



PATAGONIA AREA RESOURCE ALLIANCE

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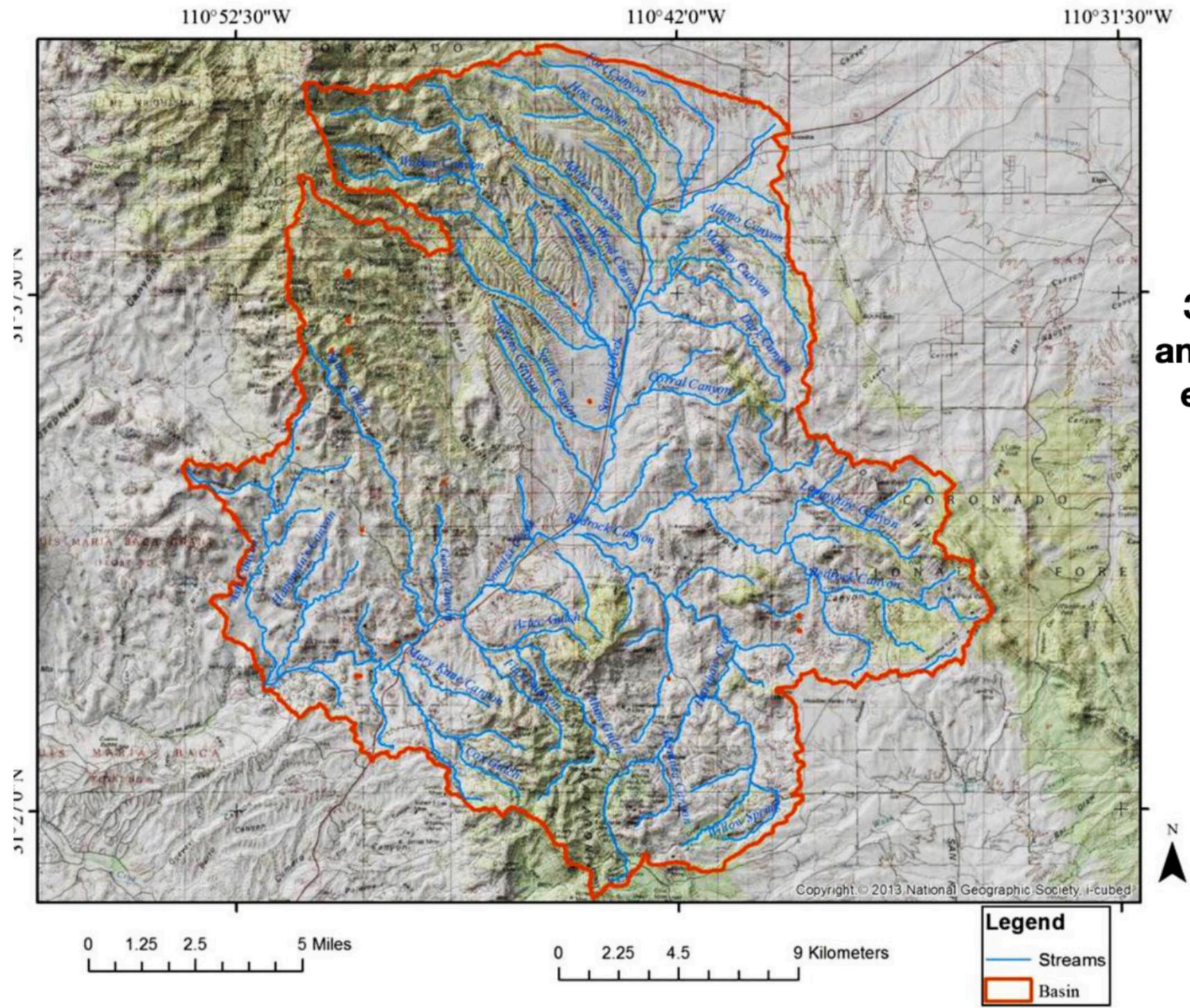
MEGA-DROUGHT IS REAL

SPECIES EXTINCTION IS REAL



**WE CAN'T FORECAST HOW THIS STORY ENDS,
but**

**WE CAN GUARANTEE
IT WILL BE A BETTER STORY
IF WE WORK FOR THE BEST SOLUTION
FOR THE ECOSYSTEM**



SONOITA CREEK WATERSHED
 is an important tributary to the Santa Cruz River

The Sonoita Creek Watershed has unique geological features, six biomes with a great diversity of plant and animal species and vast natural beauty. There are over 300 species of birds, 600 species of native bees, 300 types of butterflies and moths, and more than 100 federal threatened endangered, and sensitive species.

