

EARTHWORKS, IDAHO CONSERVATION LEAGUE, ROCK CREEK ALLIANCE, SAVE OUR CABINETS, FRIENDS OF THE KALMIOPSIS, OKANAGAN HIGHLANDS ALLIANCE, SAVE OUR SKY BLUE WATERS, PATAGONIA AREA RESOURCE ALLIANCE, NORTHEASTERN MINNESOTANS FOR WILDERNESS CLEAN WATER ALLIANCE, FRIENDS OF THE CLEARWATER, HIGH COUNTRY CONSERVATION ADVOCATES, KALMIOPSIS AUDUBON SOCIETY, THE LANDS COUNCIL, KLAMATH – SISKIYOU WILDLANDS CENTER, WISCONSIN RESOURCES PROTECTION COUNCIL, BLUEWATER DOWNSTREAM ALLIANCE, ENVIRONMENTAL PROTECTION INFORMATION CENTER, INFORMATION NETWORK FOR RESPONSIBLE MINING, ALASKA INTERTRIBAL COUNCIL, ALASKA’S BIG VILLAGE NETWORK, BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE, PROGRESSIVE LEADERSHIP ALLIANCE OF NEVADA, AMERICAN WHITEWATER, WATER MORE PRECIOUS THAN GOLD, FRIENDS OF DEL NORTE

July 1, 2014

Groundwater Directive
Comments, USDA Forest Service, Attn:
Elizabeth Berger—WFWARP,
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Re: Forest Service Guidelines on Groundwater

Thank you for the opportunity to comment on the proposed Forest Service Guidelines on Groundwater. These comments are submitted on behalf of the national, state and local organizations listed below.

Water is a scarce and precious resource, particularly in the western United States where the demand for fresh water is often out-pacing the supply. Protection of our nation’s groundwater is of the utmost importance. It supplies cold, clean water to springs, streams, rivers and wetlands, which sustain essential fish and wildlife.

The Forest Service manages 193 million acres of federal lands, much of which is located in the headwaters and recharge areas of the nation’s streams and aquifers. National Forest Service lands provide source of drinking water for people in 42 states.

We support the agency’s proposal to amend its internal Agency directives for Watershed and Air Management to establish direction for management of groundwater resources on National Forest System (NFS) lands as an integral component of watershed management. We support the goals of the new guidelines, which are to:

- provide for consideration of groundwater resources in agency activities,
- encourage source water protection and water conservation,

- establish procedures for reviewing new proposals for groundwater withdrawals on NFS land,
- require the evaluation of potential impacts from groundwater withdrawals on NFS natural resources and
- provide for measurement and reporting to help build our understanding of groundwater resources on NFS land.
- These changes would improve the Forest Service's ability to manage and analyze potential uses of NFS land that could affect groundwater resources.

While these new groundwater guidelines are an important step forward in the agency's efforts to provide consistent and comprehensive consideration of groundwater resources, we urge the Forest Service to take additional measures to protect groundwater quality and quantity from the adverse impact of hardrock mining on federal public lands.

Hardrock mining often results in severe and lasting impacts to groundwater quality and quantity, and connected surface resources. In many cases, hardrock mining results in severe pollution of groundwater resources that will continue in perpetuity.¹ The cost for clean-up and long-term water treatment at existing hardrock mines on Forest Service lands far exceeds available funds.²

A 2006 study of modern hardrock mines across the west determined that impacts to groundwater are consistently under-estimated in the permitting process, and mitigation measures that are intended to offset impacts are often inadequate to protect groundwater resources.³

In the U.S., mineral extraction consumes around four billion gallons of water a day, compared to all domestic households, which use 29.4 billion, according to a recent Wall Street Journal article, which cites the U.S. Geological Survey's most recent survey published in 2009.⁴ Water consumption for mining is placing enormous demands on already over-appropriated aquifers.

It's imperative that the agency place more emphasis on preventing and avoiding impacts to groundwater from hardrock mining to ensure that groundwater resources will be available for future generations.

We urge the Forest Service to:

- Undertake a thorough review of mitigation measures at hardrock mines on federal public lands that have failed to protect groundwater resources, and evaluate reasons for failure, and identify means for improvement.

