

FINAL
NATURAL RESOURCE RESTORATION PLAN FOR
THE CLEVELAND MILL SITE,
GRANT COUNTY, NEW MEXICO

Prepared by

New Mexico Office of the Natural Resources Trustee
United States Department of the Interior
Fish and Wildlife Service
Bureau of Land Management
United States Department of Agriculture
Forest Service

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1.0 *Introduction to the Restoration Plan*

The New Mexico Office of the Natural Resources Trustee, the U.S. Department of the Interior, and the U.S. Department of Agriculture - U.S. Forest Service (the Trustees) have prepared this Final Restoration Plan (the Plan) for the restoration of natural resources that may have been injured, lost or destroyed due to hazardous substance releases from the Cleveland Mill Site (the Site) in Grant County, New Mexico. The purpose of the Plan is to compensate the public for the lost use of injured natural resources and the services those natural resources provided. The Plan is prepared pursuant to federal law in furtherance of the Trustees' responsibilities to restore, replace, rehabilitate or acquire the equivalent of injured natural resources. The Plan includes public comments on the Draft Plan issued April 15, 1996, responses to those comments and changes to the Draft Plan made as a result of those comments. Because the public comments received during the review process did not necessitate major revision of the Draft Plan, it is hereby incorporated into this Final Plan by reference.

1.1 The Cleveland Mill Site

The Site was proposed for inclusion on the National Priorities List (NPL) of federal Superfund sites on June 24, 1988. Pursuant to section 105 of the Comprehensive Response, Compensation and Liability Act of 1980 (CERCLA), as amended, 42 U.S.C. § 9605, EPA placed the Site on the NPL on March 31, 1989 (54 Fed. Reg. 13296, March 31, 1989).

The Site is located in southwestern New Mexico, approximately 5.5 miles north of Silver City in Grant County. The Site is in the northeast quarter of Section 2, Township 17 South, Range 14 West, at the headwaters of a small tributary of Little Walnut Creek. The Continental Divide runs east and west between the mine to the north and the mill to the south. The Site encompasses a central area of about 4 acres that includes material discarded during mining and ore processing operations, a water storage reservoir, access roads and other roads that traverse the Site, building foundations (including the mill foundation), the mine portal, and the surrounding areas. The Site also encompasses about 14 acres in and along the stream bed of a small tributary to Little Walnut Creek, the "mill valley tributary," and the bed of Little Walnut Creek itself. Mining Remedial Recovery Company (MRRC), then named Bayard Copper Corporation, purchased the Cleveland Mill property in 1989. MRRC is the present owner of the property.

1.2 The Trustees' Responsibilities

The Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended, provides that the President and the governor of each state are to designate responsible officials as Trustees for natural resources under the jurisdiction of federal and state governments. Accordingly, the President designated the Department of

the Interior (DOI) and the Department of Agriculture (USDA), among others, as Trustees for certain resources under the jurisdiction of the federal government, and the Governor of New Mexico designated the Natural Resources Trustee as trustee for resources under the jurisdiction of the State of New Mexico.

Under CERCLA, Trustees are to evaluate the injuries to any natural resources and any injuries or losses of resource services caused by the release of hazardous substances into the environment. Trustees are also to estimate any damages resulting from the injuries. CERCLA provides that the parties responsible for the release of hazardous substances are liable for such damages.

The Trustees have executed a consent decree with the Potentially Responsible Parties for the Site; this consent decree was entered by the U.S. District Court on July 3, 1995. Pursuant to the natural resource damages provisions of the consent decree, the potentially responsible parties made a payment of \$165,000.00 to restore natural resources. CERCLA expressly requires that such damage award must be used to restore, replace, or acquire the equivalent of the injured natural resources. Accordingly, the Trustees will use this award to develop and implement a restoration plan compensating the public for natural resource injuries at the Site.

The Trustees entered into a Memorandum of Agreement (MOA) to coordinate and organize their restoration efforts. The MOA created a Trustee Council to develop and implement this Plan. Each of the three trustee agencies is represented on the Council. The New Mexico Office of the Natural Resources Trustee is the Lead Administrative Trustee for this restoration planning effort.

Pursuant to the National Environmental Policy Act (NEPA), the Trustees must also consider a variety of restoration alternatives and any environmental effects of implementing any of these alternatives. This analysis is contained in the following sections.

1.3 Goals of the Plan

One of the Trustees' goals is to restore injured natural resources and lost resource services to the baseline condition -- that is, to the conditions that existed before the releases of the hazardous substances from the Site occurred. Another goal is to compensate the public for the loss of natural resource services caused by the releases of hazardous substances. The Trustees intend to implement this Plan in the most cost effective and beneficial manner possible.

1.4 Public Notification and Plan Review

Consistent with § 111(i) of CERCLA, 42 U.S.C. § 9611(i), the Trustees provided the public with a notice of availability of a draft Plan. The Trustees placed notice in the New

Mexico Register, in the Albuquerque Journal, a newspaper of general circulation in the State, and in the Silver City Daily Press, a newspaper of general circulation in the vicinity of the Site and in the general area where restoration activities will take place. In the same manner, the Trustees have placed notice of completion of the Final Plan. Requests for copies of the Final Plan should be sent to the following address:

New Mexico Office of the Natural Resources Trustee
P.O. Box 26110
Santa Fe, New Mexico 87502

Contact: Steven Cary
Phone: (505) 827-1035
Fax: (505) 827-1049

2.0 Injury Assessment

2.1 Description of the Releases of Hazardous Substances

Contamination of the Site with hazardous substances is a result of approximately 50 years of intermittent stockpiling of mill tailings and mine wastes from operations at the now-abandoned Cleveland Mill and nearby Cleveland Mine. Releases of hazardous substances most likely began with the onset of milling in about 1913, but may have begun as early as 1900 when mine claims were staked and developed. Although commercial activity at the Site ceased more than 40 years ago, releases of hazardous substances into the environment continue today.

Contaminated wastes in the mill area on the Site include two main tailings piles (east and west), a cobbed ore pile (unprocessed, low-grade ore), western hillside waste piles, dust piles, and roadbed soils. Other contaminated areas include the mine spoils located in a small drainage next to the Cleveland Mine portal, and tailings sediment located within the stream bed of the mill valley tributary to Little Walnut Creek and within the stream bed of Little Walnut Creek itself. Additionally, localized ground water-contamination had been identified at the base of the tailings piles.

Hazardous substances released from the Site and found in soils as well as in shallow ground water include, but are not necessarily limited to: arsenic, beryllium, cadmium, copper, lead, mercury, and zinc.

2.2 Injury Determination Procedures

The injury determination procedure is different in detail for each resource [DOI regulations at 43 CFR 11.61-64]. In general, however, each of the procedures requires the identification of: a contamination source; a hazardous substance release; a pathway of

movement; and a measurable effect on the resource in question. Investigations performed and reports prepared for EPA's Superfund program document the nature and extent of contamination at the site. Natural resources for which the State of New Mexico, DOI, and USDA are trustee and which have been affected or potentially affected by releases of hazardous substances from the site include, but are not limited to, the following:

- * wildlife including small mammals and big game species, birds, invertebrates, amphibians, and reptiles;
- * state and federally-listed endangered and threatened species;
- * vegetation including upland, riparian, and wetland vegetation;
- * surface water including waters in Little Walnut Creek, the mill creek tributary to Little Walnut Creek, the creek near the Cleveland mine, the reservoir near the mill site, and sediments associated with these surface waters.
- * ground water including the alluvial aquifer and bedrock aquifer;
- * soils including lowland and floodplain soils, as well as upland areas affected by aerial deposition.

