Proposed Reclassification of Rawhide Creek, tributary to the Greybull River near Meeteetse, Wyoming

Proposed Action

The Department of Environmental Quality, Water Quality Division is proposing to reclassify the mainstem of Rawhide Creek as provided in the Chapter 1 surface water standards. Rawhide Creek is a perennial tributary to the Greybull River near Meeteetse, Wyoming. The headwaters are located in Section 8, T49N, R103W and it discharges into the Grebul River in Section 23, T49N, R101W approximately 4.5 miles west of Meeteetse, Wyoming.

This proposed reclassification would redesignate approximately 40% of the stream channel as a non-game fishery (Class 2C) and the higher elevation 60% as a coldwater game fishery (2B). Rawhide Creek is currently classified as a coldwater game fishery and also protected for drinking water uses (Class 2AB) through its entire length. The drinking water designation is a presumptive use initially assigned by default to all waters known to support game fish. It is not presumed to be an attainable use on waters known to support non-game fish only and would not apply on the lower Class 2C segment. Because there is no existing drinking water use and no foreseeable potential, it is not logical to continue to designate a drinking water use in the upper reach.

Therefore, the Water Quality Division is proposing that the upper 60% of the mainstem, beginning in section 8, T49N, R103W down to the western edge of Section 2, T49N, R102W would be reclassified to Class 2B and protected as a coldwater, game fishery. The lower 40% of the mainstem beginning at the western edge of Section 2, T49N, R102W down to the confluence with the Greybull River in Section 23, T49N, R101W would be reclassified to Class 2C and designated as a warmwater, non-game fishery.

The basis for this reclassification is contained in the attached document entitled: "Use Attainability Analysis, Rawhide Creek, October, 2002", prepared by Marathon Oil Company. The purpose of the document is to fulfill the requirements of Chapter 1, Sections 33 and 34 of the Wyoming Surface Water Rules and Regulations regarding reclassification of surface waters. This Use Attainability Analysis
document describes the analysis that was conducted on the stream system and the rationale for the proposed classification changes. Marathon’s petition for reclassification did not request a reclassification of the upper watershed to Class 2B because it is outside their area of interest. However, upon examination of the information provided, the Water Quality Division believes that the Class 2B designation is more appropriate for this section of stream than the original 2AB classification.

Rawhide Creek was designated in July, 2001 as Class 2AB based upon the Wyoming Game and Fish Department’s fish inventory database which listed brook trout as a resident species. A more focused inventory was conducted in November, 2001 which indicated that lower reach of the mainstem does not support game fish. This reclassification action will segment the stream into more accurately designated game and non-game sections. The entire stream length will continue to be protected for primary contact recreation, wildlife, industry, agriculture and scenic value uses.

**Use Attainability Analysis Summary**

The Use attainability analysis developed by Marathon Oil Company satisfactorily demonstrates that the propagation of game fish in the lower 40% of the Rawhide Creek mainstem is not an attainable use and this segment is most appropriately classified as a non-game fishery. It has also concluded that the upper 60% of the mainstem is capable of supporting cutthroat trout and should remain designated as a cold water game fishery. The Wyoming Game & Fish Department conducted the fish inventory and has concurred with this assessment.

This reclassification is based upon Section 33 (b)(v) of Chapter 1 of the Wyoming Water Quality Rules and regulations which allows a lowering of a water classification in circumstances where:

> Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of the classification or use.

The stream sampling conducted by the Wyoming Game and Fish Department in November, 2001 identified only non-game species inhabiting the proposed Class 2C stream reach delineated in the Marathon UAA. The absence of game species is attributable to physical conditions in the channel including type of substrate, temperature, flow and channel morphology. These are natural conditions which are not related to discharges of pollution and/or human activities in the watershed. Therefore, the existing non-game fishery represents the highest potential aquatic life use and the stream channel below the confluence of Elk Creek is most appropriately classified as 2C under the Wyoming regulations.

