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*North American Journal of Fisheries Management* 1994;14:475–487**Competition between Wild Brown Trout and Hatchery Greenback Cutthroat Trout of Largely Wild Parentage**

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**Abstract.**—In a stream aquarium, we examined microhabitat use and agonistic behavior for evidence of competition between age-1 wild brown trout *Salmo trutta* and age-1 hatchery-reared greenback cutthroat trout *Oncorhynchus clarki stomias* of partly wild parentage. The brown trout were more aggressive than the greenback cutthroat trout, even though hatchery influences may have heightened aggressiveness of the latter. In sympatric tests with equal-sized fish within the range of 127–154 mm fork length, brown trout were involved in more inter- and intraspecific agonistic events, initiated 92% of observed attacks, and displaced the greenback cutthroat trout from energetically profitable sites in pools and near food sources. When we placed single, intermediate-sized brown trout within groups of cutthroat trout containing a range of sizes, the brown trout dominated all the cutthroat trout, including some that were as much as 1.3 times longer and 1.7 times heavier. The results suggest that greenback cutthroat trout are at a competitive disadvantage in the presence of brown trout. This finding supports the policy of eradicating brown trout (and other nonindigenous fishes) from streams managed to preserve or restore greenback and other subspecies of cutthroat trout. Also, it emphasizes the importance of restricting further stocking of brown trout and other exotics into cutthroat trout streams.

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