



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In Reply Refer To:

JAN 26 2011

Ms. Debbie Schechter
Brownfields and Site Assessment Section Chief
U.S. EPA Region IX
Superfund Division
75 Hawthorne Street, SFD 6-1
San Francisco, California 94105-3920

Subject: United States Fish and Wildlife Service (Service) Review of Expanded Site Investigation Report on the New Idria Mercury Mine, San Benito County, California

Dear Ms. Schechter,

The Sacramento Fish and Wildlife Office (SFWO) and the Ventura Fish and Wildlife Office (VFWO) of the Service has reviewed the *Expanded Site Investigation Report, New Idria Mercury Mine, San Benito County, California* (SI Report), dated October 2010. The Service appreciates the effort by the United States Environmental Protection Agency (USEPA) to consider whether the New Idria Mercury Mine qualifies for placement on the National Priorities List of Superfund sites, as contamination from the site may impact biotic communities downstream. With this letter, the Service is providing additional information to describe the "unique" classification given to certain habitats evaluated in the SI Report as requested by USEPA. The information provided below describes the biotic community downstream of the mine and identifies ecological aspects of the area that are important for the maintenance of a unique, rare, and ecologically valuable biotic community.

The Service agrees with the basic description of the unique habitats and sensitive species in the area presented in the SI Report. This area is identified in a November 10, 2009, map generated by USEPA. The map identifies a 4-mile buffer zone around the New Idria Mercury Mine and the wetlands and intermittent pools up to 20 miles downstream of the mine (analysis area) and includes San Carlos, Silver, and Panoche creeks. The analysis area around the mine and areas of downstream water resources, including wetlands under public ownership, constitute very unique habitats to endemic threatened and endangered species which use these resources, including species listed under the Federal Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act). The analysis area encompasses the jurisdictions of both the SFWO and the VFWO. The New Idria Mercury Mine and the upstream portion of wetlands and creeks fall within the jurisdiction of the VFWO; the downstream portions of the wetlands and creeks fall within the jurisdiction of the SFWO.

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There are two aspects of the SI Report that the Service has considered in our analysis. The first is whether the analysis area is comprised of unique biotic communities, and the second is whether the ecological processes within the analysis area are important for maintaining a unique biotic community. In regard to the first aspect; the combination of a remnant ecosystem, the arid environment of the location, seasonal and perennial wetlands in the wildlife corridor, the northernmost populations of several threatened and endangered species, high biological diversity, and an internationally important area for migratory birds all contribute to the significant ecological uniqueness of the analysis area. Regarding the second aspect of analysis, the analysis area contains a wildlife corridor that is vitally important for the maintenance of an ecologically valuable biotic community to the west.

The analysis area predominantly contains annual grassland and blue oak/foothills pine plant communities, with components of alkali shrub and chaparral in the lowlands and uplands respectively. A riparian corridor flows through the middle of the analysis area, increasing the biological diversity of the area and providing water, cover, and foraging during the dry summer months. Biological diversity increases as riparian systems contribute to the energetics and species composition of an ecosystem (Gregory et al. 1991, Naiman et al. 1993, Olson et al. 2007); and riparian areas are especially important in dry, grassland ecosystems (Kauffman and Kreuger 1984, Szaro and Jakle 1985, Thomas et al. 1979).

In California's Central Valley and Coastal Range, more endemic species co-occur than anywhere comparable in the continental United States (Service 1998). Most of the Central Valley and Coastal Range endemism (species restricted in occurrence) is associated with arid environments, unique geology, vernal pools, and wetlands. Much of the habitat for these endemic species is gone due to land-use conversion. With the exception of Panoche Valley to the west of the analysis area, remaining habitat is fragmented making existing habitat particularly valuable and rare for endemic species. Although many riparian communities in California are too degraded to be restored to their natural condition, the Panoche Creek watershed is largely pristine and wild making it irreplaceable in its uniqueness.