2.2.1 Surface Water Resources

Reports prepared for EPA's Superfund program adequately document the nature and extent of contamination of surface water at and downstream from the Site. Surface water resources are deemed to be injured at the Site because bed and bank sediments from mill valley tributary and Little Walnut Creek contain concentrations of hazardous metals that make them "characteristic wastes" under the Resource Conservation and Recovery Act (RCRA) [43 CFR 11.62(b)(1)(iv)] (Cleveland Mill Remedial Investigation Report, EPA, 1993). Concentrations in surface water also were sufficient to cause injury to ground water, geological or biological resources that would be contacted by the surface water, which constitutes injury of surface water [43 CFR 11.62(b)(1)(v)].

2.2.2 Ground Water Resources

Perched ground water beneath the site discharges via springs and seeps to mill valley tributary, a surface water, which in turn supports riparian vegetation. Ground water beneath the tailings is acid (pH = 2) and contains toxic contaminants at concentrations that injure surface water and associated biological resources (Cleveland Mill Remedial Investigation Report, EPA, 1993; Tables 4.2 and 4.3). Ground water therefore has been injured [43 CFR 11.62(c)(1)(iv)].

2.2.3 Biological Resources

Biological resources are the principal resources adversely affected by contamination at the Site. Ground water and surface water injuries can be demonstrated only because of their effect on local biota. Unfortunately, biological receptors at the Site were not investigated as part of EPA's Remedial Investigation (Cleveland Mill Remedial Investigation Report,

EPA, 1993; pp.7-88 et seq.). Documentation for injuries to biological resources therefore was not available at the time that the natural resource damages claim was negotiated and settled.

Nevertheless, the Trustees asserted injury to biological resources based on visual observation and reasonable inferences. For example, dead trees at the base of the tailings clearly demonstrate injury to vegetation at the site. Absence of typical streambank vegetation along a significant length of mill valley tributary contrasts with good plant cover in upstream reaches and in unaffected tributaries - more evidence of injury to vegetation due to releases of hazardous substances from the site. Vegetative loss along riparian and semi-riparian areas has a detrimental effect on wildlife that might inhabit the area. Wildlife also would be unable to use water from affected streams.

2.2.4 Geological Resources

Documentation for injuries to geological resources was not available at the time that the natural resource damage claim was negotiated and settled. The necessary injury tests were not done as part of the Superfund Remedial Investigation, but the Trustees believe that performance of the proper tests would document injury to geological resources. For example, the Remedial Investigation Report demonstrates that the majority of tailings have a pH less than 3.0 and lie directly on native soils (1993, p. 4-16). Thorough testing probably would show that some underlying soils now have a pH below 4.0, which is one test for injury [43 CFR 11.62.(e)(2)]. Another test for injury to soils is the ability to support vegetation native to the area [43 CFR 11.62(e)(11)]. Soils at the Site probably are injured as evidenced by dead vegetation at the base of tailings and along the creek bed leading away from the tailings. Proper testing probably would confirm that soils beneath the tailings are contaminated with metals and acid, and are probably unable to support native vegetation.

2.2.5 Air Resources

Injury to air resources is possible, but it would be hard to prove and is not likely to be extensive in this rough terrain. No determination has been made with regard to injuries to air resources.

2.3 Summary of Injuries to Resources and Losses of Resource Services

2.3.1 Significant Natural Resources Injured

Natural resources for which the State of New Mexico, DOI, and USDA are Trustees and which have been affected or potentially affected by releases of hazardous substances include, but are not limited to: wildlife; vegetation; surface water; ground water; soils and sediments.

2.3.2 Significant Services Lost

Services that would have been provided or were potentially provided by the resources identified in Section 2.3.1 include:

- * habitat for wildlife (i.e., food, shelter, breeding and rearing areas, and other factors essential to long-term survival);
- * consumptive outdoor recreation including hunting and trapping;
- * non-consumptive outdoor recreation including swimming (in the reservoir), camping, hiking, bicycling, wildlife viewing and photography; and
- * water for drinking, other domestic use, irrigation, and livestock (i.e., potential uses of ground water).

3.0 Restoration Alternatives

Pursuant to the Natural Resource Damage Assessment Regulations (43 CFR Part 11) and the regulations implementing the National Environmental Policy Act (40 CFR Parts 1500-1508), the Trustees evaluated a reasonable range of alternatives before selecting a preferred alternative as the Proposed Action. These alternatives are presented below.

3.1 The Development Process for the Proposed Action and Alternatives

The Trustee Council approached natural resource management agencies and private natural resource organizations asking for their input on potential natural resource restoration projects that might be undertaken in the general area of the Site. Contacts included but were not limited to: New Mexico Game and Fish Department; New Mexico Environment Department; New Mexico Energy, Minerals and Natural Resources Department; U.S. Forest Service; U.S. Department of the Interior -- Fish and Wildlife Service and Bureau of Land Management; and the Nature Conservancy. Using the criteria in Section 4.0 in an initial screening, the Trustee Council formulated three alternative restoration actions: a No Action alternative; an alternative based on restoration, replacement or enhancement of riparian habitats; and an alternative based on property acquisition. The Trustee Council again used the criteria in Section 4.0, as well as a comparison of the environmental consequences of each alternative, to evaluate these alternatives and decide on the Proposed Action.

3.2 Alternative A: No Action

Under Alternative A (No Action), restoration activities would not be undertaken by the Trustees. Natural resources and services would be partially restored as the result of the EPA remediation, which includes revegetation of all excavated areas and regrading of those areas to their original grade. Natural resources and services would then eventually be fully restored to baseline as the result of natural recovery. The time for full natural

recovery to occur is currently unknown but is likely to be many years, and perhaps decades.

3.3 Alternative B: Restoration

As Alternative B, the Trustee Council members considered a package of restoration projects that will restore and/or enhance the types of habitats that were impacted by the Site. Individual projects would utilize local community resources and be accomplished in cooperation with permittees, private landowners and other resource management groups such as the Grant County Soil and Water Conservation District, and local offices of the Bureau of Land Management, U.S. Forest Service, New Mexico Environment Department, and New Mexico Department of Game and Fish. The projects included in this Alternative are as follows:

1. Nichols Canyon Spring fencing project -- This project consists of fencing a spring located in Nichols Canyon near the Gila River on land managed by the Bureau of Land Management. Approximately 0.5 miles of fence will be constructed which will enclose up to 10 acres of riparian habitat. The enclosure would protect the spring source, restore subsurface storage of water and enhance wildlife habitat. A pipeline would be constructed to provide an alternative water source for livestock. A tank would also be built to store water.
2. Mogollon Box protection -- This project consists of placing barrier rocks along the Gila River and Mogollon Creek banks to manage vehicle access into the river channel. Woody riparian vegetation will then be planted behind the barrier to stabilize the actively eroding banks. Implementation of this project will prevent indiscriminate vehicle use from approximately 5 miles of the Gila River and 0.75 miles of Mogollon Creek. These improvements will enhance critical habitat for Southwestern willow flycatcher, loach minnow and spikedace. This project will occur on land managed by the Gila National forest. Planning for this project was coordinated with the Gila River Multi-State, Multi-Regional Watershed Planning effort and links with stream-bank stabilization projects planned downstream from the project.
3. Gila River Bird Area restoration -- This project consists of reclaiming an abandoned irrigation ditch, providing protective fencing and reestablishment of native vegetation on an abandoned farm field along the Gila River. These improvements will enhance critical habitat for the Southwestern willow flycatcher, loach minnow and spikedace. Another phase of this project, consisting of bank stabilization, is being done in partnership with the New Mexico Environment Department, using EPA non-point source pollution reduction funding. This project will occur on land managed by the Gila National forest. Planning for this project was coordinated with the Gila River Multi-State, Multi-Regional Watershed Planning effort and links with stream-bank stabilization projects planned upstream from the project.

