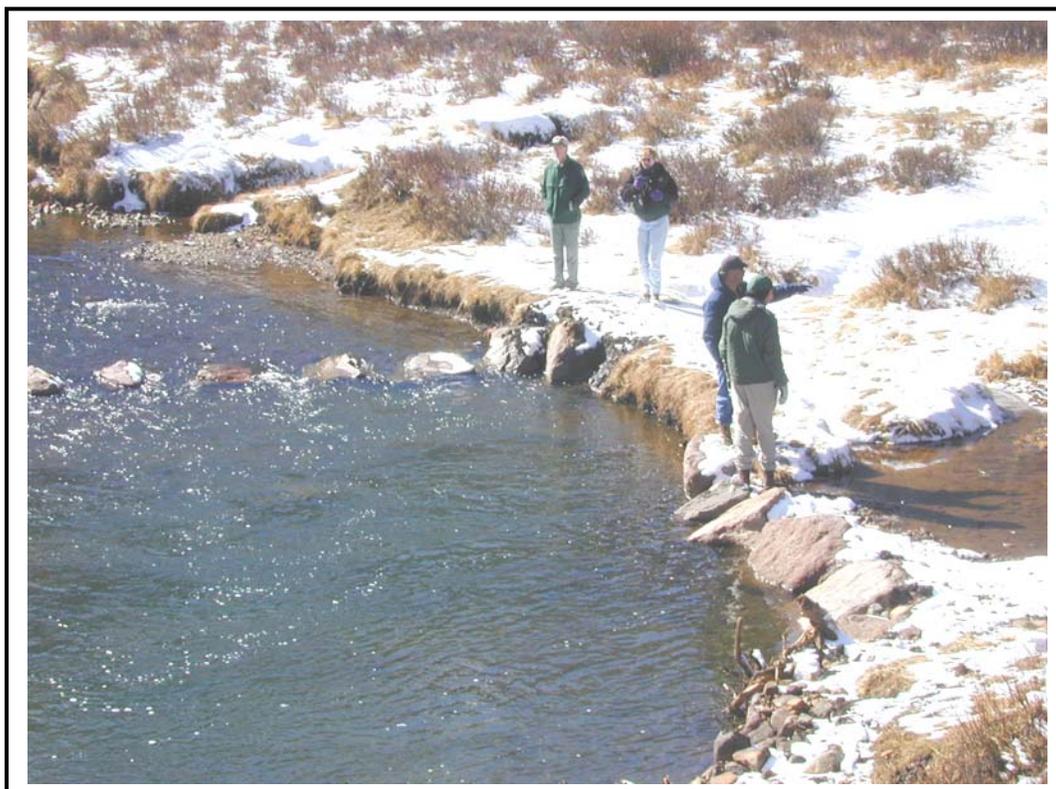


FINAL EA
Environmental Assessment for Watershed
and
Fisheries Conservation Treatments



PUBLIC LANDS CENTER

Rio Grande National Forest, US Forest Service, US
Department of Agriculture and
San Luis Resource Area, Bureau of Land Management, US
Department of the Interior

April 2005

**Decision Notice
And
Finding of No Significant Impact**

Watershed and Fisheries Conservation Treatments

**SAN LUIS VALLEY
PUBLIC LANDS CENTER**

**USDA Forest Service
Rocky Mountain Region
Public Lands Center
Rio Grande National Forest and
San Luis Resource Area, BLM, Colorado**

Decision Notice and Finding of No Significant Impact Watershed and Fisheries Conservation Treatments

Introduction

This Decision Notice documents my decision for the Watershed and Fisheries Conservation Treatments. This Decision Notice contains a brief summary of the environmental analysis completed for the treatments as well as my decision regarding which alternative to implement and the rationale for my decision. It also contains certain findings required by various laws, and information concerning the rights to administrative review of this decision. The Final Environmental Assessment for the Watershed and Fisheries Conservation Treatments is incorporated by reference to this decision document.

The Watershed and Fisheries Conservation Treatments EA analyzes and implements watershed and fishery conservation treatments in a more expedient manner while meeting all legal and regulatory requirements. It would require a watershed checklist to be completed by specialists once a specific project is proposed. Watershed and fisheries treatments could be done on lands managed by the Rio Grande National Forest and the San Luis Resource Area, BLM, in south-central Colorado. Both BLM lands and National Forest lands are now managed under a joint partnership, and are collectively referred to as San Luis Valley Public Lands.

There are good reasons why applying watershed and fisheries treatments makes sense for both agencies. Certainly, an important fishery on BLM lands in the lower elevations of a watershed would be benefited by watershed improvement treatments in the upper watershed on National Forest lands. Watershed and fisheries issues do not recognize agency boundaries and it makes sense to evaluate them from a watershed perspective.

The Environmental Assessment (EA) For Comment for the Watershed and Fisheries Conservation Treatments was made available for public review and comment in January 2005. The EA describes the alternatives and the effects those alternatives may have on the environment.

Environmental Assessment for Watershed and Fisheries Conservation Treatments
Decision Notice and Finding of No Significant Impact

Decision

Based on the Final Environmental Assessment for Watershed and Fisheries Conservation Treatments (Final EA), as well as comments received from scoping and the 30-day public review of the EA For Comment, it is my decision to select Alternative 2, the Proposed Action.

Rationale for the Decision

In making this decision, I considered applicable laws, regulations, and policy, and the information disclosed in the Final EA, the planning record, and the Forest Plan. I considered how the alternatives meet the Purpose of and Need for Action and address the issues. I also carefully considered public and agency comments.

I made my decision based upon the best science and information available.

I considered the alternatives presented in the Final EA, and the potential environmental, social, and economic effects of the alternatives. I selected Alternative 2 because it implements an approach that is generally beneficial to resource protection and stewardship while incorporating public and interdisciplinary team issues.

The Final EA describes that both the Forest Service and BLM in this south-central part of Colorado are moving toward a single unit management system. Both agencies have similar goals toward soil, water and fisheries protections and it makes sense that this decision would implement the watershed treatments for both agencies.

The Final EA also tells me that impacts to watersheds and riparian areas would be protected by implementing Forest Plan standards and guidelines, BLM standards for public lands health and conformance with the Army Corp of Engineers 404 permits.

The Final EA describes that effects to soil, plants and fisheries would be beneficial since a more efficient implementation of conservation treatments would protect soil and fisheries resources.

The Final EA describes that the selected alternative best provides for wildlife by providing improved site-specific options for applying soil and water techniques to damaged sites.

A programmatic biological assessment and biological evaluation was completed for both FS and BLM listed species. It determined that the selected action will have No Effect on Uncompahgre Fritillary Butterfly, and May Effect, But Not Likely to Adversely Affect Bald eagle, Canada Lynx, Mexican Spotted owl, and Southwestern Willow Flycatcher. A wildlife Biological Evaluation determined that the selected alternative would have No Impact on the majority of the Forest's sensitive species and May Impact individuals of some species but are not likely to cause a trend towards Federal listing or a loss in viability.

Environmental Assessment for Watershed and Fisheries Conservation Treatments
Decision Notice and Finding of No Significant Impact

A Management Indicator Species (MIS) Forest Plan amendment determined that the selected alternative is not expected to affect the viability of the species and that the selected alternative would result in habitat improvements that would improve or stabilize population trends.

The Final EA describes that the selected alternative would use the Watershed Checklist to analyze and protect any cultural resources. It also states that specific watershed and fisheries projects would be scoped through the Rio Grande National Forest Tribal Consultation Bulletin.

The Final EA describes that the selected alternative would minimize visual impacts through mitigation identified during the Watershed Checklist review for a specific project.

The Final EA describes that the selected alternative would create a narrow opportunity for noxious weed establishment during ground-disturbing actions. However, use of certified weed-free seeds, mulches and materials would minimize this risk, and that long-term establishment of desired native species would reduce the likelihood of noxious weed establishment.

One of the public responders stated that they were concerned about having a chance to comment when specific watershed and fisheries projects were being proposed. The Final EA describes that a legal notice would be placed in the Valley Courier newspaper inviting public comment when projects are proposed.

The fact that both the watershed and wildlife checklists would be completed by specialists on proposed watershed and fisheries treatments assures me that a comprehensive review will occur on specific projects and that appropriate resource protection measures would be identified.

The Final EA describes that economic benefits are difficult to quantify. There are no standard dollar values for a ton of erosion prevented, and the benefits to water quality and fisheries. However, the selected alternative would result in more acres being accomplished on the ground compared to Alternative 1, No Action. This would help stretch limited program dollars to treating more acres in need. Soil, water, fisheries, and wildlife resources would benefit from the increased accomplishment. One respondent to the EA for Comment suggested that the economic cost section for the treatments be updated. This suggestion was adopted and a new economic analysis was done using current costs.

The selected alternative would cause no irretrievable or irreversible commitment of resources. There would be short term impacts to air quality due to heavy equipment use. The selected alternative does not have a disproportionately high nor adverse effect on minority or low income populations. Some of the watershed projects may create opportunities for minority contractors.

There would be no effect to prime farmlands. There would be no adverse impacts to wetlands or floodplains. There would be no adverse impacts to environmentally-critical areas. There are no hazardous wastes or solids produced by the selected alternative.

Alternatives Considered

Two alternatives were considered in detail in the EA. Alternative 1, the No Action Alternative would result in no change to the current way of implementing necessary conservation treatments. Duplication

Environmental Assessment for Watershed and Fisheries Conservation Treatments
Decision Notice and Finding of No Significant Impact

of similar environmental analyses would occur each year. Important watershed and fisheries treatments could be delayed due to duplicative analyses.

Alternative 2 proposes to implement necessary watershed and fisheries conservation treatments by tiering to this programmatic Final EA. Annual watershed and fisheries projects would be announced to the public, analyzed through use of watershed and wildlife checklists, and implemented in a timely manner.

Public Involvement

The Forest Service invited public, tribal government, and other agency comment and participation throughout this planning process. The Watershed and Fisheries analysis was announced periodically in the quarterly Rio Grande National Forest *Schedule of Proposed Actions*. Public notification was provided through a public legal notice in the newspaper of record, public field visits, a scoping letter, and posting on the Rio Grande National Forest website.

A letter inviting review on the EA For Comment was sent out to the entire Forest Plan mailing list in January 2005. The EA for Comment was also posted on the Rio Grande Forest website. A legal notice in the *Valley Courier*, January 20, 2005 announced the availability of the EA for Comment and invited comments. The Forest Service's response to public comments is contained in Appendix E of the Final EA. In many cases, the public comments resulted in additions or revisions to the Final EA document.

Consistency

I find the Selected Alternative is consistent with applicable federal, state, and local laws and requirements for the protection of the environment and with both agency's policy and direction. Applicable laws and regulations were considered in the Final EA. The Selected Alternative is also consistent with the 1996 Revised Land and Resource Management Plan for the Rio Grande National Forest, as amended, and the San Luis Resource Area Resource Management Plan, 1991, as amended.

Finding of No Significant Impact (FONSI)

I have reviewed the environmental effects described in the EA and evaluated whether the Selected Alternative constitutes a significant effect on the quality of the human environment or whether the environmental impacts would be significant based on their context and intensity as defined by the National Environmental Policy Act (NEPA) using the criteria in the implementing regulations (40 CFR 1508.27).

I have determined that the implementation of the Selected Alternative will not result in any anticipated effects that exceed the level at which a significant effect on the human, biological, or physical environment in terms of context or intensity would occur. Both beneficial and adverse effects have been considered. The effects from the Selected Alternative are expected to be minor. The effects are not highly uncertain and do not involve unique and unknown risks. The action will not, in relation with other actions, cause cumulatively significant impacts.

Environmental Assessment for Watershed and Fisheries Conservation Treatments
Decision Notice and Finding of No Significant Impact

Context: This project is local and would affect only the public lands in the San Luis Valley, Colorado, consisting of San Luis Resource Area, BLM and Rio Grande National Forest lands. The expected annual project effects would not exceed 300 acres across approximately 1.8 million acres of National Forest and 500,000 acres of BLM lands.

Environmental Effects and Intensity: I find that the Selected Alternative can be implemented without significant effects on economic, cultural, and natural resources as documented in the Final EA. Effects are primarily beneficial and any adverse effects are expected to be minor. Any adverse effects can be mitigated during the checklist process. Soil erosion effects can be reduced by the selected alternative, based on WEPP (Water Erosion Prediction Program) modeling predictions. The expected effects to soil, water, fisheries, plant and MIS resources is expected to be beneficial.

Public Health and Safety: There would be no risks brought about by the selected alternative that would pose a public safety concern.

Unique Characteristics of the Area: I find there are no significant effects on unique characteristics of the Rio Grande National Forest or San Luis Resource Area, BLM, such as historic or cultural resources, parklands, prime farmlands, wetlands, floodplains, wild and scenic rivers, Wilderness areas, inventoried roadless areas, or ecologically critical areas. The Selected Alternative will have no adverse effect on districts, sites, highways, structures, or objects listed or eligible for listing in the National Register of Historic places, and there is no loss of significant scientific, cultural, or historical resources.

Controversy: The Final EA discloses that watershed improvement work is not unexpected or controversial.

Uncertainty: Watershed treatments proposed by the selected alternative are routine in nature, and do not involve unique or unknown risks.

Cumulative Impact: I find that the cumulative impacts are not significant because the Final EA describes how the watershed and fisheries treatments are planned within the wide variety of uses described in the Forest Plan and BLM Resource Management Plan. The Selected Alternative, when considered with other past or reasonably foreseeable actions, is not expected to have a cumulatively significant impact. The Watershed Checklist requires an analysis of cumulative effects based on a specific proposed project.

Threatened, Endangered, Sensitive Species (TES) and Management Indicator Species (MIS): A programmatic biological assessment and biological evaluation was completed for both FS and BLM listed species. It determined that the selected action will have No Effect on Uncompahgre Fritillary Butterfly, and May Effect, But Not Likely to Adversely Affect Bald eagle, Canada Lynx, Mexican Spotted owl, and Southwestern Willow Flycatcher. A wildlife Biological Evaluation determined that the selected alternative would have No Impact on the majority of the Forest's sensitive species and May Impact individuals of some species but are not likely to cause a trend towards Federal listing or a loss in viability.

