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Organization:

Title:

Comments: Thank you for the opportunity to submit comments as the US Forest Service designs their Scoping process with reference to NEPA requirements for activities affecting US Forest Service lands, specifically the Hermosa Mine impact on the Patagonia Mountains within the Coronado National Forest and the nearby community of Patagonia.

I am a landowner in Patagonia. I was a field biologist trained at Harvard University studying rare plant populations for The Nature Conservancy and managed the Massachusetts Natural Heritage Program protecting rare species. I also later was a groundwater hydrologist who studied ground-water modeling at University of Waterloo and worked for the US Geological Survey performing studies of the impact of various land uses on ground water quality.

I have serious concerns for the impact of the Hermosa Mine on the local human and natural environment. Thus, as you generate your Scoping process to address the issues needing to be studied through the NEPA EA and EIS processes, I recommend you include the following:

Please study the impact of releasing dewatered Hermosa mine waters into the Sonoita Creek, Flux Canyon, Alum Creek, and San Rafael watersheds. A. I have concerns about the effect of flooding in the former fine-grained swamplands where the Town of Patagonia now exists. Will our homes be more prone to flooding? What will happen to Patagonia home flood insurance rates? How will the Hermosa Mine mitigate these costs they impose upon the residents of Patagonia. B. Will there be contaminant plumes of heavy metals from previous mining episodes forced back into solution during increased flooding due to released dewatering flows and then released further downstream into the over 300 shallow private wells and public water supply wells for the town of Patagonia? We own such a shallow 40' private well. How will the Hermosa Mine mitigate our costs of possible drinking water supply contamination to private and public well water users? C. The aquifer in Patagonia is relatively shallow, but 100 ft. All of our drinking water in the town of Patagonia comes from this shallow aquifer. What if the massive dewatering efforts in the Patagonia Mountains somehow are connected to our shallow water supply aquifer through fractures in the bedrock either present now, or caused by subsidence from this proposed massive dewatering, and cause dewatering of our shallow aquifer? Will the Hermosa Mine be held responsible for reimbursing us for our loss of clean water and resulting loss of property values? D. Access to our home and that of many of my neighbors is across the Sonoita Creek dry creek bed. With increased flows will dozens of homes lose access to our properties during increased flooding? What about health emergencies when we could be caught on the wrong side of the creek? Will the Hermosa Mine pay the mitigating costs to landowners losing access to their homes during increased flood events? What will happen to our property values as the increased potential of flooding arises with the concomitant concerns raised above. Will the Hermosa Mine reimburse us for the devaluation of our homes, quality of life, and property value?

Please study the impact of subsidence in the region due to the dewatering of the Hermosa Mine. What will the impact of this massive dewatering over many decades have on the land surface? Will there be subsidence? What will be the impact on homes in the region as well as earthquake activity? Will new fractures form possibly dewatering our own shallow aquifer in Patagonia? Will Hermosa Mine mitigate these results?

Please study the health and environmental effects of Zinc, Arsenic, and Manganese that could be released into our air, water, and land by the Hermosa Mine. There is no standard for manganese. How can this mine be permitted when the health effects are not understood? I am deeply concerned that the air quality and water quality models were created by the potentially biased perspective of the Hermosa Mine. I have written such models and am concerned that these models are being used to predict potential contamination effects for the

next 60 years, using present and historic weather data, when our climate conditions are changing so rapidly at this time. These clear climate changes are predictable and need to be taken into account, for it will affect rain events, flooding, drought, wind conditions, potential for wildfires and concomitant costs to local residents. Also the only monitoring of these air, land, and water quality impacts will be by the Hermosa Mine and contractors. That is not sufficient protection for the people and environment of Patagonia, when the liability for these contaminations rest with the mine. There needs to be independent monitoring of air, land, and water quality and flooding by independent contractors.

Please study the economic impact of this proposed mineral extraction on the recreation and restoration economy of Patagonia and surrounding communities. The community of Patagonia has long been known as a community that celebrates the biodiversity of the globally recognized hot spot of rare and threatened species in the surrounding Sky Islands. In 1966 the Nature Conservancy acquired its first preserve in Arizona when the famous American naturalist Joseph Wood Krutch declared, "no other area in Arizona is more deserving of preservation than Sonoita Creek," due to it being one of the few remaining ecologically intact riparian wetlands with its associated plants, birds, butterflies and mammalian species. Next door to the Nature Conservancy's Patagonia-Sonoita Creek Preserve is the world-famous Paton Center for Hummingbirds also on the banks of a Sonoita Creek where the Hermosa Mine dewatering flows will eventually flow. Visitors from all over the world have visited this hummingbird site since 1973 to see Violet-crowned Hummingbirds, Gray Hawks, Varied Buntings, Thick-billed Kingbirds, and more than 212 bird species. Further down Sonoita Creek is the Patagonia Lake State Park Sonoita Creek State Natural Area unusual as a perennial tributary of the Santa Cruz River and home to unusual plants and 36 species of amphibians and reptiles, 106 species of birds, 49 species of damselflies and dragonflies, over 130 species of butterfly, and 5 species of bats. It is home to the federally listed Gila Topminnow and designated an important bird area. How will this area be affected also by the nearby Flux Canyon Road and mineral extraction efforts. Many of the inhabitants of Patagonia were attracted to the region by these world class riparian environments that are protected and volunteer at these facilities. Also the Borderlands Restoration Network has been training young people from throughout the region and country on how to restore native Sky Island and riparian habitats damaged by historic mining and ranching practices. Many young people from both sides of the border are employed by this private non-profit with a goal of creating a restoration economy. In addition to this long history of celebration of the recreation amenities of birds and native plants and animals of Sonoita Creek and the Sky Islands is the recent interest in Gravel Biking throughout the Coronado National Forest in the Patagonia region. Gravel cycling has created a burgeoning new tourist economy celebrating the beauty of the Patagonia Mountains, and is in direct conflict with the many trucks already serving the mine. Cyclists coming to Patagonia to enjoy the beauty of the region have already been hit by mine trucks. The cycling roads through the National Forest are being damaged by heavy truck damage. And there is also growing interest in hiking the Arizona Trail. Patagonia is a famous stop for good food, a shower, and camaraderie at the Lumber Company for through-hikers from all over the world. What will be the economic impact of this mining and its traffic and flooding on our growing recreational and restoration economy?

Please study the impact of mineral extraction on the Biodiversity of the Patagonia Mountain Sky Islands Hot Spot of Global Significance. What will be the impact of dewatering, chemical contamination of the air, water, and land, sound disturbance, and light disturbance on the 100 endangered and threatened species living in the Patagonia Mountains, like the Mexican spotted owl, yellow-billed cuckoo, jaguar, and ocelot? What will happen to the critical breeding and migration habitats for these threatened species?

Please study the impact of Hermosa Mine dewatering on already identified drought conditions in Santa Cruz County and increased potential wildfires. Will this dewatering result in exacerbating drought conditions in Santa Cruz County? Will there be massive die offs of mature riparian trees in the dewatered Patagonia Mountains and thus a huge new source of fuel for wildfires in already identified drought conditions? What will be the impact on home insurance rates? Will the potential effects of increased wildfire hazard and insurance costs be mitigated by the Hermosa Mine?