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Neil Kornze
Director
Bureau of Land Management
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Dear Director Kornze:

On June 3, 2016, the Bureau of Land Management (BLM) requested the Forest Service (FS) provide a decision on whether it consents to renewal of two leases currently held by Twin Metals Minnesota (TMM) for lands within the Superior National Forest (SNF) in northern Minnesota. These two Preference Right leases, MNES-01352 and MNES-01353, lie directly adjacent to and within three miles of the Boundary Waters Canoe Area Wilderness (BWCAW), respectively. The FS has considered the environmental conditions, nature and uses of the BWCAW by the public and tribes, economic benefits of mineral development and wilderness recreation, potential environmental consequences of mineral development on the leases, public opinion, rarity of copper-nickel sulfide ore mining in this region, and current laws and policy to inform the agency's decision.

Based on this analysis, I find unacceptable the inherent potential risk that development of a regionally-untested copper-nickel sulfide ore mine within the same watershed as the BWCAW might cause serious and irreplaceable harm to this unique, iconic, and irreplaceable wilderness area. Therefore, the FS does not consent to renewal of Preference Right leases MNES-01352 and MNES-01353. A summary of the basis for my decision follows.

The BWCAW Is an Irreplaceable Resource

The 1.1 million acre the BWCAW is located in the northern third of the SNF in Minnesota, extending nearly 200 miles along the international boundary with Canada. It is the only large-scale protected sub-boreal forest in the lower 48 United States. The SNF holds 20 percent of the National Forest System's fresh water supply. These healthy forests with extremely high water quality also provide a host of watershed benefits, such as purifying water, sustaining surface water and ground water flow, maintaining fish habitats, controlling erosion, and stabilizing streambanks.

In addition to the existing high quality of the waters, the dramatic hydrogeology and interconnectedness of BWCAW's forests, lakes, streams, and wetlands make the region unique and susceptible to degradation. The BWCAW includes nearly 2,000 pristine lakes ranging in size from 10 acres to 10,000 acres, and more than 1,200 miles of canoe routes.

With Voyageurs National Park and Quetico Provincial Park, BWCAW is part of an international network of conserved land and wilderness. Quetico Provincial Park, located in Ontario, Canada,

lies within the same Rainy River watershed as the BWCAW. Quetico Provincial Park is an iconic wilderness class park, world renowned as a destination for backcountry canoeing with over 2,000 lakes and over one million acres of remote water-based wilderness. Together, Quetico and BWCAW form a core wilderness area of over two million acres.

Located northwest of the BWCAW, Voyageurs National Park was established by Congress in 1971 to preserve and interpret fur trade history and the importance of canoe travel routes in northern Minnesota. The park is at the southern edge of the boreal forest, and lies within the same Rainy River watershed as the BWCAW. It features spectacular canoeing and boating routes along with hiking trails exploring portage routes used by American Indians, early fur traders, and gold miners. Approximately 240,000 people visit Voyageurs National Park every year.

Just south of the BWCAW the Laurentian Divide separates three river systems: one flowing north to Hudson Bay; the Laurentian system flowing eastward towards the Atlantic through the Great Lakes, and the Mississippi system, flowing south to the Gulf of Mexico. TMM's two leases subject to FS decision are located in the Rainy River Watershed, which drains into the BWCAW, Quetico Provincial Park and Voyageurs National Park. There are four HUC (Hydrologic Unit Code) -10 sub-watersheds in the area of the leases and potential project site—Birch Lake, Stony River, Isabella River and Kawishiwi River. Surface water flows north and west from Birch Lake and the Kawishiwi River watershed through Kawishiwi River and several lakes into BWCAW. Water from the Stony River and the Isabella River watersheds flows into the Birch Lake watershed.

The BWCAW's Natural Environment

The SNF provides abundant and diverse habitat for thousands of breeding, wintering, and migratory species of terrestrial and aquatic wildlife, including over 100 species of migratory breeding birds in a zone with North America's greatest diversity of songbirds and forest-dependent warblers. The SNF also has one of the largest populations of gray wolves outside of Alaska, common loons, and moose. It has popular game species such as walleye, trout, deer, ruffed grouse, fisher, and beaver; and numerous rare species such as great gray owl, black-backed woodpecker, ram's-head ladyslipper and other orchids, and lake sturgeon. The SNF also has a great diversity and abundance of species common to the boreal forest biome, including three-toed woodpecker, boreal owl, boreal chickadee, lynx, moose, and grizzled skipper butterfly. All these species provide a wide array of crucial ecological, social and economic benefits and uses - from big game hunting and fishing to wildlife watching and research.

The BWCAW is also home to three threatened or endangered species: Canada lynx, northern long-eared bat, and gray wolf. Over the decades the BWCAW has been protected, it has provided refugia for species under stress or with declining populations, such as moose. In the face of climate change, the BWCAW may be critical to the continued existence of these species within Minnesota.

Cultural Resources and Treaty Rights Associated with the BWCAW

The BWCAW region has been home to Native Americans for millennia. The Minnesota Chippewa Tribe and three associated Bands – the Grand Portage Band, the Fond du Lac Band,

and the Bois Forte Band -- retain hunting, fishing, and other usufructuary rights throughout the entire northeast portion of the State of Minnesota under the 1854 Treaty of LaPointe. In the Ceded Territory all Bands have a legal interest in protecting natural resources, and the FS shares in federal trust responsibility to maintain treaty resources. Many resident Ojibwe, who ceded lands that became the BWCAW, continue to visit ancestral sites and traditional gathering and fishing locations within the wilderness. Tribes rely on natural resources like fish, wildlife and wild plants such as wild rice for subsistence and to support them spiritually, culturally, medicinally, and economically.

The northern border of the BWCAW is situated along a winding, 120-mile canoe route known locally as the Border Route, or Voyageurs Highway. This historic canoe route, bordered on the north by Ontario's Quetico Provincial Park, on the east by Grand Portage National Monument, and on the west by Voyageurs National Park, was utilized extensively by pre-contact Native Americans, European fur traders, and tribal groups such as the Dakota, Cree, and Ojibwe.

There are approximately 1,500 cultural resource sites identified on National Forest System (NFS) lands within the BWCAW. Many more cultural resources are believed to exist within the wilderness; as of 2015 only about 3 percent of the landscape has been intensively surveyed. Cultural resource sites include historic Ojibwe village sites, French and British period fur trade sites dating from 1730-1830, Woodland period village sites (2,000-500 years old) situated on wild rice lakes, Native American pictograph panel sites, Archaic period (8,000-3,000 years old) sites with copper tools, and large Paleoindian quarry sites such as those recently discovered on Knife Lake where Native Americans shaped stone tools up to 10,000 years ago.

Wilderness Designation

The irreplaceable natural qualities of the BWCAW were recognized nearly a century ago in 1926 when the Department of Agriculture first set aside the area to preserve its primitive character. The Wilderness Act of 1964 officially designated land inside today's BWCAW as part of the National Wilderness Preservation System. The Boundary Waters Canoe Area Wilderness Act of 1978 expanded the wilderness area to 1,090,000 acres. The 1978 Act also established a separate Boundary Waters Canoe Area Mining Protection Area (MPA) to protect existing natural values and high standards of environmental quality from the adverse impacts associated with mineral development. Sec. 9, Pub. L. 95-495, 92 Stat. 1649, 1655 (1978). Congress provided very clear direction regarding the purposes of the BWCAW and MPA:

(1) provide for the protection and management of the fish and wildlife of the wilderness so as to enhance public enjoyment and appreciation of the unique biotic resources of the region,

(2) protect and enhance the natural values and environmental quality of the lakes, streams, shorelines and associated forest areas of the wilderness,

(3) maintain high water quality in such areas,

(4) minimize to the maximum extent possible, the environmental impacts associated with mineral development affecting such areas.... Sec. 2, Pub. L. 95-495, 92 Stat. 1649 (1978).

The BWCAW Act bans authorization of federal mineral development within the BWCAW and MPA. However, the BWCAW Act does not govern federal mineral development on other NFS lands. Instead, the authorities governing federal mineral development on SNF lands outside the BWCAW and MPA are 16 U.S.C. § 508b and Section 402 of Reorganization Plan No. 3 of 1946, 60 Stat. 1097, 1099-1100. A decision withholding FS consent to the lease renewals is fully consistent with this statutory framework.

