National Ground Water Association
Comments on
US Department of Agriculture (USDA) Forest Service
Proposed Rule ‘Locatable Minerals’

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Summary

On February 20, 2026, the U.S. Department of Agriculture (USDA), Forest Service (FS), proposed to revise its regulations governing occupancy and use of the surface of National Forest System lands in connection with prospecting, exploration, development, mining, processing, and reclamation and reasonably incident uses authorized by U.S. mining laws and the Organic Administration Act of 1897. USDA believes regulatory revisions are needed to improve the efficiency and transparency of Forest Service regulation of locatable mineral operations conducted on National Forest System lands under the mining laws, and to minimize, to the fullest extent practicable, adverse impacts on surface resources, including groundwater. In addition, the revisions will support Federal policy to secure reliable and sustainable supplies of strategic and critical minerals in the United States. Operations addressed specifically in the rule include, but are not limited to:

- disturbing more than 5 acres of NFS lands
- bulk sample removal that will cumulatively disturb 1,000 tons or more of material
- use of chemicals in the recovery or processing of minerals such as cyanide or sulfuric acid, regardless of test sample size

Electronic link to the proposed rule is:

https://www.federalregister.gov/documents/2026/02/20/2026-03364/locatable-minerals

The Forest Service controls and manages 154 National Forests and 20 National Grasslands, an area of 193 million acres, equivalent to the area of the state of Texas.

National Ground Water Association Comments

Overall Comments

The National Ground Water Association supports efforts to have mineral exploration, development and site closure initiated, maintained and operated in a manner protective of the affected and nearby areas' water and other environmental resources. National forests and grasslands include the headwaters of many important aquifers and streams and must be protected to supply municipal, irrigation and industrial water for millions of Americans living downgradient and downstream from these reserved public lands managed as a trust for the American people. If mineral development in national forests and national grasslands potentially endangers groundwater actually or possibly used by owners of private, public and homeowner water wells, the appropriate state agencies with authority for groundwater management of adjacent lands should be afforded review of that activity before it is initiated to determine its compatibility with state groundwater trust responsibilities.

Mining may require significant water resources to extract the essential minerals. Proposed improvements in the mining approval process on Forest Service-managed lands include enhanced operating plans, monitoring plans, and reclamation and financial assurances to address the ecosystem recovery of mining sites. NGWA appreciates the consideration and inclusion of these elements in the proposed rule and provides comments below to improve these elements of the proposed rule.

Effective management of surface resources and groundwater at mining sites is supported by the substantial number of Superfund sites that are mining sites, taking decades to remediate at extensive costs (USEPA 2026)[i], such as at Northeast Church Rock and Bonita Peak Superfund sites. The Fremont National Forest/White King and Lucky Lass Uranium Mines covering 140 acres is an example of groundwater contamination from a mining site in a national forest that became a Superfund site, with contaminated water at an open pit mine and contaminants leaching from excavated overburden piles (USEPA 2026)[ii]. The site's groundwater is in a long-term monitoring program and cannot be developed due to institutional controls to avoid its use for drinking water to address the protection of public health.

NGWA is aware that the United States has "[a]pproximately 6.5 million acres [that] are known to be underlain by coal. Approximately 45 million acres or one-quarter of National Forest System lands have potential for oil and gas, while about 300,000 acres within the

Pacific Coast and Great Basin States have potential for geothermal resource development." (USDA FS 1975)[iii] More than 50 minerals, including copper, gold, iron, nickel, silica, silver and zinc, are mined in National Forests (NMFSH 2026)[iv]. All of this development contributes to the productive economy of the nation. Care in the development, operation, reclamation and remediation of these sites supports the future vitality of the nation and the communities adjacent to and using surface and groundwaters flowing from these sites. Lack of care creates costs incurred beyond the development site often borne by other people and conditions not contributing to the proposed action or receiving its benefits. Poor management of mine sites can contaminate water resources preventing the use of critical water resources.

Specific Comments

Specific comments are addressed by section and paragraphs of the proposed rule that are summarized before the NGWA comments.

Definitions

§ 228.3 Definitions – provides definitions of key words used in the proposed rule.

NGWA Comments: The 'Definitions' should include the following terms as used in the rule:

(1) Groundwater – the definition should address the relation of groundwater to "surface resources"
(2) Groundwater-dependent ecosystem – the definition should explain the relation of the groundwater-dependent ecosystem to other water sources and to the wildlife affected by potential mining operations
(3) Groundwater protection – the definition should cover potential measures for groundwater protection and explain that protection may need to go beyond those measures, if circumstances indicate that additional measures are needed to support human and wildlife functions
(4) Operating notice – the definition should be clear regarding the distinction between an operating notice and an operating plan
(5) Operating plan - the definition should be clear regarding the distinction between an operating plan and an operating notice
(6) Site characterization – the definition should describe what the elements of an adequate site characterization are, including but not limited to: geological and geophysical data, hydrological data, environmental monitoring, risk assessment, data quality prescription and interpretation. This characterization should also enable understanding of the interaction of mining operations with groundwater resources of both surficial and deeper aquifers.