In the San Joaquin and Salinas valleys and associated border foothill areas, conversion of natural habitat to intensive agriculture continues to be the primary cause of habitat loss for the endangered San Joaquin kit fox (*Vulpes macrotis mutica*) (Cypher et al. 2007). Altered prey species composition, including loss of kangaroo rats (*Dipodomys spp.*), and reduced prey diversity and abundance limit utility of cultivated agricultural lands to kit fox for foraging (Williams and Germano 1992; Clark 2001; Cypher 2006; Warrick et al. 2007). Because kit fox exhibit only limited capacity to utilize cultivated agricultural lands, these lands also appear to constitute effective barriers to kit fox movements (Cypher et al. 2005).

Past agricultural conversion has removed most areas of the San Joaquin Valley floor as kit fox habitat. By 1968, the Central Valley Project had expanded water deliveries to approximately 1,000,000 acres of farmland, and by 1979 less than 2 percent of the valley remained uncultivated (USDI 2005). Based on satellite imagery analyzed by California Department of Conservation (California Department of Conservation 2006), agricultural conversion continues in a number of core, satellite, and linkage areas identified in the *Recovery Plan for Upland Species of the San Joaquin Valley, California* (Recovery Plan) (Service 1998).

The conversion of natural lands to agriculture continues to be a threat to habitat on private lands on the western side of the San Joaquin valley floor in areas where agriculture has been extended west to the base of the foothills since the 1960s (Kelly et al. 2005). Large blocks of suitable habitat that support kit fox do remain in the Panoche and Pleasant valleys in the foothills slightly to the west of the San Joaquin Valley (Cypher et al. 2007). However, including both these areas and the western uplands of Fresno County, there were only 5,559 acres of suitable San Joaquin kit fox habitat, and 20,543 acres of sub-optimal habitat remaining by 2007 (Cypher et al. 2007).

The only two valleys that support large areas of arid grassland as uncultivated rangeland are the Panoche Valley and Pleasant Valley. These last remnants of unconverted annual grassland support the kit fox, endangered giant kangaroo rat (*Dipodomys ingens*), and endangered blunt-nosed leopard lizard (*Gambelia sila*). The natural corridor to Panoche Valley falls directly in the midline of the analysis area. Panoche Creek is the only creek flowing into the Central Valley that connects the historical Central Valley San Joaquin kit fox habitat to valley grassland ecosystems in the smaller, western valleys. Within the analysis area, Panoche Creek is the only direct route for San Joaquin kit fox to access Panoche Valley.

Vallecitos Valley, a small, arid grassland valley, lies in the Larios Creek drainage and connects to San Carlos Creek in the analysis area. This part of the analysis area contains many of the unique biological features of the entire analysis area, such as perennial wetlands and unique mammal assemblages, and is within 5 miles of the New Idria Mercury Mine site. Silver Creek, which flows from the confluence of San Carlos Creek and Larios Creek, provides a San Joaquin kit fox corridor to Vallecitos Valley from the Panoche Creek corridor in the lower part of the analysis area.

The habitat identified in the Recovery Plan as “Areas along the Valley’s edges within which a contiguous band of natural lands and wildlife compatible farmlands should be maintained” is the major category of habitat identified for recovering the San Joaquin kit fox, giant kangaroo rat, and blunt-nosed leopard lizard. The lower half of the analysis area falls within this Recovery Plan category.

Mammal Assemblage

The annual grassland habitat in the analysis area is highly diverse and supports a robust San Joaquin kit fox prey base. In addition to the desert species found in the area, such as the giant kangaroo rat and Heermann’s kangaroo rat (*Dipodomys heermanni*), there are abundant California ground squirrels (*Spermophilus beecheyi*). In the northern part of its range, the San Joaquin kit fox preys primarily on California ground squirrels. In the southern part of its range, kangaroo rats and San Joaquin antelope squirrels (*Ammospermophilus nelsoni*) make up the majority of the diet during spring and summer months. Throughout its range, the San Joaquin kit fox also preys on black-tailed hares (*Lepus californicus*), desert cottontails (*Sylvilagus audubonii*), white-footed mice (*Peromyscus* spp.), and pocket mice (*Perognathus* spp.), which are often associated with riparian areas or the grassland interface with riparian areas. All of the mammals identified here are found in the analysis area. San Joaquin kit fox prey from both the northern and southern portions of the kit fox range overlap in the analysis area, providing increased prey availability through the summer months. This abundant prey in a significant kit fox corridor is unique and is important to the survival of the species.

