

FINAL: Environmental Assessment, FONSI, and Selected Alternative

Special Area Management Plan (SAMP)
Upper Yellowstone River, Montana



**US Army Corps
of Engineers®**

Omaha District
Montana Regulatory Office

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Cover Sheet

Proposed Action: Development of a Special Area Management Plan (SAMP) for the US Army Corps of Engineers Regulatory Program as it pertains to the Upper Yellowstone River in Park County, Montana.

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Abstract

The Special Area Management Plan (SAMP) was mandated to address the cumulative effects of anthropogenic bank stabilization and flood confinement on the upper Yellowstone River in Park County, Montana. The Corps believes that the preferred alternative will result in an improved regulatory climate for the upper Yellowstone River. The preferred alternative will make the Department of the Army permit process more predictable and more streamlined for the public. The preferred alternative will focus the Corps' effort on more thorough reviews where projects could adversely affect the upper Yellowstone River. The preferred alternative recognizes that a moratorium on all permitting is not a prudent course of action to pursue. Many projects proposed in waters of the United States benefit the public, sometimes improving conditions for the environment as well as for society. Other projects could have a neutral effect.

Within the 86 miles of the upper Yellowstone River in Park County, Montana, the preferred alternative provides enhanced protection within the SRMZ, 48-mile reach of the upper Yellowstone River that is most susceptible to forced morphology. Some of the channel segments within the SRMZ already have forced morphology. Where practicable, restoration of appropriate channel type and function through permit conditions and compensatory mitigation will ensure avoidance of adverse cumulative impacts. The approximate geographic limits of the SRMZ are from just upstream of the community of Emigrant downstream to a few miles below the Shields River and Mission Creek confluences.

Under the preferred alternative, some Nationwide Permits (NWP) would be revoked, and new Regional Conditions (RCs) would be developed for those NWP not revoked. Restrictions would be placed on the configuration of all permitted projects. Channel segments sensitive to anthropogenic disturbances would be identified as areas more susceptible to forced morphology and therefore more likely to be evaluated under standard (individual) permit procedures. Proposed work would be evaluated in a watershed, floodplain, and valley context, and a compensatory mitigation program¹ would be adopted to offset adverse impacts.

¹ Compensatory mitigation for the state of Montana is described in the Montana Stream Mitigation Procedures, June 2010

Table of Contents

Finding of No Significant Impact (FONSI).....	5
Executive Summary.....	7
1.1 Summary of Background Information.....	11
1.2 Summary of Comments on Draft EA and Corps' Responses.....	19
1.3 Unresolved Issues.....	20
2.1 Preferred Alternative.....	21
2.2 Likelihood of Compliance with 404(b)(1) Guidelines.....	38
2.3 Summary of Environmental Effects of the Preferred Alternative.....	40
3.1 Monitoring and Adaptive Management.....	41
4.1 Corps Team and Involved Parties.....	43
5.1 References.....	44
Appendix A – Comments on Draft EA and Corps' Responses.....	see CD 1
Appendix B – SRMZ Maps.....	see CD 1
Appendix C – Summary of Other Alternatives Considered.....	see CD 1
Appendix D – Environmental Effects of the Preferred Alternative.....	see CD 1
Appendix E – Compliance with Environmental Laws and Regulations.....	see CD 1
DRAFT Environmental Assessment for: SAMP Upper Yellowstone River.....	see CD 2

Acronyms

CEA	Cumulative Effects Analysis
CEQ	Council on Environmental Quality
CMZ	Channel Migration Zone
Corps	US Army Corps of Engineers
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPA	US Environmental Protection Agency
ERDC-EL	Environmental Research and Development Center, Environmental Lab
ESA	Endangered Species Act
FAQ	Frequently Asked Questions
FONSI	Finding of No Significant Impact
GP	General Permit
GYC	Greater Yellowstone Coalition
IP	Individual Permit
HUC	Hydrologic Unit Code
LOP	Letter of Permission
MDT	Montana Department of Transportation
MT DEQ	Montana Department of Environmental Quality
MT DNRC	Montana Department of Natural Resources and Conservation
MT FWP	Montana Fish, Wildlife & Parks
MT SMP	Montana Stream Mitigation Procedure
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRCS	Natural Resources Conservation Service
NWP	Nationwide Permit
PCEC	Park County Environmental Council
PL	Public Law
PN	Public Notice
RC	Regulatory Condition
RGL	Regulatory Guidance Letter
RM	River Mile
SAMP	Special Area Management Plan
SRMZ	Special River Management Zone
SSCV	Shallow Slow Current Velocity
TU	Trout Unlimited
USGS-BRD	United States Geological Service, Biological Research Division
USFWS	US Fish and Wildlife Service
YNP	Yellowstone National Park

Finding of No Significant Impact

In accordance with the National Environmental Policy Act and its implementing regulations, the attached environmental assessment (EA), which describes the expected effects of the proposed project on the existing environment has been prepared. Detailed discussions regarding purpose and need, alternatives, affected environment, and environmental consequences can be found in the attached EA and the draft EA (enclosed CD) and will be referenced, but not be repeated here.

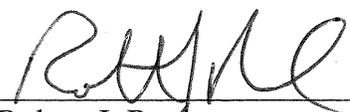
The U.S. Army Corps of Engineers intends to implement a Special Area Management Plan (SAMP) within a 48-mile stretch of the Yellowstone River, Montana. The draft EA reviewed a wide range of alternatives for changes to the Corps Regulatory Program in Montana within the Special River Management Zone (SRMZ). The range of alternatives evaluated included the "No Action" alternative that would maintain the status quo. This EA process allowed the transparent analysis and selection of feasible, defensible, science-based alternatives for modification of the Corps Regulatory Program for the upper Yellowstone River.

Under the preferred alternative, some Nationwide Permits (NWP) would be revoked, and new Regional Conditions (RCs) would be developed for those NWP not revoked. Restrictions would be placed on the configuration of all permitted projects. Channel segments sensitive to anthropogenic disturbances would be identified as areas more susceptible to forced morphology and, therefore, more likely to be evaluated under standard (individual) permit procedures. Proposed work would be evaluated with an understanding of the watershed, floodplain, and valley context, and a compensatory mitigation program would be adopted to offset adverse impacts

The preferred alternative will ensure that direct impacts related to the ongoing issuance of Section 404 permits are minimized by increasing the level of review for certain types of projects, adding RCs, and mitigating impacts related to permit issuance. Direct, indirect, and cumulative impacts related to the program change include beneficial effects on water quality, vegetation, wildlife, river morphology, visual, and socio-cultural values. Negative effects related to the implementation of the SAMP include increased time and cost for permitting certain transportation, agricultural, and floodplain development projects. These impacts are not considered to be significant. Mitigation details will be identified on a case-by-case basis using the standards outlined in the Montana Stream Mitigation Protocol (June 2010).

It is my finding, based upon the attached EA, that the proposed activity will not constitute a major Federal action significantly affecting the quality of the human environment. Therefore, an environmental impact statement will not be prepared.

12 April 11
Date



Robert J. Ruch
Colonel, Corps of Engineers
District Commander

Executive Summary

The U.S. Army Corps of Engineers (Corps) is responsible for issuing permits for work in the upper Yellowstone River in accordance with Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. The Yellowstone River is considered a Section 10 water from Emigrant, Montana downstream to its confluence with the Missouri River. There was a near 100-year flood on the upper Yellowstone River in Montana in 1996, followed by another in 1997. During and immediately following those floods, an above-average number of Department of the Army permits were requested, and subsequently issued for work in and along the Yellowstone River. The Corps was then successfully sued by organizations which claimed the Corps needed to better consider the cumulative effects of bank stabilization on the integrity of the riverine ecosystem.

The Governor's Upper Yellowstone River Task Force (Task Force) was formed in 1998 and met regularly until concluding their work in 2003. The Task Force was a large group of diverse stakeholders that provided a public forum for the discussion of the many issues and competing values present on the upper Yellowstone River. The Task Force commissioned independent scientific studies to assess the cumulative effects of bank stabilization and other channel modifications on the physical, biological, and cultural attributes of the upper Yellowstone River.

Concurrent with the Task Force efforts, a directive from Congress in 1999 required the Corps to develop a Special Area Management Plan (SAMP) to address the cumulative effects of anthropogenic bank stabilization and flood confinement on the upper Yellowstone River in Park County, Montana. The Montana Congressional delegation, special interest groups, agencies, and many members of the public remain very interested and involved in anything that happens regarding the upper Yellowstone River.

The Omaha District Corps (Regulatory Branch) involvement in the upper Yellowstone River is based upon Congressional Authorization under the 1999 Energy and Water Development Appropriations, Regulatory Program. Specific language within the appropriations stated that the Corps will initiate and complete a SAMP. The Corps was directed to assess the long-term effects of bank stabilization, fully coordinate with the Governor's Upper Yellowstone River Task Force, and potentially conclude the process with a General Permit.

The SAMP concept originated in the 1980 Amendments to the Coastal Zone Management Act. The process in these amendments was defined as:

“a comprehensive plan providing for natural resource protection and reasonable coastal-dependent economic growth containing a detailed and comprehensive statement of policies, standards, and criteria to guide public and private uses of lands and waters; and mechanisms for timely implementation in a specific geographic area within the coastal zone.”