(7) Surface Resources – the definition should specifically include 'groundwater' as a surface resource

Initial Operations

§ 228.4 Requirements for initiating operations.

This section defines three categories of mining operations recognized by and needing review / approval of the Forest Service and describes the specific procedures that an operator must follow before starting operations: (1) disturbing more than 5 acres of NFS lands; (2) bulk sample removal during operational life of 1,000 tons or more of material; and (3) use of chemicals in the recovery or processing of mineral

NGWA Comment:

Site Characterization. Before any initiation of operations, an adequate site characterization must be prepared to address both onsite resources and offsite resources that may be impacted by mining operations, even if beyond the National Forests and Grasslands. To ensure that state trust resources adjoining the National Forests and Grasslands are accounted for, the Forest Service must offer the potentially affected state(s) the opportunity to review the site characterization to substantiate its adequacy relative to potential impacts to resources beyond the mineral development site and the National Forests and Grasslands.

Water Supply Sources. National Forests and Grasslands are sources of water supply (https://www.fs.usda.gov/managing-land/national-forests-grasslands/water-facts).

- Some 180 million people in over 68,000 communities rely on these forested lands to capture, transport and filter their drinking water.
- Forest Service lands are located in source areas for many important rivers as well as local and regional aquifer systems. They are the largest source of municipal water supply in the Nation, serving over 60 million people in 3,400 communities in 33 States.
- Major U.S. cities that may seem distant from forests actually rely on water from Forest Service lands. For example, Los Angeles, Portland, Denver, and Atlanta receive a significant portion of their water supply from national forests.
- Forested mountains provide most of the water supporting human communities in the American West. This water falls as snow in the winter, seeps into the ground and melts into streams in the spring, and flows downhill to feed springs, rivers, and valley aquifers. (NWF 2023)[v]

Area of Mineral Development. The rule should also address what circumstances would allow or not allow for a series of disturbed plots of 5 acres of national forest and grass lands to be used to avoid needing approval for utilizing "more than 5 acres" for mineral development.

Use of Chemicals for Mineral Recovery. For the safety of drilling operations, borehole and well installation should use National Sanitation Foundation (NSF) approved chemicals. Any use of chemicals in the recovery of minerals should be done following methods that mitigate the chemicals' impacts on groundwater and other geological and biological resources surrounding the mining operations, including the use of secondary containment and recovery of mining fluids.

Information Needed to Support Operations

§ 228.5 Operating notices.

This section of the proposed rule describes the circumstances and steps for preparing and processing an operating notice.

NGWA Comment:

Operating Notice Development. An operating notice should first be developed from an adequate site characterization as the basis for any limited mining development or its possible future expansion. The site characterization can be used to prepare a site model for evaluating mineral exploration and development alternatives, as well as defining the environmental risks from the mining operation. Detailed geology maps of prospective mining areas should be prepared that include identification of aquifers potentially affected, groundwater recharge zones, water table elevations, groundwater flow direction, quantity of groundwater to be used, groundwater quality, anticipated concentrations of contaminants in water used for processing minerals, the extent of groundwater-surface water interaction including connection to wetlands under federal and state jurisdiction, location of groundwater-dependent ecosystems, quantity and extent of dewatering operations, locations and planned capacities of water treatment facilities and reinjection or infiltration for treated water and the locations of the nearest groundwater users and groundwater-dependent ecosystems within two miles of the mining site (USEPA 1988). Any need for dewatering to allow mining operations should be identified as well as the need for treatment before discharging to surface and ground waters, specifying the locations of dewatering and potential impacts to aquifer water tables, stream flow, nearby groundwater users and groundwater-dependent ecosystems. Locations of groundwater monitoring should be specified in the permits based on the site characterization.

Clarification of Operating Notice Review and Approval. Before a mining operations can be started an-operating notice should be approved (rather than just be determined to be complete) by the responsible Forest Service official with a determination of no unreasonable harm to groundwater and other resources.

Paragraph (c)(1) of this section indicates that the Forest Service official is not required to approve the operating notice. The lack of approval for use of public lands for private gain is contrary to the intent of these public lands being used for other than public purposes. Lack of approval suggests that harmful activities might occur and should have been identified and mitigated by the Forest Service official's decision. This section should be modified to say that the Forest Service official must approve the operating notice before mining operations begins. Otherwise, the lack of formal approval of an operating notice stands as a significant loophole in the mining permit review process and could result in unwanted impacts to groundwater and other resources resulting in costly remediation and possibly damaging state trust resources beyond the mining site and forest lands.