¹ Earthworks, "Polluting the Future: How Mining Companies are Contaminating Our Nation's Waters in Perpetuity,"

² <http://www.fs.usda.gov/detail/whitemountain/landmanagement/projects/?cid=stelprdb5209652>

³ Kuipers, J.R., Maest, A.S., MacHardy, K.A., and Lawson, G. 2006. Comparison of Predicted and Actual Water Quality at Hardrock Mines: The Reliability of Predictions in Environmental Impact Statements. Available at: http://ofmpub.epa.gov/eims/eimscomm.getfile?p_download_id=513581

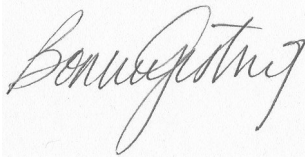
⁴ Miller, John, "Miner Freeport Pressured by Water Costs as Copper Prices Slide, Wall Street Journal, May 20, 2014

- Identify the uncertainties associated with these mitigation measures during the mine permitting process, and incorporate those uncertainties in the NEPA process. Require a more rigorous evaluation of high-risk mines as outlined in the Kuipers Maest report.⁵
- Ensure that the most advanced hydrologic modeling is used to evaluate the potential impacts to local and regional aquifers from hardrock mines in the NEPA process.
- Recognize the inherent uncertainties of predictive modeling, and take a more conservative approach when analyzing hardrock mine proposals and making decisions that affect groundwater resources.
- Ensure that agency staff, with a sufficient level of technical expertise, are involved in the permit review process.
- Ensure that the permitting process for hardrock mines requires design, operation and closure plans that preclude the necessity for water pumping and treatment in perpetuity.
- Given the risks to water quantity and quality from large-scale mines, incorporate the financial assurance calculation in the NEPA process to ensure that all stakeholders have a chance to comment on its adequacy.

We ask the Forest Service to incorporate the improvements noted herein to better protect groundwater resources from the adverse impacts of hardrock mining on federal public lands.

Please see more detailed comments below.

Sincerely,



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⁵ Kuipers, J.R., Maest., A.S., Predicting water quality at hard rock mines: Methods and Models, Uncertainties and State of the Art., December 2006.
http://www.earthworksaction.org/library/detail/predicting_water_quality_at_hardrock_mines/#.U4ynHS-0bbo

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Hardrock mining often results in adverse impacts to groundwater, and these impacts are often underestimated during the National Environmental Policy Act (NEPA) process.

A 2006 study reviewed hardrock mines across the western United States to compare the predicted impacts to water quality during the permitting process with the actual impacts after operations. It found that 100% of the Environmental Impact Statements (EISs) predicted no impacts to groundwater quality, and yet 52% polluted groundwater enough to exceed drinking water standards.⁶ It also found that certain characteristics are particularly high risk for groundwater pollution - 93% of the mines near groundwater with elevated potential for acid drainage or contaminant leaching exceeded water quality standards. In most cases, the mitigation measures identified in the EIS failed to provide the protections necessary for compliance.

Table ES-9. Groundwater Quality Impacts for Mines with Close Proximity to Groundwater and Elevated Acid Drainage Potential Compared to Groundwater Impacts for All Case Study Mines

	# Mines	Percent (%) with Impact to Groundwater or Seeps	Percent (%) with Exceedences of Standards in Groundwater or Seeps	Percent (%) with Exceedences that Predicted No Exceedences
Mines with close proximity to groundwater and elevated acid drainage and contaminant leaching potential	15	93 (14/15)	93 (14/15)	86 (12/14)
All case study mines	25	68 (17/25)	68 (17/25)	52 (13/25)

Mines with these characteristics are the most likely to require perpetual treatment to reduce or eliminate the long-term adverse impacts to surface water resources. Although all mines must rely on well executed mitigation measures to ensure the integrity of water resources during and after mining, mines with the inherent factors identified in this study should be recognized as high risk during the permitting process and undergo more rigorous analysis, as described in the Kuipers Maest Report.⁷ Given the track record of mitigation failures at modern hardrock mines, the Forest Service should undertake a thorough review of mitigation failures, and identify means for improvement.

Hardrock mining is a particularly severe risk to groundwater resources because it

⁶ Kuipers, J.R., Maest., A.S., Predicting water quality at hard rock mines: Methods and Models, Uncertainties and State of the Art., December 2006.

http://www.earthworksaction.org/library/detail/predicting_water_quality_at_hardrock_mines/#.U4ynHS-0bbo

⁷ Kuipers, J.R., Maest., A.S., Predicting water quality at hard rock mines: Methods and Models, Uncertainties and State of the Art., December 2006.

http://www.earthworksaction.org/library/detail/predicting_water_quality_at_hardrock_mines/#.U4ynHS-0bbo

may result in impacts that continue in perpetuity, and require costly water treatment to meet water quality standards to protect public health and aquatic life.