The habitat conditions in the upper reach are markedly different than the lower reach and are capable of supporting populations of cutthroat trout and it is proposed that the upper reach should be classified as a Class 2B cold water fishery.
Rawhide Creek

Legend

- Rawhide Creek Watershed
- Tributary Streams
- Class
  - 2B
  - 2C
- Greybull River
- Township - Range

Class 2B Segment

Class 2C Segment

Photos 1 & 2

Photos 3, 4, & 5

Photos 6 & 7

Photo 8

Photo 9

Meet at 4.5 miles
Therefore, according to the provisions of Sections 4 and 33 of Chapter 1 of the Wyoming Water Quality Rules and Regulations, the mainstem of Rawhide Creek is most appropriately classified 2B from its headwaters down to the western edge of Section 2, T49N, R102W and Class 2C from that point down to its mouth in the Greybull River.

IMPLEMENTATION

This document represents a preliminary determination by the administrator of the Water Quality Division to change the classification of Rawhide Creek. After consideration of public comments, the Administrator shall publish a final determination which will be submitted to EPA for approval under the federal Clean Water Act. The revised classification shall become effective upon EPA approval or 90 days after submittal, whichever comes first.

PUBLIC PARTICIPATION

Persons wishing to comment on these findings or planned implementation may submit written comments to Bill DiRienzo, Water Quality Division, Department of Environmental Quality, Herschler Bldg. 4W, Cheyenne, WY 82002; Fax # 307-777-5973; email: bdirie@state.wy.us on or before February 17, 2003.

Copies of the Use Attainability Analysis are available from the Department of Environmental Quality, 122 West 25th Street, Herschler Building-4W, Cheyenne, or can be downloaded from the agency’s website (http://deq/wqd/wqevent.htm). Persons may request a mailed copy of the document by contacting Connie Osborne at 307-777-5593, fax at 307-777-5973 (email address: cosbor@misc.state.wy.us).

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USE ATTAINABILITY ANALYSIS

Rawhide Creek

November, 2002

Waterbody: The mainstem of Rawhide Creek from a point on the channel at the western edge of Section 2, Township 48 North, Range 102 West (one mile downstream (east) of the confluence of Rawhide Creek and Little Rawhide Creek), downstream to its confluence with the Greybull River. The area described above shall henceforth be referred to as the “Project Area.”

Watershed Area Location:
Headwaters
SE1/4, Section 8, Township 49 North, Range 103 West in Park County

Mouth
NW1/4, Section 23, Township 48 North, Range 101 West in Park County

Tributary to: Greybull River

River Basin: Bighorn River; HUC 1008009-053

1. PURPOSE

The purpose of this Use Attainability Analysis (UAA) is to recommend the reclassification of a section of the mainstem of Rawhide Creek, as described above, from the current Class 2AB classification to Class 2C. The Class 2C designation reflects the actual physical and biological conditions found in the waterbody.

2. BASIS FOR RECLASSIFICATION/REMOVAL OF AQUATIC LIFE USE PROTECTIONS

The requirements for reclassifying a surface water, adding or removing designated uses, or establishing site-specific criteria are provided in Chapter 1, Section 33 of the Wyoming Water Quality Rules and Regulations and in the related document entitled, “Implementation Policies for Antidegradation, Mixing Zones, Turbidity, and Use Attainability Analyses.” Actions which involve a lowering of water quality protections, or removal of a designated use, must be based on one or more of the factors contained in Section 33(b) of the regulations.

The proposed reclassification actions for the project area are based upon the following relevant portions of Section 33 of Chapter 1 and Section II.A. of the DEQ implementation policy for UAAs which state, respectively:
Section 33 of Chapter 1:

(a) Any person at any time may petition the department or the Environmental Quality Council (Council) to change the classification, add or remove a designated use or establish site specific criteria on any surface water.

(b) The Water Quality Administrator may lower a classification, remove a designated use which is not an existing use or an attainable use, or make a recommendation to the Environmental Quality Council to establish sub-categories of a use, or establish site-specific criteria if it can be demonstrated through a Use Attainability Analysis (UAA) that the original classification and/or designated use or water quality criteria are not feasible because...