4. Acquisition of Cleveland Mill Site reservoir by Grant County -- Under this project, Grant County would receive title to the Cleveland Mill reservoir and surrounding property which could be used as a recreational site for Grant County residents.

5. Berrenda Creek wetlands project -- This project consists of the partial funding of a U.S. Fish and Wildlife Service Partners for Wildlife project on private land on Berrenda Creek. Money would be used in combination with Partners for Wildlife money to repair a reservoir which, in turn, would create a 40-acre wetland impoundment. In addition to the wildlife benefits of the impoundment, seepage from the reservoir would provide a perennial water supply for riparian habitat downstream for several miles of Berrenda Creek.

6. Gila River stabilization near Cliff -- This project would consist of riparian revegetation and erosion control on the Gila River from its confluence with Mogollon Creek downstream to the Forest Service boundary. The focus of the activity will take place in the Gila/Cliff area. The project would include pole planting and some small physical structures to stabilize eroding banks and enhance the riparian biological community along the river. Participants in the project would include cooperating owners of private property along the river. Specific project locations and design will be developed by the involved landowners in cooperation with other interests and government agencies so that the project has the concurrence of the landowners and support of the community. Appropriate planting and bank stabilization projects will be implemented by a Youth Conservation Corps-type program, with funding provided through the Grant Soil and Water Conservation District.

7. Upper McKnight Canyon fence project -- This project involves the building of approximately two miles of fence to exclude cattle from upper McKnight Creek watershed, a tributary to the Mimbres River on the Gila National Forest. Benefits from this project would include water quality protection and riparian habitat enhancement which would, in turn, benefit the Gila Trout and Chihuahua chub. This fencing project would exclude livestock from 7000 acres in the watershed.

8. Mimbres River Stabilization near San Lorenzo -- This project would involve working with the San Lorenzo Acequia Association to install best management practices on private lands in an area north of San Lorenzo. Most of the land on this reach is used for agricultural and residential purposes. The project would include streamside stabilization/protection, riparian revegetation, and some channel reconfiguration and fencing. This project will be accomplished in partnership with the Grant County Soil and Water Conservation District and the New Mexico Environment Department.

Alternative B is the Trustees' preferred alternative. If one or more of the above projects is unable to be implemented, substitution of a project of similar cost and with similar benefits may occur without additional public review. Minor modifications of the above projects

may also occur without additional public review.

3.4 Alternative C: Acquisition

As Alternative C, the Trustee Council members considered two projects.

1. Acquisition from a willing seller of a Gila National Forest inholding of approximately 130 acres. The Gila River runs through the tract and acquisition of the property would provide the opportunity for the U.S. Forest Service to protect the land and associated riparian resources from future development and perform habitat enhancement and/or restoration where necessary. Purchase of the property would preclude intensive development and preserve open lands ensuring that ecological and recreational services provided today are not impaired in the future.
2. In this project, Grant County would receive title to the Cleveland Mill reservoir and surrounding property which could be used as a recreational site for Grant County residents.

3.5 Other Alternatives Considered, but Not Analyzed in Detail

In preparing this Plan, the Trustees discussed a number of other alternatives. The Trustees decided that the following alternatives were not appropriate for the reasons discussed below.

3.5.1 Wildlife Emphasis Alternative

The Trustee Council considered a group of projects that together formed an alternative that addressed wildlife habitat restoration/enhancement. These projects included: 1) several studies of reptiles/amphibians and peregrine falcons; 2) fencing projects in the Peloncillo Mountains; and 3) several projects included in the Proposed Action. This alternative was not considered further because of the Trustee Council's preference for either acquisition or restoration/enhancement over studies, which do not directly lead to an increase in benefits or services that were lost as a result of releases from the Site. Additionally, the Trustee Council members believed that the Peloncillo Mountains projects were too far removed from the area of the Site where the resource services were lost.

3.5.2 Small Acquisitions Alternative

The Trustee Council considered an alternative that consisted of a number of potential easement and real property acquisitions. Because a large number of acquisitions would be administratively difficult, because prices for these acquisitions and the willingness of sellers were unknown in some cases, and because some of the parcels were far removed from the Site, this alternative was dropped from consideration.

3.5.3 Widespread Projects and Diversity

The Trustee Council considered an alternative that consisted of a number of small restoration/enhancement projects and small acquisitions. A number of the proposed projects in Alternative B were included in this alternative. For reasons included in the Small Acquisitions Alternative above, and because of the large number of projects in this alternative, which would make it difficult to administer cost-effectively, this alternative was dropped from further consideration.

4.0 Trustees' Evaluation of Restoration Alternatives

4.1 Criteria and Procedure for Evaluating Restoration Alternatives

The following evaluation criteria were used to evaluate the merits of the alternatives. These criteria were included in the Natural Resource Damage Assessment Rule promulgated by the Department of the Interior at 43 CFR Part 11 and were derived from the regulations implementing the National Environmental Policy Act (40 CFR Parts 1500-1508). Additional guidance was taken from the Natural Resource Damage Assessment Rule promulgated by the National Oceanic and Atmospheric Administration, 61 Fed. Reg. 440 (Jan. 5, 1996) to be codified at 15 CFR Part 990. Although the latter rule only applies to discharges of oil, it is still useful guidance for the evaluation of restoration alternatives.

- **Protect Public Health, Safety and the Environment**

This criterion was used to evaluate potential effects that proposed restoration actions might have on human health, public safety and the environment [43 CFR 11.82(d)(8); 61 Fed. Reg. 507, Jan. 5, 1996, to be codified at 15 CFR 990.54(a)(6)].

- **Consistency with Existing Laws or Regulations.**

This criterion was used to evaluate the alternatives based on their consistency with federal and state laws, regulations and policies [43 CFR 11.82 (d)(9-10)]. In addition, the selected alternative should only include actions that are consistent with existing land management plans and fit within the current resource management context.

- **Return to Baseline; Make Public Whole; Natural Resource Recovery**

This criterion was used to evaluate the effectiveness with which each alternative returns injured resources and services to baseline, thereby making the environment and public whole for interim lost uses [61 Fed. Reg. 507, Jan. 5, 1996, to be codified at 15 CFR 990.54(a)(2)]. Cleanup of the Site is expected to accomplish the physical restoration, so the Trustees' primary concern is to make the environment and the public

whole for services that were lost between the time of injury and the time of complete restoration. It is important to evaluate the degree to which each alternative addresses the specific resources or services that were injured or lost, in terms of both resource type and proximity to the Site. In addition, the Trustees are to consider two issues related to resource recovery: how long it would take injured resources to recover naturally [43 CFR 11.82(d)(6)]; and the ability of injured resources to recover with or without each alternative action [43 CFR 11.82(d)(7)]. These issues are tangential in this case because EPA will restore resources on-site and the natural resource damages claim was for lost natural resource services. Therefore, evaluation of alternatives against this criterion involves the resources targeted by each restoration action.

- **Likelihood of Success; Technical Feasibility**

This criterion was used to evaluate whether each alternative is technically feasible [43 CFR 11.82(d)(1)]. This is related to the issue of whether each alternative is likely or unlikely to succeed [61 Fed. Reg. 507, Jan. 5, 1996, to be codified at 15 CFR 990.54(a)(3)] or achieve the goal.

- **Nature of Benefits**

This criterion was used to evaluate whether each alternative would benefit only one, or more than one, resource or service [61 Fed. Reg. 507, Jan. 5, 1996, to be codified at 15 CFR 990.54(a)(5)]. Trustees also evaluate the permanence and longevity of benefits.