Mines that have high potential for acid mine drainage or metals leaching present a particular risk to groundwater quality, and may result in conditions that require water treatment for hundreds to thousands of years, or “in perpetuity.” A recent review of government documents identified forty mines that will generate 17-27 billion gallons of contaminated water every year, in perpetuity.⁸ Another 13 mines are likely to generate water pollution in perpetuity, accounting for an additional 3.4 - 4 billion gallons of polluted water, per year.

In such cases, the Forest Service and the public can have no confidence that the mining company will be capable of managing the site in perpetuity – putting federal resources and the public at risk. A few examples of mines on Forest Service lands that will generate water pollution in perpetuity and require water treatment, include the:

- Greens Creek Mine, Alaska⁹
- Summitville Mine, Colorado¹⁰
- Thompson Creek Mine, Idaho¹¹
- Grouse Creek Mine, Idaho¹²
- Blackbird Mine, Idaho¹³

In most cases, groundwater interception wells are necessary to capture and treat groundwater in perpetuity to prevent surface water or other important uses from being impaired. During the permitting process, the Forest Service should ensure that the proposed mine design, operation and post-closure plans preclude the need for water treatment in perpetuity.

Impacts to groundwater quantity from hardrock mining can affect local and regional groundwater quantities and levels, and may result in lasting impairment to surface resources.

The agency should prohibit groundwater withdrawals/drawdown that threaten local surface or ground waters. Water consumption from large-scale mining is significant. For example, The USGS recently conducted a review of open pit cyanide leach mine water use. It found that an average heap-leach mine with a capacity of 5 Million tons per year

⁸ Earthworks, “Polluting the Future: How Mining Companies are Contaminating Our Nation’s Waters in Perpetuity,” May 2013. <http://www.earthworksaction.org/files/publications/PollutingTheFuture-FINAL.pdf>

⁹ U.S.D.A. Forest Service, Greens Creek Tailings Impoundment Expansion Final EIS and Record of Decision, September 2013.

¹⁰ Woody et al. 2010. “The Mining Law of 1872: Change is Overdue.” Fisheries. Vol 35, No. 7. p. 324. <http://www.fish4thefuture.com/pdfs/Fisheries-35-06-p321-331Hughes.pdf>

¹¹ Marek, J. and Lechner, M. Feb. 2011. Technical Report Thompson Creek Molybdenum Mine. Prepared for Thompson Creek Metals Co. Inc. http://www.thompsoncreekmetals.com/i/pdf/Thompson_Creek_TechRpt_9Feb2011_FINAL.pdf

¹² Science Applications International Corporation (SAIC). 2001. Final reclamation bond review: Grouse Creek Mine project, Salmon Challis National Forest, Idaho.

¹³ U.S. EPA Region 10. 2003. Blackbird Mine Superfund Site Record of Decision. [http://yosemite.epa.gov/r10/CLEANUP.NSF/sites/Blackbird/\\$FILE/Blackbird+ROD+-+Feb+2003.pdf](http://yosemite.epa.gov/r10/CLEANUP.NSF/sites/Blackbird/$FILE/Blackbird+ROD+-+Feb+2003.pdf)

is estimated to require approximately 15 to 30 billion liters per year (L/yr) for one full year operation, plus makeup water requirements that may range from about 1 billion to 6 billion L/yr.¹⁴ Haulage road lengths are highly variable, but a typical haulage road network of 20 km could require several billion liters of unrecoverable water for one full year of dust suppression.

In addition, large open pit and underground mines can also require that large volumes of groundwater are pumped to keep the open pit or underground tunnels dry during mining. Groundwater pumping creates a “cone of depression” which lowers the water table, and can affect springs, streams, wetlands, and other surface uses that rely on that groundwater for flows. These critical resources should be protected, and a plan of operations should be rejected which does not adequately prevent the drying-up or reduction in flows of waterways (including seasonal or ephemeral waters).

A groundwater pump test at several hundred feet of depth for a proposed copper mine in Arizona was shown to alter surface flows of a small perennial stream by 75 acre ft/year (a significant reduction for the size of the stream) through lowering of the shallow alluvial water table that supported surface flows (Carlota Mine EIS). The impact on riparian vegetation is significant.¹⁵

For example, groundwater pumping is threatening important rivers, lakes and wilderness features in the Cabinet Mountains Wilderness area in northwestern Montana where the proposed underground Montanore Mine is under consideration. The Cabinet Mountains Wilderness Area is one of the first ten areas protected by Congress. This small 93,000-acre wilderness area is the only protected wilderness within the 2.2 million-acre Kootenai National Forest. Although the mine portal is located adjacent to the wilderness area, it will tunnel underneath the Wilderness, and have severe impacts to surface water resources and bull trout populations listed as threatened under the Endangered Species Act.