These principles were adapted and applied to the Corps' Regulatory program as a proactive planning tool. The Corps' Regulatory Guidance Letter (RGL) 86-10 states that the SAMP process, collaborative interagency planning within a geographic area of special sensitivity, may be applied for regulatory purposes in non-coastal areas.

As applied to the upper Yellowstone River, a SAMP is intended to reduce problems associated with traditional case-by-case Section 404 permit application review. Competing economic and environmental interests are balanced as individual and cumulative impacts are analyzed in the context of broad ecosystem conditions and future needs.

The results of the Task Force studies revealed that at a macro or system level, the upper Yellowstone River watershed and channel are functional and relatively intact. However, the studies also revealed that there are areas where the full range of functions is no longer present. After considering the nature of the upper Yellowstone River it became apparent that an additional finer-scale level of review was warranted to maintain and restore the function of the aquatic resource at local and reach levels.

The Corps is now at the point in the SAMP process where changes to the Corps Regulatory Program are being considered within the Special River Management Zone (SRMZ). See Appendix B for maps of the SRMZ. The draft EA reviewed a wide range of alternatives for changes to the Corps Regulatory Program in Montana within the SRMZ. The range of alternatives evaluated included the "No Action" alternative that would maintain the status quo. This EA process allowed the transparent analysis and selection of feasible, defensible, science-based alternatives for modification of the Corps Regulatory Program for the upper Yellowstone River. A preferred alternative has been identified. The preferred alternative is described in this final EA and will be distributed to stakeholders and interested parties via a Public Notice after conclusion of this National Environmental Policy Act (NEPA) process.

The Corps evaluated numerous potential alternatives in the Draft EA prior to proceeding with a "combination" alternative, Alternative V, as the preferred alternative. Below is a listing of the other alternatives considered. Detailed descriptions of these potential alternatives can be found in the Draft EA.

- Alternative A – No Action
- Alternative B – Moratorium: No Corps Authorizations
- Alternative C – Development of a Regional General Permit
- Alternative D – Revocation of Nationwide Permits
- Alternative E – Reduction of Limits of Nationwide Permits
- Alternative F – Prohibition of Selected Activities
- Alternative G – Prevention of New Diversions
- Alternative H – Limitation of the Configuration of Selected Features
- Alternative I – Splitting of the Upper Yellowstone River into Unique Management Reaches
- Alternative J – Evaluation of Projects in a Valley and Floodplain Context

- Alternative K – Requirement of Compensatory Mitigation for Adverse Impacts
- Alternative L – Prevention of New Development in the River Corridor
- Alternative M – Redefinition of the Lateral Limits of Corps Authorities
- Alternative N – Protection of Remaining Undeveloped Riparian Areas
- Alternative O – Capping of the Amount of Stabilized Riverbank Allowed
- Alternative P – Adoption of a “No Net Gain” Policy for Bank Stabilization
- Alternative Q – Requirement for Projects to Allow Floodplain Access by Floodwater
- Alternative R – Removal of Existing Non-Urban Levees
- Alternative S – Implementation of a Single Point of Contact for All upper Yellowstone River Regulatory Issues
- Alternative T – Development of Off-Channel Peak Flow Storage
- Alternative U – Development of On-Channel Peak Flow Storage
- Alternative V – Combination of Alternatives (Preferred Alternative)

This range of alternatives considers the Task Force recommendations, input from Corps staff and other government agencies, and scoping comments and suggestions from the public. Alternatives required by NEPA are included in the list.

The following alternative combinations were determined to meet the project purpose and need and were fully evaluated for environmental impacts in the Draft EA (available on CD):

- Alternative A – No Action
- Alternative DE – Nationwide Permit Modification
- Alternative HQ – Allowable Project Configuration
- Alternative IJ – Geomorphic Considerations
- Alternative PK – Compensatory Mitigation
- Alternative V – Combination of Alternatives (Preferred Alternative)

The Corps has identified Alternative V: Combination of Alternatives as the Preferred Alternative. Under the preferred alternative, some Nationwide Permits (NWP) will be revoked. New Regional Conditions (RCs) will be developed for NWP that are not revoked. Restrictions are placed on the configuration of all permitted projects. Channel segments sensitive to anthropogenic disturbances are identified.

Rather than reiterate the details of all of the alternatives presented in the Draft EA, the Final EA instead focuses on further elaboration on the preferred alternative, Alternative V, and what the implementation of Alternative V will mean with regard to Regulatory program implementation.

Within the 86 miles of the upper Yellowstone River in Park County, Montana, the preferred alternative provides enhanced protection within the SRMZ, 48-mile reach of the upper Yellowstone River that is most susceptible to forced morphology. Some of the channel segments within the SRMZ already have forced morphology. Where practicable, restoration of appropriate channel type and function through permit conditions and

compensatory mitigation will ensure avoidance of adverse cumulative impacts. The approximate geographic limits of the SRMZ are from just upstream of the community of Emigrant downstream to a few miles below the Shields River and Mission Creek confluences.

The Corps believes that the preferred alternative will result in an improved regulatory climate on the upper Yellowstone River. The preferred alternative will make the Department of the Army permit process more predictable and in some cases more streamlined. The preferred alternative requires thorough reviews of bank stabilization and confinement projects where projects could adversely affect the upper Yellowstone River. Projects that have little or no potential to cause adverse effect can be permitted in a more streamlined manner. In response to public scoping input, the Corps considered the option of activity-based and/or geographically-based permit moratoriums. It was determined that any type of permit moratorium was not warranted at this time.



Corps of Engineers Photo

1.1 Summary of Background Information

1.1.1 Purpose & Need

The **purpose** of the SAMP is to help the Corps protect, maintain, and allow the restoration of the chemical, physical, biological, and ecological integrity of the upper Yellowstone River. It will also make the Department of the Army permit process more effective, more efficient, and more predictable for the public and for the Corps.

There is a **need** for action because existing case-by-case permitting methods proved ineffective during the flood years. An above-average number of permit applications in a short time period increased application processing and permit review times. With the SAMP, the Corps hopes to effectively process multiple, concurrent permit applications in a timely manner if another flood occurs on the upper Yellowstone River.

1.1.2 Authority

The Corps Regulatory Program in Montana is responsible for permitting work on the upper Yellowstone River and other waters of the United States under two authorities: Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act.

The legislative origins of the program are the Rivers and Harbors Acts of 1890 (superseded) and 1899 (33 U.S.C. 401, et seq.). The most frequently exercised authority is contained in Section 10 (33 U.S.C. 403), which covers construction, excavation, or deposition of materials in, over, or under such waters, or any work which would affect the course, location, condition, or capacity of those waters. Permit authority is granted to the Secretary of the Army.

Under Section 404 authority (33 U.S.C. 1344), the Secretary of the Army, acting through the Chief of Engineers, is authorized to issue permits, after notice and opportunity for public hearings, for the discharge of dredged or fill material into waters of the United States at specified disposal sites. Selection of such sites must be in accordance with guidelines developed by the Environmental Protection Agency (EPA) in conjunction with the Secretary of the Army; these guidelines are known as the 404(b)(1) Guidelines.

Section 10 and Section 404 permit authorities were delegated by the Secretary of the Army to the Chief of Engineers and his authorized representatives. Those exercising these authorities are directed to evaluate the impact of the proposed work on the public interest. Other applicable factors (such as the 404(b)(1) Guidelines) must also be met. Additional clarification of this delegation is provided in the program's implementing regulations (33 CFR 320-332).

Corps regulatory program management and administration is focused at the district office level, with policy oversight at higher levels. The regulations found at 33 CFR 320-332 have evolved over time to reflect added authorities, developing case law, and, in general, the needs and concerns of the public. District Commanders are authorized to issue conditioned permits (Part 325.4) and to modify, suspend, or revoke them (Part 325.7). District Commanders also have authority to issue alternate types of permits such as letters of permission and regional general permits (Part 325.2). A District Commander has the authority under Part 325.8 to make a final decision on a permit application.

Finally, a District Commander's decision on an approved jurisdictional determination, a permit denial, or a declined individual permit is subject to an administrative appeal by the affected party in accordance with the procedures and authorities contained in 33 CFR 331.

1.1.3 Prior Legal and Legislative Action

The Corps was successfully sued in May 1999 by a group of environmental organizations, including the Montana Council of Trout Unlimited, which claimed the Corps needed to better consider the cumulative effects of bank stabilization on the integrity of the riverine ecosystem (*Montana Council of Trout Unlimited, et al., v. US Army Corps of Engineers, et al., Vol. 76, p. 3199, United States District Court, District of Montana, May 11, 2000*). In May 2000, the U.S. District Court judge ordered the Corps to reopen fourteen permits and revisit the cumulative impacts analyses. The fourteen permits named in the suit were reopened as directed. A cumulative impacts assessments was completed for each permit and the permit decisions were re-evaluated. Other results of that District Court decision included recognition that the Corps is not automatically required to perform an EIS for every project or permit request, and that the Corps could continue to review permit applications and issue permits for bank stabilization as long as all provisions of its statutory authorities and the NEPA were followed.

In response to the lawsuit and court decision, the Corps continued accepting and evaluating applications but an enhanced cumulative impact analysis was applied on all subsequent permit reviews. The Corps began using their own permit tracking database and the Task Force's physical features inventory to identify other projects in the same reach as a proposed project.