World Renowned Research Laboratory

Because of its unique quality and character, the BWCAW is a living laboratory supporting dozens of research projects each year. Scientists of all disciplines rely on scarce areas like the BWCAW to support scientific inquiry and serve as control areas in the study of water quality, climate change effects, and natural ecological processes. The BWCAW is internationally known as a laboratory for ground-breaking research on forest fires, landscape patterns, biodiversity, wildlife, soils, nutrient cycles, other ecosystem processes, lakes, climate change, and recreational use of wilderness. This body of work is widely cited by scientists around the world. As an example, Miron Hinselman's work on forest fires in BWCAW, published during the 1970s-1990s, has been cited in more than 1,700 published studies. More recent BWCAW-related studies by Frelich and Reich have already been cited in 1,300 studies in 70 peer-reviewed science journals published in 20 countries on 4 continents. New results from BWCAW research are regularly presented at prestigious international meetings on scientific study.

Recreation Values of the BWCAW

The BWCAW is one of the most visited areas in the entire National Wilderness Preservation System, and the System's only large lake-land wilderness. It provides an experience unique within the continental United States. The BWCAW's thousands of lakes and hundreds of miles of streams comprise about 190,000 acres (20 percent) of the BWCAW's surface area and provide for long distance travel by watercraft. The opportunity to pursue and experience expansive solitude, challenge and personal immersion in nature are integral to the BWCAW experience. Winter BWCAW visitors enjoy opportunities for skiing, dog-sledding, camping and ice fishing. Fishing is one of the most popular BWCAW activities throughout the year due to the range of species found in its waters, including smallmouth bass, northern pike, walleye, and lake trout.

Social and Economic Environment

TMM's leases are located near Ely, in St. Louis and Lake Counties. The population of St. Louis County is concentrated in and around the City of Duluth, approximately 100 miles south of the lease area. The Iron Range communities of Ely, Hibbing, and Virginia are smaller secondary population centers. The 2010 U.S. Census shows area population has declined by nearly 10 percent since 1980, while Minnesota's population as a whole has increased by more than 30 percent. At least some of this population decline may be attributable to a loss of iron industry jobs. The Fond du Lac, Grand Portage, and Bois Forte reservations are exceptions to the regional trend - populations there have increased since 1990.

The median income of area communities is significantly lower than that of the State as a whole. It is also the case that the median income of the area's secondary population centers is generally

lower than that of St. Louis County as a whole. In some of these communities, such as Ely and Tower, the median household income is slightly more than half of the state median. In many individual communities, poverty rates are as high as or higher than statewide (with the exceptions of the secondary population centers of Hoyt Lakes, Soudan, and Tower).

Mining employment in St. Louis County declined from more than 12,000 jobs in 1980 to approximately 3,000 jobs in 2009. However, since mining employment can vary greatly from one year to the next, this decline does not represent a steady reduction. Mining-related employment is volatile and fluctuates due to changes in the market price of commodities being extracted. During the same time period, service-related employment (which includes the North American Industry Classification System categories for professional services, management, health care, education, arts/entertainment, and accommodation/food) in the study area has increased substantially, mirroring broader state and national trends.

Tourism is rooted in the region's unique recreation opportunities such as the BWCAW, and is broadly dependent on hunting, fishing, boating, sightseeing, and wilderness experiences provided by the region's high-quality natural environment. Industries associated with tourism (arts, entertainment, recreation, accommodation, and food services) account for nearly 13 percent of all employment in St. Louis County. The landscape and recreational opportunities attracts retirees and new residents.

Fishing in Minnesota lakes and rivers generates $2.8 billion in direct annual expenditures and contributes more than $640 million a year in tax revenues to the treasuries of the state and federal governments. The BWCAW itself has provided millions of visitors with a unique water-based recreation experience and provided an economic driver to local communities and the state of Minnesota. Leases MNES-01352 and MNES-01353 are surrounded by 29 resorts, outfitters, campgrounds and hundreds of homes and cabins. Similarly, Voyageurs National Park and Quetico Provincial Park both support vibrant tourism industries.

In 2015, 150,000 people visited the BWCAW. Economic benefits generated from recreation in the BWCAW average approximately $44.5 million annually. Continued economic returns rely on sustaining BWCAW's natural resource quality and wilderness character.

The FS's Role with Respect to Hardrock Mineral Leases

TMM's two leases include a mixture of NFS lands reserved from the public domain and acquired NFS lands, with the vast majority being reserved lands. 16 U.S.C. § 508b applies to reserved NFS lands and provides in pertinent part:

"the Secretary of the Interior is authorized … to permit the prospecting for and the development and utilization of [hard rock] mineral resources: provided, that the development and utilization of such mineral deposits shall not be permitted by the Secretary of the Interior except with the consent of the Secretary of Agriculture."

Section 402 of Reorganization Plan No. 3 of 1946, 60 Stat. 1097, 1099, applies to acquired NFS lands and provides in pertinent part:

"The functions of the Secretary of Agriculture and the Department of Agriculture with respect to the uses of mineral deposits in certain lands pursuant to … 16 U.S.C. § 520 … are hereby transferred to the Secretary of the Interior and shall be performed by him or … by such officers and agencies of the Department of the Interior as he may designate: Provided, That mineral development on [lands acquired pursuant to the Weeks Act] shall be authorized by the Secretary of the Interior only when he is advised by the Secretary of Agriculture that such development will not interfere with the primary purposes for which the land was acquired and only in accordance with such conditions as may be specified by the Secretary of Agriculture in order to protect such purposes."

In pertinent part, 16 U.S.C. § 520 provides:

The Secretary of Agriculture is authorized, under general regulations to be prescribed by him, to permit the prospecting, development, and utilization of the mineral resources of the lands acquired under the Act of March first, nineteen hundred and eleven, known as the Weeks law, upon such terms and for specified periods or otherwise, as he may deem to be for the best interests of the United States….

Under the Weeks Act, 16 U.S.C. § 515, the Secretary of Agriculture is authorized to purchase lands for the purposes of "the regulation of the flow of navigable streams or … the production of timber."

The Department of the Interior adopted regulations providing for disposal of mineral resources pursuant to 16 U.S.C. § 508b and Section 402 of Reorganization Plan No. 3 of 1946, 60 Stat. 1097, 1099, by means of a leasing system governed by 43 C.F.R. part 3500. 43 C.F.R. § 3501.1(b)(1) & (3). The Department of the Interior's regulations provide that BLM's issuance of leases for hard rock minerals, including deposits of copper, nickel and associated minerals, on lands administered by another surface managing agency is "[s]ubject to the consent of the surface managing agency," 43 C.F.R. § 3503.13(a) & (c), which in the case of NFS lands is the United States Department of Agriculture, Forest Service. 16 U.S.C. § 1609(a). Specifically, 43 C.F.R. § 3503.13(a) relates to lands acquired under the Weeks Act while 43 C.F.R. § 3503.13(c) relates to the reserved lands.

On March 8, 2016, Department of Interior Solicitor Hilary Tompkins issued memorandum M-37036 (M-Opinion) in response to a BLM request asking "whether it has the discretion to grant or deny Twin Metals Minnesota's pending application for renewal of two hardrock preference right leases in northern Minnesota." The M-Opinion advises the BLM determining that, "Neither of the statutory authorities under which [MNES-01352 and MNES-01353] are issued–section 402 of Reorganization Plan No. 3 of 1946, 60 Stat. 1097, 1099-1100, and 16 U.S.C. § 508b–creates an entitlement to a lease or otherwise mandates the issuance of leases" and "[t]o the contrary, both authorities expressly condition leasing on surface owner consent (in this instance the Forest Service) and thus are discretionary." Therefore, on June 3, 2016, the BLM advised the Forest Service:

"[i]n light of the legal determination that the government has discretion in granting or denying the TMM lease renewal application, in accordance with 43 CFR 3503.20, 16 U.S.C. 508b, Section 402 of Reorganization Plan No. 3 of 1946, 60 Stat. 1097, 1099, and 16 USC 520, the

BLM requests that the USDA Forest Service provide, in writing, a decision on whether it consents or does not consent to the renewal of the leases."

Irrespective of the M-Opinion, the FS's consent to any hardrock lease renewal is mandated by 16 U.S.C. § 508b and Section 402 of Reorganization Plan No. 3 of 1946, 60 Stat. 1097, 1099. Pursuant to 16 U.S.C. § 508b, the Secretary of Agriculture's right to consent to "the development and utilization of [hardrock] mineral resources" is coextensive with the Secretary of the Interior's authority to permit "the development and utilization of [hardrock] mineral resources." The fact that the Secretary of the Interior has implemented the authority 16 U.S.C. § 508b confers to permit "the development and utilization of [hardrock] mineral resources" by means of a regulatory scheme containing a number of decision points simply means that the Secretary of Agriculture's statutory consent authority with respect to hardrock mineral development and utilization – authority expressed in terms identical to the Department of Interior's authority – similarly extends to the same universe of decision points providing those decisions have the potential to affect NFS surface resources.

