

level of protection afforded by Glacier National Park. We also reported that about 37,015 km (23,000 mi) of stream were occupied by WCT, most of which were of either the resident or fluvial life-history form. More recently, the status update report (Shepard *et al.* 2003) indicated that WCT populations that include resident and fluvial fish, both of which live entirely in streams, presently occur in 53,913 km (33,500 mi) of stream habitat. In preparing that report, the lake habitats occupied by WCT were necessarily treated as stream habitat because of the limitations of the hydrologic database used in the geographic information systems-based analyses. Consequently, perhaps several hundred of the stream miles that Shepard *et al.* (2003) reported as occupied by WCT were actually lake habitats. The WCT in those lakes have the adfluvial life history. In addition, the extensive WCT conservation populations that function as metapopulations encompass hundreds of stream miles and frequently exhibit all three life-history forms. Nonetheless, WCT with the adfluvial life history probably constitute the smallest proportion of the WCT subspecies today, and this may have been true historically.

Analysis of Extant Threats to Westslope Cutthroat Trout

The Act identifies five factors of potential threats to a species: (1) The present or threatened destruction, modification, or curtailment of the species' habitat or range; (2) overutilization for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) the inadequacy of existing regulatory mechanisms; and (5) other natural or manmade factors affecting the species' continued existence.

We examined each of these factors in the context of present-day WCT. We also used the database of Shepard *et al.* (2003) to more closely examine the effects of several specific threats (*i.e.*, whirling disease, nonnative predators, competition from nonnative brook trout [*Salvelinus fontinalis*], and hybridization) to WCT in two categories of extant populations: (1) Nonintrogressed and suspected nonintrogressed WCT populations and (2) introgressed and suspected introgressed WCT classified as "conservation" populations (Utah Division of Wildlife Resources 2000). Collectively, those two categories exclude introgressed "sport fish" populations and thus are a subset of the populations we defined previously as WCT under the Act (*see* section on The

Value of Hybrid Westslope Cutthroat Trout in Listing Determinations). We applied our analyses of threats to this more restricted subset of WCT populations to take advantage of the States' detailed database and to be conservative regarding the status and viability of extant WCT populations. This approach also avoided classification uncertainties associated with possible marginal populations managed primarily as sport fisheries (*i.e.*, populations that may not explicitly meet our stated criteria of WCT under the Act but for which detailed morphological or genetic analyses have not been performed). Detailed geographic summaries of biological information pertinent to each of the drainages within the historic range of WCT were provided in our initial status review (U.S. Fish and Wildlife Service 1999). Our evaluations of the five factors of potential threats to the aforementioned subset of WCT populations are presented below.

(A) Present or Threatened Destruction, Modification, or Curtailment of the Species' Habitat or Range

Our initial status review revealed that most of the habitat for extant WCT populations lies on lands administered by Federal agencies, particularly the U.S. Forest Service (U.S. Fish and Wildlife Service 1999). Moreover, most of the strongholds for WCT populations occurred within roadless or wilderness areas or national parks, all of which afforded considerable protection to WCT. More recently, the information that we received during the two comment periods, in particular the information provided in the status update report (Shepard *et al.* 2003), entirely supported our earlier conclusions and clearly indicated that WCT populations are widespread across the subspecies' historic range, abundant in several regions, and that many of those populations receive the appreciable protections afforded by roadless and wilderness areas and national parks (*see* also Hagener 2002). The status update report (Shepard *et al.* 2003) indicated that 70 percent of the habitat occupied by extant WCT populations lies on lands managed by Federal agencies, including lands designated as national parks (2 percent of occupied habitat), wilderness (19 percent), or U.S. Forest Service roadless areas (40 percent). In addition, the regulatory mechanisms in place to prevent the destruction or adverse modification of WCT habitat on those Federal lands and elsewhere are extensive (*see* subsequent section,

Regulatory Mechanisms Involving Land Management).

The best scientific and commercial information available to us indicates that the WCT subspecies is not threatened by the present or threatened destruction, modification, or curtailment of its habitat or range.

(B) Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

Our initial status review revealed that each of the States and the National Park Service greatly restricted the harvest of WCT and that in many regions only catch-and-release angling was allowed (U.S. Fish and Wildlife Service 1999). However, catch-and-release-only angling regulations are not essential to protecting WCT from excessive harvest by anglers. Instead, the angling regulations must not allow harvests that cause adverse population depletion and thereby threaten population survival. Our initial status review also revealed that, where there was collection of WCT for educational or scientific purposes, such collection was highly regulated and had a negligible effect on the WCT subspecies.

The additional information that we received while conducting this new status review confirmed our earlier conclusions. In Montana, recreational fishing and scientific collecting are highly regulated and have become increasingly restrictive. Enforcement of regulations pertaining to native fishes is a priority, and regulations limit the locations, dates, bag limits, and methods of fishing. In many WCT waters in the Columbia River basin, and in all waters in the Missouri River basin in Montana, fishing is restricted to catch-and-release (Hagener 2002; Shepard *et al.* 2003). In Idaho, nearly all WCT populations are managed with restrictive fishing regulations (Moore 2002). In Oregon, angling regulations in areas occupied by WCT are designed to protect Endangered Species Act-listed Mid-Columbia steelhead and Columbia Basin bull trout (*Salvelinus confluentus*). There is little angling pressure in the John Day River drainage, particularly in areas occupied by WCT (Unterwegner 2002). In Washington, the sportfishing rules for 2003–2004 allow the daily harvest of 2 trout longer than 20 centimeters (8 inches) from most streams, and 5 trout of any size from lakes, with the exception that all wild cutthroat trout caught from Lake Chelan and its tributaries, as well as from the Methow River, must be released alive.

The best scientific and commercial information available to us indicates that the WCT subspecies is not