It is a cultural crossroads with archeological evidence of Tohono O’Oodham and Pascua Yaqui presence, a Spanish colonial past, and a history of mining during the 1860-1960 period and a long history of ranching that continues today.

The watershed will experience increased commercial activities including significant proposed 21st century industrialized mining activity.



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National Environmental Policy Act (NEPA)

NEPA was signed into law on January 1, 1970. NEPA requires federal agencies to assess the environmental effects of their proposed actions prior to making decisions.

Title I of NEPA contains a Declaration of National Environmental Policy. This policy requires the federal government to use all practicable means to create and maintain conditions under which humans and nature can exist in productive harmony.

Section 102 in Title I of the Act requires federal agencies to incorporate environmental considerations in their planning and decision-making through a systematic interdisciplinary approach. Specifically, all federal agencies are to prepare detailed statements assessing the environmental impact of and alternatives to major federal actions significantly affecting the environment. These statements are commonly referred to as Environmental Impact Statements (EIS) and Environmental Assessments (EA).

On May 9, 2025, the US Forest Service published its Draft Environmental Impact Statement for the Hermosa Minerals Project operated by Australian mining company South32. The public comment period ended on June 23, 2025.

On June 18, 2025, organizational comments on the DEIS were filed by:

Patagonia Area Resource Alliance
Arizona Mining Reform Coalition # Borderlands Restoration Network
Calabasas Alliance # Center for Biological Diversity
Cienega Watershed Partnership # Dark Sky International, S AZ Chapter
Defenders of Wildlife # Earthworks # Friends of Santa Cruz River
Friends of Sonoita Creek # Save the Scenic Santa Ritas
Sierra Club Grand Canyon Chapter # Sky Island Alliance
Tucson Bird Alliance # Wildlife Corridors LLC

The organizational comments state that the Draft EIS and proposed project approval violates various federal laws and regulations, including but not limited to: the USFS Organic Act of 1897, National Forest Management Act (NFMA), National Environmental Policy Act (NEPA), Endangered Species Act (ESA), Federal Land Policy Management Act (FLPMA), and the other laws, regulations, and polices noted therein.

The proposed operation of the Hermosa Project on USFS Public Lands requires the highest level of environmental protections because the impacted public lands in the Patagonia Mountains are part of the Madrean Pine Oak Woodland, a global biodiversity hotspot identified by scientists as one of the top regions in the world most in need of research and protection for species survival as stated in “Half Earth—Our Planet’s Fight for Life” written by Edward O Wilson.

The DEIS failed to: (1) fully analyze the baseline conditions of all potentially affected resources (water, air, wildlife/plants, cultural, recreation, etc.); (2) fully analyze the direct and indirect impacts of the project to all potentially affected resources; (3) fully analyze the cumulative impacts of the project, along with other past, present, and reasonably foreseeable future projects (including those involving energy exploration or development, grazing, recreation/ORV, surface and ground water uses, transportation, border issues, residential development, mineral exploration or development, etc.); (4) fully analyze the No-Action Alternative and other reasonable alternatives; and (5) other inadequacies noted above. This is in addition to the ESA, FLPMA, Organic Act, and other problems noted in the organizational comments.

CONCLUSION: Before considering whether to approve the Project, or any other related uses of public land, the USFS must prepare and submit for public review a revised DEIS meeting the requirements stated in the organizational comments.

The Patagonia Mountains are part of the Madrean Pine-oak Woodlands – a *global* biodiversity hotspot.

Six different biological provinces overlap in this region: Rocky Mountains, Sierra Madre, Sonoran Desert, Chihuahuan Desert, Great Plains, and Neotropics. Each contributes its own unique variety of plants & animals.

The Town of Patagonia is a Gateway Community for the continuous 800 mile Arizona National Scenic Trail, connecting Mexico to Utah.

