020	Headwaters Rio Grande	13010004cp003	Jacks Creek	38579	Saguache	Vigil	CPW	1	Monitor	Monitoring Population	1	
2020	Headwaters Rio Grande	13010002cp005	Jim Creek	44254	Alamosa-	Vigil	CPW	1	Monitor	Monitoring Population	2	
	Headwaters Rio Grande				Trinchera					Monitoring Population		
2020	Headwaters Rio Grande	13010005cp006	Osier Creek	44444	Conejos Alamosa-	Vigil	CPW	1	Monitor	Monitoring Population	1	
2020	Headwaters	13010002cp016	Wagon Creek	44456	Trinchera	Vigil	CPW	1	Monitor	Monitoring	1	
2020	Rio Grande Headwaters	13010002cp014	South Fork West Indian Creek	39530	Alamosa- Trinchera	Vigil	CPW	1	Monitor	Population Monitoring	1	
2020	Rio Grande Headwaters	13010002cp014	West Indian Creek	44709	Alamosa- Trinchera	Vigil	CPW	1	Monitor	Population Monitoring	1	
2020	Rio Grande Headwaters	13010004cp001	Whale Creek	42420	Saguache	Vigil	CPW	1	Monitor	Population Monitoring	1	
2020	Rio Grande	13010002cp021	Placer Creek	44711	Alamosa-	Cammack	CPW	1	Monitor	Population	2	
2020	Headwaters Rio Grande	13010005cp008	Lake Fork of	39289	Trinchera Conejos	Cammack	CPW	1	Monitor	Monitoring Population	2	
	Headwaters Rio Grande	13010003cp000	Conejos River	39209	Correjos		CPW			Monitoring Recreation		Stocked 32 Recreational RGCT
2020	Headwaters Rio Grande					Vigil		3	Stock RGCT	stocking Updated RGCT	32	waters
2020	Headwaters					Vigil	CPW	6	Database	database	1	
2020	Rio Grande Headwaters	13010001cp001	Haypress Lake	90388	Rio Grande Headwater s	Vigil	CPW	3	Augment	Post-restoration stocking	1	Stocked Haypress Lake with 6500 fry spawned from Brood Stock
2020	Rio Grande Headwaters		Roaring Fork	42616	Rio Grande Headwater s	Vigil	CPW	3	Augment	Post-restoration stocking	1	Stocked Roaring Fork with fry spawned from Brood Stock
2020	Rio Grande				5	Vigil	CPW	7	Coordinate	Planned and attend RGCT	1	
2020	Headwaters					vigir	Gr W		Coordinate	range-wide meeting	*	
2020	Rio Grande Headwaters	13010005cp006	Osier Creek	44444	Conejos	Vigil	CPW	1	Disease	Population Monitoring	1	Fish Health monitoring at Osie Creek
	sawaters									Chemically		Creek
2020	Rio Grande Headwaters		Sand Creek	42856	San Luis	Vigil	CPW	3	Restore	treated approximately 4 miles of stream with rotenone to remove non- native fish	1	
										Chemically		
2020	Rio Grande Headwaters		Upper Sand Creek Lake	81163	San Luis	Vigil	CPW	3	Restore	treated with rotenone to remove non- native fish	1	
2020	Rio Grande Headwaters		Lower Sand Creek Lake	81151	San Luis	Vigil	CPW	3	Restore	Chemically treated with rotenone to remove non-	1	
										Presented RGCT conservation strategy to		
2020	Rio Grande Headwaters					Vigil	CPW	5	Education	Living Waters Fly Shop in TX	1	
New Me	xico Game	and Fish										
2020	Pecos Headwaters		Jacks Creek			Brauer	NMDGF	1	Monitor	Population Monitoring	1	
2020	Pecos Headwaters		Cave Creek			Brauer	NMDGF	1	Monitor	Population Monitoring	1	
2020	Pecos		Macho Creek			Brauer	NMDGF	1	Monitor	Population	1	
2020	Headwaters Pecos		Dalton Creek			Brauer	NMDGF	1	Monitor	Monitoring Population	1	
	Headwaters Pecos									Monitoring Population		
2020	Headwaters Lower Rio		Bear Creek			Brauer	NMDGF	1	Monitor	Monitoring Population	1	
2020	Grande		Rio Chiquito Palociento			Brauer	NMDGF	1	Monitor	Monitoring	1	
2020	Lower Rio Grande		Creek			Brauer	NMDGF	1	Monitor	Population Monitoring	1	
2020	Lower Rio Grande		Canjilon Creek			Brauer	NMDGF	1	Monitor	Population Monitoring	1	
2020	Lower Rio					Brauer	NMDGF	1	Monitor	Population		
			Jaroso Creek								1	
2020	Grande Lower Rio		Powderhouse			Brauer	NMDGF	1	Monitor	Monitoring Population	1	
	Grande Lower Rio Grande Lower Rio		Powderhouse Creek Comanche							Population Monitoring Population	1	
