Range-Wide Status of Rio Grande Cutthroat Trout (*Oncorhynchus clarkii virginalis*): 2016

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Executive Summary

The Rio Grande Cutthroat Trout (RGCT) is a native sportfish that occurs in coldwater streams and lakes in the Canadian River, Pecos River, and Rio Grande basins in Colorado and New Mexico. Over the past century this subspecies has declined, primarily due to the effects of introduced trout species and habitat loss. As such, RGCT have been considered for listing under the Endangered Species Act (ESA) since 2002, but in 2014, the U.S. Fish and Wildlife Service determined that listing was not warranted. To improve the conservation status of RGCT and prevent listing under the ESA, federal, state, and tribal agencies and other organizations interested in RGCT conservation formed the RGCT Conservation Team in 2003. This document is an updated RGCT status assessment using the most recent data available from the RGCT Conservation Team to collaboratively plan and implement RGCT conservation efforts and document RGCT conservation actions from 2006 – 2016.

There were 129 RGCT conservation populations occupying 1210 kilometers range-wide in 2016. This represents a net addition of 8 conservation populations and 86 kilometers of occupied stream habitat since 2006. In addition, the area of occupied lake habitat increased by 1.29 square kilometers indicating an increase of 37 percent. This substantial improvement of the range-wide status of RGCT is a result of management actions taken by the RGCT Conservation Team, primarily through the implementation of non-native fish eradication projects.

To understand the likelihood of individual conservation populations persisting into the future, the RGCT Conservation Team requested the development of a Bayesian network model based on the most recent information. According to the model, the populations most likely to persist into the 2040's and 2080's do not contain non-native fish and are protected by fish migration barriers. Although many populations in the Rio Grande basin are predicted to persist, only six populations in the Canadian and Pecos River basins are predicted to persist long-term without management actions. The results from this model validate the effectiveness and need for continued non-native fish eradication and fish barrier construction projects.

The accomplishments of the RGCT Conservation Team from 2014 – 2017 demonstrate the substantial progress toward achieving the goals identified in the Range-wide Conservation Strategy of 2013. Many of these goals have already been met or exceeded, including the restoration of new populations, populations monitoring, constructing fish barriers, and maintaining sources of RGCT. To meet the remaining goals and continue improving the status of RGCT, future management actions will need to increase in the Rio Grande Headwaters in Colorado and the Canadian and Pecos River basins in New Mexico.

Introduction

Conservation efforts for Rio Grande Cutthroat Trout (Oncorhynchus clarkii virginalis; RGCT) across its historic distribution have been occurring for several decades through efforts by federal, state, tribal, non-governmental, and private organizations. To better understand the conservation status of RGCT and guide management actions, the RGCT Conservation Team developed the first Range-wide Status Assessment (Alves et al. 2008) based on information collected in 2006 and 2007. The purpose of this initial status assessment was to describe historic and current distribution, abundance, genetic status, and risks to RGCT range-wide. Prior to the 2008 Rangewide Assessment, other publications (i.e., Behnke 1992, Rinne 1995, Stumpff and Cooper 1996, Behnke 2002, Pritchard and Cowley 2006) had assessed the status of RGCT but were limited to only a portion of RGCT historical range, involved a limited number of experts with specific knowledge of the assessment area, or were constrained by a lack of consistency in the sources of information and criteria used. The 2008 assessment addressed these issues by incorporating data collected range-wide and using standardized data collection and storage protocols. The purpose of this document is to provide an updated status assessment using the most recent data available from the RGCT Conservation Team database to collaboratively assess, plan, and prioritize their ongoing and future RGCT conservation efforts.

The history of RGCT and its listing consideration under the Endangered Species Act of 1973, as amended (ESA) began in 2002 when U.S Fish and Wildlife Service (USFWS) determined that listing the subspecies was not warranted (Figure 1). However, in 2008 USFWS determined that listing was warranted, but precluded by higher priority actions. Most recently, in 2014, USFWS once again determined that listing RGCT under the ESA was not warranted. This decision was primarily based on the USFWS's Species Status Assessment (U.S. Fish and Wildlife Service, 2014) and the evaluation of conservation efforts being implemented by the RGCT Conservation Team and their partners.

The RGCT Conservation Team, established in 2003, is an interstate and interagency group of representatives from federal, state, and tribal agencies and other interested parties who are committed to the conservation of RGCT. This team was formed to assure the long-term viability of RGCT throughout its historic distribution and reduce the likelihood that the subspecies would require listing under the ESA. The actions and objectives of the RGCT Conservation Team are guided by a range-wide Conversation Strategy and Agreement which sets broad goals and specific conservation actions for the management and conservation of RGCT in each geographic management unit (GMU). Although the states of Colorado and New Mexico developed separate strategies and management plans in previous years, in 2013 the RGCT Conservation Team adopted and is currently working under a range-wide Conservation Strategy (RGCT Conservation Team, 2013b). Conservation Agreements among cooperating agencies and supporting organizations have been signed and updated since 2003 with the most current version

adopted in 2013 (RGCT Conservation Team, 2013a). This document demonstrates the commitment of each signatory to the actions agreed upon in the associated Conservation Strategy. The signatories to the 2013 Conservation Agreement include Bureau of Land Management (Colorado and New Mexico), Colorado Parks and Wildlife (CPW), Jicarilla Apache Nation, Mescalero Apache Nation, National Park Service (Intermountain Region), New Mexico Department of Game and Fish (NMDGF), Taos Pueblo, USFWS (Regions 2 and 6), and USDA Forest Service (Regions 2 and 3). Supporting organizations in the Conservation Agreement include Colorado Trout Unlimited, New Mexico Council of Trout Unlimited, and the Coalition of Colorado Counties.



Figure 1. Timeline of ESA listing decisions and RGCT Conservation Team actions.

Range-wide Status of RGCT Conservation Populations 2016

Signatories, cooperating organizations, and other entities are continuously collecting information on the distribution and status of RGCT. Those data are consolidated, reviewed, and entered into the RGCT database annually following the Inland Cutthroat Trout Protocol (May et al. 2003; May et al. 2005; Shepard et al. 2003). This assessment is a summary and analysis of all data collected, reviewed, and entered into the database through 2016 and a comparison of the status of RGCT in 2016 to that in 2006. The reader may note that this document, published in 2019, includes data only through 2016. This is because the data collection occurred through the end of 2016, was entered into the database in 2017, and then analyzed, prepared, and reviewed for this assessment in 2018 and 2019.

Current Status and Changes in Conservation Populations 2006 – 2016

There were 129 RGCT conservation populations (genetic purity \ge 90%) occupying 1210 kilometers range-wide in 2016 (Appendix A, Figure 1, Table 1). This represents a net addition of

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8 conservation populations and 86 kilometers of occupied stream habitat since 2006. Similarly, the percent of historic distribution occupied by conservation populations increased from 10.5% in 2006 to 11.3% in 2016. In addition to stream kilometers, the area of occupied lake habitat increased by 1.29 square kilometers (37%) from 2006 - 2016.

In Colorado, the number of conservation populations increased by two from 2006 - 2016, though the amount of currently occupied stream habitat decreased by 9 kilometers (1.9%). The addition of new populations improved the range-wide resiliency of RGCT to stochastic events, but the mean patch length (average length of conservation populations) and percent of historic habitat occupied slightly decreased in Colorado. Lake area occupied by conservation populations and the percent of historic distribution occupied in Colorado remained consistent from 2006 - 2016.

In New Mexico, the number of conservation populations increased by five and the amount of stream habitat currently occupied increased by 90 kilometers (12.4%) from 2006 - 2016. In addition, the percent of historic distribution occupied by conservation populations increased by 1.6%, mean patch length increased by 0.6 kilometers (7.3%), and lake area occupied increased by 1.29 square kilometers (87.8%).

The substantial improvement of the range-wide conservation status of RGCT from 2006 - 2016 is a result of management actions taken by the RGCT Conservation Team. Most of the new populations and occupied stream miles can be attributed to non-native fish eradication achieved through the use of piscicides or by ash and debris flows caused by wildfires and the subsequent stocking of RGCT. Between 2006 and 2016, two conservation populations in Colorado and three in New Mexico were lost due to the invasion and persistence of non-native salmonids, severe drought conditions, or genetic purity results demonstrating greater than 10 percent non-native genetic introgression. However, the restoration efforts that added new conservation populations and occupied stream kilometers between 2006 and 2016 considerably outnumbered these losses, resulting in net gains for the subspecies range-wide.





Range-wide Status of Rio Grande Cutthroat Trout: 2016

-			
2006	2016	% Change	
121	129	+ 6.2	
1124	1210	+ 7.1	
10,718	10,720	0.0	
10.5	11.3	+ 7.1	
9.3	9.4	+ 1.1	
2.20	3.49	+ 37.0	
42	44	+4.5	
486	477	- 1.9	
5,197	5,193	0.0	
9.4	9.2	- 2.2	
11.6	10.8	- 7.4	
2.02	2.02	0.0	
84	89	+ 5.6	
638	728	+ 12.4	
5,521	5,527	0.0	
11.6	13.2	+ 12.1	
7.6	8.2	+ 7.3	
0.18	1.47	+ 87.8	
	1124 10,718 10.5 9.3 2.20 42 486 5,197 9.4 11.6 2.02 84 638 5,521 11.6 7.6	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	

Table 1. Status of RGCT populations range-wide and by state in 2006 and 2016. Conservation populations crossing state lines are counted twice (6 populations in 2006 and 5 populations in 2016) but do not affect the range-wide total number of conservation populations.

RGCT Conservation Populations by GMU and HUC8 Watershed 2016

In 2016, Rio Grande Cutthroat Trout conservation populations and occupied stream kilometers were the most abundant in the Lower Rio Grande GMU and Rio Grande Headwaters GMU (Table 2). The Lower Rio Grande GMU had the highest number of populations (63) and occupied stream kilometers (526.6). The Rio Grande Headwaters GMU contained 43 conservation populations occupying 464.6 kilometers of stream habitat. The Pecos GMU contained 12 populations, 11 of which were located in the Pecos Headwaters HUC8 watershed. The Canadian GMU contained 11 populations spread across three HUC8 watersheds. There were no conservation populations in the Caballo GMU, but it contained 17 kilometers of historic habitat in the Las Animas Creek watershed. Most of the historic distribution of RGCT occurred in the Rio Grande Headwaters GMU, followed by the Lower Rio Grande, Canadian, and Pecos GMUs.

GMU, HUC8	# Pops	Current km	Mean km	Lake km ²	Historic
	1				km
Caballo					17
Caballo (13030101)					17
Canadian	11	156.4	15.4		1027
Canadian Headwaters (11080001)	3	84.3	28.1		143
Cimarron (11080002)	4	47.5	11.9		414
Upper Canadian (1108003)					23
Mora (11080004)	4	24.6	6.2		447
Lower Rio Grande	63	526.6	8.1	1.86	3404
Upper Rio Grande (13020101)	42	360.4	8.6	1.56	1524
Rio Chama (13020102)	13	98.9	7.6	0.30	1305
Rio Grande-Santa Fe (13020201)	2	12.7	6.3		124
Jemez (03020202)	3	33.5	11.2		358
Rio Puerco (13020204)	3	21.1	7.0		93
Pecos	12	62.9	4.7		1002
Pecos Headwaters (03060001)	11	59	5.4		727
Arroyo Del Macho (13060005)	1	3.9	3.9		13
Rio Hondo (13060008)					155
Rio Peñasco (13060010)					107
Rio Grande Headwaters	43	464.6	12.9	1.63	5274
Rio Grande Headwaters	1	7.2	7.2	0.96	1314
(13010001)					
Alamosa- Trinchera (13010002)	23	279.1	12.1	0.10	1518
San Luis (13010003)	1	28.8	28.8	.06	820
Saguache (13010004)	9	112.9	12.5		873
Conejos (13010005)	9	36.6	4.1	0.51	749

Table 2. The number, currently occupied stream length, mean patch length, and occupied lake area of conservation populations and historic distribution by GMU and 8-digit HUC in 2016.

Mean patch length of conservation populations varied both among and within the GMUs. The Canadian GMU had the longest conservation populations averaging 15.4 kilometers in stream length. This can be attributed to the low number of populations in this GMU, but the presence of large, connected populations in the Vermejo River and Ponil Creek watersheds. The mean patch length of conservation populations in the Rio Grande Headwaters GMU was 12.9 kilometers and included the San Luis HUC8 which had the highest average patch length at the HUC8 scale. The Saguache and Alamosa-Trinchera HUC8 mean patch lengths were above the range-wide average while the Rio Grande Headwaters and Conejos HUC8s were below the range-wide average. Although the mean patch lengths of most HUC8s in the Lower Rio Grande GMU were below the range-wide average, some of the largest conservation populations occurred here. Lastly, the Pecos GMU had the shortest average patch length containing small, fragmented populations located primarily in the Pecos Headwaters HUC8.

Lakes that contained conservation populations occurred in the Lower Rio Grande and Rio Grande Headwaters GMUs. In the Lower Rio Grande GMU, most occupied lake habitat occurred in the Upper Rio Grande HUC8, all of which were located in the upper Rio Costilla watershed upstream of Costilla Reservoir. The Rio Grande Headwaters GMU contained four lakes spread among the Rio Grande Headwaters, Alamosa-Trinchera, San Luis, and Conejos HUC8 watersheds.

Genetic Status of RGCT Conservation Populations

Rio Grande Cutthroat Trout conservation populations are divided into two groups based on genetic purity: core conservation populations (genetic purity \geq 99%) and conservation populations (genetic purity \geq 90% < 99%). There were 96 core conservation populations and 33 conservation populations range-wide in 2016 (Table 3) compared to 92 and 29 in 2006, respectively. The Lower Rio Grande GMU contained the highest number of core conservation populations, while the Rio Grande Headwaters contained the highest proportion relative to the less genetically pure conservation populations. The Canadian and Pecos GMUs contained the fewest core conservation populations, with the exception of the Caballo GMU which contained no RGCT populations.

GMU, HUC8	Core Co	ons Pops	Cons Pops		
	#Pops	Km	#Pops	Km	
Caballo	<u> </u>				
Caballo (13030101)					
Canadian	8	70.8	3	85.7	
Canadian Headwaters (11080001)	2	15	1	69.3	
Cimarron (11080002)	3	37.9	1	9.6	
Upper Canadian (1108003)					
Mora (11080004)	3	17.9	1	6.8	
Lower Rio Grande	44	381.9	19	144.6	
Upper Rio Grande (13020101)	31	290.1	11	70.3	
Rio Chama (13020102)	8	61.1	5	37.7	
Rio Grande-Santa Fe (13020201)	2	12.7			
Jemez (13020202)	2	13.6	1	19.9	
Rio Puerco (13020204)	1	4.4	2	16.7	
Pecos	8	40.7	4	22.2	
Pecos Headwaters (13060001)	7	36.8	4	22.2	
Arroyo Del Macho (13060005)	1	3.9			
Rio Hondo (13060008)					
Rio Peñasco (13060010)					
Rio Grande Headwaters	36	364.5	7	100.3	

Table 3. Number and occupied stream kilometers of core conservation populations (genetic purity \geq 99%) and conservation populations (genetic purity <99% and \geq 90%) by GMU and 8-digit HUC in 2016.

GMU, HUC8	Core Co	ons Pops	Cons	Pops
	#Pops	Km	#Pops	Km
Rio Grande Headwaters (13010001)	1	7.2		
Alamosa-Trinchera (13010002)	19	207	4	72.2
San Luis (13010003)	1	28.8		
Saguache (13010004)	6	84.9	3	28.1
Conejos (13010005)	9	36.6		
Total	96	857.9	33	352.8

Population Persistence Modelling

To understand the likelihood of individual conservation populations persisting in the current time period (2010s), the short-term (2040s), and the long-term (2080s), Zeigler et al. (in review) developed a Bayesian network (BN) to model the probability of population persistence across these three time periods. This model was developed at the request of the RGCT Conservation Team as a more scientifically rigorous and predictive alternative to the previous Population Health Index (Alves et al. 2008). It not only evaluated each conservation population, but also showed what biotic and abiotic factors were the most significant contributors to population persistence and extirpation. An important assumption of the BN model is that no management actions (e.g., restoring populations, barrier construction, non-native eradication, habitat improvement) will occur over the three time periods. This approach allows managers to identify potential at-risk populations in need of active management, and conversely, which populations are predicted to persist in the absence of conservation activities.

The BN model also provides managers with information about what factors have the greatest impact on conservation populations and those that do not. A sensitivity analysis of the factors incorporated into the model indicated that threats posed by non-native fishes (e.g., non-native presence, barrier absence, proximity of non-native fishes) are the primary factors influencing population persistence (Zeigler et al. in review). Although not surprising, this result from the model provides further evidence that non-native fish eradication and barrier construction projects are the most effective actions for conserving RGCT range-wide. Conversely, environmental factors associated with climate change such as mean weekly maximum water temperature, baseflow discharge, and stream intermittency had much less effect on population persistence.

In the current time period, the model indicated that 95 of the 129 conservation populations fell between 25% and 75% probability of persistence, with 16 above 75% and 18 below 25% (Appendix B, Appendix C, Table 4). As the model projects into the future time periods, many populations move to below 25% probability of persistence. In general, these populations contain or are in close proximity to non-native fishes and lack fish migration barriers protecting them from future invasion. On the other hand, populations most likely to persist in the long-term do

not contain non-natives, sources of non-natives are far away, and are protected by a complete fish barrier. This pattern of non-native fish effects on population persistence across the three time periods is also apparent at the GMU scale.

GMU	Time Period		Number of	Populations	
		$0\% \le 25\%$	>25% ≤50%	>50% ≤ 75%	>75%
		Persistence	Persistence	Persistence	Persistence
All GMUs	Current	18	51	44	16
	Short-term	76	11	39	3
	Long-term	80	14	31	4
Caballo	Current				
	Short-term				
	Long-term				
Canadian	Current	1	5	3	2
	Short-term	7	0	3	1
	Long-term	7	1	3	0
Lower Rio Grande	Current	10	21	22	10
	Short-term	36	6	19	2
	Long-term	41	3	15	4
Pecos	Current	4	5	0	3
	Short-term	9	0	3	0
	Long-term	9	0	3	0
Rio Grande	Current	3	20	19	1
Headwaters	Short-term	24	5	14	0
	Long-term	23	10	10	0

Table 4. The number of conservation populations grouped by the percent probability of persistence range-wide and by GMU in the current (2016), short-term (2040s), and long-term (2080s) time periods.

The Rio Grande Headwaters and Lower Rio Grande GMUs contain a vast majority of the total RGCT populations, several of which will likely persist into the 2080s without management action. There are, however, a much larger number of populations that are at high risk to become extirpated in these GMUs without active management of threats. The Canadian and Pecos GMUs contain only 11 and 12 populations, respectively, and the BN model predicts that few of these populations are likely to persist in the long-term without management action.

The substantial population restoration and habitat work conducted by the RGCT Conservation Team since 2006 has improved the conservation status of RGCT range-wide, but the BN model strongly suggests that continued management action will be necessary to ensure that current populations will persist long-term. Large-scale non-native fish eradication projects, such as the project in the Rio Costilla watershed, will be the most effective method for addressing threats from non-native fish and creating robust RGCT metapopulations. In addition, replicating currently threatened populations in streams not occupied by non-native fishes will further ensure the genetic diversity of the subspecies will be conserved. Although opportunities for restoration projects should be acted upon range-wide, results from the BN model suggest future conservation actions should be prioritized in the Rio Grande Headwaters GMU in Colorado and the Canadian and Pecos GMUs in New Mexico.

The BN model is the most scientifically rigorous evaluation of the status of RGCT at the population and subspecies level, but the results are very similar to those of previous analyses. Most notably, the Species Status Assessment (U.S. Fish and Wildlife Service, 2014), which preceded the "not warranted" ESA listing decision of 2014, provided similar predictions of population persistence across similar timeframes. The RGCT Population Health Index (Alves et al. 2008) differed greatly from the BN model in method, but the overall results were similar. While the BN model represents the most recent data and rigorous modelling techniques, the convergence of similar results among the BN model and other RGCT population viability models suggest that RGCT will persist in the long-term, provided that managers continue to restore new and protect current conservation populations.

RGCT Range-Wide Conservation Team Accomplishments 2008 – 2017

In 2008, the RGCT Conservation Team implemented an annual reporting protocol to summarize range-wide accomplishments towards each of the objectives outlined in the RGCT Conservation Strategy and Agreement. From 2008 - 2017, annual accomplishments were submitted by the signatories and supporting organizations and summarized in a short report to document efforts to improve the conservation status of RGCT.

Objective 1: Identify and characterize all RGCT conservation populations and occupied habitat

From 2008 - 2017, 56 surveys occurred in potentially occupied RGCT waters where RGCT were not known to occur (Table 5). This includes potential RGCT restoration waters affected by wildfire and other streams where the presence of RGCT was suspected but not confirmed. In addition, one hundred eighty-one monitoring events occurred to gather information on RGCT density, size structure, age composition, and non-native fish status. Genetic samples from 134 known or suspected RGCT populations were collected and analyzed to determine genetic purity and within-population genetic diversity. Lastly, habitat information within RGCT historic range was collected in 30 waters.

Objective 2: Secure and enhance conservation populations

Two aboriginal core conservation populations were identified and added to the range-wide database in from 2008 - 2017. Non-native fish removal efforts and fish migration barrier

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construction occurred in 64 waters to secure existing conservation populations. No activities to expand connectivity within RGCT metapopulations occurred during this time period.

Objective 3: Restore populations

To eradicate non-native fish and establish new conservation populations, RGCT restoration projects occurred in 43 waters consisting of approximately 326 kilometers of stream and 2.7 km² of lake habitat. These amounts of stream length and lake area are much greater than the total restored habitat because some projects required multiple piscicide treatments of the same water to ensure successful eradication of non-native fish. A substantial portion of this work was conducted in the Rio Costilla watershed as part of a large-scale native fish restoration project consisting of 120 miles of stream, 16 mountain lakes, and a 300 acre reservoir. The restoration of Haypress Lake and its tributaries was also conducted to establish a broodstock source of RGCT for other restoration projects and recreational stocking. Approximately 200,000 RGCT were stocked into restored waters to augment pure populations in 39 waters. To improve connectivity within conservation populations, 10 events occurred including the removal or replacement of culverts that restricted RGCT movement and gene flow. Lastly, approximately 2.7 million RGCT were stocked into 213 waters to provide recreational angling opportunities outside of conservation populations. These fry, fingerling, and catchable-size RGCT were stocked into high mountain lakes, streams, and large river systems such as the Rio Grande to build awareness and provide formative experiences with native fish.

Objective 4: Secure and enhance watershed conditions

Habitat improvements and maintenance such as instream habitat improvement riparian fencing, culvert repairs or replacements, trail hardening, and changes in grazing plans occurred in 32 waters. This includes four miles of riparian fencing to benefit conservation populations on Vermejo Park Ranch in the Canadian GMU. To identify unoccupied habitats with potential for RGCT restoration, 14 waters were scouted for barriers, electrofished to determine fish presence/absence, and surveyed above a natural barrier.

Objective 5: Public Outreach

Education activities pertaining to RGCT conservation and management occurred 41 times in public and professional arenas. These activities included talks at local high schools, Native Fish and Trout in the Classroom events, Trout Unlimited Meetings, and presentations at American Fisheries Society meetings at state, regional, and national levels.

Objective 6: Data sharing

Signatories and supporting organizations submitted annual accomplishment updates that were compiled into an annual report and distributed to the RGCT Conservation Team. These accomplishments were entered into the RGCT database each year to ensure the most current information on the status of RGCT was available.

Objective 7: Coordination

The Conservation Strategy and the updated Conservation Agreement were completed and signed in 2013. In addition, the annual range-wide meetings were well attended by signatory agency representatives and included the discussion and planning of RGCT conservation actions. Representatives from signatory agencies also contributed information for the annual accomplishment reports, which were summarized and distributed to the RGCT Conservation Team.

Additional categories in the Annual Accomplishments report that capture other accomplishments not specific to any of the 7 Objectives include Category A (Miscellaneous) and Category B (Habitat). Accomplishments reported under the "Miscellaneous" category included wild and hatchery spawn operations, fish salvage in response to wildfires, and development of management plans. Accomplishments reported under the "Habitat" category consisted of fish migration barrier maintenance and construction on private property.

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Objective	Subhead	Events	Definition
1	Survey	56	Survey potential RGCT waters within historic range; maintain database
1	Monitor	181	Monitor RGCT populations to detect changes; maintain database
1	Taxonomy	134	Collect genetic information within historic range; maintain database
1	Habitat Inventory	30	Collect habitat information within historic range; maintain database
1	Disease	43	Conduct fish health surveys including whirling disease
2	Identify	2	Identify core conservation populations and conservation populations
2	Secure	64	Secure and enhance distribution and abundance of conservation and core conservation populations

Table 5. Summary of annual accomplishment reports by Conservation Strategy objective and subhead 2008 - 2017.

Objective	Subhead	Events	Definition
2	Metapopulation	0	Identify, maintain, and expand connectivity within metapopulations
3	Restore	43	Increase RGCT populations by restoring RGCT habitat restoration through chemical reclamation
3	Augment	38	Augment pure populations within historic range by stocking or transplanting RGCT
3	Connectivity	10	Promote and restore connectivity of populations to enhance metapopulation function
3	Stock RGCT	213	Stock lakes and streams with RGCT for angler recreation (sum of lakes and streams stocked)
4	Improve	32	Inventory, maintain, protect, and improve existing habitat; improve fluvial/hydrological processes
4	Unoccupied	14	Identify unoccupied habitat for restoration with RGC
5	Education	41	Subcommittee to develop education and interpretation program providing deliverables and a consistent message regarding RGCT conservation efforts
6	Database	34	Summarize distribution, population genetics and habitat data; centralize data into a database; allow range-wide integrated data analysis, summaries, and comparisons
7	Coordinate	173	Share information; identify/discuss/solve common conservation problems; prioritize issues
A	Miscellaneous	47	Accomplishments that are not listed in the other titles or strategies
В	Habitat	6	Landowner/private land habitat protection or restoration

Progress Toward 10-Year Conservation Strategy Goals

The 2013 RGCT Conservation Strategy identifies specific monitoring, population restoration, habitat improvement, and other conservation goals to be accomplished from 2014 - 2024. Information contained in the annual accomplishment reports from 2014 - 2017 were used to evaluate the RGCT Conservation Team's progress toward meeting these goals.

