

**Written Statement of Steve Piragis
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**Hearing on HR 2794
The Boundary Waters Wilderness Protection and Pollution Prevention Act**

Before the Subcommittee on Energy and Mineral Resources

U.S. House of Representatives Natural Resources Committee

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Chairman Lowenthal, Ranking Member Stauber, and Members of the Subcommittee:

Personal Background

My name is Steve Piragis. I live and work at the edge of the Boundary Waters Canoe Area Wilderness in Northern Minnesota. My wife Nancy and I founded Piragis Northwoods Company in Ely, Minnesota in 1979, a few years after we moved to Ely as graduate students employed by the EPA to study pollution impacts from an inadequate treatment plant. We realized soon after we arrived in Ely that we would make our home there—our love for the Boundary Waters began at first sight.

Along with our daughter Elli, we continue to own and operate our wilderness-oriented company. Our business is sustainable and ever-increasing. Piragis Northwoods has grown every year since we founded it 43 years ago. Annually, we mail 500,000 catalogs. We have 20 full-time year-round employees; our staff expands to 50 during the spring-summer-fall canoeing season. Summer jobs at Piragis Northwoods have helped many young people pay for college. Every year we outfit over 6,000 people for canoe trips in the Boundary Waters and Quetico Park. Quetico lies just across the border in Ontario—adjacent to and downstream from the Boundary Waters. People from every state and many foreign countries come to canoe country year-round.

Introduction

I respectfully present this statement in support of HR2794, the Boundary Waters Wilderness Protection and Pollution Prevention Act. By far the major risk to our business and our community is the threat of a sulfide-ore copper mine and its infrastructure being located in the watershed of the Boundary Waters. HR2794 would prohibit this destructive, polluting industry from operating on federal lands in our watershed. In October 2021, the Biden administration took an excellent first step toward protecting the Boundary Waters from the massive harm that would be caused by such sulfide-ore copper mining. On October 20, the Departments of Agriculture and Interior announced that the U.S. Forest Service had filed an application under the Federal Land Policy and Management Act for a 20-year mineral withdrawal of 225,378 acres

of Superior National Forest Lands in the watershed of the Boundary Waters. The Forest Service application stated this, among other things:

The Federal lands associated with this withdrawal application are located within the Vermillion and Rainy Headwaters sub-watersheds of the Rainy River watershed in the Superior National Forest and are adjacent to the [Boundary Waters] and the MPA [a Mining Protection Area established adjacent to some portions of the Boundary Waters by the Boundary Waters Canoe Area Wilderness Act of 1978, PL95-495]. The Rainy River watershed in Cook, Lake, and Saint Louis Counties in Minnesota supports outdoor recreation, wilderness, and biota critical to the socioeconomic conditions of the area. The BWCAW is a complex and interconnected ecosystem and offers recreational opportunities and other uses such that it is considered an irreplaceable national treasure. It provides opportunities for true solitude, outstanding primitive recreation in an unconfined and undeveloped natural setting, and a connection with untrammeled nature. Water, especially water quality, is a focal point for this wilderness. Approximately 1175 lakes varying in size from 10 acres to 10,000 acres and several hundred miles of streams comprise about 190,000 acres (20%) of the BWCAW surface area and provide for the opportunity for long distance travel by watercraft. This type of experience is rare within the continental United States and the BWCAW is the only large lake-land wilderness in the National Wilderness Preservation System. Potential impacts from mining could alter water quality and thus degrade key components of the wilderness ecosystem such as habitat for wildlife (lynx, moose, loons), fish (walleye, laketrout, and other game fish), and wild rice, and have negative impacts on the recreation economy and native culture and food systems.¹

The statutory environmental analysis to inform the decision of the Secretary of the Interior as to whether to grant the application for withdrawal is currently underway.