- **Results of Response Actions**

This criterion was used to evaluate whether EPA response actions at the Site will have any beneficial or detrimental effects on natural resource restoration. The Trustees then evaluate proposed restoration actions in that context [43 CFR 11.82(d)(4)]. Using other available mechanisms, the Trustees will attempt to influence the EPA remediation to achieve the best on-site restoration possible. Completion of the EPA cleanup is some years away, however, and the Trustees do not believe it is appropriate to wait until then to make a decision on the preferred restoration alternative. The Trustees believe that EPA remedial actions will be effective and non-injurious to natural resources. Therefore, this criterion is not particularly useful in distinguishing between alternatives.

- **Potential to Cause Additional Injury**

This criterion was used to evaluate each alternative with regard to its potential to cause additional injury or disturbance to natural resources, or conversely, the extent to which the action avoids additional injury or disturbance [43 CFR 11.82(d)(5); 61 Fed. Reg. 507, Jan. 5, 1996, to be codified at 15 CFR 990.54(a)(4)]. The resources of concern here may be those initially injured by releases at the site (injuries caused by releases of

hazardous substances), or those that could be injured as a result of the restoration action (physical disturbances).

- **Long-term Maintenance**

Trustees used this criterion to evaluate each alternative to determine whether its implementation would impose long-term costs on an organization or person, thereby undermining its long-term viability.

- **Cost**

Absolute cost [61 Fed Reg. 507, Jan. 5, 1996, to be codified at 15 CFR 990.54(a)(1)] is moot because the cost of each alternative is the same as determined by the settlement. Trustees evaluate each alternative in terms of its cost effectiveness [43 CFR 11.82(d)(3)] and the relationship of costs to benefits [43 CFR 11.82(d)(2)]. However, the selection process is not to be reduced to a strict comparison of costs to values [Preamble, 61 Fed. Reg. 454, Jan. 5, 1996, to be codified at 15 CFR 990]. Nevertheless, the Trustees still seek to get the most benefit for the cost expended. If there are two or more preferred alternatives, then the Trustees select the most cost effective alternative [Preamble, 61 Fed. Reg. 454, Jan. 5, 1996, to be codified at 15 CFR 990].

4.2 Comparison of Restoration Alternatives

4.2.1 Effects of Alternative A: No Action

Under the No Action Alternative, restoration actions would not occur. The resulting effects, as discussed below, would rely entirely on natural recovery from injuries.

Remediation of the Site will not result in any net benefit to natural resources which would compensate the public for lost benefits or services of functional, non-contaminated habitats which would have been present except for site releases. Restoration, replacement or enhancement of similar habitats at locations off of the Site is required in order to accumulate additional benefits or services necessary to fully compensate the public. There would be no adverse or beneficial environmental effects under implementation of this Alternative. Settlement monies would remain unspent which would be inconsistent with the requirements of federal law (CERCLA §107) and the intent of the natural resource damage assessment regulations at 43 CFR Part 11.

4.2.2 Effects of Alternative B

Alternative B would compensate the public by directly working to restore and rehabilitate riparian ecosystems in the area. Individual projects would improve the physical stability of local river systems by enhancing their ability to withstand floods and resist streambank

erosion and downcutting. This would be accomplished by combinations of modestly engineered structures, limited fencing to control access by livestock, off-road vehicle use restrictions, and restoration of native riparian vegetation. Enhanced or restored services include wildlife habitat, aquifer recharge, river bank stability, water supply and recreational opportunities. Ecosystem benefits include improved hydrologic functioning along 33 miles of stream, wetland restoration for 40 acres, upland habitat protection and enhancement for 7000 acres, and riparian habitat rehabilitation for 600 acres. Indirect benefits include habitat improvement for several listed species including Gila trout, Southwestern willow flycatcher, loach minnow, spikedace and Chihuahua chub. The improvements provided by the proposed projects also provide recreational opportunities for the public. The specific project activities are as follows:

Fencing	4 miles
Rock Barrier	0.75 miles
Non-riparian revegetation	250 acres
Streambank stabilization	0.5 miles
Irrigation ditch cleanout	2.5 miles
Riparian planting	9 miles

4.2.3 Effects of Alternative C

Alternative C would compensate the public for the benefits of healthy riparian ecosystems that were lost at the Site. Alternative C would accomplish this by securing real property in the vicinity that contains healthy riparian ecosystems. This would ensure that ecological and recreational services provided by that parcel of land today are not impaired in the future. Enhanced or restored services might include wildlife habitat, aquifer recharge, river bank stability, and recreational opportunities. Benefits would be long-term rather than immediate, and have the effect of preventing future injuries rather than redressing current problems. There may be minor economic impacts in the form of lowered tax receipts as a result of removal of the property from the tax base.

4.2.4 Comparison of the Environmental Effects of Alternatives A-C

Table 1 summarizes the environmental effects of Alternatives A-C.

4.2.5 Comparison of Alternatives A-C Against the Selection Criteria

The two substantive Alternatives as well as the No Action Alternative were evaluated with regard to the nine selection criteria outlined in Section 4.1 (Table 2). Evaluation by the majority of the criteria did not lead to a clear choice of an alternative. However, a few of the criteria were valuable in discriminating between the alternatives. The No Action Alternative (Alternative A) was not consistent with regulatory requirements that the settlement funds be used for restoration, nor would there be any resource benefits as required. Alternatives B and C, Restoration and Acquisition, were similar when evaluated

under the criteria and were consistent with the regulatory requirements. Alternative B, Restoration, does, however, lead to a more rapid return of natural resources, especially riparian resources, to the baseline level of services or beyond. Alternative C, Acquisition, while resulting in immediate protection of habitat, yields only speculative benefits as the potential for development is unknown and the amount of funding for restoration or enhancement on the subject tract is unknown.

Table 1. Comparison of Environmental Effects of Alternatives

Affected Resource	Proposed Action		
	Alternative A No Action	Alternative B Restoration	Alternative C Acquisition
Vegetation	Effects on vegetation at the Site continue until remediation complete. Public uncompensated for past and continuing injuries to and lost services provided by injured vegetation	Increase in vegetative cover on 7600 acres as a result of fencing, planting, and erosion control. Short-term negative impacts during project construction.	Some benefit as a result of the protection of the property in perpetuity although not measurable.
Soils	Injuries to soils at the site continue until remediation. Effects on plants and soil ingesting organisms continue. Public uncompensated for past and continuing injuries to and lost services provided by the injured soil resource.	Increased soil quality and water holding capacity on areas planted and fenced, and where erosion control measures implemented; approximately 7600 acres. Short-term negative impacts during project construction.	Some benefit as a result of protection of the property in perpetuity although not measurable.
Wildlife and Fisheries	Effects of site releases on wildlife and fisheries continue until remediation complete. Public uncompensated for injuries to and lost services provided by wildlife and fisheries resources as a result of past and continuing contaminant effects.	Because of wetland enhancement, fencing, streambank protection from erosion and enhanced riparian habitats, increases in fish and wildlife numbers will occur	Some benefit as a result of protection of the property in perpetuity. Not measurable.
Water Resources	Injuries to water resources as a result of site releases continue until site remediation. Public uncompensated for past and continuing injuries to and lost services provided by water resources contaminated by site releases.	Streambank protection against erosion and riparian habitat enhancement will eliminate some sedimentation and turbidity in surface waters	Some benefit as a result of protection of the property in perpetuity. Not measurable.
Air Quality	No effect	No effect	No effect
Cultural Resources	No effect	No effect. Will be eliminated through cultural resource surveys.	Some benefit from protection of property in perpetuity. Not measurable.
Recreation	No effect	Enhanced water quality and wildlife habitats will lead to increased or higher quality recreational opportunities	Enhanced recreational opportunities by putting land in public ownership
Economic Conditions	Public not compensated for injuries to and lost services provided by natural resource injuries caused by past and continuing Site releases.	Some benefit from short-term employment opportunities afforded by project construction.	Some small loss of tax receipts as private land is placed in public ownership