Conservation goals described in Objective 1, which includes population monitoring and genetic analysis, have largely been met or exceeded (Appendix D). Population monitoring goals in the Rio Grande Headwaters and Lower Rio Grande GMUs have been met and substantial work has occurred in the Pecos and Canadian GMUs. Conservation actions taken to meet this goal include standard population surveys, environmental DNA sampling, and disease testing. Repatriation of RGCT to Las Animas Creek, the only historic habitat in the Caballo GMU, began in 2017 and will be surveyed after the population becomes established. Although specific goals for genetic analysis were not identified in the Conservation Strategy, 33 populations were analyzed for genetic purity across all GMUs occupied by RGCT.

Conservation goals described in Objective 2 include the maintenance of wildlife regulations, mechanical removal (e.g., electrofishing, gill netting) of non-native fish species, fish migration barrier construction, and RGCT broodstock development. Nearly all goals for these subcategories were met from 2014 – 2017. Both CPW and NMDGF continue to have and enforce statutes restricting the introduction of non-native fish species, restricting the spread of disease and invasive species, and regulating angling. Although specific goals were not described in the Conservation Strategy, the mechanical removal of non-native fish migration barriers occurred in the Rio Grande Headwaters and Lower Rio Grande GMUs, and planning had begun for fish barrier work in the Canadian and Pecos GMUs. To maintain genetically pure broodstocks, CPW has re-established the Haypress Lake broodstock program and NMDGF continued to produce RGCT at Seven Springs Hatchery.

The primary conservation goal described in Objective 3 is to restore conservation populations to unoccupied waters in all GMUs. Goals for the Lower Rio Grande and Caballo GMUs have been met, though continued restoration work in these GMUs is likely to continue. Progress has been made in the Rio Grande Headwaters GMU, but four more restored populations will be needed to achieve the goal for this GMU. Similarly, at least one population will need to be restored to both the Canadian and Pecos GMUs. Projects in the Canadian, Pecos, and Rio Grande Headwaters GMUs are currently being planned and implemented to meet the goals outlined in the Conservation Strategy.

Conservation goals described in Objective 4 include restoring and monitoring current and potential RGCT habitat. Habitat restoration goals have been met in the Lower Rio Grande GMU

by the implementation of a large-scale instream habitat project on Rio Costilla and headwater meadow and wetland restoration on Comanche Creek. Although no goals were set in the Canadian GMU, approximately 3 miles of riparian fencing was built to protect and enhance RGCT habitat on Vermejo Park Ranch. Two miles of riparian fencing was completed in the Rio Grande Headwaters GMU, though more work will need to be completed here and in the Lower Rio Grande and Pecos GMUs.

Conservation goals described in Objectives 5, 6, and 7 have been met, with the exception of the Conservation Agreement renewal which expires in 2024. All of the public outreach goals have been met and exceeded through continued efforts to educate the public about RGCT conservation. Each year, several agency and other entity representatives gave presentations to students, attended youth camps, met with angler groups, and developed and distributed educational materials such as brochures and posters. GMU leaders met annually to update the range-wide dataset and ensured that database administrators were sufficiently funded. The annual range-wide meetings were well-attended by all signatories, supporting organizations, and other entities interested in RGCT conservation. Annual accomplishment reports were completed each year and a five-year Status Report was completed.

Overall, the RGCT Conservation Team is succeeding in meeting the 10-year goals described in the Conservation Strategy. In many cases, such as genetic analysis and restoration in the Lower Rio Grande GMU, efforts have exceeded these goals. Substantial work in the Rio Grande Headwaters GMU in Colorado and a shift toward conservation actions in the Canadian and Pecos GMUs in New Mexico will be necessary to meet all of the goals by 2024.

Conclusions

From 2008 – 2016, the range-wide conservation status of RGCT has improved in total number of populations and occupied stream length and lake area. Although a few populations were extirpated during this time period, management actions taken by the RGCT Conservation Team have resulted in overall net gains for the subspecies. These gains can be primarily attributed to the success of non-native fish eradication projects through use of piscicides (i.e., rotenone). Although ash and debris flows caused by catastrophic wildfire are a threat to current RGCT populations, they have eradicated non-native fish from several streams and provided additional restoration opportunities once the impacted aquatic habitats recover. These management actions by the RGCT Conservation Team played an important role in the USFWS decision not to list RGCT under the ESA in 2014.

The Canadian, Pecos, and Rio Grande Headwaters GMUs should be the focus of future conservation actions. The BN model suggests that many populations in these GMUs are at risk because they lack a fish migration barrier and either contain or are in close proximity to non-

native fishes. In addition, continued RGCT restoration projects in the Rio Grande Headwaters GMU will be necessary to meet the goals set forth in the Conservation Strategy. Overall, the RGCT Conservation Team is ahead of schedule on meeting many of these goals and must now focus efforts on restoring RGCT to the Canadian, Pecos, and Rio Grande Headwaters GMUs.

The RGCT Conservation Team has accomplished significant work in conserving RGCT since it was established in 2003. However, non-native fish, drought, catastrophic wildfire, and other threats will continue to affect RGCT in the future. As such, the RGCT Conservation Team should continue to coordinate, plan, and implement RGCT restoration activities to ensure the long-term persistence of individual populations and the subspecies range-wide.

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Appendix A. Maps and population characteristics of RGCT conservation populations by HUC8 watershed in 2016.



Canadian GMU

Canadian Headwaters 11080001

cp001 Conservat Population	Moders	itely Netw	orked	Significant Disease Risk (sympatric)		No Risk of Hybridization		ation	Resident	
Stream Name	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>		Populatio	<u>n Density</u>	<u>Habita</u> Qualit		<u>Non-natives</u>
Ricardo Creek	11080001cd002	14.6	Aboriginal	Unaltered (< 1%)	1			Good		BRK
E. Trib. Ricardo Creek	11080001cd003	3.5	Aboriginal	Unaltered (<1%))	50 to 150 fish/mi Good		Good	5 to 10 feet	BRK
Gold Creek	11080001cd005	3.3	Aboriginal	Not Tested - Suspected U	naltered	Unkn	own	Good	< 5 feet	BRK
Elk Creek	11080001cd006	4.4	Aboriginal	Not Tested - Suspected U	naltered	Unkn	own	Good	5 to 10 feet	BRK
Leandro Creek	11080001cd007	16.8	Restored	Not Tested - Suspected U	Unknown Good		5 to 10 feet	BRK		
Little Vermejo Creek	11080001cd008	0	Aboriginal	>1% and <=10%		151 to 400 fish/mi Fair		10 to 15 feet	RBT,BRK	
Ricardo Creek	11080001cd008	0.5	Aboriginal	>1% and <=10%		151 to 400 fish/mi Fair		10 to 15 feet	RBT,BRK	
Vermejo River	11080001cd008	26.3	Aboriginal	>1% and <=10%		151 to 400 fish/mi Fai		Fair	10 to 15 feet	RBT,BRK
cp002 Core Cons Population	PODIIIa	tion Isolat	ed	Limited Disease Risk	No	Risk of Hy	bridization		Resident	
Stream Name	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	Genetic Status	Populatio	on Density	<u>Habitat (</u>	<u>Duality</u>	<u>Stream Width</u>	Non-natives
Little Vermejo Creek	11080001cd001	11.9	Aboriginal	Unaltered (< 1%)	50 to 15	0 fish/mi	Excell	ent	5 to 10 feet	BRK
cp003 Core Conservation Population Population Isolated		Limited Disease Risk	No I	Risk of Hyb	ridization	Resident				
Stream Name	FishID	<u>Km</u>	<u>Origin</u>	Genetic Status	Populatio	n Density	Habitat (Quality	Stream Width	Non-natives
Leandro Creek	11080001cd004	3.1	Restored	Unaltered (<1%)	151 to 40	0 fish/mi	Goo	od	5 to 10 feet	BRK



Canadian GMU

Cimarron 11080002

cn001	p001Core Conservation PopulationPopulation Isolated		ed Limite	ed Disease Risk	No Risk of Hybridization		Resident			
Stream Name	FishID	<u>Km</u>	<u>Origin</u>	Genetic Status	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	Non-natives		
McCrystal Cre	ek 11080002cc	1001 15.1	Aboriginal	Unaltered (<1%)	50 to 150 fish/mi	Good	5 to 10 feet	None		
North Ponil Cr	reek 11080002cc	1001 0.1	Aboriginal	Unaltered (<1%)	50 to 150 fish/mi	Good	5 to 10 feet	None		
cp002Core Conservation PopulationPopulation IsolatedLimited Disease RiskNo Risk of HybridizationResident										
Stream Name	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	Genetic Status	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>		
South Ponil Cr	eek 11080002c	d002 15.2	Restored	Unaltered (<1%)	50 to 150 fish/mi	Good	5 to 10 feet	None		
_cn003	Conservation Population	Population Isola	ted Mode	- erate Disease Risk < 10	km Hybridizing	species < 10 km	Resident	-		
Stream Name	FishID	<u>Km</u>	<u>Origin</u>	Genetic Status	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	Non-natives		
Middle Ponil C	Creek 11080002cc	9.6	Aboriginal	>10% and <=20%	151 to 400 fish/mi	Good	5 to 10 feet	None		
cp005Core Conservation PopulationPopulation IsolatedLimited Disease RiskNo Risk of HybridizationResident										
cn005	Population	Population Iso	lated L	imited Disease Risk	No Risk of H	lybridization	Resident			
cn005	Population	•	lated L <u>Km Orig</u>		No Risk of F Population Density	•	Resident <u>Stream Width</u>	<u>Non-natives</u>		
cp005	Population	- FishID		<u>in</u> <u>Genetic Status</u>	Population Density	•		<u>Non-natives</u> None		



Canadian GMU

Mora 11080004

cp001	Conservation Population	Po	pulation	Isolated M	Moderate Dis	ease Risl	k < 10 km	No Risł	c of Hybridiz	ation	Resident	
Stream Name	<u>FishID</u>		<u>Km</u>	<u>Origin</u>	<u>Genetic S</u>	tatus	Population	<u>Density</u>	<u>Habitat Qu</u>	<u>ality</u> <u>S</u>	Stream Width	<u>Non-natives</u>
East Fork Luna	a Creek 11080004c	d004	6.8	Aboriginal	>1% and <	=10%	Unkno	wn	Fair		5 to 10 feet	BRN
ср002	Core Conservation Population	Ро	pulation	Isolated	- Moderate Dis	sease Ris	k < 10 km	No Ris	k of Hybridi	zation	Resident	-
<u>Stream Name</u>	<u>FishID</u>		<u>Km</u>	<u>Origin</u>	Genetic	<u>Status</u>	Populatio	on Density	<u>Habitat (</u>	<u>)uality</u>	<u>Stream Width</u>	<u>Non-natives</u>
West Fork Lur	na Creek 11080004	4cd001	4.6	Restored	Unaltered	l (<1%)	151 to 40	00 fish/mi	Excell	ent	5 to 10 feet	BRN
ср003	Core Conservation	n y	Weakly N	Networked	Minimal I	Disease R	Risk > 10 km	No F	Risk of Hybri	dization	Resident	
Stream Name		<u>FishID</u>		<u>Km</u>	<u>Origin</u>	Gene	<u>tic Status</u>	<u>Populati</u>	on Density	<u>Habit</u> Quali		<u>Non-natives</u>
Headwater Tri	b. to Rito Morphy	1108000	4cd005	2.6	Aboriginal	Unalter	red (<1%)	50 to 15	50 fish/mi	Unkno		None
Rito Morphy		1108000	4cd005	4.2	Aboriginal	Unalter	red (< 1%)	50 to 15	50 fish/mi	Unkno	own < 5 feet	None
cp004	Core Conservation	on	Populati	on Isolated	Minimal I	Disease I	Risk > 10 km	No F	Risk of Hybri	dization	Resident	
<u>Stream Name</u>	<u>FishID</u>		<u>Km</u>	<u>Origin</u>	Genetic S	<u>Status</u>	Population	n Density	<u>Habitat Q</u>	uality	<u>Stream Width</u>	<u>Non-natives</u>
Santiago Creel	x 11080004c	d006	6.6	Aboriginal	>1% and <	<=10%	50 to 150	fish/mi	Unkno	wn	< 5 feet	None



Lower Rio Grande GMU

Upper Rio Grande (North Half) 13020101

cp001	Core Conservati Population	ion Weakly No	etworked	Limited	Disease Risk	No Risk of Hybridization	n Reside	ent	
<u>Stream Name</u>		<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Density	<u>Habitat</u> Quality	<u>Stream</u> Width	Non-natives
Costilla Creek		13020101cd001	1.6	Restored	Unaltered (<1%)	> 400 fish/mi	<u>Quality</u> Excellent	5 to 10 feet	None
State Line Cree	ek	13020101cd002	1.5	Restored	Unaltered (<1%)	0 to 50 fish/mi	Excellent	< 5 feet	None
West Fork Cos	tilla Creek	13020101cd007	3.2	Restored	Unaltered (<1%)	151 to 400 fish/mi	Excellent	< 5 feet	None
East Fork Cost	illa Creek	13020101cd008	4.3	Restored	Unaltered (<1%)	151 to 400 fish/mi	Excellent	< 5 feet	None
Unnamed Trib Creek	#1 W Fk. Costilla	13020101cd061	2.3	Aboriginal	Unaltered (<1%)	Unknown	Good	< 5 feet	None
	#2 W Fk. Costilla	13020101cd062	1.8	Aboriginal	Unaltered (<1%)	Unknown	Good	< 5 feet	None
cp002 Core Conservation Population Moderately Networked Limited Disease Risk No Risk of Hybridization Resident									

1 opulation								
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Density	<u>Habitat</u> Quality	<u>Stream</u> Width	Non-natives
Costilla Creek	13020101cd005	6.2	Restored	Unaltered (<1%)	> 400 fish/mi	Excellent	5 to 10 feet	None
Glacier Creek	13020101cd006	3.9	Restored	Unaltered (<1%)	Unknown	Excellent	< 5 feet	None
Patten Creek	13020101cd066	0.9	Restored	Unaltered (<1%)	0 to 50 fish/mi	Good	< 5 feet	None
Frey Creek	13020101cd067	1.9	Restored	Unaltered (<1%)	0 to 50 fish/mi	Good	< 5 feet	None
South Fork Glacier Creek	13020101cd068	1.4	Restored	Unaltered (<1%)	0 to 50 fish/mi	Excellent	< 5 feet	None
Unnamed Trib. to South Fork Glacier Creek	13020101cd069	1	Restored	Unaltered (<1%)	0 to 50 fish/mi	Excellent	< 5 feet	None

collus	e Conservation	Populat	ion Isolated	Limited Disease Risk No R	isk of Hybridization Resid					
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	Genetic Status Population De	ensity <u>Habitat Qua</u>	<u>lity Strean</u>	n Width	<u>Non-natives</u>		
PowderHouse Creek 13020101cd003		6.2	Restored	Unaltered (< 1%) 151 to 400 fis	h/mi Good	< 5	feet	None		
cn004	p004 Conservation Population		Population Isolated Minimal Disease Risk > 10 km		No Risk of Hybridization Resident		esident			
Stream Name	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	Genetic Status	Population Density	Habitat	<u>Stream</u>	<u>Non-natives</u>		
PowderHouse Creek	13020101cd004	2.1	Aboriginal	Not Tested - Suspected Hybridized	50 to 150 fish/mi	<u>Quality</u> Good	<u>Width</u> < 5 feet	BRK		
cn005	e Conservation	Populat	Population Isolated Moderate Disease Risk < 10 km No Risk of Hybridization Resident							
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	Genetic Status Population Der	nsity <u>Habitat Quali</u>	<u>ty</u> <u>Strean</u>	n Width	Non-natives		
						_				
La Cueva Creek	13020101cd021	5.1	Aboriginal	>1% and <=10% 50 to 150 fish/	ími Good	< 5	feet	None		
cp006 Cor	13020101cd021 re Conservation pulation		Aboriginal tely Networke		o Risk of Hybridization			None		
cp006 Cor	e Conservation				o Risk of Hybridization <u>Population</u>	n Reside <u>Habitat</u>	ent <u>Stream</u>	None <u>Non-natives</u>		
cp006 Cor Pop	e Conservation pulation	Modera	tely Networke	ed Limited Disease Risk N	o Risk of Hybridization	n Reside	ent			
cp006 Cor Pop Stream Name	e Conservation pulation <u>FishID</u>	Modera <u>Km</u>	tely Networke <u>Origin</u>	ed Limited Disease Risk N <u>Genetic Status</u>	o Risk of Hybridization <u>Population</u> <u>Density</u>	n Reside <u>Habitat</u> <u>Quality</u> Fair	ent <u>Stream</u> <u>Width</u>	<u>Non-natives</u>		
cp006Cor PopStream NameComanche Creek	re Conservation pulation <u>FishID</u> 13020101cd010	Modera <u>Km</u> 6.4	tely Networke <u>Origin</u> Restored	ed Limited Disease Risk N <u>Genetic Status</u> Unaltered (< 1%)	o Risk of Hybridization <u>Population</u> <u>Density</u> 151 to 400 fish/mi	n Reside <u>Habitat</u> <u>Quality</u> Fair	ent <u>Stream</u> <u>Width</u> < 5 feet	<u>Non-natives</u> None		
cp006Cor PopStream NameComanche CreekComanche Creek	re Conservation pulation <u>FishID</u> 13020101cd010 13020101cd011	Modera <u>Km</u> 6.4 6.9	tely Networke <u>Origin</u> Restored Restored	ed Limited Disease Risk N <u>Genetic Status</u> Unaltered (< 1%) Unaltered (< 1%)	o Risk of Hybridization <u>Population</u> <u>Density</u> 151 to 400 fish/mi > 400 fish/mi	n Reside <u>Habitat</u> <u>Quality</u> Fair Fair	ent <u>Stream</u> <u>Width</u> < 5 feet 5 to 10 feet	Non-natives None None		
cp006Cor PopStream NameComanche CreekComanche CreekVidal Creek	re Conservation pulation <u>FishID</u> 13020101cd010 13020101cd011 13020101cd012	Modera <u>Km</u> 6.4 6.9 9	tely Networke <u>Origin</u> Restored Restored Restored	ed Limited Disease Risk N <u>Genetic Status</u> Unaltered (< 1%) Unaltered (< 1%) Unaltered (< 1%)	o Risk of Hybridization <u>Population</u> <u>Density</u> 151 to 400 fish/mi > 400 fish/mi 50 to 150 fish/mi	n Reside <u>Habitat</u> <u>Quality</u> Fair Fair Fair Fair	ent <u>Stream</u> <u>Width</u> < 5 feet 5 to 10 feet < 5 feet	Non-natives None None None		
cp006Cor PopStream NameComanche CreekComanche CreekVidal CreekLa Belle Creek	re Conservation pulation FishID 13020101cd010 13020101cd011 13020101cd012 13020101cd013	Modera <u>Km</u> 6.4 6.9 9 4.6	tely Networke <u>Origin</u> Restored Restored Restored Restored	ed Limited Disease Risk N <u>Genetic Status</u> Unaltered (< 1%) Unaltered (< 1%) Unaltered (< 1%) Not Tested - Suspected Unaltered	o Risk of Hybridization <u>Population</u> <u>Density</u> 151 to 400 fish/mi > 400 fish/mi 50 to 150 fish/mi 50 to 150 fish/mi	n Reside Habitat Quality Fair Fair Fair Good	ent <u>Stream</u> <u>Width</u> < 5 feet 5 to 10 feet < 5 feet < 5 feet	None None None None None None		
cp006Cor PopStream NameComanche CreekComanche CreekVidal CreekLa Belle CreekGrassy Creek	re Conservation bulation FishID 13020101cd010 13020101cd011 13020101cd012 13020101cd013 13020101cd014	Modera <u>Km</u> 6.4 6.9 9 4.6 5.3	tely Networke Origin Restored Restored Restored Restored Restored	ed Limited Disease Risk N <u>Genetic Status</u> Unaltered (< 1%) Unaltered (< 1%) Unaltered (< 1%) Not Tested - Suspected Unaltered Not Tested - Suspected Unaltered	o Risk of Hybridization <u>Population</u> <u>Density</u> 151 to 400 fish/mi > 400 fish/mi 50 to 150 fish/mi 50 to 150 fish/mi 50 to 150 fish/mi	n Reside <u>Habitat</u> <u>Quality</u> Fair Fair Fair Good Good	ent <u>Stream</u> <u>Width</u> < 5 feet 5 to 10 feet < 5 feet < 5 feet < 5 feet	None None None None None None None		

ср007	Conservatio Population	n	Popul	ation Isola	ted Signi	ificant Dise	ase Risk ((sympatric)	No Risl	k of Hybrid	ization Re	sident
<u>Stream Name</u>	<u>FishID</u>	<u>)</u>	<u>Km</u>	<u>Origi</u>	<u>n Gene</u>	tic Status	Popul	ation Density	<u>Habita</u>	<u>t Quality</u>	Stream Widt	<u>h Non-natives</u>
Fernandez Cree	ek 130201	01cd018	4.4	Aborigi	nal >1% a	nd <=10%	50 to	150 fish/mi	G	ood	< 5 feet	None
ср008	Core Conser Population	rvation	Popul	ation Isola	ted M	oderate Dis	- sease Risk		No Risk	of Hybridi	zation Res	ident
<u>Stream Name</u>		<u>FishID</u>		<u>Km</u>	<u>Origin</u>	<u>Genetic</u>	<u>Status</u>	Population	Density	<u>Habitat</u> Quality	<u>Stream</u> Width	<u>Non-natives</u>
Unnamed Trib.	to Ute Creek	130201010	cd022	5	Aboriginal	Unaltered	l (<1%)	50 to 150 f	fish/mi	<u>Good</u>	5 to 10 feet	None
Ute Creek		130201010	cd022	8.8	Aboriginal	Unaltered	l (<1%)	50 to 150 f	fish/mi	Good	5 to 10 feet	None
ср009	Core Conser Population	rvation	Popul	ation Isola	ted Mini	mal Diseas	e Risk > 1	10 k Hyb	oridizing sp	ecies > 10	km Resid	lent
<u>Stream Name</u>		<u>FishID</u>		<u>Km</u>	<u>Origin</u>	<u>Genetic</u>	<u>Status</u>	Population	Density	<u>Habitat</u> Quality	<u>Stream</u> Width	Non-natives
Cabresto Creek	-	130201010	cd023	10.3	Aboriginal	Unaltered	l (<1%)	0 to 50 fi	sh/mi	Poor	5 to 10 feet	BRK
Unnamed Trib. Creek	to Cabresto	130201010	cd023	3.4	Aboriginal	Unaltered	l (<1%)	0 to 50 fi	sh/mi	Poor	5 to 10 feet	BRK
ср010	Core Conser Population	rvation	Popul	ation Isola	ted Mini	mal Diseas	e Risk > 1	10 km Hy	/bridizing s	species > 10) km Resid	lent
<u>Stream Name</u>	<u>FishID</u>	<u>k</u>	<u>Km</u>	<u>Origin</u>	Genetic	<u>Status</u>	Populati	on Density	<u>Habitat Q</u>	Duality <u>S</u>	<mark>stream Width</mark>	<u>Non-natives</u>
Bitter Creek	130201010	cd024 2	2.9 A	Aboriginal	Unaltered	(<1%)	151 to 4	00 fish/mi	Poor	r	< 5 feet	None

cp011	Core Conservation Population	Moderately Networl		ked Limited Dis	ease Risk No Ris	k of Hybridization	Resident	
Stream Name	FishID	<u>Km</u>	<u>Origin</u>	Genetic Status	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	Non-natives
Columbine Cree	ek 13020101cd025	5	Aboriginal	Unaltered (<1%)	151 to 400 fish/mi	Good	10 to 15 feet	BRN
Placer Fork	13020101cd025	2.1	Aboriginal	Unaltered (<1%)	151 to 400 fish/mi	Good	10 to 15 feet	BRN
Columbine Cree	ek 13020101cd057	3.7	Aboriginal	Unaltered (<1%)	151 to 400 fish/mi	Good	5 to 10 feet	None
Placer Fork	13020101cd058	3.2	Aboriginal	Unaltered (<1%)	Unknown	Good	< 5 feet	None
Willow Creek	13020101cd059	2.6	Aboriginal	Unaltered (<1%)	Unknown	Good	< 5 feet	None
Deer Creek	13020101cd065	1.2	Aboriginal	Unaltered (<1%)	0 to 50 fish/mi	Good	< 5 feet	None
cp012	Core Conservation Population	Pop	ulation Isolated	d Limited Diseas	e Risk No Risk o	of Hybridization	Resident	
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Density	<u>Habitat Quality</u>	<u>Stream Widtl</u>	<u>Non-natives</u>
San Cristobal C	reek 13020101cd031	6.5	Aboriginal	Unaltered (<1%)	151 to 400 fish/mi	Excellent	10 to 15 feet	None
ср013	Core Conservation Population	Ро	pulation Isolat	ed Minimal Disea	ase Risk > 10 km N	No Risk of Hybridiza	tion Resident	t
Stream Name	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	Genetic Status	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
Yerba Creek	13020101cd027	4.7	Aboriginal	Unaltered (<1%)	50 to 150 fish/mi	Excellent	5 to 10 feet	BRN
cp015	Core Conservation Population	Population Isolated		Minimal Disea	ase Risk > 10 km No	Risk of Hybridizatio	on Reside	ent
Stream Name	FishID	Km	Origin	Genetic Status	Population Density	Habitat Quality	Stream Width	Non-natives
Italianos Creek	13020101cd029	3.8	Aboriginal	Unaltered (<1%)	50 to 150 fish/mi	Excellent	5 to 10 feet	None
cp016	Core Conservation Population	Popu	lation Isolated	Minimal Disea	ase Risk > 10 km	No Risk of Hybridi	zation Res	sident
Stream Name	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	Genetic Status	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	Non-natives
Gavilan Creek	13020101cd030	3.4	Aboriginal	Unaltered (<1%)	151 to 400 fish/mi	Excellent	5 to 10 feet	BRN

cp017	17 Core Conservation Population			ation Isolated	Minimal Disea	se Risk > 10 km	No Risk of Hybrid	dization Re	sident
Stream Name		<u>FishID</u>	Km	<u>Origin</u>	Genetic Statu	s <u>Population Den</u>	<u>sity Habitat Qua</u>	llity <u>Stream Wi</u> d	<u>lth</u> <u>Non-natives</u>
South Fork Ri	o Hondo	13020101cd026	6.3	Aborigin	al Unaltered (< 19	6) 50 to 150 fish/r	ni Good	10 to 15 fe	et BRN
cp041	Core Con Populatio		Moder	ately Network	ted Limited Dis	ease Risk No Risk	c of Hybridization	Resident	
Stream Name Casias Creek		FishID 13020101cd078	<u>Km</u> 4.7	Origin Restored	Genetic Status Unaltered (< 1%)	Population Density 50 to 150 fish/mi	Habitat Quality Excellent	Stream Width 5 to 10 feet	Non-natives
Unnamed tributorial to Casias Cree	2	13020101cd078	0.9	Restored	Unaltered (< 1%)	50 to 150 fish/mi	Excellent	5 to 10 feet	None
Unnamed tributor to Casias Cree	2	13020101cd078	1.7	Restored	Unaltered (< 1%)	50 to 150 fish/mi	Excellent	5 to 10 feet	None
cp042	Conserva Populatio		Popula	tion Isolated	Significant Dis	ease Risk (sympatric)	No Risk of Hy	bridization	Resident
Stream Name	<u>FishID</u>		<u>Km</u>	<u>Origin</u>	Genetic Status	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	Non-natives
Chuckwagon Creek	1302	20101cd019	4.2	Aboriginal	>1% and <=10%	50 to 150 fish/mi	Good	< 5 feet	None
cp043	Core Con Populatio		Popula	ation Isolated	Minimal Dise	ase Risk > 10 km	Hybridizing species	s > 10 km Resi	ident
Stream Name Allen Creek		<u>FishID</u> 13020101cd0	79 <u>Kr</u>		Genetic Status Unaltered (< 1%)) Population Dens	ity Habitat Qual Excellent	lity Stream Wid < 5 feet	th <u>Non-natives</u> None
Tributary #1 A Tributary #2 A							Excellent	< 5 feet	None
cp044	Core Con Populatio		Weakl	y Networked	Minimal Disea	se Risk > 10 km	Hybridizing specie	s > 10 km Res	ident
Stream Name	<u>FishI</u>	D	<u>Km</u>	<u>Origin</u>	Genetic Status	Population Density	Habitat Quality	y Stream Width	Non-natives
Long Canyon	13020	0101cd081	4.2	Restored	Unaltered (<1%)	151 to 400 fish/mi	Excellent	< 5 feet	None

cp045	Core Conservation Population		kly Networked	Minimal Disea	ase Risk > 10 km	Hybridizing species >	ent	
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Density	Habitat Quality	<u>Stream Width</u>	<u>Non-natives</u>
Beaver Creek	13020101cd082	3.4	Restored	Unaltered (<1%)	Unknown	Excellent	< 5 feet	None


