# Decision Notice:
# Crawford Creek Rehabilitation and Native Salmonid Reintroduction

August 25, 2006

## Proposal

**Type of Proposed Action:** Montana Fish, Wildlife and Parks is proposing removal of non-native fishes (rainbow trout and brook trout) from Crawford Creek (Belt Creek Drainage) using EPA registered piscicides containing rotenone and/or antimycin. Treated waters will be detoxified with potassium permanganate before entering Belt Creek.

## Summary of the Proposed Action:

Currently, the lower quarter mile of Crawford Creek, downstream from an old water diversion structure, supports mixed populations of rainbow trout (*Oncorhynchus mykiss*), westslope cutthroat trout, rainbow trout x westslope cutthroat trout hybrids, and brook trout *(Salvelinus fontinalis)*. The next two miles (upstream) of the creek supports rainbow x westslope cutthroat trout hybrids and a few brook trout. The uppermost reaches of Crawford Creek (approximately 0.5 miles), above a natural waterfall barrier, supports a small population of genetically pure native westslope cutthroat trout. A new permanent barrier to upstream fish migration was constructed near the downstream end of Crawford Creek in 2005. The proposed action involves removing non-native fishes from the 1.5 miles of stream between the natural upstream barrier and the recently constructed downstream barrier using piscicides. Crawford Creek will then naturally be re-colonized by genetically pure WCT drifting in from upstream areas.

Under this proposal, non-native fishes in Crawford Creek will be removed using the EPA-registered piscicide rotenone (CFT Legumine™). Antimycin (another EPA registered piscicide) will not be used in this project because of recent information related to quality control of product and reduced effectiveness. Rotenone kills fish by blocking respiration at the cellular level. Rotenone will be applied to the waters of the project area at concentrations of 0.5 to 5 parts per million (ppm) registered product.

Treatment using rotenone (CFT Legumine™) will involve placing drip stations at intervals of between 0.25 miles to 1 mile (i.e. 2 to 8 drip stations in Crawford Creek). The interval will depend on water speed in the stream as well as results of bioassays. Backpack sprayers will be used in areas of standing water and in springs and seeps on the stream margins. The project will likely occur during late summer or early fall of 2006 or 2007. At least two treatments will be necessary to ensure complete eradication of non-native fishes. The second treatment will be initiated after the rotenone naturally detoxifies and remaining fish have returned to typical holding areas of the stream (i.e. pools) from stream margins, springs, and seeps. Rotenone typically degrades within 14 days. To prevent unnecessary mortality of pure WCT, we will install a block net to keep pure WCT in upstream reaches from moving downstream into the treatment zone. Piscicides will be neutralized after passage over the constructed barrier by application of potassium permanganate at 1-6 ppm. The concentration of potassium permanganate necessary for neutralization will be determined through bioassays completed prior to treatment according to piscicide label recommendations.

## Purpose and Need for the Proposed Action:

The westslope cutthroat trout is ranked as S2 (imperiled because of rarity or because of other factors demonstrably making it very vulnerable to extinction throughout its range) by the Natural Heritage Network and the State of Montana. Genetically pure WCT are thought to occupy about 8% of their historical range in the western United States (Shepard et al. 2003) and less than 3% of their historical range in northcentral Montana within the Missouri River Drainage (Moser et al. 2004). Current survey and inventory work has documented about 37 stream miles and 14 populations of pure WCT in the Belt Creek Drainage (Moser et al. 2004). Major threats to WCT include competition and hybridization with non-native rainbow trout (Leary et al. 1995; Hitt et al. 2003), competition with brook trout (Dunham 2002; Peterson et al 2004), and isolation of remaining pure populations above barriers in short headwater sections of stream. These small isolated populations are at risk of extinction from catastrophic events (e.g. fire, drought) and may eventually suffer negative consequences of genetic inbreeding (Wang et al. 2002).

