



Montana Fish, Wildlife & Parks

2300 Lake Elmo Drive
Billings, MT 59105

NOTICE OF DECISION August 20, 2004

TO: Environmental Quality Council
Director's Office, Dept. of Environmental Quality
Montana Fish, Wildlife & Parks

Director's Office
Parks Division
Fisheries Division
Wildlife Division

Lands Section
Design & Construction
Legal Unit
Regional Supervisors

Montana Historical Society, State Preservation Office
Janet Ellis, Montana Audubon Council
Montana Wildlife Federation
Montana State Library
George Ochenski
Montana Environmental Information Center
Wayne Hirst, Montana State Parks Foundation
Montana Parks Association (land acquisition projects)
Sharon Moore, DNRC Area Manager, Southern Land Office
County Commissioners
Other Local Interested People or Groups

RECEIVED

AUG 19 2004

LEGISLATIVE ENVIRONMENTAL
POLICY OFFICE

Ladies and Gentlemen:

A draft Environmental Assessment (EA) was prepared for the removal of eastern brook trout from the Soda Butte Creek drainage using chemical treatment and electrofishing. The draft EA was circulated for 30 days, and a news release was sent to six local newspapers and the Northern Ag network, as well as Montana's electronic bulletin board. A public meeting held at the Cooke City Fire Hall on July 20 was attended by 24 people. Responses to comments offered at the public meeting and from three letters are included in the attachment.

After reviewing this proposal and corresponding comments, it is my decision to proceed with this project to remove eastern brook trout from the Soda Butte Creek drainage in an effort to protect a self-sustaining population of Yellowstone cutthroat trout upstream from and within Yellowstone National Park.

This project is subject to appeal, which must be submitted to the FWP Director in writing, and postmarked within 30 days of the date on this decision notice. The appeal must specifically describe the basis for the appeal, explain how the appellant has previously commented to the department or participated in the decision-making process, and lay out how FWP might address the concerns in the appeal. If you have questions regarding this decision notice, please address them to me at hnyberg@state.mt.us or call me at 247-2951.

Sincerely,


Harvey E. Nyberg
Regional Supervisor

RESPONSE TO PUBLIC COMMENTS REGARDING THE SODA BUTTE BROOK TROUT REMOVAL ENVIRONMENTAL ASSESSMENT

The following comments were offered at a public meeting held in Cooke City on July 20, 2004 at the Cooke City Fire Hall and via three written responses

Cooke City Public Meeting Comments:

Question from Audience: What will be done with the culvert on Highway 212?

Answer: Construction is underway on the road but the culvert is still in place and is a barrier to fish passage. We are researching whether a provision for improved fish passage was included in the Stream Protection Act permit for this highway project.

Question from Audience: Why not use fish from Soda Butte Creek rather than McBride strain?

Answer: Using cutthroat from the creek is a possibility, although the McBride Lake stock from the Big Timber Hatchery is probably no different than Soda Butte Yellowstone cutthroat trout (YCT), because they are from the nearby Slough Creek drainage. YCT in general are very similar genetically across their range. We would consider using Soda Butte Creek fish for restocking if spawning fish could be captured, if fish in the creek are disease-free, and if genetic testing indicates they are pure YCT.

Question from Audience: Are there amphibians in the area and what may be the effects of the piscicide on them?

Answer: All gill-breathing animals are affected by the piscicide, which interferes with the cells' ability to use oxygen (disrupts the Krebs cycle). While tadpoles would be affected, adult amphibians would not be affected by the antimycin. By scheduling the treatment for the fall, we will minimize effects because amphibians present in the system would have metamorphosed prior to the project. Further, it is likely that there are few amphibians present in the chemical treatment area, which has few shallow backwater areas (their preferred habitat in stream environments). An amphibian survey will be conducted prior to chemical treatment, and all amphibians encountered will be relocated outside the chemical treatment area. Aquatic insects can also be affected by antimycin, especially some mayflies, but their populations have been shown to recover quickly following treatment.