Upper Rio Grande (South Half) 13020101

ср018	Core Conservation Population	Pop	ulation Isolate	ed Limited Disea	ase Risk No Risk of	Hybridization	Resident	
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
Tienditas Creek	13020101cd032	3.2	Aboriginal	Unaltered (< 1%)	0 to 50 fish/mi	Fair	5 to 10 feet	BRN
ср019	Core Conservation Population	Pop	ulation Isolate	ed Limited Diseas	se Risk No Risk of	Hybridization	Resident	
Stream Name	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	Genetic Status	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
Frijoles Creek	13020101cd033	5	Aboriginal	Unaltered (<1%)	50 to 150 fish/mi	Excellent	5 to 10 feet	BRN
ср020	Core Conservation Population	Рор	ulation Isolate	ed Limited Diseas	se Risk No Risk of	Hybridization	Resident	
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	Genetic Status	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
Palociento Creel	x 13020101cd034	3.9	Aboriginal	Unaltered (<1%)	50 to 150 fish/mi	Excellent	5 to 10 feet	BRN
ср021	Conservation Population	Popula	ion Isolated	Minimal Disease	Risk > 10 km No	Risk of Hybridizatio	on Resident	
<u>Stream Name</u>	<u>FishID</u>	Kn	<u>n Origin</u>	<u>Genetic Status</u>	Population Densit	<u>y</u> <u>Habitat Qualit</u>	<u>y</u> <u>Stream Width</u>	<u>n Non-natives</u>
Rio Grande del I	Rancho 13020101cd0	35 4.3	Aborigina	al >1% and <=10%	b Unknown	Good	15 to 20 feet	BRN
	=				=			
ср022	Core Conservation Population	Populati	on Isolated	Minimal Disease R	tisk > 10 km Hybrid	dizing species > 10	km Resident	
cp022 <u>Stream Name</u>		Populati	on Isolated <u>Origin</u>	Minimal Disease R	isk > 10 km Hybri Population Density	61		<u>Non-native</u>
-	Population <u>FishID</u>	•		<u>Genetic Status</u>	Population Density	61		<u>Non-native</u> BRN

ср023	Core Conservation Population	Pop	ulation Isolate	d Limited Disea	ase Risk No Risk of	Hybridization	Resident	
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Density	Habitat Quality	<u>Stream Width</u>	<u>Non-natives</u>
Policarpio Creel	k 13020101cd038	4.8	Aboriginal	Unaltered (<1%)	151 to 400 fish/mi	Good	5 to 10 feet	None
cp024	Conservation Population	Pop	ulation Isolate	d Limited Disea	ase Risk No Risk o	f Hybridization	Resident	
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
Osha Creek	13020101cd047	8.8	Restored	>1% and <=10%	0 to 50 fish/mi	Good	5 to 10 feet	None
ср025	Core Conservation Population	Pop	ulation Isolate	d Limited Disea	ase Risk No Risk of	Hybridization	Resident	
Stream Name	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	Genetic Status	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
Rito Angostura	13020101cd040	6.4	Restored	${>}1\%$ and ${<}{=}10\%$	151 to 400 fish/mi	Good	5 to 10 feet	None
		_						_
ср026	Core Conservation Population	Pop	ulation Isolate	d Minimal Disea	se Risk > 10 km H	ybridizing species >	10 km Reside	ent
cp026 <u>Stream Name</u>		Pop <u>Km</u>	ulation Isolate <u>Origin</u>	d Minimal Disea	se Risk > 10 km H Population Densit			
-	Population <u>FishID</u>	•		<u>Genetic Status</u>	Population Density			
Stream Name	Population <u>FishID</u> 13020101cd039 utary 13020101cd060	<u>Km</u>	<u>Origin</u>	Genetic Status Unaltered (< 1%)	Population Densit	y <u>Habitat Quality</u>	y <u>Stream Width</u>	<u>Non-natives</u>
Stream Name Alamitos Creek Unamed N Tribu	Population <u>FishID</u> 13020101cd039 utary 13020101cd060	<u>Km</u> 5.5 4.1	<u>Origin</u> Aboriginal	Genetic Status Unaltered (< 1%) Unaltered (< 1%)	Population Density) > 400 fish/mi) > 400 fish/mi	y <u>Habitat Quality</u> Good	y <u>Stream Width</u> 10 to 15 feet	n <u>Non-natives</u> None
Stream Name Alamitos Creek Unamed N Tribu to Alamitos Cree	Population FishID 13020101cd039 utary 13020101cd060 ek Core Conservation	<u>Km</u> 5.5 4.1 Popr	<u>Origin</u> Aboriginal Aboriginal	d Limited Disea	Population Density) > 400 fish/mi) > 400 fish/mi ase Risk No Risk o	y <u>Habitat Quality</u> Good Good f Hybridization <u>ensity Habitat</u>	y <u>Stream Width</u> 10 to 15 feet 5 to 10 feet Resident <u>Stream</u>	n <u>Non-natives</u> None
Stream Name Alamitos Creek Unamed N Tribu to Alamitos Cree cp027	Population <u>FishID</u> 13020101cd039 utary 13020101cd060 ek Core Conservation Population <u>FishID</u>	<u>Km</u> 5.5 4.1 Pop	Origin Aboriginal Aboriginal ulation Isolate	Genetic Status Unaltered (< 1%)	Population Densit) > 400 fish/mi) > 400 fish/mi ase Risk No Risk o atus Population D	y <u>Habitat Quality</u> Good Good f Hybridization <u>ensity</u> <u>Habitat</u> <u>Quality</u>	y <u>Stream Width</u> 10 to 15 feet 5 to 10 feet Resident <u>Stream</u> <u>Width</u>	n <u>Non-natives</u> None None

cp028	Core Conservation Population	P	opulation Isolat	ed Limited Disea	ase Risk N	lo Risk of H	Iybridization	Re	esident	
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population	Density	Habitat Qual	lity Stro	eam Width	Non-natives
East Fork Rio Santa Barbara	13020101cd041	4.1	Aboriginal	Unaltered (<1%)	50 to 150 f	fish/mi	Good	10	to 15 feet	BRN
ср029	Core Conservation Population	P	opulation Isolat	ed Moderate Disea	ase Risk < 10 l	km No	o Risk of Hyb	ridization	Resid	ent
Stream Name	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	Genetic Sta	atus			<u>Habitat</u>	Stream	Non-natives
West Fork Rio Santa Barbara	13020101cd043	8.7	Aboriginal	>1% and <=	10%		<u>nsity</u> 50 fish/mi	<u>Quality</u> Good	<u>Width</u> 10 to 15 feet	BRN
East Fork Rio Santa Barbara	13020101cd044	0.2	Aboriginal	Not Tested - Suspected	ed Hybridized	50 to 15	50 fish/mi	Good	10 to 15 feet	BRN
Middle Fork Ric Santa Barbara	b) 13020101cd044	5.6	Aboriginal	Not Tested - Suspector	ed Hybridized	50 to 15	50 fish/mi	Good	10 to 15 feet	BRN
ср030	Conservation Population	P	opulation Isolat	ed Moderate Dis	ease Risk < 10	0 km N	o Risk of Hyt	oridizatior	n Resid	lent
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	Genetic Stat	tus	Populatio		<u>Habitat</u> Onolity	<u>Stream</u> Width	Non-natives
Rio de las Trampas	13020101cd048	8.2	Aboriginal 1	Not Tested - Suspected	l Hybridized	Unkr	-	<u>Quality</u> Good	5 to 10 feet	None
ср031	Conservation Population	Р	opulation Isolat	ed Moderate Dise	ease Risk < 10	km N	o Risk of Hyt	oridizatior	n Resid	lent
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Stat</u>	tus	Populatio		<u>Habitat</u> Quality	<u>Stream</u> Width	<u>Non-natives</u>
Rio San Leonardo	13020101cd049	5.8	Aboriginal N	Not Tested - Suspected	l Hybridized	Unkr		Good	5 to 10 feet	None

cp032	Core Conservation Population	Po	opulation Isolat	ed Moderate Dise	ease Risk < 10	km	No Risk of H	ybridization	Resid	lent
Stream Name	<u>FishID</u>	Km	<u>Origin</u>	<u>Genetic Status</u>	Population	Density	<u>Habitat Qu</u>	ality Stro	eam Width	Non-natives
Rio de Truchas	13020101cd050) 11.1	Aboriginal	Unaltered (<1%)	50 to 150 f	fish/mi	Fair	5	to 10 feet	None
Rio de la Ceboll	la 13020101cd051	6.1	Aboriginal	Unaltered (<1%)	151 to 400	fish/mi	Good	5	to 10 feet	None
ср034	Core Conservation Population	Po	opulation Isolat	ed Limited Dise	ase Risk	No Risk	c of Hybridiza	tion	Resident	
Stream Name	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Sta</u>	<u>tus</u>	<u>Popula</u>	<u>tion Density</u>	Habitat	<u>Stream</u>	<u>Non-natives</u>
South Fork Rio Quemado	13020101cd052	0.8	Aboriginal	Not Tested - Suspecte	ed Unaltered	151 to	400 fish/mi	Quality Excellent	<u>Width</u> 5 to 10 fee	t None
Unnamed Trib. South Fork Rio Quemado	13020101cd052	2.8	Aboriginal	Not Tested - Suspected	ed Unaltered	151 to	400 fish/mi	Excellent	5 to 10 fee	t None
Rio Quemado	13020101cd053	7	Aboriginal	Not Tested - Suspecte	ed Unaltered	>40	00 fish/mi	Excellent	15 to 20 fee	et None
North Fork Rio Quemado	13020101cd063	0.2	Aboriginal	Not Tested - Suspecte	ed Unaltered	0 to :	50 fish/mi	Excellent	5 to 10 fee	t None
South Fork Rio Quemado	13020101cd064	6	Aboriginal	Unaltered (<	1%)	151 to	400 fish/mi	Excellent	10 to 15 fe	et None
ср035	Conservation Population	Рој	oulation Isolated	d Limited Dise	ase Risk N	No Risk o	f Hybridizatic	on R	esident	
Stream Name	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	Genetic Status	Population I	Density	<u>Habitat Qua</u>	ality <u>Stre</u>	am Width	Non-natives
Jicarita Creek	13020101cd045	4.1	Aboriginal	Unaltered (<1%)	Unknow	vn	Good	5 t	o 10 feet	None
ср036	Conservation Population	Pop	oulation Isolated	d Limited Disea	ase Risk N	lo Risk o	f Hybridizatio	n Ro	esident	
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	Genetic Stat	us		oulation ongity	<u>Habitat</u> Ouglity	<u>Stream</u> Width	Non-natives
Indian Creek	13020101cd046	2.8 A	Aboriginal N	lot Tested - Suspected	l Hybridized		<u>ensity</u> 1known	<u>Quality</u> Good	<u>Width</u> 5 to 10 feet	Unknown

ср037	Conservation Population		Population Is	solated Moderate Di	sease Risk < 10 km	n No Risk o	of Hybridizat	ion Resid	lent
<u>Stream Name</u>	<u>FishID</u>	Kn	<u>n Origin</u>	<u>Genetic</u>	<u>Status</u>	<u>Population</u> Density	<u>Habitat</u> Quality	<u>Stream</u> Width	<u>Non-natives</u>
Rio Medio	13020101cd054	9.7	7 Aborigina	al Not Tested - Suspe	cted Hybridized	Unknown	Unknown	Unknown	RBT,BRN
Unnamed Trib. to Rio Medio	13020101cd054	3.4	4 Aborigina	al Not Tested - Suspe	cted Hybridized	Unknown	Unknown	Unknown	RBT,BRN
ср038	Conservation Population		Population Is	solated Moderate Di	sease Risk < 10 km	n No Risk o	of Hybridizat	ion Resid	lent
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	Genetic Stat	<u>is Pop</u>	ulation Densit	t <u>y Habita</u> Qualit		<u>Non-natives</u>
Rio Frijoles	13020101cd055	7.4	Aboriginal	Not Tested - Suspected	Hybridized 151	1 to 400 fish/m			RBT,BRN
Rito Jaroso	13020101cd055	1.9	Aboriginal	Not Tested - Suspected	Hybridized 151	1 to 400 fish/m	i Unknov	wn Unknown	RBT,BRN
Rio Frijoles	13020101cd056	3.3	Aboriginal	Not Tested - Suspected	Hybridized	Unknown	Unknow	wn Unknown	Unknown
ср040	Core Conservatio Population	'n	Population Is	olated Limited Dis	ease Risk No Ri	isk of Hybridiz	ation	Resident	
Stream Name	<u>FishID</u>	K	<u>m Origin</u>	<u>Genetic Status</u>	Population Den	sity <u>Habitat</u>	Quality S	Stream Width	Non-natives
Rio Molino	13020101cd077	5	.6 Restore	d Unaltered (< 1%)	151 to 400 fish/	/mi Exce	ellent	5 to 10 feet	None



Rio Chama 13020102

ср001	Core Conservation Population	Popu	lation Isolate	ed Limited Dis	ease Risk No Ri	sk of Hybridization	Resident, I	Lacustrine	
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Densi	ity <u>Habitat Quality</u>	<u>Stream V</u>	<u>Vidth Nor</u>	n-natives
Nabor Creek	13020102cd001	5.9	Restored I	Unaltered (<1%)	151 to 400 fish/m	ni Excellent	< 5 fe	eet	None
cp002	Core Conservation Population	Poj	pulation Isola	ated Significar	nt Disease Risk (sym	npatric) No Risk of I	- Hybridizatio	n Res	ident
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic</u>	<u>Status</u>	Population Density	Habitat	<u>Stream</u>	<u>Non-natives</u>
Little Willow C	reek 13020102cd003	3.7	Restored	Not Tested - Susp	ected Hybridized	151 to 400 fish/mi	<u>Quality</u> Good	Width 5 to 10 feet	RBT
ср003	Conservation Population	Poj	pulation Isola	ated Limited D	Disease Risk No	Risk of Hybridization	n Res	ident	
Stream Name	FishID	<u>Km</u>	<u>Origin</u>	<u>Geneti</u>	c Status	Population Density	Habitat	<u>Stream</u>	<u>Non-natives</u>
Poso Creek	13020102cd004	3.9	Restored	Not Tested - Sus	pected Hybridized	151 to 400 fish/mi	<u>Quality</u> Excellent	<u>Width</u> < 5 feet	BRK
ср004	Conservation Population	Poj	pulation Isola	ated Limited D	Disease Risk No	Risk of Hybridization	n Res	ident	
Stream Name	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	Genet	tic Status	Population Density		Stream	<u>Non-natives</u>
Jaroso Creek	13020102cd008	8	Aboriginal	Not Tested - Su	spected Hybridized	50 to 150 fish/mi	<u>Quality</u> Good	<u>Width</u> < 5 feet	None
ср005	Conservation Population	Poj	pulation Isola	ted Minimal I	Disease Risk > 10 kr	m No Risk of Hybrid	lization	Resident	
cp005 <u>Stream Name</u>		Poj <u>Km</u>	pulation Isola <u>Origin</u>	ated Minimal I <u>Genetic Statu</u>		2		Resident eam Width	<u>Non-natives</u>

ср006	Core Conservation Population	Popu	lation Isolate	d Limited Disea	se Risk No Risk of	Hybridization	Resident	
Stream Name	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
El Rito	13020102cd006	10	Aboriginal	Unaltered (<1%)	> 400 fish/mi	Good	10 to 15 feet	None
Unnamed Trib. # El Rito	\$1 to 13020102cd006	2.1	Aboriginal	Unaltered (< 1%)	> 400 fish/mi	Good	10 to 15 feet	None
Unnamed Trib. # El Rito	\$2 to 13020102cd006	0.6	Aboriginal	Unaltered (<1%)	> 400 fish/mi	Good	10 to 15 feet	None
ср007	Conservation Population	Popu	lation Isolate	d Limited Disea	se Risk No Risk of	f Hybridization	Resident	
Stream Name	<u>FishID</u> <u>Kn</u>	<u>n</u> <u>O</u>	rigin	<u>Genetic Statu</u>	<u>s</u> <u>Population</u>	on Density Habit		Non-natives
El Rito	13020102cd007 5.3	Abo	riginal Not	Tested - Suspected I	Hybridized > 400	fish/mi Good		RBT
ср008	Core Conservation Population	Popu	lation Isolate	d Limited Disea	se Risk No Risk of	f Hybridization	Resident	
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	Non-natives
Canones Creek	13020102cd010	9.6	Aboriginal	Unaltered (<1%)	>400 fish/mi	Fair	5 to 10 feet	None
Unnamed Trib. t Canones Creek	o 13020102cd010	1.1	Aboriginal	Unaltered (<1%)	> 400 fish/mi	Fair	5 to 10 feet	None
ср009	Core Conservation Population	Popu	- lation Isolate	d Limited Disea	se Risk No Risk of	Hybridization	Resident	
Stream Name	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	Genetic Status	Population Density	Habitat Quality	<u>Stream Width</u>	Non-natives
Polvadera Creek	13020102cd011	12.1	Aboriginal	Not Applicable	0 to 50 fish/mi	Poor	< 5 feet	None
South Fork Polva Creek	adera 13020102cd012	1	Aboriginal	Unaltered (<1%)	Unknown	Unknown	< 5 feet	None

ср010	Conservation Population	Po	opulation Isol	ated Limited Disea	se Risk	No Risk of	Hybridization	Resident	
Stream Name	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Stat</u>	tus	Populati		<u>bitat Stream</u> ality Width	Non-natives
Rio del Oso	13020102cd013	11.2	Aboriginal	Not Tested - Suspecte	d Unaltered	0 to 50		alityWidthFair< 5 feet	None
Rito de Abiquiu	13020102cd013	0.6	Aboriginal	Not Tested - Suspecte	d Unaltered	0 to 50) fish/mi F	Fair < 5 feet	None
Rito del Oso	13020102cd013	0.7	Aboriginal	Not Tested - Suspecte	d Unaltered	0 to 50) fish/mi H	Fair < 5 feet	None
ср011	Core Conservation Population	Р	opulation Isol	ated Limited Disea	ise Risk	No Risk of	Hybridization	Resident	
<u>Stream Name</u>	<u>FishID</u>	K	<u>m</u> <u>Origi</u>	in <u>Genetic Status</u>	<u>Populati</u>	on Density	Habitat Qualit	y <u>Stream Width</u>	Non-natives
Wolf Creek	13020102cd01	5 0	.6 Aborig	inal Unaltered (< 1%) 50 to 1:	50 fish/mi	Good	5 to 10 feet	BRN
cp012	Core Conservation Population	P	opulation Isol	ated Limited Disea	ise Risk	No Risk of	Hybridization	Resident	
<u>Stream Name</u>	<u>FishID</u>	<u>Kı</u>	<u>n Origin</u>	Genetic Status	Population	n Density	Habitat Quality	<u>Stream Width</u>	Non-natives
East Fork Wolf	Creek 13020102cd01	7 1.	6 Aborigina	al Unaltered (<1%)	>400 fi	ish/mi	Excellent	< 5 feet	None
Headwater Trib. East Fork Wolf		20 2.	l Aborigina	al Unaltered (<1%)	151 to 400) fish/mi	Excellent	< 5 feet	None
cp016	Core Conservation Population	P	opulation Isol	ated Minimal Dise	ase Risk > 10	0 km Hy	bridizing species	> 10 km Reside	nt
<u>Stream Name</u>	<u>FishID</u>	<u>Kı</u>	<u>n Origin</u>	Genetic Status	Populatio	on Density	<u>Habitat Qualit</u>	y <u>Stream Width</u>	<u>Non-natives</u>
Chihuahueños C	breek 13020102cd02	21 9.	3 Aborigin	al $>1\%$ and $<=10\%$	0 to 50	fish/mi	Fair	5 to 10 feet	None
Unnamed tributa Chihuahueños C	<i>.</i>	21 1.	4 Aborigin	al >1% and <=10%	0 to 50	fish/mi	Fair	5 to 10 feet	None



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cp001	Core Conservation Population	Po	pulation Isola	ted Limited Dise	ease Risk	No Risk o	of Hybridization	1	Resident	
Stream Name	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Populatior	n Density	<u>Habitat Qual</u>	lity <u>St</u>	ream Width	<u>Non-natives</u>
Capulin Creek	13020201cd001	12	Restored	Unaltered (<1%)	0 to 50 f	ïsh/mi	Poor	4	5 to 10 feet	None
cp002	Core Conservation Population	Po	pulation Isola	ted Limited Dise	ase Risk	No Risk o	of Hybridization	1	Resident	
cp002 <u>Stream Name</u>		Po <u>Km</u>	pulation Isola <u>Origin</u>	ted Limited Dise			ion Density	n <u>Habitat</u> Quality	Resident <u>Stream</u> Width	Non-natives

Jemez (13020202)



Jemez 13020202

cp001	Core Conservation Population		Popula	tion Isolated	Limited Disease	e Risk	Hybridizing	species <	10 km	Resident	
Stream Name	<u>FishID</u>	<u>Km</u>	<u>Orig</u>	<u>gin</u>	Genetic Status		Population	<u>Density</u>	Habitat	<u>Stream</u>	Non-natives
Rio Cebolla	13020202cd001	6.7	Resto	ored Not Te	ested - Suspected U	naltered	151 to 400 f	fish/mi	<u>Quality</u> Fair	$\frac{\text{Width}}{5 \text{ to } 10 \text{ feet}}$	BRN
cp002	Core Conservation Population		Popula	tion Isolated	Limited Diseas	e Risk	No Risk of H	lybridizatio	on	Resident	
<u>Stream Name</u>	<u>FishID</u>		<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Popul :	ation Density	<u>Habitat</u>	<u>Quality</u>	<u>Stream Width</u>	Non-natives
Rito de las Palor	mas 13020202cd00)4	6.9	Aboriginal	Unaltered (<1%)	U	Inknown	Fa	air	5 to 10 feet	BRN
ср003	Conservation Population		Weakl	y Networked	Limited Diseas	e Risk	No Risk of H	lybridizatio	on	Resident	_
<u>Stream Name</u>	<u>FishID</u>		<u>Km</u>	<u>Origin</u>	Genetic Status	Popula	tion Density	<u>Habitat (</u>	<u>Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
Rito de las Perch	nas 13020202cd00)5	3.9	Restored	>1% and <=10%	> 40	00 fish/mi	Unkno	own	< 5 feet	BRN
Rio de las Vacas	s 13020202cd00)6	8.1	Restored	>1% and <=10%	> 40	00 fish/mi	Goo	od	5 to 10 feet	BRN
Rio de las Vacas	s 13020202cd00)7	4.5	Restored	>1% and <=10%	> 40	00 fish/mi	Fai	r	5 to 10 feet	None
Rito Anastacio	13020202cd00)8	3.4	Restored	>1% and <=10%	Ur	nknown	Fai	r	< 5 feet	BRN