The Patagonia range is likely a gateway for jaguars and ocelots traveling to and from breeding grounds in Sonora, Mexico.

Patagonia is the pollinator diversity capital of the U.S. with over 600 species of native bees, 300 types of butterflies and moths, 14 hummingbird species and two nectar-feeding bats.

The Patagonia area is renowned – locally & internationally – by scientists, hikers, birdwatchers, campers, hunters, mountain bikers & outdoor recreationists.

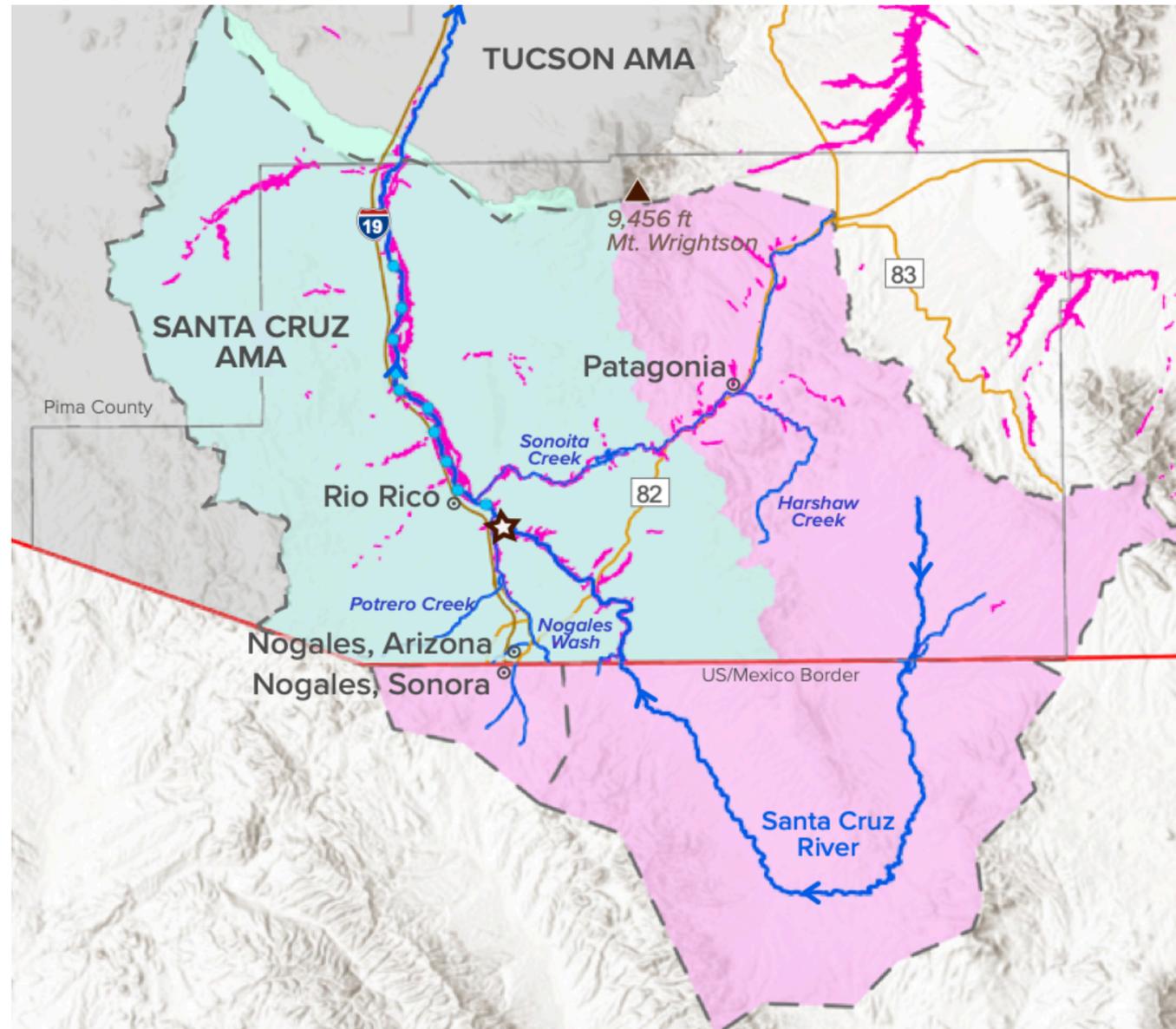
Photos: Gooch Goodwin, Alan Schmitter, ATA, FWS

