TURNER INSTITUTE *of* Ecoagriculture

POPULATION DYNAMICS AND LIFE HISTORY CHARACTERISTICS OF RIO GRANDE CUTTHROAT TROUT IN THE UPPER RIO COSTILLA WATERSHED, NEW MEXICO

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Rationale. Rio Grande cutthroat trout currently occupy about 12% of their historical distribution. To restore Rio Grande cutthroat trout natural resource management agencies have instituted various conservation efforts including habitat restorations, species reintroductions, and removal of deleterious nonnative fish. These conservation efforts have been successful as evidenced by a 6.2% increase in the number of populations. However, conservation questions remain, including the value of high mountain lakes in conservation planning. Rio Grande cutthroat trout have been stocked into previously fish-less lentic systems throughout their distribution. For instance, there are currently 16 lakes in the upper Rio Costilla watershed at Vermejo Park Ranch that now support or could potentially be stocked with Rio Grande cutthroat trout. These systems can serve as important refugia populations. Additionally, many of the lakes provide important fisheries that help to increase angler's appreciation for the species and support for conservation efforts. Unfortunately, Rio Grande cutthroat trout populations in lakes have received relatively little attention. Baseline population demographics and dynamics data for lentic populations are largely lacking. These data are necessary for understanding how lentic populations function and for guiding management actions. Furthermore, population-level data can help to identify potential threats (e.g., unsuitable habitat, overexploitation) to the persistence of these critically important populations.

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