Rio Puerco 13020204

cn001	Core Conservation Population	Pop	ulation Isolate	d Limited Disea	se Risk No Risk of	Hybridization	Resident	
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
La Jara Creek	13020204cd002	4.4	Unknown	>1% and <=10%	0 to 50 fish/mi	Good	< 5 feet	None
_cn002	Conservation Population	Pop	ulation Isolate	d Limited Disea	se Risk No Risk of	Hybridization	Resident	
Stream Name	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic St</u>	atus <u>Popul</u>		abitat <u>Stream</u>	Non-natives
Rito de los Pinos	13020204cd001	2.3	Aboriginal	Not Tested - Suspec	ted Unaltered 50 to		DalityWidthGood< 5 feet	BRK
cn003	Conservation Population	Pop	ulation Isolate	d Limited Disea	se Risk No Risk of	Hybridization	Resident	_
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
Rio Puerco	13020204cd003	11.9	Aboriginal	>1% and <=10%	> 400 fish/mi	Fair	5 to 10 feet	None
Unnamed Trib. to Rio Puerco	13020204cd004	2.5	Aboriginal	>1% and <=10%	Unknown	Unknown	< 5 feet	None



Pecos GMU

Pecos Headwaters 13060001

ср001	Core Conservation Population		Popu	lation Isolate	ed Minimal Dise	ease Risk > 10 ki	m N	o Risk of Hybridiza	tion Reside	ent
<u>Stream Name</u>	- <u>FishID</u>]	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population De	ensity	Habitat Quality	<u>Stream Width</u>	<u>Non-natives</u>
Rio Mora	13060001cd006	i	2.4	Aboriginal	Unaltered (<1%)	Unknown	I	Unknown	Unknown	Unknown
cp002	Conservation Population		Popu	lation Isolate	ed Limited Dise	ase Risk	No	Risk of Hybridizat	ion Reside	nt
<u>Stream Name</u>	<u>FishID</u>]	Km	<u>Origin</u>	<u>Genetic Status</u>	Population De	ensity	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
Unnamed Trib. t Rio Mora	to 13060001cd007	,	3.2	Aboriginal	>1% and <=10%	Unknown	l	Unknown	Unknown	Unknown
cp003	Core Conservation Population		Popu	lation Isolate	ed Limited Dise	ase Risk	No	Risk of Hybridizat	ion Reside	nt
<u>Stream Name</u>	<u>FishID</u>]	Km	<u>Origin</u>	<u>Genetic Status</u>	Population De	<u>ensity</u>	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
Rio Valdez	13060001cd005		3.7	Aboriginal	Unaltered (<1%)	151 to 400 fis	h/mi	Good	10 to 15 feet	None
ср004	Conservation Population		Popu	lation Isolate	d Limited Dise	ase Risk	No	Risk of Hybridizati	on Residen	t
<u>Stream Name</u>	<u>FishID</u>		<u>Km</u>	<u>Origin</u>	Genetic Status	Population D	<u>Density</u>	Habitat Quality	<u>Stream Width</u>	<u>Non-natives</u>
Pecos River	13060001cd003		6.3	Restored	>1% and <=10%	151 to 400 fi	sh/mi	Good	5 to 10 feet	None
cp005	Conservation Population		Popu	- lation Isolate	d Moderate Di	- sease Risk < 10 ł	km N	No Risk of Hybridiz	ation Resid	lent
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>(</u>	<u>)rigin</u>	Genetic Stat	aus <u>P</u>	opulat		bitat <u>Stream</u>	Non-natives
Rito del Padre	13060001cd001	6.6	Ab	original	>1% and <=1	0%	151 to 4		ality <u>Width</u> nown 5 to 10 fe	et BRN
Rito Maestas	13060001cd002	3.4	Ab	original N	ot Tested - Suspected	l Hybridized	Un	known Unk	nown < 5 feet	Unknown

ср006	Core Conservation Population	Popula	ation Isolated	Moderate Disea	ase Risk < 10 km No	o Risk of Hybridizati	on Residen	t
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	Non-natives
Rito los Esteros	13060001cd008	2.5	Aboriginal	Unaltered (<1%)	Unknown	Unknown	Unknown	BRN
ср007	Core Conservation Population	Popula	ation Isolated	Moderate Disea	ase Risk < 10 km H	ybridizing species <	10 km Residen	t
Stream Name	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
Jacks Creek	13060001cd009	11.3	Restored	Unaltered (<1%)	151 to 400 fish/mi	Good	5 to 10 feet	None
ср008	Conservation Population	Popula	ation Isolated	Limited Diseas	e Risk No Risk of I	Hybridization	Resident	
Stream Name	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	Genetic Status	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
Cave Creek	13060001cd010	2.7	Aboriginal	>1% and <=10%	Unknown	Fair	Unknown	Unknown
ср009	Core Conservation Population	Popula	ation Isolated	Moderate Disea	ase Risk < 10 km No	o Risk of Hybridizati	on Residen	t
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
Macho Creek	13060001cd012	0.5	Aboriginal	Unaltered (<1%)	151 to 400 fish/mi	Fair	< 5 feet	None
Macho Creek	13060001cd012	3.8	Aboriginal	Unaltered (<1%)	151 to 400 fish/mi	Fair	< 5 feet	None
North Fork Mac Creek	ho 13060001cd018	0.2	Aboriginal	Unaltered (<1%)	151 to 400 fish/mi	Fair	< 5 feet	None
ср010	Core Conservation Population	Popula	ation Isolated	Moderate Disea		ybridizing species <	10 km Residen	t
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	Non-natives
	13060001cd014	6.7	Restored	Unaltered $(< 1\%)$	50 to 150 fish/mi	Good	5 to 10 feet	None

cp011	Core Conservation Population	Po	pulation Isola	ted Limited Disease Risk	No Risk of Hybridizatior	n Res	sident	
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	Genetic Status	Population Density	<u>Habitat</u> Quality	<u>Stream</u> <u>Width</u>	<u>Non-natives</u>
Bear Creek	13060001cd015	5.6	Aboriginal	Not Tested - Suspected Unaltered	Unknown	Excellent	5 to 10 feet	None



Pecos GMU

Arroyo Del Macho 13060005

cp001	001 Core Conservation Population		tion Isolated	Limited Disease	e Risk No Risk of H	No Risk of Hybridization		
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
Pinelodge Creek	13060005cd001	3.9	Restored	Unaltered (<1%)	0 to 50 fish/mi	Good	5 to 10 feet	None



Rio Grande Headwaters GMU

Rio Grande Headwaters 13010001

cp002	cp002 Core Conservation Population		ulation Isolate	d Limited Disea	se Risk No Risk of	Hybridization	Resident	
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	Genetic Status	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	Non-natives
West Alder Creek	13010001cd001	7.2	Aboriginal	Unaltered (<1%)	50 to 150 fish/mi	Good	5 to 10 feet	BRK



Rio Grande Headwaters GMU

Alamosa - Trinchera 13010002

cp001	Core Conservation Population	Weakly	v Networked	Limited Dise	ase Risk Hybridizin	Risk Hybridizing species < 10 km		Resident, Lacustrine	
Stream Name	FishID	<u>Km</u>	<u>Origin</u>	<u>Genetic Stat</u>	us <u>Population Den</u>	<u>sity Habitat</u> Quality	<u>Stream</u> Width	Non-natives	
East Trib to Mid San Francisco C		5 0.6	Restored	Unaltered (< 1	1%) 50 to 150 fish/		5 to 10 feet	BRN	
Middle Fork Sar Francisco Creek		8.4	Restored	Unaltered (< 1	1%) 50 to 150 fish/	mi Excellent	5 to 10 feet	BRN	
San Francisco C	creek 13010002cd005	5 15	Restored	Unaltered (< 1	1%) 50 to 150 fish/	mi Excellent	5 to 10 feet	BRN	
West Trib to Mic San Francisco C		5 1.3	Restored	Unaltered (< 1	1%) 50 to 150 fish/	mi Excellent	5 to 10 feet	BRN	
ср002	Core Conservation Population	Populat	tion Isolated	Limited Dise	ase Risk No Risk of	fHybridization	Resident		
cp002 <u>Stream Name</u>		Populat <u>Km</u>	tion Isolated	Limited Dise	ase Risk No Risk of Population Density	f Hybridization Habitat Quality	Resident Stream Width	<u>Non-natives</u>	
-	Population	•	<u>Origin</u>			•		<u>Non-natives</u> None	
Stream Name	Population <u>FishID</u>	<u>Km</u>	<u>Origin</u> Restored	<u>Genetic Status</u>	Population Density	Habitat Quality	<u>Stream Width</u>		
Stream Name Cat Creek South Fork Cat	Population <u>FishID</u> 13010002cd003	<u>Km</u> 2.3 5.4	<u>Origin</u> Restored	<u>Genetic Status</u> Unaltered (< 1%)	Population Density 151 to 400 fish/mi 0 to 50 fish/mi	Habitat Quality Fair	Stream Width < 5 feet	None	
Stream Name Cat Creek South Fork Cat Creek	Population FishID 13010002cd003 13010002cd036	<u>Km</u> 2.3 5.4	Origin Restored Restored	<u>Genetic Status</u> Unaltered (< 1%) Unaltered (< 1%)	Population Density 151 to 400 fish/mi 0 to 50 fish/mi	Habitat Quality Fair Fair Fair	Stream Width < 5 feet < 5 feet	None	

ср004	Core Conservation Population	Po	pulation Isolated	Limited Dise	ase Risk N	No Risk of	Hybridization	Resident	
Stream Name	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>		Population		<u>bitat</u> <u>Stream</u> alityWidth	Non-natives
Torsido Creek	13010002cd002	10.4	Restored No	ot Tested - Suspected U	Jnaltered	0 to 50 t		$\frac{\text{vidun}}{\text{oor}} < 5 \text{ feet}$	BRK
cp005	Core Conservation Population	Ро	pulation Isolated	Limited Dise	ase Risk N	No Risk of	Hybridization	Resident	
<u>Stream Name</u>	<u>FishID</u>	Km	<u>Origin</u>	<u>Genetic Status</u>	Population E	Density <u>I</u>	Habitat Quality	<u>Stream Width</u>	<u>Non-natives</u>
Jim Creek	13010002cd001	6.7	Restored	Unaltered (<1%)	0 to 50 fish	h/mi	Poor	5 to 10 feet	BRK
ср006	Core Conservation Population	Ро	pulation Isolated	Limited Dise	ase Risk N	No Risk of	Hybridization	Resident	
<u>Stream Name</u>	<u>FishID</u>	Km	<u>Origin</u>	<u>Genetic Status</u>	Population	n Density	<u>Habitat Qualit</u>	y <u>Stream Width</u>	<u>Non-natives</u>
Cuates Creek	13010002cd013	6.1	Aboriginal	Unaltered (<1%)	151 to 400) fish/mi	Excellent	5 to 10 feet	None
cp007	Core Conservation Population	Ро	pulation Isolated	Limited Dise	ase Risk N	No Risk of	Hybridization	Resident	
Stream Name	FishID	Km	Origin	Constant Statement	Donulation	D	Habitat Qualit	y Stream Width	Non-natives
		<u>IXIII</u>		Genetic Status	Population	Density	Habitat Qualit	y <u>Stream whum</u>	11011 11011 105
Jaroso Creek	13010002cd015			Unaltered (< 1%)	50 to 150		Good	5 to 10 feet	BRK
Jaroso Creek cp008		9.3		Unaltered (< 1%)	50 to 150	fish/mi			
	13010002cd015 Core Conservation	9.3	Aboriginal pulation Isolated	Unaltered (< 1%)	50 to 150	fish/mi No Risk of 1	Good	5 to 10 feet Resident	

ср009	Core Conservation Population	n Po	pulation Isolated	Limited Dise	ase Risk No Risk of	fHybridization	Resident	
<u>Stream Name</u>	FishID	Km	<u>Origin</u>	<u>Genetic Status</u>	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	Non-natives
Torcido Creek	13010002cd01	7 6.9	Aboriginal	Unaltered (<1%)	>400 fish/mi	Good	< 5 feet	None
Torcido Creek	13010002cd05	1 0.6	Aboriginal	Unaltered (<1%)	>400 fish/mi	Good	< 5 feet	None
Torcido Creek	13010002cd05	1 5.7	Aboriginal	Unaltered (<1%)	> 400 fish/mi	Good	< 5 feet	None
ср010	Core Conservation Population	n Po	- pulation Isolated	Limited Dise	ase Risk No Risk of	f Hybridization	Resident	
<u>Stream Name</u>	<u>FishID</u>	Km	<u>Origin</u>	<u>Genetic Status</u>	Population Density	Habitat Quality	Stream Width	Non-natives
Alamosito Cree	k 13010002cd01	0 4.9	Aboriginal	Unaltered (<1%)	151 to 400 fish/mi	Good	5 to 10 feet	BRN
cp011	Conservation Population	Po	pulation Isolated	Limited Dise	ase Risk No Risk of	Hybridization	Resident	-
Stream Name	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	Genetic Status	<u>Population</u>	on Density Habit		Non-natives
Vallejos Creek	13010002cd011	11.9 A	Aboriginal	Unaltered (< 1%)) 50 to 15	0 fish/mi Goo		BRN
North Vallejos Creek	13010002cd012	10.7 A	Aboriginal Not	Tested - Suspected U	Jnaltered 0 to 50) fish/mi Excell	ent 5 to 10 feet	BRN
cp012	Core Conservation Population	n Po	pulation Isolated	Limited Dise	ase Risk No Risk of	Hybridization	Resident	
Stream Name	FishID	Kr	<u>n Origin</u>	Genetic Status	Population Density	Habitat Quality	Stream Width	Non-natives
Deep Canyon	13010002cd	014 4.3	3 Restored	Unaltered (<1%)	0 to 50 fish/mi	Good	< 5 feet	BRK
South Fork Trin Creek	nchera 13010002cd	018 13	3 Restored	Unaltered (<1%)	0 to 50 fish/mi	Excellent	10 to 15 feet	BRK
Trinchera Creek	x 13010002cd	018 1.:	5 Restored	Unaltered (<1%)	0 to 50 fish/mi	Excellent	10 to 15 feet	BRK
Tributary #1 So Fork Trinchera		049 6.'	7 Aboriginal	Unaltered (<1%)	50 to 150 fish/mi	Good	< 5 feet	BRK
Tributary #2 So Fork Trinchera		050 3.'	7 Aboriginal	Unaltered (<1%)	0 to 50 fish/mi	Good	< 5 feet	BRK

enf[1]/	Core Conservation Population	Pop	oulation Isola	ated Limit	ed Disease Risk	No Risk	of Hybridizatio	n Re	esident	
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Geneti</u>	<u>c Status</u>	Popula Popula	ation Density	<u>Habitat</u> Quality	<u>Stream</u>	Non-natives
North Fork Trinchera Creek	13010002cd020	8.1	Restored	Not Tested - Sus	spected Unaltered	0 to	50 fish/mi	<u>Quality</u> Excellent	<u>Width</u> 5 to 10 feet	BRK
Trib #1 to North I Trinchera Creek	Fk 13010002cd032	3.4	Restored	Unaltere	ed (<1%)	U	nknown	Good	5 to 10 feet	BRK
confills	Core Conservation Population	Po	pulation Isol	ated Limited	Disease Risk N	lo Risk of	Hybridization	Resid	lent	
Stream Name	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	Genetic Statu	s <u>Population l</u>	<u>Density</u>	Habitat Quali	<u>ty</u> <u>Strean</u>	<u>n Width N</u>	on-natives
West Indian Cree	k 13010002cd021	10.4	Aboriginal	Unaltered (< 1%	6) 50 to 150 fi	ish/mi	Excellent	5 to 2	0 feet	BRK
South Fork West Indian Creek	13010002cd037	6.7	Aboriginal	Unaltered (< 1%	6) 151 to 400 f	fish/mi	Excellent	5 to 2	0 feet	BRK
onfill6	Core Conservation Population	We	- akly Netwo	rked Significa	ant Disease Risk (s	sympatric) Unknown	ŀ	Resident	
Stream Name	<u>FishID</u> K	<u>m</u> (<u>)rigin</u>	<u>Genetic Status</u>	Population Dens	sity <u>Ha</u>	<u>bitat Quality</u>	Stream W	idth <u>Nor</u>	n-natives
Wagon Creek	13010002cd022 20	0.5 At	original U	Unaltered (<1%)	151 to 400 fish/1	mi	Good	5 to 10 fe	et BRK,	Other Trout
Placer Creek	13010002cd024 1	.4 At	original U	Inaltered (<1%)	> 400 fish/mi		Fair	5 to 10 fe	eet	BRK
Sangre de Cristo Creek	13010002cd024 1	6 At	ooriginal U	Inaltered (< 1%)	> 400 fish/mi		Fair	5 to 10 fe	eet	BRK
cn017	Core Conservation Population	Po	pulation Isol	ated Limited	Disease Risk N	lo Risk of	Hybridization	Resid	lent	
Stream Name	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population D	ensity <u>I</u>	Habitat Quality	<u>Stream</u>	Width No	<u>n-natives</u>
Little Ute Creek	13010002cd028	2.1	Restored	Unaltered (< 1%)) 151 to 400 fis	sh/mi	Excellent	5 to 10) feet	None
Unnamed Trib. to Little Ute Creek	b 13010002cd028	0.6	Restored	Unaltered (< 1%)) 151 to 400 fis	sh/mi	Excellent	5 to 10) feet	None

cp018	Core Conservation Population	Population Isolated		ed Moderate Di	Moderate Disease Risk < 10 km		No Risk of Hybridization Resident	
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
Cuates Creek	13010002cd008	5.5	Aboriginal	Unaltered (<1%)	>400 fish/mi	Fair	< 5 feet	None
ср019	Core Conservation Population	Pop	oulation Isolat	ed Limited Dise	ase Risk No Ris	k of Hybridization	Resident	
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
Torcido Creek	13010002cd033	2.2				~ (
	1501000200055	3.3	Aboriginal	Unaltered (<1%)	> 400 fish/mi	Good	5 to 10 feet	None
ср020	Core Conservation Population		Aboriginal			Good k of Hybridization	5 to 10 feet Resident	None
cp020 <u>Stream Name</u>	Core Conservation					k of Hybridization		None <u>Non-natives</u>

enff 21	servation ılation	Wea	akly Networke	ed Limited Disea	ase Risk Hybridizing	species < 10 km	Resident	
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
E Unnamed Trib. #1 to Placer Creek	13010002cd025	0.8	Restored	>1% and <=10%	> 400 fish/mi	Excellent	5 to 10 feet	None
E Unnamed Trib. #2 to Placer Creek	13010002cd025	1.6	Restored	>1% and <=10%	> 400 fish/mi	Excellent	5 to 10 feet	None
Placer Creek	13010002cd025	11.9	Restored	>1% and <=10%	>400 fish/mi	Excellent	5 to 10 feet	None
W Unnamed Trib. #1 to Placer Creek	13010002cd025	1.9	Restored	>1% and <=10%	> 400 fish/mi	Excellent	5 to 10 feet	None
W Unnamed Trib. #2 to Placer Creek	13010002cd025	2.4	Restored	>1% and <=10%	> 400 fish/mi	Excellent	5 to 10 feet	None
Grayback Creek	13010002cd044	5.9	Aboriginal	${>}1\%$ and ${<}{=}10\%$	Unknown	Fair	< 5 feet	None
Middle Fork Placer Creek	13010002cd045	0	Restored	>1% and <=10%	50 to 150 fish/mi	Fair	< 5 feet	None
South Fork Placer Creek	13010002cd045	6.9	Restored	>1% and <=10%	50 to 150 fish/mi	Fair	< 5 feet	None
Unnamed Trib. to S.F. Placer Creek	13010002cd045	0.4	Restored	>1% and <=10%	50 to 150 fish/mi	Fair	< 5 feet	None
enff 22	e Conservation llation	Moo	derately Netw	orked Moderate	e Disease Risk < 10 km	No Risk of Hybr	ridization 1	Resident
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
Bernardino Creek	13010002cd047	5.6	Aboriginal	Unaltered (<1%)	0 to 50 fish/mi	Good	5 to 10 feet	BRN,BRK
enfl ²³	re Conservation pulation	Poj	pulation Isola	ted Limited	Disease Risk No Ris	k of Hybridization	Resident	
Stream Name Fi	ishID <u>K</u>	m	<u>Origin</u> (Genetic Status P	opulation Density <u>H</u>	abitat Quality S	Stream Width	<u>Non-natives</u>
El Perdido Creek 13	3010002cd048 3	.7 A	boriginal U	naltered (< 1%)	151 to 400 fish/mi	Excellent	5 to 10 feet	None

cp024	Conserva Populatio		Weakly	Networked	Limited Dise	ease Risk Hybridizing	g species < 10 km	Resident	
Stream Name		<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
Middle Fork Plac	cer Creek	13010002cd027	7 8	Restored	>1% and <=10%	151 to 400 fish/mi	Excellent	5 to 10 feet	None
N Unnamed Trib Middle Fork Plac		13010002cd027	7 1.4	Restored	>1% and <=10%	151 to 400 fish/mi	Excellent	5 to 10 feet	None
Unnamed Trib. # Middle Fork Plac		13010002cd027	2.7	Restored	>1% and <=10%	151 to 400 fish/mi	Excellent	5 to 10 feet	None
Unnamed Trib. # Middle Fork Plac		13010002cd027	0.9	Restored	>1% and <=10%	151 to 400 fish/mi	Excellent	5 to 10 feet	None
W Unnamed Tril Middle Fork Plac		13010002cd027	1.5	Restored	>1% and <=10%	151 to 400 fish/mi	Excellent	5 to 10 feet	None



Rio Grande Headwaters GMU

San Luis 13010003

cn001	Core Conservation Population	Weal	kly Network	ed Limited Dise	Limited Disease Risk No Risk		Resident	
<u>Stream Name</u>	FishID	<u>Km</u>	<u>Origin</u>	Genetic Status	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
Medano Creek	13010003cd001	17.5	Restored	Unaltered (<1%)	> 400 fish/mi	Excellent	5 to 10 feet	None
Hudson Branch Medano Creek	13010003cd002	5.3	Restored	Unaltered (<1%)	151 to 400 fish/mi	Excellent	< 5 feet	None
Little Medano Cree	ek 13010003cd004	6	Restored	Unaltered (<1%)	50 to 150 fish/mi	Poor	< 5 feet	None



Rio Grande Headwaters

Saguache 13010004

ср001	Core Conservation Population	Popul	ation Isolated	Limited Diseas	e Risk No Risk o	of Hybridization	Resident	
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
Whale Creek	13010004cd007	4.2	Aboriginal	Unaltered (<1%)	50 to 150 fish/mi	Good	< 5 feet	None
cp002	Core Conservation Population	Popul	ation Isolated	Limited Diseas	e Risk No Risk of	Hybridization	Resident	
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
East Pass Creek	13010004cd005	10.5	Aboriginal	Unaltered (<1%)	50 to 150 fish/mi	Fair	< 5 feet	None
Unnamed Trib. East Pass Creek		0.8	Aboriginal	Unaltered (< 1%)	50 to 150 fish/mi	Fair	< 5 feet	None
ср003	Core Conservation Population	Popul	ation Isolated	Limited Diseas	e Risk Hybridizing	species < 10 km	Resident	-
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
Jacks Creek	13010004cd002	18.5	Aboriginal	Unaltered (<1%)	> 400 fish/mi	Fair	< 5 feet	BRK
Cross Creek	13010004cd004	12.9	Aboriginal	Unaltered (<1%)	> 400 fish/mi	Fair	< 5 feet	None
ср004	Conservation Population	Popul	ation Isolated	Limited Diseas	e Risk Hybridizing	species > 10 km	Resident	
Stream Name	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	Genetic Status	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
<u>Stream Name</u> East Middle Cre		<u>Km</u> 4.9		<u>Genetic Status</u> >1% and <=10%	Population Density > 400 fish/mi	<u>Habitat Quality</u> Fair	<u>Stream Width</u> < 5 feet	None
		4.9		>1% and <=10%	> 400 fish/mi	Fair		
East Middle Cre	cek 13010004cd006	4.9	Restored	>1% and <=10%	> 400 fish/mi	Fair	< 5 feet Resident	

cp007	Core Conservation Population	Pop	ulation Isolate	d Limited Disea	ase Risk No Risk of	Hybridization	Resident	
Stream Name Middle Fork Ca	rnero <u>FishID</u> 13010004cd013	<u>Km</u> 11.3		Genetic Status Il Unaltered (< 1%			<u>y</u> <u>Stream Width</u> < 5 feet	<u>Non-natives</u> White sucker
Creek			1.10011.81110		, <u>10100 100 1100 1100</u>			
cp010	Core Conservation Population	Population Isolated Moderate Disease Risk < 10 km No Risk of Hybridization Resident					ent	
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	Genetic Status	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
South Carnero C	Creek 13010004cd011	22.7	Aboriginal	Unaltered (<1%)	151 to 400 fish/mi	Fair	10 to 15 feet	BRN,BRK, White sucker
cp011	Conservation Population	Pop	ulation Isolate	ed Significant D	isease Risk (sympatric)	No Risk of Hybri	dization R	esident
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Density	<u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
Miners Creek	13010004cd008	7	Aboriginal	>1% and <=10%	151 to 400 fish/mi	Fair	< 5 feet	BRK
Prong Creek	13010004cd009	6	Aboriginal	>1% and <=10%	151 to 400 fish/mi	Fair	5 to 10 feet	BRK
cp012	Conservation Population	Pop	ulation Isolate	ed Significant D	isease Risk (sympatric)	No Risk of Hybri	dization Re	esident
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Densit	ty <u>Habitat Qualit</u>	<u>y</u> <u>Stream Widt</u>	<u>h</u> <u>Non-natives</u>
Cave Creek	13010004cd010	10.2	Aboriginal	>1% and <=10%	50 to 150 fish/mi	Fair	5 to 10 feet	BRN,BRK, White sucker
Rio Grande Headwaters GMU