2020 2020	Grande Lower Rio Grande Lower Rio Grande		Powderhouse Creek			Brauer Brauer	NMDGF NMDGF	1	Monitor Monitor	Population Monitoring		
	Grande Lower Rio Grande Lower Rio		Powderhouse Creek Comanche							Population Monitoring Population Monitoring Piscicide application to	1	
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2020					Bakevich/Glo						
	Canadian Lower Rio		Luna Creek		ver	NMDGF	1	Taxonomy	Genetic Testing Population	1	Multiple age classes
2020	Grande		Costilla		Leinonen	TEI	1	Monitor	Inventory	1	represented. Evidence of reproduction success
2020	Lower Rio Grande		Casias		Leinonen	TEI	1	Monitor	Population Inventory	1	Multiple age classes represented. Evidence of reproduction success
2020	Canadian		Leandro		Leinonen/Arm strong	TEI/NMSU	1	Monitor	Population Inventory	2	Multiple age classes represented. Evidence of
2020	Lower Rio Grande		Casias		Leinonen	TEI	3	Connectivity	Population Maintenance	1	reproduction success Removed fish migration barrie
2020	Canadian		Little Vermejo		Armstrong	NMSU	1	Monitor	Population Inventory	1	
2020	Lower Rio Grande		Rito de los Pinos		Armstrong	NMSU	1	Monitor	Population Inventory	1	
2020	Lower Rio Grande				Leinonen	TEI	7	Coordinate	Attended RGCT Rangewide meeting	1	
2020					Jacobsen	NMDGF	А	Miscellaneous	Seven Springs Hatchery Spawn	1	Produced 300,000 eggs
United S	States Fore	st Service - C	Colorado					<u> </u>	Attend		
2020					Remshardt, Janowsky	USFS	7	Coordinate	Rangewide Meeting	1	
United S	States Fore	st Service - N	lew Mexico								
2020	Lower Rio Grande		Rio San Antonio	1.3E+11	Long	USFS	4	Improve	Habitat improvement	1	Construct 2 riparian/stream channel ungulate exclosures (2
	Lower Rio								Habitat		acres each) Construct 2 riparian/stream
2020	Grande		Rio San Antonio	1.3E+11	Long	USFS	4	Improve	improvement	1	channel ungulate exclosures (stream miles enclosed) Construct 10 Beaver Dam
2020	Lower Rio Grande		Rio San Antonio	1.3E+11	Long	USFS	4	Improve	Habitat improvement	1	Analogs (BDA) and 20 Post Assisted Log Structures (PALS)
2020	Lower Rio Grande		Cabresto Creek	1.3E+11	Long	USFS	4	Improve	Habitat improvement	1	Stabilize headwater stream channels associated wetlands that drain into native RGct stream.
2020	Lower Rio Grande		Cabresto Creek	1.3E+11	Long	USFS	4	Improve	Habitat improvement	1	Stabilize headwater stream channels associated wetlands that drain into native RGct stream.
2020	Lower Rio Grande		Vidal Ck (Comanche Ck	1.3E+11	Long	USFS	4	Improve	Habitat improvement	1	Stabilize headwater stream channel with erosion and flow
2020	Lower Rio Grande		Vidal Ck (Comanche Ck		Long	USFS	4	Improve	Habitat improvement	1	control structures. Stabilize headwater stream channels associated wetlands that drain into native RGct
2020	Lower Rio		trib) Comanche Ck	1.3E+11	Long	USFS	3	Restore	Piscicide application to		stream. Rotenone treatment of portions of Comanche Ck and certain
	Grande								Remove NN		tributaries Rotenone treatment of portions
2020	Lower Rio Grande		Rio Costilla Ck	1.3E+11	Long	USFS	3	Restore			of Rio Costilla Ck (downstream of confluence with Comanche Ck to fish migration barrier)
2020	Lower Rio Grande		Rio Costilla Ck	1.3E+11	Long	USFS	3	Restore			Rotenone treatment of portions of Rio Costilla CK and certain tributaries (upstream of confluence with Comanche Ck)
2020					Long	USFS	7	Coordinate	Attend Rangewide	1	
									Meeting		
United S	States Fish	and Wildlife	Service						Funded two		
2020	Lower Rio Grande	13020101cd001	Costilla Creek	13020101		USFWS	7	Coordinate	barrier removals with Vermejo Park Ranch on Costilla Creek and Casias	2	Work is in progress
2020						USFWS	7	Coordinate	Creek Attend Rangewide Meeting	1	
Bureau	of Land Ma	nagement - (Colorado								
2020		nnagement - (BLM	7	Coordinate	nd Rangewide Me	1	