The Boundary Waters Canoe Area Wilderness

The Boundary Waters is a beloved place. It is the most-visited national Wilderness Area in the United States. Containing 1.1 million acres of lakes, streams, wetlands, and woods, it is the largest Wilderness Area east of the Rockies and north of the Everglades, and it is relatively easy to reach by people living all through the central part of the country. It is within reasonable driving distance of many major cities in the Midwest - St. Louis, Chicago, Detroit, Milwaukee, Des Moines, Kansas City, Minneapolis-St. Paul, and more. While Midwesterners especially prize the Boundary Waters, I am constantly amazed by how far people travel to experience our canoe-country Wilderness. Every year, Piragis Northwoods and other Boundary Waters outfitters supply and outfit tens of thousands of wilderness travelers from every state, the District of Columbia, and many foreign countries.

People come to the Boundary Waters because it is special and unique. This great swath of public land, owned by the people of the United States, is unequalled in accessibility and value

¹ The application is attached to this statement as Exhibit A.

for people of all backgrounds and abilities who desire a wilderness experience. Anyone of just about any means can venture into the Boundary Waters and enjoy a world-class outdoor experience. Children, the elderly, the disabled, and people of limited economic means are all able to have a Boundary Waters experience. You don't have to be rich and you don't have to be in super great shape—you just need to be curious and adventurous.

The Boundary Waters is a water-intensive ecosystem characterized by a massively interconnected network of lakes, rivers, streams, and wetlands set within a boreal forest. It stretches for over 150 miles along the Minnesota-Ontario border, and is relatively long and narrow in shape. That allows for myriad route options from 72 designated entry points that range from simple, relaxing stays to ambitious, rugged routes that cover long stretches of this spectacular Wilderness. From atop a towering promontory like Thunder Point or Warrior Hill one sees a vast shared land— public space—to be protected and preserved for everyone.

The Boundary Waters holds the enduring spirit of a time immemorial. Traveling by canoe and camping on remote spits of glaciated rock, we learn to appreciate and respect the lives of those who were here before us. We share a crackling campfire, a star-spangled night sky, and a connection with the ages. The silence is broken only by the ethereal sounds of the wind whispering through pines, the waves gently lapping the shoreline, a loon's call, or the howl of a wolf.

What else brings people to the Boundary Waters? For one thing, world-class freshwater fishing in waters teeming with walleye, bass, northern pike, lake trout, and panfish. But, more important, in the Boundary Waters people can find their best selves. Overcoming physical and psychological challenges, we discover previously unknown courage. We find peace and healing from illness and trauma. We check out of a frenetic social media world. We find especially deep connections with those closest to us. And, on the trail we learn values like teamwork, persistence, and grit. This all makes us better friends, families, and citizens.

The Boundary Waters is our country's greatest lakeland Wilderness. For more than 100 years, national leaders have recognized the vital importance of protecting the Boundary Waters. We are all the beneficiaries of federal measures taken to prevent road development, hydroelectric dams, the drone of float planes and motorboats, and logging and mining within the Wilderness boundaries.

The Sulfide-Ore Mining Threat to the Boundary Waters

The Boundary Waters is a global treasure, too valuable and too vulnerable to permit sulfide-ore copper mining on public lands upstream of the Wilderness.

After the EPA project that I was working on ended and before we founded our business in 1979, I taught geology at Vermilion Community College in Ely. I learned a lot teaching local geology, and I still study it. I was also employed by the State of Minnesota to work on the Minnesota Regional Copper-Nickel Study that was completed in 1979.

Nearly 3 billion years of history is written in the rocks of the Canadian Shield, which underlies the Boundary Waters region. Over the eons, mountain ranges grew and then eroded away. Volcanoes and intrusions and hot ground water under tremendous pressure left behind the ledgerrock, cliffs, and outcroppings visible today throughout the region. The geology is complicated and intriguing. The large, very low-grade deposit of sulfide-bearing ore known as the Duluth Complex, which has attracted the interest of giant multinational mining companies, is part of this geology.