Conejos (13010005)



Rio Grande Headwaters GMU

Conejos 13010005

ср001	Core Conservation Population	Popu	lation Isolated	Limited Disea	ase Risk No Risk	c of Hybridization	Resident	
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Dens	ity <u>Habitat Quality</u>	<u>Stream Width</u>	<u>Non-natives</u>
Tio Grande	13010005cd001	7.6	Aboriginal	Unaltered (<1%)	151 to 400 fish/n	ni Good	< 5 feet	BRN
cp002	Core Conservation Population	Popu	lation Isolated	Limited Diseas	se Risk No Risk	of Hybridization	Resident	-
<u>Stream Name</u>	FishID	<u>Km</u>	<u>Origin</u>	Genetic St	tatus <u>Po</u>	· · · · · ·	abitat <u>Stream</u>	<u>Non-natives</u>
Tio Grande	13010005cd002	4.5	Aboriginal	Not Tested - Suspec	cted Unaltered 1		ualityWidthFair< 5 feet	BRN
ср003	Core Conservation Population	Popu	lation Isolated	Limited Diseas	se Risk No Risk	of Hybridization	Resident	
Stream Name	FishID	V	0	G (1, G) (
Sti cam Manie	<u>F ISIIID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Densi	ty Habitat Quality	<u>Stream Width</u>	<u>Non-natives</u>
Tanques Creek	<u>FISHID</u> 13010005cd003	<u>Km</u> 2.9	<u>Origin</u> Aboriginal	Genetic Status Unaltered (< 1%)	Population Densi 151 to 400 fish/n	<u> </u>	Stream Width 5 to 10 feet	<u>Non-natives</u> BRN,BRK
		2.9		Unaltered (< 1%)	151 to 400 fish/n	<u> </u>		
Tanques Creek	13010005cd003 Core Conservation	2.9	Aboriginal	Unaltered (< 1%)	151 to 400 fish/n	ni Good f Hybridization	5 to 10 feet	
Tanques Creek	13010005cd003 Core Conservation Population	2.9 Popu	Aboriginal lation Isolated	Unaltered (< 1%)	151 to 400 fish/n se Risk No Risk o	i Good f Hybridization ity Habitat Quality	5 to 10 feet Resident	BRN,BRK
Tanques Creek cp004 <u>Stream Name</u>	13010005cd003 Core Conservation Population <u>FishID</u>	2.9 Popu <u>Km</u> 5.1	Aboriginal lation Isolated <u>Origin</u>	Unaltered (< 1%) Limited Diseas <u>Genetic Status</u> Unaltered (< 1%)	151 to 400 fish/n se Risk No Risk o <u>Population Dens</u> 50 to 150 fish/m	i Good f Hybridization ity Habitat Quality	5 to 10 feet Resident <u>Stream Width</u>	BRN,BRK
Tanques Creek cp004 <u>Stream Name</u> Rio Nutritas	13010005cd003 Core Conservation Population <u>FishID</u> 13010005cd004 Core Conservation	2.9 Popu <u>Km</u> 5.1	Aboriginal lation Isolated <u>Origin</u> Aboriginal	Unaltered (< 1%) Limited Diseas <u>Genetic Status</u> Unaltered (< 1%)	151 to 400 fish/n se Risk No Risk o <u>Population Dens</u> 50 to 150 fish/m	ni Good f Hybridization ity Habitat Quality i Good of Hybridization	5 to 10 feet Resident <u>Stream Width</u> < 5 feet	BRN,BRK

ср007	Core Conservation Population	Populati	ion Isolated	Limited Diseas	se Risk Hybridizing	species > 10 km	Resident	
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	Genetic Status	s <u>Population Densi</u>	ty Habitat Quality	<u>y</u> <u>Stream Width</u>	Non-natives
Lake Fork Cone	ejos River 13010005cd00)9 1	Restored	Unaltered (< 1%	6) 151 to 400 fish/m	i Excellent	5 to 10 feet	None
cp008	Core Conservation Population	Populati	ion Isolated	Limited Diseas	se Risk Hybridizing	species < 10 km	Resident, Lacustri	ne
Stream Name	FishID	<u>Km</u>	<u>Origin</u>	Genetic Status		ty Habitat Qualit		
Lake Fork Cone	ejos River 13010005cd00)5 4	Restored	Unaltered (< 1%	(5) > 400 fish/mi	Good	5 to 10 feet	None
ср009	Core Conservation Population	Populati	ion Isolated	Limited Disease	e Risk No Risk of H	Hybridization	Resident	
Stream Name	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Density	<u>Habitat Quality</u>	Stream Width	Non-natives
Rio de los Pinos	s 13010005cd008	0.9 H	Restored	Unaltered (<1%)	151 to 400 fish/mi	Good	5 to 10 feet	None
cp010	Core Conservation Population	Populati	ion Isolated	Limited Disease	e Risk No Risk of H	ybridization	Resident	
<u>Stream Name</u>	<u>FishID</u>	<u>Km</u>	<u>Origin</u>	<u>Genetic Status</u>	Population Density	Habitat Quality	<u>Stream Width</u>	<u>Non-natives</u>
Cascade Creek	13010005cd007	4.7 A	Aboriginal	Unaltered (<1%)	>400 fish/mi	Good	5 to 10 feet	None

Population ID	GMU	Stream Name	Proba	bility of Pe	ersistence
-			Current	Short-	Long-
				term	term
11080001cp001	Canadian	Ricardo Creek	0.573	0.094	0.029
		E. Trib. Ricardo Creek			
		Gold Creek			
		Elk Creek			
		Leandro Creek			
		Little Vermejo Creek			
		Ricardo Creek			
		Vermejo River			
11080001cp002		Little Vermejo Creek	0.438	0.063	0.000
11080001cp003		Leandro Creek	0.659	0.531	0.473
11080002cp001		McCrystal Creek	0.100	0.019	0.004
		North Ponil Creek			
11080002cp002		South Ponil Creek	0.596	0.563	0.512
11080002cp003		Middle Ponil Creek	0.790	0.761	0.697
11080002cp005		Clear Creek	0.800	0.720	0.714
11080004cp001		East Fork Luna Creek	0.443	0.061	0.030
11080004cp002		West Fork Luna Creek	0.281	0.024	0.000
11080004cp003		Rito Morphy	0.269	0.052	0.011
11080004cp004		Santiago Creek	0.272	0.048	0.012
13010001cp002	Rio Grande	West Alder Creek	0.274	0.026	0.000
	Headwaters				
13010002cp001		San Francisco Creek	0.610	0.142	0.066
		Middle Fork San Francisco			
		Creek			
13010002cp002		Cat Creek	0.670	0.361	0.092
		South Fork Cat Creek			
13010002cp003		Rhodes Gulch	0.541	0.428	0.380
13010002cp004		Torsido Creek	0.252	0.029	0.000
13010002cp005		Jim Creek	0.284	0.031	0.000
13010002cp006		Cuates Creek	0.639	0.510	0.466
13010002cp007		Jaroso Creek	0.675	0.654	0.632
13010002cp008		Jaroso Creek	0.450	0.081	0.031
13010002cp009		Torcido Creek	0.722	0.702	0.682
13010002cp010		Alamosito Creek	0.295	0.038	0.000
13010002cp011		Vallejos Creek	0.262	0.031	0.000
		North Vallejos Creek			_
13010002cp012		Trinchera Creek	0.236	0.020	0.000
		South Fork Trinchera Creek			
		Deep Canyon			
13010002cp014		North Fork Trinchera Creek	0.313	0.044	0.000

Appendix B. Current, short-term (2040s), and long-term (2080s) persistence probabilities for all Rio Grande Cutthroat Trout conservation populations in 2016.

Population ID	GMU	Stream Name	Proba	bility of Po	ersistence
-			Current	Short-	Long-
				term	term
13010002cp015		West Indian Creek	0.309	0.042	0.000
		South Fork West Indian Creek			
13010002cp016		Wagon Creek	0.428	0.068	0.022
		Placer Creek			
		Sangre de Cristo Creek			
13010002cp017		Little Ute Creek	0.706	0.675	0.640
13010002cp018		Cuates Creek	0.460	0.112	0.044
13010002cp019		Torcido Creek	0.470	0.126	0.052
13010002cp020		Alamosito Creek	0.470	0.099	0.044
13010002cp021		Placer Creek	0.709	0.674	0.620
		Middle Fork Placer Creek			
		South Fork Placer Creek			
		Grayback Creek			
13010002cp022		Bernardino Creek	0.237	0.024	0.000
13010002cp023		El Perdido Creek	0.304	0.232	0.311
13010002cp024		Middle Fork Placer Creek	0.709	0.674	0.620
13010003cp001		Medano Creek	0.754	0.734	0.714
Ĩ		Little Medano Creek			
		Hudson Branch Medano Creek			
13010004cp001		Whale Creek	0.344	0.302	0.477
13010004cp002		East Pass Creek	0.693	0.621	0.546
13010004cp003		Jacks Creek	0.324	0.044	0.000
Ĩ		Cross Creek			
13010004cp004		East Middle Creek	0.670	0.557	0.514
13010004cp006		Big Springs Creek	0.599	0.551	0.486
13010004cp007		Middle Fork Carnero Creek	0.693	0.634	0.588
13010004cp010		South Carnero Creek	0.520	0.146	0.065
13010004cp011		Miners Creek	0.539	0.104	0.044
Ĩ		Prong Creek			
13010004cp012		Cave Creek	0.479	0.097	0.039
13010005cp001		Tio Grande	0.291	0.042	0.000
13010005cp002		Tio Grande	0.405	0.063	0.014
13010005cp003		Tanques Creek	0.469	0.366	0.319
13010005cp004		Rio Nutritas	0.213	0.018	0.000
13010005cp006		Osier Creek	0.644	0.519	0.490
13010005cp007		Lake Fork Conejos River	0.518	0.326	0.270
13010005cp008		Lake Fork Conejos River	0.707	0.634	0.581
13010005cp009		Rio de los Pinos	0.301	0.175	0.270
13010005cp010		Cascade Creek	0.563	0.510	0.466
13020101cp001	Lower Rio	Costilla Creek	0.806	0.786	0.767
	Grande	East Fork Costilla Creek			
		West Fork Costilla Creek			
		State Line Creek			

Population ID	GMU	Stream Name	Proba	bility of Pe	ersistence
•			Current	Short-	Long-
				term	term
13020101cp002		Costilla Creek	0.806	0.786	0.767
Ĩ		Glacier Creek			
		Patten Creek			
		Frey Creek			
13020101cp003		Powderhouse Creek	0.563	0.510	0.466
13020101cp004		Powderhouse Creek	0.376	0.049	0.014
13020101cp005		La Cueva Creek	0.234	0.048	0.010
13020101cp006		Comanche Creek	0.680	0.659	0.559
1		Vidal Creek			
		La Belle Creek			
		Grassy Creek			
		Holman Creek			
		Gold Creek			
		Little Costilla Creek			
13020101cp007		Fernandez Creek	0.210	0.021	0.000
13020101cp008		Ute Creek	0.571	0.307	0.050
13020101cp009		Cabresto Creek	0.239	0.019	0.000
13020101cp010		Bitter Creek	0.517	0.201	0.052
13020101cp011		Columbine Creek	0.054	0.012	0.000
1		Placer Fork			
		Willow Creek			
		Deer Creek			
13020101cp012		San Cristobal Creek	0.641	0.230	0.035
13020101cp013		Yerba Creek	0.403	0.037	0.000
13020101cp015		Italianos Creek	0.696	0.637	0.588
13020101cp016		Gavilan Creek	0.370	0.029	0.000
13020101cp017		South Fork Rio Hondo	0.358	0.036	0.000
13020101cp018		Tienditas Creek	0.257	0.018	0.000
13020101cp019		Frijoles Creek	0.243	0.024	0.000
13020101cp020		Palociento Creek	0.379	0.050	0.000
13020101cp021		Rio Grande del Rancho	0.121	0.010	0.000
13020101cp022		Rito la Presa	0.268	0.030	0.000
13020101cp023		Policarpio Creek	0.639	0.510	0.531
13020101cp024		Osha Creek	0.796	0.729	0.756
13020101cp025		Rito Angostura	0.771	0.645	0.679
13020101cp026		Alamitos Creek	0.801	0.736	0.761
13020101cp027		Middle Fork Rio Santa Barbara	0.235	0.053	0.000
13020101cp028		East Fork Rio Santa Barbara	0.229	0.019	0.000
13020101cp029		West Fork Rio Santa Barbara	0.381	0.050	0.000
-		Middle Fork Rio Santa Barbara			
		East Fork Rio Santa Barbara			
13020101cp030		Rio de las Trampas	0.413	0.087	0.021
13020101cp031		Rio San Leonardo	0.405	0.116	0.086

Population ID	GMU	Stream Name	Proba	bility of Pe	ersistence
-			Current	Short-	Long-
				term	term
13020101cp032		Rio de Truchas	0.515	0.280	0.248
		Rio de la Cebolla			
13020101cp034		Rio Quemado	0.268	0.030	0.000
-		North Fork Rio Quemado			
		South Fork Rio Quemado			
13020101cp035		Jicarita Creek	0.476	0.116	0.099
13020101cp036		Indian Creek	0.674	0.576	0.535
13020101cp037		Rio Medio	0.381	0.050	0.000
13020101cp038		Rio Frijoles	0.378	0.044	0.000
1		Rito Jaroso			
13020101cp040		Rio Molino	0.766	0.637	0.589
13020101cp041		Casias Creek	0.801	0.736	0.700
13020101cp042		Chuckwagon Creek	0.210	0.021	0.000
13020101cp043		Allen Creek	0.696	0.635	0.585
13020101cp044		Long Canyon	0.746	0.622	0.557
13020101cp045		Beaver Creek	0.793	0.575	0.533
13020102cp001		Nabor Creek	0.771	0.707	0.612
13020102cp002		Little Willow Creek	0.526	0.397	0.311
13020102cp003		Poso Creek	0.295	0.033	0.000
13020102cp004		Jaroso Creek	0.291	0.059	0.013
13020102cp005		Canjilon Creek	0.566	0.270	0.049
13020102cp006		El Rito	0.680	0.610	0.640
13020102cp007		El Rito	0.527	0.296	0.065
13020102cp008		Canones Creek	0.676	0.655	0.559
13020102cp009		Polvadera Creek	0.676	0.655	0.635
13020102cp010		Rio del Oso	0.560	0.219	0.025
10020102 0 p010		Rito de Abiquiu	0.000	0.21)	0.020
13020102cp011		Wolf Creek	0.221	0.023	0.000
13020102cp012		East Fork Wolf Creek	0.754	0.666	0.615
13020102cp016		Chihuahuenos Creek	0.564	0.221	0.031
13020201cp001		Capulin Creek	0.667	0.393	0.063
13020201cp002		Medio Dia Creek	0.583	0.243	0.039
13020202cp001		Rio Cebolla	0.561	0.502	0.472
13020202cp001		Rito de las Palomas	0.408	0.041	0.000
13020202cp002		Rito de las Vacas	0.319	0.043	0.000
19020202 0 p009		Rito de las Perchas	0.517	0.015	0.000
		Rito Anastacio			
13020204cp001		La Jara Creek	0.272	0.048	0.012
13020204cp001		Rito de los Pinos	0.272	0.048	0.012
13020204cp002		Rio Puerco	0.294	0.060	0.000
13060001cp001	Pecos	Rio I deleo Rio Mora	0.294	0.000	0.015
13060001cp002	1 0005	Unnamed Trib. to Rio Mora	0.185	0.010	0.000
13060001cp002		Rio Valdez	0.332	0.020	0.000
13000010003		NIU VAIUEZ	0.204	0.023	0.000

Population ID	GMU	Stream Name	Proba	bility of P	ersistence
			Current	Short-	Long-
				term	term
13060001cp004		Pecos River	0.422	0.051	0.000
13060001cp005		Rito del Padre	0.441	0.059	0.000
		Rito Maestas			
13060001cp006		Rito los Esteros	0.216	0.014	0.000
13060001cp007		Jacks Creek	0.432	0.055	0.000
13060001cp008		Cave Creek	0.259	0.023	0.000
13060001cp009		Macho Creek	0.766	0.693	0.625
13060001cp010		Dalton Creek	0.771	0.641	0.652
13060001cp011		Bear Creek	0.766	0.635	0.647
13060005cp001		Pinelodge Creek	0.229	0.200	0.126

ConPopID	Prob Persist	Time Period	PatchSize	M30AT	MWMT	Baseflow Discharge	Barrier	ProxCom pPop	Prox Hyrbids	ProxWD Source	Nonnative Control	PopCon- nectivity	Dem Support	Wildfire DebrisRisk	Drought Refugia	Intermit- tency Evid	Adult PopEst	NeN	Anthro Influence
11080001cp001	0.573	Current	69.33	15.46	20.93	0.2582	None	Invaded	Invaded	Far	None	Strong	Sporadic	High	*	None	10966	0.25	Minimal
11080001cp002	0.438	Current	11.94	13.12	19.14	0.0498	Complete	Invaded	Absent	Far	None	Isolated	None	High	*	None	1925	0.25	Minimal
11080001cp003	0.659	Current	3.08	10.85	16.34	0.0245	Complete	Invaded	Near	Absent	Annual	Isolated	None	High	*	None	708	0.25	Minimal {0.40,
11080002cp001	0.100	Current	15.22	14.43	19.87	0.0456	None	Near	Far	Near	None	Isolated	None	High	Present	Yes	4718	0.25	{0.40, 0.60}
11080002cp002	0.596	Current	15.18	16.1	21.48	0.0496	Complete	Near	Far	Near	None	Isolated	None	High	*	None	4579	0.25	{0.1, 0.9}
11080002cp003	0.790	Current	9.6	12	18.12	0.0484	Complete	Near	Near	Near	None	Isolated	None	High	*	None	1676	0.25	Minimal
11080002cp005	0.800	Current	7.51	15.18	20.95	0.0324	Complete	Near	Far	Near	None	Moderate	None	High	*	None	2388	0.25	Minimal {0.20,
11080004cp001	0.443	Current	6.77	12.5	17.93	0.0362	None	Invaded	Near	Absent	None	Isolated	Sporadic	High	Present	Yes	1108	0.25	0.80}
11080004cp002	0.281	Current	4.56	12.61	18.03	0.0372	Partial	Invaded	Near	Absent	None	Isolated	None	High	*	None	735	0.25	{0.1, 0.9}
11080004cp003	0.269	Current	6.75	14.5	18.86	0.0321	None	Near	Near	Absent	None	Moderate	None	High	*	None	2039	0.25	{0.1, 0.9}
11080004cp004	0.272	Current	6.55	12.89	17.46	0.0335	None	Near	Near	Absent	None	Isolated	None	High	*	None	1971	0.25	{0.1, 0.9} {0.34,
13010001cp002	0.274	Current	7.17	10.41	14.85	0.0545	Partial	Invaded	Far	Far	None	Isolated	None	Moderate	*	None	107	0.25	0.66}
13010002cp001	0.610	Current	25.29	10.09	13.87	0.0936	Complete	Invaded	Absent	Near	None	Moderate	Sporadic	Moderate	*	None	4133	0.25	{0.31, 0.69} {0.31,
13010002cp002	0.670	Current	7.63	13	17	0.0429	Partial	Far	Absent	Absent	None	Isolated	None	Moderate	Present	Yes	2868	0.25	$\{0.31, 0.69\}$ $\{0.25, $
13010002cp003	0.541	Current	3.5	9.77	14.34	0.0233	Complete	Far	Absent	Absent	None	Isolated	None	High	*	None	594	0.25	{0.23, 0.75}
13010002cp004	0.252	Current	10.36	13.98	20.97	0.0491	None	Invaded	Absent	Absent	None	Isolated	None	High	*	None	80	0.25	{0.1, 0.9}
13010002cp005	0.284	Current	6.67	12.83	19.29	0.0392	Partial	Invaded	Absent	Absent	None	Isolated	None	High	*	None	1073	0.25	{0.40, 0.60}
13010002cp006	0.639	Current	6.06	10.59	13.56	0.0374	Complete	Near	Absent	Absent	None	Isolated	None	High	*	None	1213	0.25	{0.15, 0.85}
13010002cp007	0.675	Current	9.25	10.34	14.27	0.0339	Complete	Near	Absent	Absent	None	Isolated	None	High	*	None	2542	0.25	{0.15, 0.85}
ľ						0.0627									*				{0.25,
13010002cp008	0.450	Current	6.23	13.49	16.82		None	Invaded	Absent	Absent	None	Isolated	Sporadic	High		None	955	0.25	0.75} {0.15,
13010002cp009	0.722	Current	13.23	12.87	15.89	0.0464	Complete	Far	Absent	Absent	None	Isolated	Sporadic	High	*	None	7682	0.25	0.85} {0.15,
13010002cp010	0.295	Current	4.88	9.15	12.97	0.0353	Complete	Invaded	Absent	Absent	None	Isolated	None	High	*	None	764	0.25	0.85} {0.15,
13010002cp011	0.262	Current	22.51	10.6	15.24	0.0531	None	Invaded	Absent	Absent	None	Moderate	None	High	*	None	593	0.25	0.85}
13010002cp012	0.236	Current	29.23	9.69	14.72	0.1195	None	Invaded	Absent	Far	None	Strong	None	High	*	None	641	0.25	{0.15, 0.85}
13010002cp014	0.313	Current	11.53	12.3	16.99	0.0937	Complete	Invaded	Absent	Far	None	Moderate	None	High	*	None	1779	0.25	{0.1, 0.9}
13010002cp014	0.313	Current	11.53	12.3	16.99	0.0937	Complete	Invaded	Absent	Far	None	Moderate	None	High	ጥ	None	1779	0.25	

Appendix C. Data for each RGCT conservation population incorporated in the 2016 Status Assessment Bayesian Network model.

ConPopID	Prob Persist	Time Period	PatchSize	M30AT	MWMT	Baseflow Discharge	Barrier	ProxCom pPop	Prox Hyrbids	ProxWD Source	Nonnative Control	PopCon- nectivity	Dem Support	Wildfire DebrisRisk	Drought Refugia	Intermit- tency Evid	Adult PopEst	NeN	Anthro Influence
13010002cp015	0.309	Current	17.09	13.81	18.58	0.1711	Complete	Invaded	Absent	Near	None	Isolated	None	High	*	None	4944	0.25	{0.15, 0.85} {0.20,
13010002cp016	0.428	Current	37.96	15.84	20.47	0.2067	None	Invaded	Far	Infected	None	Moderate	Sporadic	Moderate	Present	Yes	15590	0.25	0.80}
13010002cp017	0.706	Current	2.69	10.29	12.61	0.0781	Complete	Near	Near	Absent	None	Isolated	None	Moderate	*	None	819	0.25	Minimal
13010002cp018	0.460	Current	5.47	13.78	16.25	0.0635	None	Near	Absent	Absent	None	Isolated	Sporadic	High	*	None	1677	0.25	{0.20, 0.80}
13010002cp019	0.470	Current	3.34	14.82	18.12	0.0814	None	Near	Absent	Absent	None	Isolated	Sporadic	Moderate	*	None	1025	0.25	{0.20, 0.80}
13010002cp020	0.470	Current	0.75	10.77	13.99	0.0412	Partial	Invaded	Absent	Far	None	Isolated	Consistent	Moderate	*	None	80	0.25	{0.15, 0.85}
13010002cp021	0.709	Current	31.76	14.36	19.43	0.0953	Complete	Near	Absent	Near	None	Strong	None	Moderate	*	None	9964	0.25	{0.1, 0.9}
13010002cp022	0.237	Current	5.56	9.12	13.88	0.0776	None	Invaded	Near	Absent	None	Isolated	None	High	*	None	194	0.25	{0.1, 0.9}
13010002cp023	0.304	Current	3.71	8.67	12.89	0.0426	Complete	*	Absent	Absent	None	Isolated	None	High	*	None	946	0.25	$\{0.1, 0.9\}$
13010002cp024	0.709	Current	14.39	12.98	18.16	0.0446	Complete	Near	Absent	Near	None	Strong	None	Moderate	*	None	5630	0.25	$\{0.1, 0.9\}\$ $\{0.3,$
13010003cp001	0.754	Current	28.78	11.7	15.61	0.1071	Complete	Far	Absent	Absent	None	Strong	Consistent	High	*	None	15906	0.25	{0.3, 0.70}
13010004cp001	0.344	Current	4.25	8.27	13.69	0.0249	Complete	Near	Far	Absent	None	Isolated	None	Moderate	*	None	281	0.25	$\{0.1, 0.9\}$
13010004cp002	0.693	Current	11.23	12.75	15.04	0.0441	Complete	Near	Absent	Near	None	Isolated	None	Moderate	*	None	785	0.25	{0.31, 0.69} {0.25,
13010004cp003	0.324	Current	31.36	13.28	16.59	0.0494	Complete	Invaded	Near	Near	None	Moderate	None	Moderate	*	None	11149	0.25	0.75}
13010004cp004	0.670	Current	4.91	10.4	14.94	0.0352	Complete	Near	Near	Far	None	Isolated	None	Moderate	*	None	912	0.25	$\{0.1, 0.9\}\$ $\{0.25,$
13010004cp006	0.599	Current	4.07	14.5	17.71	0.0218	Complete	Near	Absent	Near	None	Isolated	None	Moderate	*	None	941	0.25	0.75}
13010004cp007	0.693	Current	11.3	12.84	17.37	0.0443	Complete	Near	Absent	Absent	None	Isolated	None	Moderate	*	None	621	0.25	{0.31, 0.69}
13010004cp010	0.520	Current	22.67	13.23	17.55	0.0836	None	Near	Absent	Absent	None	Isolated	Sporadic	Moderate	*	None	2472.5	0.25	{0.35, 0.65}
13010004cp011	0.539	Current	12.97	10.83	15.46	0.023	Partial	Invaded	Invaded	Absent	None	Moderate	Sporadic	Moderate	*	None	2025	0.25	{0.22, 0.78}
13010004cp012	0.479	Current	10.17	12.53	15.98	0.0339	None	Invaded	Invaded	Absent	None	Isolated	Sporadic	High	*	None	1570	0.25	{0.25, 0.75}
13010005cp001	0.291	Current	7.64	14.32	20.77	0.0288	Complete	Invaded	Absent	Absent	None	Isolated	None	High	*	None	1196	0.25	$\{0.1, 0.9\}$
13010005cp002	0.405	Current	4.47	16.09	22.67	0.0571	None	Invaded	Absent	Absent	None	Isolated	Sporadic	High	*	None	713	0.25	$\{0.1, 0.9\}$
13010005cp003	0.469	Current	2.95	13.47	20.34	0.028	Complete	Invaded	Absent	Absent	Annual	Isolated	None	High	*	None	462	0.25	$\{0.1, 0.9\}\$ $\{0.20,$
13010005cp004	0.213	Current	5.06	13.75	20.96	0.0272	None	Invaded	Absent	Absent	None	Isolated	None	High	*	None	801	0.25	0.80}
13010005cp006	0.644	Current	5.9	12.99	18.52	0.0312	Complete	Far	Absent	Absent	None	Isolated	None	High	*	None	2007	0.25	{0.20, 0.80}
13010005cp007	0.518	Current	1.01	12.37	18.17	0.0324	Complete	Near	Near	Near	None	Isolated	None	High	*	None	217	0.25	$\{0.1, 0.9\}$