Whereas pursuant to Section 402 of Reorganization Plan No. 3 of 1946, 60 Stat. 1097, 1099, the Secretary of the Interior's authority per 16 U.S.C. § 520 "to permit the … development … of the [hardrock] mineral resources of the lands acquired under … the Weeks law…" is contingent upon the Secretary of Agriculture's determination that "such development will not interfere with the primary purposes for which the land was acquired…." It is well established that mineral "development" is authorized by a lease, whether it is one issued in the first instance or a subsequent renewal. Indeed, the M-Opinion explicitly recognizes that "the entire purpose" of a mineral lease is "for the lessee to develop the minerals…." Another M-Opinion finds that since the 1970s hardrock prospecting permits for NFS lands, which are the precursor for the issuance of hardrock mineral leases including MNES-01352 and MNES-01353, have uniformly included the condition that "no mineral development of any type is authorized hereby." M-36993, Options Regarding Applications for Hardrock Mineral Prospecting Permits on Acquired Lands Near a Unit of the National Park System (1998 WL 35152797 (April 16, 1998)). *Missouri Coalition for the Environment,* 124 IBLA 211, 217 (1992) ("mineral development … may only be authorized upon issuance of a [hardrock] lease*); John A. Nejedly Contra Costa Youth Association, 80 IBLA 14, 26 (1984)* (concurring opinion) (development under a hardrock lease "is a logically foreseen result of successful prospecting"). So again, the fact that the Secretary of the Interior has implemented the authority Section 402 of Reorganization Plan No. 3 of 1946, 60 Stat. 1097, 1099, confers to permit the development of hardrock mineral resources on lands acquired pursuant to the Weeks Act by means of a regulatory scheme containing a number of decision points simply means that the Secretary of Agriculture's consent authority with respect to hardrock mineral development – authority expressed in terms identical to Interior's authority – similarly extends to the same universe of decision points providing those decisions have the potential to affect NFS surface resources.

Of course, under Section 402 of Reorganization Plan No. 3 of 1946, 60 Stat. 1097, 1099, the Secretary of Agriculture cannot block mineral development absent a finding that "such development will … interfere with the primary purposes for which the land was acquired…." Here, since the small percentage of acquired lands subject to TMM's two leases were purchased in accordance with the Weeks Act, those primary purposes were "the regulation of the flow of navigable streams or … the production of timber." As discussed below, TMM hopes to construct

and operate an underground mine on its two leases – not a strip mine. At this juncture the FS consequently cannot definitively say that the mineral development which TMM hopes to conduct on its leases will interfere with those purposes. Uncertainty about this question is of little import, however, since the lands subject to TMM's leases are an admixture of lands reserved from the public domain and acquired lands with the reserved lands being in excess of 90% of the acreage included in both leases. Further, there is no reason to believe that TMM's mineral development exclusively could be confined to the acquired lands. The FS's conclusion that the agency should exercise the absolute discretion that 16 U.S.C. § 508b confers upon it to withhold consent to the renewal of TMM's leases insofar as the reserved lands are concerned accordingly has preclusive effect with respect to the lands acquired pursuant to the Weeks Act.

The Role of Forest Plans

The FS develops land and resource management plans to provide a framework that protects renewable surface resources. This framework balances both economic and environmental considerations to provide for multiple uses and sustained yield of NFS renewable surface resources.

The 2004 SNF Plan at D-MN-1 states: "Exploration and development of mineral and mineral material resources is allowed on NFS land, except for federally owned minerals in designated wilderness and the Mining Protection Area." The Plan also provides that the FS will manage the BWCAW in a manner that perpetuates and protects its unique natural ecosystems, provides an enduring wilderness resource for future generations, and provides opportunities for a primitive and unconfined recreation experience.

Although forest plans provide a framework, they do "not authorize projects or activities or commit the Forest Service to take action" (36 C.F.R. § 219.2(b)(2)). Instead, forest plans provide broad management guidance and ensure all program elements and legal requirements are considered prior to critical project level decisions, such as a decision to authorize timber harvesting, grazing or mining operations. As the Supreme Court has determined, forest plans:

"…do not command anyone to do anything or to refrain from doing anything; they do not grant, withhold, or modify any formal legal license, power, or authority; they do not subject anyone to any civil or criminal liability; they create no legal rights or obligations. Thus, for example, the Plan does not give anyone a legal right to cut trees, nor does it abolish anyone's legal authority to object to trees being cut. *Ohio Forestry Ass'n. v. Sierra Club*, 523 U.S. 726, 733 (1998)."

Following Forest Plan approval, proposals are evaluated on a case-by-case basis. Proposals inconsistent with Plan direction may not be authorized (16 U.S.C. §1604(i)). However, a proposal might reveal the need to amend plan direction that would otherwise stand as an impediment to a proposal. Yet a proposal's consistency with applicable Plan standards and guidelines is not an assurance that the proposal will be authorized. The FS retains discretionary judgment concerning overall multiple use, sustained yield management of NFS lands. Further, denial of a proposal consistent with applicable Plan standards and guidelines does not require alteration of the applicable direction.

The SNF Plan does not prohibit mineral development within the management area where TMM's leases are located. But the FS is not bound to approve TMM's application for renewal of its leases either. Neither the statute nor regulations governing forest plans mandate the approval of proposals consistent with a Forest plan. Moreover, as discussed above, pursuant to the express terms of 16 U.S.C. § 508b and Section 402 of Reorganization Plan No. 3 of 1946, 60 Stat. 1097, 1099, the FS retains discretion to withhold consent to TMM's lease renewals given the leases' purpose is mineral development, as recognized by the M-Opinion. Specifically, the FS denial of consent to TMM's lease renewals is warranted for the reasons set out in the M-Opinion and also because the bar in both 16 U.S.C. § 508b and Section 402 of Reorganization Plan No. 3 of 1946, 60 Stat. 1097, 1099, against mineral development absent the consent of the Secretary of Agriculture applies with equal force to the initial issuance of the lease and any renewal of that lease. Accordingly, the FS may consider any potential negative environmental impacts that might flow from mineral development on those leases and their effect on future national forest conditions.

National Environmental Policy Act (NEPA) Applicability

NEPA ensures federal agencies take into account significant environmental matters in their decision making, and that they disclose to the public that the agency has considered environmental concerns. An environmental impact statement (EIS) must be prepared when an agency proposes to undertake a major federal action that may significantly affect the quality of the human environment. In summary, NEPA tasks agencies to assess changes in the physical environment caused by the action it proposes to authorize.

Council on Environmental Quality (CEQ) regulations implementing NEPA are clear that a proposal "exists at that stage in the development of an action when an agency subject to the Act has a goal and is actively preparing to make a decision on one or more alternative means of accomplishing that goal and the effects can be meaningfully evaluated." 40 C.F.R. § 1508.23. This provision is reinforced by CEQ's instruction that major federal actions "includes actions with effects…." 40 C.F.R. § 1508.18. FS NEPA regulations establish a four part test for determining when NEPA obligations arise, including whether "[t]he Forest Service has a goal and is actively preparing to make a decision on one or more alternative means of accomplishing that goal and the effects can be meaningfully evaluated…." 36 C.F.R. § 220.4(a)(1). Thus, when the FS declines to authorize a private application, the mere contemplation of that application does not constitute a federal proposal and the FS is not required to conduct an environmental analysis under NEPA.

As it is my determination not to consent to issuance of lease renewals based on the application before the agency at this time, preparation of an environmental analysis is not required. As further explained below, no significant environmental effects will occur as a result of the agency's no-consent determination.

This outcome is entirely in keeping with NEPA and its implementing regulations. Situations like this pose the unusual question of whether NEPA requires consideration of environmental effects of federal actions that foreclose development or use of natural resources. NEPA does not require a federal agency to consider effects arising from an action it has declined to allow third parties to undertake when that does not represent change in the physical environment caused by the federal

action itself. In other words, only federal actions with significant environmental effects trigger NEPA's detailed statement requirement. Actions which do nothing to alter the natural physical environment and maintain the environmental status quo are not subject to NEPA.