At this stage and prior to National Forest Service approval, the site characterization and alternative development plans should be subject to public review at an open meeting, and not solely by the Forest Service personnel and the mineral developer. Input from the public meeting should be used in the Forest Service's decisions regarding an operating notice or plan of operations.

State and Local Agencies' Review. Both an operating notice and a plan of operations, should include a report or series of reports presented to the appropriate state agency and local officials for review to determine whether the mining operations may impact state residents and water resources managed under state trust and local authorities. Mitigation measures should be identified in advance of mineral development.

Monitoring. An operating notice should include a plan for monitoring environmental conditions and impacts. Otherwise, impacts to groundwater below the site and/or groundwater and other resources beyond the site may occur which would require a more comprehensive mitigation or remediation plan.

Operating Plans

> § 228.6 Plans of operations.
>
> This section gives the outline for the contents of a proposed plan of operations, needed data, and planned use of onsite resources including water that may be impacted by the operations.

NGWA Comments:

Plan Content. In addition the points raised for inclusion in an operating notice, the plans of operation should include locations of chemical storage and use, and projections of the volumes of contaminated water produced from chemical use and from excavated materials, and details of the treatment and disposition of the used water. Plans should include the state groundwater standards to be used as treatment requirements for the final disposition of wastewater if injected or infiltrated to the subsurface. Locations and depths of groundwater dewatering and monitoring as well as associated mitigation measures and notification steps of potentially impacted receptors should be specified in the plan.

State and Local Agencies' Review. As discussed above under Operating Notice, the site characterization and detailed information regarding potential impacts to groundwater and other resources should be provided to state agency and local officials for review to ensure that no harm to state / local-managed trust resources will occur. The operating plan should also include appropriate mitigation measures that will enable prompt response if any adverse effects do inadvertently occur.

Monitoring Plan

> § 228.6 (a)(11) addresses a plan for monitoring environmental effects as part of the operating plan, including demonstration of compliance with federal and state laws, early detection of problems and direction of corrective action.

NGWA Comments:

Monitoring Location and Frequency. The locations and frequency of monitoring groundwater should be specified in the plan. The monitoring plan should be based on an adequate characterization of the site and potential receptors of negative environmental effects (e.g., potential water quality and availability/accessibility by the adjacent population. Monitoring is essential to understanding any effects that may extend beyond the approved mining site and impact state and locally managed groundwaters.

Minimizing Regulation. As a possible way to minimize regulations for these mining activities, the corrective action plan (CAP) identified in the regulations of the Resource Conservation and Recovery Act which are widely used could be incorporated by reference.

Protection Requirements

> § 228.10 addresses surface resource protection requirements and operating standards, including water quality [(b)(1)], consideration of economics of the operations when determining the reasonableness of the requirements for surface resource protection [(a)(2)] and operating standards and reclamation [(c)(4) and (9)].

NGWA Comments:

Water Quality. NGWA supports the application of federal, state, Tribal and local water quality standards to national forest mining sites. Consultation with states regarding application of water quality standards is essential to the states' management of groundwater. Protection of local wellhead and source water protection areas and sole source aquifers as well as other underground sources of current and potential drinking water as referred to in the Safe Drinking Water Act should be a priority and an operating plan standard. The authority for these protection areas and resources identified in the Safe Drinking Water Act is typically delegated to states. These protection areas and resources may overlap with the National Forests and Grasslands in some locations.

Economics. The reasonableness of economic costs should not be a factor in determining the protection measures to be employed at a site. As a standard, if protecting the onsite and offsite resources has a significant cost exceeding the value of the minerals to be developed, then the site should not be mined or alternative methods of mineral extraction and recovery that do not result in substantial environmental impact and protection requirements should be considered.

Protection and Reclamation Standards. NGWA appreciates the attention in the proposed rule regarding protection of water resources and specifically the protection of groundwater. While the proposed rule does not address the particular steps to protect groundwater, protection should include both quality and quantity of groundwater. Protecting groundwater from contamination of chemicals used on site and mobilization of naturally occurring contaminants in rock through chemical reactions should be a priority of operations and reclamation and incorporated in operating plan standards.

Financial Assurance

> § 228.11 covers the establishment, maintenance, and release of financial assurances to address the full costs of reclamation and long-term post closure operations, including determining the financial assurance amount and adequacy.

NGWA Comments:

Post-Closure Monitoring. Post-closure monitoring should be incorporated in the costs address in financial assurances and reclamation. Monitoring is necessary to ensure that progress is being made in reclamation, corrective or remedial activities and guide any changes in those actions as well as informing state and local agencies whose resource management responsibilities may be affected.