Brought to you by:
Patagonia Area
Resource Alliance

PARA coordinated a team of about two dozen subject matter experts to review the Hermosa DEIS. The review covered:

- AIR QUALITY COMMENTS
- BIODIVERSITY COMMENTS
- CULTURAL RESOURCES COMMENTS
- DARK SKIES COMMENTS
- ENVIRONMENTAL JUSTICE
- PUBLIC HEALTH COMMENTS
- ROADS and PUBLIC SAFETY COMMENTS
- TAILINGS and PASTE BACKFILL COMMENTS
- WATER and SOILS COMMENTS
- ADDITIONAL ISSUES
- CONCLUSION

HIGHLIGHTS OF WATER & SOILS COMMENTS



1. Financial Assurance and Bonding

- **Issue:** Reclamation bonds should cover all potential impacts, including tailings storage facility (TSF) failures
- **Concern:** Recent TSF failures have had significantly more extensive impacts than analyzed in the DEIS
- **Recommendation:** Include all remediation costs and frequent small-scale flooding impacts in bonding requirements

2. Water Quality and Contamination

- **Antimony Contamination:** Post-mining groundwater recovery will create antimony plumes exceeding Arizona Water Quality Standards (AWQS)
- **Arsenic Analysis Gap:** DEIS used outdated AWQS (0.05 mg/l) instead of federal MCL (0.01 mg/l) for arsenic analysis
- **Heavy Metal Concerns:** Discharge could increase antimony, arsenic, barium, selenium, and uranium levels above background concentrations exceeding drinking water standards
- **Secondary Drinking Water Standard Concerns:** Discharge could increase iron, manganese and sulfate levels above background concentrations exceeding drinking water standards

3. Groundwater Modeling Issues

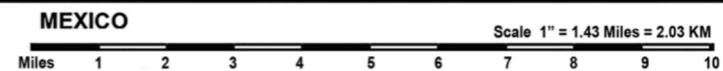
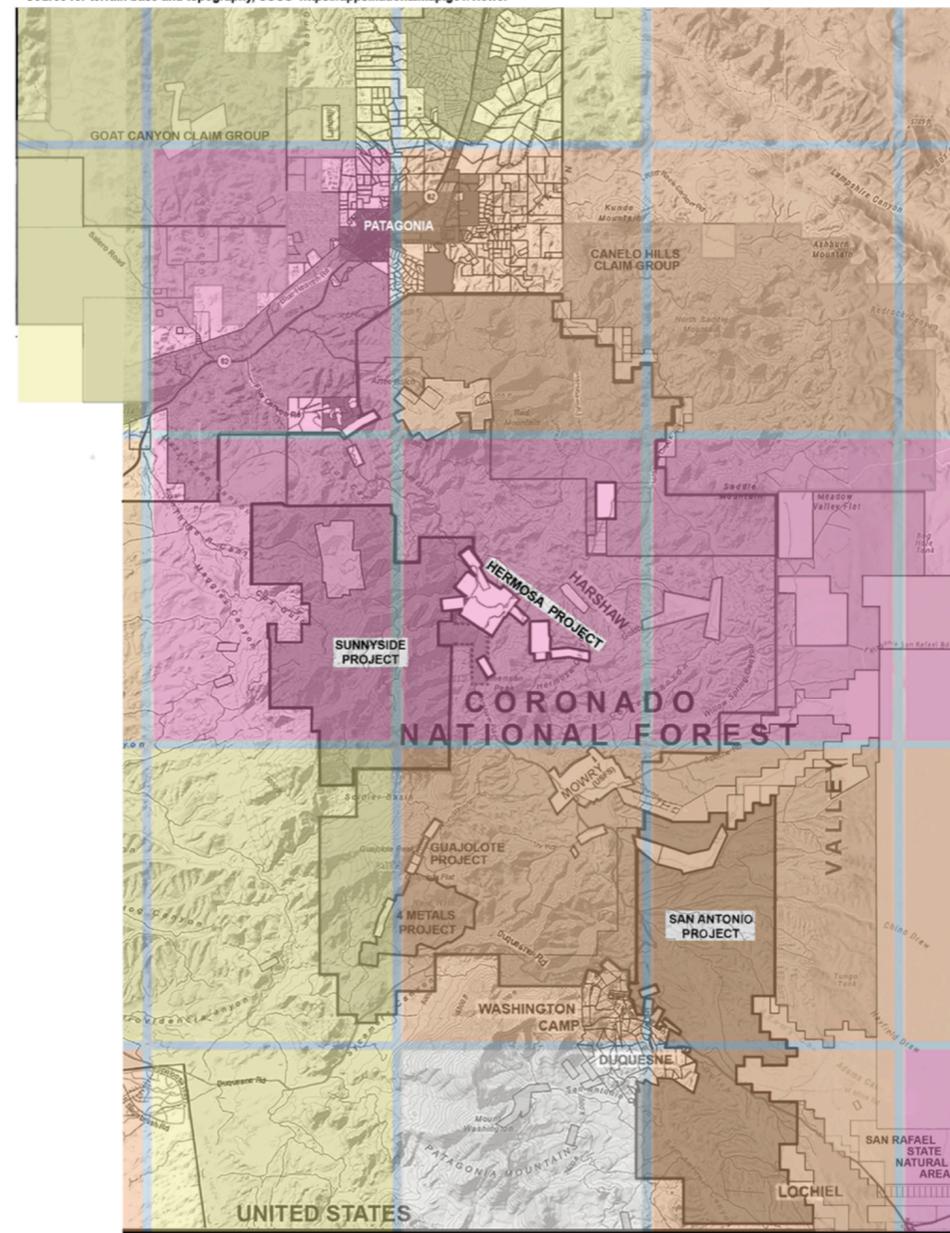
- **Inappropriate Model Selection:** An integrated surface water/groundwater model should have been used to analyze the surface water/groundwater interaction which is critical to understand the complex hydrogeology of the area
- **Calibration Issues:** Calibration based on data collected over a 120-year period, with large subset from 1939
- **Output Issues:** Model significantly underestimates water level elevations north of the Town of Patagonia and significantly overestimates water level elevations between Town and Circle Z Ranch
- **Expert Qualifications:** Questions raised about whether experts are registered Arizona geologists

