



State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Inland Deserts Region
3602 Inland Empire Boulevard, Suite C-220
Ontario, CA 91764
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director



May 3, 2021

Inyo National Forest
Mammoth Ranger District
Attn: Colleen Garcia, Minerals Program Manager
351 Pacu Lane Suite 200
Bishop, CA 93514
Colleen.Garcia@usda.gov

Subject: Long Valley Exploration Drilling Project

Dear Ms. Garcia,

The California Department of Fish and Wildlife (CDFW) has received the Public Scoping Letter prepared by the Mammoth Ranger District of the Inyo National Forest for the Long Valley Exploration Drilling Project (Project) proposed by Kore USA Ltd.

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife.

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the state. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802.)

PROJECT DESCRIPTION AND SUMMARY

Kore USA Ltd. (Kore Mining) proposes the Long Valley Exploration Drilling Project (Project) to conduct mineral exploration activities within a claim block controlled by Kore Mining. The claim block encompasses 230 acres in Section 26, Township 3 South, Range 28 East in Mono County, California, and is located approximately 6.2 miles east of the Town of Mammoth Lakes and 45 miles north of Bishop.

Ground disturbing activities would consist of drilling with heavy equipment, the creation of fourteen drill pads and the use of existing roads and temporary access routes. Total new land disturbance is anticipated to be 0.93 acres. Project implementation would occur in the summer of 2021 and last for a period of less than one year. Reclamation of all impacted areas would commence immediately following the completion of drilling activities. The Project is for exploration only, to determine the mineral potential of the site, and no production or mining would be included in the Project. Any actual

production proposed in the future would be analyzed according to National Environmental Policy Act guidelines at that time.

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources. CDFW's comments below are based on the Inyo National Forest Scoping Notice and the additional documents available at the Project's USFS website:

(<https://www.fs.usda.gov/project/?project=59294>).

Greater Sage-grouse

Background: The Project has potential to impact breeding, nesting and brood rearing activities of the Bi-State Distinct Population Segment (DPS) of greater sage-grouse from the South Mono Population Management Unit (PMU). The Bi-State sage-grouse is a genetically unique meta-population of greater sage-grouse identified as a distinct population segment (DPS). The Bi-State area occurs along California-Nevada border and includes portions of five counties in western Nevada and three counties in eastern CA, including Mono County. In 2012, the Bi-State Action Plan (BSAP) was developed to summarize and document the record of conservation actions completed to mitigate threats to the Bistate DPS since 2004, and to develop a comprehensive set of strategies, objectives and actions for effective long-term conservation. One of the primary conservation goals of the Bi-State Action Plan was to protect continuous blocks of unfragmented sagebrush habitat, such as that what exists in the Project.

The South Mono PMU is comprised of three subpopulations of greater sage-grouse, including Long Valley, Parker and Granite Mountain. The Long Valley subpopulation, which resides in Long Valley from the upper Owens River south and east to Crowley Lake and the Glass Mountains, was historically the largest subpopulation of sage-grouse in the Bi-State DPS. Coates et al. (2020) reported that the Long Valley subpopulation has recently undergone substantial reductions, but still represents 24.8% of all sage-grouse within the entire Bi-State DPS and 92% of all sage-grouse within the South Mono PMU. Lek count data indicates that since 2012, the Long Valley subpopulation has declined approximately 75%. Reasons for this decline may be partially attributed to drought effects on sage-grouse reproduction, the Benton Crossing Landfill, which provides resource subsidies for ravens and other generalist predators, and anthropogenic disturbances, mostly resulting from outdoor recreation.

Comment: The Project has potential to impact the Bi-State sage-grouse through the direct loss and degradation of sagebrush-steppe habitat. Based on radio-telemetry data provided by the U.S. Geological Survey (USGS), the Project area and vicinity is known to provide year-round habitat for the Bi-State sage-grouse. The sage-grouse is a sagebrush (*Artemisia* spp.) obligate species because it depends entirely on sagebrush

for foraging, nesting and brood rearing. Sagebrush loss and disturbance resulting from construction of drill pads and temporary access routes would remove traditional nesting habitat and fragment sage-grouse foraging and brooding habitat. Therefore, mitigation efforts should focus on reducing surface disturbance from access roads, drill pads and other infrastructure in effort to minimize the direct loss and disturbance of sagebrush habitat. For example, existing dirt roads in the Project should be used to the greatest extent possible when accessing proposed drill sites. In effort to avoid damaging nests and displacing nesting sage-grouse, vegetation removal in the Project area should not occur during the sage-grouse nesting period (15 March - 15 May).

Comment: The Project could potentially increase the risk of wildfire in the South Mono PMU. Wildfire is considered the greatest threat to sage-grouse habitat in the west and is one of the primary factors linked to population declines. Catastrophic wildfire can impact sage-grouse habitat connectivity through the direct loss and fragmentation of large tracts of sagebrush habitat. Moreover, wildfire can result in the invasion of exotic annual grass species, such as cheatgrass. Wildfire mitigation should require a fire prevention plan that focuses on reducing the risk of wildfire through a program of training and strict enforcement.