The FS routinely prescreens non-mineral, special use authorization applications and agency regulations direct that non-conforming uses do not need to receive further evaluation and processing. See 36 C.F.R. § 251.54(e) (2). The FS does not have regulations governing consideration of discretionary mineral leasing applications, but agency practice is consistent.

As recently as 2014, Regional Forester Atkinson rejected a request for consent to a prospecting permit on the Hiawatha National Forest without preparing a NEPA document. Diverting scarce budgetary resources to prepare NEPA documents for proposals that will not move forward trivializes NEPA and diminishes its utility in providing useful environmental analysis for actions that the agency accepts and actively evaluates for approval.

In these circumstances, the Court of Appeals' Eighth Circuit holding that a FS decision to refrain from using herbicides as a method of vegetation control is not a "proposal or action to which NEPA can apply" pertains. *Minnesota Pesticide Information and Educ., Inc. v. Espy,* 29 F.3d 442, 443 (8th Cir. 1994).

NFS Land Management Perspectives

Half of a century has passed since TMM's leases were issued in 1966. The original leases were issued prior to statutes such as the National Historic Preservation Act of 1966, National Environmental Policy Act of 1969, Clean Water Act of 1972, Endangered Species Act of 1973, National Forest Management Act of 1976, and Boundary Waters Canoe Area Wilderness Act of 1978. Without these laws in place the environmental consequences of potential "commercial development [of the nickel and copper deposit] by a large-scale mining operation" originally envisioned by BLM in 1956 on what are now TMM's leases received markedly less consideration in comparison with current requirements. Given changes in policy and information availability, it is not unreasonable to anticipate a higher level of interest and concern regarding these consequences than when TMM's leases were originally issued, as demonstrated in the examples to follow.

In 1991 the Minnesota Department of Natural Resources recognized the value of the BWCAW for its scenic beauty and solitude by establishing a State Mineral Management Corridor. In light of surface water flow and recreational uses, no surface disturbance or state leases may be offered in the Corridor. The State Mineral Management Corridor overlaps with federal lease MNES-1353.

The federal relationship with Native American tribes has also evolved significantly over the 50 years since the TMM leases were issued. The FS has a legal obligation to acknowledge rights of Tribes and tribal members, including off-reservation rights to hunt, fish, gather and continue cultural and spiritual practices. Such recognition did not occur until the late 1970s when Indians began to assert their rights to off-reservation resources in federal court, including those rights to fish and gather wild rice. (E.g.: *Lac Courte Oreilles Band of Lake Superior Chippewa Indians v. State of Wis.*, 653 F. Supp. 1420 (W.D. Wis. 1987) (LCO III), *Lac Courte Orelles Band of Lake*

Superior Chippewa Indians v. State of Wis., 668 F. Supp. 1233 (W.D. Wis. 1987) (LCO IV)). No documentation suggests that consultation occurred or treaty rights were considered in the 1966 decision to grant the two leases.

Finally, since the last renewal of TMM's leases in 2004, we have gained experience with copper sulfide ore mining in different parts of the country. It is clear that these types of mines pose substantial risk of failure and environmental mitigation and remediation technologies are limited, and often ineffective, as discussed later in this letter. Awareness of the environmental effects of mining, specifically those from copper-nickel mining, has increased since 2004. While economic values are important to area communities and the nation, preserving Wilderness Areas and their associated qualities also have national and local support and precedent.

Evaluation of the Present Lease Application

In light of the M-Opinion's legal conclusion that TMM does not have the right to automatic renewal of its leases MNES-01352 and MNES-01353, on March 8, 2016 the BLM notified TMM that the agency would review the company's lease renewal application using the same criteria that are employed in deciding whether to grant initial hardrock mineral leases. The BLM's letter also specified that as part of its consideration of TMM's lease renewal application, the BLM would ask the FS whether it consents to the leases' renewal. In response to the BLM's June 3, 2016 letter making that request of the FS, the agency began considering whether to consent to the renewal of TMM's leases based upon the agency's recognition that it has full discretion to consent or withhold consent to the renewal of TMM's two leases.

As noted above, CEQ and FS NEPA regulations make clear that an application must be accepted by the agency as a proposal before NEPA obligations are triggered. At this time, the FS will not consent to lease renewal based on the submitted application and therefore does not have a goal that it is actively pursuing to authorize such activities. For this reason, no NEPA analysis is required.

Acid Mine Drainage

Bedrock geochemistry in northeastern Minnesota plays a large role in the low buffering capacity of the lakes and streams in the region. Both the Minnesota Pollution Control Agency and the Environmental Protection Agency (EPA) have identified the surface waters of northeastern Minnesota as sensitive to changes in pH, acid deposition, and acid runoff. Unlike surface waters bounded by carbonate bedrock, or relatively thick carbonate rich glacial till where neutralization of acid runoff occurs through dissolution of limestone and exsolution of carbon dioxide from water, the waters of northeastern Minnesota are largely underlain by igneous and metamorphic bedrock with thin overlying soils and surficial deposits with little acid neutralization capacity.

A risk of mining development is acid mine drainage (AMD). AMD generally occurs when sulfide minerals present in ore bodies and rock overburden are exposed to air and water. The exposure to air (oxidation) and water (hydrolysis) creates sulfuric acid, which subsequently increases water pH and leaches harmful metals such as copper, zinc, lead, cadmium, iron and nickel. FS data indicates between 20,000 and 50,000 mines currently generate acid on lands managed by the agency. Negative impacts from these mines affect 8,000 to 16,000 km of

streams. While AMD can originate naturally from the ore body itself, its likelihood is dramatically increased by the generation of any mining product (stockpiles, overburden, and tailings) exposed to air and water, and can continue for decades.

Hardrock mines in sulfide bearing mineralization are known worldwide for producing AMD that requires continuous management and perpetual water treatment. Production of AMD is prevalent in all mining operation elements: construction, waste rock, tailings, and mine structures such as pits and underground workings. Acid drainage is one of the most significant potential environmental impacts at hardrock mine sites.

Water from a mine site could potentially enter streams and lakes through wastewater treatment plant discharges, uncollected runoff and leakage, concentrate spills, pipeline spills, truck accidents, spillway releases, tailings dam failures, water collection and treatment operation failures, and post-closure failures. All carry some risk to the environment. The magnitude and setting of a failure would drive the significance of the environmental risk and its potential impact.

The AMD increases lake and stream acidity, with potential risks to aquatic life including sport fisheries. A decline in water quality and aquatic species would have a negative effect on recreational visitors to the BWCAW. For example, the USGS estimated that in 2010 approximately 3,000 miles of Pennsylvania streams degraded by acid mine drainage led to approximately $67 million in lost sport fishing revenue each year.

Mining accidents are inherently unpredictable and can result from geotechnical failures or human error. Other circumstances that can affect the likelihood of mining failures or discharges include changing metals markets, financial crises, political events, and climate change. In addition, climatic trends affecting the frequency and magnitude of storm events and seasonal temperatures could lead to unpredicted environmental changes in vegetative composition, water quality and quantity, and wildlife habitat making the environment more susceptible to damage resulting from mining operations.

There is a direct flow of water from the lands subject to TMM's leases to the BWCAW. Specifically, the leases are located within the South Kawishiwi River Watershed and the Birch Lake Watershed which both are catchments of the Rainy River Watershed. Water flows from the lands embraced by the northern lease into the South Kawishiwi River which in turn flows into Birch Lake. Water from the lands embraced by the southern lease also flows into Birch Lake and Birch Lake empties into the main Kawishiwi River and then into the BWCAW.

TMM's leases overlay the Duluth Complex known for nickel-copper-platinum group element ore deposits. Due to the inherent sulfide chemistry of this ore type, mining facilities and byproducts can produce significant amounts of acid. Consistent with the footprint and infrastructure of similar mines, as well as publically available preliminary information from TMM about this specific site, TMM's potential project area could include underground mine(s) producing mainly copper and nickel, plus smaller amounts of other metals. TMM's project would require a concentrator facility (potentially 1-2 miles west of the mine(s)), a tailing storage facility (potentially 13 miles southwest of concentrator), and connecting utility corridors. The utility corridors would include roads, rail lines, power transmission lines, natural gas pipelines, tailing

and concentrate pipelines, and water pipelines. TMM's Pre-Feasibility Study also reveals that its project would involve four delineated ore bodies – Maturi, Maturi Southwest, Birch Lake, and Spruce Road – all of which are north and east of the Laurentian Divide and thus in the watershed draining towards BWCAW.

