Chapter 25

State: Montana

Recovery Unit Name: Saint Mary - Belly River

Region 1
U.S. Fish and Wildlife Service
Portland, Oregon

DISCLAIMER

Recovery plans delineate reasonable actions that are believed necessary to recover and/or protect the species. Recovery plans are prepared by the U.S. Fish and Wildlife Service, and in this case with the assistance of recovery unit teams, State agencies, Tribal agencies, and others. Objectives will be attained and any necessary funds made available subject to budgetary and other constraints affecting the parties involved, as well as the need to address other priorities. Recovery plans do not necessarily represent the views nor the official positions or approval of any individuals or agencies involved in the plan formulation, other than the U.S. Fish and Wildlife Service. Recovery plans represent the official position of the U.S. Fish and Wildlife Service *only* after they have been signed by the Director or Regional Director as *approved*. Approved recovery plans are subject to modification as dictated by new findings, changes in species status, and the completion of recovery tasks.

Literature Citation: U.S. Fish and Wildlife Service. 2002. Chapter 25, St. Mary-Belly River Recovery Unit, Montana. 134 p. *In*: U.S. Fish and Wildlife Service. Bull Trout (*Salvelinus confluentus*) Draft Recovery Plan. Portland, Oregon.

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SAINT MARY - BELLY RIVER RECOVERY UNIT
CHAPTER OF THE BULL TROUT RECOVERY PLAN

EXECUTIVE SUMMARY

CURRENT SPECIES STATUS

The U.S. Fish and Wildlife Service issued a final rule, listing bull trout (*Salvelinus confluentus*) in the United States across their entire range as a threatened species on November 1, 1999 (64 FR 58910). This listing rule expanded on the 1998 listing of the Columbia River, Klamath River, and Jarbidge River distinct population segments, by adding the Coastal-Puget Sound and Saint Mary - Belly River distinct population segment to the threatened list. All bull trout in the coterminous United States are now listed as threatened. Major factors in the decline of bull trout rangewide include diversions and dams which block migratory corridors and dewater and degrade instream habitat, proliferation of introduced species, and in some cases overfishing and illegal harvest.

Because of the international flow pattern of the Saint Mary River and Belly River drainages, recovery of bull trout in the Saint Mary - Belly River Recovery Unit, which includes six core areas[1] and nine currently identified local populations, will require strong international cooperative efforts. Within the Saint Mary - Belly River Recovery Unit in the United States the historical distribution of bull trout is believed to be relatively intact. However, abundance of bull trout in U.S. portions of these watersheds is believed to have been reduced and portions of the habitat are fragmented. Primary core areas are found in the interconnected portions of the Saint Mary River and Belly River watersheds, with secondary core area populations in Red Eagle Lake, Slide Lake, Cracker Lake, and Lee Creek. Secondary core areas are based in smaller watersheds and typically contain migratory populations of bull trout that have become naturally isolated, with

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[1] A core area represents the closest approximation of a biologically functioning unit for bull trout, and consists of both habitat that could supply all elements for the long-term security of bull trout and one or more groups of bull trout. Core areas are the basic units on which to gauge recovery within a recovery unit.

restricted upstream spawning and rearing habitat. Secondary core areas each include one identified local population of bull trout and are not believed to contain habitat of sufficient size and complexity to accommodate the multiple local populations found in primary core areas. A unique self-sustaining population of bull trout occurs in the secondary core area of Cracker Lake. It is considered unique because the bull trout there were ostensibly introduced by humans, into a previously fishless lake, early in the 1900's.

In the Saint Mary River drainage within the United States, the primary threat to bull trout habitat is the Saint Mary portion of the U.S. Bureau of Reclamation's Milk River Irrigation project, which has caused entrainment of fish, disruption of migratory corridors, dewatering of instream habitat, and alteration of stream temperature regimes since its inception in about 1920. Additional diversions on the Saint Mary River downstream in Canada further reduce the migration and survival of bull trout in these drainages and may preclude connectivity with some local populations, such as in Lee Creek. A second major issue is the lingering effect of a half-century of large scale fish introductions, particularly the widespread stocking and establishment of brook trout (*Salvelinus fontinalis*), which may compete with and hybridize with bull trout. Lake trout (*Salvelinus namaycush*) and northern pike (*Esox lucius*), two species with the potential to compete with bull trout, are native in the Saint Mary River drainage. As a result, bull trout were probably precluded from establishing strong migratory populations in the most productive lowland lacustrine habitats in the drainage, such as in Saint Mary Lakes. In addition, much of the potential habitat for adfluvial populations of bull trout in headwater lakes was historically isolated and fishless, due to barriers formed by natural waterfalls. Hence, bull trout populations in the Saint Mary system seem to have developed a mixture of fluvial and adfluvial migratory life history patterns, spending much of their time in the Saint Mary River and several of its major tributaries. Localized habitat impacts occur in some of the watersheds from forestry, livestock grazing, agriculture, mining, transportation corridors, and human development. These impacts are generally site-specific and less pervasive than the impacts due to the diversions.

In the Belly River drainage, the problems are similar, though they occur mostly in downstream reaches in Canada. The headwater lakes in Glacier National Park currently support mostly populations of nonnative rainbow trout (*Oncorhynchus mykiss*), Yellowstone cutthroat trout (*Oncorhynchus clarki bouvieri*), brook trout, and kokanee (*Oncorhynchus nerka*). The habitat in U.S. portions of the Belly River drainage is mostly intact, as it occurs primarily in backcountry areas of Glacier National Park. In Canada, there are extensive and well-documented problems related to fish passage, dewatering, and entrainment due to a series of problematic irrigation diversions. The fate of bull trout in the Belly River core area is almost exclusively dependent on management issues within Alberta, Canada.