Comment: Noise and other forms of human intrusion could result in disturbance to sage-grouse breeding, foraging, nesting and brood rearing activities. The primary access roads (Owens River Road and Antelope Springs Road) to the Project pass within proximity to four known sage-grouse leks. The Antelope Springs Road passes within approximately 150 meters to the south of lek 8, which in 2021 comprised the second largest concentration of breeding male sage-grouse in the Long Valley PMU. Noise and dust generated by daily vehicular traffic associated with the Project could potentially impact grouse breeding behavior and ultimately result in lek abandonment. Furthermore, human intrusion impacts in the Project area could result in the abandonment of sage-grouse nesting, foraging and brooding habitat. Measures should be taken to avoid and minimize human disturbance impacts during the sage-grouse breeding, nesting and brood rearing periods (March 1 - June 30).

Mule Deer

Comment: The project has potential to impact mule deer during the migration and stopover periods. GPS telemetry studies conducted by CDFW indicate that the Project area provides migration, stopover and summer range habitat for deer from the Round Valley and Casa Diablo herds. Additionally, during years of below average snowfall, mule deer use the Project area year-round. Measures should be considered that avoid Project related disturbance to mule deer during the spring (March 1 – May 1) and fall (October 1-Nov 30) migration periods.

Effects of exploratory drilling

The proposed exploratory drilling would include construction of several drill holes to depths of 300-500 feet to further assess mineral deposit. Based on the technical report as well as USGS Publications on the Long Valley Geothermal Aquifer (e.g. <https://pubs.er.usgs.gov/publication/ofr20191063>) the test holes will reach both the cold water (unconfined, surface aquifer) and geothermal (confined aquifer) in Long Valley.

The technical report prepared by Kore Mining indicates that previous test holes have resulted in 'good [water] flow.' Based on the available literature, it is highly likely that these holes should be classified as 'artesian wells,' due to the positive hydraulic pressures documented in the area. Construction of artesian wells can reduce confined aquifer pressures and impact the quantity and quality of the groundwater discharged at adjacent springs. In addition, the project may increase the permeability of the confining layer separating the two surface and deep aquifer systems by constructing uncased holes through the confining layers. This leads to an influx of geothermal chemicals (such as arsenic, nitrate, phosphate, halogen anions, and cyanide) into the shallow water aquifer.

Potential impacts to CDFW's trust resources

Groundwater discharge in Long Valley is critical to endangered species as well as CDFW's hatchery program, as it supports two of the best recreational trout fisheries in the state. Specifically, CDFW is concerned about projects impacts to:

- Two populations of the federal and State endangered Owens Tui Chub (in Little Hot Creek and the Hot Creek Hatchery Headwater Spring) are located within one mile of the project area. These two populations are dependent on groundwater discharge and may be impacted by loss of water quantity, impacts to water quality and alterations of water chemistry.
- The sole relict population of Long Valley Speckled Dace, a candidate for listing under the Endangered Species Act. This population (located below Whitmore Hot Springs) would be impacted by a decrease in water quantity.
- The Hot Creek Hatchery's water supply springs located one mile from the project area. Hatchery operations support recreational fishing in Inyo and Mono Counties, as well as rearing federally threatened Lahontan Cutthroat Trout. Hatchery operations might be impacted by loss of water quantity, impacts to water quality and alterations of water chemistry.
- Cold and warm water springs also provide water for both Hot Creek (a Fish and Game Commission-designated Wild Trout Water) and the Upper Owens River, a popular trophy trout fishery and water supply for the city of Los Angeles.

Recommendations

Because this Project has the potential to adversely impact federally and State endangered fish species, CDFW recommends that the proponents construct a groundwater flow model in consultation with ORMAT Technologies and USGS to determine the potential impacts to adjacent springs. In addition, because of the potential impacts to a federally endangered species or their habitat, CDFW recommends that the Inyo National Forest initiate consultation with the U.S. Fish and Wildlife Service.

Long Valley is classified by the USGS Volcanic Observatory as an active volcano and is the epicenter of frequent earthquakes (2+ per day). Based on the existing geologic hazards at the project location, a suitable containment plan should be developed to eliminate the risk of discharge of hydrogen cyanide into the Owens River.

CONCLUSION

CDFW appreciates the opportunity to comment on the proposed Project to assist Inyo National Forest in identifying and mitigating Project impacts on biological resources. Questions regarding this letter or further coordination should be directed to Rose Banks, Environmental Scientist at (760) 218-0022 or by email at Rose.Banks@Wildlife.ca.gov.

Sincerely,

DocuSigned by:
Alisa Ellsworth
84FBB8273E4C480...

Alisa Ellsworth
Environmental Program Manager

ec: Heidi Calvert, Environmental Program Manager, CDFW
Heidi.Calvert@wildlife.ca.gov

Tom Stephenson, Senior Environmental Scientist (Supervisor)
Tom.Stephenson@wildlife.ca.gov

Russell Black, Senior Environmental Scientist (Supervisor)
Russell.Black@wildlife.ca.gov

Jan Zimmerman, Regional Water Quality Control Board
Jan.Zimmerman@waterboards.ca.gov

REFERENCES

Coates, P.S., Ricca, M.A., Prochazka, B.G., O'Neil, S.T., Severson, J.P., Mathews, S.R., Espinosa, S., Gardner, S., Lisius, S., and Delehanty, D.J., 2020, Population and habitat analyses for greater sage-grouse (*Centrocercus urophasianus*) in the bi-state distinct population segment—2018 update: U.S. Geological Survey Open-File Report 2019–1149, 122 p., <https://doi.org/10.3133/ofr20191149>.