During the same period of time, the SAMP requirement (below) was inserted directly into the 1999 U.S. Senate Energy and Water Development Appropriations Bill:

“The Committee recommendation includes \$320,000 for the Corps to initiate and complete the Yellowstone River special area management plan, Gardiner to Springdale, MT, study which will assess the long-term effects of streambank stabilization. Information provided by the study should help in making timely decisions based on a watershed approach, and possibly result in a general permit for the area. The Committee expects that this effort will be coordinated with the Yellowstone River task force.”

(WRDA, 1999)

The Omaha District Corps (Regulatory Branch) involvement in the upper Yellowstone River is based upon Congressional Authorization under the 1999 Energy and Water Development Appropriations, Regulatory Program. Specific language within the appropriations stated that the Corps will initiate and complete a SAMP. The Corps was directed to assess the long-term effects of bank stabilization, fully coordinate with the Governor’s Upper Yellowstone River Task Force, and potentially conclude the process with a General Permit.

The SAMP concept originated in the 1980 Amendments to the Coastal Zone Management Act. The process in these amendments was defined as:

“a comprehensive plan providing for natural resource protection and reasonable coastal-dependent economic growth containing a detailed and comprehensive statement of policies, standards, and criteria to guide public and private uses of lands and waters; and mechanisms for timely implementation in a specific geographic area within the coastal zone.”

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As applied to the upper Yellowstone River, a SAMP is intended to reduce problems associated with traditional case-by-case Section 404 permit application review. Competing economic and environmental interests are balanced as individual and cumulative impacts are analyzed in the context of broad ecosystem conditions and future needs.

The purpose of the CEA was to ensure that agency decisions consider the full range of consequences to their actions. Per Council of Environmental Quality (CEQ) guidance, cumulative effects analysis should be considered an iterative process that can be thought of as enhancing the traditional components of the NEPA process. Incorporating cumulative effects analysis into the development of scenarios for an EA or EIS allows re-evaluation and modification of potential agency actions in light of projected cumulative impacts. In this manner, undesirable consequences should be minimized. Considering cumulative effects is also essential in developing mitigation and monitoring.

Different institutions define cumulative impacts in different ways. In general, cumulative impacts refer to the accumulation of human-induced changes to the environment. For federal purposes, the CEQ regulations for implementing NEPA define cumulative effects as:

“the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions regardless of what agency (federal or non-federal) or person undertakes such other actions” (40 CFR 1508.7)

1.1.4 Scoping Summary

The Yellowstone River is approximately 700 miles long, with its headwaters in Wyoming upstream from Yellowstone Lake, south of Yellowstone National Park (YNP). The Yellowstone River is generally referred to as the longest free-flowing river in the lower 48 States. There are no major dams or reservoirs on the river, but there are several major irrigation diversion dams across it along its course. It flows north out of YNP into Montana near the community of Gardiner (population 851) at river mile 561.5. The Yellowstone River flows into the Missouri River just east of the Montana – North Dakota border.

The “Upper Yellowstone River” referred to in this document and in the SAMP is the 86-mile reach flowing through Park County, Montana immediately downstream from YNP. Approximately 62 miles downstream of YNP it turns east and flows past the community of Livingston, leaving Park County near the small unincorporated community of Springdale at river mile 475.7.

The upstream limit of the study area is near Gardiner at the YNP boundary, at the south end of Park County. The downstream limit of the study area is the Park County–Sweet Grass County boundary located approximately 0.7 miles downstream from the bridge at Springdale. Generally, upland areas are beyond Corps jurisdiction but a thorough review of a wide range of alternatives requires consideration of areas well beyond the channel limits. In places where the valley bottom is wide, the area of focus extended out to the valley walls. In canyon reaches, the area of focus extended just beyond the canyon walls. Wetlands that were adjacent to the upper Yellowstone River were included in the scoping area. Tributaries were included in the review to the extent that they affected the physical, chemical, and biological characteristics of the river.

At the beginning of this EA phase, representatives of the Corps Montana Regulatory Office attended the January 2007 Upper Yellowstone Watershed Basin Group meeting in Emigrant, Montana. The purpose of attending that meeting was to speak directly with this local watershed group and solicit preliminary input from them and to inform them that the Corps was going to be holding a separate public meeting in Livingston the following month to formally begin the Draft SAMP EA phase. Response and feedback from the

January 2007 meeting helped focus the Corps presentation in Livingston that was held in February 2007.

The public scoping meeting for the upper Yellowstone River SAMP was held on February 21, 2007, in Livingston, Montana. The two purposes of this public meeting were to inform the public and to solicit input from interested parties in order to develop and evaluate alternatives for possible modification of the Corps Regulatory Program for the upper Yellowstone River. Attendees asked questions, made suggestions, and provided comments. There were opportunities to provide written input during and after the meeting. Information gathered was used during development and evaluation of the alternatives. The Corps also distributed a Public Notice by mail and posted it on the Internet. The Public Notice was issued on February 7, 2007. The period for submitting questions, suggestions and comments was open for 60 days after the public scoping meeting and closed on April 22, 2007. The Corps solicited input from the public; Federal, State, and local agencies and officials; Indian Tribes; and all other interested parties in order to consider and evaluate changes to the Corps Regulatory Program as it pertains to the Yellowstone River in Park County, Montana. Refer to Appendix A for more information on the comments received.

1.1.4.1 Major Issues

This section identifies major issues that are integral to any management changes suggested for the upper Yellowstone River.

- **Needs of the Public to Protect Property and Infrastructure**

Typically, modification of a river to accommodate or protect human uses compromises ecological functions. The conflict between maintaining natural functions and accommodating human use forms the backdrop for program management decisions on the upper Yellowstone River.

Private property, structures, and necessary infrastructure will continue to exist in the river corridor. It is reasonably foreseeable that permits from the Corps will be necessary for periodic maintenance or replacement of these existing facilities. The Corps must balance the need for those activities with the responsibility to protect the upper Yellowstone River.

- **Forced Morphology and Loss of Ecological Function**

Portions of the upper Yellowstone River exist in a natural, geomorphically stable state. Where there is an absence of, or few anthropogenic modifications, there tends to be greater habitat diversity and higher biological productivity (Bowen et al, 2003). However, human development along the upper Yellowstone River has resulted in bank stabilization to prevent erosion and levee construction to protect property from periodic flooding in many areas.

Natural and anthropogenic events that change hydrology, sediment regime, vegetation, or large woody debris dynamics can alter channel processes and morphology to the point of causing a shift in channel type (Montgomery, 1997). The response of a river to disturbances depends on channel type, external constraints, and the amount of previous disturbance (Montgomery, 1997). Transformation of stream type from one type to another is sometimes referred to as “forced channel type” or “forced morphology.” As mentioned previously, forced morphology can be the result of natural events or human actions. The MT DNRC (Dalby and Robinson, 2003) classified 20% of the upper Yellowstone River as forced into an altered channel type. Their work included a Task Force study, which stated:

Very stable, entrenched, *bedrock*, *cascade*, and *plane-bed* channels occur mainly between Gardiner and Mill Creek (49% of channel length) and have changed little since 1948. *Pool-riffle* and *anabranching* (multiple thread) channels occur throughout the downstream drainage (40% of length), are more dynamic and locally show significant change in response to the 1974 and 1996-97 floods. *Anabranching/braided* channels are located in several segments between Pine Creek and Mission Creek (11% of channel length) and are the most dynamic with the largest rates of lateral migration and occurrences of rapid lateral change (avulsion). Of the total channel length between Gardiner and Springdale, about 14 % (12 miles) was classified as strongly affected by channel modification (riprap, levees, etc); another 6 % (4.9 miles) was affected by combined natural and human constraints. The most common *Forced* morphology is where anabranching channels are constrained to pool-riffle or plane-bed channels (e.g. main channel near head of Armstrong and Nelson’s Spring Creek; Livingston area).

(Dalby and Robinson, 2003)

Human activities were determined to be at least partially responsible for areas of forced morphology (Dalby and Robinson, 2003). From a habitat and river function standpoint, forced morphology compromises both aquatic and riparian habitat as well as river functions and services while accomplishing human goals.

Rivers have not traditionally had land-use status as a recognized and manageable landscape component as they flow through agricultural areas, forest lands, or urban areas (Benner, 1997). Lack of protection of ecological river functions and active modification or removal of those functions has resulted in many changes to the river and adjacent lands. River simplification is the reduction in the number of hydraulic habitats including side channels, high flow channels, and sloughs (also referred to as secondary channels) that are connected to the main channel (also referred to as the primary channel) (Benner, 1997). For many years, closure or filling of secondary channels to accommodate development or agriculture was common practice. Relegating the majority of flow to a single channel in a multiple-

channel river system results in a wider primary channel. This represents a substantial decrease in the amount of ecologically important secondary channel riverine habitats.

The purpose of the Task Force's fish habitat study (Bowen et al, 2003) was to evaluate the effects of channel modification on fish habitat. That study identified a lack of shallow depth, slow current velocity (SSCV) habitat as a limiting factor for fish species. SSCV habitat can be found in backwaters and side channels and provides fish refuge from high current velocities, favorable feeding conditions, and shallow water with structural cover that reduces predation of small fish. The purpose of the Task Force fish population study (Zale and Rider, 2003) was to compare juvenile salmonid use of stabilized main channel banks of the upper Yellowstone River to their use of natural, unaltered main channel habitats.