Question from Audience: Please compare piscicides (antimycin vs. rotenone).

Answer: Rotenone is from roots of tropical plants, used for centuries to catch/kill fish in the tropics. Rotenone requires much higher concentrations to be effective and has a longer retention time in the water. Fish can detect the higher concentrations of rotenone and try to avoid them. Antimycin is more easily controlled because it readily breaks down in sunlight and loses its effectiveness within a few hundred feet below it's is

application site. It is derived from cultures of bacteria and was originally developed to control fungus. It is much more toxic to fish than rotenone and can be applied at a lower rate to effectively kill fish. Both piscicides affect cellular respiration, but they block respiration at different points along the Krebs cycle.

Comment from Audience: We suggest you come back next summer and again in 2007 to let us know what happened.

Answer: Another public meeting will be held to give an update on the progress of the project. A written report will also be made available.

Comment from Audience: I would like to know what fish densities are between Cooke City and the tributary.

Answer: During the electrofishing removal portion of the project the density of fish (both YCT and brook trout) will be recorded, and this information will be disseminated to the public.

Comment from Audience: "... fishing was good, why mess with the brookies?"

Answer: We are glad to have diverse fisheries and maintain several brook trout lakes in the Absaroka-Beartooth Mountains. Protecting stream populations of YCT, a species of special concern, is important for maintaining healthy populations of this native species and allowing continued recreational enjoyment of the fishery rather than causing their listing as a threatened or endangered species.

Public meeting commenced at 7:00 pm and adjourned at approximately 8:30 pm.

Written Comments Submitted to FWP

Comment submitted by Robert Ray, Montana Department of Environmental Quality (DEQ). Included in this comment was a discussion of Montana water quality standards as related to the TMDL Planning Area for Soda Butte Creek in the Cooke City area:

"...Monitoring is key and should be made part of the project design. It will demonstrate that the practices have produced the intended outcome. DEQ will review and permit this project before implementation. The permit will require monitoring and a report describing the results. The project will take place in the portion of Soda Butte Creek used to describe reference conditions for implementing the Cooke City TMDL. Part of the monitoring includes macroinvertebrates and periphyton samples. This treatment may effect these populations and future monitoring results. To confirm that these populations are not affected, macroinvertebrate and periphyton samples should be taken at the location of the downstream sentinel cage both before and after treatment. Fish population and diversity should also be noted."

Answer: Post-project monitoring is important. In other studies, antimycin use resulted in only minor reductions in specific invertebrate taxa and these taxa recovered quickly (within one year) following treatment. We know of no documented effects of antimycin on periphyton and other aquatic plants. FWP is willing to work with DEQ to develop a monitoring strategy to document potential effects of antimycin on invertebrates and periphyton and to ensure that this project does not interfere with DEQ's long-term monitoring at this site.

In the EA it is mentioned that fish monitoring will be performed post project within the chemical treatment area. Only two species of fish are currently present in upper Soda Butte Creek, YCT and brook trout. The intent of this project is to eliminate the population of brook trout from the stream. The stream will be monitored for the presence of brook trout into the future to judge the success of the project. Once the project is completed, the YCT population will be periodically monitored as part of FWP's regular population monitoring.

Comment submitted by the Scott Bosse, Rivers Conservation Coordinator, Greater Yellowstone Coalition:

Comment 1:

"The only major comment we have regarding this project pertains to the YCT stock that will be reintroduced to the unnamed tributary once brook trout have successfully been removed. Specifically, we request that you look into using existing YCT from Soda Butte Creek instead of importing YCT first generation fish from McBride Lake in the Slough Creek drainage, we feel the precautionary principal dictates that you use fish from the immediate drainage, as they are best adapted to that particular environment and may have unique genetic characteristics."