Projects which restore WCT to historically occupied habitats are necessary to ensure the continued survival of WCT in the Belt Creek drainage and elsewhere. In addition, efforts to stabilize and increase WCT populations will help prevent future listing of WCT under the Endangered Species Act. This proposed action will expand the WCT population in Crawford Creek from less than 1/2 miles to over 2 miles of inhabited stream. The resulting increase in population size should reduce risks of extinction by reducing negative impacts from inbreeding (loss of fitness) and the potential impacts of catastrophic events (e.g. fire, drought). It is unlikely that this short reach of stream could support the 2,500 minimum WCT population size recommended by Hilderbrand and Kershner (2000) for long term persistence and it drains less than the 5.6 square miles (minimum watershed size) area recommended as a coarse filter for translocations by Harig and Fausch (2002). However, the habitat is better than that found in many WCT streams in northcentral Montana that have held WCT populations for greater than 50 years (Tews et al. 2000).

## Benefits of the Project:

This project is intended to increase the amount of stream occupied by genetically pure WCT (an increase of approximately 5.5 percent in the Belt Creek Drainage). If implemented, this project would protect and expand a unique pure population of westslope cutthroat trout and lower the overall risk of extinction of westslope cutthroat trout in the Belt Creek Drainage. This project would also help achieve the goal and objectives listed in the statewide Conservation Agreement (1999) for the restoration of westslope cutthroat trout. Projects which restore WCT to their historical habitat will help prevent future listing under the Endangered Species Act which could result in imposition of federal regulatory restrictions. This project will also provide a unique opportunity for anglers to fish for native trout in an accessible area of Lewis and Clark National Forest.

## Environmental Policy Act Process

Montana Fish, Wildlife & Parks (FWP) is required to assess potential impacts of the proposal to the human and physical environment. In compliance with requirements of the Montana Environmental Policy Act (MEPA), an Environmental Assessment (EA) was completed by FWP and released for public comment from May 15th to June 30th, 2006. There are no ground-disturbing actions proposed

on forest system lands that would require the U.S. Forest Service to complete and analysis under the National Environmental Policy Act.

Public comments on this project were taken for 47 days in 2006. The EA was mailed to 97 individuals that had a residence within 100 ft. of Belt Creek for a distance of 10 miles downstream from the confluence of Crawford Creek (including residents of Monarch, Montana). News releases and Legal Notices, which announced the availability of the EA, were published twice in the Great Falls Tribune in 2006. Also, the permittees of two grazing allotments on USFS land adjacent to the treatment area were notified of the proposed treatment

Issues raised during the public comment period on the EA are addressed in the comment section of this Decision Notice. There are no modifications to the Draft EA based on public comment, and the Draft EA and Decision Notice serve as the final document.

## Summary of Issues Addressed in the Environmental Assessment

The EA lists the issues in detail. These include:

- Threats to native species (Westslope cutthroat trout).
- Current distribution of WCT in the Upper Missouri Basin.
- Effects of rotenone and antimycin on non-target species and humans.
- Effects of WCT restoration on invertebrates and amphibian species.
- Recreational fishing opportunities.
- Effects on livestock operations.

No written comments and only one comment received via a phone call. Listed below is the single comment received in 2006 with MFWP's response.

## Written Comments on the Proposal

**Comment 1.** "I am totally against you putting any pesticides in that small stream"

*Response: The project biologist spoke to the commenter at length about the proposed project. The commenter was still opposed to using piscicides but indicated he was OK with it if that was the only way to successfully complete the project. The commenter also felt that there were already many streams with hybrid WCT that cannot be kept to eat and this would further reduce the numbers of streams with harvestable trout. In cases where hybrids need to be eliminated and the goal is genetically pure westslope cutthroat trout, piscicides are often the only option. Piscicides will help ensure that all individuals with rainbow genes are removed. Electrofishing removals would only remove 70 to 90% of fish, leaving some fish to hybridize with the new population. In addition, most*

*of the fish that will be removed from this population are already WCT hybrids (very few rainbow and brook trout) and cannot be kept under current fishing regulations anyway.*

**Decision**

Based on the Environmental Assessment, public comment, and the high risk of extinction of genetically pure WCT in the Upper Missouri Basin, it is my decision to proceed with the restoration project to remove fish with piscicides in the stream reach above the artificial fish barrier on Crawford Creek (Belt Creek Drainage) and allow the pure strain of WCT above the natural upstream barrier to repopulate the lower reaches. This alternative provides the best opportunity to benefit the conservation and restoration of WCT in Montana, will help relieve ESA listing pressure, and will also serve as to illustrate the State's commitment to perpetuating native fish species.