Illegal harvest of bull trout has been well documented in the Saint Mary - Belly River Recovery Unit, and in the past has been a major mortality factor due to a traditional focus on well known and limited spawning areas. Angler misidentification of species and incidental take by anglers due to hooking mortality is a continuing concern and problems with illegal harvest continue in localized areas.

HABITAT REQUIREMENTS AND LIMITING FACTORS

A detailed discussion of bull trout biology and habitat requirements is provided in Chapter 1 of this recovery plan. The limiting factors discussed here are specific to the Saint Mary - Belly River recovery unit chapter. Within the Saint Mary - Belly River Recovery Unit, historical and current land use activities have impacted bull trout local populations. Construction of Sherburne Dam in the United States and Saint Mary Reservoir in Alberta, operation of low head irrigation dams and water withdrawals for agricultural diversion, and stocking of millions of nonnative fish, all of which began in the very early 1900's, may have significantly reduced fluvial populations prior to any monitoring or biological record-keeping. There have been cumulative effects from other 20th century human-caused factors that have affected bull trout distribution and abundance, including forest management practices, oil and gas exploration (primarily in

Canada), urbanization around the National Parks, and fisheries management practices that all contributed to the current depressed status of bull trout. The naturally unstable geology has been exacerbated by man to cause degraded conditions of some stream corridors.

RECOVERY GOAL AND OBJECTIVES

The goal for recovery of bull trout in this Saint Mary - Belly River Recovery Unit is to ensure the long-term persistence of self-sustaining, complex, interacting groups of bull trout distributed throughout the Saint Mary - Belly River Recovery Unit such that the species can be delisted. To achieve this goal the following objectives have been identified for bull trout in the Saint Mary - Belly River Recovery Unit:

> **A net increase in bull trout abundance in the Saint Mary - Belly River Recovery Unit (as measured by standards the recovery team develops), with restored distribution of any populations identified by the recovery unit team as necessary for recovery.** At this time, no extirpated populations have been identified in the Saint Mary - Belly River Recovery Unit.

RECOVERY CRITERIA

Criteria are established to assess whether recovery actions have resulted in the recovery of bull trout. The criteria developed for bull trout address quantitative measurements of bull trout distribution and population characteristics. Recovery criteria are developed on a recovery unit basis. We expect recovery of bull trout to be a dynamic process occurring over time. The recovery objectives are based on our current knowledge and may be refined as more information becomes available.

Recovery criteria for the Saint Mary - Belly River Recovery Unit are established to assess whether actions are resulting in the recovery of bull trout in

the basin. The criteria developed for bull trout recovery address quantitative measurements of bull trout distribution and population characteristics on a recovery unit basis. In order for delisting to occur, all recovery criteria must be met and the primary threats to the species must be alleviated.

1. **Distribution criteria will be met when the total number of stable local populations of bull trout in United States waters of the Saint Mary - Belly River Recovery Unit is nine or more, and local populations remain broadly distributed in each core area**.

2. **Abundance criteria will be met when each of the six core areas in the Saint Mary - Belly River Recovery Unit is documented to support at least one local population with an average of 100 or more adult bull trout annually (in United States tributaries). In the interconnected Saint Mary River core area the local populations must support an annual average of 500 or more adult bull trout**.

3. **Trend criteria will be met when the overall bull trout population in the Saint Mary - Belly River Recovery Unit is accepted, under contemporary standards of the time, as stable or increasing; based on at least 10 years of monitoring data**.

4. **Connectivity criteria will be met when Sherburne Dam and Saint Mary Diversion operational and maintenance issues, including instream flow, fish passage, and entrainment concerns, are satisfactorily addressed**.

ACTIONS NEEDED

Recovery for bull trout will entail reducing threats to the long-term persistence of local populations and their habitats, ensuring the security of multiple interacting groups of bull trout, and providing habitat conditions and access to them that allow for the expression of various life history forms. Specific

tasks falling within the seven categories of actions needed are discussed in Chapter 1. Tasks specific to this recovery unit are provided in this chapter.

ESTIMATED DATE OF RECOVERY

Expected times necessary to achieve recovery will vary among recovery units due to differences in bull trout status, threats affecting bull trout, implementation and effectiveness of recovery tasks, and responses to recovery tasks. In the Saint Mary - Belly River Recovery Unit the current status of bull trout is better than in many other portions of the range. However, a significant amount of work remains to be done to reconnect and restore impaired habitat. At a minimum, 3 to 5 bull trout generations (15 to 25 years) are expected to pass before recovery can occur and we are able to demonstrate that bull trout populations in the Saint Mary - Belly River Recovery Unit meet standards necessary to contribute to delisting.

ESTIMATED COST OF RECOVERY

Total estimated cost of bull trout recovery in the Saint Mary - Belly River Recovery Unit is about $27 million, spread over a 25-year recovery time-frame, or about $1.1 million per year. If the time-frame for recovery can be reduced, lower estimated total cost would occur. Total costs include estimates of expenditures by local, Tribal, State, and Federal governments and by private business and individuals. These costs are attributed to bull trout conservation but other aquatic species will also benefit. Cost estimates are not provided for tasks which are normal agency responsibilities under existing authorities.