2020		nagement - (BLM BLM	7	Coordinate	nd Rangewide Me Attend Rangewide Meeting	1	
2020 Bureau 0 2020	of Land Ma		ew Mexico						Attend Rangewide Meeting		
2020 Bureau 0 2020	of Land Ma	nagement-N	ew Mexico						Attend Rangewide		
2020 Bureau 2020 National	of Land Ma	nagement-N	ew Mexico			BLM	7	Coordinate	Attend Rangewide Meeting Attend Rangewide Meeting	1	
2020 Bureau 2020 National	of Land Ma	nagement-No	ew Mexico		Milligan	BLM	7	Coordinate	Attend Rangewide Meeting Attend Rangewide	1	
2020 Bureau 2020 National 2020 National 2020	of Land Ma	nagement-No	ew Mexico		Milligan	BLM NPS	7	Coordinate	Attend Rangewide Meeting Attend Rangewide Meeting Attend Rangewide Attend Rangewide	1	
2020 Bureau 2020 National 2020 National 2020	I Parks Sei I Parks Sei Lower Rio	nagement-No	ew Mexico		Milligan	NPS NPS	7	Coordinate	Attend Rangewide Meeting Attend Rangewide Meeting Attend Rangewide Meeting Attend Population	1	z miles or stream was surveyer in July 2020. In total, 77
2020 Bureau (2020 National 2020 National 2020 Taos Pu	I Parks Sei I Parks Sei Lower Rio Grande Lower Rio	nagement-No	ew Mexico do exico			NPS NPS Taos Pueblo	7 7 7	Coordinate Coordinate Coordinate	Attend Rangewide Meeting Attend Rangewide Meeting Attend Rangewide Meeting Population Monitoring Nonnative	1	in July 2020. In total, 77 RGCT were captured during the October 2020. Approximately 1.7 miles of stream was
2020 Bureau 2020 Nationa 2020 Nationa 2020 Taos Pu 2020	I Parks Sei I Parks Sei Lower Rio	nagement-No	do exico		C.J Vialpando	NPS NPS Taos Pueblo Taos Pueblo	7 7 7 1	Coordinate Coordinate Coordinate Monitor	Attend Rangewide Meeting Attend Rangewide Meeting Attend Rangewide Meeting Population Monitoring Nonnative Removal Attend Rangewide	1 1 1	in July 2020. In total, 77 RGCT were captured during the October 2020: Approximately
2020 Bureau (2020) National 2020 National 2020 Taos Pu 2020 2020	of Land Ma I Parks Sei I Parks Sei Lower Rio Grande Lower Rio Grande	vice - Colora	do exico		C.J Vialpando	NPS NPS Taos Pueblo Taos Pueblo	7 7 7 1 A	Coordinate Coordinate Coordinate Monitor Miscellaneous	Attend Rangewide Meeting Attend Attend Rangewide Mention. Attend Rangewide Meeting Population Monitoring Nonnative Removal Attend Attend	1 1 1 1 1	in July 2020. In total, 77 RGCT were captured during the October 2020. Approximately 1.7 miles of stream was surveyed on the Rio Lucero
2020 Bureau 2020 National 2020 National 2020 Faos Pu 2020 2020 2020	I Parks Sei I Parks Sei Lower Rio Grande Lower Rio	vice - Colora	do exico		C.J Vialpando	NPS NPS Taos Pueblo Taos Pueblo	7 7 7 1 A	Coordinate Coordinate Coordinate Monitor Miscellaneous	Attend Rangewide Meeting Attend Rangewide Meeting Attend Rangewide Meeting Population Monitoring Monnative Removal Attend Attend Rangewide Meeting Construct terminal fish	1 1 1 1 1	in July 2020. In total, 77 RGCT were captured during the October 2020. Approximately 1.7 miles of stream was surveyed on the Rio Lucero
2020 Bureau d 2020 National 2020 National 2020 Taos Pu 2020 2020 2020 2020	of Land Ma I Parks Sei I Parks Sei Lower Rio Grande Lower Rio Grande	vice - Colora	ew Mexico do exico Rio Lucero Rio Lucero		C.J Vialpando C.J Vialpando C.J Vialpando	NPS NPS Taos Pueblo Taos Pueblo	7 7 7 1 A 7	Coordinate Coordinate Coordinate Monitor Miscellaneous Coordinate	Attend Rangewide Meeting Attend Rangewide Meeting Attend Rangewide Meeting Attend Rangewide Meeting Nonnative Removal Attend Rangewide Meeting Construct terminal fish barrier Design/fund Leminal fish	1 1 1 1 1	in July 2020. In total, 77 RGCT were captured during the October 2020. Approximately 1.7 miles of stream was surveyed on the Rio Lucero
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