Santa Cruz County rivers, Upper Santa Cruz River Basin, riparian habitat, and AMAs. (USDA 2011, NHD 2022, FWS 2022).



Grey grid = "quarter quad" = 1/4 of USGS topographic quadrangle map, 7.5 minute series

Source for biodiversity data: natureserve.org/access-data
 Categories of species included in high-medium-low density assignments: G1 - Critically impaired, G2 - Imperiled and G3 - Vulnerable
 Source for parcel lines: Santa Cruz County Parcel Search system
 Source for terrain base and topography, USGS <https://apps.nationalmap.gov/viewer>



MAP 80 - BIODIVERSITY and MINE LANDS IN THE PATAGONIA MOUNTAINS

Updated September 2022

This map is intended for general reference use only. Information shown on this map is compiled from numerous sources and may not be complete or accurate.

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BOTTOM LINE ON BIODIVERSITY COMMENTS

This project, if approved as currently proposed, could push several already imperiled species closer to extinction in the United States, representing a critical conservation failure.

The current environmental review is legally inadequate, scientifically indefensible, and morally bankrupt by prioritizing short-term mining interests over species survival.



South32's definition of sustainability is wholly inadequate in this global biodiversity hotspot.

The humans are at great risk.

AIR QUALITY

Major Legal Compliance Issues:

- The DEIS fails to meet requirements under the Clean Air Act, Organic Act, National Forest Management Act, and Coronado National Forest Land Management Plan
- The EPA has already objected to the mine's air pollution permit, citing inadequate monitoring provisions
- Under Alternative 3 (Modified Proposed Action), the analysis shows expected exceedances of national air quality standards for particulate matter

Critical Analysis Gaps:

- **Air Quality-Related Values:** The USFS used only a limited screening analysis instead of comprehensive impact assessment for wilderness areas and specially protected lands
- **Public Health:** No analysis of health impacts from hazardous air pollutants beyond manganese, despite emissions of carcinogens like benzene and other toxic compounds
- **Mobile Sources:** Missing analysis of air quality impacts from truck traffic through nearby communities, especially Patagonia
- **Deposition Impacts:** Inadequate assessment of pollutant deposition on nearby soils and waters, including potential mercury impacts on already-impaired Patagonia Lake