The mechanism of water pollution caused by sulfide-ore mining is not complicated. The science is actually quite simple. Oxidation of sulfide minerals—which happens when mine pit and tunnel faces, waste rock, and tailings are exposed to air and moisture—always results in the generation of sulfuric acid and the leaching of heavy metals, like mercury, lead, and nickel. This acid mine drainage is toxic in aquatic ecosystems. The wetter the climate, the worse the problem. It's difficult to imagine a worse place to allow this kind of mining than Northeastern Minnesota. Ely gets 30 inches of precipitation a year. The three-million-acre Superior National Forest, in which the area covered by HR2794 is located, contains 20% of all the freshwater in the entire 193-million-acre National Forest System. Even in desert environments sulfide-ore mining presents a water-pollution problem, but in a water-rich environment it's a disaster. Thousands of miles of streams in our western states have been polluted by copper mines and other hardrock mines. The Boundary Waters region, deplete of any limestone to buffer acid, is particularly vulnerable to acid drainage and heavy-metals leaching from a sulfide-ore mine. I have no doubt that any sulfide-ore mining permitted in the watershed of the Boundary Waters would do massive damage to the aquatic ecosystem—damage that would be impossible to remedy. Sulfide-ore copper mining on the very edge of the Wilderness puts the Boundary Waters at dire risk and must not be allowed. The Boundary Waters watershed is absolutely the worst place for sulfide-ore mining, which the EPA has called America's most toxic industry.

The Sulfide-Ore Mining Threat to the Economy of the Boundary Waters Region

Permitting sulfide-ore mining to occur in the Boundary Waters watershed would strike a serious blow to our economy in the Ely area and the Boundary Waters region. A peer-reviewed economic analysis of copper mining in the Boundary Waters watershed that was published by Dr. James Stock and Jacob Bradt of Harvard University in 2020 shows that copper mining would hurt us. An initial mining boom does not last. After a few years of possible economic gain, things turn sour as tourism starts to rot, residents leave, and new ones don't show up:

“Over time, however, the economic benefits of mining tend to be outweighed by the negative impact of mining on the recreational industry and on in-migration, leading to a boom-bust cycle. The preponderance of our scenarios indicates negative net present values of income resulting from the mining project. The primary drivers of the longer-run decline in incomes are increasing productivity in mining (estimated using historical data), reduced amenity-based in-migration, and reduced recreational demand. This boom-bust finding is consistent with recent papers on boom-bust cycles in extractive resource development.”

“The scope of this study² - incomes and employment – is intentionally narrow, and we have omitted multiple factors which are likely important. These omitted factors include: effect on real estate values in the region; proprietors’ income and profits; the value of the BWCAW and Superior National Forest as a regional attractor of talent in the Duluth area and elsewhere; and the employment and income driven by the BWCAW and Superior National Forest elsewhere in the state. We also do not consider non-market benefits such as non-market ecosystem services and wilderness existence values.”

The Stock/Harvard study projected 72 different scenarios which in turn generate 72 different time paths for income and employment over 20 years. The analysis shows that mining would likely have a negative effect on the regional economy in both employment and income due to the negative impact of mining on the recreational industry and on in-migration. The findings highlight the importance of considering the long-term effects of resource extraction in natural amenity rich areas. Here the preponderance of the scenarios (89%) indicates fewer jobs and less income resulting from a mining project, meaning that an economy based on copper mining would significantly underperform the existing growing, sustainable economy.

The conclusion: more jobs and more income in the region are generated by protecting public lands near the Boundary Waters than by sulfide-ore copper mining.

An earlier report by Key Log Economics³ concluded that sulfide-ore copper mining would result in an annual loss of \$288 million in visitor spending that would otherwise support 4,490 local jobs, \$76 million in residents’ income, \$31 million in state and local taxes, and \$181 million in proprietor's income and business-to-business transactions. The suppression or reversal of the amenity-based economic growth in northeastern Minnesota as a result of sulfide-ore copper mining in the Boundary Waters watershed would result in the long-term loss of an additional 5,000+ to 22,000+ jobs, and between \$402 million and \$1.6 billion in annual income. A one-time drop of \$509 million in property values would result in ongoing annual reductions in local property tax revenue throughout the three-county northeastern Minnesota region.

People do not come to Ely hoping to see an industrial site of thousands of acres: mountains of waste rock, tailings piles, a processing plant, paste plants, pipelines, power lines, roads, and railroads. The dust, the lights, the noise, and the thousands of acres of destroyed landscape that would be inherent in sulfide-ore mining in the Boundary Waters watershed are not what attract the outdoor recreationists, second-home owners, and new permanent residents who drive the prosperity of our area.