Independent Estimate Review. The amount of money to address financial assurances should be reviewed by an independent entity not associated with either the Forest Service nor the company proposing the mineral development, but retained by the Forest Service. Independent review will support the adequacy of the financial coverage necessary to fund both protective and remedial efforts, if needed. The estimate of financial assurance should be shared with state agencies responsible for potentially impacted state managed resources such as groundwater, to enable the states to incorporate long-term consequences of the mineral development into their fiscal and resource planning.

Adequacy of Financial Capability. Mining companies' ability to provide adequate resources to respond to unexpected circumstances is essential to addressing the full costs of mining operations and protecting the public interest. Mining companies should utilize the latest mitigation and remedial measures and technologies in safeguarding nearby groundwater users and ensure that the contaminants from mining operations remain confined to the footprint of the approved area.

Long-Term Reclamation Financing

> § 228.13 addresses trust funds for long-term treatment to achieve water quality standards to minimize adverse impacts to surface resources in a reclamation phase of the mineral development.

NGWA Comments: Similarly to considering the adequacy of financial resources, adequacy of the trust fund, when determined to be requisite, should be reviewed by an independent third party in establishing the amount of the trust fund to be established. The estimate should also be shared with the appropriate state agencies to support their planning for resource reclamation.

Information Available to the Public

> § 228.18 covers availability of information to the public regarding the mineral development in National Forests and Grasslands, including data exempt from disclosure under the Freedom of Information Act.

NGWA Comments:
Withholding Information. Exempting and withholding information on the extent of the mineral deposit would appear to be contrary to protecting the groundwater accessed by nearby human and wildlife receptors and may pose concerns about surrendering public lands for mineral extraction that could cause **environmental or** health problems, a seeming violation of public trust. The fullest extent of potential mineral development

should be incorporated into the initial proposal to mine and subsequent operating plans to be approved.

Protecting Human Receptors. If mining operations management discovers that the mineral deposit is larger than first approved, the mining company should make this known at the earliest time possible so that nearby human receptors of potential contaminants may declare assertions of needed protection. Likewise, the Forest Service can use this information to carry out its responsibilities to protect adjacent landowners and groundwater users.

Basis for NGWA Interests in the Proposed Locatable Minerals Rule

NGWA, the largest trade association and professional society of groundwater professionals in the world, represents over 10,000 groundwater professionals within the United States and internationally. NGWA represents water well contractors, scientists and engineers, and manufacturers and suppliers responsible for providing the equipment needed to make groundwater development possible. NGWA's mission is to advocate for and support the responsible development, management, and use of groundwater.

NGWA is concerned that the subsurface and groundwater are natural infrastructure and should not be viewed as the repository for society's wastes and residuals. Over 43 million people in the United States rely on private wells and 93 million are served by groundwater from community water systems. Large surface water systems often draw on groundwater for peak and emergency water needs. Additionally, forty percent of baseflow of streams is contributed from groundwater discharge through streambeds.

A concise summary of the position of the National Ground Water Association on groundwater protection related to potential sources of contamination is:

- Aquifers should be protected from degradation.
- Groundwater quality should be protected for existing or potential beneficial uses.
- Methods available to control point source contamination include land-use controls, containment or isolation of contaminant sources.
- Control of potential and active sources of contamination should be a national objective, reducing the need for remediation of groundwater.

The National Ground Water Association appreciates the opportunity to comment on this proposed regulation.

[i] U.S. Environmental Protection Agency (USEPA). 2026. Superfund: National Priorities List (NPL). https://www.epa.gov/superfund/superfund-national-priorities-list-npl (Accessed March 11, 2026).
[ii] U.S. Environmental Protection Agency (USEPA). 2026. Fremont National Forest/White King And Lucky Lass Uranium Mines (USDA) Lakeview, OR; Cleanup Activities. https://cumulis.epa.gov/supercpad/SiteProfiles/index.cfm?fuseaction=second.Cleanup&id=1001508#bkground (Accessed March 11, 2026).
[iii] U.S. Department of Agriculture, Forest Service (USDA FS). 1975. Mining in National Forests. https://www.fs.usda.gov/sites/nfs/files/r04/payette/publication/1975MiningInNationalForests.pdf (Accessed March 11, 2026).
[iv] National Museum of Forest Service History (NMFSH). 2026. Minerals We Use Every Day-Mined from our National Forests. https://forestservicemuseum.org/minerals-we-use-every-day/ (Accessed March 11, 2026).
[v] National Wildlife Federation (NWF). 2023. Forests and Water: Opportunities for protecting critical forests and improving forest health to ensure safe and reliable water for people and nature. https://www.nwf.org/-/media/Documents/PDFs/NWF-Reports/2024/Forests-and-Water.pdf (Accessed March 11, 2026).