Environmental Assessment for Watershed and Fisheries Conservation Treatments
Decision Notice and Finding of No Significant Impact

A Management Indicator Species (MIS) Forest Plan Amendment determined that the selected alternative is not expected to affect the viability of the species and that the selected alternative would result in habitat improvements that would improve or stabilize population trends.

A BE prepared for plants determined that the selected alternative should have No Impact upon three plant species and May Impact six plant species. Site-specific surveys would be completed prior to specific project implementation to develop any mitigation measures.

I concur with the determinations made within these documents.

Civil Rights: There are no civil rights issues, and none of the alternatives have any civil-rights-related effects because the Selected Alternative actions have no effect on rights protected under civil rights law. Local tribal governments were consulted during the analysis. The project will have no effect on local tribes.

Legal Requirements for Environmental Protection: I find the Selected Alternative is consistent with all applicable federal, state, and local laws and requirements for the protection of the environment. The Selected Alternative is also consistent with the Revised Land and Resource Management Plan for the Rio Grande National Forest, as amended. The selected alternative is also consistent with the Resource Management Plan for the San Luis Resource Area, BLM and Record of Decision 1991 (BLM RMP) as amended.

Finding and Conclusion

Based on the environmental assessment and the above considerations, I find that the Selected Alternative is not a major action that will constitute a significant effect on the human environment. Therefore, it does not require the preparation of an environmental impact statement.

Implementation

Pursuant to 36 CFR 215.9(a), if no appeal is filed, implementation of this decision may occur on, but not before, the fifth day from the close of the appeal filing period.

Right to Appeal or Administrative Review

For appeals pertaining to the Rio Grande National Forest lands, the following applies.

This Decision is subject to administrative review (appeal) pursuant to 36 CFR 215. Pursuant to 36 CFR 215.13 (b), only those individuals or organizations who submitted substantive comments during the comment period may file an appeal.

Any appeal of my Decision must be fully consistent with 36 CFR 215. It is an appellant's responsibility to provide sufficient activity-specific evidence and rationale, focusing on the decision, to show why the Responsible Official's decision should be reversed. Appeals (including attachments) must be in writing and contain, as a minimum, the following information (§ 215.14):

Environmental Assessment for Watershed and Fisheries Conservation Treatments
Decision Notice and Finding of No Significant Impact

- (1) Appellant's name and address (§ 215.2), with a telephone number, if available;
- (2) Signature or other verification of authorship upon request (a scanned signature for electronic mail may be filed with the appeal);
- (3) When multiple names are listed on an appeal, identification of the lead appellant (§ 215.2) and verification of the identity of the lead appellant upon request;
- (4) The name of the project or activity for which the decision was made, the name and title of the Responsible Official, and the date of the decision;
- (5) The regulation under which the appeal is being filed, when there is an option to appeal under either this part or part 251, subpart C (§ 215.11(d));
- (6) Any specific change(s) in the decision that the appellant seeks and rationale for those changes;
- (7) Any portion(s) of the decision with which the appellant disagrees, and explanation for the disagreement;
- (8) Why the appellant believes the Responsible Official's decision failed to consider the substantive comments; and
- (9) How the appellant believes the decision specifically violates law, regulation, or policy.

Notices of Appeal that do not meet the requirements of 36 CFR 215.14 will be dismissed.

A written notice of appeal must be filed (regular mail, fax, e-mail, hand-delivery, express delivery, or messenger service) with the Appeal Deciding Officer within 45 days following the date of publication of legal notice of this Decision in the *Valley Courier*, published in Alamosa, Colorado. The publication date of the legal notice in the newspaper of record is the exclusive means for calculating the time to file an appeal (§ 215.15 (a)). Those wishing to appeal should not rely upon dates or timeframe information provided by any other source.

Electronic appeals must be in Microsoft Word or RTF. Other electronic forms of appeals such as Word Perfect and PDF are not acceptable. Electronic appeals should be sent to: appeals-rocky-mountain-regional-office@fs.fed.us. For electronically mailed comments or appeals, the sender should normally receive an automated electronic acknowledgment from the agency as confirmation of receipt. If the sender does not receive an automated acknowledgment of the receipt of the comments, it is the sender's responsibility to ensure timely receipt by other means.

Notices of appeal must be filed with:

Attn: Appeal Deciding Officer
USDA, Forest Service, Region 2
P.O. Box 25127
Lakewood, CO 80225-0127

Environmental Assessment for Watershed and Fisheries Conservation Treatments
Decision Notice and Finding of No Significant Impact

Fax: 303-275-5134

Email: appeals-rocky-mountain-regional-office@fs.fed.us

For protests that pertain to the BLM portion of this decision, the following applies.

Within 30 days of receipt of this decision, you have the right of appeal to the Board of Land Appeals, Office of the Secretary, in accordance with the regulations at 43 CFR 4.400. Appeal and stay procedures are outlined in Form CO-050-1840-191.

For Additional Information

A copy of the Final EA is available for review at the Public Lands Center, 1803 West Highway 160, Monte Vista, CO 81144. The Final EA and decision document are also posted on the Rio Grande National Forest web site: <http://www.fs.fed.us/r2/riogrande/projects/> under Forest Decisions. For a copy of this Decision Notice and the EA, or for additional information, please contact John J. Rawinski, Project Leader at (719) 852-5941.



PETER L. CLARK

04/28/05
Date

FOREST
SUPERVISOR/CENTER
MANAGER

FINAL EA

Environmental Assessment for Watershed and Fisheries Conservation Treatments

Lead Agency: Rio Grande National Forest
1803 West Hwy 160, Monte Vista, CO 81144

Cooperating Agency: San Luis Resource Area
Bureau of Land Management
1803 West Hwy 160
Monte Vista, CO 81144

Responsible Official: Public Lands Center Manager
1803 West Hwy 160
Monte Vista, CO 81144
719 852-5941

For Further Information: John J. Rawinski
Rio Grande National Forest
1803 West Hwy 160
Monte Vista, CO 81144
719 852 5941

Abstract: The Public Lands Center in south central Colorado, consisting of the Rio Grande National Forest and the San Luis Resource Area of BLM, have proposed to utilize a number of watershed and fisheries conservation treatments so that soils, watersheds and fisheries can be improved or maintained in productive capacity. When a project is proposed, a checklist would be completed by resource specialists to assure resources are protected. For example, when bare soil is eroding into a stream, seeding, mulching and fertilizing conservation treatments might be done to stop erosion and protect water quality and fisheries. Conservation treatments are beneficial in nature and seek to protect and restore resource values. This analysis would allow a more expedient application of these necessary treatments to be applied to lands administered by the Rio Grande Forest and San Luis Resource Area of BLM toward the beneficial protection of soil, water and fisheries resources.

This document follows the format established in the Council of Environmental Quality regulations (40 Code of Federal Regulations). It is consistent with and tiered to both Land Management Plans of the BLM San Luis Resource Area and Rio Grande National Forest.

Table of Contents

	Page
Introduction	3
Chapter 1 Purpose of and Need for Action	4
1.1 The Proposed Action	4
1.2 Purpose of and Need for Action	5
1.3 Land Management Plan Direction	5
1.4 Analysis Area/Project Area	6
1.5 Management Area Prescriptions	6
1.6 Decisions to be Made based on the Analysis	7
1.7 Scoping and issues Associated with the Proposed Action	7
1.8 Opportunities	8
1.9 Non-discrimination Clause	8
Chapter 2 Alternatives Including the Proposed Action	9
2.1 Process Used to Develop Alternatives	9
2.2 Alternatives Considered in Detail	9
2.3 Mitigation Measures	13
2.4 Comparison of Alternatives	13
Chapter 3 Affected Environment and Environmental Consequences	15
3.1 Affected Environment	15
3.2 Cumulative Actions	15
3.3 Direct, Indirect and Cumulative Effects on Watersheds and Riparian Areas and Air Quality	16
3.4 Direct, Indirect and Cumulative Effects on Soil Health	18
3.5 Direct, Indirect and Cumulative Effects on Fisheries Resources	22
3.6 Direct, Indirect and Cumulative Effects on Plant Resources	24
3.7 Direct, Indirect and Cumulative Effects on Wildlife, Management Indicator Species, Migratory Birds, and TES Species	24
3.8 Direct, Indirect and Cumulative Effects on Heritage Resources	30
3.9 Direct, Indirect and Cumulative Effects on Scenic Resources	31
3.10 Direct, Indirect and Cumulative Effects on Socio-economics	32
3.11 Direct, Indirect and Cumulative Effects on Past, Present and Future Actions	33
3.12 Direct, Indirect and Cumulative Effects on Noxious Weeds	33
3.13 Direct, Indirect and Cumulative Effects on Other Resources	34
List of Preparers	36
Literature Cited	36
Appendix A – RGNF Watershed Project Checklist	
Appendix B– Determination of Land Use Plan Conformance and NEPA Adequacy	
Appendix C - Definitions and Descriptions of Proposed Treatments	
Appendix D – Cost of Implementing Various Watershed and Fisheries Treatments and Economic Analysis	
Appendix E – Forest Service Responses to Public Comments	

Introduction

Under the Service First Initiative, the US Forest Service and US Bureau of Land Management have coordinated to develop more efficient land management programs. The Rio Grande National Forest and San Luis Resource Area of the BLM have been combined administratively in the San Luis Valley of Colorado under the Service First initiative. This environmental analysis analyzes watershed treatments that could benefit the management of BLM and Rio Grande Forest lands (Public Lands of the San Luis Valley, hereafter Public Lands). The Forest Service is the lead agency in this analysis.

The Rio Grande National Forest's Revised Land and Resource Management Plan and Final Environmental Impact Statement (Revised Forest Plan) as amended describes goals and desired conditions for soil, water and fisheries resources. It states that the Forest shall improve watershed conditions to restore favorable soil relationships and water quality. It also states to conserve, protect and restore important terrestrial and aquatic habitats. The proposed action is consistent with the Revised Forest Plan. The Record of Decision for selected Plan alternative G specifically emphasizes protecting and improving watershed health.

The Resource Management Plan for the San Luis Resource Area, BLM and Record of Decision 1991 (BLM RMP) as amended, directs the Bureau of Land Management to manage lands toward important watershed goals. It states that monitoring and evaluation of water quality and quantity, as well as control of erosion and sediment production, will remain high priority management goals.

More recently, BLM Resource Management Plans throughout Colorado were amended to include Standards for Public Land Health, 1996, which added emphasis to protection and enhancement of soil and watershed values, including riparian areas and uplands. Erosion control structures are allowed with the primary purpose of stopping erosion. Examples are gully plugs and contour furrows. Structures are generally considered as one of a variety of management actions that are implemented to improve soil and water conditions, including grazing management guidelines.

There have been efforts between the FS and BLM that call for a unified approach to watershed assessment. While that effort is broad in scope, this EA proposes a consistent and unified approach to soil, water, and fisheries improvements done at the ground level.

In order to achieve efficiency, the watershed and fisheries treatments of the BLM and Forest Service are analyzed in the same analysis. Both agencies allow the use of conservation treatments, but encourage overall watershed and soil health through appropriate management actions over large areas. All of the conservation treatments would apply to Public Lands of the San Luis Valley.

Soil erosion and sedimentation control measures are well documented in the literature. Erosion and sedimentation can be greatly reduced from forest roads and other systems through the use of mulches, surfacing, seeding, applying filter strips, hydromulching, fertilizing, and other conservation treatments (Burroughs and King, 1989). Their summation of studies found that erosion and sedimentation could be reduced by 36 to 88 percent depending on practices applied. They also found that about half of the sediment production from hillslopes occurs in the first summer after disturbance. They concluded that erosion control measures that can be put in place immediately after construction have the best potential to reduce sediment production.

This EA proposes to facilitate a more timely response to necessary watershed conservation measures. In the past, watershed projects have been approved after appropriate environmental analysis. This resulted in many units duplicating efforts by analyzing similar watershed treatments. This environmental analysis will serve as a programmatic analysis, upon which specific projects will be tiered and analyzed. This analysis will document the environmental consequences of various soil, water, and fisheries conservation treatments that would be applied across the Public Lands of the San Luis Valley.

Soil, water and fisheries conservation treatments are land and structural treatments that help restore or improve watershed, soil and fisheries health. They include measures that would help stabilize soils, apply revegetation, reduce sedimentation, and create or improve fish habitat in streams and lakes. It should be understood that conservation treatments are intended for streams, riparian areas and upland ecosystems. It is anticipated that watershed treatments would be applied to land where management changes are improving lands on a large scale.

Chapter 1 - The Purpose of and Need for Action

This chapter describes the proposed action, purpose of and need for action, Plan direction from each agency, analysis area, Plan management prescriptions, decisions to be made, issues associated with the proposed action, opportunities, and background information.

1.1 The Proposed Action

The Agencies managing the Public Lands of the San Luis Valley propose to utilize a variety of soil, water and fisheries conservation treatments that will help restore, reclaim and protect soil, water and fisheries resources. The conservation treatments include construction of rolling dips and waterbars (also called cross drains), check dams, streambank stabilization, fisheries structures, soil subsoiling/aeration measures, erosion control structures, sediment traps, revegetation, fertilization, mulching, topsoiling, bioremediation, wetland enhancement or creation, and applying organic materials. The treatments also include practices that address road and trail issues, such as ripping, subsoiling, waterbarring and removing, installing, or maintaining culverts, correcting drainage problems, applying gravel on roads to harden crossings, applying buffer strips

and physical barriers. Fisheries treatments include, among others, rock placements, jetties and fish barriers.

The Proposed action also includes a more efficient analysis approach. This programmatic environmental analysis provides consistent analysis across Public Lands. Specific projects would be tiered to this analysis and evaluated through a resource checklist. The checklist assures that site-specific review is done by appropriate specialists, who provide clearances before watershed projects are initiated. This approach ensures resource protection and ensures legal site specific requirements are met. A more efficient improvements program allows more acres to be treated under a constrained budget.

1.2 Purpose of and Need for Action

The *purpose* of the proposed action is to analyze alternatives to correct watershed problems on Public Lands in a timely and efficient manner. The action is *needed* so that the soil, water and fisheries objectives and goals of the Management Plans of each agency for watershed restoration, can be accomplished in a timely and efficient manner.