(v) Physical conditions related to the natural features of the water body, such as the lack of proper substrate, cover, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of the classification or use;...

(d) The procedures used to implement this section are described in the "Use Attainability Analysis Implementation Policy ..."

and DEQ Implementation Policies, Section II.B.:

“A Use Attainability Analysis is required prior to reclassifying any water to a new classification involving the addition, removal, or modification of a use designation.”

3. GENERAL SITE DESCRIPTION

Rawhide Creek is a natural perennial drainage approximately 20 miles long located in southeastern Park County (Figure 1). The drainage covers approximately 60 square miles (20 miles long by 3 miles wide on average) or about 40,000 acres. Elevations range from about 6,000 feet above sea level at its confluence with the Greybull River 5 miles west of the Town of Meeteetse, to approximately 10,500 feet in its headwaters on the east flank of Carter Mountain. The Project Area is located in the lower portion of the watershed, downstream from Tonopah Ridge, a prominent geographic and geologic feature. The predominant upland vegetation in the project area is sagebrush, with native bunchgrasses also present.

In its headwaters, Rawhide Creek supports native Yellowstone cutthroat trout (*Oncorhynchus clarki bouvieri*) and can be described as a typical foothills or mountain stream. Photos 1 and 2 depict a section of the creek as it emerges from the mountains. The photos illustrate the cobble substrate and dense riparian vegetation typical of the
upper reaches. This section is also characterized by a moderately steep gradient, a narrow floodplain, moderate to high incisement, and perennial flow.

The middle and lower reaches of Rawhide Creek can be described as having low to moderate gradients, smaller substrate sizes (silt, sand and gravel), low to moderate incisement, and a general lack of riparian vegetation. These reaches also possess naturally intermittent or ephemeral flow regimes. Photos 3 – 9 illustrate the stream conditions found within the Project Area.

4. **EVALUATION**

As described above, the mainstem of Rawhide Creek above the Project Area is a cold water game fishery (2AB classification). Within the Project Area, the mainstem of Rawhide Creek has been surveyed by the WGFD and was determined to be populated by only nongame fish (2C classification).

WGFD conducted fish sampling in the Project Area in November, 2001. Species collected were longnose dace (Rhinichthys cataractae), mountain suckers (Catostomus platyrhynchus), and white suckers (Catostomus commersoni). No game fish species were collected.

This section of the stream is characterized by low to moderate gradients, minor to moderate incisement, and small cobble, gravel, silt and sand substrate. The upper and lower sections of the Project Area could possibly be classified as Rosgen “C” type channels, whereas the middle section may “type out” as an “E” type channel. This change in channel type is due to the change in both gradient and substrate which is a result of a change in the geologic materials through which the stream passes.

The middle section of the Project Area is immediately below the prominent geographic and geologic feature of Tonopah Ridge. This ridge is comprised of loose, unconsolidated shale. This section of the stream is a depositional area within the watershed and therefore the creek exhibits many of the characteristics of this type of stream reach – low gradient, moderate to high channel incision and smaller substrate sizes. The substrate in this section is predominantly mud, silt, and sand. These conditions are not conducive to supporting a cold water game fishery.

WGFD fish biologists and an independent fisheries scientist concluded that naturally existing flow and habitat conditions preclude native cutthroat trout and other game species from inhabiting the Rawhide Creek mainstem within the Project Area. The predominant mud, silt and sand substrate, as well as elevated water temperatures and lack of flow prevent cold water game fish from both successful spawning and habitation within this reach.
5. CONCLUSIONS

As required in the Wyoming DEQ Water Quality Division implementation policies for UAAs, potential adverse effects resulting from a denial of the reclassification request should be included in this document. For this specific stream segment, the denial of the reclassification will result in the continued misclassification of the mainstem of Rawhide Creek through the Project Area. The reclassification of this stream segment will allow the Wyoming DEQ Water Quality Division to utilize credible data provided by the WGFD in assigning the proper designated uses. Proper classification will also assist in preventing this stream segment from being considered impaired.