The analysis area provides a unique combination of foraging and roosting areas for bats including open-water riparian sites for foraging and trees, mines and rock outcrops for upslope roosting bats. Three species of large bats are found in the analysis area. The presence of pallid (*Antrozous pallidus*), hoary *Lasiurus cinereus*), and mastiff (*Eumops perotis*) bats indicates good foraging opportunities in the form of both insect abundance and small mammals. It also indicates that other species of bats are likely to be found in the area.

The riparian and grassland ecosystems in the analysis area provide sufficient insect abundance to support both kit fox dispersal and the largest of the western bats. The mastiff bat is the largest bat in the United States and is active year-round. It preys on large moths and other night flying insects. The pallid bat forages on the ground, preying on ground-dwelling insects, lizards, and rodents. The hoary bat preys on moths, beetles, and smaller bats. The robust insect population in the analysis area is also important for San Joaquin kit foxes, which are insectivorous during the dispersal period of August through October, after the small mammal populations decline.

Hibernating bats throughout the United States are threatened with “white-nose syndrome,” as it continues to spread to roosts and overwintering sites (USGS 2011), and the disease is likely to spread to California (Osborn and Clifford 2009). Colonial hibernation is a key risk factor in bats succumbing to white-nose syndrome; however, mastiff bats do not hibernate and hoary bats tend to hibernate alone or in small family groups. Both the pallid bat and smaller bats could ultimately become impacted by white-nose syndrome; and, as bat populations continue to decline in California, the uniqueness of the analysis area for supporting bat assemblages will become increasingly important. While these species are not listed under the Act, they are an important component of the biotic community in this area.

Bird Assemblage

The riparian area at the confluence of San Carlos Creek and Larious Creek is a layover point and nesting area for neotropical birds, for which the Service has conservation responsibilities and management authority under the Migratory Bird Treaty Act of 1918 (16 U.S.C. 703 *et seq.*). In addition to the importance of the confluence areas for migratory birds, the analysis area connects the Central Valley with Panoche Valley, which is recognized by the National Audubon Society as an Important Bird Area of Global Significance. The Panoche Valley is also a known wintering ground for the increasingly rare and proposed threatened mountain plover (*Charadrius montanus*), and there are recognizable mountain plover habitat features within the analysis area. Within California’s Central Valley, mountain plovers were historically associated with burrowing mammal habitat (Service 2010); for example, with kangaroo rat precincts and California ground squirrel colonies. The Service intends to make a determination on whether to list the mountain plover as threatened under the Endangered Species Act by May 1, 2011.

Plant Community

The unique soil types and geologic formations of the Idria, Sampson, and North Hill San Carlos peaks has lead to a unique assemblage of endemic plant species, which includes the threatened San Benito evening primrose (*Camissonia benitensis*). At least three of the sensitive plants found in the analysis area are adapted to grow in western San Joaquin Valley alkaline soils close

to areas of surface water or areas subject to surface water inundation. These plant species include the lesser saltscare (*Atriplex minuscula*), lost hills saltbrush (*Atriplex vallicola*), and Hoover's woolly-star (*Eriastrum hooveri*).

Threatened and Rare Reptiles and Amphibians

The endangered blunt-nosed leopard lizard is found in the valley floors and edges of the analysis area. Blunt-nosed leopard lizards feed largely on insects. In all studies, the primary prey of the blunt-nosed leopard lizard is orthoptoerans (grasshoppers, crickets, and locusts) (Germano et al. 2005, Kato et al. 1987, Montanucci 1965 & 1967, Snow 1972). Prey availability is a significant factor in sustaining blunt-nosed leopard lizard reproduction. In 1990, when grasshopper numbers were “extremely low” in the Elkhorn Plain, Germano and Williams (2005) did not find any reproduction in leopard lizards—there were no gravid females or juveniles detected. In 1992, when grasshopper numbers irrupted, population estimates of blunt-nosed leopard lizards were very high in both that year and the following year (Germano and Williams 2005).