1.3 Land Management Plan Direction

The Rio Grande National Forest Revised Land and Resource Management Plan was signed and approved in 1996. On March 29, 2001, the Acting Deputy Secretary of Agriculture (hereafter referred to as the Secretary) made a ruling on the review conducted by the Chief of the Forest Service, and directed the Rio Grande National Forest to conduct additional analysis pertaining largely to management indicator species in the 1996 Revised Land and Resource Management Plan. The Forest has completed those analyses. This EA is consistent with the Forest Plan, as amended.

A forest-wide objective of the Revised Forest Plan is to protect the basic soil, air, water, and land resources. It states that the Forest shall improve watershed conditions to restore favorable soil relationships and water quality. It also states to conserve, protect and restore important terrestrial and aquatic habitats. The proposed action is consistent with the Revised Forest Plan direction.

The Proposed Resource Management Plan for the San Luis Resource Area (SLRA), BLM and Record of Decision 1991 (BLM RMP) directs the Bureau of Land Management to manage lands toward important watershed goals. It states that monitoring and evaluation of water quality and quantity, as well as control of erosion and sediment production, will remain high priority management goals. This EA and analysis is consistent with SLRA goals.

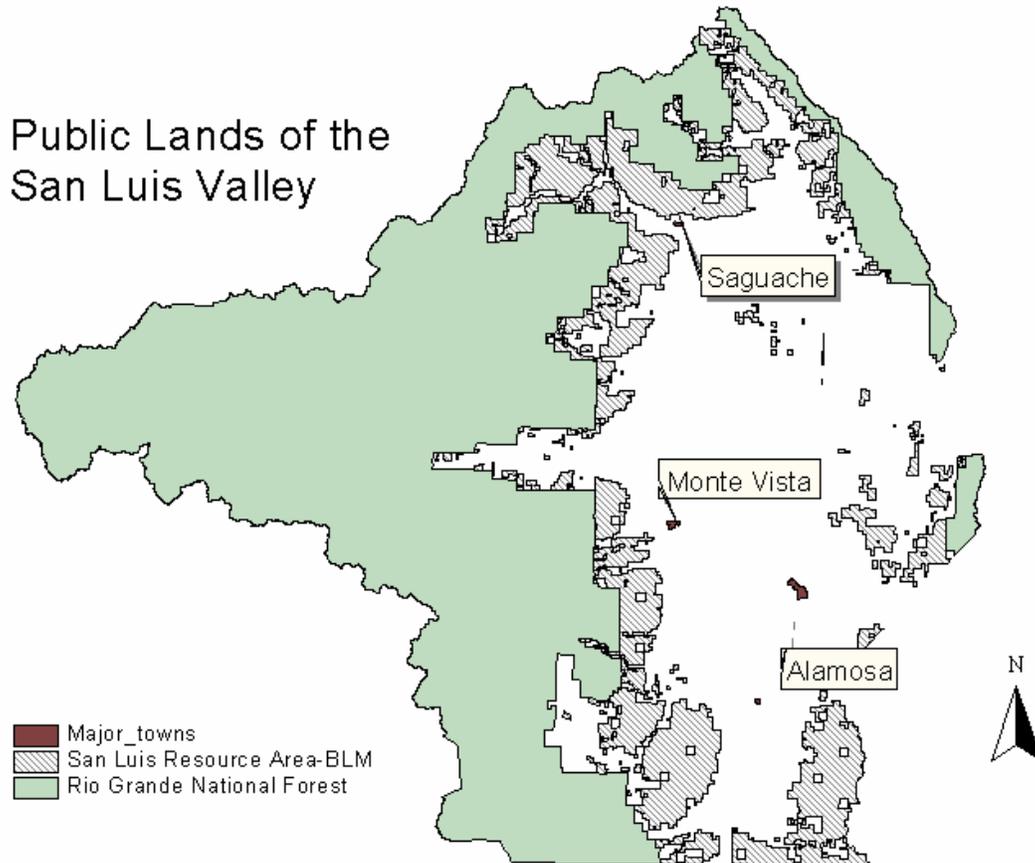
In 1997, the BLM, Colorado's recommendations for healthy public lands were approved by Secretary of the Interior Bruce Babbitt. The following standards were adopted including 1) Ensure healthy upland soils 2) protect and improve riparian areas 3) Maintain healthy productive plant communities 4) Maintain or enhance special status,

threatened and endangered species, and other plants and animals officially designated by BLM, and 5) Ensure that water quality meets minimum Colorado standards. These standards apply to all BLM-administered lands in Colorado. The proposed treatments in this analysis would be used to promote and achieve those standards as listed.

The Forest Service's Watershed Conservation Practices (WCP) Handbook describes practices on the land that are necessary to achieve long-term soil, fisheries and watershed health. This EA analyzes treatments that would be used to achieve the WCP conservation practices.

1.4 Analysis Area/Project Area

The project area consists of all of lands throughout the Rio Grande National Forest and San Luis Resource Area, BLM, where soil, water and fisheries improvements or enhancements are necessary.



1.5 Management Area Prescriptions

The proposed conservation treatments would be utilized where they do not conflict with management area prescriptions. When site-specific projects are planned, management areas would be reviewed through use of a checklist to assure that no conflicts exist. For

example, land treatments using motorized implements would not be done in Wilderness areas or Backcountry areas where motorized uses are prohibited. Actions will meet scenic integrity objectives and recreation opportunity spectrum for management areas.

Treatment proposals on BLM lands would need to meet the goals, standards, and guidelines of the SLRA Resource Management Plan. When site-specific projects are proposed on BLM lands, a “Determination of Land Use Plan Conformance and NEPA Adequacy” form would be completed.

1.6 Decisions to be Made Based on the Analysis

The Authorized Deciding Officer will make the decision relative to BLM and NFS lands. The Forest Supervisor and BLM Area Manager would make a decision for their respective lands, unless through co-delegation, one Deciding officer could decide for both Agencies. The decisions for each Agency’s lands are subject to appeal or protest regulations of each Agency.

1.7 Scoping and the Issues Associated with the Proposed Action

The quarterly scoping document issued from the Rio Grande National Forest contained public notice that this project was being analyzed. It invited comments on the proposed project and received wide distribution. This analysis was listed in the Rio Grande Forest’s Schedule of Proposed Actions bulletins, issues May 26, 2000, November 8, 2000, October 15, 2001, through 2004.

A scoping letter was sent to potentially affected interest groups in March 2002. It described in brief the proposed analysis and invited comments. A number of letters were received.

The Interdisciplinary Team for this project consisted of both FS and BLM specialists. The **key issue** to this analysis is whether conservation treatments should not be implemented or whether they should be analyzed and implemented in a more consistent and efficient manner that would allow a more timely response to soil, water and fisheries problems.

Other issues raised during the course of this analysis include:

- ◆ There is the need to meet the permit requirements of the Army Corp of Engineers.
- ◆ There is the need to develop unified approaches to watershed management between BLM and FS. This is National direction from the Departments of Interior and Agriculture as per “The Unified Federal Policy for Ensuring a Watershed Approach to Federal Land and Resource Management”.
- ◆ The analysis must be protective of resource values and done in a manner that is consistent with each Agency’s land management and other plans.

- ◆ The analysis shall consider protection of Heritage Resources. Consultation with American Indian Nations shall occur.
- ◆ The analysis shall consider noxious weeds and promote methods that reduce or limit the spread of those weeds.
- ◆ The analysis must protect Threatened, Endangered, Sensitive and Management Indicator Species.

1.8 Opportunities

The proposed action would help both the Forest Service and BLM meet important watershed goals. It also offers the opportunity to gain management consistency and efficiency across agency boundaries.

In addition, the BLM Resource Management Plan, 2001-2005 Strategic Plan of Serving Current and Future Publics, Restoring and Maintaining the Health of the Land will be achieved.

1.9 Non-discrimination Clause

"The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (Braille, large print, audio tape, etc.) should contact USDA's TARGET Center at 202-720-2600 (Voice and TDD).

To file a complaint of discrimination write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW Washington DC 20250-9410 or call (202) 720-5964 (voice or TDD). USDA is an equal opportunity provider and employer."

Chapter 2 - Alternatives Including the Proposed Action

This chapter describes the process used to develop the alternatives considered in detail. It also provides a comparison of alternatives as well as detailed descriptions of the proposed conservation treatments.

2.1 The Process Used to Develop the Alternatives

This environmental analysis complies with the National Environmental Policy Act (NEPA) and Council of Environmental Quality (CEQ) Regulations. The regulations require that public scoping be conducted as part of the analysis process. The quarterly scoping document issued from the Rio Grande National Forest contained public notice that this project was being analyzed. It invited comments on the proposed project and was distributed to the Forest Plan mailing list, having over 400 potentially interested individuals and organizations.

A scoping letter was sent to potentially affected interests in March 2002. The letter described the proposal and invited public comment. A legal notice was published in the paper of record Valley Courier March 5, 2002.

NEPA policy requires the use of an interdisciplinary team in order to conduct environmental analysis. An interdisciplinary team consisting of FS and BLM specialists was assembled for the analysis. The List of Preparers section in this EA for Comment shows the disciplines and specialists who contributed toward this analysis.

2.2 Alternatives Considered in Detail

Two alternatives were identified in the environmental analysis process to address the key issue. Each alternative presents an option that could be implemented within the framework of each agency's Land Management Plans and meets the purpose of and need for action.

Alternative 1 - No-Action

This alternative would result in no change to current system of doing business relative to watershed and fisheries conservation treatments. Individual projects would be analyzed separately, done on a piecemeal approach that would not be efficient. Duplication of analyses of similar projects would occur every year. Important watershed treatments may be delayed due to duplication of analyses. Higher costs for analysis would be needed and less funding would be available for on-the-ground treatments.

The Proposed Action - Alternative 2

Alternative 2 is the proposed action. This alternative analyzes the effects of implementing important soil, water, and fisheries conservation treatments on Public Lands. This

alternative provides a programmatic analysis to all of the watershed and fisheries conservation treatments routinely practiced on the Public Lands thereby providing a consistent approach to analysis of effects. When Forest Service projects are proposed, specialists would then conduct site-specific analysis and summarize their findings on a checklist to ensure that the project is consistent with LMP goals and objectives and that effects are consistent with those described in this programmatic document (See Checklist Appendix A). When the BLM proposes projects, a similar process would occur through a Determination of Land Use Plan Conformance and NEPA Adequacy (DNA Form, See Appendix B). If a proposed project meets the scope and effects of the treatments described in this analysis, then no additional analysis would be necessary. A legal notice in the Valley Courier Newspaper would be issued annually so that the public would have opportunity to comment on proposed annual watershed and fisheries projects.

The following treatments are routine watershed and fisheries treatments that are applied to Public Lands. Please refer to Appendix C, which contains definitions and descriptions of proposed treatments.

Conservation Treatments and Description of Action

Erosion and Sediment Control Practices

1. Use of erosion fabrics, mulches, hydromulches, tackifiers, fiber applications, sodding, fiber-filled wattles, plugging with native plants, weedfree straw and applications to stabilize soils from erosion.
2. Use of erosion control structures such as slash check dams, silt fence, mulch ridges, rock check dams, wire-bound rock check dams, single and double fence rock check dams. These are structures designed to keep soils in place.
3. Use of sediment traps such as pit catchments or sediment collection basins.
4. Drainage structures, repairing, pulling, installing, relocating or cleaning culverts, improving drainage spacing, waterbarring, drainage dips, creating filter strips, disconnecting roads and trails from drainage systems, gravel spot surfacing.
5. Construct physical earth barriers to restrict motorized uses in areas needing restoration.
6. Fencing areas in need of reclamation
7. Head-cut control structures
8. Structures to divert stream or ditch flow in order to prevent channel erosion or redirect flow while restoration work is occurring.



9. Minor stream restoration measures including vanes, jetties and grade control structures.
10. Planting of willows and other vegetation for restoration of riparian areas, stream banks or disturbed areas.

Reclamation or Restoration Practices

1. Adding soil amendments such as lime, fertilizer, organic matter, compost, manure, and topsoil to soils for enhanced productivity.
2. Bioremediation, which is the use of concentrated livestock to reclaim areas impoverished of topsoil.
3. Seeding native plant materials if available when technically feasible. Use certified weed-free seed materials. Use local genotypes when available.
4. Planting trees or shrubs to stabilize soils and watersheds (maximum size 20 acres in any one location).
5. Using mechanical aerator (shown in photo) on compacted soils. The aerator is a farm implement that is drawn by tractor. Its knife-like teeth penetrate compacted soils, aerate the soil, without destroying the sod surface



6. Rip or subsoil densely compacted layers to restore soil porosity, infiltration and productivity. The subsoiler is designed to improve infiltration and aeration of deeply compacted soils.

Streambank Stabilization and Aquatic Habitat Practices

1. Use of rock rip rap or other structures to stabilize streambanks only where necessary. Use natural reclamation and stabilization in other instances.
2. Use suction dredging to remove sediments from streams.
3. Construction of “soft” structures, using bio-engineering approaches. This technique includes the use of soft erosion control materials like straw wattles in combination with willow plantings.
4. Construct headgates, drop structures or other structures that create or enhance wetlands so long as they are compatible with fisheries goals.
5. Maintain or remove and reclaim stock water facilities such as earth ponds that are breached or non-functional.

Fisheries Improvements

1. Use rock or structural placements into stream systems to improve fish habitat
2. Use logs, stumps and other structures to naturally restore fish habitat.
3. Use fencing to enhance fisheries habitat
4. Remove unnecessary structures where they cause damages to streams or soils

Final Environmental Assessment for Watershed and Fisheries Conservation Treatments

5. Construct or re-construct fish migration barriers for use in restoring native fish populations.
6. Remove fish migration barriers when they are not desired.
7. Develop spawning habitat through spawning channel development and placement of gravels.
8. Enhance pool habitat through reconstruction of stream channel (restore meander pattern) or pool excavation.

Conservation treatments are generally applied to small areas, locations, and specific streams. Project size may be as small as a few acres up to several hundred acres in size. They usually do not disturb extensive areas and are beneficial in the long-term to restore watershed health.