Based on this evaluation and according to the procedures outlined in the Wyoming DEQ/WQD implementation policy for Use Attainability Analysis it has been determined that the reclassification factor provided in Chapter 1, Section 33(a) and (b)(v) has been satisfactorily demonstrated.

Therefore, according to the provisions of Sections 4 and 33 of Chapter 1 of the Wyoming Water Quality Rules and Regulations, the main stem of Rawhide Creek within the Project Area as defined in this document, is most appropriately classified 2C and designated for nongame fisheries, fish consumption, primary contact recreation, wildlife, industry, agriculture and scenic value uses.
REFERENCES


APPENDIX A

Photographs of the Rawhide Creek UAA Project Area
Photo 1: Photo showing section of Rawhide Creek above (upstream of) Project Area. Photo indicates large cobble substrate, moderate to high incisionment, and dense riparian vegetation. Photo taken looking upstream (west/northwest).

Location: SW1/4, Sec. 32 Township 49 North, Range 102 West

Date: 9/21/02
Photo 2: Photo showing section of Rawhide Creek above (upstream of) Project Area. Photo indicates dense riparian vegetation and increasing floodplain area, typical of streams emerging from mountainous areas. Photo taken looking downstream (east/southeast).

Location: NE1/4, Sec. 32, Township 49 North, Range 102 West

Date: 9/21/02
Photo 3: Photo of mainstem of Rawhide Creek near upstream boundary of Project Area. Photo illustrates typical channel conditions – cobble/gravel substrate and minor incision. Photo taken looking upstream (west).

Location: Western boundary of Section 2, Township 48 North, Range 102 West

Date: 5/23/02
Photo 4: Photo of mainstem of Rawhide Creek near upstream boundary of Project Area. Photo illustrates moderate channel incision. Photo taken looking upstream (west) and several hundred yards downstream of Photo 1.

Location: Western boundary of Section 2, Township 48 North, Range 102 West

Date: 5/23/02
Photo 5: Photo of mainstem of Rawhide Creek near upstream boundary of Project Area. Photo illustrates minor to moderate channel incisionment, cobble substrate and BLM road crossing. Photo taken looking upstream (west) and several hundred yards downstream of Photo 2.

Location: Western boundary of Section 2, Township 48 North, Range 102 West

Date: 5/23/02
Photo 6: Photo showing section of Rawhide Creek within Project Area, immediately downstream of Tonopah Ridge. Stream is flowing from left to right (west to east). Extensive shale slopes of Tonopah Ridge are shown in lower left and center portions of photo. “2-track” road, which crosses stream, can be seen in upper right of photo. Photo taken looking north.

Location: SE1/4, Sec. 2 Township 48 North, Range 102 West

Date: 9/21/02
Photo 7: Photo showing section of Rawhide Creek within Project Area, immediately downstream of Tonopah Ridge. Stream is flowing from bottom left to upper right of photo (southwest to northeast). Photo indicates mud/silt substrate, low incisement, and general lack of riparian vegetation. Photo taken looking downstream.

Location: SE1/4 Section 2, Township 48 North, Range 102 West

Date: 9/21/02
Photo 8: Photo showing section of Rawhide Creek within Project Area, immediately downstream of Tonopah Ridge. Stream is flowing from left center to lower right of photo (west to east). Photo indicates intermittent (lack of) flow, low gradient, mud/silt substrate, and low incision. Photo taken looking upstream.

Location: SE1/4 Section 7, Township 48 North, Range 101 West

Date: 9/21/02
Photo 9: Photo showing section of Rawhide Creek within Project Area, at road crossing (County Road 4EU). Stream is flowing from upper center to bottom of photo (north to south). Photo indicates sand, silt and small gravel substrate, moderate incision, and general lack of riparian vegetation. Photo taken looking downstream.

Location: NW1/4 Section 23, Township 48 North, Range 101 West

Date: 9/21/02