The Supplemental Draft Environmental Impact Statement for the proposed Montanore Mine outlines significant impacts to wilderness, water and wildlife. Dewatering of mine tunnels is predicted to lower the groundwater table by 10 to 1,000 feet throughout a large segment of the Wilderness Area.¹⁶ Even with mitigation measures, the groundwater drawdown is predicted to result in reductions in flows to wilderness lakes, rivers, and streams, which are designated Outstanding Resource Waters.

The drawdown is predicted to reduce base-flows by up to 97% in the headwaters of the East Fork of Bull River – *the most important bull trout recovery stream in the lower*

¹⁴ Bleiwas, D.I., 2012, Estimated water requirements for gold heap-leach operations: U.S. Geological Survey Open-File Report 2012-1085, 15 p., available only at <http://pubs.usgs.gov/of/2012/1085>.

¹⁵ Patten, D.T., J.C. Stromberg, and M.R. Sommerfeld, 1994. Water and Riparian Resources of the Santa Cruz River Basin: Best management Practices for Water and Resource Quality. Final Report to Southwest Center for Environmental Research and Policy.

¹⁶ U.S.D.A. Kootenai National Forest and Montana Department of Environmental Quality, Supplemental Draft Environmental Impact Statement for the Montanore Project, September 2011. http://a123.g.akamai.net/7/123/11558/abc123/forestservic.download.akamai.com/11558/www/nepa/14647_FSPLT2_057998.pdf

*Clark Fork River watershed.*¹⁷ Many of the impacts to Outstanding Resource Waters are expected to continue for over a thousand years, and some will be permanent.

According to the USFWS, “When combined with expected climate change impacts of higher stream temperatures, earlier spring run-off, and the increased frequency of rain-on-snow events, such impacts would adversely impact the value of the upper East Fork Bull River for spawning and rearing habitat, including the possibility of serious population reductions or even extirpation of bull trout from the East Fork Bull River. Currently, 80 percent of observed bull trout redds in the East Fork Bull river occur upstream of the wilderness boundary.”¹⁸ The analysis for the East Fork of Rock Creek was similar, with base flows reduced by 59% at the wilderness boundary and by 100% within the wilderness.

The Draft EIS of the proposed Montanore mine included the results of a 2D hydrologic model, which was insufficient to fully analyze the impacts of groundwater drawdown at the mine. A Supplemental DEIS was conducted, which included a 3D hydrologic model, where the predicted extent of drawdown is considered to be more accurate than that of the 2D model.¹⁹

Given the long-term risks to local and regional groundwater aquifers associated with large-scale mining operations, it’s essential that the best available science and most advanced models are required in the NEPA process to evaluate potential impacts to local and regional aquifers. Agencies should also require that the most conservative assumptions be incorporated into any modeling analysis to ensure that the full range of potential impacts is analyzed, with mitigation and without mitigation. The Forest Service should not approve a proposed mine that will result in the permanent impairment of groundwater resources, particularly those that will result in adverse impacts to connected surface uses (e.g., Wilderness areas, endangered species, etc.)

Hardrock mining can result in the creation of pit lakes, where contaminated groundwater fills an open pit, and can become a long-term risk to public health, wildlife, and a significant source of water loss in arid regions.

Pit lakes have the potential to create long-term impacts on the environment that include major surface disturbances and alterations of pre-mining water quality and quantity. If water in a pit lake is contaminated and does flow to down-gradient groundwater and possibly to surface water, the impact of pit water on down-gradient waters will be another long-term water quality issue. Even if pit water does not flow down-gradient, the concentration of metals, and salinity in the pit through evaporation may be a long-term water quality issue, especially for migratory birds and terrestrial wildlife. Pit lakes act as artificial “windows” in the water table and, because of evaporation, become essentially permanent points of ground-water withdrawal.

¹⁷ U.S. Fish and Wildlife Service, Letter to Mr. Paul Bradford, Forest Supervisor, Kootenai National Forest, November 15, 2011.

¹⁸ Ibid.

