

assumption that all extant WCT populations co-occur with one or more of those listed fishes. Rather, we believe that in those instances of co-occurrence, the WCT will derive protections from the section 7 protections that are accorded the listed species.

*Regulatory Mechanisms That Address Threats From Hybridizing, Nonnative Fishes*—Montana has a number of laws and regulatory mechanisms that address threats posed by the unlawful stocking of potentially hybridizing, nonnative fishes (Hagener 2002). These include statutes, rules, and policies that restrict the capture, possession, transportation, and stocking of live fish, including fishes that may hybridize with WCT, as well as rigorous fish-health policies that restrict the transport or stocking of live fish. The stocking of private ponds also is closely regulated. Furthermore, although the stocking of rivers and streams with a variety of nonnative fishes was routine early in the 20th Century, it no longer occurs in Montana. In 1976, Montana adopted a policy that prohibits the stocking of hatchery fish in rivers and streams. Consequently, unless done for government-sponsored conservation purposes, no other trout or nonnative fish may be stocked in rivers and streams inhabited by WCT.

In Idaho, regulatory mechanisms that protect extant WCT from hybridization are in place (Moore 2002, 2003). The Idaho Department of Fish and Game helped develop and has adopted the interstate position paper on genetic considerations associated with cutthroat trout management (Utah Division of Wildlife Resources 2000). Department of Fish and Game management direction, as described in its Fisheries Management Plan (a publicly reviewed, Commission-adopted document), gives priority in management decisions to wild, native populations of fish. The Department of Fish and Game has redirected almost all of its hatchery rainbow trout program to the production of sterile, triploid fish, and only triploid rainbow trout are now stocked in waters connected to or near WCT habitat. In addition, the transport of live fish to, within, and from Idaho is regulated by the Department of Fish and Game and the Idaho Department of Agriculture. The Department of Fish and Game regulates private ponds in the State and applies the same criteria to private-pond stocking that it does to the stocking of public waters, *i.e.*, stocking of potentially hybridizing fishes that may pose a hybridization threat to native cutthroat trout is prohibited.

In Washington, the Department of Fish and Wildlife no longer stocks resident rainbow trout in tributaries that

contain native WCT populations. In areas where stocking occurs in mainstem river reaches (*e.g.*, the Pend Oreille River), only sterile (*i.e.*, triploid) rainbow trout are stocked (Fuller 2002). In Oregon, the Department of Fish and Wildlife exclusively manages all streams within the John Day River drainage for wild fish production and none of those streams has been stocked with hatchery fish since 1997 (Unterwegner 2002).

The best scientific and commercial information available to us indicates that the WCT subspecies is not threatened by the inadequacy of existing regulatory mechanisms related to the stocking of potentially hybridizing, nonnative fishes. However, as described in a subsequent section (*see Hybridization with Nonnative Fishes*), hybridization with introduced, nonnative fishes that have become established as self-sustaining populations does pose a threat to WCT. As discussed in that subsequent section, there are no regulatory mechanisms that would prevent hybridization from self-sustaining populations of an introduced species. However, in some instances, certain management actions may serve as preventative actions and there also may be natural factors that limit the spread of hybridization in the WCT subspecies.

#### *(E) Other Natural or Manmade Factors Affecting the Species' Continued Existence*

*Fragmentation and Isolation of Small Westslope Cutthroat Trout Populations in Headwater Areas*—Our initial status review (U.S. Fish and Wildlife Service 1999) revealed that extant WCT populations are not necessarily small or limited to headwater streams. Instead, that review indicated that many river drainages had numerous, interconnected miles of stream habitat occupied by WCT. Those areas included Montana's Clark Fork River drainage (8,314 stream km [5,166 stream mi]) and Idaho's Salmon River drainage (6,563 stream km [4,078 stream mi]). Furthermore, our initial review revealed no evidence that the isolation of some WCT populations had resulted in either deleterious inbreeding (see also Caro and Laurenson 1994) or stochastic extirpations that threatened the WCT subspecies.

Information provided in the WCT status update report (Shepard *et al.* 2003) substantiated our earlier conclusions and indicated that, although 457 (81.2 percent) of the 563 WCT conservation populations were isolets that were often restricted to headwater areas, those isolets

represented only 11.5 percent of the total stream miles occupied by WCT. Thus, the small WCT populations in headwater areas were numerous but they occupied a small proportion of the total habitat occupied by WCT. Most of the occupied stream miles (88.5 percent) were habitat for WCT in metapopulations. Consequently, the best scientific and commercial information available to us indicates that the WCT subspecies is not threatened by the fragmentation and isolation of small WCT populations in headwater areas.

*Competition From Introduced Brook Trout*—Brook trout, a nonnative species that can adversely compete with WCT (*e.g.*, Griffith 1988), have been stocked in numerous areas throughout the range of WCT. We examined the database of Shepard *et al.* (2003) to assess the extent that brook trout co-occur (*i.e.*, are sympatric) with extant WCT. Results indicated that in the: (1) Combined nonintrogressed and suspected nonintrogressed WCT populations and (2) the introgressed or suspected introgressed WCT conservation populations, both of which occur as either isolets or metapopulations, brook trout are sympatric with a substantial proportion of those populations (41 to 90 percent of the collective stream miles for each category). However, as was the case for assessments of other threats made using this database, it was not possible to determine the extent that brook trout are distributed throughout the range of an individual WCT population, nor was it possible to quantify the competitive effect of brook trout on the abundance or viability of WCT. Nonetheless, it is evident from their longstanding coexistence in some streams that complete competitive exclusion of WCT by brook trout is not inevitable where the two fishes co-occur. In addition, the database did not provide conspicuous insights into how far upstream brook trout may eventually move in the various drainages in which they now occur. Nonetheless, as we will describe, the available scientific information indicates brook trout are not a substantial threat to the majority of extant populations constituting the WCT subspecies.

Adams *et al.* (2000) assessed the ability of brook trout to move upstream in four headwater streams in a mountainous area of northern Idaho. They concluded that the upstream movement of brook trout was inhibited, but not precluded, by stream gradients up to 13 percent. That study did not involve the experimental introduction of brook trout into streams in which they were absent; instead, brook trout were already established in the study