Because the size of the restoration areas vary, and due to the wide variety of watershed and fisheries treatments that are needed across the Forest and BLM lands, it is difficult to define the upper limits of acres by treatment type. Actual treatment acres would be determined at the project level for a given year. For example, the BLM may need 10 miles of waterbars installed along roads (60 equivalent treated acres). The Conejos Peak Ranger District might do 20 acres of willow plantings and 30 acres of rock check dams. Divide District might do 30 acres of soil aeration improvements and 30 acres of waterbars. Saguache District might do 40 acres of stream habitat structures. Each Forest District or would have to complete Project Checklist Appendix A for appropriate protection measures before implementation of their proposed projects. Similarly, the BLM would have to complete Appendix B DNA before implementation. In this example the Forest would accomplish 150 acres while BLM would accomplish 60 acres.

The Forest Plan Alternative G was the selected alternative to manage the Rio Grande National Forest. In Alternative G, the watershed improvements program identified an annual need of 201 acres of watershed improvements per year. The Fisheries program projects an annual improvement need of 48 acres per year (8 miles of stream). The BLM projects a need of about 51 acres per year, for a grand total of 300 acres per year of improvements for the Public Lands. Any of the projected watershed and fisheries improvement needs are subject to funding levels in a given year so annual accomplishments can vary but will not exceed 300 acres in total.

Based on the combined program needs, this EA proposes to treat no more than 300 acres per year. This amount is relatively small when compared to the more than 2.0 million acres of public lands included in the analysis. Yet even though the acreage amounts are small in comparison, they are focused on some of the most important watershed and fisheries issues across this area and would have beneficial impacts to those resources.

Construction of these treatments may last from a few days to a few months, depending on the combination of treatments needed, weather, and other factors. Spring, summer and fall would be the implementation period when soils are unfrozen and workable. Actions may occur in combination as well. Treatments would be focused in priority watersheds.

2.3 Mitigation Measures

The conservation treatments described in Alternative 2 are, in effect, specific mitigation measures that would be applied to restore or enhance problem areas. These practices are consistent with both agency's land management plans and WCP direction to restore and protect watersheds and fisheries. All standards and guidelines of each Agency's Land Management Plans would be followed. Any necessary specific mitigation measures for a specific project would be attached and included in the project file with the completed checklist.

2.4 Comparison of Alternatives

Table 2.4 shows a Comparison of Alternatives.

Table 2.4 Comparison of Alternatives		
Feature	Alternative 1	Proposed Action - Alternative 2
Watershed treatment environmental analysis	Continues current process. Many duplicating analyses would be done on similar projects.	This programmatic analysis would provide a consistent analysis of conservation treatments. Site-specific analysis done thru public scoping and checklists/ DNA.
Allows for efficient implementation of important conservation treatments	Not as efficient	More Efficient
Uses the wide variety of conservation treatments described in Chapter 2	Yes	Yes
Accomplishment of soil, water and fisheries goals	Not as many acres accomplished	More acres accomplished on the ground. Estimate 20% more acres accomplished
Would Use Checklists or DNA for site specific analysis and would provide an analysis to which site-specific analysis would be tiered to.	No	Yes
Would better ensure resource protection through interdisciplinary review	Good	Better assurances
Would scope annual projects and invite public comment (legal notice Valley Courier Newspaper)	Yes	Yes
Estimated Annual Improvement Acres Accomplished by FS and BLM	200	240
Maximum program acres treated annually	300	300

Chapter 3 Affected Environment and Environmental Consequences

3.1 Affected Environment

The Affected Environment for this analysis are those watersheds and resources that are described in the Affected Environment of both Agency's Land Management Plans and EIS's to which this analysis is tiered. This encompasses about 2.5 million acres of public lands within the San Luis Valley and Upper Rio Grande Drainage. Implementation of conservation treatments would occur where needed across the RGNF and SLRA lands. Activities often would focus in priority watersheds.

Past activities have affected the soil, water and fisheries resources on certain public lands. The Revised Forest Plan EIS sections on Soil and Aquatic Health describe how watersheds and soil health have been impacted in some locations. Though management activities are carefully planned and monitored, some impacts to resources do occur from time to time. Those impacts are proposed for restoration using this EA and analysis. The FEIS for the San Luis Resource Area Land Management Plan also describes existing conditions on those affected lands.

3.2 Cumulative Actions Planned on the Forest and BLM Lands over the next Plan period

Treatments may or may not be implemented when other activities are planned in such watersheds. The list below is extracted from Forest Plans for each agency and shows past, present and reasonably expected future activities that could coincide with watershed treatments. For RGNF activities, FEIS Table S-2 was used to summarize activities based on the selected Alternative G. Table 3.2.1 shows Planned Activities for the Next 10-15 Years on Public Lands but the complete list is contained in Revised Forest Plan and FEIS, Table S-2 and is adopted by this analysis. For SLRA activities, data was extracted from the FEIS for the Resource Management Plan, September 1991 or is based on information provided by resource specialists.

**Table 3.2.1
Planned Activities for the Next 10-15 Years on Public Lands**

Planned Activities Summary for Next Plan Period (10-15 years)	Proposed on RGNF	Proposed on SLRA
Recreation (Persons at One Time Days)	750,000	100,000
Livestock Grazing (Head Months)	81,400	4,600
Timber Harvest (Acres Even and Uneven aged management)	15,938	340
Fire or Fuel Treatment (Acres of desired fuel treatments)	47,000	22,000
Actual Road Construction and Reconstruction	39	100

Final Environmental Assessment for Watershed and
Fisheries Conservation Treatments

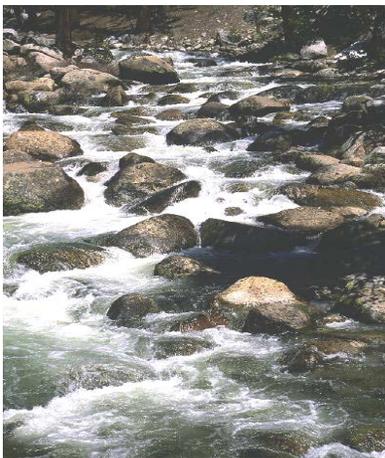
(Miles)		
Road Obliteration (Miles)	50	75
Trail Construction (miles)	30	35
Trail Reconstruction (Actual planned miles)	100	20
Mining and Oil and Gas Acres Affected	219	400

For RGNF lands, the Revised Forest Plan FEIS described past actions in detail. Please refer to the Aquatics section of the FEIS, 3-252 through 278 for a comprehensive discussion of past management actions affecting watersheds. In the BLM Resource Plan, Chapter 4 discusses trends and the implications from past actions. Both of those analyses are incorporated by reference.

Watershed and Fisheries Conservation Treatments could be implemented in watersheds that have or are currently being managed under the above-described activities. Overlap may occur spatially (in the same watershed) or temporally (at the same time) of other activities. Watershed and fisheries treatments can be delayed and managed so that conflicts would be minimized. For example, if intensive recreation use occurs in an area during summer months, then watershed projects may be delayed until fall. Because watershed actions encompass a few acres up to a few hundred, the relative impact, incrementally to any of the planned actions above would be small. The likelihood of all of these actions occurring in one watershed at a time is relatively low, and more likely, a few of the actions are expected at one time in a given watershed. In addition, impacts expected to watersheds from watershed treatments are expected to be beneficial to resource conditions. The Watershed Project Checklist (Appendix A) and the BLM DNA (Appendix B) both contain a category for the review of cumulative effects before a specific project can proceed.

3.3 Direct, Indirect, and Cumulative Effects on Watersheds, Riparian Areas, and Air Quality

Forest Plan standards and guidelines are designed to protect watershed, stream, riparian area and wetland health. The BLM’s Standards for Public Land Health have similar protection standards (1997). The direction of both BLM and FS standards would be implemented to comply with Clean Water Act requirements to protect designated stream uses.



completed.

Alternative 1: Impacts to watersheds, streams and wetlands from implementing projects covered by this EA should be the same under alternatives 1 and 2. Direct impacts should be very minor as long as routine protection measures are followed. Negative indirect and cumulative impacts to watershed, stream and wetland health would be greater under this alternative, because fewer restoration and improvement projects would be

Final Environmental Assessment for Watershed and Fisheries Conservation Treatments

The Forest is constrained by the time and money needed to do typical NEPA analysis. Project costs are higher under this alternative, because more specialist time is needed to complete NEPA analysis. Fewer projects would be accomplished, because it takes more time to do individual project NEPA analysis.

Alternative 2: Corps of Engineer 404 permits regulate activities that can impact stream channels, floodplains and wetlands. Only projects that comply with nationwide or regional 404 permits are included under this alternative.

One of the proposed treatments is to maintain or remove earthen catchment basins, commonly referred to as stock ponds, gully plugs or sediment catchments. Through time, agencies built numerous such structures; most built in the late 1950's through early 1970's. The purpose of these structures included stock-water catchments, reducing "head cutting" erosion, building erosion control plugs, wildlife habitat enhancement, sediment traps, etc. Additional catchments have come into federal ownership through land exchange and land acquisitions.

The associated dams, spillways, water elevation control valves, and containment pits are increasingly in need of maintenance, have failed (e.g. breached), or are soon to breach. Sometimes the dams redirect flows via the spillways and create erosion problems in newly formed side channels. Occasionally an ensuing release of stored sediments occurs and a new risk of "head-cut" can begin. In some instances, catchments actually inhibit down slope riparian values because they terminate low flows into previously captured/stored sands/sediments with little or no surface wetland values. In certain instances, ensuing water release could prove more beneficial if the catchment, if no longer deemed functional, were reclaimed.

Watershed improvement activities covered under this action would be ability of the agencies, or stakeholders/permit holders, to either maintain a catchments original function (e.g. dredge, bulldoze, or otherwise remove accumulated sediments), repair those which have breached, or otherwise reclaim those no longer deemed useful; (e.g. surrounding uplands now healed, etc.) or in some instances, the removal to restore watershed function depending upon needs of affected interested parties. By implementing required protection measures, direct impacts to watersheds, wetlands and streams should be minor and fairly localized, usually less than a few acres. There would be more positive indirect and cumulative impacts with this alternative, because the BLM and Forest Service could complete more restoration and improvement projects. Projects covered by this EA are designed to correct problems that are causing, or have the potential to cause, negative impacts to watersheds, wetland and stream systems.

The effects on air quality to the public lands of the San Luis Valley are expected to low from the proposed alternative. The FEIS for the Rio Grande Land Management Plan states that the air quality on the Forest rates among the best in the country and that management activities have never caused violations. The Forest currently meets National Ambient Air Quality standards. Watershed activities may affect local dust levels brought

Final Environmental Assessment for Watershed and Fisheries Conservation Treatments

about by traffic on native-surface roads but this is expected to be a minor impact. Similar minimal effects are expected from activities on BLM lands. No burning is proposed in this EA.

When wetland restoration or creation projects are proposed, they need to meet all federal and state regulatory requirements. Such requirements include the need to secure whatever water rights or substitute water supplies are deemed necessary by the Colorado Division of Water Resources.

3.4 Direct, Indirect and Cumulative Effects on Soil Health

Soil erosion, compaction, displacement, puddling, severely burned, nutrient depletions, and mass movement are soil health problems that would be addressed by the alternatives. These soil damages may be found on public lands in various locations and would be improved by the implementation of conservation treatments.

The effects on soils from Alternative 1 are that erosion, sedimentation and fisheries projects could have delayed implementation. This would result from conducting individual analyses for practices that are routinely needed. In addition, fewer on-the-ground acres would be improved due to redundant NEPA analyses for similar projects.



Alternative 2 would have beneficial effects to soils since quicker implementation of practices results in less erosion over time. In addition, more acres could be accomplished on the ground since a more efficient analysis process would be implemented.

Alternative 2 would allow bioremediation of small areas, which is the use of livestock to restore organic matter content in soils that are impoverished of organic materials. It would be used on mined and reclaimed areas and would improve soil and plant health.

Fabrics, mulches, hydromulches, tackifiers, fiber applications, sodding, wattles, plugging, and weed-free straw that are applied to the land are used to stabilize soils from erosion. Such materials protect the soil from detachment and transportation by rainwater impact. There are no harmful effects to the soils and ecosystems. All materials used would be weed-free. Results of these practices benefit soils by maintaining soil productivity, reducing sedimentation, and improving habitat.

Use of erosion control structures such as slash check dams (shown in photo) and rock check dams and similar structures reduce soil movement and help prevent the downcutting of channelized flows. The long-term objective of such structures is to establish natural vegetation on the soil (Heede, 1976). In many instances, gullies were once level soils (with no channels) and the goal is to build the soil so that downcutting

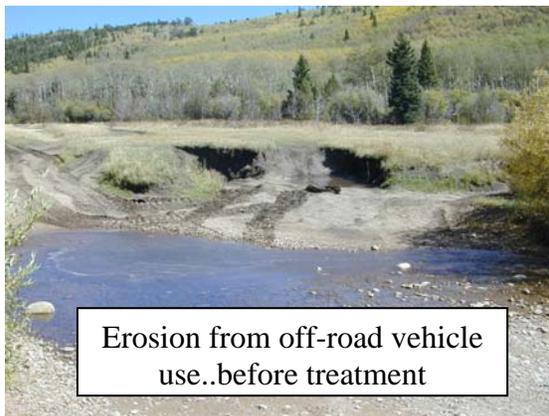
Final Environmental Assessment for Watershed and Fisheries Conservation Treatments

and headcutting are halted and the system can start building soil to stable levels. Such structures may require periodic maintenance to remain sound and effective.

The effectiveness of rock check dams is documented in a Rio Grande National Forest study by Olson, 1999. She inspected 581 structures on the Conejos Peak District. She found that rock check dams were 88% successful in reducing soil erosion and allowing vegetation to stabilize the system. Rock check dams, if properly constructed, can be effective for more than 40 years (Heede, 1966). Of the 12% that failed, livestock trampling, construction problems, and contour furrows contributed to the failures. Headcut structures were found to be largely ineffective at controlling soil erosion as were contour furrows. Improper construction may have caused the failure.

Sediment traps capture erosion and sediments in areas where there will be a continuous flow of sediment such as from main roadsides. These must be emptied periodically to remain effective.