¹⁹ USDA, Kootenai National Forest, Supplemental Draft Environmental Impact Statement for the Montanore Project, September 2011. http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5331996.pdf

There is a growing number of mine pits, containing large volumes of water, which will persist forever. Although they are often referred to as pit “lakes,” these mine pits generally contain polluted water that presents a permanent hazard to public health and wildlife.²⁰ The problem is at its worst in Nevada, where a University of Nevada scientist has determined that mine pits from gold mines will contain more water than all of the fresh water reservoirs in the state, excluding Lake Mead.²¹ Open contaminated waters at mine sites in the arid West are especially problematic as they attract migratory birds, resulting in lethal effects. *See* Pit Lakes, Contaminant Issues, Region 6 Environmental Contaminants, U.S. Fish and Wildlife Service, <http://www.fws.gov/mountain-prairie/contaminants/contaminants8.html>

Federal agencies need to take more aggressive action during mine permitting to preclude the potential for pit lakes on federal public lands that are a lasting risk to public health and/or wildlife. At a minimum, the agency should prohibit the formation of pit lakes that threaten a violation of any water quality standard (surface or ground water), or threatened wildlife. This is true even if the pit lake is predicted to be a “hydrologic sink.” The fact that pit lake waters may not directly discharge into local waters does not mean that the agency should allow the formation of waters that threaten birds, wildlife, or elements of the food chain.

If a pit lake forms, the USFS also has a duty to require a financial assurance/bond to prevent the contamination. This will usually take the form of a long-term trust fund or contingency fund to finance the water treatment facilities (either in-pit) or of pumped water. The USFS’s bond policy expressly contemplates such long-term/perpetual treatment financial instruments. *See* TRAINING GUIDE FOR RECLAMATION BOND ESTIMATION AND ADMINISTRATION For Mineral Plans of Operation authorized and administered under 36 CFR 228A USDA – Forest Service April 2004 (attached). “Water treatment may be for a specific period of time or perpetual treatment may be necessary. . . . Active water treatment systems require the operation of a water treatment plant. Bonds should address engineering design, operating maintenance, and replacement costs, including labor, power, equipment and supplies.” *Id.* at 17.

In recent years, trust funds have been investigated as a means to fund such long-term future costs. Such trusts allow the operator to make an initial deposit or deposits which are then invested by the trustee in conservative instruments such as federal government securities. The amount of the initial payment to be placed in the trust can be estimated using a present net value analysis using assumptions about interest and inflation.

Id. at 24.

²⁰ Higgins D.K. and Wiemeyer S.N., U.S. Fish and Wildlife Service, “Assessment of Wildlife Hazards Associated with Mine Pit Lakes,” June 27, 2001.

²¹ Glenn Miller Ph. D., “Precious Metal Lakes: Controls of Eventual Water Quality,” *Southwest Hydrology*, Vol. 1/No. 3, September/October 2002. An estimated 35 pit lakes from all types of hard rock mining are expected to form, containing from less than 100 acre-feet up to about 540,000 acre-feet of water. On a statewide basis, all of the existing reservoirs within the state (excluding Lake Mead) contain approximately 600,000 acre-feet.

As noted herein, the agency should not authorize the formation of a pit lake, or any other mine feature, that would require perpetual or long-term treatment. Under the Part 228 regulations, the agency can only approve a mine that can be reclaimed. In detailing the reclamation requirements, the regulation states that the:

[O]perator shall, where practicable, reclaim the surface disturbed in operations by **taking such measures as will prevent or control onsite and off-site damage to the environment and forest surface resources**

including:

- (1) Control of erosion and landslides;
- (2) Control of water runoff;
- (3) Isolation, removal or control of toxic materials;**
- (4) Reshaping and revegetation of disturbed areas, where reasonably practicable; and
- (5) Rehabilitation of fisheries and wildlife habitat.**

36 CFR 228.8(g)(emphasis added).

As noted in the USFS's *Anatomy of a Mine* regulatory guidance report, reclamation is a critical and required component of a logical, complete and reasonable mining plan, and a mine should not be authorized if reclamation could not be accomplished (i.e., long-term or perpetual treatment means that the site will never be reclaimed):

Satisfactory reclamation should emphasize three major objectives:

1. The productivity of the reclaimed land should at least equal that of the premine surface. This does not necessarily mean that the site must be restored to an approximation of its original condition, or that surface uses after mining will be the same as those existing prior to mining. For example, an area used for marginal grazing prior to mining may be changed to a useful and attractive recreational complex, or perhaps in another case to a housing area.
2. **Satisfactory reclamation should leave the mined area in a condition that will not contribute to environmental degradation either in the form of air- or water-borne materials, or from chemical pollution.**
3. The reclaimed area should be esthetically acceptable and it should be safe for the uses intended.