Answer: FWP is willing to explore the idea of collecting gametes from Soda Butte Creek and using these fish as the source to restock the upper creek. Before this action can occur FWP will need to verify that the fish in the creek are pure strain YCT (westslope cutthroat trout genes have been detected in the population, but these results have been questioned), that the fish are disease-free, and that spawning areas can be identified and gametes harvested from wild fish. Another drawback of using wild fish is that in most instances the gamete donors must be killed and tested for disease before their offspring can either enter the hatchery or be stocked back into the wild.

Comment 2:

"...we recommend that FWP and YNP amend existing fishing regulations to allow anglers to harvest and unlimited amount of brook trout from Soda Butte Creek. To encourage anglers to keep any brook trout that may be left in Soda Butte Creek, signs should be posted at angler access sites explaining the rationale for the brook trout removal project."

Answer: FWP determines the fishing regulations Soda Butte Creek from its headwaters to the Yellowstone National Park boundary. In this section of the stream the regulations allow anglers to harvest 20 brook trout daily. Brook trout harvest is already encouraged in this reach, and further liberalization isn't likely to have an effect.

Comment submitted by Peggy Wilzbach and Ken Cummins:

Comment 1:

“We applaud the goal of local management action to help ensure the persistence of YCT subspecies within the historic range in Montana, but believe that the threat posed by brook trout presence in upper Soda Butte Creek is minor compared to the threat to genetic integrity of YCT from west slope cutthroat trout and rainbow trout presence in lower Soda Butte Creek and the Lamar River. We suggest that efforts to eradicate rainbow trout from the system (e.g. requiring fishermen to kill all rainbow that are caught in the Soda Butte and Lamar) would have more far-reaching effects in protecting YCT than would brook trout removal.”

Answer: Currently the threats of brook trout are minimal in the upper watershed, but these threats could increase as the water quality improves downstream of the McClarin tailings. With improved water quality, the brook trout population could grow and expand into other drainages. Brook trout were discovered for the first time in Yellowstone Park during 2003. These three fish were all juveniles suggesting that reproduction is now occurring in areas of the creek other than the unnamed tributary that will be chemically treated. Action taken now will help protect the upper watershed in the future.

The presence of rainbow trout in lower Soda Butte Creek and the Lamar River (including Slough Creek) is also of great concern to the long-term conservation of YCT. Yellowstone National Park (YNP) manages the fisheries within the park boundary. FWP has worked cooperatively with YNP to conserve native fishes and will continue to do so into the future, but such changes in regulations and other management actions within the park are determined by YNP fisheries personnel and are beyond the scope of this project.

Comment 2:

“We believe that the EA should better document, with reference to the peer-reviewed scientific literature, the threat to YCT from brook trout presence. The ability of brook trout to displace cutthroat trout is presented as fact in the EA without supporting evidence. The EA mentions that in other streams where degraded habitat occurs in combination with a nonnative competitor/predator, the abundance of native fishes are often reduced. Yes, we agree. But it is not clear whether this phenomenon occurs in the absence of habitat degradation. Brook trout have been present in very low numbers in Soda Butte Creek within Yellowstone National Park at least as far back as 1974, but their abundance has not significantly increased. Nor have cutthroat trout densities within Soda Butte Creek appear to have substantially decreased over this time period. This may be because habitat conditions and the snowmelt hydrology within mainstem Soda Butte

Creek favor spring-spawning cutthroat trout. Fall-spawning brook trout could perhaps not gain a stronghold in the mainstem even in the absence of cutthroat trout. So it is not clear to us that the presence of small numbers of brook trout in the upper, degraded portions of the catchment poses a significant threat to the mainstem population of Soda Butte YCT. Even if brook trout could be completely eradicated from the upper portion of the catchment and water quality problems from previous mining activities and current septic contamination were resolved, the upper portion of the catchment was historically fishless and would likely not provide suitable habitat for YCT in any case. Thus we question that advisability of attempting to establish hatchery YCT in these small tributaries that is proposed in the EA.”