Drainage structures, reclaiming culverts, improving drainage spacing, waterbarring, drainage dips, creating filter strips are practices designed to divert flows into places where erosion and sediments can be effectively filtered and stabilized. This would benefit soil health by keeping soils in place.



Constructing physical barriers to restrict uses in areas needing restoration can be done through earth barriers, falling trees, gating or fencing. Such measures are important and effective in allowing areas to revegetate and recover from past impacts. Effects would benefit soil health by maintaining soil productivity. The before and after photos show reclamation efforts that were implemented to reduce soil, water and fisheries impacts from off-road vehicles. The after photo demonstrates land recontouring, seeding and mulching as well as tree falling for traffic control at a low water crossing through an important fishery.

Structures such as head-cut control structures can be used to reduce gully headcuts which result in a loss of soil productivity and lowering of water tables. Head-cut control structures would be used to protect the soils and fisheries as well. Periodic maintenance is expected so that the structure functions properly. Other structures include those necessary to divert streamflow to prevent channel erosion. Diverting flows would be beneficial in

Final Environmental Assessment for Watershed and Fisheries Conservation Treatments

keeping streambanks in good health. Structures such as vanes, jetties, and grade control structures are in-stream structures used to enhance stream habitat for fisheries or to protect banks from eroding. All of these structures have long-term benefits, though there could be small amounts of erosion and sedimentation during construction.

Use of erosion control practices such as mulching, fertilizing, applying fabrics, topsoiling, applying fiber wattles, applying lime, slashing with branches, and reseeded have all worked with success in various applications. Long-term goal is to re-establish natural vegetation to hold soil in place so that little maintenance is required. Soil erosion and sedimentation control measures are well documented in the literature. Erosion and sedimentation can be greatly reduced from forest roads and other systems through the use of mulches, surfacing, seeding, applying filter strips, hydromulching, fertilizing, and other conservation treatments (Burroughs and King, 1989). Their summation of studies found that erosion and sedimentation could be reduced by 36 to 88 percent depending on practices applied. They also found that about half of the sediment production from fillslopes occurs in the first summer after disturbance. They concluded that erosion control measures that can be put in place immediately after construction have the best potential to reduce sediment production.

Wetland restoration, enhancement and creation can often be done through use of structures that elevate water tables. By elevating and restoring water tables, water-dependent vegetation is encouraged, providing better soil stability through dense root mats. Important wetland values are restored.

Soil aerators could be used for land treatments. This farm implement causes very little surface disturbance, while improving soil aeration and infiltration. The vegetation vigor and growth is often improved. There is no significant erosion from the treatment.

The use of a winged-subsoiler would be implemented on deeply compacted soils. The subsoiler is an implement that improves soil health (aeration, infiltration and vegetation response). It would be used to reclaim old roads, two-tracked areas, on old skid trails, dispersed camp areas and other applications. There is no significant erosion from this practice. Kolka and Smidt (2004) evaluated different systems of forest road amelioration and concluded that subsoiling may represent the most economically-viable road retirement method.

Maintenance or removal of water impoundment structures would be done through the Watershed Project Checklist. Maintenance or removal would likely involve earthwork done by a bulldozer. Reshaping or eliminating the structure would expose soil, which would then need to be seeded or mulched. Long-term effects would be a better facility that would be able to function properly. For those removed, stream health would be restored along that stretch. These impacts are often less than an acre in size.

The proposed action Alternative 2 would not affect large areas. Therefore the consequences are generally limited in scope to those locations where treatments are implemented. Indirect effects are that soil particles are less likely to reach water systems.

Final Environmental Assessment for Watershed and
Fisheries Conservation Treatments

Cumulative effects are that soils over the entire Forest are restored to properly functioning soil health condition.

Many of the proposed treatments would reduce erosion. This will result in reduced sedimentation of streams and fisheries. To demonstrate this, the Water Erosion Prediction Program (WEPP Model) was used to show potential effects of some of the proposed treatments (see Table 3.4.1). For example, the following table shows the estimated reduction in erosion and sedimentation achieved by installing more closely spaced drainage dips (decreasing the spacing between cross drains, for example on a forest road). For this analysis, we will assume that the road is 12 feet wide, in clay loam, road gradient is 8 percent, the climate is taken from Hermit Lake (on the RGNF), buffer length is 33 feet and the buffer gradient is 10%.

Table 3.4.1
Effects on Erosion by Reducing Cross Drain Spacing

Cross Drain Spacing Feet	WEPP Average Annual Erosion/Sediment Yield in Pounds Delivered to end of buffer	Erosion Reduction
400	600	
200	120	5 fold reduction
100	17	35 fold reduction

The WEPP model shows reductions of erosion and sedimentation can occur by reducing the spacing between cross drains. Waterbars, rolling dips, culverts are all proposed treatments that would be used to achieve these reductions. Be aware that the model does not produce absolute values and should be used only to show comparative differences and effects.

The WEPP model can also be used to show the potential erosion reductions from seeding, mulching, erosion fabrics and fertilizing treatments.

In order to model these treatments, we assumed the following. We selected climatic stations from the Great Sand Dunes National Park to reflect conditions we would encounter on BLM lands. This zone is not dissimilar from BLM lands located around the foothills of the San Luis Valley. We selected Hermit Lakes, on the RGNF, to reflect forest conditions.

We assumed that 20 acres of lands in each case was sparsely vegetated before treatments and better vegetated after treatments (seeding, mulching, fertilizing, erosion fabrics). Slopes are 30%, texture is clay loam, and slope length 300 feet.

Data is presented in the Table 3.4.2 below and is based on 30 year projection of climatic data for the selected locations.

Final Environmental Assessment for Watershed and
Fisheries Conservation Treatments

Table 3.4.2
Erosion Probabilities Reduced by Erosion Control Treatments

Climate Station	Treatment	Probabilities of Occurrence first year following disturbance based on 30 years of climate		
		Probability there is Runoff	Probability there is Erosion	Probability of Sediment Delivery
Great Sand Dunes	Before Seeding, Mulching, Erosion Fabric or/and Fertilization	77%	77%	77%
Great Sand Dunes	After Seeding, Mulching, Erosion Fabric or/and Fertilization	40%	33%	40%
Hermit Lakes area, RGNF	Before Seeding, Mulching, Erosion Fabric or/and Fertilization	90%	87%	87%
Hermit Lakes area, RGNF	After Seeding, Mulching, Erosion Fabric or/and Fertilization	50%	40%	40%

The results show that when we increase surface cover using seeding, mulches, fabrics, and fertilization, that the risk of runoff, soil erosion and sedimentation are reduced on both BLM and Rio Grande National Forest lands.

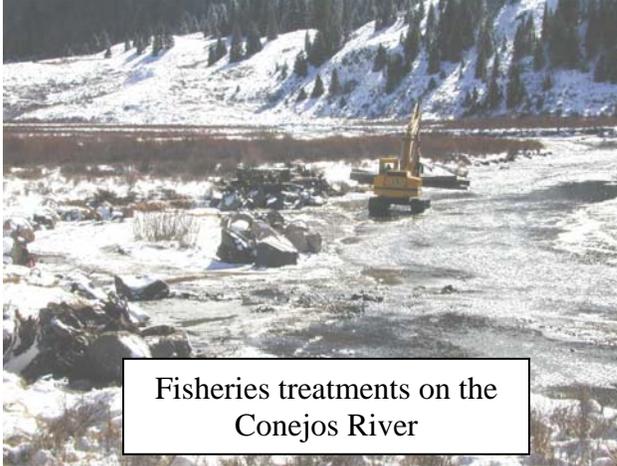
The cumulative effects of the activities listed in section 3.12 may occur simultaneously with watershed treatments, but generally the effects from watershed treatments are expected to be beneficial, and not add adversely to any other activities planned relative to soils. There may be some short term, small extent soil disturbances, but in the long term, soil health is expected to improve. Stabilization of soil erosion through watershed treatments will reduce erosion and sedimentation, thereby having beneficial effects on the entire watershed.

3.5 Direct, Indirect, and Cumulative Effects on Fisheries Resources

The alternatives address several fish habitat enhancement, protection and restoration treatments including installation of structures to protect or enhance pool, spawning and cover habitat; construction of fish migration barriers for native fish restoration projects; removal of migration barriers when free movement of aquatic life is desired; removal of structures when they are detrimental to fish habitat; vegetation plantings to restore

Final Environmental Assessment for Watershed and Fisheries Conservation Treatments

riparian condition; fencing to provide faster recovery of riparian condition/fish habitat; and sediment control devices to minimize sedimentation of fish habitat. Opportunities for fish habitat enhancement, restoration and protection occur across the Forest and on some BLM lands. Fish habitat would be improved by implementation of the conservation treatments of Alternative 2.



Fisheries treatments can be broken into several general groups for the purpose of considering direct and indirect effects: 1) installation or removal of instream structures, such as migration barriers and log or boulder structures; 2) erosion control structures that are not placed within the stream channel; 3) vegetation plantings; and 4) channel alteration.

Direct effects from fisheries treatment 1) can include temporary disturbance of banks, possibly resulting in some sediment delivery to the channel. Indirect effects of sedimentation can reduce spawning habitat or smother existing eggs that have been deposited; reduction of invertebrate habitat. Mitigation to reduce these possible effects includes: timing these activities to avoid the period when eggs would be incubating; on-site sediment traps to catch sediment before delivery to the stream; revegetation of the disturbed area with weed-free seed immediately after completion of project to stabilize soils; use of soil stabilizing mats to further encourage revegetation; fencing the area to provide extra protection while the area recovers. Overall, however, the effects from this activity would be very beneficial to fish and fish habitat. The creation of new sources of cover in areas where cover is likely a limiting factor will provide critical habitat. Removal of structures where they are degrading habitat will eliminate the risk for further degradation, and allow recovery of those areas. Migration barriers are an extremely important tool for use in native fish restoration work. These structures provide the physical barrier necessary to separate native fish populations from non-native populations. Non-native species have the ability to outcompete, prey on, displace, or hybridize with the native fish.

Fisheries treatment 2) would have fewer potential negative effects to fish and fish habitat than fisheries treatment 1, because work takes place away from the stream channel. The positive effects from this work would be beneficial. Restricting sediment inputs to stream systems maintains important spawning habitats, invertebrate habitat, and stream health.

Planting vegetation (Fisheries treatment 3) would also have positive effects to fish and fish habitat.

Alternative 1 would result in less timely responses to fish habitat improvement opportunities. Individual analyses would be necessary, increasing cost and time for implementation. There may be instances where the slower response could result in

Final Environmental Assessment for Watershed and Fisheries Conservation Treatments

adverse effects to the fish population (for example, if a migration barrier fails, the risk of invasion increases as time increases).

Alternative 2 would be beneficial to fish and fish habitat, and allow for faster implementation of conservation treatments. Conservation treatments promote high quality fish habitat and healthy stream and riparian systems. Cover is provided by stable streambanks, deep pools, large woody debris (or other instream structure) and overhanging vegetation. Spawning habitat requires clean gravel substrates, free from excessive sediment deposition. Food resources are enhanced with sufficient riparian vegetation (invertebrates).

3.6 Direct, Indirect and Cumulative Effects on Plant Resources

Watershed treatments may cause short-term impacts to vegetative cover where the soil surface is disturbed by some treatments. However, long-term establishment of native species should have beneficial effects to the plants, animals and effects to soil, fisheries and watersheds. Noxious weeds and TE&S plants are appropriately discussed elsewhere in the EA. Forest and rangeland cover alteration is not being proposed by this action.

3.7 Direct, Indirect and Cumulative Effects on Wildlife, Management Indicator Species, Migratory Birds, and TES Species

Wildlife habitat quality is a function of soil, water and riparian health. This section discusses the relationship between these resources, the alternatives, wildlife and wildlife habitat.

Alternative 1: Alternative 1 will continue to result in watershed related projects being completed. However, it will result in many “emergency” projects being delayed in implementation due to project specific NEPA requirements needing to be met prior to implementation.

Treatments which improve soil health are necessary to help meet wildlife standards and guidelines in the Forest Plan. This alternative would allow these treatments to continue but project effectiveness and success would be decreased.

Delayed or restricted implementation could impact individual wildlife species and in some cases, populations. Many species dependent upon water and riparian quality (amphibians) typically are very susceptible to small changes in water characteristics (ph, turbidity, temperature). A sudden change in these characteristics could impact survival and recruitment of these species for several years. Delayed implementation of soil and watershed projects could potentially impact not only individual but population dynamics in the short term.

Alternative 2: This alternative best provides for wildlife by providing additional and improved site-specific options for applying soil and watershed techniques to damaged sites.

Final Environmental Assessment for Watershed and Fisheries Conservation Treatments

Under this alternative, there will be very little delay in implementing projects particularly in emergency situations. A quicker response to soil and watershed damage decreases the amount of time that water and riparian areas could be negatively impacted. Riparian species would benefit by a faster response and faster healing periods in riparian habitats.

The Watershed Project Checklist (Appendix A) would assure that implementation is consistent with Forest Plan goals and objectives and will ensure that TE&S wildlife and migratory birds will be considered when projects are proposed.

The proposed action should have little to no negative impacts upon wildlife habitat. There should be no conflicts between the proposed action and the objectives and policies of other Federal, State and local agencies who help manage wildlife habitat or populations.

Alternative 2 allows for wetland creation, restoration or enhancement. Wetlands are very important for wetland dependent species of plants, amphibians and wildlife. There would be no negative effects to critical wildlife habitat. Effects upon wildlife habitat would be beneficial and would not cause any adverse effects. Habitat conditions would be restored or enhanced by applying treatments to restore damaged soils and watersheds.

The proposed action does not involve any unknown risks to wildlife or wildlife habitat. Habitat enhancement and restoration would be the objectives of this proposal.

A Programmatic Biological Assessment (BA) and Biological Evaluation (BE) was completed for this project in 2003. The BE also incorporates Bureau of Land Management Sensitive species. It is maintained in the project record and is available upon request. The BA determined that the proposed actions will have No Effect upon Uncompahgre Fritillary Butterfly and May Effect, but are Not Likely to Adversely Affect Bald Eagle, Canada Lynx, Mexican Spotted Owl and the Southwestern Willow Flycatcher. The U.S. Fish and Wildlife Service (FWS) concurred with the BA's determinations on October 14, 2003. A copy of the BA is available in the project file.