The analysis area appears to be ideal habitat for the threatened California red-legged frog (*Rana draytonii*) and California tiger salamander (*Ambystoma californiense*) and foothill yellow-legged frog (*Rana boylei*). However, the Service is concerned that these species may be absent from the valuable wetland habitat downstream from the mine.

San Carlos Creek contains ideal habitat components for the California red-legged frog but no red-legged frogs have been reported to the California Natural Diversity Database in the analysis area and the Service is not aware of any site-specific surveys. The riparian conditions that are ideal for red-legged frogs are: (1) springtime low-flow open water with emergent vegetation for breeding; (2) willows and riparian shrubs which provided cover for nocturnal foraging and shade for a cooling microclimate; (3) seasonal water that is largely perennial but dries down in some years, limiting the establishment of invasive competitors and predators; and (4) grazing at a level that increases insect prey-base.

The California tiger salamander has the potential to occur in the analysis area. Although California tiger salamanders spend most of their lives in underground burrows in upland habitats, their reproduction is tied to aquatic habitats. Historically, they bred primarily in natural vernal pools, but they have been able to breed successfully in human-made stock ponds that support a sufficient volume of water. Migrations to and from breeding ponds occur during the rainy season (November to May) (Storer 1925; Loreda and Van Vuren 1996; Trenham et al. 2000).

The foothill yellow-legged frog is found at many locations throughout higher elevations in the analysis area, but not in the San Carlos, Silver, or Panoche creek segments. The foothill yellow-legged frog is not federally-listed, but the Service is concerned about apparent population declines throughout the range of the species. Perennial water, rocky creeks, and quiet backwater areas make many locations in the analysis area ideal for supporting this species.

Listed Vernal Pool Branchiopods

The wetlands and quiet backwater pools in the analysis area could support federally-listed vernal pool branchiopods, such as the vernal pool fairy shrimp (*Branchinecta lynchi*). Vernal pool fairy

shrimp are not known to occur in the analysis area but are known to occur within the Panoche Creek watershed in the Panoche Valley.

Downstream Area

The Service has significant trust responsibility for resources downstream of the analysis area, including national wildlife refuges, threatened and endangered species, and migratory birds. The Service has significant concerns regarding the impact of mercury and metals contamination on these resources. While we do not discuss these concerns in this letter, we can provide additional information as requested.

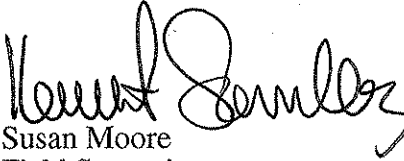
Conclusion

The riparian and grassland ecosystems in the analysis area are biologically and ecologically unique remnants of a formerly expansive Central Valley ecosystem. The analysis area functions as both a corridor for indigenous mammals and a foraging area for rare and unique animal assemblages. The federally-listed species in the analysis area are primarily endangered by loss of habitat; and the analysis area and the adjacent Panoche Valley represent some of the last remaining habitat for these species. The biological diversity of the analysis area is a result of the uncultivated nature of the landscape and the ecological interface of arid grasslands and riparian habitat containing wetlands and intermittent pools of water late into the summer.

The analysis area is unique in its impressive biological diversity, especially mammals and birds, and it also contains the only east-flowing creek connecting a western, coast-range valley with the historical habitat of the great Central Valley.

Thank you for your consideration of these comments. If you have any questions, please contact Alison Willy at 916-414-6600.

Sincerely,


For Susan Moore
Field Supervisor

cc: Diane Noda, Field Supervisor, FWS, VFWO
Charles McKinley, DOI, Field Solicitor, Oakland, CA
Michael Anderson, CDFG, OSPR, Sacramento, CA
Jana Affonso, FWS, R8

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