The combined results from the Task Force fish habitat and population studies presented strong evidence that channel modification, including limiting side channel access and limiting the access of overbank flows to adjacent floodplains, result in channel confinement and simplification, which translates to a reduction of SSCV habitat (Bowen et al, 2003). Other Task Force studies determined that birds inhabit the full suite of riparian successional stages and depend on the regeneration of vegetation to maintain that range of conditions. Human activities such as bank stabilization that restrict channel migration, channel avulsion, and overbank flooding are likely to inhibit recurring establishment of early succession riparian habitat zones, leading to a loss of habitat and species complexity important to local riparian bird and wildlife communities (Hansen et al, 2003).

Channel modification includes bank stabilization activities and structures installed to prevent erosion. Levees and berms are constructed to prevent floodplain inundation. Where effective, these modifications will result in a simplified and confined river channel with less SSCV habitat. As stated in the previous section, the Corps must balance the need for those activities with the responsibility to protect the upper Yellowstone River.

• **Perceived Loss of Intrinsic Wild Characteristics**

Of all the rivers that flow out of YNP, only the Yellowstone River and Gallatin River remain wild and free-flowing, and only the Yellowstone River flows through more than one county (it flows through 10 counties in Montana alone) before joining the Missouri River. The North Fork Shoshone River that flows east is controlled by Buffalo Bill Dam before reaching nearby Cody, Wyoming. The Snake River flows south into nearby Grand Teton National Park and is immediately impounded by Jackson Lake Dam before it can escape. The Madison River flows west and is harnessed by Hebgen Dam so close to YNP that the upstream bays of the reservoir nearly touch the park boundary. The Yellowstone River has escaped this fate and flows free and unencumbered out of YNP near the community of

Gardiner to continue a wandering journey towards North Dakota and the Missouri River hundreds of miles downstream.

The natural beauty of the area and the outstanding fishery of the upper Yellowstone River serve as attractants to Park County. The upper Yellowstone River is a “blue-ribbon” trout stream and attracts many resident and non-resident anglers, annually ranking as one of the most fished waterways in Montana (Montana Fish, Wildlife and Parks Statewide Angling Pressure Estimates, 2005).

The Task Force’s Socioeconomic Assessment of the upper Yellowstone River Valley (BBC, 2002) found that residents and visitors value recreational opportunities provided within the upper Yellowstone River corridor. That study found anxiety among Park County residents that the upper Yellowstone River was losing its “wild feel” because of increased river use and too much corridor development. It was determined that river usage and development were increasing, but those were relative perceptions and depended on where the individual study participants lived. Past and present residents and visitors valued the river for many reasons, including drinking water, transportation, recreation, and general aesthetics (BBC, 2002).

Residential development and land use changes were perceived to be a threat to quality of life in the area. However, those changes have been rather slow historically and future changes will be driven by national and local economic conditions (BBC, 2002). Seasonal (not year-round) “residents” comprise 8% of Park County’s population, and wealthy out-of-state landowners are replacing Montana ranchers at a relatively slow rate. Large ranches are remaining intact or growing larger while smaller parcels get subdivided into 5 to 40-acre parcels for development (BBC 2002).

• **Heightened Public Interest and Involvement**

Since the floods in 1996 and 1997, there have been periodic newspaper articles regarding the upper Yellowstone River. The focus of the newspaper articles has been on the increased levels of bank stabilization and the perceived conversion of the upper Yellowstone River from pristine fishery to a controlled and impaired river. Conservation organizations such as the Greater Yellowstone Coalition (GYC), Trout Unlimited (TU), and the Park County Environmental Council (PCEC) remain active and committed to land-use planning, river management reform, and protection of open space within the watershed. The Montana Congressional delegation remains interested in the upper Yellowstone River, and there is still much interest in river issues whenever a meeting is announced that pertains to any aspect of the river.

1.2 Summary of Comments on the Draft EA and the Corps' Responses

The Draft EA was released for comment via Public Notice on February 27, 2009. Comments were accepted until May 28, 2009, after which time the comment period closed and the Corps began addressing the comments received.

Comments were received from the following agencies:

- Montana Department of Environmental Quality
- Montana Department of Natural Resources and Conservation
- Montana Department of Transportation
- United States Environmental Protection Agency
- National Park Service

Comments were also received from the following non-governmental organizations:

- Trout Headwaters, Inc.
- Greater Yellowstone Coalition
- Clemson University
- Montana Troutfitters
- Magic City Fly Fishers
- Bear Creek Council
- Montana Trout
- Montana Audubon
- Park County Environmental Council
- Montana Association of Conservation Districts
- Yellowstone River Conservation District Council
- Park Conservation District

Comments were also received from 951 members of the public or their representatives either by letter, email, or form letter.

No comments were received from any Tribes.

In addition to substantive comments, the Corps also received helpful comments resulting in editing of the EA, or the addition of clarifying text for understandability. There were also comments that were outside of the Corps' ability to resolve, or that were outside of the scope of this EA. Due to the number of comments received from the Montana Department of Transportation, their comments have been summarized separately.

The full set of comments is available for interested parties to review by request from the Montana State Regulatory Office (see contact information on cover sheet). The structure of the comments and responses includes a summary of the comments followed by the Corps' response(s), in italics.

None of the comments were in opposition to the Preferred Alternative, Alternative V; however several of those commenting had suggestions for improving Alternative V.

Comments generally fell into three main categories:

- I. Comments on the Corps' permit processes and authorities;
- II. Comments on the contents of the EA; and
- III. Comments relating to the involvement of others (agencies / public) outside of the Corps Regulatory office in the implementation of the SAMP.

A grouping of the types of comments received, as well as the Corps' responses, can be found in Appendix A.

1.3 Unresolved Issues

The implementation of the SAMP by the Corps' Regulatory office does not fully resolve all of the issues and concerns on the upper Yellowstone River or within the SRMZ. The following is NOT included in the SAMP:

- No new Regional General Permit
- No blanket prohibition of activities
- No permit moratorium
- Actions outside of Corps' Regulatory authority
 - ▶ Sloughing easements
 - ▶ Land zoning
 - ▶ Federal land acquisition
 - ▶ Floodplain permitting

There are several desired actions that remain outside of the jurisdiction of the Corps.

The Corps has no authority to control floodplain development. The best way to limit floodplain development is through zoning or through the purchase of easements. Additionally, the Regulatory program is typically not funded to monitor the aquatic resources, so monitoring will be done by relying on ongoing monitoring programs funded by other agencies and/or other Corps civil works programs, if funding is available.

Only EPA has the authority to deny categories of activities under Section 404. The Corps can deny activities on a case-specific basis, usually related to non-compliance with the Section 404(b)(1) guidelines, and only in response to a specific application or proposal. EPA has already stated that there is no need to invoke Section 404(c) procedures or authorities for the upper Yellowstone River, making the prohibition of selected categories of activities a moot point.

There was a lot of interest in obtaining federal real estate interests within the SRMZ, however Regulatory does not have funding or authority for real estate purchases. These types of tasks are supported by the Corps however other programs with other agencies would need to be utilized to achieve this task.

There is a need for and interest in ongoing monitoring of resources in order to develop thresholds of cumulative effects and also to note any changes within the SRMZ due to the implementation of the SAMP. The Regulatory program does not contain a monitoring funding element, so reach-wide future monitoring will need to be pursued by other agencies or other authorities within the Corps. However, permit conditions may involve site-specific monitoring.

The Corps also cannot lobby for funding from Congress, other than normal budget submittals. There were numerous comments asking the Corps to request various dollar amounts for the benefit of the SAMP and related monitoring. These requests would need to come from outside interests, not the Corps.

2.1 Preferred Alternative

This alternative, identified in the Draft EA as “Alternative V,” combines the strongest elements from the array of alternatives carried forward in the Draft EA for further review. Implementation of this alternative will result in a customized management plan that serves the needs of the public while satisfying the ecological needs of individual reaches.

Under this alternative, the following changes would occur in the upper Yellowstone River corridor:

- Some NWP's would be revoked.
- Those NWP's not revoked would be regionally conditioned with RCs.
- Restrictions would be placed on the configuration and nature of all Department of the Army authorizations, including NWP's, Letters of Permission (LOP), and standard (Individual) Permits (IPs).
- A compensatory mitigation program would be adopted as described in the June 2010 Final Montana Stream Mitigation Procedures (MTSMP), hereby incorporated by reference.
- The upper Yellowstone River would be divided into separate reaches to customize an appropriate regulatory approach for a given geomorphic type. Channel segments sensitive to anthropogenic disturbances would be identified as areas more susceptible to forced morphology and therefore more likely to be evaluated under IP procedures.
- Proposed work within the SRMZ would be evaluated more stringently than proposed work outside of the SRMZ.

Conclusion of this EA and the implementation of recommended changes to the Corps Regulatory Program for the upper Yellowstone River should make the Department of the Army permit process more predictable and effective for the public while providing better protection for the Nation's aquatic resources. As time passes and conditions change, future modifications to the SAMP may be warranted. Adaptive management provisions in the SAMP will allow such changes, and changes will be shared with the public via Public Notice. Adaptive management uses present knowledge to guide management decisions; as new knowledge is gained, management decisions are adapted accordingly.

This alternative will provide predictability for the regulated public while complementing the specific ecological needs of the upper Yellowstone River. One aspect of the 1999 directive from Congress was the requirement that the Corps apply a watershed-level approach to the management decision-making process. Because of the Task Force Studies and the large amount of information developed specifically to support other efforts including the SAMP, the Corps is able to apply a watershed-level approach while considering effects of proposed projects on specific reaches of the upper Yellowstone River.