People come to the Boundary Waters region for the peace and quiet, for the beauty of the forests and lakes and wildlife. Many come on vacation to experience the Boundary Waters and

² The study refers a 20-year period because the study was prepared having in mind specifically a proposed Federal Land Policy Management Act mineral withdrawal covering the same area covered by HR2794.

³ This study was prepared with respect to the proposed mineral withdrawal referred to in footnote 2, above.

the rest of the Superior National Forest, and they return to live and build businesses and retire because of the pace of life and the spectacular outdoor recreation opportunities. Our wilderness-edge communities - Ely, Lutsen, Tofte, and Grand Marais - are the envy of most rural areas in Minnesota. Entrepreneurs, young families, summer residents, and retirees are moving north. They come to open small businesses or to work from home in a beautiful place with a view of a lake or the forest. Our contractors and building trades workers have been fully-occupied building homes for years and there is no end in sight. The conclusion of the Harvard economic analysis is entirely consistent with common-sense and with lived experience in mining regions across the country. Permitting a sulfide-ore copper mine near the Boundary Waters would kill the goose that keeps laying golden eggs. Boom-and-bust and toxic pollution define sulfide-ore mining. A healthy natural landscape, outdoor recreation opportunities, and wilderness define sustainable communities.

The Boundary Waters economy supports a diverse and growing business environment and immigration of new residents seeking to live near the Boundary Waters and in the Superior National Forest region. Sulfide-ore copper mining in the Boundary Waters watershed would harm our local economy and cause the loss of businesses, jobs, residents, and visitors.

I, like many others, chose Ely as my home because of the Boundary Waters and because it is a dynamic town. The Ely area enjoys businesses and amenities that are the envy of other small towns. The Ely Chamber of Commerce markets Ely as “the last great pure experience.” Approximately 250 businesses belong to the Ely Chamber, which attests to the strength and diversity of our small business economy.

The Ely area is home to dozens of outfitters, guides, restaurants, retailers, and lodging establishments catering to visitors. We have a full hospital and medical clinic, a community college, a large grocery store, two impressive hardware stores, two world-renowned wildlife research centers, a University of Minnesota forest ecology research center, several small-batch manufacturing facilities, an independent school district, a major Forest Service administrative complex, a recently-restored historic theater, museums, the Ely Folk School, a vibrant community education program, a thriving arts community, one of only four Boy Scout High Adventure Bases in the U.S., the Girl Scout Canoe Base, three very popular YMCA family and youth camps, and one of the nation’s premier Outward Bound Schools. This is a community thriving at the edge of the Boundary Waters.

And there is more in the planning stage or underway: a school district facility expansion and a new multi-million-dollar trailhead welcoming visitors to town.

One of these organizations, Voyageur Outward Bound School (VOBS), is located at ground zero of the Twin Metals mine that was proposed by Chilean conglomerate Antofagasta. VOBS - like other wilderness-based businesses in the area - is in a setting that is now dominated by the natural world, with clean air, clean water, quietude, and birds and other wildlife. Yet it is threatened by one of the most destructive activities man can design - a proposed large sulfide-ore mining operation with surface infrastructure (including a processing facility and mammoth

waste storage on the very shores of the South Kawishiwi River and Birch Lake, which flow into the Boundary Waters) that would devastate thousands of acres.

VOBS is an international educational nonprofit that has been operating at its base camp, called Homeplace, on the shores of the South Kawishiwi River since 1964. From Homeplace, more than 30,000 men, women, and children have learned and grown through challenge and discovery, both from activities at Homeplace and through wilderness trips in the Boundary Waters. VOBS runs more than 90 expeditions each year. It employs approximately 25 people year-round, all of whom live in the Ely area, and an additional 75 people in the summer. VOBS staff members are active in the community, and many are long-time residents, primarily because of proximity to the Boundary Waters. VOBS brings more than 600 people a year into the Boundary Waters from all 50 states and from countries around the world. Many of these people make repeat visits to the area on their own. Homeplace is also an important training center for all of Outward Bound USA. The loss of Homeplace and VOBS would have significant, adverse impacts on Outward Bound nationally as well as in the Ely area community.