Table 2. Comparison of Alternatives Based on the Criteria in Section 4.1

Criterion	Alternative A No Action	Alternative B Restoration	Alternative C Acquisition
Protects public health, safety, and environment	Protects health, safety and environment	Protects health, safety and environment	Protects health, safety and environment
Consistent with laws and regulations	Not consistent with requirements that NRD settlement be spent restoring natural resources	Consistent with existing laws and regulations	Consistent with existing laws and regulations
Return to baseline; make public whole; resource recovery	Does not make public whole because losses would go uncompensated	Makes public whole by rapid return of services to baseline and recovery of injured resources	Makes public whole by focusing on prevention of future losses
Likelihood of success; technical feasibility	Technically feasible, no chance of success	Technically feasible, short-term success is very likely	Technically feasible, reasonable likelihood of success
Multiple benefits; longevity and permanence	No resource benefits	Multiple resource benefits, permanence and longevity unpredictable	Resource benefits uncertain, excellent longevity and permanence
Considers results of EPA response action	Relies entirely on EPA response action	Supplements response action	Supplements response action
Possibility of additional injury	No additional injury or disturbance	Short-term disturbance	No additional injury or disturbance
Maintenance costs	No maintenance costs	Low maintenance costs	Low maintenance costs
Cost	No cost	Uses all available funds	Uses all available funds

4.3 Special Environmental Circumstances

All alternatives were evaluated for effects that fall under the following four categories.

- **Irreversible and irretrievable commitments of resources.**

None of the resource commitments is irreversible or irretrievable.

- **Short-term uses versus long-term productivity.**

Both alternatives (Alt B and C) favor the improvement of long-term productivity. No short term consumptive uses are planned in any alternative.

- **Adverse effects that cannot be avoided.**

Short-term disturbance effects associated with the restoration activities in Alternative B will occur. These effects include limited clearing of vegetation and localized disturbance connected with fenceline construction and channel stabilization. These effects are unavoidable but are anticipated to last no longer than one growing season after project completion.

- **Compliance with Other Laws**

Prior to project implementation, assessments will be made to determine if any of the proposed projects will impact historic or cultural resources or threatened or endangered plant or animal species. Clearances will be obtained as appropriate to assure compliance with the National Historic Preservation Act, Endangered Species Act, the Clean Water Act and other laws or regulations.

5.0 *Implementation Monitoring*

The Trustees have developed the following monitoring plan to ensure that restoration actions are implemented as planned. The specific monitoring requirements and personnel responsible are outlined in Table 3.

Table 3. Implementation Monitoring

Project	Who	Action	Frequency
Nichols Canyon Spring fencing project	Bureau of Land Management, Las Cruces	accomplishment report to Trustee Council	at project completion or interim report due annually until complete
Mogollon Box protection	U.S. Forest Service Silver City Ranger District	accomplishment report to Trustee Council	at project completion or interim report due annually until
Gila River Bird Area restoration	U.S. Forest Service Silver City Ranger District	accomplishment report to Trustee Council	at project completion or interim report due annually until complete
Reservoir acquisition	Grant County	accomplishment report to Trustee Council	at project completion or interim report due annually until complete
Berrenda Creek wetlands project	U.S. Fish and Wildlife Service	accomplishment report to Trustee Council	at project completion or interim report due annually until complete
Gila River stabilization near Cliff	a Youth Conservation Corps-type program of the Grant Soil and Water Conservation District	accomplishment report to Trustee Council	at project completion or interim report due annually until complete
Upper McKnight Canyon fence project	U.S. Forest Service Mimbres Ranger District	accomplishment report to Trustee Council	at project completion or interim report due annually until complete
Mimbres River stabilization near San Lorenzo	Grant Soil and Water Conservation District	accomplishment report to Trustee Council	at project completion or interim report due annually until complete

6.0 *Comments and Responses on the Draft Plan*

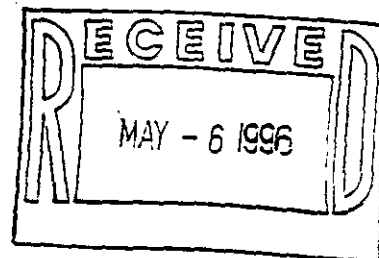
6.1 Comments on the Draft Plan

The following are copies of letters received by the Trustee Council during the public comment period which lasted from April 15 - June 1, 1996.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

May 1, 1996



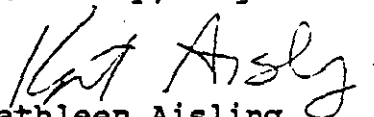
Mr. John J. Pfeil
State of New Mexico
Office of the Natural Resource Trustee
1190 St. Francis Drive
P.O. Box 26110
Santa Fe, NM 87502

Dear Mr. Pfeil:

The purpose of this letter is to transmit the Environmental Protection Agency (EPA) comments on the Draft Natural Resource Restoration Plan for the Cleveland Mill Superfund Site in Grant County, New Mexico. EPA appreciates the opportunity to comment on this plan. We believe that this plan is comprehensive in its analysis of the alternatives that will be used to restore or replace the natural resources damaged by the release of hazardous substances at the site. EPA supports the efforts of the natural resource trustees and remains committed to implementation of a remedial action at the site which will be beneficial to natural resource restoration.

EPA will keep your office informed of activities at the site and will transmit remedial design documents as they become available. Should you have any questions, you may contact me at (214) 665-8509.

Sincerely,


Kathleen Aisling
Remedial Project Manager

Enclosure

cc: Robert King
New Mexico Environment Department
Michael Baum
Mining Remedial Recovery Company

5/1/96

**Environmental Protection Agency Comments on the
April 1996 Draft Natural Resource Restoration
Plan for the Cleveland Mill Superfund Site**

1. Section 2.2.1 Surface Water Resources: Although metals were found in the surface water at concentrations that exceeded the background range and regulatory limits, the surface water is not considered a "hazardous waste" as that term is defined in Resource Conservation and Recovery Act because it is derived from the tailings and sediment which are exempt wastes. (See September 1993 Record of Decision, Section IX. D. 2.) However, these metals are considered "hazardous substances" as defined in the Comprehensive Environmental Response, Compensation, and Liability Act. In addition, these metals were found at concentrations that produced an unacceptable risk to human health and the environment.
2. Page 7, Section 3.2 and Page 12, Bullet 2: Note that revegetation of all excavated areas and restoration of these areas to their original grade are included in the remedy for the Cleveland Mill site. EPA agrees, though, that the extent to which the site remediation will facilitate natural recovery is unknown.
3. Page 8, Number 4 and elsewhere: The site reservoir is privately owned by one of the Potentially Responsible Parties at the Cleveland Mill site. The decision to sell this land will be made by the landowner. In addition, it may not be possible for the land to be sold or used until after the remediation is complete because of safety considerations and the possibility that reservoir water will be used during the Remedial Action.