ConPopID	Prob Persist	Time Period	PatchSize	M30AT	MWMT	Baseflow Discharge	Barrier	ProxCom pPop	Prox Hyrbids	ProxWD Source	Nonnative Control	PopCon- nectivity	Dem Support	Wildfire DebrisRisk	Drought Refugia	Intermit- tency Evid	Adult PopEst	NeN	Anthro Influence
13010005cp008	0.707	Current	3.97	13.92	19.93	0.0465	Complete	Near	Near	Near	None	Isolated	Consistent	High	*	None	1466	0.25	{0.25, 0.75}
13010005cp009	0.301	Current	0.87	8.73	14.94	0.0314	Complete	Near	Near	Absent	None	Isolated	None	High	*	None	138	0.25	$\{0.1, 0.9\}\$ $\{0.20,$
13010005cp010	0.563	Current	4.69	12.9	18.43	0.0279	Complete	Near	Absent	Absent	None	Isolated	None	High	*	None	1499	0.25	0.80}
13020101cp001	0.806	Current	14.57	10.24	18.06	0.0313	Complete	Far	Far	Absent	None	Strong	None	High	*	None	2079	0.25	Minimal
13020101cp002	0.806	Current	15.19	12.17	20.34	0.0558	Complete	Near	Near	Absent	None	Strong	Sporadic	High	*	None	6350	0.25	Minimal
13020101cp003	0.563	Current	6.2	10.27	15.55	0.0259	Complete	Near	Near	Absent	None	Isolated	None	High	*	None	1175	0.25	$\{0.1, 0.9\}$
13020101cp004	0.376	Current	2.09	12.58	17.74	0.0362	None	Invaded	Near	Absent	None	Isolated	Sporadic	High	*	None	327	0.25	$\{0.1, 0.9\}$
13020101cp005	0.234	Current	5.09	11.62	16.26	0.0264	None	Near	Near	Absent	None	Isolated	None	High	*	None	1603	0.25	$\{0.1, 0.9\}\$ $\{0.20,$
13020101cp006	0.680	Current	44.73	13.99	20.55	0.049	Complete	Near	Near	Absent	None	Strong	None	High	Present	Yes	13688	0.25	$\{0.20, \\ 0.80\}$ $\{0.20, $
13020101cp007	0.210	Current	4.42	13.32	19.56	0.0243	None	Invaded	Near	Absent	None	Isolated	None	High	*	None	688	0.25	0.80}
13020101cp008	0.571	Current	13.82	11.83	17.13	0.0459	None	Far	Near	Absent	None	Moderate	None	High	*	None	4204	0.25	$\{0.20, \\ 0.80\}$ $\{0.20, $
13020101cp009	0.239	Current	13.72	10.76	16.63	0.0374	None	Invaded	Near	Far	None	Moderate	None	High	*	None	2126	0.25	0.80} {0.3,
13020101cp010	0.517	Current	2.85	9.98	14.64	0.0289	Partial	Far	Near	Far	None	Isolated	None	High	*	None	878	0.25	0.70}
13020101cp011	0.054	Current	17.85	9	12.15	0.0447	Complete	Invaded	Far	Infected	None	Strong	None	High	*	None	3357	0.25	Minimal
13020101cp012	0.641	Current	6.46	9.36	11.93	0.0348	None	Far	Far	Far	None	Isolated	None	High	*	None	1966	0.25	Minimal
13020101cp013	0.403	Current	4.74	12.15	15.53	0.0297	Partial	Invaded	Absent	Absent	None	Isolated	None	High	*	None	765	0.25	Minimal
13020101cp015	0.696	Current	3.85	11.37	15	0.0289	Complete	Near	Absent	Absent	None	Isolated	None	High	*	None	1213	0.25	Minimal
13020101cp016	0.370	Current	3.37	10.82	13.63	0.0328	None	Invaded	Absent	Absent	None	Isolated	None	High	*	None	549	0.25	Minimal
13020101cp017	0.358	Current	6.26	11.43	14.78	0.0393	None	Invaded	Absent	Absent	None	Isolated	None	High	*	None	994	0.25	Minimal {0.20,
13020101cp018	0.257	Current	3.19	13	17.64	0.0324	None	Invaded	Far	Absent	None	Isolated	None	High	*	None	513	0.25	0.80} {0.20,
13020101cp019	0.243	Current	4.96	9.12	14.66	0.0282	Partial	Invaded	Far	Absent	None	Isolated	None	High	*	None	694	0.25	0.80}
13020101cp020	0.379	Current	3.94	10.16	15.25	0.0277	Complete	Invaded	Absent	Absent	None	Isolated	None	High	*	None	632	0.25	Minimal
13020101cp021	0.121	Current	4.27	8.86	13.48	0.0336	None	Invaded	Absent	Absent	None	Isolated	None	High	*	None	674	0.25	{0.40, 0.60}
3020101cp022	0.268	Current	14.84	10.45	15.85	0.0436	None	Invaded	Absent	Absent	None	Moderate	None	High	*	None	2352	0.25	{0.20, 0.80}
3020101cp023	0.639	Current	4.85	10.55	15.66	0.0336	Complete	Near	Absent	Absent	None	Isolated	None	High	*	None	1335	0.25	$\{0.1, 0.9\}$
3020101cp024	0.796	Current	8.77	12.86	16.59	0.0421	Complete	Near	Absent	Absent	None	Isolated	None	High	*	None	2793	0.25	Minimal
3020101cp025	0.771	Current	6.4	9.25	14.43	0.0461	Complete	Near	Absent	Absent	None	Isolated	None	High	*	None	2016	0.25	Minimal

ConPopID	Prob Persist	Time Period	PatchSize	M30AT	MWMT	Baseflow Discharge	Barrier	ProxCom pPop	Prox Hyrbids	ProxWD Source	Nonnative Control	PopCon- nectivity	Dem Support	Wildfire DebrisRisk	Drought Refugia	Intermit- tency Evid	Adult PopEst	NeN	Anthro Influence
3020101cp026	0.801	Current	9.57	10.2	16.01	0.0408	Complete	Near	Absent	Absent	None	Moderate	None	High	*	None	4434	0.25	Minimal
3020101cp027	0.235	Current	7	8.98	12.12	0.0356	Complete	Invaded	Far	Absent	None	Moderate	None	High	*	None	405	0.25	Minimal
3020101cp028	0.229	Current	4.1	8.03	12.58	0.0408	Partial	Invaded	Far	Absent	None	Isolated	None	High	*	None	655	0.25	Minimal
3020101cp029	0.381	Current	14.5	9.18	13.71	0.0604	None	Invaded	Far	Absent	None	Moderate	None	High	*	None	2344	0.25	Minimal
3020101cp030	0.413	Current	8.22	10.63	11.22	0.0339	None	Near	Near	Absent	None	Isolated	None	High	*	None	2588	0.25	Minimal
3020101cp031	0.405	Current	5.78	8.62	12.11	0.0277	Partial	Near	Near	Absent	None	Isolated	None	High	*	None	1852	0.25	Minimal
3020101cp032	0.515	Current	17.18	12.1	16.29	0.0438	*	Near	Near	Absent	None	Moderate	None	High	*	None	5268	0.25	{0.20, 0.80}
3020101cp034	0.268	Current	16.81	10.76	14.64	0.0439	None	Invaded	Absent	Absent	None	Moderate	None	High	*	None	2623	0.25	{0.1, 0.9}
3020101cp035	0.476	Current	4.08	8.73	12.38	0.0329	Partial	Near	Near	Absent	None	Isolated	None	High	*	None	1239	0.25	Minimal
3020101cp036	0.674	Current	2.8	10.55	14.47	0.0273	Complete	Near	Near	Absent	None	Isolated	None	High	*	None	845	0.25	Minimal
3020101cp037	0.381	Current	13.13	9.87	13.46	0.0501	None	Invaded	Invaded	Absent	None	Moderate	None	High	*	None	2071	0.25	Minimal
3020101cp038	0.378	Current	12.55	9.66	13.09	0.0465	None	Invaded	Invaded	Absent	None	Moderate	None	High	*	None	1984	0.25	Minimal
3020101cp040	0.766	Current	5.6	11.14	14.47	0.0305	Complete	Far	Absent	Absent	None	Isolated	None	High	*	None	1795	0.25	Minimal
3020101cp041	0.801	Current	7.25	9.64	15.93	0.0325	Complete	Near	Near	Absent	None	Moderate	None	High	*	None	2272	0.25	Minimal
3020101cp042	0.210	Current	4.21	12.44	18.18	0.0206	None	Invaded	Invaded	Absent	None	Isolated	None	High	*	None	662	0.25	{0.20, 0.80}
3020101cp043	0.696	Current	3.62	11.25	17.02	0.0224	Complete	Far	Far	Far	None	Isolated	None	High	*	None	1129	0.25	Minimal
3020101cp044	0.746	Current	4.15	10.45	16.52	0.0325	Complete	Far	Far	Far	None	Moderate	None	High	*	None	742	0.25	Minimal
3020101cp045	0.793	Current	3.39	11.08	17.24	0.0311	Complete	Far	Far	Far	None	Isolated	None	High	*	None	1057	0.25	Minimal
3020102cp001	0.771	Current	5.87	14.54	18.58	0.0364	Complete	Near	Absent	Absent	None	Isolated	Sporadic	High	*	None	2172	0.25	Minimal
3020102cp002	0.526	Current	3.66	13.58	18.06	0.0365	Complete	*	Invaded	Absent	None	Isolated	None	High	*	None	1155	0.25	{0.1, 0.9}
3020102cp003	0.295	Current	3.94	12.63	17.44	0.0316	Complete	Invaded	*	Absent	None	Isolated	None	High	*	None	626	0.25	{0.1, 0.9}
3020102cp004	0.291	Current	7.96	12.69	18.14	0.0365	None	Near	Far	Absent	None	Isolated	None	High	*	None	2446	0.25	{0.20, 0.80} {0.3,
3020102cp005	0.566	Current	8.08	12.68	18.58	0.0359	None	Far	Absent	Absent	None	Isolated	None	High	*	None	2596	0.25	0.70}
3020102cp006	0.680	Current	12.75	13.5	19.4	0.0419	Complete	Far	Absent	Absent	None	Moderate	None	High	*	None	2172	0.25	$\{0.1, 0.9\}$
3020102cp007	0.527	Current	5.31	16.34	22.51	0.1037	None	Far	Absent	Absent	None	Isolated	Sporadic	High	*	None	1714	0.25	{0.20, 0.80}
3020102cp008	0.676	Current	10.71	15.5	20.65	0.096	Complete	Far	Absent	Absent	None	Isolated	None	High	*	None	3381	0.25	{0.1, 0.9}
3020102cp009	0.676	Current	13.07	14.07	19.41	0.0699	Complete	Far	Absent	Absent	None	Isolated	None	High	*	None	2600	0.25	{0.3, 0.70}
3020102cp010	0.560	Current	12.45	15.44	20.64	0.0662	None	Far	Absent	Far	None	Isolated	None	High	*	None	3866	0.25	{0.1, 0.9}

ConPopID	Prob Persist	Time Period	PatchSize	M30AT	MWMT	Baseflow Discharge	Barrier	ProxCom pPop	Prox Hyrbids	ProxWD Source	Nonnative Control	PopCon- nectivity	Dem Support	Wildfire DebrisRisk	Drought Refugia	Intermit- tency Evid	Adult PopEst	NeN	Anthro Influence
13020102cp011	0.221	Current	0.61	12.64	17.1	0.0407	Complete	Invaded	Invaded	Absent	None	Isolated	None	High	*	None	92	0.25	{0.25, 0.75}
13020102cp012	0.754	Current	3.71	12.13	16.73	0.0299	Complete	Near	Far	Absent	None	Moderate	None	High	*	None	1167	0.25	Minimal {0.20,
13020102cp016	0.564	Current	10.74	14.62	19.48	0.0701	None	Far	Far	Far	None	Moderate	None	High	*	None	3473	0.25	0.80}
13020201cp001	0.667	Current	11.97	18.05	21.91	0.0669	None	Far	Absent	Absent	None	Isolated	None	High	*	None	2436	0.25	Minimal
13020201cp002	0.583	Current	0.7	15.72	20.55	0.0366	None	Far	Absent	Absent	None	Isolated	None	Moderate	*	None	218	0.25	Minimal {0.20,
13020202cp001	0.561	Current	6.71	15.27	19.41	0.0737	Complete	Invaded	Absent	Absent	Annual	Isolated	None	High	*	None	3254	0.25	0.80}
13020202cp002	0.408	Current	6.87	12.99	19.97	0.0356	Partial	Invaded	Absent	Absent	None	Isolated	None	High	*	None	1120	0.25	Minimal
13020202cp003	0.319	Current	19.95	11.32	16.84	0.0461	Complete	Invaded	Absent	Absent	None	Moderate	None	High	*	None	3241	0.25	$\{0.1, 0.9\}$
13020204cp001	0.272	Current	4.36	12.72	15.55	0.043	None	Near	Absent	Absent	None	Isolated	None	High	*	None	1341	0.25	$\{0.1, 0.9\}$
13020204cp002	0.297	Current	2.32	11.27	14.17	0.0249	Complete	Invaded	Absent	Absent	None	Isolated	None	High	*	None	361	0.25	Minimal
13020204cp003	0.294	Current	14.39	10.89	15.24	0.0359	None	Near	Absent	Absent	None	Moderate	None	High	*	None	4492	0.25	$\{0.1, 0.9\}$
13060001cp001	0.185	Current	2.43	8.76	13.33	0.0353	Complete	Invaded	Far	Far	None	Isolated	None	High	*	None	397	0.25	Minimal
13060001cp002	0.332	Current	3.23	9.54	13.74	0.0254	Partial	Invaded	Far	Far	None	Isolated	None	High	*	None	528	0.25	Minimal
13060001cp003	0.204	Current	3.66	8.26	12.91	0.027	Complete	Invaded	Far	Far	None	Isolated	None	High	*	None	594	0.25	Minimal
13060001cp004	0.422	Current	6.33	9.45	16.07	0.0333	Complete	Invaded	Far	Far	None	Isolated	None	High	*	None	1013	0.25	Minimal
13060001cp005	0.441	Current	9.94	9.12	13.54	0.04	Complete	Invaded	Far	Far	None	Moderate	None	High	*	None	1620	0.25	Minimal
13060001cp006	0.216	Current	2.48	10.32	13.77	0.0266	None	Invaded	Far	Far	None	Isolated	None	High	*	None	375	0.25	Minimal
13060001cp007	0.432	Current	11.34	11.1	14.41	0.0448	Complete	Invaded	Far	Near	None	Isolated	None	High	*	None	1850	0.25	Minimal
13060001cp008	0.259	Current	2.71	9.13	11.99	0.0254	*	Invaded	Far	Far	None	Isolated	None	High	*	None	418	0.25	Minimal
13060001cp009	0.766	Current	4.46	15.08	17.44	0.0764	Complete	Near	Far	Near	None	Isolated	None	High	*	None	1077	0.25	Minimal
13060001cp010	0.771	Current	6.74	13.81	16.6	0.0338	Complete	Near	Far	Near	None	Isolated	None	High	*	None	2122	0.25	Minimal
13060001cp011	0.766	Current	5.64	10.45	13.78	0.0366	Complete	Near	Far	Far	None	Isolated	None	High	*	None	1772	0.25	Minimal
13060005cp001	0.229	Current Short-	3.85	21.1	24.3	0.049	Complete	Far	Far	Absent	None	Isolated	None	High	*	None	815	0.25	Minimal
11080001cp001	0.094	term Short-	69.33	15.46	21.03	0.261	None	Invaded	Invaded	Far	None	Strong	Sporadic	High	*	None	10966	0.25	Minimal
11080001cp002	0.063	term Short-	11.94	13.12	19.24	0.0503	Complete	Invaded	Absent	Far	None	Isolated	None	High	*	None	1925	0.25	Minimal
11080001cp003	0.531	term Short-	3.08	10.85	16.43	0.0248	Complete	Invaded	Near	Absent	Annual	Isolated	None	High	*	None	708	0.25	Minimal {0.40,
11080002cp001	0.019	term Short-	15.22	14.68	20.09	0.0461	None	Near	Far	Near	None	Isolated	None	High	Present	Yes	4718	0.25	{0.40, 0.60}
11080002cp002	0.563	term	15.18	16.35	21.69	0.0399	Complete	Near	Far	Near	None	Isolated	None	High	*	None	4579	0.25	{0.1, 0.9}

ConPopID	Prob Persist	Time Period	PatchSize	M30AT	MWMT	Baseflow Discharge	Barrier	ProxCom pPop	Prox Hyrbids	ProxWD Source	Nonnative Control	PopCon- nectivity	Dem Support	Wildfire DebrisRisk	Drought Refugia	Intermit- tency Evid	Adult PopEst	NeN	Anthro Influence
11080002cp003	0.761	Short- term	9.6	12.25	18.34	0.0389	Complete	Near	Near	Near	None	Isolated	None	High	*	None	1676	0.25	Minimal
11080002cp005	0.720	Short- term Short-	7.51	15.43	21.17	0.02	Complete	Near	Far	Near	None	Moderate	None	High	*	None	2388	0.25	Minimal {0.20,
11080004cp001	0.061	term Short-	6.77	12.52	17.98	0.0223	None	Invaded	Near	Absent	None	Isolated	Sporadic	High	Present	Yes	1108	0.25	0.80}
11080004cp002	0.024	term Short-	4.56	12.62	18.08	0.0229	Partial	Invaded	Near	Absent	None	Isolated	None	High	*	None	735	0.25	{0.1, 0.9}
11080004cp003	0.052	term Short-	6.75	14.62	19.03	0.0198	None	Near	Near	Absent	None	Moderate	None	High	*	None	2039	0.25	{0.1, 0.9}
11080004cp004	0.048	term Short-	6.55	13.01	17.62	0.0207	None	Near	Near	Absent	None	Isolated	None	High	*	None	1971	0.25	{0.1, 0.9} {0.34,
13010001cp002	0.026	term Short-	7.17	10.43	14.89	0.0448	Partial	Invaded	Far	Far	None	Isolated	None	Moderate	*	None	107	0.25	0.66} {0.31,
13010002cp001	0.142	term Short-	25.29	10.17	13.9	0.0818	Complete	Invaded	Absent	Near	None	Moderate	Sporadic	Moderate	*	None	4133	0.25	0.69} {0.31,
13010002cp002	0.361	term Short-	7.63	13.09	17.03	0.0372	Partial	Far	Absent	Absent	None	Isolated	None	Moderate	Present	Yes	2868	0.25	0.69} {0.25,
13010002cp003	0.428	term Short-	3.5	9.85	14.37	0.0191	Complete	Far	Absent	Absent	None	Isolated	None	High	*	None	594	0.25	0.75}
13010002cp004	0.029	term Short-	10.36	14.06	20.99	0.045	None	Invaded	Absent	Absent	None	Isolated	None	High	*	None	80	0.25	$\{0.1, 0.9\}\$ $\{0.40,$
13010002cp005	0.031	term Short-	6.67	12.91	19.31	0.0359	Partial	Invaded	Absent	Absent	None	Isolated	None	High	*	None	1073	0.25	$0.60\}$ {0.15,
13010002cp006	0.510	term Short-	6.06	10.59	13.66	0.0282	Complete	Near	Absent	Absent	None	Isolated	None	High	*	None	1213	0.25	0.85} {0.15,
13010002cp007	0.654	term Short-	9.25	10.34	14.37	0.0299	Complete	Near	Absent	Absent	None	Isolated	None	High	*	None	2542	0.25	0.85} {0.25,
13010002cp008	0.081	term Short-	6.23	13.49	16.91	0.0472	None	Invaded	Absent	Absent	None	Isolated	Sporadic	High	*	None	955	0.25	0.75} {0.15,
13010002cp009	0.702	term Short-	13.23	12.88	15.99	0.0379	Complete	Far	Absent	Absent	None	Isolated	Sporadic	High	*	None	7682	0.25	0.85} {0.15,
13010002cp010	0.038	term Short-	4.88	9.15	13.07	0.0357	Complete	Invaded	Absent	Absent	None	Isolated	None	High	*	None	764	0.25	0.85} {0.15,
13010002cp011	0.031	term Short-	22.51	10.61	15.33	0.0537	None	Invaded	Absent	Absent	None	Moderate	None	High	*	None	593	0.25	0.85} {0.15,
13010002cp012 13010002cp014	0.020 0.044	term Short- term	29.23 11.53	9.72 12.33	14.81 17.08	0.0828 0.0649	None Complete	Invaded Invaded	Absent	Far Far	None	Strong	None	High	*	None	641 1779	0.25 0.25	0.85 }
13010002cp014	0.044	term Short- term	11.55	12.55	17.08	0.0649	Complete	Invaded	Absent Absent	Far Near	None	Moderate Isolated	None	High High	*	None	4944	0.25	$\{0.1, 0.9\}\$ $\{0.15, 0.85\}$
13010002cp015	0.042	Short- term	37.96	15.87	20.55	0.1180	None	Invaded	Far	Infected	None	Moderate	Sporadic	Moderate	Present	Yes	15590		{0.20,
13010002cp010	0.675	Short- term	2.69	10.33	12.7	0.0503	Complete	Near	Near	Absent	None	Isolated	None	Moderate	*	None	819	0.25	Minimal
13010002cp017	0.112	Short- term	5.47	13.79	16.34	0.0505	None	Near	Absent	Absent	None	Isolated	Sporadic	High	*	None	1677	0.25	{0.20, 0.80}
1501000200010	0.112		5.47	13.17	10.54	0.05	1 tone	1 (041	105011	105011	TONE	13014104	sporadie			1,0110	10//	0.25	0.001

ConPopID	Prob Persist	Time Period	PatchSize	M30AT	MWMT	Baseflow Discharge	Barrier	ProxCom pPop	Prox Hyrbids	ProxWD Source	Nonnative Control	PopCon- nectivity	Dem Support	Wildfire DebrisRisk	Drought Refugia	Intermit- tency Evid	Adult PopEst	NeN	Anthro Influence
13010002cp019	0.126	Short- term	3.34	14.82	18.22	0.0613	None	Near	Absent	Absent	None	Isolated	Sporadic	Moderate	*	None	1025	0.25	{0.20, 0.80}
13010002cp020	0.099	Short- term	0.75	10.77	14.09	0.0416	Partial	Invaded	Absent	Far	None	Isolated	Consistent	Moderate	*	None	80	0.25	{0.15, 0.85}
-		Short-													*				,
13010002cp021	0.674	term Short-	31.76	14.39	19.52	0.0643	Complete	Near	Absent	Near	None	Strong	None	Moderate		None	9964	0.25	{0.1, 0.9}
13010002cp022	0.024	term Short-	5.56	9.15	13.95	0.0537	None	Invaded	Near	Absent	None	Isolated	None	High	*	None	194	0.25	{0.1, 0.9}
13010002cp023	0.232	term Short-	3.71	8.7	12.97	0.0295	Complete	*	Absent	Absent	None	Isolated	None	High	*	None	946	0.25	{0.1, 0.9}
13010002cp024	0.674	term Short-	14.39	13.02	18.25	0.0292	Complete	Near	Absent	Near	None	Strong	None	Moderate	*	None	5630	0.25	$\{0.1, 0.9\}$ $\{0.3,$
13010003cp001	0.734	term	28.78	11.73	15.69	0.0689	Complete	Far	Absent	Absent	None	Strong	Consistent	High	*	None	15906	0.25	0.70}
13010004cp001	0.302	Short- term	4.25	8.29	13.8	0.0238	Complete	Near	Far	Absent	None	Isolated	None	Moderate	*	None	281	0.25	{0.1, 0.9}
13010004cp002	0.621	Short- term	11.23	12.76	15.14	0.0422	Complete	Near	Absent	Near	None	Isolated	None	Moderate	*	None	785	0.25	{0.31, 0.69}
13010004cp003	0.044	Short- term	31.36	13.3	16.7	0.0473	Complete	Invaded	Near	Near	None	Moderate	None	Moderate	*	None	11149	0.25	{0.25, 0.75}
13010004cp004	0.557	Short- term	4.91	10.42	15.04	0.0124	Complete	Near	Near	Far	None	Isolated	None	Moderate	*	None	912	0.25	{0.1, 0.9}
13010004cp006	0.551	Short- term	4.07	14.51	17.78	0.0209	Complete	Near	Absent	Near	None	Isolated	None	Moderate	*	None	941	0.25	{0.25, 0.75}
13010004cp007	0.634	Short- term	11.3	12.86	17.41	0.0424	Complete	Near	Absent	Absent	None	Isolated	None	Moderate	*	None	621	0.25	{0.31, 0.69}
1		Short-					-								*				{0.35,
13010004cp010	0.146	term Short-	22.67	13.25	17.6	0.08	None	Near	Absent	Absent	None	Isolated	Sporadic	Moderate		None	2472.5	0.25	0.65} {0.22,
13010004cp011	0.104	term Short-	12.97	10.85	15.49	0.022	Partial	Invaded	Invaded	Absent	None	Moderate	Sporadic	Moderate	*	None	2025	0.25	0.78} {0.25,
13010004cp012	0.097	term Short-	10.17	12.55	16.01	0.0325	None	Invaded	Invaded	Absent	None	Isolated	Sporadic	High	*	None	1570	0.25	0.75}
13010005cp001	0.042	term Short-	7.64	14.33	20.81	0.0264	Complete	Invaded	Absent	Absent	None	Isolated	None	High	*	None	1196	0.25	{0.1, 0.9}
13010005cp002	0.063	term Short-	4.47	16.09	22.71	0.0523	None	Invaded	Absent	Absent	None	Isolated	Sporadic	High	*	None	713	0.25	$\{0.1, 0.9\}$
13010005cp003	0.366	term	2.95	13.48	20.38	0.0257	Complete	Invaded	Absent	Absent	Annual	Isolated	None	High	*	None	462	0.25	$\{0.1, 0.9\}$
13010005cp004	0.018	Short- term	5.06	13.75	21	0.0249	None	Invaded	Absent	Absent	None	Isolated	None	High	*	None	801	0.25	{0.20, 0.80}
13010005cp006	0.519	Short- term	5.9	13	18.65	0.0286	Complete	Far	Absent	Absent	None	Isolated	None	High	*	None	2007	0.25	{0.20, 0.80}
13010005cp007	0.326	Short- term	1.01	12.45	18.19	0.0267	Complete	Near	Near	Near	None	Isolated	None	High	*	None	217	0.25	{0.1, 0.9}
13010005cp008	0.634	Short- term	3.97	14	19.96	0.0391	Complete	Near	Near	Near	None	Isolated	Consistent	High	*	None	1466	0.25	{0.25, 0.75}
1		Short-		8.74											*		138		,
13010005cp009	0.175	term	0.87	8./4	15.07	0.0287	Complete	Near	Near	Absent	None	Isolated	None	High		None	138	0.25	{0.1, 0.9}