TMM's mining operations are expected to dispose of some waste rock and tailings underground. Other waste rock and tailings would be disposed of using surface facilities. All of the waste rock and tailings derived from the sulfide ore bodies on the leases would have a high likelihood of oxidizing and becoming sources of AMD. TMM's Technical Report on Pre-Feasibility Study shows that TMM's subsurface mining operations would occur north of the Divide and present BWCAW contamination risks. That is also true of TMM's ore processing concentrator facilities. But TMM's Technical Report on Pre-Feasibility Study shows that TMM's tailings disposal facilities potentially would be south of Laurentian Divide in the Superior Watershed, which drains away from the BWCAW.

There are limitations in understanding the full contours of the mineral operations that ultimately might occur on TMM's leases, including the location of important features such as its tailings disposal facilities. The pre-feasibility study is an economic feasibility analysis, not TMM's final proposal to mine the hardrock mineral deposits. But pursuant to the terms of both 16 U.S.C. § 508b and Section 402 of Reorganization Plan No. 3 of 1946, 60 Stat. 1097, 1099-1100, the FS's consent is required for hardrock mineral development and the purpose of any lease, whether it is one issued in the first instance or a subsequent renewal, is mineral development. Indeed, the M-Opinion explicitly recognizes that "the entire purpose" of a mineral lease is "for the lessee to develop the minerals...." Another M-Opinion reports that since the 1970s hardrock prospecting permits for NFS lands, which are the precursor for the issuance of Preference Right hardrock mineral leases including MNES-01352 and MNES-01353, have been issued subject to the condition that "no mineral development of any type is authorized hereby." M-36993, Options Regarding Applications for Hardrock Mineral Prospecting Permits on Acquired Lands Near A Unit Of The National Park System (1998 WL 35152797 (April 16, 1998)). *See also John A. Nejedly Contra Costa Youth Association*, 80 IBLA 14, 26 (1984) (concurring opinion) (development under a preference right lease "is a logically foreseen result of successful prospecting").

Another factor relevant to assessing the likelihood of AMD if TMM develops a mine on the lands subject to the two leases it seeks to renew is that the waters in the Rainy River watershed flow largely through bedrock fractures with limited carbonate rock surface area. Therefore the watershed has low capacity to buffer AMD.

In sum, given the hydrology and hydrogeology of this area, the likelihood of these ore bodies being exposed to water is very high, and given these particular ore bodies' composition, resulting drainage from the mine workings and mining wastes are likely to be highly acidic.

Lessons from Similar Copper Sulfide Mines

Contamination from mining operations can also occur instantaneously via catastrophic failure of the type that occurred in 2014 at the Mount Polley Mine in British Columbia, Canada and at other copper mines. A review of water quality impacts from 14 operating U.S. copper sulfide

mines found: 100% of the mines experienced pipeline spills or accidental releases; 13 of 14 mines' water collection and treatment systems failed to control contaminated mine seepage resulting in significant water quality impacts; tailings spills occurred at 9 operations; and a partial failure of tailing impoundments occurred at 4 mines. The inherent risks of mining hardrock mineral deposits on the lands leased to TMM set a high bar for potential mineral development within this watershed due to potentially severe consequences for the BWCAW resulting from such failures. Because of the hydrology and hydrogeology of this particular area, should contamination occur, it could cover a very broad region.

Recent reviews of similar mining proposals in Minnesota and Alaska highlight inherent risks of metal mining to natural resources, and provide examples of risks associated with long term effectiveness of planned containment strategies. In Minnesota, the Final Environmental Impact Statement for nearby NorthMet Mining Project and Land Exchange recognizes that no matter the depth of analysis and planned containment strategies there remain uncertainties associated with mine development, operation and long-term water and waste rock treatment.

Similarly, the EPA, in a Proposal Determination Pursuant to Section 404(c) of the Clean Water Act for the Pebble Mine in Alaska, warns that, "There is also real uncertainty as to whether severe accidents or failures, such as a complete wastewater treatment plant failure or a tailings dam failure, could be adequately prevented over a management horizon of centuries, or even in perpetuity, particularly in such a geographically remote area subject to climate extremes. If such events were to occur, they would have profound ecological ramifications." While the ramifications of these risks are possibly greater in the case of the Pebble Mine, due to its location, the BWCAW shares many similarities in terms of hydrogeology, extreme weather and remoteness.

Unique Attributes of Copper Sulfide Ore Mining in the BWCAW Region

Many operating copper mines in the United States are situated in the arid southwest or other drier areas of the Nation. Northern Minnesota has an established history of taconite mining - indeed, the region to the west of the lease sites is known as the "Iron Range." However, taconite is an iron-bearing oxide ore. Mining of the copper-nickel sulfide ore found on TMM's leases is untested in Northern Minnesota. This lack of experience with copper-nickel sulfide ore mines in environments with the complex hydrogeology of northern Minnesota complicates assessment of the consequences of mining operations on TMM's leases, which could occur if those leases are renewed.

Another variable in assessing the consequences of these operations is climate change. In Minnesota, mean annual temperatures are expected to continue rising and precipitation is expected to increase, along with the size and magnitude of weather events. An increase in precipitation and water supply in association with significant events could exacerbate the likelihood of AMD and water resource contamination. The projected changes in climate and associated impacts and vulnerabilities would have important implications for economically important timber species, forest dependent wildlife and plants, recreation, and long-range planning. The combined impacts of contaminants from mineral development and climate change could impact the ecosystem resilience of the BWCAW and the Superior National Forest outside of the wilderness.

The NorthMet Mining Project and Land Exchange, the first copper-nickel mine proposed in Minnesota, has similar concerns regarding AMD, climate change, and water quality. These concerns were addressed in NorthMet's final EIS through engineering, permitting, and monitoring requirements. Significantly, the NorthMet project is located in an area either previously disturbed and/or surrounded by brown-field taconite open pit mines and waste piles in the Laurentian Watershed, which drains away from the BWCAW. In contrast, TMM's leases are in close proximity to the BWCAW and within its high quality watershed resource of outstanding value. The inherent and legislated wilderness values and untrammeled qualities of the BWCAW contrast with the extensively disturbed surroundings of NorthMet's location. Additionally, if there is any potential for NorthMet's copper-nickel mining project to affect the BWCAW and MPA, this potential would be far less than that associated with any copper-nickel mining operations TMM might ultimately conduct.

If TMM ultimately conducts mining operations on lands subject to its two leases and they result in AMD, metal leaching, and water contamination, very few of the available containment and remediation strategies would be compatible with maintaining the BWCAW's quality and character. Available containment and remediation strategies such as sediment basins, water diversions, or construction and long-term operation of water treatment plants have the potential to deleteriously affect the BWCAW. Of particular concern, given the location of TMM's leases, is the effectiveness of available methods to counteract AMD in the case of seepage, spills, or facility failures. Water is the basic transport medium for contaminants. Consequently, all measures aimed at controlling AMD generation and migration involve controlling water flow. To reduce the generation and release of AMD, the infiltration of meteoric water (rain and snow) can be retarded through the use of sealing layers and the installation of under-drains, respectively. Diversion of contaminated water most commonly requires installation of ditches or sedimentation ponds. But even with the use of these measures successful long-term isolation of intercepted contaminated groundwater is, at best, very difficult to achieve.

Moreover, even if available remediation techniques to handle contaminated water, such as flushing, containment and evaporation, discharge through wetlands, neutralization and precipitation, desalination, water treatment plant construction and operation, utilization of ditches or sedimentation ponds, and installation of cut-off walls, trenches or wells, are effective, very few, if any, of them are compatible with maintaining the quality and character of BWCAW and MPA, as required by the Boundary Water Canoe Area Wilderness Act. Given the TMM's leases' proximity to the BWCAW's boundary (adjacent to in one case and less than 3 miles distant in the other) and the direct transport route of surface water from Birch Lake and the Kawishiwi River, it is reasonable to expect direct effects of any mining operations on those leases to the BWCAW and MPA.

Potential Impacts to Water, Fish, and Wildlife

As noted above, the potential for environmental harm is inherent to copper-nickel and other sulfide-bearing ore mining operations. This potential exists during all phases of mine development, mineral extraction and processing, and long-term mine closure and remediation. Expected environmental harm could encompass damage to both surface and ground water resources, including changes in water quantity, quality, and flow direction, contamination with acid and leached metals resulting from AMD and tailings disposal facility failures, and more. It

is also well established that this environmental damage can adversely affect fish populations and aquatic ecosystems directly and by indirect effects on food supplies and habitat. Recognizing this potential harm, the second edition Rainy-Lake of the Woods State of the Basin Report (2014) recommends scientifically examining the effect of new mining proposals on water quality in the Rainy River Watershed.