United States
Department of
Agriculture

Forest
Service

Gila
National Forest
(505) 388-8201

3005 E. Camino del Bosque
Silver City, NM 88061
FAX: (505) 388-8204
V/TTY: (505) 388-8485

Reply To: 2520

Date: May 1, 1996

Steven Cary
New Mexico Office of the Natural
Resources Trustee
P.O. Box 26110
Santa Fe, NM 87502

Dear Mr. Cary:

We are in receipt of the Draft Natural Resource Plan For The Cleveland Mill Site. We appreciate the opportunity to comment. Our comments are as follows:

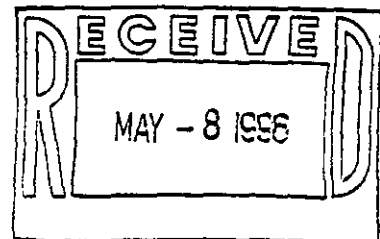
1. We concur with the Trustees that Alternative B is the preferred alternative. Three projects with this preferred alternative are located on the Gila National Forest, which we fully endorse. We also support the idea of restoration projects on lands of private ownership.
2. If the acquisition alternative (Alternative C) is selected and implemented, we would support the purchase of this tract. We are less supportive of a land exchange because of the length of time involved, and all the administrative requirements that must be fulfilled prior to consummating an exchange.

Thank you again for the opportunity to comment.

Sincerely,

for ABEL M. CAMARENA
Forest Supervisor

cc:
Wilderness RD
Silver City RD
RO - P. Luehring



Caring for the Land and Serving People

Printed on Recycled Paper
FS-6200-28b (12/93)



TO: John Pfeil

RE: Draft Natural Resource Restoration Plan for Cleveland Mill Superfund Site

FROM: Stephen O. MacDonald

po box 58
Gila, NM 88038
535-4290 (home)
535-4291 (office/fax)
e-mail: somacdonal@aol.com

DATE: 31 May 1996

Dear John,

Thanks for keeping me up-to-date despite my failure to do the same for you. It has been one very busy past few weeks down here. Too much to even hope to keep up with. Anyway, sorry.

I wanted to make just a few comments on the draft proposal. I agree that **Alternative B** is the best choice, however, I would like to make a few comments on several of the inclusive projects.

Project 1. Nichols Canyon Spring. Any chance of making the exclosure larger, say at least 10 ac or more?

Project 2. This is a much-needed project. Local efforts have been in the works for several years now to get the FS to get control of people traffic in this area. This should help kick them in.

Project 3. Bird Area Restoration. I talked with Ralph Pope, USFS, Silver City, about just what this one is about. Not very thought out yet, it sounds. I have never heard about such plans before (reclaim irrigation ditch for what? why? who?), despite the fact that I and others here have been actively interested and involved in Bird Habitat matters for years. Currently, the USFS is loosely operating on a 1972 plan for this area. We have for at least 5 years (or more) been asking them to initiate a new planning process for the area. Now a new road is in (for well over 1/2 million bucks), a second "stabilization" project is in the works ("categorically excluded" from NEPA), grazing management plans remain essentially unchanged (but certainly more functional now, thanks to David and Tammy Ogilvie). I could go on. My main point, and the one I again reiterated to Ralph this morning, is that there has to be a decision-making process to what goes on in the area, and one that gathers the council and perspectives of members of the local Valley community and other interested parties. No more seat-of-the-pants, follow-the-money management approach, please! Can you trustees help them set up good process on this? I told Ralph (and I will tell others in the FS) that I and others will help organize and facilitate public involvement (through the Gila Valley Dialogue Group) to give our "land stewards" guidance. In my mind (if I were King?), no money without a good planning process that most everyone here is comfortable with and had some say in. Period.

Project 4. Acquisition. No comment.

Project 5. Wetlands. Nothing to say as yet. Wetlands are the critically missing habitat in these parts. The more the better!

Project 6. Gila R. stabilization. This is the one I'm most interested in and concerned about. Our local YCC (initiated by the community, and administered by GSWCD) is one of the best things going right now for our valley and its youth. We need to keep this alive, and funding such as this can help assure it for awhile. Mary runs out of cash come the end of June. We need the money to keep this going after that. Can you help facilitate this? My concern centers around checks-and-balances of how/where the money will be spent. YCC projects should be under the direct control of Mary Giardina, with oversight of the GSWCS and input and feed-back from the Community Dialogue. Open communication and broad involvement are critical. Regular Dialogue meetings are being planned so there is no excuse not to have regular agenda updates by Mary on YCC activities. I have great faith and trust in Mary. This has been good work.

Project 7. McKnight. Sounds good so far.

Project 8. Mimbres stabilization. Good oversight and communication will be critical for this to be pulled off successfully (and correctly). Community building and involvement is to-date very much lacking in this valley. Checks-and-balances...monitoring, monitoring! Watch this one closely!

ADDITIONAL PROJECT THOUGHTS: I have a dream that someday the marshes at Red Rock will once again have enough water and State stewardship to function as important wildlife habitat like they once were. NM Game & Fish could use some help and focus on this.

Hope this is of some use to you. Thanks for your good work.

Sincerely,

S. O. MacDonald

ps...I'm sending you an invitation to our next Dialogue meetings (11 June, 20 June). Your card is in the mail.

P.O. Box 58
Gila, NM 88038

1 June, 1996

John T. Pheil, Geologist
Office of Natural Resources Trustee
P.O. Box 26110
Santa Fe, NM 87502

re: Draft Natural Resource Restoration Plan for the
Cleveland Mill Site, Grant County, NM. Alternative B:#6

Dear Mr. Pheil,

Funding for Youth Conservation Corps to do the Gila R. stabilization near Cliff would be money well spent in more ways than just achieving the stated ends. In volunteering some of my time to work with the YCC, I found a wonderful rapport and healing of cultural divisions for these young people. Mary Giardina has provided a wide ranging education to these young folks, many of whom plan to stay in this area. They said they were thinking in ways they never had thought before and felt wonderful about helping the river and wildlife. What touched me most was seeing them treat one another with respect and affection, commenting on how they were solving old problems and really feeling connected. I think this is a valuable program for our community and will motivate people of all ages to work together to keep the river and the community alive on into the future.

Mary Giardina's vision is what has carried this project. If this money could be earmarked for YCC it could help us keep the project going. We of the Community Dialogue Group hope to provide assistance and support to YCC.

Thank you, John. We will be most appreciative of your efforts on behalf of our community.

Sincerely,
Nena MacDonald

VIA FAX (505-827-1049)

June 4, 1996

Mr. Steven Cary, Deputy Director
Office of the Natural Resources Trustee
1190 St. Francis Dr. P.O. Box 26110
Santa Fe, NM 87502

Dear Mr. Cary:

This letter contains the comments of the New Mexico Mining Association Environment Committee (NMMAEC) on the "Draft Natural Resource Restoration Plan for the Cleveland Mill Site, Grant County, New Mexico" (the Plan) that was issued for comment on April 15, 1996. The NMMAEC greatly appreciates the Trustee's efforts to develop the Plan and to provide the opportunity for public comment on it. The NMMAEC also appreciates the extension of time that was granted by you to the NMMAEC to submit comments.

The NMMAEC is interested in the Plan because the Cleveland Mill was a mining operation and the NMMAEC is interested in how natural resources damages are assessed and described for these operations.

The NMMAEC generally supports the Trustee's preferred alternative or Alternative B in the Plan. The projects comprising Alternative B represent real or "on the ground" improvements at a variety of locations in the local area. These improvements should be lasting especially if they are maintained by interested local groups.

The NMMAEC, however, does disagree with the inclusion of Project No. 7 in Alternative B. This is the fencing project in Upper McKnight Canyon. The NMMAEC believes that this area is not natural habitat for either the Gila Trout or the Chihuahua Chub and believes, further, that excluding historic uses (grazing) from this area for habitat protection is neither reasonable nor necessary. It is unnecessary because the desired protection can be accomplished without excluding cattle grazing.