The geographic scope of the preferred alternative is from River Mile 531.8 to 483.6 and the lateral extent of the channel migration zone mapping. This area will be referred to in the preferred alternative as the "**Special River Management Zone.**" Some of the channel segments within this 48-mile reach already have forced morphology. Where practicable, restoration of appropriate channel type and function should be a management goal. The map below (Figure 2.1.1) shows the upper and lower limits of the area where increased permit restrictions are proposed under the SAMP.

Source data for the SRMZ mapping convention being applied to the SAMP is the Yellowstone River Conservation District Council's (YRCDC) efforts in developing best management practices and cumulative effects assessment for the entire Yellowstone River corridor. For the YRCDC application, Channel Migration Zone (CMZ) mapping was conducted on a county-by-county basis. Channel Migration Zone mapping is based on the understanding that rivers are dynamic and move laterally across their floodplains through time. As such, over a given time period, rivers occupy a corridor area whose width is dependent on rates of channel shift. The CMZ delineates areas that have a moderate to high risk of channel occupation due to channel migration over a specified time frame. Information on methods and map availability can be found at:

<http://www.yellowstonerivercouncil.org/maps.php>

For application of these data to SAMP efforts, source Park County spatial data was acquired and modified. Data depicted in the SRMZ mapping represents the outer boundaries of the source CMZ data. It is recommended that users consult the source information at the above web site in concert with this advisory SRMZ mapping.

The boundaries presented in the SRMZ maps are intended to provide a basic planning tool to help guide and support decisions within the Yellowstone River corridor. These data are not intended to provide regulatory boundaries or override site-specific assessments.

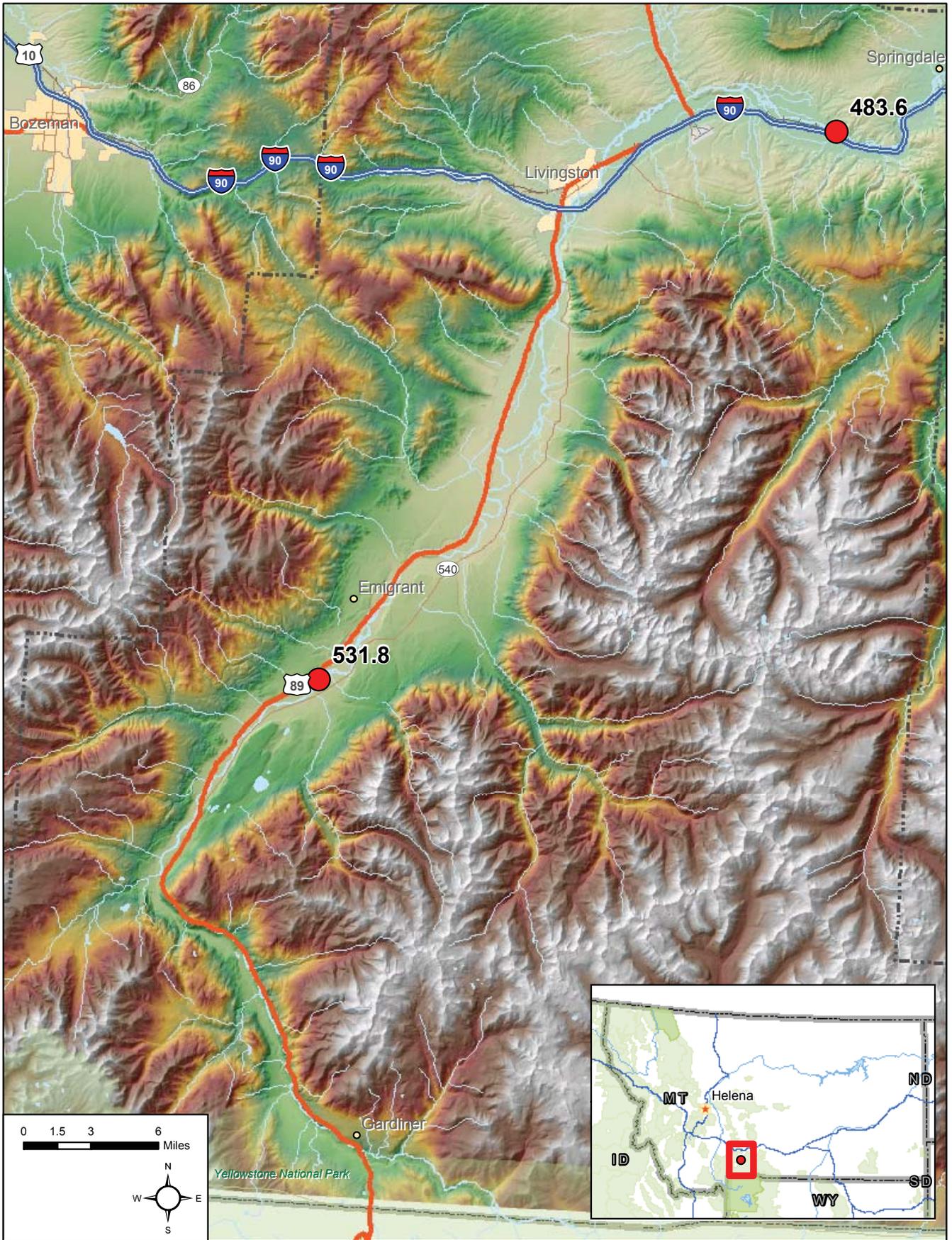


Figure 2.0.1: Special River Management Zone (SRMZ)

The SRMZ includes secondary channels, side channels, and the main (primary) channels, and adjacent wetlands within the channel migration zone (CMZ) or, in absence of a CMZ, within areas flooded by the 100-year discharge.

The focus of regulatory program modifications under the SAMP will be on the SRMZ.

- ▶ The SRMZ is the central portion of the upper Yellowstone River and includes the reaches that are least resilient to anthropogenic inputs that affect morphology;
- ▶ The SRMZ does not include the reaches that are resistant to anthropogenic inputs, nor does it include reaches that are least susceptible to development of forced morphology;
- ▶ The SRMZ includes very productive wild fishery sections and includes much of the SSCV habitat found on the upper Yellowstone River;
- ▶ The SRMZ encompasses the area where the bulk of the population of Park County resides; and
- ▶ The SRMZ is where the majority of Corps permits have historically been issued on the upper Yellowstone River.

Controversy continues around permit reviews in the SRMZ as a result of two colliding factors: the dynamic nature of the channel types in the SRMZ , and the need of public agencies and private landowners to protect their interests from the river. Delineation of this area of focus is the first step in ensuring that future permitting processes adequately and efficiently balance the needs of the riverine environment with the desire of applicants to protect property and infrastructure.

Table 2.1.1: Description of End Points: SRMZ

	Longitude / Latitude	Legal Description	Tributaries Nearby?	Closest towns
Upstream End Corps River Mile 531.8	Datum NAD83/ WGS84	In NE ¼ Section 8, Township 6 South, Range 8 East	Between Sixmile and Emigrant Creeks	Approximately 4 river miles upstream from Emigrant
Downstream End Corps River Mile 483.6	N 45.70330° W 110.32361°	On Line between Sections 35 and 36, Township 1 South, Range 11 East	Between Mission and Locke Creeks	Approximately 7 river miles upstream from Springdale

2.1.2 Allowable Project Configuration

This portion of the preferred alternative describes guidelines for **ALL** Department of the Army authorizations issued within the aforementioned SRMZ, including Regional General Permits (GPs), NWP, LOPs, and IPs.

Within the upper Yellowstone River, the types of projects that have the greatest potential to affect channel morphology and all associated functions are:

- ▶ Stabilization of riverbanks;
- ▶ Confinement of floodflows to channels by disallowing overbank flooding;
- ▶ Removal or addition of sediment from or to the river channel network.

Because these types of projects have the potential to force river morphology to an unstable and/or ecologically undesirable condition, any subsequent permitted action will be subject to the following guidelines:

1. Bank stabilization that restricts lateral movement of a primary or secondary channel should be allowed only in areas near the perimeter of the CMZ. Bank stabilization work should result in stabilized banklines that are approximately parallel to the SRMZ boundary.
2. To the extent that a Corps permit is required, projects should not limit floodwater access to floodplain areas.
3. Projects should not artificially confine and restrict flows into or through primary or secondary channels.
4. To the extent that a Corps permit is required, the construction of excavated ponds is discouraged in the upper Yellowstone River, adjacent wetlands, and within the designated floodplain or SRMZ.
5. Fill placement in primary or secondary channels intended to create in-stream ponds or impoundments is discouraged.
6. Conversion of one type of aquatic resource to another such as conversion from existing natural wetlands to open water ponds, or from natural river channel to wetlands or ponds, is discouraged. Conversion of man-made ponds and channels to river channel or wetlands may be acceptable if such work is part of a restoration project.
7. Removal of sediment from or addition of sediment to river channels or the floodplain is discouraged unless limited to the minimum necessary to restore necessary bridge, irrigation, or water intake functions. In those cases, the sediment removal should be limited to the minimum amount necessary to restore necessary function.