TMM's leaseholds lie within the Rainy River's Birch Lake Sub-Watershed (HUC 10) which the SNF has identified as a priority watershed per the FS's Watershed Condition Framework. The Framework is a comprehensive approach for: 1) evaluating the condition of watersheds, 2) strategically implementing integrated restoration, and 3) tracking and monitoring outcome based program accomplishments. According to the Watershed Restoration Action Plan for Birch Lake the watershed is currently functioning at risk, based on fair ratings for aquatic biotic condition, water quality condition, aquatic habitat condition, soil condition, and fire effects/fire regime condition. The Action Plan recognizes that further development in the watershed has the potential to move the watershed from its suboptimal level of functioning at risk to the worst level of impaired functioning.

As noted previously, the BWCAW and SNF are home to dozens of sensitive species. Three species, the Canada Lynx, gray wolf and northern long-eared bat, are listed as threatened. Crucially, the BWCAW and SNF are considered critical habitat for the threatened Canada Lynx, which requires spruce-fir boreal forest with dense understory. Canada Lynx cover large areas, traveling extensively throughout the year, meaning that development and habitat fragmentation can affect the viability of lynx populations.

The threatened northern long-eared bat lives in both Lake and St. Louis County, where TMM's leases are located. The northern long-eared bat spends its winter hibernating in caves. In summer it roosts in both live and dead trees, as well as caves. Northern long-eared bat populations are under significant stress from White-nose Syndrome, which has caused drastic declines in bat populations across the country. Increased impacts to their habitat could exacerbate population decline.

The gray wolf population in the western Great Lakes, including the BWCAW, was re-listed as threatened in 2014 by the Fish and Wildlife Service. Gray wolves also cover large areas to hunt, so wolf populations can be impacted by development and habitat fragmentation. Other animals benefit from wolves living in northern Minnesota as carcasses wolves leave behind feed many other animals.

Northern Minnesota is one of the few places in the continental U.S. where visitors can see moose. However, the state's iconic moose population continues to decline – decreasing by approximately 60 percent in the last decade, according to Minnesota's State Department of Natural Resources. Given this population decline, the U.S. Fish and Wildlife Service (FWS) initiated a status review for the U.S. population of northwestern moose (i.e., those in Michigan and Minnesota). The status review was initiated as a result of a positive 90-day finding on a petition to list moose under the Endangered Species Act. FWS determined information in the petition provided substantial scientific or commercial information indicating that species listing may be warranted.

Moose often gather around ponds, lake shores, bogs and streams where they feed on aquatic vegetation. They are under stress from climatic change, likely due to a greatly increased number of ticks brought about by warmer summers. Therefore they are ever more dependent on the extensive, high quality habitat available in the BWCAW. Additional development, such as mining activity and associated road building, in the vicinity of the BWCAW could lead to habitat fragmentation that may further stress the moose population. While contamination of BWCAW waters by acid and leached metals could lead to habitat degradation that would also add to the moose population's stress.

The potential impacts of mining activities also could affect other species dependent upon forested areas through habitat fragmentation, increased dispersal of invasive plant and animal species, and alterations to wildlife migration and residence patterns.

Social and Economic Considerations

The State of Minnesota has primary responsibility under the Clean Water Act of 1972 to protect the water quality of the BWCAW and identifies the wilderness area as an "outstanding resource value water" under Minnesota Rules (Minn. R. 7050.0180). That section also provides that "[n]o person may cause or allow a new or expanded discharge of any sewage, industrial waste, or other waste to waters within the Boundary Waters Canoe Area Wilderness."

On March 6, 2016, Minnesota Governor Mark Dayton sent, and publicly released, a letter to TMM stating that he had directed the State's Department of Natural Resources "not to authorize or enter into any new state access or lease agreements for mining operations on those state lands" near the BWCAW. The Governor stated he has grave concerns about the use of state surface lands for mining near the BWCAW:

"[M]y concern is for the inherent risks associated with any mining operation in close proximity to the BWCAW and … about the State of Minnesota's actively promoting advancement of such operations by permitting access to state lands."

"As you know the BWCAW is a crown jewel in Minnesota and a national treasure. It is the most visited wilderness in the eastern US, and a magnificently unique assemblage of forest and waterbodies, an extraordinary legacy of wilderness adventure, and the home to iconic species like moose and wolves. I have an obligation to ensure it is not diminished in any way. Its uniqueness and fragility require that we exercise special care when we evaluate significant land use changes in the area, and I am unwilling to take risks with that Minnesota environmental icon."

As a partner in managing and conserving natural resources within the State of Minnesota, the FS takes Governor Dayton's statements seriously. The FS shares many of the Governor's concerns. These shared concerns also support the decision to withhold consent to renewal of leases MNES-01352 and MNES-0153.

The FS was aware of negative public sentiment regarding other mineral related projects on nearby SNF lands and many people's concern about the possible renewal of leases MNES-01352 and MNES-01353. Consequently, on June 13, 2016 the FS announced it would provide a 30-day public input period commencing June 20, 2016 and including a listening session on July 13,

2016 to better understand public views about renewal of TMM's two leases. A second listening session on July 19, 2016 was subsequently announced.

Individuals and organizations expressed passionate views both in support of and opposition to renewing the leases during the input period and listening sessions. In addition, TMM submitted comments for the record during the public input period. Overall the FS received over 30,000 separate communications is response to the listening sessions. In total, this input provided FS decision makers the fullest possible understanding of public views and concerns regarding the proposed lease renewals.

Local sentiment is similarly mixed regarding the desirability of TMM developing a mine on the lands subject to its two leases. Northeastern Minnesota has a long history of mining, and much of the local economy along the Iron Range remains dependent on iron mining. Ely, Virginia, and other local communities, have a long-standing social identity associated with mining. During the two listening sessions, elected officials, union representatives, and miners expressed their concerns regarding the future of these communities, mining-associated tax revenues that support schools and local services, and high-paying jobs for future generations. These mining proponents often cited the potential economic benefits of mining, should TMM develop a mine on its leases. They also stated that young people and families are leaving the area due to a depressed local economy. Mining proponents also referred to the need for strategic metals for American industry and national defense, including their use in sustainable technologies such as wind turbines and hybrid cars.

Those who oppose TMM's development of a mine on the lands subject to its two leases emphasize the copper-nickel mining industry's history of causing serious environmental harm, the potential mine's proximity to the BWCAW, the interconnected hydrology of the leased lands and the BWCAW, and the probable negative impacts to water quality, quantity and aquatic ecosystems downstream from any mine TMM establishes. These mining opponents often stated that mining has created a boom-bust economy that only now has stabilized with the creation of sustainable recreation-based jobs reliant on an unspoiled environment. They also raised concerns about the probable negative impacts any TMM mine would have on the quality of individuals' future recreational experiences in the BWCAW, maintenance of the BWCAW's wilderness character, and preservation of the BWCAW for future generations.

In its Technical Report on Pre-Feasibility Study, TMM estimates the company's initial capital investment for mine construction will be $2.77 billion while over the projected 30-year life of the mine its total capital investment will be $5.41 billion. TMM also estimates the potential economic contributions of mining the copper-nickel deposits underlying its two leases could include the need for close to 12 million labor hours during the estimated three-year mine construction period and approximately 850 full-time jobs when the mine becomes operational.

Based on accepted multipliers of direct and indirect economic contribution, TMM's mining operations predicated upon its two leases might generate approximately 1,700-1,900 additional indirect jobs in the region's economy.

Conversely, across the country, counties with designated wilderness areas are associated with rapid population growth, greater employment, and enhanced personal income growth, relative to

counties lacking wilderness areas. This is attributable to the increasing mobility of service jobs, and many entrepreneurs' preference to locate their businesses in areas offering a high quality of life. Specifically, up to 150,000 visitors visit the BWCAW annually. Economic benefits generated by BWCAW-related recreation have been estimated at approximately $44.5 million annually. The wilderness recreation-based tourism and any derivative economic return is dependent upon preserving the BWCAW's natural quality and wilderness character.