This project will help secure pure WCT in the Upper Missouri Basin by expanding their distribution to approximately 1.5 additional stream miles, and could provide a "genetic reserve" for a population deemed to have a high risk of extinction. I find there to be no significant impact on the human or physical environment associated with this project, except to help ensure the long-term persistence of pure, locally adapted WCT in the Upper Missouri Basin. Therefore, I conclude that the Environmental Assessment is the appropriate level of analysis, and that an Environmental Impact Statement is not required.

/s/ Gary Bertellotti August 25, 2006
Gary Bertellotti
Region 4 Supervisor
Great Falls, Montana

**NORTHERN REGION TES SPECIES**
**SUMMARY OF CONCLUSION OF EFFECTS**

**Project Name:** Crawford Creek Westslope Cutthroat Trout Rehabilitation

**Threatened (T), Endangered (E), Proposed (P) or Sensitive Species (S) Conclusion of Effects***

| SPECIES | Anticipated Impact |
|---|---|
| 1. Gray Wolf (E) | NJ |
| 2. Grizzly Bear (T) | NE |
| 3. Bald Eagle (T) | NE |
| 4. Lynx (T) | NE |
| 5. Mountain Plover (P) | NJ |
| 6. Peregrine Falcon (S) | NI |
| 7. Sage Grouse (S) | NI |
| 8. Black-backed Woodpecker (S) | NI |
| 9. Flammulated Owl (S) | NI |
| 10. Townsend"s Big-eared Bat (S) | NI |
| 11. Wolverine (S) | NI |
| 12. Harlequin Duck (S) | NI |
| 13. Fisher (S) | NI |
| 14. Northern Bog Lemming (S) | NI |
| 15. Northern Goshawk (S) | NI |
| 16. Boreal Toad (S) | NI |
| 17. Northern Leopard Frog (S) | NI |
| 18. Westslope Cutthroat Trout (S) | BI |
| 19. Senstive Plants (S) | NI |

**NJ =** not likely to jeopardize continued existence or result in destruction or adverse modification of critical habitat
**NI or NE**= No Impact or No Effect
**MIIH** = May Impact Individuals or Habitat, but Will Not Likely Contribute To a Trend Towards Federal Listing or Cause A Loss of Viability to the Population or Species
**WIFV*** = Will Impact Individuals or Habitat with a Consequence that the Action may Contribute to a Trend Towards Federal Listing or Cause a Loss of Viability to the Population or Species
**BI** = Beneficial Impact

***Trigger for a Significant Action**

Prepared by: /s/ *Gary Hanvey* Date: 08/22/2006
Wildlife Biologist

/s/ *Michael D. Enk* Date: 08/21/2006
Fisheries Biologist

**TES Species Description of Anticipated Effects**
**Project: 2006 Crawford Creek WCT Rehabilitation**
**Biologists: Michael Enk – LCNF (SO); Gary Hanvey – White Sulphur/Belt Creek Zone**