The BE completed for plant species determined that the proposed actions should have No Impact upon three plant species and May Impact six plant species. However, site-specific surveys for sensitive plants will be completed prior to specific project implementation to mitigate any potential impacts. The wildlife BE determined that the proposal will have No Impact upon the majority of the Forest's Sensitive species and May Impact individuals of some species but are not likely to cause a trend towards Federal listing or result in loss of viability in the planning area. Species-specific information is included in the plant and wildlife BE's located within the project record. Also included in the project record available upon request but not included in this EA are Management Indicator Species Reports and a Wildlife Program Checklist as that would be completed by the Biologist for each specific watershed project.

An MIS Forest Plan Amendment was completed and determined that the proposed actions and their relationship to MIS species and the habitat types they represent, are not

Final Environmental Assessment for Watershed and Fisheries Conservation Treatments

expected to impact the viability of these species in the future nor will they cause a significant shift or change in population numbers within the planning area or Forest as a whole. The treatments are expected to result in improvements to MIS habitats, and will contribute to stable or improving MIS population trends.

Proposed watershed treatments may be implemented on Public Lands. Implementation of these treatments will be prioritized by watersheds of need, and will occur on sites in need of restoration. These treatments will be implemented consistent with Forest Plan Standards and Guidelines and are not expected to have significant impacts, individually or cumulatively. Each project will be reviewed through the use of the wildlife checklist to ensure necessary design criteria are in place so as to minimize site-specific impacts. Forest-level monitoring of TES and MIS species and their habitats should be sufficient to determine if undesirable cumulative effects are occurring.

A Wildlife Program Checklist has been developed to avoid or mitigate project-level effects to species and their associated habitat types. This Checklist includes MIS species, FS and BLM Sensitive species and species listed under the Endangered Species Act. The Checklist would be completed by biologists for each project in order to document a thorough project-level analysis and consistency with the programmatic documents. The Checklist serves as the signed documentation needed for project-specific analysis. The exception would be for Canada lynx, where a May Affect determination would require FWS consultation. The Wildlife Program Checklist is available upon request from the project record.

Direction concerning landbird conservation in Forest Service Region 2 is to interface with the State and Bird Conservation Region (BCR) working groups for actions and objectives to pursue concerning migratory bird conservation. Bird Conservation Regions consist of a hierarchical framework of nested ecological units that allow for the use of multiple scale-specific approaches to on-the-ground management.

There are 37 BCRs in North America with four of these occurring at least partially in Colorado. The Rio Grande National Forest occurs within the Southern Rockies Colorado Plateau Bird Conservation Region (BCR 16), which encompasses portions of Colorado, New Mexico, Arizona, Utah and Wyoming (USFWS, 2002). Information from BCR 16 was synthesized for use in Colorado through the development of the Colorado Landbird Conservation Plan (BCP).

Final Environmental Assessment for Watershed and Fisheries Conservation Treatments

The Colorado Landbird Conservation Plan (BCP, Version 1, 2000) identified priority species and habitats for each physiographic area in the state based on the Partners-In-Flight Species Prioritization Process. Priority habitats identified for the Southern Rocky Mountains Physiographic Area include alpine tundra, aspen, cliff/rock, high elevation riparian, lowland riparian, mixed-conifer, mountain shrubland, ponderosa pine, sagebrush shrubland, spruce-fir, and wetlands. All 11 of these habitat types also occur on the Rio Grande National Forest, with spruce-fir the most extensive and both sagebrush shrubland and lowland riparian the least common.

One hundred and fifty-eight of the 169 migratory birds that occur or could potentially occur on the Rio Grande National Forest were assessed through the MIS Amendment to the Forest Plan, based on information identified for the Southern Rocky Mountains (Physiographic Area 62) in the Colorado Landbird Conservation Plan. The assessment process used was based upon the priority habitats and species identified in the BCP and their relationship to the Forest Land Type Associations. The potential conservation issues identified in the BCP were compared to the issues and management activities identified for each LTA. All priority habitats identified in the BCP are, at a minimum, provided a coarse filter assessment that evaluates broad-scale habitat changes and ecosystem processes over time, and except for the aspen LTA, a fine filter assessment is applied to Forest LTAs so that there is an expected adequate level of monitoring provided for these avian species.

The Colorado Landbird Conservation Plan (BCP) identifies ten primary goals and objectives that must be met on a statewide basis in order to meet the overall conservation goals concerning migratory and resident birds in Colorado. Each of these goals was reviewed during the Forest Plan MIS Amendment process in order to evaluate the potential effects of the Plan implementation on migratory birds. The Forest Plan and its MIS Amendment incorporate and address these goals through standards and guidelines, Forest Plan monitoring and MIS monitoring.

The U. S. Fish and Wildlife Service (FWS) has developed a list of birds of conservation concern based on BCRs. Birds identified on that list were reviewed in conjunction with the Species Conservation Project (SCP) and the 2003 update to the Region 2 Forester's list of sensitive species. Those species identified in BCR 16 applicable to the Rio Grande National Forest are considered and conserved as part of Forest Plan Standards and Guidelines and Forest Plan monitoring for TES or MIS species.

Species that were assessed through the MIS Amendment to the Forest Plan are displayed in the Migratory Bird Supplemental Information Report (USDA 2003). Species not evaluated in that assessment, but included on the FWS list and evaluated as part of the Regional Forester's sensitive species review are displayed in Table 3.7.1.

Final Environmental Assessment for Watershed and
Fisheries Conservation Treatments

**Table 3.7.1. FWS Species of Conservation Concern in
BCR 16, specific to the RGNF.**

Species	Regional Forester’s Sensitive Species Review Disposition	RGNF Conservation Measures
Swainson’s Hawk	Consider as an emphasis species, protect nest sites	Forest Plan Wildlife Standard 5 Forest Plan Wildlife Standard 21
Golden Eagle	Consider as an emphasis species, protect nest sites	Forest Plan Wildlife Standard 5 Forest Plan Wildlife Standard 21
Prairie Falcon	Consider as an emphasis species, protect nest sites	Forest Plan Wildlife Standard 5 Forest Plan Wildlife Standard 21
Pinyon Jay	Common breeder on R2 units	Forest Plan Wildlife Standard 21

Proposed watershed treatments may be implemented Forest-wide, across all Landtype Associations (LTAs). Implementation of these treatments will be prioritized for watersheds of need, and will occur on sites in need of restoration. These treatments will be implemented consistent with Forest Plan Standards and Guidelines and are not expected to have significant impacts, individually or cumulatively. Each project will be reviewed through the use of the wildlife checklist to ensure necessary design criteria are in place so as to minimize site-specific impacts. Forest-level monitoring of TES and MIS species and their habitats should be sufficient to determine if undesirable cumulative effects are occurring.

The BLM would also analyze migratory birds as part of watershed project planning and review. The Migratory Bird Treaty Act (MBTA) of 1918 was passed to put an end to the commercial trade of birds and their feathers that, by the early years of the 20th century, had severely impacted the populations of many native birds. The MBTA protected all migratory birds and their parts (including eggs, nests, and feathers). The MBTA is a domestic law that enforces treaties between the US, Mexico and Canada, for the protection of a shared migratory bird resource. The primary concern for migratory birds from actions authorized by this EA is in regards to the loss or disturbance of occupied nests and of individual birds.

An Executive Order (EO 13186) enacted in 2001 requires federal agencies to consider the effect of projects on migratory birds, and it directs agencies to review the list of Birds of Conservation Concern (USFWS 2002) for species that may occur in the project area. For the San Luis Valley BLM, the BCR list includes 28 species that may occur in the planning area and is applicable for project analysis of migratory birds of concern.

Neotropical migrants are not covered in the BLM San Luis Resource Area Resource Management Plan or in the Determination of NEPA Adequacy checklist. Therefore, in accordance with the Migratory Bird Treaty Act, BLM must incorporate into the wildlife checklist the Bird Conservation Regions Checklist (BCR 16). The BCR 16 checklist includes the 22 species listed below. Non-presence of six birds excludes them from the list of birds affected by management actions including gray vireo, Grace’s warbler,

Final Environmental Assessment for Watershed and Fisheries Conservation Treatments

chestnut collared longspur, Sprague's pipit, and Crissal thrasher. Two of the species, the Marbled Godwit and Solitary Sandpiper, have never been documented to breed in this area, but do migrate through this area (Andrews and Richter, 1996). A review of this list (Bird Conservation Region 16) found bird species that could breed in the analysis area and whose nests might be affected by the proposed action. These species include:

- | | |
|--------------------------|----------------------------|
| 1) Northern Harrier | 12) Flammulated Owl |
| 2) Swainson's Hawk | 13) Burrowing Owl |
| 3) Ferruginous Hawk | 14) Short-eared Owl |
| 4) Golden Eagle | 15) Black Swift |
| 5) Peregrine Falcon | 16) Lewis's Woodpecker |
| 6) Snowy Plover | 17) Williamson's Sapsucker |
| 7) Mountain Plover | 18) Piñon Jay |
| 8) Solitary Sandpiper | 19) Bendire's Thrasher |
| 9) Marbled Godwit | 20) Virginia's Warbler |
| 10) Wilson's Phalarope | 21) Sage Sparrow |
| 11) Yellow-billed Cuckoo | 22) Prairie Falcon |

Each of these species will be addressed in the Wildlife Program Checklist to ensure that no 'take' will occur due to management treatments. By implementing the checklist the actions authorized by this Environmental Assessment (EA) are consistent with the MBTA and the conservation measures set forth in Section 3 of the Executive Order. The Wildlife Program Checklist is designed to serve as project level documentation for the migratory bird analysis. The MBTA regulates actions that directly effect individual migratory birds. When watershed projects are proposed, the biologist analyzes the effects to neotropical migrants through use of the Wildlife Program Checklist. This will ensure that proposed watershed treatments are consistent with MBTA and will not result in 'take' of neotropical migrants.

Routine watershed and fisheries treatments applied to needed areas on BLM lands include erosion and sediment control practices, reclamation or restoration practices, fisheries improvements, as well as streambank stabilization and aquatic habitat improvements. Many of these actions require mechanical equipment to restore habitat or begin the reclamation process. Mechanical treatments may affect migratory birds during the breeding and nesting season (May 15 to July 15) through disturbance and resource alteration. Disturbance to nesting birds includes physical ground changing disturbance, presence of humans, auditory disturbance, nest destruction, any action that results in nest abandonment, direct injuring or death of a bird. On-site investigations by a wildlife biologist would be used to determine whether a seasonal restriction is necessary before a watershed project may be implemented.

Alternative 1 would not have a streamlined approach to management activities so would have delayed or restricted implementation of improvement of habitat conditions. Alternative 1 requires individual analysis of each project done in a non-efficient piecemeal approach. Without treatment, degradation of habitat may continue and may result in poor quality habitat for nesting birds. This alternative will not result in 'take'

Final Environmental Assessment for Watershed and Fisheries Conservation Treatments

individuals or nests of migratory birds but poor habitat conditions will ultimately not be considered productive nesting and breeding habitat.

Under either alternative, treatments would still be applied. Individually these projects would have minimal effects. Cumulatively across public lands, the treatments are intended to improve habitat conditions which may provide nesting and breeding habitat for migratory birds over time. Better habitat conditions allow diversity of nesting sites which likely contributes to the viability of the species. With the design criteria (surveys and timing of implementation) in the Wildlife Program Checklist, the actions authorized by this EA are consistent with the MBTA and therefore no direct, indirect, or cumulative impacts are anticipated. Design criteria for species conservation are not discretionary, they are required to prevent 'take' of neotropical migrants.

Mitigation needs may vary dependent on whether mechanical treatment or hand treatments are proposed. The scope and timing of the treatment effects must be considered differently depending on treatment type. Mechanical treatments are of more concern than non-mechanical treatments due to the level of disturbance. The scope of the treatment is greater when mechanical treatment is required than when hand treatments are utilized.

Birds present in treatment areas during the non-breeding/ nesting season are generally able to move from the area (they are in migratory status) during the period of disturbance to other suitable habitat. Therefore, the action is less likely to result in 'take' of a migratory bird. For BLM lands, the Watershed Treatments EA will have reduced risk of 'take' of adult birds if implemented outside of the May 15 to July 15 nesting period. The chances of encountering a nesting site during the breeding season is low and a quick check of the project site before treatment can confirm the presence or absence of the twenty two neotropical migrant birds for this area.

3.8 Direct, Indirect and Cumulative Effects on Heritage Resources and American Indians

The heritage resource analysis and assessment focused on areas of lands throughout the Public Lands where soil, water, and fisheries improvements are needed. Past activities that have affected cultural resources on the Public Lands include intensive livestock grazing in the late 1800's and early 1900's. Resultant erosion from this past activity is seen across the Forest, especially in lower elevation areas. Jeep roads and other smaller roads that were not engineered, usually formed many years ago, also produce affects relating to erosion that may impact cultural resource sites.

Previous heritage resource inventories, completed on approximately 150,000 acres in this area, have resulted in the recording of about 700 documented cultural resource sites. Most sites are within areas of past or proposed timber harvest, or within inventoried range allotments. The majority of lands administered by the USFS and BLM have not been inventoried for cultural resources.

Final Environmental Assessment for Watershed and Fisheries Conservation Treatments

Under Alternative 1, soil erosion, compaction, and displacement are soil health problems that have the potential to impact cultural resource sites throughout the area. Soil, water, and fisheries conservation treatment activities have the potential to impact cultural resources, if there is ground disturbance involved. Cultural resource inventory of specific project proposals, followed by mitigation pertaining to individual or groups of cultural resource sites, would protect National Register of Historic Places eligible cultural resources. Alternative 1 addresses these concerns, but projects may be delayed due to the present inefficient manner of project implementation.

Under Alternative 2, soil erosion, compaction, and displacement are soil health problems that have the potential to impact cultural resource sites throughout the Forest. These soil problems would be improved by the implementation of more efficient conservation treatments, thereby reducing the effects on both documented and as-yet undocumented cultural resources. Cultural resource inventory of lands involved with specific project proposals, if done in project planning stages, would identify any National Register of Historic Places eligible cultural resources. Mitigation or avoidance could then be used to protect National Register of Historic Places eligible cultural resources. The Watershed Project Checklist that would be used in this Alternative would require heritage resource clearance and mitigation prior to any ground-disturbing actions to restore soil, water and fisheries.