The NMMAEC also questions the appropriateness and need of certain portions of the Injury Assessment section of the Plan as well as whether this section is actually needed in the Plan. The NMMAEC believes that a recital of the damages to natural resources

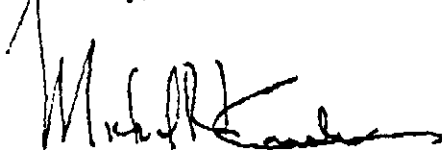
from this site is inappropriate and unnecessary in a document that is only to address how funds are to be utilized especially since the Plan does not address restoration of damages at the Cleveland Mill Site itself. In addition, the Consent Decree, which authorized the funding, only describes damages in a very general way. There is no precedent set in that document to justify the descriptions of damages in the Plan.

With regard to the accuracy of this section of the Plan, the NMMAEC objects to the descriptions in the Plan of damages to biological and geological resources. These damages were not addressed in the Remedial Investigation Report for the Cleveland Mill Site and any claim of damage is speculation. Soils beneath tailings have not been shown to be contaminated with metals and acid as stated in the Plan. The NMMAEC agrees with the statement in the Plan that a determination of damage to air resources cannot be made at the Site and believes that the same statement can be made for geological and biological resources.

The NMMAEC recommends that the sections in the Plan describing significant natural resources injured and significant services lost should be revised to reflect the above comments on geological and biological resources or, preferably, removed altogether as unnecessary to achieve the purpose of the Plan.

Once again, the NMMAEC appreciates the efforts of the Trustee to develop the Plan and to provide for public comment on it. The NMMAEC would be happy to meet with you and your staff to discuss the issues raised in these comments. If you have questions or would like to schedule a meeting, please contact me at (505) 537-4106 or (505) 537-4153 (fax) or at the address below.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael R. Koranda", with a long horizontal flourish extending to the right.

Michael R. Koranda, Chairman
NMMAEC
210 Cortez St. P.O. Box 7
Hurley, NM 88043

xc: NMMAEC Members

GOVERNOR
Gary E. Johnson



DIRECTOR AND SECRETARY
TO THE COMMISSION
Gerald A. Maracchini

STATE OF NEW MEXICO
DEPARTMENT OF GAME & FISH

Villagra Building
P. O. Box 25112
Santa Fe, NM 87504

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Albuquerque, NM
Dr. Charles Mayer
Albuquerque, NM
Gail J. Cramer
Farmington, NM

June 13, 1996

Mr. John J. Pfeil, Geologist
Office of the Natural Resources Trustee
P.O. Box 26110
Santa Fe, New Mexico 87502

Dear Mr. Pfeil:

The Department of Game and Fish (Department) has reviewed the *Draft Natural Resource Restoration Plan for the Cleveland Mill Site, Grant County, New Mexico (Plan)*. The Plan describes three alternatives, including no action, for restoring damages to natural resources from releases of hazardous materials at the mill site. Restoring damages to natural resources is in addition to remediation of the site.

The Department concurs with the Office of the Natural Resources Trustee preference for Alternative B. This alternative includes eight projects that, combined, would restore 40 acres of wetland, enhance 600 acres of riparian and 7000 acres of upland habitats, and improve stream channel and bank function in 33 miles of the Gila River. The benefits of this alternative should provide compensation for natural resource damages attributable to the site. The following comments are provided for your consideration in developing the final natural resource restoration plan.

Project number 6 of Alternative B involves riparian plantings and bank stabilization in the Cliff/Gila Valley. The Department has been involved in discussions with landowners, the Grant County Soil and Water Conservation District, and other agencies on sustainable management of the river and floodplain. At present, the involved interests are still discussing what needs to be done and where, in the short-term, and long-term management planning. Therefore, the Department recommends that the last sentence of

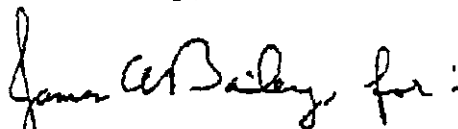
June 13, 1996

the project description be edited to state:

"Specific project locations and design will be developed by the involved landowners in cooperation with other interests and government agencies within the context of the existing, ongoing community dialog process, so that the project has concurrence of the landowners and support of the community. Appropriate planting and bank stabilization projects derived from the community planning process will be implemented by the Youth Conservation Corps, with funding provided through the Grant County Soil and Water Conservation District."

Thank you for the opportunity to comment on the Plan. Please contact John Pittenger, of my staff if you have any questions or require additional information.

Sincerely,

A handwritten signature in dark ink, appearing to read "Andrew V. Sandoval for:", written in a cursive style.

Andrew V. Sandoval, Chief
Conservation Services Division

AVS/jsp

cc: Jennifer Fowler-Propst (Ecological Services Supervisor, USFWS)
Jim Piatt (Surface Water Quality Bureau Chief, NMED)
Jerry Maracchini (Director, NMGF)
Craig Nordyke (Southwest Operations Division Chief, NMGF)
Dave Propst (Endangered Species Biologist, NMGF)

6.2 Responses to Comments on the Plan

The following are responses to comments received on the Draft Plan during the public comment period which lasted from April 15 - June 1, 1996.

Comment: One commentor expressed concern about the details of how and where funds will be spent on Project 6 (Gila River Stabilization at Cliff) and Project 8 (Mimbres River Stabilization near San Lorenzo).

Response: The Trustee Council (TC) understands the importance of ensuring that allocated funds are spent as intended. No changes are made to the Plan as a result of these comments, but the TC will tighten internal administrative controls over how the funds are spent, to ensure that the projects are carried out properly.

Comment: One commentor objected to descriptions in the Plan of injuries to biological and geological resources. The basis for the objection was that any such injuries were not addressed in the Superfund Remedial Investigation (RI) and were speculative.

Response: It is correct to state that the RI does not directly address injuries to biological or geological resources. Objectives of an RI are to investigate threats and risks to public health and the environment; evaluating natural resource injuries and damages usually is not an RI objective, and was not in this case. In the Draft Plan, frequent references to the Superfund RI may have inadvertently given the false impression that the RI is a necessary precursor for the Restoration Plan. The RI is frequently cited not because it is essential for evaluating damages, but because the RI is the source of most of the scientific and technical information about the Site.

Regarding geologic resources, the TC believes that RI data are not sufficient to document injury. As noted above, the RI was not designed with geologic injury tests in mind and the necessary tests were not performed. However, the nature of the Site and hazardous substances released at the Site gives the TC confidence that performance of the appropriate injury tests would document injury to geologic resources. For example, it has not been proven that soil pH has been reduced below 4 at the Site [43 CFR 11.62(e)(2)]. Yet the evidence that is available leads the TC to believe that thorough testing of soils at the Site would find some cases where pH was below 4, especially considering that the majority of tailings that rest on soils have been found to have pH values below 3 (RI, 1993, p. 4-16). Nevertheless, language in Section 2.2.4 of the Plan has been modified to reflect the speculative nature of injuries to geologic resources (see Plan Change 1).

Regarding injuries to biological resources, the TC agrees and the Draft Plan clearly stated, that RI data are inadequate to document injury. The RI was not designed with biological injury tests in mind, so it is not surprising that these tests were not conducted. Nevertheless, the nature of the Site and the hazardous substances released at the Site made the TC confident that performance of the appropriate injury tests would in fact prove that biological resources at the Site were injured. For example, it has not been proven that the dead trees at the Site were killed by hazardous substances released at the Site [43 CFR 11.62(f)(1)]. Yet the available evidence suggests that thorough testing would prove that some of the dead trees at the Site met their demise in that manner. The

speculative nature of injuries to biological resources is already acknowledged in Section 2.2.3 of the Plan, and no additional modifications were made as a result of this comment.

Comment: One commentor suggested that sections in the Plan describing injured resources and lost resource services should be removed because they were unnecessary to achieve the purpose of the Plan - to address how settlement funds are to be utilized.