Among the most powerful courses at VOBS are those serving military veterans, including the Forgotten Battalion of Afghanistan veterans who have endured trauma and high suicide rates since their return to the United States. These veterans were specifically directed to the Boundary Waters because of the Boundary Waters' unique, calming environment.

VOBS is a longstanding Ely institution. It is hard to imagine Ely without it. But if sulfide-ore copper mining were allowed at the proposed Twin Metals site, VOBS would be unable to continue to operate. It would be forced to close and leave the area.

If sulfide-ore copper mining were permitted in the watershed of the Boundary Waters, it would trigger depopulation of our area. The University of Minnesota-Morris surveyed property owners in the four townships near the proposed Twin Metals mine. Twenty-three percent of respondents said they would consider moving away if sulfide-ore copper mining happened. These are my neighbors. This statistic reflects the deep concern over this incompatible, destructive industry. We do not want sulfide-ore copper mining in the watershed of the Boundary Waters. It is simply not worth the risk.

Studies by Headwaters Economics, a non-partisan land management research organization, show that Wilderness and public lands contribute to booming populations, employment, and personal income in local communities, and attract investment and businesses to rural areas.

Job gains asserted by supporters of copper mining are undoubtedly overstated significantly. Modern developments in mining, including robotics and the replacement of workers with autonomous mining equipment, mean that any mine developed in the future will have far fewer human workers than would be required to mine ten years ago or today.

Metals From the Area Covered By HR2794 Are Insignificant Relative to U.S. Demand and Irrelevant With Respect to National Security and the Green Economy

Copper. Copper is abundant. United States and world resources are plentiful and growing. The United States is among the top copper producers in the world. The U.S. Geological Survey Materials Flow Analysis section assesses a low disruption potential for copper in the U.S. economy. The United States has only three active copper smelters. They are fully integrated, meaning the companies that own them also own their own copper mines that supply the smelters with enough concentrates to keep them operating at full capacity. Any new mine in the watershed of the Boundary Waters would send its copper (and nickel) concentrates out of the United States for processing. For example, the plan for a Twin Metals mine (which has been proposed for the area covered by HR2794), calls for transporting the metal concentrates to a port facility. Antofagasta, the owner of Twin Metals, sends its copper-nickel concentrates from its mines in South America to China for smelting and refining.

Nickel. The United States does not have a significant amount of nickel. Its close trading partner, Canada, is a leading supplier of nickel (and other critical minerals) to the United States. Canada has more than 28 times the amount of nickel reserves as the United States and on average its deposits are of double or higher grade than those in the United States. Canada is also eager to supply more metals to the United States. Other major trading partners for nickel include the countries of Norway, Finland, and Australia, all of which are on the Department of Defense's Security of Supply countries (USGS OFR-1127, p. 5). As discussed above, any nickel concentrate from mining in the watershed of the Boundary Waters would be shipped overseas, likely to China, for processing.

Cobalt. Any mine in the area covered by HR2794 would produce a very small quantity of cobalt. Cobalt would be a by-product from smelting and refining nickel concentrates, which would be done off-shore, most likely in China. Cobalt grades in the deposits targeted by Twin Metals, for example, are among the lowest of all deposits in the world. Production, even if not sent abroad, would be insufficient to dent U.S. demand. At most, a Twin Metals mine might meet 1.5% of the U.S. annual demand for cobalt (based on 2019 annual consumption). As U.S. consumption rises, this percentage would decline. By contrast, the United States currently imports 57% of its cobalt needs from Canada, Norway, Japan, and Finland (USGS OFR-1127, p. 29), all close U.S. allies and trading partners. Australia alone has 83 deposits containing cobalt, 55 of which are of double or higher grade than the Duluth Complex deposits in the Boundary Waters watershed. For example, one of those deposits alone, if mined, has enough cobalt to supply the United States at current demand for more than 270 years. Another Australian deposit, the currently-operating Murrin-Murrin mine, has grades five times better than the best a Twin Metals mine could offer and contains 198,000 tons of cobalt, more than 42 times what a Twin Metals mine could produce. With a Twin Metals mine, the United States would sacrifice the Boundary Waters and still need to import more than 98% of its cobalt.