8. Any of the above may be acceptable in cases where the project goals include restoration or rehabilitation of previously lost or compromised aquatic function(s). In those cases, compensatory mitigation is unnecessary because there is a net increase in aquatic functions and services.
9. Compensatory mitigation will be required for projects that cannot comply with the guidelines above. Compensatory mitigation work is intended to offset the amount and type of adverse effects attributable to the project. For projects proposed within the SRMZ, compensatory mitigation should occur within the SRMZ . If mitigation within the SRMZ is not practicable or possible, an increased level of mitigation may be accomplished within the upper Yellowstone River or its watershed.
10. The Montana Regulatory Program's June 2010 Final Montana Stream Mitigation Procedures (MTSMP) shall be used to determine the amount of mitigation required and the amount of credit generated by a mitigation project. The MTSMP is available at:
<http://www.nwo.usace.army.mil/html/od-rmt/smp.pdf>

The guidelines above were developed to ensure that in the SRMZ the physical, chemical, and biological integrity of the upper Yellowstone River is maintained.



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2.1.3 Nationwide Permit Modifications

The preferred alternative includes revocation of some NWP within the SRMZ. The preferred alternative also includes development of Regional Conditions (RCs) specific to the SRMZ for the NWPs that are not revoked. This section is a permit-by-permit discussion of the proposed actions under the preferred alternative.

The current NWPs, general conditions, and definitions were published in the March 12, 2007 Federal Register. They became effective on March 19, 2007; in accordance with 33 CFR 330.5(b), NWPs are valid for up to five years. The current NWPs, general conditions, and definitions will expire no later than March 18, 2012. Every 5 years, when replacement NWPs are proposed, the SAMP and pertinent details of this alternative will be revisited. A Public Notice will be circulated to inform the regulated community and public of changes to the NWP program on the upper Yellowstone River and to remind them of the limits and restrictions present in permits which are not modified or revoked.

Relevant changes to the NWP program within the SRMZ are listed below. All other NWPs remain unmodified at this time.

2.1.3.1 NWPs that are proposed to be revoked within the SRMZ. Projects can be pursued under the standard IP procedures.

- **Nationwide Permit 17, Hydropower Projects** - This NWP would be revoked within the SRMZ; new proposals would be considered through the IP process.
- **Nationwide Permit 21, Surface Coal Mining Operations** - This NWP would be revoked within the SRMZ; new proposals would be considered through the IP process.
- **Nationwide Permit 29, Residential Developments** - This NWP would be revoked within the SRMZ; new proposals would be considered through the IP process.
- **Nationwide Permit 39, Commercial and Institutional Developments** - This NWP would be revoked within the SRMZ; new proposals would be considered through the IP process.
- **Nationwide Permit 42, Recreational Facilities** - This NWP would be revoked within the SRMZ; new proposals would be considered through the IP process.
- **Nationwide Permit 43, Stormwater Management Facilities** - This NWP would be revoked within the SRMZ; new proposals would be considered through the IP process.
- **Nationwide Permit 44, Mining Activities** - This NWP would be revoked within the SRMZ; new proposals would be considered through the IP process.

- **Nationwide Permit 45, Repair of Uplands Damaged by Discrete Events** - This NWP would be revoked within the SRMZ; new proposals would be considered through the IP process. Note: Uplands lost above the OHWM can be repaired without a Section 404 permit; may still require authorization under Section 10.
- **Nationwide Permit 49, Coal Remining Activities** - This NWP would be revoked within the SRMZ; new proposals would be considered through the IP process.
- **Nationwide Permit 50, Underground Coal Mining Activities** - This NWP would be revoked within the SRMZ; new proposals would be considered through the IP process.

2.1.3.2 NWPs that will have new RCs within the SRMZ

- **All NWPs** – notification will be required for **ALL** NWPs
- **Nationwide Permit 3. Maintenance** - New RC for bank stabilization may apply.
- **Nationwide Permit 11. Temporary Recreational Structures** - Add RC to require installation of structures no earlier than 7 days in advance and removal no later than 7 days after use ends.
- **Nationwide Permit 12. Utility Line Activities** - Add RC that prohibits trenching within the OHWM, within alternate flow channels, between channels, or within adjacent wetlands.
- **Nationwide Permit 13. Bank Stabilization** - Add new RC that would prohibit temporary bank stabilization during spring runoff periods and prohibits any temporary or permanent levees within the SRMZ. Allow only bank stabilization work that is parallel to and adjacent to the valley wall and/or SRMZ boundary. All other bank stabilization must be reviewed under IP procedures.
- **Nationwide Permit 14. Linear Transportation Projects** - Add RC that would prohibit new transportation facilities within the CMZ. Replacement, reconstruction, and upgrading of existing facilities would still be allowed under this Nationwide Permit within the CMZ. New transportation facilities would need to be reviewed under IP procedures.
- **Nationwide Permit 27. Aquatic Habitat Restoration, Establishment, and Enhancement Activities** - Add RC that would prohibit, within the CMZ, water control structures, dikes, berms, current deflectors, bank stabilization, and ponds, unless it is demonstrated that these features contribute to the restoration or rehabilitation of previously lost or impaired functions on the upper Yellowstone River.
- **Nationwide Permit 30. Moist Soil Management for Wildlife** - Add RC that would require fire breaks within the CMZ be reclaimed and restored within six months after the fire event ends.

- **Nationwide Permit 33. Temporary Construction, Access, and Dewatering** - Add RC that would prohibit temporary bank stabilization during spring runoff periods and prohibits temporary levee construction during spring runoff periods. Within the SRMZ, only bank stabilization work that is parallel and adjacent to the valley wall and/or CMZ boundary would be allowed. All other bank stabilization must be reviewed under IP procedures.
- **Nationwide Permit 40. Agricultural Activities** - Add RC that would prohibit all activities under this Nationwide Permit except work associated with the reduction of existing adverse impacts on the upper Yellowstone River. Examples of allowable projects include work associated with livestock management, moving livestock watering areas off the river or out of the CMZ, removal of irrigation systems from the CMZ, and the removal or conversion of irrigation systems from flood irrigation to sprinkler irrigation.



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2.1.4 Regional Conditions Proposed for Nationwide Permits Issued Within the SRMZ

Corps Districts have the authority to develop and implement RCs for the NWP, after approval by the Division Commander, to account for regional differences in aquatic resource functions, services, and values. RCs ensure that the NWP authorize only those activities that have minimal individual and cumulative adverse effects on the aquatic environment and other public interest review factors. RCs are important tools for protecting locally important aquatic resources, endangered and threatened species and their critical habitat for those species, essential fish habitat, historic properties, and other important resources.

The following RCs are proposed to be required for NWP within the SRMZ of the upper Yellowstone River. If the proposed project cannot comply with all of these RCs, the project will be evaluated under IP procedures. Some RCs proposed for the SRMZ will be the same as or similar to the NWP RCs that apply to the NWP program in Montana. Within the SRMZ, these RCs will supersede the RCs in effect elsewhere in Montana. RCs will be developed by the Omaha District using procedures prescribed in 33 CFR 330.5 which include a public notice and approval by the Corps Division Engineer.

SAMP RC 1. Notification: Notification is required for all Nationwide Permits

SAMP RC 2. Bank Stabilization: For bank stabilization activities associated with any Nationwide Permit, including maintenance of bank stabilization, the following apply:

For bank revetments such as riprap, rootwads or any bioengineered revetment, **a.** through **e.** apply:

- a.** Revetments must conform to the existing eroded or eroding bankline, unless such work is determined by the Corps to be biologically or geomorphically beneficial for the upper Yellowstone River.
- b.** Revetment slopes must be flatter than the angle of repose for the selected revetment material. For example, rock riprap normally needs to be placed on a slope flatter than 1.5H:1V (1.5 Horizontal to 1 Vertical).
- c.** Revetments are only permissible under Nationwide Permits if they are approximately parallel to and near the lateral boundaries of the SRMZ.
- d.** Revetments must not extend above the elevation of the adjacent natural bank height (i.e., no new levees).
- e.** Revetments must not wholly or partially block flows from entering a side channel, secondary channel, or an overflow channel, unless such work is determined by the Corps to be necessary for maintaining or restoring the geomorphic integrity of the upper Yellowstone River.

For bank stabilization structures that project into the stream, such as weirs, barbs, hard points, or vanes, **f.** through **k.** apply:

- f.** Bank stabilization structures must not wholly or partially block flows from entering a side channel, secondary channel, or an overflow channel, unless such work is determined by the Corps to be necessary for maintaining or restoring the geomorphic integrity of the upper Yellowstone River.
- g.** Bank stabilization structures are only permissible under Nationwide Permits if they result in an effective bankline that is approximately parallel to and near the lateral boundaries of the CMZ.
- h.** Bank stabilization structures must be keyed into the bank far enough to prevent flanking.
- i.** Bank stabilization structures cannot occupy more than 10% of the bankfull channel area. Bankfull channel area pertains to the specific primary or secondary channel in question, and is not the aggregate channel area of all primary and secondary channels in multi-channel reaches.
- j.** Bank stabilization structures must not present hazardous obstructions to boating, floating, or other river uses.
- k.** Bank stabilization structures that are low in elevation, project only a short distance out from the bank, and angle upstream are more likely to qualify for Nationwide Permits because they typically result in less adverse impact on aquatic resources than structures that are tall, long, and point downstream.