"Anatomy of a Mine, From Prospect to Production," USDA Forest Service, General Technical Report INT-GTR-35, Revised February 1995, at 68-69 (emphasis added).
http://www.fs.fed.us/geology/anatomy_mine.pdf

The Mining and Minerals Policy Act also mandates successful and final reclamation of mine operations approved by the USFS, requiring "**the reclamation of mined land, so as to lessen any adverse impact of mineral extraction and processing upon the physical environment that may result from mining or mineral activities.**" 30 U.S.C. 21(a). No such plan to "lessen any adverse impact" from the creation of the contaminated pit

lake has been proposed or required in this case.

Impacts to groundwater must also be analyzed for exploration projects on Forest Service Lands.

The guidelines should also ensure that the Forest Service analyze the impacts of exploration activities on groundwater quality and quantity before issuing a permit. In 2012, a federal judge ruled that the Forest Service must analyze impacts to groundwater from an exploration project in Idaho before issuing a permit.²² The court found that “the Forest Service decision that the CuMo project’s impacts on the area groundwater to have no significant impact is arbitrary and capricious.”

The guidelines should incorporate a more aggressive effort by the Forest Service to ensure that sufficient financial assurance is in place for mines where groundwater quality or quantity is affected.

For example, at the Beal Mountain Mine, located on the Beaverhead-Deerlodge National Forest in Montana, mine pollution has contaminated groundwater, which is a source of pollution to springs and adjacent trout streams.²³

Groundwater from the mine, which ceased operations and filed for bankruptcy in 1998, is still a source of cyanide to area springs, and a source of harmful selenium to adjacent German Gulch. German Gulch supports an important fishery - a population of 100% pure westslope cutthroat trout that is crucial to repopulating the upper Clark Fork River, which is undergoing remediation under the Superfund Program.

The cost of water treatment at the Beal Mountain Mine is significant. The reclamation bond, which was approximately \$6-7 million, has been spent. The combined Forest Service and State expenditures at the site have totaled \$19,220,734 to date (including the bond).²⁴ There is considerable reclamation and water treatment remaining at the site. Remediation is occurring in a piece-meal fashion because the Forest Service budget doesn’t have sufficient funds for comprehensive clean-up.

To ensure that the cost of groundwater remediation and treatment is adequately accounted for in the financial assurance, the Forest Service should adopt a policy to incorporate the estimated financial assurance into the NEPA process for public review and comment.

The Forest Service has ample authority to protect groundwater resources from mining impacts.

The agency has clear authority to prevent adverse impacts to groundwater and related resources. Under the Organic Act, and the 36 CFR Part 228 regulations, the agency

²² Idaho Conservation League et al. v. U.S. Forest Service et al., Case No. 1:11-CV-00341-EJL, August 29, 2012.

²³ Tetra Tech Inc., Final (Revision 6) Engineering Evaluation/Cost Analysis, Beal Mountain Mine, Beaverhead-Deerlodge National Forest, Prepared for the U.S. Forest Service, March 2010.

²⁴ Wintergest, Bob, Forest Service Public Meeting: Beal Mountain Mine, Butte, Montana, April 23, 2014.

cannot approve a PoO unless it can be demonstrated that all feasible measures have been taken to “minimize adverse impacts” on National Forest resources. “The operator also has a separate regulatory obligation to ‘take all practicable measures to maintain and protect fisheries and wildlife habitat which may be affected by the operations.’ 36 C.F.R. § 228.8(e).” Rock Creek Alliance v. Forest Service, 703 F.Supp.2d 1152, 1164 (D. Montana 2010) (Forest Service PoO approval violated Organic Act and 228 regulations by failing to protect water quality and fisheries). “Under the Organic Act the Forest Service must minimize adverse environmental impacts where feasible and must require [the project applicant] to take all practicable measures to maintain and protect fisheries and wildlife habitat.” Id. at 1170. The Supreme Court noted the connection between the Organic Act and the Part 228 regulations: “Through this delegation of authority, the Department of Agriculture’s Forest Service has promulgated regulations so that ‘use of the surface of National Forest System lands . . . shall be conducted so as to minimize adverse environmental impacts on National Forest System surface resources.’” California Coastal Commission v. Granite Rock Co., 480 U.S. 572, 582 (1987) (quoting 36 CFR § 228.1).