With passage of the Boundary Waters Canoe Area Wilderness Act in 1978, the business model of industries and communities associated with the BWCAW shifted. Timber production was halted. Many resorts located within the wilderness were bought out by the federal government and others received financial assistance to shift to a wilderness based business model. Gateway communities such as Ely, Tofte and Grand Marais have also shifted to wilderness based economies. While the transition has been long and often difficult these communities are now highly dependent on revenue generated by the BWCAW for economic sustainability. Potential unforeseen impacts to natural resources and water quality within the BWCAW would likely result in substantial economic impacts to established local businesses and communities now dependent upon a wilderness based business model.

On April 15, 2015, Congresswoman Betty McCollum (D-MN) introduced the National Park and Wilderness Waters Protection Act (H.R. 1796). The Act would withdraw all federal lands in the Rainy River Watershed from the mining laws, the mineral leasing laws, and the laws governing the disposal of mineral materials, subject to valid existing rights. The Act also would impose additional restrictions on the issuance of any lease or permit for mineral related activities. In a February 2, 2016, letter to the Secretaries of Agriculture and the Interior and the Director of CEQ, Congresswoman McCollum urged them "to immediately take action to protect two of America's natural treasures – the BWCAW and Voyageurs National Park." Specifically, Congresswoman McCollum requested the denial of TMM's requested lease renewals and administrative withdrawal of the Rainy River watershed.

Former Vice President—and former Minnesota Senator—Walter Mondale also has advocated that the Department of the Interior deny the renewal of TMM's leases and withdraw all federal minerals in the BWCAW's watershed. On April 1, 2016, he wrote that "Arizona has its Grand Canyon, Wyoming its Yellowstone, California, its Yosemite. These wonders come to mind unbidden as images of a place when those states are named. The Boundary Waters is such an image for Minnesota." Vice President Mondale goes on to say:

"Vice President Hubert Humphrey and I were deeply committed to protection of the Boundary Waters and its precious waters. Although we were mindful of the need for jobs, we knew that it was important to protect the magnificence of the Boundary Waters. The Twin Metals mining proposal lacks this balance. That means that today I join Minnesota's Gov. Mark Dayton and urge the federal land management agencies to continue the work of nearly 100 years and to ensure that the Boundary Waters wilderness remains the place it is today."

Then in a July 1, 2016 letter characterizing the BWCWA as pristine and irreplaceable wilderness, Vice President Mondale warned that the kind of heavy-metal mining that TMM proposes:

"…is in a destructive class all its own. Enormous amounts of unusable waste rock containing sulfides are left behind on the surface. A byproduct of this kind of mining is sulfuric acid, which often finds its way into nearby waterways. Similar mines around the country have already poisoned lakes and thousands of miles of streams. The consequence of acid mine drainage polluting the pristine Boundary Waters would be catastrophic. It is a risk we simply can't take."

Conclusion

The FS understands the important economic and national security benefits provided by mineral extraction and supports mining as a legitimate activity on NFS lands. However, mining is not appropriate on all places within the NFS or on every acre of NFS lands. When evaluating whether to consent to issuance of an initial lease or the lease's renewal, the FS may consider the unique ecological and cultural attributes of all NFS lands that might be adversely affected by mineral development on the leasehold along with the social and economic consequences that could flow from both a decision to consent and to withhold consent. The FS also has an affirmative responsibility to protect and maintain the character and quality of the BWCAW and MPA for present and future generations. Sec. 2, Pub. L. 95-495, 92 Stat. 1649 (1978). Thus the agency may weigh the possible benefits of TMM's potential mineral development against the possible harm TMM's potential mineral development might do to the BWCAW's uniquely valuable landscape.

TMM's potential mineral development on its two leaseholds might contribute markedly to employment and economic growth in St. Louis County, Lake County, and nearby areas. Copper-nickel mining conducted by TMM also would furnish metals important to U.S. industries and modern technology. Deposits of copper are relatively abundant in the United States and many operating copper mines in the United States are situated in arid or drier areas of the Nation where their potential for environmental harm may be reduced. The United States Geological Survey reported that as of 2015 there was only one operating nickel mine in the United States but nonetheless nickel was in oversupply and three other U.S. mining projects that would supply nickel were in development.

The BWCAW contributes to the cultural and economic sustainability of communities within the State of Minnesota, the Nation and beyond and to the ecological sustainability of unique landscapes and rare species dependent upon those landscapes that are valued within the State of Minnesota, the Nation and beyond. The BWCAW is irreplaceable, but likely irreparable in the event of its significant degradation.

Based on information provided by TMM to date (e.g., its Technical Pre-Feasibility Report), existing science, and examination of similar proposals, there is no reason to doubt that the mining operations TMM hopes to eventually conduct could result in AMD and concomitant metal leaching both during and after mineral development given the sought after copper-nickel ore is sulfidic. This fact is very significant given TMM's two leases are adjacent or proximate to the BWCAW and within the same watershed as the wilderness. It might be possible for TMM to develop a mine which employs mitigation and containment strategies that reduce the mine's potential to cause AMD and leached metals that could harm the wilderness. However, at the very least it is equally possible that available water treatment technologies would be unable to prevent the spread of any AMD and leached metals in the watershed. Further, there appears to be even

less likelihood that any contamination of the BWCAW resulting from TMM's mining operations could later be remediated, especially not in a manner compatible with the BWCAW's wilderness character. Moreover, any degree of contamination of the BWCAW by AMD and leached metals has the potential to seriously degrade the wilderness area's character and quality. Thus, even if the probability that TMM's mining operations might generate and release of AMD and leached metals was very low, which the FS does not believe to be the case, the environmental harm to the BWCAW that could result from any contamination of the area with AMD and leached metals might be extreme. Failing to prevent such damage also is contrary to Congress' determination that it is necessary to "protect the special qualities of the [BWCAW] as a natural forest-lakeland wilderness ecosystem of major esthetic, cultural, scientific, recreational and educational value to the Nation." Sec. 1, Pub. L. 95-495, 92 Stat. 1649 (1978).

Balancing what are primarily economic benefits of the mining operations that TMM hopes to conduct in connection with the renewal of its two leases against even a remote possibility of damaging the BWCAW—a unique ecosystem that Minnesota elected officials have fittingly called irreplaceable and a national treasure—makes it clear that it is incumbent upon the FS to withhold consent to the renewal of TMM's leases MNES-01352 and MNES-01353.

This decision withholding consent to the renewal of TMM's leases is subject to discretionary review by the Under Secretary for Natural Resources and Environment pursuant to 36 C.F.R. § 214.7(b), but not appeal pursuant to 36 C.F.R. part 214 (36 C.F.R. § 214.7(a)(2)). No additional information may be considered by the Under Secretary for Natural Resources and Environment in connection with the discretionary review of this decision (36 C.F.R. § 214.19(b) & (e)).

Sincerely,

Thomas L. Tidwell

THOMAS L. TIDWELL
Chief

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May 1, 2019

To: Honorable Secretary of Agriculture Sonny Perdue
Honorable Secretary of Interior David Bernhard

Cc: Undersecretary of Agriculture Jim Hubbard
Chief of Staff to the Undersecretary Chris Marklund
U.S.F.S Chief Vicki Christianson
U.S.F.S. Deputy Chief Chris French
U.S.D.O.I. Assistant Deputy Secretary James Cason
U.S.D.O.I. Assistant Secretary Joseph Balash
BLM Deputy Director Brian Steed
Gareth Rees

Secretaries Perdue and Bernhard:

We, the undersigned former U.S. Forest Service employees, write to express our grave concerns related to proposed sulfide-ore copper mining in the Rainy River Drainage Basin, which includes the watershed of the Boundary Waters Area Canoe Wilderness (BWCAW). Collectively we have nearly 1,000 years of experience in such fields as wildlife biology, hydrology, recreation, NEPA, wilderness management and natural resource management. In addition, each of us has knowledge and experience directly related to the management of the BWCAW and the vast array of social, cultural, ecological, and economic benefits it provides.

Acid Mine Drainage (AMD) from hardrock mines such as the one proposed by Twin Metals MN and Chilean conglomerate, Antofagasta, is a worldwide problem. AMD occurs as sulfide minerals in the ore bodies and rock over burden are exposed to air and water creating sulfuric acid which subsequently increases water pH and leaches harmful metals such as copper, zinc, lead, cadmium, iron and nickel. The highly complex and interconnected surface and subsurface waters of the Rainy River Watershed provide an immediate and irremediable transport mechanism for toxic material to move through the BWCAW, Voyageurs National Park, and Quetico Provincial Park.