Response: Regrettably, the experience of the TC is that draft documents for public review, such as the Draft Plan, are often difficult for non-bureaucrats to read and understand. Elimination of the sections suggested by the commentor, in our view, would make the document even more difficult to understand. We agree with the commentor that one purpose of the Plan is to determine how settlement monies are to be spent. Part of that analysis, however, involves which alternatives and projects are best directed at the proper natural resources, as the law mandates. The reader cannot make this analysis without some discussion of what resources were injured at the Site. These sections are brief and to the point, and with minor modifications prompted by other comments, we hope these sections provide effective background information for the public reviewers. These sections serve a very important purpose and their removal from the Plan would be counterproductive. No changes have been made as a result of this comment.

Comment: In reference to Section 2.2.1, one commentor stated that surface water at the Site was not considered a "hazardous waste" as that term is defined in the Resource Conservation and Recovery Act because it is derived from tailings and sediment which are exempt wastes. This comment implies that perhaps surface water had not been injured because of the mine waste exemption in RCRA.

Response: The TC is not trying to determine whether the sediments or surface waters in question should be regulated under the Resource Conservation and Recovery Act (RCRA). The TC has no reason to make such a determination. Rather, the purpose of Section 2.2.1 of the Draft Plan is to determine whether surface water resources were injured by releases of hazardous substances from the Site. The regulatory tests for injury to surface water are specified in 43 CFR 11.62(b). One such test [43 CFR 11.62(b)(1)(iv)] is whether bed and bank sediments exhibit characteristics "identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act, 42, U.S.C. 6921" (also known as RCRA). This injury test does not require that the sediments be designated, or fully qualify, as characteristic wastes under RCRA, simply that they "exhibit characteristics identified under or listed pursuant to . . ." It is the TC's judgment that bed and bank sediments at the Site exhibit such characteristics, and that surface water was injured pursuant to this test. No changes have been made to the Plan as a result of this comment.

Comment: Referring to Section 3.3.4, one commentor pointed out that transfer and future use of the Site reservoir by Grant County may have to await completion of the Superfund remedial action because of safety concerns and because the water in the reservoir may be needed for the remedial action.

Response: The TC appreciates these observations and will consider them during

implementation. Grant County will be advised of the possible temporary constraints on use of the reservoir. No changes have been made to the Plan as a result of this comment.

Comment: One commentor observed in Section 3.2 that the Superfund remedy for the Site will include revegetation of all excavated areas and restoration of these areas to their original grades. The commentor also noted, however, that the extent to which the Superfund remedy would facilitate natural recovery was unknown.

Response: The TC appreciates these observations and will consider them as this project is implemented. Minor language changes have been made in this section of the Plan as a result of this comment (see Plan Change 2).

Comment: One commentor suggested that monies associated with the Gila River stabilization project be specifically earmarked for funding the Youth Conservation Corps (YCC).

Response: The TC will develop a Joint Powers Agreement with the Grant Soil and Water Conservation District that specifically states that the funding is for a YCC-type project only and that any funds expended for any other purpose must be immediately reimbursed to the TC. No changes to the Plan were made as a result of this comment.

Comment: One commentor disagreed with the inclusion of project #7 since the area is not natural habitat for the Gila trout and Chihuahua chub that would benefit from the project. The commentor also felt that the desired habitat protection could be accomplished without excluding cattle grazing.

Response: Although McKnight Creek is not within the historic range for Gila trout, Gila trout have been present in the stream since they were transplanted in the 1970's. Chihuahua chub were transplanted into McKnight Creek in 1992. However, McKnight Creek is located within the historic range of this species with chubs occurring downstream in the Mimbres River. This project will benefit all aquatic species in the creek. It was chosen not only for its benefits to the Gila trout and Chihuahua chub, but for its overall riparian habitat benefits. The upper part of this grazing allotment is very extremely steep with dense forest cover. It has only been minimally grazed for the last 10 years. The grazing permittee is fully supportive of this project. No changes to the Plan were made as a result of this comment.

Comment: One commentor had questions about the irrigation ditch reclamation in project #3 and wondered about the overall planning process for this area.

Response: The irrigation ditch will be cleaned out and made serviceable for about 2.5 miles along a previously abandoned segment. Water from the ditch would be used to irrigate the newly planted perennial native vegetation (also a part of this project), aiding in their establishment. In the future, the ditch might also be used to convey water to other improvement projects such as establishing marshy areas for the enhancement of Southwestern willow flycatcher habitat. This area is part of a newly defined ecosystem management area for which the Forest Service is currently collecting data to help identify possible management opportunities. In the meantime, overall management guidance is

contained in the Forest Plan (September, 1985) where the management emphasis for this area is riparian protection and revegetation, along with wildlife habitat improvements. No change has been made to the Plan as a result of this comment.

Comment: One commentor expressed concern that the Plan did not correctly characterize the ongoing community planning process related to short- and long-term planning for management of the Gila River.

Response: The text of the Plan has been modified to clarify the extent of community involvement in planning for Gila River management (see Plan Change 3).

Comment: One commentor asked that the proposed size of the enclosure at the Nichols Canyon spring be made larger than the five acres proposed.

Response: The Trustees agree with this commentor and will make the the enclosure larger not to exceed ten acres (see plan change 4).

6.3 Changes Made to the Draft Plan as a Result of Comments

Plan Change 1

Revised language for Section 2.2.4 Geological Resources

Documentation for injuries to geological resources was not available at the time that the natural resource damage claim was negotiated and settled. The necessary injury tests were not done as part of the Superfund Remedial Investigation, but the Trustees believe that performance of the proper tests would document injury to geological resources. For example, the Remedial Investigation Report demonstrates that the majority of tailings have a pH less than 3.0 and lie directly on native soils (1993, p. 4-16). Thorough testing probably would show that some underlying soils now have a pH below 4.0, which is one test for injury [43 CFR 11.62.(e)(2)]. Another test for injury to soils is the ability to support vegetation native to the area [43 CFR 11.62(e)(11)]. Soils at the Site probably are injured as evidenced by dead vegetation at the base of tailings and along the creek bed leading away from the tailings. Proper testing probably would confirm that soils beneath the tailings are contaminated with metals and acid, and are probably unable to support native vegetation.

Plan Change 2

Revised language for Section 3.2

Under Alternative A (No Action), restoration activities would not be undertaken by the Trustees. Natural resources and services would be partially restored as the result of the EPA remediation which includes revegetation of all excavated areas and regrading of these areas to their original grade. Natural resources and services would then eventually be fully restored to baseline as the result of natural recovery. The time for full natural recovery to

occur is currently unknown but is likely to be many years, and perhaps decades.

Plan Change 3

Revised language for Section 3.3, Project 6

The final sentence will now read:

Specific project locations and design will be developed by the involved landowners in cooperation with other interests and government agencies so that the project has the concurrence of the landowners and support of the community. Appropriate planting and bank stabilization projects will be implemented by a Youth Conservation Corps-type program, with funding provided through the Grant Soil and Water Conservation District.

Plan Change 4

Revised language for Section 3.3, Project 1

The second sentence will now read: Approximately 0.5 miles of fence will be constructed which will enclose up to 10 acres of riparian habitat.

In addition, several changes were made to Table 3, Implementation Monitoring, to correct errors with regard to the entities responsible for the monitoring. The U.S. Forest Service, Silver City Ranger District, is responsible for the Mogollon Box project. The U.S. Forest Service, Silver City Ranger District is responsible for the Gila River Bird Area restoration. A Youth Conservation Corps-type program of the Grant Soil and Water Conservation District is responsible for the Gila River stabilization near Cliff. The U.S. Forest Service, Mimbres Ranger District, is responsible for the Upper McKnight Canyon fence project.