| Wildlife, Fish, and Rare Plant Species | Existing Habitat Status And Anticipated Effects |
|---|---|
| Gray Wolf | *Possible.* Habitat may occur in project area, but no effect is expected because there will be no physical changes in terrestrial habitats, the piscicide concentration is not toxic to this species, food supplies will not be significantly affected, and the disturbance period is 48-72 hours. |
| Grizzly Bear | *Not Suspected*. Habitat does not exist within project area; no effect is expected. |
| Bald Eagle | *Not Suspected*. Habitat or nest sites do not exist within project area; no effect is expected. |
| Lynx | *Possible.* Canada lynx habitat in the Little Belt Mountain range has been mapped as directed by the Canada Lynx Conservation Assessment and Strategy (CLCAS), and the proposed action would occur within mapped habitat for lynx. However, the proposal would not alter existing vegetation, and no effects on lynx habitat would result. The piscicide concentration is not toxic to lynx or prey species, and direct effects are not anticipated. If any lynx individuals were to occur within the project area during proposed treatment periods, they could be temporarily displaced; however, disturbance effects would be short term in extent and duration, and insignificant to individuals and/or populations. Therefore, implementation of this proposal would have no effect on the Canada Lynx or its habitat. |
| Mountain Plover | *Not Suspected*. Habitat or nest sites do not exist within project area; no effect is expected. |
| Peregrine Falcon | *Not Suspected*. Habitat or nest sites do not exist within project area; no effect is expected. |
| Sage Grouse | *Not Suspected*. Habitat or nest sites do not exist within project area; no effect is expected. |
| Black-Backed Woodpecker | *Possible.* Habitat may occur in project area, but no effect is expected because there will be no physical changes in terrestrial habitats, the piscicide concentration is not toxic to this species, food supplies will not be significantly affected, and the disturbance period is 48-72 hours. |
| Flammulated Owl | *Possible.* Habitat may occur in project area, but surveys have not found this species on the Jefferson Division of the L&C National Forest. If this species were to occur within the project area, no effect is expected because there will be no physical changes in terrestrial habitats, the piscicide concentration is not toxic to this species, food supplies will not be significantly affected, and the disturbance period is 48-72 hours. |
| Townsend's Big-Eared Bat | *Not Suspected*. This species occurs in forest edge habitats near cave or mining-shaft nesting sites. No such nesting sites are known or suspected to occur within the influence zone of the proposed project; no effect is expected. |
| Wolverine | *Suspected*. No likely denning sites are located within project area but travel and feeding habitat is present. No effect is expected because there will be no physical changes in terrestrial habitats, the piscicide concentration is not toxic to this species, food supplies will not be significantly affected, and the disturbance period is 48-72 hours. |
| Harlequin Duck | *Not Suspected*. Belt Creek may provide habitat for this species, but they have not been reported to occur there; no effect is expected. |
| Fisher | *Not Suspected.* Some habitat in the form of mesic riparian habitat does occur along Belt Creek, but this species is not known to exist in the Little Belt Mountains; no effect is expected. |
| N. Bog Lemming | *Not Suspected*. Suitable habitat in the form of sphagnum bogs is not known to occur in project areas; no effect is expected. |
| Northern Goshawk | *Suspected*. Nesting and foraging habitat in the Little Belts is known to occur in lower elevation Ponderosa Pine, Douglas Fir, and Lodgepole Pine habitat types. Habitat of this type does occur in the project area and an historic nest site does exist within the project influence zone, but no activities will be conducted during the nesting season (April 15 to August 15). Furthermore, there will be no physical changes in terrestrial habitats, the piscicide concentration is not toxic to this species, food supplies will not be significantly affected, and the disturbance period is 48-72 hours; no effect is expected. |
| | *Possible.* No breeding habitat has been found in the project area, but other potential habitat may |

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|---|---|
| N. Leopard Frog | *Not Suspected*. The project area is outside the known range of this species; no effect is expected. |
| Westslope Cutthroat Trout | *Known*. Genetically-pure westslope cutthroat trout reside in isolation above the treatment zone and are expected to expand downstream throughout Crawford Creek after non-native fish have been removed. The larger population will have increased resiliency to extinction. Hence, a very large beneficial impact is expected. |
| Sensitive Plants | *Not Suspected.* No sensitive plant species known or suspected on the Jefferson Division are known to occur within project areas. Furthermore, no effect is expected because there will be no change to terrestrial habitats. |