ConPopID	Prob Persist	Time Period	PatchSize	M30AT	MWMT	Baseflow Discharge	Barrier	ProxCom pPop	Prox Hyrbids	ProxWD Source	Nonnative Control	PopCon- nectivity	Dem Support	Wildfire DebrisRisk	Drought Refugia	Intermit- tency Evid	Adult PopEst	NeN	Anthro Influence
		Short-				<u> </u>			-			v			Ŭ	•	-		{0.20,
13010005cp010	0.510	term Short-	4.69	12.92	18.56	0.0255	Complete	Near	Absent	Absent	None	Isolated	None	High	*	None	1499	0.25	0.80}
13020101cp001	0.786	term Short-	14.57	10.25	18.16	0.0316	Complete	Far	Far	Absent	None	Strong	None	High	*	None	2079	0.25	Minimal
13020101cp002	0.786	term Short-	15.19	12.17	20.44	0.0564	Complete	Near	Near	Absent	None	Strong	Sporadic	High	*	None	6350	0.25	Minimal
13020101cp003	0.510	term Short-	6.2	10.37	15.7	0.0208	Complete	Near	Near	Absent	None	Isolated	None	High	*	None	1175	0.25	{0.1, 0.9}
13020101cp004	0.049	term Short-	2.09	12.59	17.84	0.0291	None	Invaded	Near	Absent	None	Isolated	Sporadic	High	*	None	327	0.25	{0.1, 0.9}
13020101cp005	0.048	term Short-	5.09	11.74	16.42	0.0213	None	Near	Near	Absent	None	Isolated	None	High	*	None	1603	0.25	$\{0.1, 0.9\}$ $\{0.20,$
13020101cp006	0.659	term Short-	43.42	14.2	20.7	0.0352	Complete	Near	Near	Absent	None	Strong	None	High	Present	Yes	13688	0.25	0.80} {0.20,
13020101cp007	0.021	term Short-	4.42	13.57	19.77	0.0196	None	Invaded	Near	Absent	None	Isolated	None	High	*	None	688	0.25	0.80} {0.20,
13020101cp008	0.307	term Short-	13.82	11.83	17.23	0.0369	None	Far	Near	Absent	None	Moderate	None	High	*	None	4204	0.25	0.80} {0.20,
13020101cp009	0.019	term Short-	13.72	11.01	16.85	0.0268	None	Invaded	Near	Far	None	Moderate	None	High	*	None	2126	0.25	0.80} {0.3,
13020101cp010	0.201	term Short-	2.85	10.23	14.86	0.0233	Partial	Far	Near	Far	None	Isolated	None	High	*	None	878	0.25	0.70}
13020101cp011	0.012	term Short-	17.85	9.25	12.36	0.0275	Complete	Invaded	Far	Infected	None	Strong	None	High	*	None	3357	0.25	Minimal
13020101cp012	0.230	term Short-	6.46	9.6	12.14	0.0214	None	Far	Far	Far	None	Isolated	None	High	*	None	1966	0.25	Minimal
13020101cp013	0.037	term Short-	4.74	12.4	15.75	0.0183	Partial	Invaded	Absent	Absent	None	Isolated	None	High	*	None	765	0.25	Minimal
13020101cp015	0.637	term Short-	3.85	11.61	15.22	0.0178	Complete	Near	Absent	Absent	None	Isolated	None	High	*	None	1213	0.25	Minimal
13020101cp016	0.029	term Short-	3.37	11.06	13.85	0.0202	None	Invaded	Absent	Absent	None	Isolated	None	High	*	None	549	0.25	Minimal
13020101cp017	0.036	term Short-	6.26	11.68	15	0.0242	None	Invaded	Absent	Absent	None	Isolated	None	High	*	None	994	0.25	Minimal {0.20,
13020101cp018	0.018	term Short-	3.19	13.01	17.69	0.02	None	Invaded	Far	Absent	None	Isolated	None	High	*	None	513	0.25	0.80}
13020101cp019	0.024	term Short-	4.96	9.13	14.71	0.0174	Partial	Invaded	Far	Absent	None	Isolated	None	High	*	None	694	0.25	0.80}
13020101cp020	0.050	term Short-	3.94	10.17	15.3	0.0171	Complete	Invaded	Absent	Absent	None	Isolated	None	High	*	None	632	0.25	Minimal {0.40,
13020101cp021	0.010	term Short-	4.27	8.88	13.53	0.0207	None	Invaded	Absent	Absent	None	Isolated	None	High	*	None	674	0.25	$\{0.40, 0.60\}$ $\{0.20, 0.60\}$
13020101cp022	0.030	term Short-	14.84	10.46	15.9	0.0269	None	Invaded	Absent	Absent	None	Moderate	None	High	*	None	2352	0.25	0.80}
13020101cp023	0.510	term Short-	4.85	10.57	15.71	0.0207	Complete	Near	Absent	Absent	None	Isolated	None	High	*	None	1335	0.25	{0.1, 0.9}
13020101cp024	0.729	term	8.77	12.88	16.64	0.0259	Complete	Near	Absent	Absent	None	Isolated	None	High	*	None	2793	0.25	Minimal

ConPopID	Prob Persist	Time Period	PatchSize	M30AT	MWMT	Baseflow Discharge	Barrier	ProxCom pPop	Prox Hyrbids	ProxWD Source	Nonnative Control	PopCon- nectivity	Dem Support	Wildfire DebrisRisk	Drought Refugia	Intermit- tency Evid	Adult PopEst	NeN	Anthro Influence
13020101cp025	0.645	Short- term	6.4	9.27	14.48	0.0284	Complete	Near	Absent	Absent	None	Isolated	None	High	*	None	2016	0.25	Minimal
13020101cp026	0.736	Short- term Short-	9.57	10.22	16.06	0.0251	Complete	Near	Absent	Absent	None	Moderate	None	High	*	None	4434	0.25	Minimal
13020101cp027	0.053	term Short-	7	9.03	12.2	0.0219	Complete	Invaded	Far	Absent	None	Moderate	None	High	*	None	405	0.25	Minimal
13020101cp028	0.019	term Short-	4.1	8.04	12.63	0.0251	Partial	Invaded	Far	Absent	None	Isolated	None	High	*	None	655	0.25	Minimal
13020101cp029	0.050	term Short-	14.5	9.2	13.77	0.0372	None	Invaded	Far	Absent	None	Moderate	None	High	*	None	2344	0.25	Minimal
13020101cp030	0.087	term Short-	8.22	10.65	11.27	0.0209	None	Near	Near	Absent	None	Isolated	None	High	*	None	2588	0.25	Minimal
13020101cp031	0.116	term Short-	5.78	8.64	12.16	0.0171	Partial	Near	Near	Absent	None	Isolated	None	High	*	None	1852	0.25	Minimal {0.20,
13020101cp032	0.280	term Short-	17.18	12.11	16.34	0.027	*	Near	Near	Absent	None	Moderate	None	High	*	None	5268	0.25	0.80}
13020101cp034	0.030	term Short-	16.81	10.81	14.72	0.027	None	Invaded	Absent	Absent	None	Moderate	None	High	*	None	2623	0.25	{0.1, 0.9}
13020101cp035	0.116	term Short-	4.08	8.74	12.43	0.0203	Partial	Near	Near	Absent	None	Isolated	None	High	*	None	1239	0.25	Minimal
13020101cp036	0.576	term Short-	2.8	10.56	14.52	0.0168	Complete	Near	Near	Absent	None	Isolated	None	High	*	None	845	0.25	Minimal
13020101cp037	0.050	term Short-	13.13	9.99	13.63	0.0308	None	Invaded	Invaded	Absent	None	Moderate	None	High	*	None	2071	0.25	Minimal
13020101cp038	0.044	term Short-	12.55	9.78	13.26	0.0286	None	Invaded	Invaded	Absent	None	Moderate	None	High	*	None	1984	0.25	
13020101cp040	0.637	term Short-	5.6	11.26	14.63	0.0188 0.0283	Complete	Far	Absent	Absent	None	Isolated	None	High	*	None	1795	0.25	Minimal
13020101cp041 13020101cp042	0.736 0.021	term Short- term	7.25 4.21	9.65 12.68	16.03 18.4	0.0285	Complete None	Near Invaded	Near Invaded	Absent Absent	None None	Moderate Isolated	None None	High	*	None	2272 662	0.25 0.25	Minimal {0.20, 0.80}
13020101cp042	0.635	Short- term	4.21 3.62	11.25	17.12	0.0100	Complete	Far	Far	Far	None	Isolated	None	High High	*	None	1129	0.25	Minimal
13020101cp044	0.622	Short- term	4.15	10.45	16.61	0.0252	Complete	Far	Far	Far	None	Moderate	None	High	*	None	742	0.25	Minimal
13020101cp045	0.575	Short- term	3.39	11.09	17.34	0.0234	Complete	Far	Far	Far	None	Isolated	None	High	*	None	1057	0.25	Minimal
13020102cp001	0.707	Short- term	5.87	14.55	18.59	0.0333	Complete	Near	Absent	Absent	None	Isolated	Sporadic	High	*	None	2172	0.25	Minimal
13020102cp002	0.397	Short- term	3.66	13.59	18.19	0.0335	Complete	*	Invaded	Absent	None	Isolated	None	High	*	None	1155	0.25	{0.1, 0.9}
13020102cp003	0.033	Short- term	3.94	12.65	17.57	0.0289	Complete	Invaded	*	Absent	None	Isolated	None	High	*	None	626	0.25	{0.1, 0.9}
13020102cp004	0.059	Short- term	7.96	12.69	18.19	0.029	None	Near	Far	Absent	None	Isolated	None	High	*	None	2446	0.25	{0.20, 0.80}
13020102cp005	0.270	Short- term	8.08	12.68	18.65	0.0221	None	Far	Absent	Absent	None	Isolated	None	High	*	None	2596	0.25	{0.3, 0.70}

ConPopID	Prob Persist	Time Period	PatchSize	M30AT	MWMT	Baseflow Discharge	Barrier	ProxCom pPop	Prox Hyrbids	ProxWD Source	Nonnative Control	PopCon- nectivity	Dem Support	Wildfire DebrisRisk	Drought Refugia	Intermit- tency Evid	Adult PopEst	NeN	Anthro Influence
13020102cp006	0.610	Short- term	12.75	13.5	19.47	0.0258	Complete	Far	Absent	Absent	None	Moderate	None	High	*	None	2172	0.25	{0.1, 0.9}
13020102cp007	0.296	Short- term Short-	5.31	16.35	22.59	0.0639	None	Far	Absent	Absent	None	Isolated	Sporadic	High	*	None	1714	0.25	{0.20, 0.80}
13020102cp008	0.655	term Short-	10.71	15.52	20.75	0.0592	Complete	Far	Absent	Absent	None	Isolated	None	High	*	None	3381	0.25	$\{0.1, 0.9\}$ $\{0.3,$
13020102cp009	0.655	term Short-	13.07	14.1	19.51	0.0431	Complete	Far	Absent	Absent	None	Isolated	None	High	*	None	2600	0.25	0.70}
13020102cp010	0.219	term Short-	12.45	15.46	20.74	0.0408	None	Far	Absent	Far	None	Isolated	None	High	*	None	3866	0.25	$\{0.1, 0.9\}\$ $\{0.25,$
13020102cp011	0.023	term Short-	0.61	12.66	17.23	0.0373	Complete	Invaded	Invaded	Absent	None	Isolated	None	High	*	None	92	0.25	0.75}
13020102cp012	0.666	term Short-	3.71	12.15	16.85	0.0273	Complete	Near	Far	Absent	None	Moderate	None	High	*	None	1167	0.25	Minimal {0.20,
13020102cp016	0.221	term Short-	10.74	14.64	19.58	0.0432	None	Far	Far	Far	None	Moderate	None	High	*	None	3473	0.25	0.80}
13020201cp001	0.393	term Short-	11.97	18.07	22.01	0.0412	None	Far	Absent	Absent	None	Isolated	None	High	*	None	2436	0.25	Minimal
13020201cp002	0.243	term Short-	0.7	15.74	20.65	0.0226	None	Far	Absent	Absent	None	Isolated	None	Moderate	*	None	218	0.25	Minimal {0.20,
13020202cp001	0.502	term Short-	6.71	15.41	19.45	0.0454	Complete	Invaded	Absent	Absent	Annual	Isolated	None	High	*	None	3254	0.25	0.80}
13020202cp002	0.041	term Short-	6.87	13.14	20.01	0.0219	Partial	Invaded	Absent	Absent	None	Isolated	None	High	*	None	1120	0.25	Minimal
13020202cp003	0.043	term Short-	19.95	11.47 12.86	16.88 15.58	0.0284	Complete	Invaded	Absent	Absent	None	Moderate	None	High	*	None	3241 1341	0.25	{0.1, 0.9}
13020204cp001 13020204cp002	0.048 0.036	term Short- term	4.36 2.32	11.42	13.38	0.0265 0.0154	None Complete	Near Invaded	Absent Absent	Absent Absent	None	Isolated Isolated	None None	High High	*	None	361	0.25 0.25	{0.1, 0.9} Minimal
13020204cp002	0.060	Short- term	14.39	11.42	15.28	0.0221	None	Near	Absent	Absent	None	Moderate	None	High	*	None	4492	0.25	{0.1, 0.9}
13060001cp001	0.016	Short- term	2.43	8.88	13.5	0.0218	Complete	Invaded	Far	Far	None	Isolated	None	High	*	None	397	0.25	Minimal
13060001cp002	0.026	Short- term	3.23	9.66	13.91	0.0157	Partial	Invaded	Far	Far	None	Isolated	None	High	*	None	528	0.25	Minimal
13060001cp003	0.025	Short- term	3.66	8.38	13.07	0.0166	Complete	Invaded	Far	Far	None	Isolated	None	High	*	None	594	0.25	Minimal
13060001cp004	0.051	Short- term	6.33	9.57	16.24	0.0205	Complete	Invaded	Far	Far	None	Isolated	None	High	*	None	1013	0.25	Minimal
13060001cp005	0.059	Short- term	9.94	9.24	13.7	0.0247	Complete	Invaded	Far	Far	None	Moderate	None	High	*	None	1620	0.25	Minimal
13060001cp006	0.014	Short- term	2.48	10.44	13.94	0.0164	None	Invaded	Far	Far	None	Isolated	None	High	*	None	375	0.25	Minimal
13060001cp007	0.055	Short- term	11.34	11.21	14.57	0.0276	Complete	Invaded	Far	Near	None	Isolated	None	High	*	None	1850	0.25	Minimal
13060001cp008	0.023	Short- term	2.71	9.25	12.15	0.0156	*	Invaded	Far	Far	None	Isolated	None	High	*	None	418	0.25	Minimal

ConPopID	Prob Persist	Time Period	PatchSize	M30AT	MWMT	Baseflow Discharge	Barrier	ProxCom pPop	Prox Hyrbids	ProxWD Source	Nonnative Control	PopCon- nectivity	Dem Support	Wildfire DebrisRisk	Drought Refugia	Intermit- tency Evid	Adult PopEst	NeN	Anthro Influence
13060001cp009	0.693	Short- term	4.46	15.2	17.6	0.0471	Complete	Near	Far	Near	None	Isolated	None	High	*	None	1077	0.25	Minimal
13060001cp010	0.641	Short- term Short-	6.74	13.94	16.77	0.0208	Complete	Near	Far	Near	None	Isolated	None	High	*	None	2122	0.25	Minimal
13060001cp011	0.635	term Short-	5.64	10.57	13.95	0.0226	Complete	Near	Far	Far	None	Isolated	None	High	*	None	1772	0.25	Minimal
13060005cp001	0.200	term Long-	3.85	21.1	24.4	0.0352	Complete	Far	Far	Absent	None	Isolated	None	High	*	None	815	0.25	Minimal
11080001cp001	0.029	term Long-	69.33	16.03	21.31	0.2453	None	Invaded	Invaded	Far	None	Strong	Sporadic	High	*	None	10966	0.25	Minimal
11080001cp002	0.000	term Long-	11.94	13.69	19.52	0.0503	Complete	Invaded	Absent	Far	None	Isolated	None	High	*	None	1925	0.25	Minimal
11080001cp003	0.473	term Long-	3.08	11.42	16.71	0.0248	Complete	Invaded	Near	Absent	Annual	Isolated	None	High	*	None	708	0.25	Minimal {0.40,
11080002cp001	0.004	term Long-	15.22	15.3	20.45	0.0461	None	Near	Far	Near	None	Isolated	None	High	Present	Yes	4718	0.25	0.60}
11080002cp002	0.512	term Long-	15.18	16.97	22.06	0.0383	Complete	Near	Far	Near	None	Isolated	None	High	*	None	4579	0.25	{0.1, 0.9}
11080002cp003	0.697	term Long-	9.6	12.87	18.7	0.0373	Complete	Near	Near	Near	None	Isolated	None	High	*	None	1676	0.25	Minimal
11080002cp005	0.714	term Long-	7.51	16.05	21.54	0.0292	Complete	Near	Far	Near	None	Moderate	None	High		None	2388	0.25	Minimal {0.20,
11080004cp001	0.030	term Long-	6.77	13.12 13.22	18.31	0.0326 0.0334	None	Invaded	Near	Absent	None	Isolated	Sporadic	High	Present	Yes	1108 735	0.25	0.80}
11080004cp002 11080004cp003	0.000	term Long- term	4.56 6.75	15.22	18.42 19.32	0.0334	Partial None	Invaded Near	Near Near	Absent Absent	None None	Isolated Moderate	None None	High High	*	None	2039	0.25 0.25	$\{0.1, 0.9\}$ $\{0.1, 0.9\}$
11080004cp004	0.011	Long- term	6.55	13.58	17.92	0.0302	None	Near	Near	Absent	None	Isolated	None	High	*	None	1971	0.25	{0.1, 0.9}
13010001cp002	0.000	Long- term	7.17	11.13	15.26	0.0346	Partial	Invaded	Far	Far	None	Isolated	None	Moderate	*	None	107	0.25	{0.34, 0.66}
13010002cp001	0.066	Long- term	25.29	11.03	14.44	0.0608	Complete	Invaded	Absent	Near	None	Moderate	Sporadic	Moderate	*	None	4133	0.25	{0.31, 0.69}
13010002cp002	0.092	Long- term	7.63	13.95	17.57	0.0284	Partial	Far	Absent	Absent	None	Isolated	None	Moderate	Present	Yes	2868	0.25	{0.31, 0.69}
13010002cp003	0.380	Long- term	3.5	10.71	14.91	0.0148	Complete	Far	Absent	Absent	None	Isolated	None	High	*	None	594	0.25	{0.25, 0.75}
13010002cp004	0.000	Long- term	9.56	14.7	21.1	0.0339	None	Invaded	Absent	Absent	None	Isolated	None	High	*	None	80	0.25	{0.1, 0.9}
13010002cp005	0.000	Long- term	6.67	13.77	19.85	0.0271	Partial	Invaded	Absent	Absent	None	Isolated	None	High	*	None	1073	0.25	{0.40, 0.60}
13010002cp006	0.466	Long- term Long-	6.06	11.17	13.94	0.0289	Complete	Near	Absent	Absent	None	Isolated	None	High	*	None	1213	0.25	{0.15, 0.85} {0.15,
13010002cp007	0.632	term Long-	9.25	10.92	14.65	0.0303	Complete	Near	Absent	Absent	None	Isolated	None	High	*	None	2542	0.25	$\{0.13, 0.85\}$ $\{0.25, $
13010002cp008	0.031	term	6.23	14.07	17.2	0.0485	None	Invaded	Absent	Absent	None	Isolated	Sporadic	High	*	None	955	0.25	0.25, 0.75}