SAMP RC 3. Sediment Management: Sediment removal would be allowable only to maintain function of existing facilities and structures, or as necessary to maintain or restore the geomorphic integrity of the upper Yellowstone River. Diversion or removal of sediment or alluvium from the river channel and adjacent wetlands for other purposes would not be allowed in the SRMZ under Nationwide Permits. Examples of sediment diversion or removal not allowed under Nationwide Permit include hydraulic dredging and mining and mechanical excavation to obtain aggregate, fill material, or minerals, including gold. Processing of material for the purpose of obtaining select minerals or a specific gradation of material, where only a portion of the sediment or alluvium is removed and the remainder returned to the SRMZ, would not be allowed under Nationwide Permits in the SRMZ.

SAMP RC 4. Dams: New dams, diversions, and/or impoundments would not be authorized under Nationwide Permits in the SRMZ. These projects typically have more than minimal adverse impacts and must be reviewed under IP procedures.

SAMP RC 5. Constructed Ponds and Stream Channels: Construction of ponds and new artificial stream channels would be prohibited under Nationwide Permits in the SRMZ, unless they are necessary and appropriate elements of a stream or wetland restoration project.

SAMP RC 6. Emergency Work: In accordance with Department of Army (DA) Permit requirements, work requiring a DA Permit that is necessary to prevent imminent loss of life or property may be undertaken only after receiving approval from the Corps Montana Regulatory Program. The Corps can be contacted in person, by telephone at 406-441-1375 and/or by Fax at 406-441-1380. Contact may also be made by sending an e-mail to: todd.n.tillinger@usace.army.mil. If a permit is required, the Corps can typically provide a response within 1-3 days during an emergency situation. All such work will be fully reviewed under the SAMP provisions

SAMP RC 7. Peatlands: All nationwide permits, with the exception of 3, 5, 6, 20, 27, 32, and 38, are revoked for use in peatlands in Montana. “Peatlands” are any waterlogged

area containing an accumulation of peat 30 centimeters or more thick. Any type of peat-covered terrain, including fens, bogs, and muskegs, are all peatlands.

EMERGENCY ACTIONS:

We recognize that during a flood emergency and times of imminent danger, landowners may decide to do what they determine is necessary to protect their property. However, a flood emergency does not remove the landowner’s responsibility to obtain a permit to place fill material in a Water of the U.S. (as required by the Clean Water Act and the Rivers and Harbors Act). After the flood emergency is over, landowners will need to either apply for a permit or remove the material that was placed during the emergency.

SAMP RC 8. Placement and Removal of Temporary Fills: Temporary fills in wetlands must be placed on a horizontal marker layer such as fabric or certified weed-free straw to delineate the pre-project ground or streambed elevation and facilitate complete fill removal and site restoration.

SAMP RC 9. Temporary Vegetation Impacts: Limit clearing of riparian or wetland vegetation to the absolute minimum necessary. Where temporary riparian or wetland vegetation impacts are unavoidable, mow or cut off the vegetation above the ground, leaving the topsoil and

root mass intact. Restore temporarily disturbed areas to original contours and use seeding and planting as necessary to re-establish desirable vegetative cover, utilizing native species in areas where native species were impacted.

SAMP RC 10. Erosion Control Blanket: All erosion control blanket or fabric used in or adjacent to waters of the U. S. is proposed to be natural and biodegradable to ensure decomposition. Do not use material that includes a synthetic or ultraviolet (UV) stabilized mesh, as those products take a long time to degrade and trap small animals, birds, amphibians and fish. Will allow the use of silt fencing as long as it is removed after use.

SAMP RC 11. Nationwide Permits 3 – Maintenance, and 45 - Repair of Uplands Damaged by Discrete Events: “Discrete Event,” does not include streamflow equal to or less than a bankfull discharge.

SAMP RC 12. Suitable Material: Permittees are reminded of the Nationwide Permit General Condition No. 6 which prohibits the use of unsuitable material, and the Omaha District’s “Generic Prohibitions Regarding the Use of Certain Materials as Fill in Waters of the United States” (See Appendix I). The MT DEQ issued “Specifications for use of Concrete Riprap for Streambank Stabilization,” (See Appendix I) which apply to proposed work in jurisdictional waters.



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2.1.5 Compensatory Mitigation for Adverse Impacts in the SRMZ

There is inherent tension between aquatic resource protection and human use of the upper Yellowstone River corridor. Despite measures taken by the Corps and all stakeholders, adverse impacts are still likely to occur. Inevitably, there will be work done to ensure that public infrastructure remains safe and functional. Private landowners have a need to protect their property and livelihoods from erosion and flooding. Private business and industry of all kinds make valuable contributions to the economy and quality of life in Park County and along the upper Yellowstone River. In cases where adverse impacts are unavoidable and have been minimized, those adverse impacts should be offset by compensatory mitigation.

The Montana Regulatory Program's "FINAL Stream Mitigation Procedure for Montana – June 2010," (MTSMP) and any subsequent revisions, shall be used to determine the amount of mitigation required and the amount of credit generated by a mitigation project. The MTSMP is available at: <http://www.nwo.usace.army.mil/html/od-rmt/smp.pdf>

That document includes allowances for small projects that may require no mitigation. However, the Corps will still review projects on the upper Yellowstone River on a case-specific basis to determine whether even small projects in the SRMZ should be offset with mitigation. This is necessary because of the sensitive nature of some river reaches to new or additional anthropogenic disturbances of any magnitude, including cases of cumulative effects.

2.1.5.1 No Compensatory Mitigation Required

No compensatory mitigation is required for work contributing to the restoration or rehabilitation of previously lost or impaired functions on the upper Yellowstone River, including work done under Nationwide Permit 27 – Aquatic Habitat Restoration, Establishment, and Enhancement Activities, as long as there are net increases in aquatic resource functions and services.

No compensatory mitigation is required for maintenance work authorized under any of the Nationwide Permits in effect in the SRMZ.

No compensatory mitigation is required for temporary impacts authorized under any of the Nationwide Permits in the SRMZ provided the duration of the impact is less than 90 calendar days.

No compensatory mitigation is required for work performed under the following Nationwide Permits:

1. Aids to Navigation
2. Structures in Artificial Canals
4. Fish and Wildlife Harvesting, Enhancement, and Attraction Devices and Activities
5. Scientific Measurement Devices
6. Survey Activities
9. Structures in Fleeting and Anchorage Areas
10. Mooring Buoys
16. Return Water From Upland Contained Disposal Areas
18. Minor Discharges
19. Minor Dredging
20. Oil Spill Cleanup
22. Removal of Vessels
25. Structural Discharges
30. Moist Soil Management for Wildlife
31. Maintenance of Existing Flood Control Facilities
36. Boat Ramps
37. Emergency Watershed Protection and Rehabilitation.
38. Cleanup of Hazardous and Toxic Waste

2.1.5.2 Compensatory Mitigation Required

Compensatory mitigation is required if the proposed work prevents expected normal high-flows from accessing primary or secondary river channels or prevents flooding of adjacent floodplain or riparian areas. Examples include, but are not limited to, new levees, berms on the floodplain or riverbank, road and railroad fills, bridge approach fills, building pads, and channel and floodplain plugs intended to prevent flow into low floodplain areas or secondary channels.

Compensatory mitigation is required if the proposed work results in realignment of all or part of a primary or secondary channel unless the work is a necessary and appropriate element of a stream or wetland restoration project.

Compensatory mitigation is required for temporary impacts in the SRMZ where the duration of the impact exceeds 90 calendar days.

2.1.5.3 Compensatory Mitigation Required on Case-Specific Basis

Compensatory mitigation may be required if bank stabilization work is not within the outermost 5% of the overall width of the SRMZ as measured at the area of project impact, or is not approximately parallel to the boundary of the SRMZ.

Compensatory mitigation may be required for placement of new or additional riprap associated with maintenance work.

Compensatory mitigation may be required for work in ditches or canals determined to be waters of the United States. (What is the reason for this?)

Compensatory mitigation may be required for work performed as part of an Enforcement Action, including work performed under Nationwide Permit 32 – Completed Enforcement Actions.

Compensatory mitigation may be required for work affecting the location, timing, or amount of sediment recruitment or deposition, and for work affecting sediment transport rates.

2.1.5.4 Location of Compensatory Mitigation

For projects proposed within the SRMZ, compensatory mitigation should occur within the SRMZ. If mitigation within the SRMZ is not practicable or possible, mitigation may be accomplished elsewhere on the upper Yellowstone River (i.e., on the Yellowstone River within Park County, Montana). If mitigation is not practicable or possible on the upper Yellowstone River, mitigation may be accomplished downstream on the Yellowstone River within the watershed, or finally, elsewhere in the watershed on tributaries.

For the purposes of offsetting impacts in the SRMZ, the watershed is defined as the 8-digit Hydrologic Unit Code (HUC) 10070002 – Upper Yellowstone River. The downstream limit of HUC #10070002 is the confluence of the Yellowstone River and Bridger Creek in Sweet Grass County, a right-bank tributary. The upstream limit of HUC #10070002 is the confluence of the Yellowstone River and Reese Creek, a left bank tributary approximately 4 miles downstream from the community of Gardiner and Yellowstone National Park. Mitigation is preferred to occur within the watershed HUC #10070002 because it encompasses all but 4 miles of the upper Yellowstone River covered by the SAMP (See figures 2.5.5.4a and 2.5.5.4b).