Methodological Concerns:

- Over-reliance on Arizona state permitting process that doesn't address cumulative, indirect, or mobile source impacts
- Inappropriate use of background nitrogen dioxide concentrations that don't reflect actual local conditions
- Failure to analyze Prevention of Significant Deterioration increment standards, which are useful indicators of air quality impact

Bottom Line: The DEIS is fundamentally deficient in its air quality analysis and the USFS may lack authority to approve the project given the predicted air quality standard violations.

PUBLIC HEALTH

Air Quality Concerns

- **Criteria pollutants** are projected to approach dangerous thresholds: PM 2.5 levels at $8.58 \mu\text{g}/\text{m}^3$ (threshold: $9 \mu\text{g}/\text{m}^3$) and PM 10 at $127.52 \mu\text{g}/\text{m}^3$ (threshold: $150 \mu\text{g}/\text{m}^3$)
- **Hazardous Air Pollutants (HAPs)** include acetaldehyde, manganese, benzene, formaldehyde, and others, with manganese being of particular concern
- Risk extends within a 10-kilometer radius, affecting over 150 residents in 55+ private properties

Water Contamination Risks

The document highlights severe concerns about groundwater and surface water contamination from:

- **Tailing Storage Facilities** that may leak antimony and lead at toxic levels
- **Metal leaching** including arsenic, cadmium, zinc, manganese, and uranium
- **Long-term contamination** with antimony plumes projected to persist for 180+ years

Emergency Preparedness Gaps

- Rural healthcare systems are already constrained and may be overwhelmed by mining-related emergencies
- Limited communication access in remote areas
- Lack of community engagement in emergency planning

Critical Regulatory and Oversight Issues

The document reveals significant contradictions in the proposed safety measures:

- **Hazardous materials storage** on CNF land despite claims otherwise
- **Self-monitoring** by South 32 deemed inadequate without independent third-party oversight
- **Transportation risks** on roads shared by recreational users, residents, and heavy mining trucks

Tailings & Paste Backfill

Hermosa's tailings management plan is fundamentally flawed and premature for environmental review. The combination of missing basic data, unrealistic assumptions, contradictory information, and massive underestimation of failure consequences suggests the project requires substantial additional technical development before proceeding with regulatory approval processes.



Cultural Heritage

The project area was acquired as US Public Lands through the Treaty of Guadalupe Hidalgo (1848) and Treaty of La Melilla (1854). These treaties contain ongoing legal obligations to protect indigenous rights.

The DEIS incorrectly states that tribes have “no land or treaty rights” in the area.

Public Safety and Transportation

The DEIS lacks sufficient detail, enforcement mechanisms, and mitigation strategies to address the significant transportation and public safety risks associated with this large-scale mining operation in a sensitive environmental and scenic area.



Environmental Justice

Santa Cruz County has a documented history of environmental injustices from resource extraction. Any energy transition must prioritize human health, environmental protection, and social justice rather than purely economic factors, ensuring local communities are actively involved in decision making processes.

Dark Skies

Light pollution from the mine poses serious threats that extend far beyond aesthetic concerns, affecting scientific research, wildlife ecosystems, human health, and local economies.



WE REFUSE TO BE A SACRIFICE ZONE!



- Sacrifice zones are areas where residents are subjected to heightened levels of pollution and hazardous materials, despite the adverse impacts on their health.
- Sacrifice zones are part of a legacy of environmental racism and injustice that has resulted in people of color being significantly more likely than white people to experience polluted air and groundwater.
- Those who live in sacrifice zones are far more likely to develop conditions such as asthma, respiratory disease, and cancer as a result of their environment.
- Sacrifice zones are a moral stain on the nation. No community should have to trade its health to fuel the prosperity of another.



While Patagonia is at the heart of mining activity by Australian mining company South32 and Canadian exploratory company Barksdale Resources, all of Santa Cruz County is a frontline community that will be impacted in the next century by proposed mining.

PARA is working to ensure we will not become a “sacrifice zone” for corporate profits.

Learn more at
PatagoniaAlliance.org