In United States v. Richardson, the Ninth Circuit Court of Appeals discussed the relationship between the Organic Act and mining rights, affirming a District of Oregon decision enjoining a particular prospecting method. United States v. Richardson, 599 F.2d 290 (9th Cir. 1979) (limiting mining proponent to non-destructive exploration methods). Both courts upheld the Forest Service’s prohibition against “destructive” methods, noting “the Forest Service may require the locator of an unpatented mining claim on national forest lands to use nondestructive methods of prospecting.” Id. at 291. Since the dispute arose just before the adoption of the current Forest Service mining regulations, the court based its decision on the “interrelationship of federal statutes concerning the national forests and mining on public lands [, namely] Rule 5.2, 30 U.S.C. § 26, 30 U.S.C. § 612, 16 U.S.C. § 551, and 16 U.S.C. § 478.” Id. at 291-92.

In Clouser v. Espy, the Ninth Circuit affirmed the Forest Service’s authority to impose significant restrictions on a mining operation, in that case limiting the claimant to access via pack-mule only. Clouser v. Espy, 42 F.3d 1522 (9th Cir. 1994). The court rejected the claimant’s argument that such a restriction violated federal mining laws:

In light of the broad language of [Organic Administration Act §] 551’s grant of authority, [Organic Administration Act §] 478’s clarification that activities of miners on national forest lands are subject to regulation under the statute, and this substantial body of case law, there can be no doubt that the Department of Agriculture possesses statutory authority to regulate activities related to mining—even in non-wilderness areas—in order to preserve the national forests.

Id. at 1530. Recent decisions have reinforced the USFS’s broad authority over mining. “[T]he Secretary of Agriculture has long had the authority to restrict motorized access to specified areas of national forests, including to mining claims. *See Clouser [v. Espy]*, 42 F.3d 1522, 1530 (9th Cir. 1994).” Public Lands for the People v. U.S. Dept. of

Agriculture, 697, F.3d 1192, 1198 (9th Cir. 2012)(emphasis added)(upholding denial of access routes to mining claims in travel management plan).

Indeed, in Clouser, the court affirmed the ability of the agency to restrict mining even to the point that the project would no longer be economically viable. **“Virtually all forms of Forest Service regulation of mining claims—for instance, limiting the permissible methods of mining and prospecting in order to reduce incidental environmental damage—will result in increased operating costs, and thereby will affect claim validity.”** *Id.* In fact, under the Mining Law itself, the expense associated with compliance with environmental regulations may so increase the cost of mining as to render a claim not valuable. United States v. Kosanke Sand Corp., 12 IBLA 282, 299 (1973). *See also* Great Basin Mine Watch, 146 IBLA 248, 256 (1998).

Thus, any argument that the agency is precluded from meeting its statutory and regulatory obligations because they allegedly make a mine operation “too expensive” is not supported by federal law and applicable court decisions and thus can be rejected.

Further, under the Organic Act, and the 36 CFR Part 228 regulations, the agency cannot approve a mining PoO unless it can be demonstrated that all feasible measures have been taken to “minimize adverse impacts” on National Forest resources, including all measures to protect wildlife and habitat. The “operator shall take all practicable measures to maintain and protect fisheries and wildlife habitat.” 36 CFR 228.8(e).

This language was recently relied upon by the federal courts in overturning a USFS-approved mining operation that did not adequately protect wildlife. “The operator also has a separate regulatory obligation to ‘take all practicable measures to maintain and protect fisheries and wildlife habitat which may be affected by the operations.’ 36 C.F.R. § 228.8(e).” Rock Creek Alliance v. Forest Service, 703 F.Supp.2d 1152, 1164 (D. Montana 2010) (Forest Service PoO approval violated Organic Act and 228 regulations by failing to protect water quality and fisheries). “Under the Organic Act the Forest Service must minimize adverse environmental impacts where feasible and must require [the project applicant] to take all practicable measures to maintain and protect fisheries and wildlife habitat.” *Id.* at 1170.

In summary, the Forest Service’s Organic Act requires that the agency “must . . . ensure that its approval of a plan or project does not result in the ‘destruction’ and ‘degradation’ of the public forests.” Clouser v. Madigan, 1992 WL 694368, at *4 (D. Or. 1992), *aff’d sub nom.* Clouser v. Espy, 42 F.3d 1522 (9th Cir. 1994).