The United States can and does secure its supply chain of critical minerals by importing them from a reliable and diverse set of trading partners, many of them long-time allies:

The United States imports minerals from countries such as Australia, Canada, Norway, Finland, Mexico, Belgium, India, Germany, South Africa, the United Kingdom, Austria, Estonia, Japan, South Korea, Malaysia, and Rwanda.

The United States could dramatically reduce demand for minerals by investing in a circular economy – including recycling, reuse, manufacturing improvements, and substitution—that would create jobs domestically while not putting places like the Boundary Waters at risk of toxic mining:

Many minerals identified as critical are discarded as waste material and are not recovered during smelting and/or refining. Stronger laws, regulations, and standards could compel the recovery of minerals from existing mines, waste, and tailing piles, thus adding to the supply chain. It is estimated, for example, that there is as much cobalt among e-waste landfills in the eastern United States as in all of the Democratic Republic of Congo.

Passing HR2794 will ensure that the Boundary Waters, the heart and soul of northeastern Minnesota, will not be sacrificed for the benefit of billionaire mining families and Chinese metals markets.

Public Opinion

Recently, Impact Research conducted a statewide poll of 600 Minnesota voters. The survey was conducted March 21-28, 2022. Impact Research, formerly ALG, is well-respected in Minnesota, where it has done environmental and political polling for many cycles.

Among the key findings from the March polling:

- **The Boundary Waters remains a uniquely popular landmark among Minnesota voters.** Overall, 86% are favorable to the BWCA, and 11% of Minnesotans say they visit every year.
- **Minnesotans are not anti-mining – but they are deeply concerned about sulfide-ore copper mining that impacts the Boundary Waters.** They are favorable to iron ore/taconite mining (61% support vs. 22% oppose) but very concerned about sulfide-ore copper mining proposals near the Boundary Waters (60% oppose vs. 31% support). There is tremendous power in this special place, and it's not at all incongruent to be a politician who is generally supportive of mining, but not here.
- **Minnesotans further reject sulfide-ore copper mining near the Boundary Waters if the science says it cannot be done without risk.** Of the 31% who might initially support sulfide-ore copper mining projects near the Boundary Waters, nearly 2-in-3 of them withdraw their support if an environmental analysis concludes it is risky to mine in the Boundary Waters watershed.
- **There is support for governmental action to protect lands in the watershed of the Boundary Waters from sulfide-ore copper mining.** 67% of Minnesotans support federal legislation to permanently ban sulfide-ore copper mining near the Boundary Waters. Only 24% oppose.

Conclusion

The Boundary Waters is America's most popular wilderness. Our business and our employees are dependent on the wilderness lake ecosystem to remain clean and unpolluted by sulfide ore mining in fact and by reputation - the ultimate destination for a wilderness camping experience. Polluted waters from the proposed Twin Metals mine site would flow directly to one of our country's most iconic wilderness fishing destinations. Basswood Lake, loved for over a century as the premier destination for walleye, smallmouth bass, lake trout, and northerns, lies just 13 miles north of Twin Metals. Most of Basswood still has outboard motor access; motor permits for Basswood are cherished by local fishermen. True sportsmen across the nation have said loud and clear that they would never risk Basswood and the border lakes downstream to benefit a Chilean mining company that wants to mine lands and minerals belonging to the people of the United States.

Residents today and untold numbers in the future will seek the cleanest water on the planet, the cool summer breezes, and the quiet of an unmolested landscape. We must not permit this destructive industry on our public lands in the area covered by HR2794. Combine the most popular Wilderness with the most toxic industry and the Wilderness loses. Outfitters, resorts, contractors, retirees, and entrepreneurs all lose. Mining profits would go offshore, but the waste, loose in the watershed, would stay with us in the Boundary Waters region. More than a century of protection of this priceless ecosystem would be lost. Hundreds of thousands of people have stood to oppose mining in this watershed. Outdoor-oriented businesses across the country have stood up to say Not in This Place, Not Now and Not Ever. Stand with me and all the others and vote to approve HR2794. The many thousands who live and work near the Boundary Waters, and the millions who love it, will be eternally grateful. Thank you.