Answer: The YCT population present now could represent a stronghold for YCT within the Soda Butte Creek drainage (given the presence of rainbow trout farther downstream) because of the barrier to fish migration in Ice Box Canyon. The habitat conditions in the creek are obviously suitable for YCT because the fish have been present and self-sustaining for at least 50 years, despite water quality problems. Habitat in the unnamed tributary is suitable for salmonids (brook trout) and will likely be suitable for YCT once brook trout are removed. The unnamed tributary that will be chemically treated has a very abundant brook trout population. This stream also has a snowmelt hydrology, but differs from the main Soda Butte Creek because of its good water quality. As the water quality improves in Soda Butte Creek, the potential for brook trout population expansion will increase. In a neighboring drainage with similar habitat (Goose Creek in the upper Stillwater River drainage) brook trout are the dominant fish species in the creek, even though a source of YCT resides upstream in Goose Lake. Rather than wait until water quality improves and brook trout become more abundant and more difficult to remove, FWP is attempting to remove brook trout now.

Comment 3:

“We believe that the EA should document other instances of successful eradication of brook trout using antimycin and/or rotenone techniques. Previous efforts to eradicate brook trout using these techniques from other aquatic habitats in the Beartooth Area and within Yellowstone National Park (e.g. Rock Island Lake, Kersey Lake and its tributaries, Arnica Creek in the Yellowstone Lake Drainage) have been unsuccessful or have required on-going action. If the proposal goes forward, it may be more appropriate to present the use of these chemicals as a population control measure that may require more than one application.

Answer: Chemical removal of nonnative fishes has been successful in other areas of Montana. Soda Butte Creek is very different from Rock Island Lake, Kersey Lake, and others in the Absaroka-Beartooths that were treated over 20 years ago with rotenone; the systems and techniques cannot be accurately compared. Chemical eradication of non-native fish was successful in Arnica Creek after a second treatment, and a single treatment successfully removed brown trout from Bad Canyon Creek in the Beartooth Mountains. The methods used to remove fish have been refined because of the increased use of piscicide in native fish restoration. A graduate student at Montana State

University is reviewing this and other fish restoration projects in an effort to improve techniques used and the success of these projects. The objective of the chemical removal is to remove all brook trout, not control the population.

Comment 4:

“We suggest trapping with fyke or other nets below the culvert of the un-named tributary as an alternative to chemical use. We are reminded of the potential hazards associated with chemical use in the Soda Butte/Lamar over-dosing (with rotenone) in the late 1980's that killed thousands of cutthroat trout over a 7 mile stretch of river.”

Answer: Pending successful bioassay results, antimycin will be used in this project. The potential for killing fish beyond the project is very low. The measures mentioned in the EA will aid in ensuring that the chemical does not travel beyond the intended area. Experienced personnel will perform the treatment, and travel of the chemical will be closely monitored. The antimycin to be used for this project breaks down much more rapidly than rotenone, further reducing the possibility of the chemical going beyond the intended area.

It is unclear how trapping fish below the culvert would accomplish the same objective of removing the brook trout from the unnamed tributary. Fish do not migrate from Soda Butte Creek to the unnamed tributary to spawn because the culvert is a barrier to upstream migration. A fyke net may preclude fish from the unnamed tributary from migrating to Soda Butte Creek, but it would not likely be effective during high water when debris and high flows would likely render the net ineffective or blow it out completely. Further, a fyke net would have to be in the stream indefinitely and function at all times (requiring constant oversight) to have the same effect as chemically removing fish from the tributary.

Comment 5:

“We note a curious logic in the plan of attack. Pesticide use is recommended because electroshocking is not adequate to remove brook trout as it has a low capture efficiency. Why, then, will effectiveness of the pesticide be evaluated by electroshocking?”

Answer: The objective of this project is 100% removal of brook trout from upper Soda Butte Creek. It has been determined that electrofishing will not remove all brook trout from the unnamed tributary because of the complexity of habitat in reaches of the stream. Although electrofishing efficiency is too low for 100% removal, it is high enough to detect the presence of the fish in the stream. Electrofishing has been widely used to sample fish in streams and, if sufficient habitat is sampled, is effective at determining the presence/absence of fish.