Regarding pit lakes, adverse impacts can be prevented under other laws, such as the Migratory Bird Treaty Act (MBTA), 16 U.S.C. §§ 703-712, the Bald and Golden Eagle Protection Act (BGEPA), 16 U.S.C. §§ 668-668d, and Executive Order 13186 (January 11, 2001) (requiring protection of migratory birds). Enacted to fulfill the United States’ treaty obligations to protect migratory birds, the Migratory Bird Treaty Act (“MBTA”) provides that “[u]nless and except as permitted by regulations made as hereinafter provided in this subchapter, it shall be unlawful at any time, by any means or in any

manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill . . . any migratory bird.” 16 U.S.C. § 703(a). See Missouri v. Holland, 252 U.S. 416, 434-35 (1920) (describing the “national interest of very nearly the first magnitude” in protecting migratory birds “that yesterday had not arrived, tomorrow may be in another State and in a week a thousand miles away”). FWS’s list of species protected by the MBTA includes most birds that might use public land. See 50 C.F.R. § 10.13 (list of migratory birds).

The MBTA strictly prohibits killing migratory birds without authorization from the Interior Department. Enacted to fulfill the United States’ treaty obligations, the MBTA provides that “[u]nless and except as permitted by regulations made as hereinafter provided in this subchapter, it shall be unlawful *at any time, by any means or in any manner*, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill . . . any migratory bird.” 16 U.S.C. § 703(a) (emphasis added). The Secretary of Interior is authorized to permit the killing of birds otherwise protected by the MBTA when doing so would be compatible with migratory bird conventions. *Id.* § 704(a). See also Executive Order 13186. In particular, courts have held that activities undertaken without an MBTA permit by federal agencies (including military agencies) that are predicted to result in incidental take of migratory birds constitute violations of the MBTA. See Ctr. for Biological Diversity v. Pirie, 191 F. Supp. 2d 161, 174-75 (D.D.C. 2002), *vac’d as moot sub nom.*, Ctr. for Biological Diversity v. England, No. 02-5163, 2003 WL 179848 (D.C. Cir. Jan. 23, 2003) (holding that Navy training exercises, which were not “directed at wildlife” but did have the predictable and “direct consequence of killing and harming migratory birds,” violated the MBTA’s take prohibition, and explaining that “the MBTA prohibits both intentional and unintentional killing”).

The creation of contaminated water bodies or the release of contamination into the environment that may kill or take migratory birds violates the MBTA. See United States v. FMC Corporation, 572 F.2d 902, 908 (2nd Cir. 1978)(release of “contaminated water into the pond” violated the MBTA); United States v. Corbin Farm Serv., 444 F. Supp. 510, 532-36 (E.D. Cal. 1978) (MBTA prohibits the unintentional killing of protected birds by pesticide poisoning).

The agency also has a duty to protect federal reserved water rights from adverse impacts (such as from dewatering). The USFS is under an obligation to ensure that federal reserved water rights are not impaired, used, or appropriated by private interests to the detriment of the purposes for which the right was created. In the seminal decision in Cappaert v. U.S., 426 U.S. 128 (1976), the Supreme Court rejected a challenge by private appropriators and the State of Nevada to federal protection of reserved lands and waters that would be impacted by groundwater pumping.

Federal reserved water rights and lands are federal property and are “superior to the rights of future appropriators.” Cappaert, 426 U.S. at 138. “[T]he United States can protect its water from subsequent diversion, whether the diversion is of surface or groundwater.” *Id.* at 143. “Where reserved rights are properly implied, they arise without regard to equities that may favor competing water uses. See Cappaert v. U.S., 426 U.S. 128, 138-39.” Colville Confederated Tribes v. Walton, 752 F.2d 397, 405 (9th Cir. 1985).

The USFS cannot disregard its duty to protect such federal property. “Only Congress, and not an executive branch agency, can authorize the disposition of federal property.” High Country Citizens Alliance v. Norton, 448 F.Supp.2d 1235, 1248 (D. Colo. 2006), citing Gibson v. Chouteau, 80 U.S. 92, 99 (1871). *See also* Lake Berryessa Tenants’ Council v. U.S., 588 F.2d 267, 271 (9th Cir. 1978)(federal agency “cannot by their conduct cause the Government to lose its valuable rights by their acquiescence, laches, or failure to act.”). In High Country Citizens, the court found that the Interior Department illegal allowed the private appropriation and use of a federal reserved water right below the level needed to protect that use. Id.

Thus, and overall, the Forest Service has ample authority to protect public resources from adverse impacts, and the Guidelines should recognize and reflect this authority.