Past and future forest management projects can cause surface disturbance that affect the integrity of cultural resources. Cumulative effects that are the result of non-sanctioned management activities, such as vandalism or illegal excavation, also can occur. Natural weathering and erosion, fires and other types of ongoing processes contribute to cumulative effects to heritage resources.

Specific conservation treatment proposals, to be assembled and prioritized each year, will immediately be summarized and included in the Rio Grande National Forest Tribal Consultation Bulletin. The Tribal Consultation Bulletin presents initial information about proposed projects by describing proposed project activities, the geography of the area, and the nature of known cultural sites that may be important to American Indian People. Consultation Bulletin, February 2001, contained the information on the watershed analysis and invited comments. Arrangements for meetings or requested site-visits will be made, if requested.

3.9 Direct, Indirect and Cumulative Effects on Scenic Resources

Both alternatives will meet the Scenic Integrity Objectives and Recreation Opportunity spectrum for the areas. Improvements for watershed or fisheries will meet the scale and size of the appropriate Scenic Integrity Objective, borrowing from the form, line, color, and texture of the characteristic landscape. During the improvement of watershed or fisheries habitat, it is expected that viewers may see some temporary deviations to the landscape. These areas will have up to 2 years to come into compliance with scenic objectives. This is also specifically stated in the Forest Plan Forestwide Standard and

Final Environmental Assessment for Watershed and Fisheries Conservation Treatments

Guidelines III-30 #1. The Watershed Project Checklist (Appendix A) would include visual and recreation management considerations.

3.10 Direct, Indirect and Cumulative Effects on Socio-Economics

The economic benefits of the proposed action are difficult to quantify since the value of soil erosion and sediment prevented is difficult to apply valuation in monetary terms. The same would apply to fisheries resources.

There are intangible benefits that affect downstream water users. As watersheds are restored and enhanced, water quality and the quality of human life are enhanced. Fisheries can flourish, providing both consumptive and nonconsumptive values to the public.



Alternative 2 proposes to implement more efficient conservation treatments. These would be done through direct program funds, cooperative partnerships, and volunteers. The benefits from this proposed action are healthier resource conditions for soils, water, and fisheries on Public Lands.

This EA is tiered to the Revised Forest Plan EIS as amended to meet the Secretary of Agriculture's decision. It is also tiered to the BLM Resource Management Plan and EIS. Those two analyses describe the appropriate economic effects of resource management of the affected lands.

A Quick-Silver Program economic analysis was conducted on the two alternatives. Some of the basic assumptions of the model are as follows:

- 1) Unit costs of the treatments are categorized and cost the same in either alternative. We used \$84 per acre for Structural Treatments; \$320 per habitat treatment, \$600/acre for land treatments and \$2100 per fish structure. The types of activities covered in each class of treatments can be seen in Appendix D
- 2) The model can only show costs. The benefits of erosion prevented, fisheries enhanced or improved, and water quality and habitat improved are not easily quantified. As such, benefits can only be addressed in this section in narrative form.
- 3) We anticipate that Alternative 2 has reduced analysis costs due to more efficient NEPA process. As such, more targets (acres, structures etc) can be accomplished over time.

We analyzed the No Action and Proposed Action alternatives. We used an experienced budget constraint of about \$132,500 and analyzed four categories of treatments: structures, habitat treatments, land treatments and fish structures. A major difference between alternatives is the amount of investment in NEPA analysis. In the No Action, annual NEPA cost is high because each District needs to do an environmental analysis annually. In the proposed action, each District completes a checklist annually which has lower cost than an EA document.

Final Environmental Assessment for Watershed and
Fisheries Conservation Treatments

Results of the economic analysis for a 10 year period show the following costs and units.

Table 3.10
Present Value Costs by Alternative

Parameter	No Action	Proposed Action
Present Value Costs (10 years)	-\$1,116,500	-\$1,119,368
Units Accomplished	260	335

The Table shows that because of improved efficiency in NEPA analysis, more dollars in a constrained budget can go to on-the-ground improvements and accomplish 22% more acres/targets.

The social impacts of this proposal are minimal. Each Agency's LMPs and FEIS's describe social impacts from land management activities on a broad scale. Implementation of watershed treatments may create a small number of job opportunities through contracts or employment to accomplish watershed work.

3.11 Direct, Indirect and Cumulative Effects on Past, Present or Future Actions

Conservation treatments in both alternatives can correct past watershed problems. In the present and future, watershed projects under Alternative 2 would be carried out efficiently, when the treatments can have the most positive effect. Present and future conservation actions may take longer under Alternative 1 to implement since each project would have its own environmental analysis to conduct for routine watershed improvements.

Section 3.2 describes the past, present and reasonably foreseeable future actions that occur on public lands. Watershed treatments may have short term impacts, but in the long-term, there would be a reduction in cumulative effects to watersheds and an improvement in watershed and fisheries conditions.

3.12 Direct, Indirect and Cumulative Effects on Noxious Weeds

Noxious weeds occur on both FS and BLM lands in the San Luis Valley. Noxious weeds are a concern because of potential impacts to biodiversity and productivity. Their establishment and spread is largely a result of ground-disturbing activities. Treatments proposed in alternative 2 such as drainage structures, waterbars, dips, and barriers, adding some soil amendments, aerating or ripping increase the likelihood that noxious weeds become established as those actions cause soil disturbance. To prevent noxious weed infestation, disturbed areas would be treated with native weed free seed and mulches. All materials used on BLM or Forest lands would be Certified weed-free.

Final Environmental Assessment for Watershed and Fisheries Conservation Treatments

Noxious weeds may be reduced by these conservation treatments in that establishment of native ground cover by the proposed treatments would reduce the sites available for noxious weed encroachment. It should be noted that the treatments proposed in this EA often attempt to correct soil and water problems created by other management activities such as logging, grazing, recreation and mining. The best actions to prevent noxious weeds are the careful prevention of them getting onto a site.

3.13 Direct, Indirect and Cumulative Effects on Other Resources

The proposed action should have no consequence to other Federal and State Agencies. There should be no conflicts between the proposed action and the objectives, policies and land use plans of Federal, Regional, local, State, and Reservations since the proposed action focuses on Forest Service and BLM watershed needs. There are no policies of other agencies that would conflict with watershed and fisheries restoration treatments.

The proposed action causes no irretrievable or irreversible commitment of resources. This is because the actions being proposed would help impaired resources recover to healthy status.

There would be minor impact to air quality resulting from the use of heavy equipment (bulldozers, backhoes, etc) on some projects. Dust may be created by some treatments as well. A slight amount of short-term noise may be generated when heavy equipment is used as a conservation treatment.

The proposal and alternatives will not have a disproportionately high and adverse human health or environmental effect on minority or low income populations. Some of the watershed treatments may create opportunities to minority contractors.

There would be no affect to public health or safety. The actions proposed do not pose any kind of public risk. There would be no effects to prime farmlands since none of the BLM or FS lands in the San Luis Valley meet the Colorado state criteria. The effects to floodplains or wetlands would be beneficial and would not cause any adverse effects. Projects would comply with nationwide or regional Corps of Engineers 404 permits and would not require application for individual permits. This would limit size of projects and impacts to those that are readily acceptable by State and Federal regulations.

There would be no adverse impacts to ecologically-critical areas. The potential use of these conservation treatments would be beneficial to ecologically-critical areas. The proposed action would not adversely affect Wild and Scenic rivers and may actually improve those conditions by restoring soils, watershed and fisheries. The proposed action is not highly controversial. These treatments are generally routine in nature. The proposed action does not involve unique or unknown risks. Most of these treatments are well established and have had documented success. The proposed action does not set any new precedents. Watershed and fisheries work is not unexpected on the Forest. The proposed action does not create significant cumulative effects. The proposed action would help to reduce cumulative effects of existing resource problems. Threatened,

Final Environmental Assessment for Watershed and Fisheries Conservation Treatments

Endangered, and Sensitive Species effects are described earlier in this EA. The proposed action would not violate Federal, State or local laws protecting the environment. The intensity of impacts, based on the discussion above, is low.

Some of the watershed and fisheries treatments may be suitable for Wild and Scenic Rivers, Wilderness Areas or Areas of Critical Environmental Concern (ACEC) areas. The treatments would have to be compatible with the management requirements of those management areas. For example, any treatment involving motorized equipment would generally not be allowed. Any disturbance from the proposed treatments is expected to be short-term in nature and will improve and enhance Wild and Scenic, Wilderness and ACEC resource values.

There are no hazardous wastes or solids produced by any of the treatments.

Final Environmental Assessment for Watershed and
Fisheries Conservation Treatments

List of Preparers

Kelly Ortiz – Landscape Architect
Les Dobson – Hydrologist
Dean H. Erhard – Ecologist
Dale Gomez – Wildlife Biologist
Mark Marshall – Recreation Staff
Steve Sanchez - Natural Resource
Specialist
Melissa Garcia – Wildlife Biologist

John J. Rawinski – Soil Scientist,
Interdisciplinary Team Leader
Vince Spero – Forest Archaeologist
Sue Swift-Miller – Wildlife Biologist
Laurel Kagan-Wiley – Wildlife Biologist
Barry Wiley- Fisheries Biologist
Dave Gilbert – Fisheries Biologist

Literature Cited

Agnew, William, 2001. Practical Approaches for Effective Erosion and Sediment Control. International Erosion Control Association publication, Steamboat Springs, Colorado.

Andrews and Righter, 1992. Colorado Birds. Denver Museum of Natural History, 442 pages.

Burroughs, E. R. and J. G. King, 1989. Reduction of Soil Erosion on Forest Roads. USDA. Forest Service. Intermountain Research Station, General Technical Report INT-264.

Heede, B. H. 1966. Design, Construction, and Cost of Rock Check Dams. RM Forest and Range Exp Stn. Res. Paper RM20.

Heede, B. H. 1976. Gully Development and Control. The status of our knowledge. US FS Res Stn Research paper 169.

Kolka, R.K. and M. F. Smidt, 2004. In: Forest and Ecology management 202 (2004) 313-323. Effects of forest road amelioration techniques on soil bulk density, surface runoff, sediment transport, soil moisture and seedling growth. USDA Forest Service, North central Experiment Station, Grand rapids, MN.

USDA, 1996. Revised Land and Resource Management Plan and Environmental Impact Statement, Rio Grande National Forest.

USDI, Proposed Resource Management Plan for the San Luis Resource Area, BLM and Record of Decision 1991 (BLM RMP)

USDI, Colorado BLM Standards for Public Land Health, 1997.

Final Environmental Assessment for Watershed and
Fisheries Conservation Treatments

Appendix A – Rio Grande National Forest Watershed Project Checklist (4-2005)

Project Name: _____

Expected Implementation Date: _____

The following checklist would be completed before watershed projects are implemented. Public scoping would be done. The appropriate specialist would check site-specific conditions of the project and respond. Any negative responses may require additional analysis. Documentation can be attached as necessary for the project file.

Project Checklist		
1. Is the project proposal consistent with the FS LMP's goals, standards, desired conditions and management area prescriptions?	Y/N	Initials and date
2. There would be no effects to Heritage Resources?		
3. There are no mass movement concerns?		
4. TE&S Plants are not affected		
5. TES and MIS species would not be adversely affected by the project? (based on site specific project ba/be)		
6. There are no conflicts with other land uses planned in this area?		
7. There are no conflicts with adjacent Agencies or landowners?		
8. There are no unusual soil conditions that would require more intensive analysis?		
9. The adverse impacts to watersheds would be negligible?		
10. Fisheries would not be adversely affected by the project?		
11. Adverse impacts to native vegetation by noxious weeds would be negligible.		
12. Does the activity meet the Scenic Integrity Objective and appropriate Recreation Opportunity Spectrum?		
13. Project complies with nationwide or regional Corps of Engineers 404 permits and implements best management practices associated with the appropriate 404 permit. Corps of Engineer has been contacted about this project.		
14. Project is appropriate for the stream type and does not cause indirect impacts to stream health.		
15. The project will not add unacceptable cumulative effects to other management activities occurring in this watershed.		
16. This project has been scoped in the legal notices of the Valley Courier		

Final Environmental Assessment for Watershed and
Fisheries Conservation Treatments

Recommended by Teamleader: _____

Date: _____

Approved by Line Officer

District Ranger: _____ **Date** _____

Mitigation measures specific to this project (List or attach).

Final Environmental Assessment for Watershed and
Fisheries Conservation Treatments

Appendix B

**U.S. Department of the Interior
Bureau of Land Management
_____ Field Office**

_____, CO 8_____

**DETERMINATION OF LAND USE PLAN
CONFORMANCE AND NEPA ADEQUACY**

NUMBER: CO-____-2004-00__ DNA

CASEFILE/PROJECT NUMBER (optional):

PROJECT NAME:

PLANNING UNIT:

LEGAL DESCRIPTION:

APPLICANT:

ISSUES AND CONCERNS (optional):

DESCRIPTION OF PROPOSED ACTION:

LAND USE PLAN (LUP) CONFORMANCE REVIEW: The proposed action is subject to the following plan:

Name of Plan: _____ Resource Management Plan

Date Approved:

_____ The Proposed Action is in conformance with the LUP because it is specifically provided for in the following LUP decision(s):

Decision Language:

_____ The Proposed Action is in conformance with the LUP, even though it is not specifically provided for, because it is clearly consistent with the following LUP decisions (objectives, terms, and conditions):

Decision Language:

REVIEW OF EXISTING NEPA DOCUMENTS:

Final Environmental Assessment for Watershed and
Fisheries Conservation Treatments

List by name and date all existing NEPA documents that cover the Proposed Action.

Name of Document:

Date Approved:

List by name and date any other documentation relevant to the Proposed Action (e.g., biological assessment, biological opinion, watershed assessment, allotment evaluation, and monitoring report).

Name of Document:

Date Approved:

NEPA ADEQUACY CRITERIA:

Is the Proposed Action substantially the same action and at the site specifically analyzed in an existing document?