The following actions are imperative:

- Recognition of U.S. Forest Service statutory and regulatory consent authority on all lease applications within the Superior National Forest.
    - *The Forest Service's consent to lease renewal and lease applications is mandated under 16 U.S.C. 508b, Section 402 of Reorganization Plan No. 3 of 1946, and 43 C.F.R. 3507.19(c) and cannot be diminished by the Dept. of Interior.*

- Reinstatement and completion of the study of a proposed 20-year mineral withdrawal within the Rainy River Watershed.
    - *Until the question of whether mining is appropriate and feasible within this watershed is answered, all other actions are premature.*

- Suspension of all authorizations related to new federal mining lease applications in the Rainy River Watershed pending completion of the reinstated mineral withdrawal study.

- *In the alternative, preparation of an Environmental Impact Statement by the Forest Service that considers the full suite of reasonably foreseeable significant impacts associated with copper mining in the watershed.*

- Suspension of leases MNES-01352 and 01353 pending final adjudication of litigation regarding lease reinstatement. This includes withdrawal of the Environmental Assessment (EA) prepared by the Bureau of Land Management, Northeastern States District Office: "Addition of Terms and Conditions, for Renewal of Hardrock Leases, MNES 001352 and MNES 001353."
    - *Moving forward with renewal and development of the leases represents a significant waste of resources given the probability of success in litigation challenging lease reinstatement. Moreover, the lease renewal EA is wholly inadequate, does not provide a serious or factual examination of the effects of lease renewal and subsequent connected actions, and runs contrary to the robust, science-based 2016 decision by former Forest Service Chief Tom Tidwell to deny consent to renewal.*

According to the Copper Development Association, Inc. (2019): "known world-wide copper resources are estimated at nearly 5.8 trillion pounds of which only about 0.7 trillion pounds (12%) have been mined throughout history…. And nearly all of that is still in circulation because copper's recycling rate is higher than that of any other engineering metal." The U.S. Geological Survey estimates the percentage of known copper mined throughout history at 25%. While our concerns are based on science and local expertise, simple common sense tells us that with upwards of 75% of all known copper deposits still available for development, there are surely more ecologically-suited places to meet the demand for copper than directly upstream from millions of acres of water-rich wilderness.

The history of copper mining clearly demonstrates that the vast majority of copper mines fail. They may fail catastrophically, or they may leak contaminants over time leading to inevitable environmental damage or collapse. But there is no denying that at some point in the construction, operation or the extremely long-term reclamation phase of these mines, there is a high probability of failure. It is indisputably a high-risk business and there is no mine plan or design feature that eliminates the risk.

The U.S. Forest Service has extensive experience with development of sulfide producing minerals on National Forest System lands. Even in the most arid environments, there are significant risks to this type of mining requiring continuous management and perpetual water treatment. Within the Rainy River Watershed there is simply no way to contain contamination without sacrificing the wilderness and the long-term ecologic and economic sustainability that it supports. Contrary to the opinion of industry spokesmen and politicians, including Secretary of Agriculture Sonny Perdue, who baselessly assert that we "can have it all"- irrefutable scientific studies and all of our experience tell us that in this extremely valuable, water rich, and highly interconnected place you simply cannot have both copper mining and healthy forests, water, and communities.

The collective 988 years of experience, expertise, and dedicated public service represented by the individuals below should not, simply cannot, be ignored. We encourage you to view us as a valuable resource that can be relied on to provide fair, accurate, and science-based information. We urge you to support the actions listed above as first steps toward supportable decision making related to proposed copper mining in the Rainy River Watershed.

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Wildlife Biologist, Natural Resource Manager

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Potential Sulfide-Ore Copper Mining on Superior National Forest Lands in the Boundary Waters Watershed: Timeline of Key Benchmarks & Potential Next Steps

1873	Public domain lands in Minnesota withdrawn from General Mining Law of 1872
1909	Superior National Forest established
1909	Boundary Waters Treaty signed by Canada and the United States, requiring that neither country pollute boundary waters or waters that flow across the boundary
1946	Congress authorizes mineral leasing on acquired national forest lands in Minnesota where leasing will not interfere with primary purposes for which the land was acquired
1950	Contemplating granite, gravel, and iron ore mining that would not interfere with recreational uses, Congress authorizes mineral leasing on public domain national forest lands in Minnesota upon Forest Service consent
1964	Boundary Waters Canoe Area Wilderness designated by the Wilderness Act
1966	BLM issues to predecessor of Twin Metals Minnesota two federal preference right mineral leases (MNES 1352 and MNES 1353) covering nearly 5,000 acres of the Superior National Forest adjacent to the Wilderness for a primary term of 20 years
1978	Boundary Waters Wilderness Act bans mining within the Wilderness and establishes a 220,000-acre Mining Protection Zone along entry corridors
1989 & 2004	1352 and 1353 renewed for 10 year periods
Oct. 2012	Twin Metals applies for a third 10-year renewal of 1352 and 1353
May 2012	BLM issues 28 prospecting permits covering over 38,000 acres of the Superior National Forest in the Boundary Waters watershed
Mar. 8, 2016	Solicitor of the Department of the Interior Hilary Tompkins issues a legal opinion finding that BLM has discretion to grant or deny Twin Metals' lease renewal application
Dec. 14, 2016	Following a 30-day public comment period and two public meetings, Forest Service issues decision withholding its consent to renew 1352 and 1353
Dec. 15, 2016	BLM denies renewal of 1352 and 1353, and the leases expire
Jan. 13, 2017	Forest Service files an application to withdraw from mineral leasing approximately 234,000 acres of Superior National Forest lands in the Boundary Waters watershed, initiating a 2-year segregation, and issues a notice of intent to prepare an environmental impact statement
Mar.-Aug. 2017	Forest Service holds three public meetings and receives more than 125,000 public comments on the proposed withdrawal, with approximately 98% of the over 81,000 unique comments and 94% of the over 44,000 form comments favoring withdrawal
Dec. 22, 2017	Acting Principal Deputy Solicitor of the Department of the Interior Daniel Jorjani issues a legal opinion withdrawing and replacing the Tompkins opinion and finding that BLM lacked discretion to deny Twin Metals' lease renewal application

Jan. 26, 2018 Forest Service downgrades withdrawal study from an environmental impact statement to an environmental assessment and initiates a second public comment period

Feb. 28, 2018 Forest Service receives an additional nearly 56,000 comments in favor of withdrawal; altogether approximately 98% of the over 180,000 comments received favored withdrawal

May 2, 2018 BLM rescinds its December 2016 denial of the renewal of 1352 and 1353 and reinstates the expired leases and Twin Metals' renewal application

June 2018 Three lawsuits filed in federal district court in DC challenging the reinstatement decision

Sept. 6, 2018 Following announcements by President Trump and Vice President Pence at rallies in Duluth, MN, Secretary of Agriculture Sonny Perdue announces in a press release that the Forest Service is cancelling its application for withdrawal, and the public process and development of an environmental assessment are terminated

Dec. 20, 2018 BLM announces its intent to renew 1352 and 1353 and releases an environmental assessment on the proposed addition of terms and conditions to the leases for a 38-day public comment period that spans the 35-day partial government shutdown

May 15, 2019 BLM renews 1352 and 1353 and posts updated list of 39 pending preference right lease and prospecting permit applications

June 20, 2019 The Wilderness Society sues the Trump Administration for its failure to respond to Freedom of Information Act requests for the cancelled withdrawal study documents

Nov. 22, 2019 State of MN announces it will not participate in federal environmental review of forthcoming mine plan of operations and will instead conduct its own process

Dec. 17, 2019 A provision in the House appropriations bill for 2020 that would have compelled the Forest Service to complete the cancelled withdrawal study was removed from the final spending bill at the last minute following White House interference

Dec. 18, 2019 Twin Metals submits its mine plan of operations to BLM and scoping environmental assessment worksheet to the MN Department of Natural Resources

Jan. 15, 2020 Rep. McCollum introduces Boundary Waters Wilderness Protection and Pollution Prevention Act to permanently withdraw the watershed from new mineral leases and prospecting permits

<u>Potential Next Steps</u>

- Additional Forest Service and/or BLM authorizations for exploration activities on 1352 and 1353
- Federal and State environmental review processes of mine plan of operations and associated permitting decisions
- BLM issuance of 1-3 new preference right leases; Forest Service consent required
- BLM issuance of new prospecting permits or extension of existing prospecting permits; Forest Service consent required