In all cases, the amount of required compensatory mitigation work located outside of the SRMZ increases for a given project due to scalar, spatial, temporal, and ecological considerations. When compensatory mitigation is deemed necessary, the location of said mitigation must be selected from locations in the following order of preference, and the acreage requirements could increase on a sliding scale with option 1 being the least acreage of mitigation:

1. On the Yellowstone River within the SRMZ.
2. On the Yellowstone River in Park County, but outside of the SRMZ.
3. On the Yellowstone River, but outside of Park County in HUC #10070002.
4. Off of the Yellowstone River but on tributaries upstream from Sweet Grass County in HUC #10070002.
5. Off of the Yellowstone River and on tributaries downstream from Park County in HUC 10070002.
6. Within Watershed 13 as described in the Montana Stream Mitigation Procedure – June 2010 (Appendix J). Watershed 13 is comprised of the Montana portions of HUC #s: 10070001, 10070002, 10070003, 10070004, 10070005, and 10070006.



Figure 2.1.5.4a - HUC# 10070002
Location



Figure 2.1.5.4b - HUC# 10070002
Upper Yellowstone River

2.2 Likelihood of Compliance with Section 404(b)(1) Guidelines

This section outlines the probabilities of compliance with the Section 404(b)(1) Guidelines (Guidelines) for common activities within the SRMZ. The Guidelines contain several provisions prohibiting issuance of a permit for activities which have avoidable or significant impacts to waters of the United States. For “non-water dependent projects” – those that do not need to be located in or near special aquatic sites to fulfill their basic purpose – the Guidelines presume that less environmentally damaging practicable alternatives to filling wetlands exist. The Guidelines also prohibit projects which would jeopardize threatened or endangered species, violate state water quality standards, or involve significant environmental degradation. In addition, the Guidelines require that unavoidable impacts be mitigated to the maximum extent possible.

The 404(b)(1) Guidelines establish the substantive environmental standards applied in the review of proposed discharges of dredged or fill material into waters of the United States. Consistent with the Guidelines, potential impacts from the placement of dredged or fill material into waters of the United States must be avoided and minimized to the extent appropriate and practicable.

High, moderate, and low probability ratings of compliance with the Guidelines were assigned to common categories of discharge, based on input received on the draft EA and information on cumulative impacts identified in the CEA study. The likelihood of compliance is for all regulated activities, whether issued under a Nationwide Permit, individual permit, or other type of permit. Table 2.2 identifies projects and their likelihood of compliance with the Guidelines.

2.2.1 High Probability of Compliance

A “high probability of compliance” means that for the types of projects listed below, it is likely (but not guaranteed) that compliance with the Guidelines could occur, and therefore, likely that a permit could be issued within the SRMZ. However, mitigation may still be needed.

2.2.2 Moderate Probability of Compliance

A “moderate probability of compliance” means that for the types of projects listed below, it is uncertain if compliance with the Guidelines could occur, and therefore, it is uncertain if a permit could be issued within the SRMZ. If a permit would be issued, mitigation would be likely.

2.2.3 Low Probability of Compliance

A “low probability of compliance” means that for the types of projects listed below, it is unlikely (but possible) that compliance with the Guidelines could occur, and therefore, unlikely that a permit could be issued within the SRMZ. If a permit would be issued, mitigation would be required and could be substantial.

Table 2.2 – Probability of Compliance with 404(b)(1) Guidelines

High Probability of Compliance	Moderate Probability of Compliance	Low Probability of Compliance
<ul style="list-style-type: none"> • Wetland restoration or enhancement • Fish passage or fish habitat restoration • Repair, rehabilitation, replacement of previously authorized structures • Survey activities • Return water from an upland contained dredged disposal area • Oil and hazardous substances clean-up • Bank stabilization using vegetative treatments • Power transmission line construction • Backfill / bedding for utility lines • Pipeline construction 	<ul style="list-style-type: none"> • Water control structures • Duck blinds • Outfall / intake structures • Bank stabilization with hard structures • Road crossings • Bridges • Boat ramps and docks • Wind, geothermal, solar projects 	<ul style="list-style-type: none"> • Floodplain development involving placement of fill in wetlands • Hard rock mining • Coal mining • Energy extraction activities such as oil & gas exploration and development • Hydropower projects • Dredge mining • Dam construction on primary and side channels • Projects that partially or fully block primary or secondary channels • Levees and other projects that impede the ability of floodwater to access the floodplain • Projects that moderately increase or decrease the sediment transport beyond normal variation • Projects that adversely affect water quality, including summer and winter temperatures • Projects that adversely affect slow current velocity habitat for fishes • Stockponds • Water reuse pits • Dugouts • Land Levelling • Ditching • Channelization

2.3 Summary of Environmental Effects of the Preferred Alternative (Alternative V)

The preferred alternative would permit some unavoidable impacts that affect wildlife, but would ensure those impacts were as minimal as possible. Adverse impacts would be minimized through the use of permit conditions on a programmatic and case-specific basis. Adverse impacts exceeding a minimum threshold would be offset with appropriate compensatory mitigation. Therefore, upon completion of any authorized work and required mitigation there should be beneficial effects on wildlife.

The focus of the Final EA is on the resources potentially impacted by implementation of the preferred alternative. The analysis of impacts, including cumulative impacts, can be found in Appendix D. The analysis of impacts to resources not impacted by the preferred alternative can be found in the Draft EA.

The implementation of the preferred alternative will have no effect on federally listed species within Park County.

Beneficial impacts are indicated by “+” and adverse impacts are indicated by “-“. None of the impacts (beneficial or adverse) to any of the resources is considered significant.

Table 2.3 – Summary of Effects of the Preferred Alternative

Resource	Direct Effects	Indirect Effects	Cumulative Effects
Vegetation	+	+	+
Water Quality	+	+	+
River Morphology	+	+	+
Fish & Wildlife	+	+	+
Agriculture	-	-	-
Socioeconomics	+/-	+/-	+/-
Socio-Cultural Values	+	+	+
Transportation	-	-	-
Visual	+	+	+

The preferred alternative had the greatest net benefit among the alternatives considered. For a comparison of the preferred alternative with the other alternatives, see Appendix D or the Draft EA.

3.1 Adaptive Management and Monitoring

Adaptive management uses present knowledge to guide management decisions; as new knowledge is gained, management decisions are adapted accordingly.

After completion and final approval of this EA and the preferred alternative, the document will be distributed to stakeholders, interested parties, and the public via a Public Notice. The SAMP is intended to be a plan that responds effectively to physical, social, and legal changes. The need for future modifications to the SAMP will be evaluated periodically. Adaptive management provisions in the SAMP are intended to allow any necessary changes based on new information. The public will be notified of any changes via Public Notice.

To adequately evaluate the effects of the SAMP on the upper Yellowstone River, some monitoring may be necessary. Ideally, monitoring would continue data collection and analysis that had begun with the Task Force Studies. This would allow a continuous and uniform data set to develop. Commitments and specifics for such a monitoring program are presently undetermined.

USGS-Biological Resources Division (Auble et al) did a Summary of the Task Force studies and identified a need for future monitoring of key resource parameters. Future monitoring of hydrologic, morphologic, biologic, habitat, and water quality data is necessary to track changes in the upper Yellowstone River corridor. Existing sources of future monitoring data include: regular reviews of streamflow and stage-discharge relationships at existing USGS gages; regular reviews of fish population surveys and estimates; water quality data collected by State, County, or other local officials; tracking of permits requested and issued; and reviews of updated aerial photography as it becomes available.

Monitoring will allow identification of trends leading to adverse cumulative effects. The cause of those trends could be discerned and those attributable to anthropogenic activities could be identified. If a reach or system-wide shift away from desirable resource conditions occurs, adaptive management provisions will allow the modification of the SAMP to ensure adequate protection of the upper Yellowstone River. Similarly, lack of adverse effects should be considered when evaluating Corps Regulatory Program efficiencies and fair and balanced decision making.

Finally, work that occurs beyond the limits of Corps jurisdiction must be considered to the extent that those projects or activities affect essential corridor parameters necessary for full and appropriate ecological function. Levees, buried revetments, and other means of lateral confinement and flood proofing are sometimes constructed without need for a Corps permit in areas that are not wetland and are outside the OHWM. These facilities may require other permits such as a floodplain development permit from Park County

or various other State or Federal permits, and it is recommended that consideration of channel processes be part of their permit reviews. Periodic review of the activities beyond Corps control is essential to ensure that the goals and objectives of the SAMP are still valid. Substantial amounts of flood prevention or bank stabilization work in ecologically sensitive areas needs to be recognized and appropriate changes to the SAMP would be in order.

The Corps' Regulatory program does not have funding provisions for ongoing monitoring, so new information will be gained through collaboration with other agencies that collect data within the SRMZ, as well as Corps civil works programs that have ongoing monitoring programs. As new information becomes available on resources within the SRMZ, the Corps will evaluate that information in the context of the SAMP in order to determine whether modifications are needed to the current plan.



Corps of Engineers photo

4.1 Corps Team and Involved Parties

4.1.1 Corps' EA Team (Omaha District)

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4.1.2 Corps' Management Team

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Omaha District Operations Division Chief: Kathryn Schenk
Omaha District Regulatory Branch Chief: Martha Chieply
Omaha District Regulatory Field Support & Analysis Section Chief: Mary Hoffman
Omaha District Montana State Program Manager: Todd Tillinger

4.1.3 Congressional Delegation

U.S. Senator Max Baucus
U.S. Senator Jon Tester
U.S. Congressman Denny Rehberg

5.1 References

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