Documentation of answer and explanation:

Was a reasonable range of alternatives to the Proposed Action analyzed in the existing NEPA document(s), and does that range and analysis appropriately consider current environmental concerns, interests, and resource values?

Documentation of answer and explanation:

Does the information or circumstances upon which the existing NEPA document(s) are based remain valid and germane to the Proposed Action? Is the analysis still valid in light of new studies or resource assessment information?

Documentation of answer and explanation:

Does the methodology and analytical approach used in the existing NEPA document(s) continue to be appropriate for the Proposed Action?

Documentation of answer and explanation:

Are the direct and indirect impacts of the Proposed Action unchanged from those identified in the existing NEPA document?

Documentation of answer and explanation:

Final Environmental Assessment for Watershed and
Fisheries Conservation Treatments

Are the cumulative impacts that would result from implementation of the Proposed Action unchanged from those analyzed in the existing NEPA document(s)?

Documentation of answer and explanation:

Are the public involvement and interagency review associated with the existing NEPA document(s) adequate for the Proposed Action?

Documentation of answer and explanation:

INTERDISCIPLINARY REVIEW: Identify those team members conducting or participating in the NEPA analysis and preparation of this work sheet (by name and title).

Name	Title	Review Completed
------	-------	------------------

REMARKS:

Cultural Resources:

Native American Religious Concerns:

Threatened and Endangered Species:

MITIGATION:

COMPLIANCE PLAN (optional):

NAME OF PREPARER:

NAME OF ENVIRONMENTAL COORDINATOR:

DATE:

CONCLUSION

CO-___-2004-00__ DNA

Based on the review documented above, I conclude that this proposal conforms to the land use plan and that the NEPA documentation previously prepared fully covers the Proposed Action and constitutes BLM's compliance with the requirements of NEPA.

Based on the review documented above, I conclude that either the proposal does not conform with the land use plan, or that additional NEPA analysis is needed.

Final Environmental Assessment for Watershed and
Fisheries Conservation Treatments

SIGNATURE OF RESPONSIBLE OFFICIAL: _____
_____, Field Manager

DATE SIGNED:

Note: The signed Conclusion on this worksheet is part of an interim step in the BLM's internal decision process and does not constitute an appealable decision.

Final Environmental Assessment for Watershed and
Fisheries Conservation Treatments

**Appendix C- Definitions and Descriptions of
Proposed Treatments**

Aerator, mechanical: This is a farm implement that has knife-like blades that gently lift soil layers, improving aeration and infiltration. It keeps the vegetation layer intact and does not contribute to erosion.

Bioremediation: Use of living organisms to reclaim harshly impacted soils and sites. Example is to use livestock to add important organic matter to an impoverished site.

Buffer strips: Areas having native vegetation where erosion can be filtered by natural or created filtration techniques. These help keep soil and sediment from reaching stream waters.

Check Dams: There are a number of types and variations that would be used. These are generally rock structures placed in rills and gullies to stop head and downcutting so that vegetation can establish and stabilize the system for the long-term. Periodic up-keep is necessary.

Coir: Erosion fibers made from coconut husks.

Fish Improvement Structures: In-stream structures that create or improve fish spawning, resting or hiding habitat. Often includes use of rock, stumps or woody materials. May include fencing, removal of structures if deemed unnecessary, and vegetative improvements like willow plantings.

Gully: Eroding “v” cut into soil that is generally deeper than 1 foot.

Hydromulching: Spraying a slurry of wood or other fiber materials onto eroding soils to create a mulch layer. Often, a tackifier (soil adhesive) is also added to keep the fibers from blowing away in severe winds.

Rill: An erosional “v” in the soil surface, generally from 1 inch to 12 inches deep.

Ripping (or Subsoiling): Use of ripping teeth or winged subsoiler on the back of a bulldozer to de-compact soils and restore soils to better aeration and infiltration.

Sediment Trap: Structure designed to capture sediment where long-term vegetative goals may not be possible. Periodic maintenance and sediment removal would be expected.

Sheet Erosion: Lateral movement of soil particles downslope due to raindrop impact and surface runoff.

Final Environmental Assessment for Watershed and Fisheries Conservation Treatments

Slashing, Slash Check Dams: This erosion control treatment involves the scattering of logging slash or tree debris to slow soil movement. Long term objective is to stabilize the erosion with native vegetation.

Streambank stabilization: This treatment would use rock materials or other materials to stabilize an unstable and eroding streambank. Vegetation plantings or treatments would also help achieve this objective.

Subsoiler Implement, Subsoiling: A 3-shanked ripping tool designed to alleviate soil compaction. It is drawn by a bulldozer.

Suction Dredging: Use of hosed equipment and motor that sucks sediment from important stream channel locations to improve stream and fish habitat.

Water bars (drainage dips): These structures are constructed in native surface roads so that erosion and drainage are taken off the road surface and ditch and filtered into proper buffer strips.

Wattles: Consist of 8 to 12 inch diameter flexible tubes of straw, coconut fiber or other material used on the contour to reduce erosion.

Final Environmental Assessment for Watershed and
Fisheries Conservation Treatments

Appendix D

**Cost of Implementing Various Watershed and Fisheries Treatments and
Economic Analysis Updated to Most Recent Costs**

Costs and Structural Watershed and Fisheries Treatments (updated to 2004 costs)

Watershed Treatments	Estimated Costs of Implementation \$\$\$'s per structure	Sources of Values
Each waterbar, earth barriers	\$62	FS work crew production rate
Checkdam, rock, slash, filter bales, waddles, mulch dams	\$32 to \$320	FS work crew production rate
Wetland Restoration Structures	\$2100	FS work crew production rate
Sediment Trap	\$84	FS work crew production rate
Cleaning Culverts	\$84	FS work crew production rate
Diversion Structures	\$525-2100/250 feet of treatment	Engineering cost estimate

Costs Per Acre of Watershed Treatments

Land Treatments	Per Acre Cost	Source
Seeding	\$32 seed cost \$52.00 travel \$105.00 labor	Colorado Seed Company Cost of seed mix per acre montane mix (3/2001)
Mulching 2tons/ac straw	\$140.00 straw \$105.00 labor \$105.00 transport	Cost of weed free straw San Luis Valley. Estimated transport and labor.
Fertilization	\$18.00 bagged fertilizer, \$53/acre labor \$53 Transportation	Monte Vista Coop Prices Plus estimated deliver and application.
Erosion Fabrics	\$7350 to \$12,600	International Erosion Control Association, Agnew, 2001.
Bioremediation with	\$3670.00	Actual Forest costs at

Final Environmental Assessment for Watershed and
Fisheries Conservation Treatments

Animals		Treasure Trove Project (3/2001)
Silt fence, tackifiers, polymers,	Varies \$53 to \$1575.00	FS work crew production rate
Planting Trees/shrubs	\$315.00	FS work crew production rate
Hydromulching	\$1575	International Erosion Control Association, Agnew, 2001
Mechanical Aeration, aerway or subsoiling	\$37.00-\$74.00	Based on contract summer/2000 on RGNF, Difficult Creek Project
Mechanical Mulchers/Hydroaxe	\$105 to \$158	Dale Gomez discussions with contractor who performs this service. (3/2001)

Unit Costs of Habitat/Stream Improvements

Habitat Treatments	Unit Cost	Source
Vanes, jettys, grade control structures	\$525-2100	Forest costs estimates
Planting Willows	\$1.58 per running foot	Natural Resource Cons Service estimates
Soft Structures, willow and erosion waddles etc, reshaping cutbanks, traffic control	\$1050.00/100 foot segment	Medano Creek project (2000),
Hard Structures/ rip rap	\$5250/250 feet	Crooked Creek Rip Rap project
Suction dredging	\$315/100 foot segment.	Forest level costs based on Hydrologist estimates, Big Springs Project.
Fencing	\$5000.00/mile	Forest Service cost estimates

Quick-Silver Investment Analysis

A Quick-Silver investment analysis was completed for this environmental analysis. We analyzed the No Action and proposed Action alternatives. We used an experienced budget constraint of about \$132,500 and analyzed four categories of treatments: structures, habitat treatments, land treatments and fish structures. A major difference between alternatives is the amount of investment in NEPA analysis. In the No Action, annual NEPA cost is high because each District needs to do an environmental analysis. In

Final Environmental Assessment for Watershed and
Fisheries Conservation Treatments

the proposed action, each District completes a checklist which has lower cost than and EA document.

Results of the economic analysis for a 10 year period show the following costs and units.

Parameter	No Action	Proposed Action
Present Value Costs (10 years)	-\$1,116,500	-\$1,119,368
Units Accomplished	260	335

The Table shows that because of improved efficiency in NEPA analysis, more dollars in a constrained budget can go to on-the-ground improvements and accomplish 22% more acres/targets.

Final Environmental Assessment for Watershed and
Fisheries Conservation Treatments

APPENDIX E

FOREST SERVICE RESPONSES TO PUBLIC COMMENTS

The Rio Grande National Forest issued a legal notice inviting public comment for a 30 day period. The legal notice was published in the Valley Courier on January 20, 2005. Comments were accepted if they were postmarked no later than February 22, 2005 since the exact due date would have fallen on a holiday weekend. A press release was also issued about that same time and an article was published in the Valley Courier announcing the Watershed Treatment EA.

The Rio Grande national Forest also notified the public of this proposal in quarterly scoping documents. American Indian Tribes were consulted directly about the proposed environmental assessment.

The Forest received two written comments and one comment via phonecall record.

Public Comment: The Colorado Division of Water Resources offers the following comments regarding the subject public notice. Our comments are based upon the limited information provided in the notice and are restricted to the potential impacts this proposal has to water resources and the protection of other vested water rights. The proposed conservation treatments include stream stabilization treatments, wetland creation, and improving fisheries through fish habitat techniques within the San Luis Valley and Upper Rio Grande Drainage.

The creation of wetlands and detention of water in basins will cause depletions to the stream system through evaporation from the water surface and the consumptive use of water by plant life. The impoundment of water in the basins may also alter the timing of the availability of water to vested water rights. The Rio Grande River is over-appropriated and the stream system must be compensated for these depletions in time, place and amount through a court approved augmentation plan or a State Engineer approved substitute supply plan. Additionally, if the wetlands mitigation occurs in locations that affect drainages other than those where the impacts occur, or if more wetlands are created than are eradicated in a drainage, the wetland mitigation may adversely impact vested water rights. To assist in avoiding this potential injury, we recommend that you consult with our Division office regarding the locations of the proposed wetlands relative to the existing wetlands locations.

Forest Service Response: The Forest Service recognizes the need to coordinate with the Colorado Division of Water Resources on any project that could cause a depletion of water and that would consequently need a water right or an augmentation plan. Completion of this EA, in compliance with the National Environmental Policy Act, does not eliminate the need to fulfill all obligations to secure necessary water through the Colorado Division of Water Resources. This language will be added to the EA, so that the public knows that we are aware of, and committed to meeting, those requirements.

Final Environmental Assessment for Watershed and
Fisheries Conservation Treatments

Public Comment: SW Willow Flycatcher: We received a communication record that a reviewer saw no mention of Southwestern Willow Flycatcher in the EA for Comment.

Forest Service Response: The EA for Comment, p 25, 6th paragraph describes the situation whereby the proposed action has the determination of “May Affect, but Not Likely to Adversely Affect”Southwestern Willow Flycatcher. The Southwestern Willow Flycatcher effects would also be considered at the site-specific project and is an evaluation item in the Wildlife Checklist that would be completed for each specific project.

Public Comment: In a phonecall dialogue, a reviewer was concerned about whether the public would have chance to provide comments at some later stage. He felt that as long as there was another level at which to comment, he did not want to “hold up progress” by having an attorney intervene or submit a letter on the draft.

Forest Service Response: The DEIS, page 10 1st paragraph describes that a legal notice would be placed in the Valley Courier newspaper so that the public would have the opportunity to comment on any specific watershed and fisheries proposed projects.

Public Comment A reviewer was concerned that we were proposing headgates and drop structures to enhance and restore wetlands. He said that that would tie up water in wetlands and deny downstream users of water.

Forest Service Response: No specific projects are proposed by this EA, nor does this EA eliminate the need to secure necessary state and federal permits. Each specific project proposed in the future will still have to meet all federal and state regulatory requirements. Such requirements include the need to secure whatever water rights or substitute water supplies are deemed necessary by the Colorado Division of Water Resources. Similarly, if other permits such as an Army Corps of Engineer Section 404 permit are required, they would have to be secured before that project could proceed.

Public Comment A reviewer was also concerned about us removing stock water ponds as it affects livestock allotments and water rights.

Forest Service Response: The removal and restoration of old stock water ponds is done only where ponds have not been maintained or are no longer needed. It was not a wholesale removal, but on a case by case basis. Some of the structures were intended as gully-plugs, structures aimed at stopping gully advancement and have failed in that effort. Stockwater ponds currently being maintained and used by livestock permittees would not be removed.

The Forest Service owns water rights for livestock water developments on the Rio Grande National Forest and is aware of the need to secure such rights before any new developments are constructed. The Forest is also aware of the need to protect existing water rights to ensure the continued use of livestock allotments on the Forest. The Forest has no intent to relinquish its water rights or jeopardize future options for use of livestock

Final Environmental Assessment for Watershed and Fisheries Conservation Treatments

allotments. If livestock developments need work, replacement or enhancements, this EA will fulfill the NEPA requirements and allow the Forest to proceed with necessary work more efficiently. The need for any specific project will still be determined in the future and affected parties will be included in those discussions.

Public Comment A reviewer stated that as a ski trail designer and builder, the processes described in Alternative 2 (the proposed action) would not unduly burden the Wolf Creek Ski Area's already existing erosion control efforts. He recommended that Appendix D (Cost of Implementing Various Watershed and Fisheries Treatments and Economic Analysis)...that these cost projections are low. It might be worthwhile to review this Appendix before the final decision is released.

Forest Service Response: The economic analysis for these projects was completed in 2001. This issuance of this EA was delayed until such time as the Forest Plan Amendment, relative to Management Indicator Species, was completed. Since that time costs have risen. We have made adjustments in costs and reanalyzed the economics using the Quick-Silver model. Costs were increased based on using the gross domestic product inflator (GDP) values to account for the increase in costs due to inflation over those years.