ConPopID	Prob Persist	Time Period	PatchSize	M30AT	MWMT	Baseflow Discharge	Barrier	ProxCom pPop	Prox Hyrbids	ProxWD Source	Nonnative Control	PopCon- nectivity	Dem Support	Wildfire DebrisRisk	Drought Refugia	Intermit- tency Evid	Adult PopEst	NeN	Anthro Influence
13010002cp009	0.682	Long- term	13.23	13.45	16.27	0.0387	Complete	Far	Absent	Absent	None	Isolated	Sporadic	High	*	None	7682	0.25	{0.15, 0.85}
13010002cp010	0.000	Long- term Long-	4.88	9.72	13.35	0.0357	Complete	Invaded	Absent	Absent	None	Isolated	None	High	*	None	764	0.25	{0.15, 0.85} {0.15,
13010002cp011	0.000	term Long-	22.51	11.19	15.63	0.0537	None	Invaded	Absent	Absent	None	Moderate	None	High	*	None	593	0.25	0.85} {0.15,
13010002cp012	0.000	term Long-	29.23	10.39	15.15	0.0725	None	Invaded	Absent	Far	None	Strong	None	High	*	None	641	0.25	0.85}
13010002cp014	0.000	term Long-	11.53	13	17.42	0.0568	Complete	Invaded	Absent	Far	None	Moderate	None	High	*	None	1779	0.25	$\{0.1, 0.9\}$ $\{0.15, 0.05\}$
13010002cp015 13010002cp016	0.000	term Long- term	17.09 37.96	14.51 16.54	19.01 20.89	0.1038 0.1253	Complete None	Invaded Invaded	Absent Far	Near Infected	None None	Isolated Moderate	None Sporadic	High Moderate	* Present	None Yes	4944 15590	0.25 0.25	0.85} {0.20, 0.80}
13010002cp010	0.640	Long- term	2.69	11.06	13.04	0.0618	Complete	Near	Near	Absent	None	Isolated	None	Moderate	*	None	819	0.25	Minimal
13010002cp018	0.044	Long- term	5.47	14.36	16.62	0.049	None	Near	Absent	Absent	None	Isolated	Sporadic	High	*	None	1677	0.25	{0.20, 0.80}
13010002cp019	0.052	Long- term	3.34	15.4	18.5	0.063	None	Near	Absent	Absent	None	Isolated	Sporadic	Moderate	*	None	1025	0.25	{0.20, 0.80}
13010002cp020	0.044	Long- term Long-	0.75	11.34	14.37	0.0416	Partial	Invaded	Absent	Far	None	Isolated	Consistent	Moderate	*	None	80	0.25	{0.15, 0.85}
13010002cp021	0.620	term Long-	31.76	15.06	19.86	0.0641	Complete	Near	Absent	Near	None	Strong	None	Moderate	*	None	9964	0.25	{0.1, 0.9}
13010002cp022	0.000	term Long-	5.56	9.73	14.26	0.047	None	Invaded	Near	Absent	None	Isolated	None	High	*	None	194	0.25	{0.1, 0.9}
13010002cp023 13010002cp024	0.311 0.620	term Long- term	3.71 14.39	9.33 13.69	13.28 18.59	0.0259 0.0336	Complete Complete	* Near	Absent Absent	Absent Near	None None	Isolated Strong	None None	High Moderate	*	None	946 5630	0.25 0.25	$\{0.1, 0.9\}$ $\{0.1, 0.9\}$
13010003cp001	0.714	Long- term	28.78	12.4	16.03	0.0847	Complete	Far	Absent	Absent	None	Strong	Consistent	High	*	None	15906	0.25	{0.3, 0.70}
13010004cp001	0.477	Long- term	4.25	9.06	14.17	0.0238	Complete	Near	Far	Absent	None	Isolated	None	Moderate	*	None	281	0.25	{0.1, 0.9}
13010004cp002	0.546	Long- term Long-	11.23	13.47	15.52	0.0422	Complete	Near	Absent	Near	None	Isolated	None	Moderate	*	None	785	0.25	{0.31, 0.69} {0.25,
13010004cp003	0.000	term Long-	31.36	14.01	17.07	0.0473	Complete	Invaded	Near	Near	None	Moderate	None	Moderate	*	None	11149	0.25	0.75}
13010004cp004	0.514	term Long-	4.91	11.13	15.42	0.0212	Complete	Near	Near	Far	None	Isolated	None	Moderate	*	None	912	0.25	{0.1, 0.9} {0.25,
13010004cp006	0.486	term Long-	4.07	15.27	18.05	0.0209	Complete	Near	Absent	Near	None	Isolated	None	Moderate	*	None	941	0.25	0.75 } {0.31,
13010004cp007 13010004cp010	0.588 0.065	term Long- term	11.3 22.67	13.56 13.95	17.78 17.98	0.0424	Complete None	Near Near	Absent Absent	Absent Absent	None None	Isolated Isolated	None Sporadic	Moderate Moderate	*	None	621 2472.5	0.25 0.25	0.69} {0.35, 0.65}
13010004cp011	0.044	Long- term	12.97	11.55	15.87	0.022	Partial	Invaded	Invaded	Absent	None	Moderate	Sporadic	Moderate	*	None	2025	0.25	{0.22, 0.78}
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ConPopID	Prob Persist	Time Period	PatchSize	M30AT	MWMT	Baseflow Discharge	Barrier	ProxCom pPop	Prox Hyrbids	ProxWD Source	Nonnative Control	PopCon- nectivity	Dem Support	Wildfire DebrisRisk	Drought Refugia	Intermit- tency Evid	Adult PopEst	NeN	Anthro Influence
13010004cp012	0.039	Long- term	10.17	13.25	16.39	0.0325	None	Invaded	Invaded	Absent	None	Isolated	Sporadic	High	*	None	1570	0.25	{0.25, 0.75}
13010005cp001	0.000	Long- term	7.64	14.97	21.18	0.0199	Complete	Invaded	Absent	Absent	None	Isolated	None	High	*	None	1196	0.25	{0.1, 0.9}
13010005cp002	0.014	Long- term Long-	4.47	16.74	23.08	0.0395	None	Invaded	Absent	Absent	None	Isolated	Sporadic	High	*	None	713	0.25	{0.1, 0.9}
13010005cp003	0.319	term Long-	2.95	14.12	20.75	0.0194	Complete	Invaded	Absent	Absent	Annual	Isolated	None	High	*	None	462	0.25	$\{0.1, 0.9\}\$ $\{0.20,$
13010005cp004	0.000	term Long-	5.06	14.39	21.37	0.0188	None	Invaded	Absent	Absent	None	Isolated	None	High	*	None	801	0.25	0.80} {0.20,
13010005cp006	0.490	term Long-	5.9	13.8	19.17	0.0216	Complete	Far	Absent	Absent	None	Isolated	None	High	*	None	2007	0.25	0.80}
13010005cp007	0.270	term Long-	1.01	13.31	18.73	0.0206	Complete	Near	Near	Near	None	Isolated	None	High	*	None	217	0.25	$\{0.1, 0.9\}\$ $\{0.25,$
13010005cp008	0.581	term Long-	3.97	14.86	20.5	0.03	Complete	Near	Near	Near	None	Isolated	Consistent	High	*	None	1466	0.25	0.75}
13010005cp009	0.270	term Long-	0.87	9.54	15.59	0.0217	Complete	Near	Near	Absent	None	Isolated	None	High	*	None	138	0.25	$\{0.1, 0.9\}$ $\{0.20,$
13010005cp010	0.466	term Long-	4.69	13.71	19.08	0.0193	Complete	Near	Absent	Absent	None	Isolated	None	High	*	None	1499	0.25	0.80}
13020101cp001	0.767	term Long-	14.57	10.82	18.44	0.0316	Complete	Far	Far	Absent	None	Strong	None	High	*	None	2079	0.25	Minimal
13020101cp002	0.767	term Long-	15.19	12.75	20.72	0.0564	Complete	Near	Near	Absent	None	Strong	Sporadic	High	*	None	6350	0.25	Minimal
13020101cp003	0.466	term Long-	6.2	10.96	16.02	0.02	Complete	Near	Near	Absent	None	Isolated	None	High	*	None	1175	0.25	{0.1, 0.9}
13020101cp004	0.014	term Long-	2.09	13.16 12.34	18.12	0.0279	None	Invaded	Near	Absent	None	Isolated	Sporadic	High	*	None	327	0.25	{0.1, 0.9}
13020101cp005 13020101cp006	0.010 0.559	term Long- term	5.09 43.42	12.54	16.74 21	0.0204 0.0318	None Complete	Near Near	Near Near	Absent Absent	None None	Isolated Strong	None None	High High	Present	None Yes	1603 13688	0.25 0.25	$\{0.1, 0.9\}\$ $\{0.20, 0.80\}$
13020101cp007	0.000	Long- term	43.42	14.19	20.14	0.0318	None	Invaded	Near	Absent	None	Isolated	None	High	*	None	688	0.25	{0.20, 0.80}
13020101cp008	0.050	Long- term	13.82	12.41	17.51	0.0354	None	Far	Near	Absent	None	Moderate	None	High	*	None	4204	0.25	{0.20, 0.80}
13020101cp009	0.000	Long- term	13.72	11.63	17.22	0.0311	None	Invaded	Near	Far	None	Moderate	None	High	*	None	2126	0.25	{0.20, 0.80}
13020101cp010	0.052	Long- term	2.85	10.85	15.23	0.0223	Partial	Far	Near	Far	None	Isolated	None	High	*	None	878	0.25	{0.3, 0.70}
13020101cp011	0.000	Long- term	17.85	9.87	12.73	0.0402	Complete	Invaded	Far	Infected	None	Strong	None	High	*	None	3357	0.25	Minimal
13020101cp012	0.035	Long- term	6.46	10.23	12.51	0.0313	None	Far	Far	Far	None	Isolated	None	High	*	None	1966	0.25	Minimal
13020101cp013	0.000	Long- term	4.74	13.02	16.12	0.0267	Partial	Invaded	Absent	Absent	None	Isolated	None	High	*	None	765	0.25	Minimal
13020101cp015	0.588	Long- term	3.85	12.24	15.59	0.026	Complete	Near	Absent	Absent	None	Isolated	None	High	*	None	1213	0.25	Minimal

ConPopID	Prob Persist	Time Period	PatchSize	M30AT	MWMT	Baseflow Discharge	Barrier	ProxCom pPop	Prox Hyrbids	ProxWD Source	Nonnative Control	PopCon- nectivity	Dem Support	Wildfire DebrisRisk	Drought Refugia	Intermit- tency Evid	Adult PopEst	NeN	Anthro Influence
13020101cp016	0.000	Long- term Long-	3.37	11.69	14.22	0.0295	None	Invaded	Absent	Absent	None	Isolated	None	High	*	None	549	0.25	Minimal
13020101cp017	0.000	term Long-	6.26	12.3	15.36	0.0354	None	Invaded	Absent	Absent	None	Isolated	None	High	*	None	994	0.25	Minimal {0.20,
13020101cp018	0.000	term Long-	3.19	13.61	18.02	0.0291	None	Invaded	Far	Absent	None	Isolated	None	High	*	None	513	0.25	0.80}
13020101cp019	0.000	term Long-	4.96	9.73	15.05	0.0254	Partial	Invaded	Far	Absent	None	Isolated	None	High	*	None	694	0.25	0.80}
13020101cp020	0.000	term Long-	3.94	10.77	15.63	0.0249	Complete	Invaded	Absent	Absent	None	Isolated	None	High	*	None	632	0.25	Minimal {0.40,
13020101cp021	0.000	term Long-	4.27	9.48	13.86	0.0302	None	Invaded	Absent	Absent	None	Isolated	None	High	*	None	674	0.25	0.60} {0.20,
13020101cp022	0.000	term Long-	14.84	11.06	16.23	0.0392	None	Invaded	Absent	Absent	None	Moderate	None	High	*	None	2352	0.25	0.80}
13020101cp023	0.531	term Long-	4.85	11.17	16.04	0.0302	Complete	Near	Absent	Absent	None	Isolated	None	High	*	None	1335	0.25	{0.1, 0.9}
13020101cp024	0.756	term Long-	8.77	13.48	16.98	0.0378	Complete	Near	Absent	Absent	None	Isolated	None	High	*	None	2793	0.25	Minimal
13020101cp025	0.679	term Long-	6.4 9.57	9.87 10.82	14.82	0.0414	Complete	Near	Absent	Absent	None	Isolated	None	High	*	None	2016 4434	0.25 0.25	Minimal Minimal
13020101cp026 13020101cp027	0.761 0.000	term Long- term	9.57	9.67	16.4 12.53	0.0367 0.032	Complete Complete	Near Invaded	Absent Far	Absent Absent	None None	Moderate Moderate	None None	High High	*	None	4434	0.25	Minimal
13020101cp027	0.000	Long- term	4.1	8.64	12.96	0.032	Partial	Invaded	Far	Absent	None	Isolated	None	High	*	None	655	0.25	Minimal
13020101cp029	0.000	Long- term	14.5	9.8	14.1	0.0543	None	Invaded	Far	Absent	None	Moderate	None	High	*	None	2344	0.25	Minimal
13020101cp030	0.021	Long- term	8.22	11.3	11.6	0.0305	None	Near	Near	Absent	None	Isolated	None	High	*	None	2588	0.25	Minimal
13020101cp031	0.086	Long- term	5.78	9.24	12.49	0.0249	Partial	Near	Near	Absent	None	Isolated	None	High	*	None	1852	0.25	Minimal
13020101cp032	0.248	Long- term	17.18	12.71	16.68	0.0394	*	Near	Near	Absent	None	Moderate	None	High	*	None	5268	0.25	{0.20, 0.80}
13020101cp034	0.000	Long- term	16.81	11.4	15.04	0.0394	None	Invaded	Absent	Absent	None	Moderate	None	High	*	None	2623	0.25	{0.1, 0.9}
13020101cp035	0.099	Long- term	4.08	9.34	12.77	0.0296	Partial	Near	Near	Absent	None	Isolated	None	High	*	None	1239	0.25	Minimal
13020101cp036	0.535	Long- term	2.8	11.16	14.86	0.0245	Complete	Near	Near	Absent	None	Isolated	None	High	*	None	845	0.25	Minimal
13020101cp037	0.000	Long- term Long-	13.13	10.56	13.92	0.045	None	Invaded	Invaded	Absent	None	Moderate	None	High	*	None	2071	0.25	Minimal
13020101cp038	0.000	term Long-	12.55	10.35	13.55	0.0418	None	Invaded	Invaded	Absent	None	Moderate	None	High	*	None	1984	0.25	Minimal
13020101cp040	0.589	term Long-	5.6	11.83	14.92	0.0274	Complete	Far	Absent	Absent	None	Isolated	None	High	*	None	1795	0.25	Minimal
13020101cp041	0.700	term	7.25	10.22	16.31	0.0286	Complete	Near	Near	Absent	None	Moderate	None	High	*	None	2272	0.25	Minimal

ConPopID	Prob Persist	Time Period	PatchSize	M30AT	MWMT	Baseflow Discharge	Barrier	ProxCom pPop	Prox Hyrbids	ProxWD Source	Nonnative Control	PopCon- nectivity	Dem Support	Wildfire DebrisRisk	Drought Refugia	Intermit- tency Evid	Adult PopEst	NeN	Anthro Influence
13020101cp042	0.000	Long- term	4.21	13.31	18.77	0.0159	None	Invaded	Invaded	Absent	None	Isolated	None	High	*	None	662	0.25	{0.20, 0.80}
13020101cp043	0.585	Long- term	3.62	11.83	17.39	0.0208	Complete	Far	Far	Far	None	Isolated	None	High	*	None	1129	0.25	Minimal
13020101cp044	0.557	Long- term	4.15	11.03	16.89	0.0251	Complete	Far	Far	Far	None	Moderate	None	High	*	None	742		Minimal
13020101cp045	0.533	Long- term	3.39	11.67	17.61	0.024	Complete	Far	Far	Far	None	Isolated	None	High	*	None	1057		Minimal
13020102cp001	0.612	Long- term	5.87	15.06	18.98	0.0251	Complete	Near	Absent	Absent	None	Isolated	Sporadic	High	*	None	2172	0.25	Minimal
13020102cp002	0.311	Long- term	3.66	14.39	18.71	0.0253	Complete	*	Invaded	Absent	None	Isolated	None	High	*	None	1155	0.25	{0.1, 0.9}
13020102cp003	0.000	Long- term	3.94	13.44	18.09	0.0219	Complete	Invaded	*	Absent	None	Isolated	None	High	*	None	626	0.25	{0.1, 0.9}
13020102cp004	0.013	Long- term	7.96	13.34	18.56	0.0283	None	Near	Far	Absent	None	Isolated	None	High	*	None	2446	0.25	{0.20, 0.80}
13020102cp005	0.049	Long- term	8.08	13.31	19.02	0.0323	None	Far	Absent	Absent	None	Isolated	None	High	*	None	2596	0.25	{0.3, 0.70}
13020102cp006	0.640	Long- term	12.75	14.13	19.84	0.0377	Complete	Far	Absent	Absent	None	Moderate	None	High	*	None	2172	0.25	{0.1, 0.9}
13020102cp007	0.065	Long- term	5.31	16.98	22.95	0.0932	None	Far	Absent	Absent	None	Isolated	Sporadic	High	*	None	1714		{0.20, 0.80}
13020102cp008	0.559	Long- term	10.71	16.14	21.12	0.0863	Complete	Far	Absent	Absent	None	Isolated	None	High	*	None	3381	0.25	{0.1, 0.9}
13020102cp009	0.635	Long- term	13.07	14.72	19.87	0.0628	Complete	Far	Absent	Absent	None	Isolated	None	High	*	None	2600	0.25	{0.3, 0.70}
13020102cp010	0.025	Long- term	12.45	16.08	21.1	0.0595	None	Far	Absent	Far	None	Isolated	None	High	*	None	3866	0.25	{0.1, 0.9}
13020102cp011	0.000	Long- term	0.61	13.45	17.75	0.0281	Complete	Invaded	Invaded	Absent	None	Isolated	None	High	*	None	92	0.25	{0.25, 0.75}
13020102cp012	0.615	Long- term	3.71	12.94	17.37	0.0206	Complete	Near	Far	Absent	None	Moderate	None	High	*	None	1167	0.25	Minimal
13020102cp016	0.031	Long- term	10.74	15.26	19.95	0.063	None	Far	Far	Far	None	Moderate	None	High	*	None	3473	0.25	{0.20, 0.80}
13020201cp001	0.063	Long- term	11.97	18.7	22.37	0.0602	None	Far	Absent	Absent	None	Isolated	None	High	*	None	2436	0.25	Minimal
13020201cp002	0.039	Long- term	0.7	16.37	21.01	0.0329	None	Far	Absent	Absent	None	Isolated	None	Moderate	*	None	218	0.25	Minimal
13020202cp001	0.472	Long- term	6.71	15.67	19.72	0.0663	Complete	Invaded	Absent	Absent	Annual	Isolated	None	High	*	None	3254	0.25	{0.20, 0.80}
13020202cp002	0.000	Long- term	6.87	13.4	20.29	0.032	Partial	Invaded	Absent	Absent	None	Isolated	None	High	*	None	1120	0.25	Minimal
13020202cp003	0.000	Long- term	19.95	11.73	17.16	0.0415	Complete	Invaded	Absent	Absent	None	Moderate	None	High	*	None	3241	0.25	{0.1, 0.9}
13020204cp001	0.012	Long- term	4.36	13.12	15.86	0.0386	None	Near	Absent	Absent	None	Isolated	None	High	*	None	1341	0.25	{0.1, 0.9}
13020204cp002	0.000	Long- term	2.32	11.68	14.48	0.0224	Complete	Invaded	Absent	Absent	None	Isolated	None	High	*	None	361	0.25	Minimal

ConPopID	Prob Persist	Time Period	PatchSize	M30AT	MWMT	Baseflow Discharge	Barrier	ProxCom pPop	Prox Hyrbids	ProxWD Source	Nonnative Control	PopCon- nectivity	Dem Support	Wildfire DebrisRisk	Drought Refugia	Intermit- tency Evid	Adult PopEst	NeN	Anthro Influence
13020204cp003	0.015	Long- term Long-	14.39	11.3	15.55	0.0323	None	Near	Absent	Absent	None	Moderate	None	High	*	None	4492	0.25	{0.1, 0.9}
13060001cp001	0.000	term Long-	2.43	9.46	13.79	0.0318	Complete	Invaded	Far	Far	None	Isolated	None	High	*	None	397	0.25	Minimal
13060001cp002	0.000	term Long-	3.23	10.24	14.2	0.0229	Partial	Invaded	Far	Far	None	Isolated	None	High	*	None	528	0.25	Minimal
13060001cp003	0.000	term Long-	3.66	8.95	13.37	0.0242	Complete	Invaded	Far	Far	None	Isolated	None	High	*	None	594	0.25	Minimal
13060001cp004	0.000	term Long-	6.33	10.14	16.53	0.03	Complete	Invaded	Far	Far	None	Isolated	None	High	*	None	1013	0.25	Minimal
13060001cp005	0.000	term Long-	9.94	9.81	14	0.036	Complete	Invaded	Far	Far	None	Moderate	None	High	*	None	1620	0.25	Minimal
13060001cp006	0.000	term Long-	2.48	11.01	14.23	0.0239	None	Invaded	Far	Far	None	Isolated	None	High	*	None	375	0.25	Minimal
13060001cp007	0.000	term Long-	11.34	11.79	14.86	0.0403	Complete	Invaded	Far	Near	None	Isolated	None	High	*	None	1850	0.25	Minimal
13060001cp008	0.000	term	2.71	9.82	12.45	0.0228	*	Invaded	Far	Far	None	Isolated	None	High	*	None	418	0.25	Minimal
13060001cp009	0.625	Long- term	4.46	15.77	17.89	0.0687	Complete	Near	Far	Near	None	Isolated	None	High	*	None	1077	0.25	Minimal
13060001cp010	0.652	Long- term	6.74	14.51	17.06	0.0304	Complete	Near	Far	Near	None	Isolated	None	High	*	None	2122	0.25	Minimal
13060001cp011	0.647	Long- term	5.64	11.14	14.24	0.0329	Complete	Near	Far	Far	None	Isolated	None	High	*	None	1772	0.25	Minimal
13060005cp001	0.126	Long- term	1.3	21.1	24.2	0.0318	Complete	Far	Far	Absent	None	Isolated	None	High	*	None	815	0.25	Minimal

Appendix D. Progress toward 10 year goals (2014-2024) identified in the Rio Grande Cutthroat Trout Co	Conservation Strategy.
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				GMU		
Cor	nservation Actions	Rio Grande Hdws.	Lower Rio Grande	Pecos	Canadian	Caballo
Obj	ective 1: Identify and characterize	e all RGCT Core and Conse	ervation Populations an	d Occupied Habitat.		
1.1	Population Monitoring	Monitor 10 populations/year	Monitor 10 populations	Monitor 8 populations	Monitor 5 populations	Monitor one population every couple of years
	Progress toward Conservation Strategy Goals	Completed: Monitored an average 11.5 populations/year.	Completed: Monitored 16 populations.	In Progress: Monitored 3 populations.	In Progress: Monitored 3 populations.	In Progress: Monitoring will occur in Las Animas Creek after stocking efforts are completed.
1.2	Genetic Analysis	Collect genetic specimens as necessary to determine purity of populations				
	Progress toward Conservation Strategy Goals	Completed : Determined genetic purity in 16 populations.	Completed : Determined genetic purity in 15 populations.	Completed : Determined genetic purity in 1 population.	Completed : Determined genetic purity in 1 population.	Completed : Determined genetic purity of translocated fish during restoration.

				GMU		
Con	servation Actions	Rio Grande Hdws.	Lower Rio Grande	Pecos	Canadian	Caballo
Obj	ective 2: Secure and enhance conse	rvation populations.				
2.1	Restricting introduction of nonnative fish species	CPW Regulations	-	13 Release of Aquatic Wild tion of live non-domestic	dlife; Appendix C Cutthroat animals, birds, and fish	Trout Waters
2.2	Restricting spread of disease and invasive species				ulations: Chapter 0, Article ad of aquatic invasive speci	
2.3	Removing nonnative fish species	Conduct non-native trout removals as necessary.	Conduct nonnative fish removals on an annual or biannual basis			
	Progress toward Conservation Strategy Goals		Completed: Non-native removals occurred in three populations.		Completed : Non-native removals occurred in three populations.	
2.4	Regulating angling and enforcement	•	CPW Regulations: Chapter 1, Article II, #108 Special Regulation Waters NMAC 19.31.4.11: Daily bag, possession limits, and requirements or conditions			
2.5	Constructing in-channel barriers	Improve or install barriers to facilitate possible restoration projects	Improve or install barriers to facilitate possible restoration projects	Improve or install barriers to facilitate possible restoration projects	Improve or install barriers to facilitate possible restoration projects	Improve or install barriers to facilitate possible restoration projects
	Progress toward Conservation Strategy Goals	Completed : Installed one barrier.	Completed : Installed one barrier.	In Progress: Planning and engineering work are underway.	In Progress: Planning is underway.	
2.6	Maintaining sources of genetically pure RGCT	Maintain genetic purity of broodstocks	Continue field and hatchery spawn operations	Continue field and hatchery spawn operations	Continue field and hatchery spawn operations	Continue field and hatchery spawn operations

		GMU				
Conservation Actions	Rio Grande Hdws.	Lower Rio Grande	Pecos	Canadian	Caballo	
Progress toward Conservation Strategy Goals	Completed: Haypress Lake reclaimed and RGC	Completed : NMDGF				
	broodstock program	continues RGCT broodstock program.				

Obj	ective 3: Restore RGCT Populations	-	-			
3.1	Establishing and/or maintaining RGCT populations (Table 3)	Restore 6-8 conservation populations,	Restore 3-5 conservation populations	Restore 1-3 conservation populations	Restore 1-3 conservation population	Restore 1 conservation population
	Progress toward Conservation Strategy Goals	Haypress Lake and Roaring Fork completed. Planning for other restoration projects	Beaver Creek, Long	In Progress: Planning for restoration projects underway.	restoration projects	Completed: Las Animas Creek completed.
3.2	Maintain genetic purity of the species among the basins	Conduct genetic analysis on selected populations, continued use of triploid rainbow trout throughout Nev developed to maintain basin-scale lineages				lew Mexico, broodstock
	Progress toward Conservation Strategy Goals	Conservation Completed: Genetic analysis occurred on several populations in all basins. Triploid rainbow trout continue to be stocked in New Mexico. Broodstock development developed and maintained in Colorado and New Mexico.				

		GMU						
Conservation Actions		Rio Grande Hdws.	Lower Rio Grande	Pecos	Canadian	Caballo		
Obj	ective 4: Secure and enhance waters	shed conditions						
4.1	Enhancing and protecting instream and riparian habitat	Habitat enhancement on up to 5 miles of RGCT stream, continue culvert & barrier assessments, repairs, and replacements	Habitat enhancement on 5 miles of RGCT stream; 20 acres of watershed/riparian protection	Habitat enhancement on 5 miles of RGCT stream; 20 acres of watershed/riparian protection				
	Progress toward Conservation Strategy Goals	In Progress: Two miles of riparian fencing completed.	•		Completed : Elk exclosures constructed along 3 miles of stream.			
4.2	Developing and implementing habitat monitoring protocol	Implement habitat monitoring protocol Fish & habitat monitoring for RGCT streams impacted by wildfire Fish and habitat monitoring on RGCT streams associated with forest management activities.						
	Progress toward Conservation Strategy Goals	In Progress: Post-wildfire surveys occurred in several waters affected the Las Conchas, Silver, and Little Bear fires.						

			GMU					
Con	nservation Actions	Rio Grande Hdws.	Lower Rio Grande	Pecos	Canadian	Caballo		
Obj	ective 5: Public Outreach							
5.1	Public Outreach	c Rio Grande cutthroat t kids & adults); loca Rio Grande Hdws.: C	ral presentations to San Luis Naturally conservation camp	nt information at NGC /ater Festivals in Albuc y ~ 300 kids & adults); education materials Valley chapter of Trou	and other public meeting querque, Rio Rancho, Sant updated Forest website w t Unlimited, Beaver Creek, rvation brochure. Publish	is a Fe (annually ~ 1,000 ith curriculum and , Conejos County and		
	Progress toward Conservation Strategy Goals	Completed : All of the above. In addition, RGCT outreach events occurred at youth camps, high schools, Universities, radio shows, tribal youth programs, and professional meetings. RGCT awareness posters and signs were designed, printed, and distributed.						
Obj	ective 6: Data Sharing							
6.1	Annual meeting will be held for database updates	Attend annual database update meeting						
	Progress toward Conservation Strategy Goals	Completed: GMU leaders	s met annually to enter data	and ensure data quali	ty and accuracy.			
6.2	Maintaining and sharing database between signatories.	Maintain, improve, and update range-wide database						
	Progress toward Conservation Strategy Goals	Completed : Database is maintained and shared annually.						

		GMU					
Con	servation Actions	Rio Grande Hdws.	Lower Rio Grande	Pecos	Canadian	Caballo	
Obj	ective 7: Coordination	- 1					
7.1	Attending annual range-wide coordination meeting		Attend annua	I range-wide coordinat	ion meeting		
	Progress toward Conservation Strategy Goals	Completed: Range-wide	organizations, and other				
7.2	Coordinating annual work plan among agencies	Maintain relationships and coordinate annual work plans among agencies through personal communication and meeting attendance					
	Progress toward Conservation Strategy Goals					eetings.	
7.3	Reporting results of monitoring	Compile Accomplishments Reports, enter monitoring data into range-wide database					
	Progress toward Conservation Strategy Goals	Completed: Accomplishn	nent Reports were written	and data entered into	range-wide database annua	ally.	
7.4	Assessing success of Conservation Strategy and making changes as needed	Complete 5 year Status Assessment Report; Renew Conservation Agreement					
	Progress toward Conservation Strategy Goals	In Progress: Status Assessment Report completed in 2018, Conservation Agreement renewal in 2023.					