

Important Plant Area

Your project area intersects an Important Plant Area (IPA) that contains one or more species of plants listed as threatened or endangered by the New Mexico Energy, Minerals and Natural Resources Department (EMNRD) under New Mexico Statutes Annotated (NMSA) 75-6-1 or by the USFWS under the federal ESA. Although IPAs have no legal designation, they have been identified as areas that support either a high diversity of sensitive plant species or contain the last remaining locations of New Mexico's most endangered plants. The Department recommends that you consult with EMNRD's [Endangered Plant Program Coordinator](#) regarding any state-listed plants and the USFWS's [Information for Planning and Consultation \(IPAC\)](#) system for any federally-listed plants and reaching out to the appropriate federal species lead(s) with the [New Mexico Ecological Services Office of USFWS](#). The Department does not have any authority to designate or advise on state- or federally-listed plants.

Riparian Areas

The proposed project occurs within or near a riparian area. Because riparian areas are important wildlife habitats, the project footprint should avoid removing any riparian vegetation or creating ground disturbance either directly within or affecting the riparian area, unless the project is intended to restore riparian habitat through non-native plant removal and replanting with native species. If your project involves removal of non-native riparian trees or planting of native riparian vegetation, please refer to the Department's habitat handbook guideline for [Restoration and Management of Native and Non-native Trees in Southwestern Riparian Ecosystems](#). The [New Mexico Riparian Habitat Map \(NMRipMap\)](#) may also provide useful information on local riparian habitat composition and structure.

Solar

Grading or blading within the proposed solar project area should be minimized to the greatest extent possible. Minimize soil compaction by ensuring that heavy equipment has rubber tires and tracks and avoid the use of "drive and crush", "disc and roll", and other similar techniques. Whenever feasible, retain 60-70% native vegetation within the project area. This will help retain wildlife habitat features within the site and preserve existing vegetation and soil structure. Keeping the existing soil and root structures intact also helps to maximize water infiltration, minimize erosional run-off, and reduce biodiversity loss within the site.

Security perimeter fencing around the solar facility should be constructed to allow for some wildlife permeability. Leaving a 6-to-8-inch gap between the ground surface and bottom of the fence will allow smaller terrestrial wildlife species to move freely through

the area and make use of any suitable habitat within the solar facility. Retain patches of undisturbed habitat within and adjacent to the project area and connect these patches with a minimum of 300 feet wide, unfenced corridors. For large solar arrays, optimally include a 300 feet wide corridor for every mile of fence and keep corridors as short as possible. Angle fencing at perimeter and corridor corners to facilitate animal movement around the project area.

To protect important and sensitive wildlife habitats, place solar arrays at least 200 feet from the edges of desert washes and build in previously disturbed or developed areas whenever possible. To minimize the potential for fenced areas to drive animals onto roadways, place fenced areas at least 300 feet from roadways that don't have wildlife-proof fencing. In the event that development must encompass desert washes, ensure that fences do not cross these washes and fragment this sensitive habitat.

All migratory birds are protected against direct take under the federal [Migratory Bird Treaty Act](#) (16 U.S.C. Sections 703-712), and hawks, falcons, vultures, owls, songbirds, and other insect-eating birds are protected under New Mexico State Statutes (17-2-13 and 17-2-14 NMSA), unless permitted by the applicable regulatory agency. To minimize the likelihood of adverse impacts to migratory birds, nests, eggs, or nestlings, the Department recommends that ground disturbance and vegetation removal activities be conducted outside of the primary migratory bird breeding season. This season runs from 15 April - 1 September for upland songbirds, willow flycatcher (*Empidonax traillii*), yellow-billed cuckoo (*Coccyzus americanus*), and other riparian songbirds; 1 March - 1 September for most raptors; 1 January - 15 July for golden eagle (*Aquila chrysaetos canadensis*) and great horned owl (*Bubo virginianus*); and 1 March - 15 September for low-elevation deserts. If ground disturbing and clearing activities must be conducted during the breeding season, the area should be surveyed for active nest sites (with birds or eggs present in the nesting territory) and avoid disturbing active nests until young have fledged. For active nests, establish adequate buffer zones to minimize disturbance to nesting birds. Buffer distances should be at least 100 feet from songbird and raven nests; 0.25 miles from most raptor nests; and 0.5 miles for ferruginous hawk (*Buteo regalis*), golden eagle, peregrine falcon (*Falco peregrinus*), and prairie falcon (*Falco mexicanus*) nests. Active nest sites in trees or shrubs that must be removed should be mitigated by qualified biologists or wildlife rehabilitators. Department biologists are available to consult on nest site mitigation and can facilitate contact with qualified personnel.

For post-construction reclamation of the solar project area, the Department recommends that the project proponent use only native plant species and that the reclamation seed mix is designed to enhance local pollinator habitat. The Department

also recommends that only certified weed-free seeds be used to avoid inadvertently introducing non-native species to the reclamation site. Any alternate plant species, used to substitute for primary plant species that are unavailable at the time of reclamation, should also be native. When possible, the Department recommends using seeds that are sourced from the same region and habitat type as the reclamation site and suggests including seeds from a region that represents potential future climatic conditions at the site.

Trenching

Implementing the general trenching conservation measures outlined in the Department's [Trenching Guidelines](#) will help minimize unnecessary mortality of wildlife. Best management practices should include, at minimum, the following mitigation measures.

- Whenever possible, locate trenching activities within previously disturbed areas, such as existing road or pipeline right-of-ways. To the extent possible, avoid trenching in undisturbed habitat.
- Trench during the cooler months (October – March).
- Utilize concurrent trenching, pipe- or cable-laying, and backfilling. Keep trenching, pipe- or cable-laying, and backfilling crews as close together as possible to minimize the amount of open trench at any given time. When trenching activities are temporarily halted (e.g., overnight, weekends, holidays, weather shutdowns), protect wildlife from accessing any open trench between digging and backfilling operations by using one or more of the methods described below.
- Avoid leaving trenches open overnight. When trenches cannot be backfilled immediately, escape ramps should be constructed at least every 90 meters and preferably 30 meters. Escape ramps can be constructed parallel or perpendicular to the existing trench. The escape ramp slope should be less than 45 degrees (1:1). If pipe or cable has been installed but backfilling has not occurred, escape ramps may need to be constructed on both sides of the trench, since, unless the pipe is elevated enough to allow animals to move underneath it, the pipe or cable may block access of amphibians, reptiles, and small mammals to the ramps if only constructed on one side.
- Trenches that have been left open overnight should be inspected the following day by a qualified biological monitor and trapped animals removed as soon as possible, especially where state or federally listed threatened or endangered

amphibians, reptiles, or small mammals occur. Untrained personnel should not attempt to remove trapped wildlife because of the potential to injure animals and the possibility of injury from venomous snakes. Required tools for removal will include snake tongs for removing snakes and a dip net for capturing and removing amphibians and small mammals. Many animals trapped in a trench will burrow under loose soil. To the extent possible, the biological monitor should disturb loose soil in the trench to uncover and remove trapped animals. Animals should be relocated at least 50 meters away from the open trench in undisturbed habitat.

- When pipe has been laid in the trench, end caps should be placed on the open end(s) of the pipe to preclude animals from entering. Pipe staged outside the trench should be capped until placed in the trench or checked for wildlife before being placed into the trench.
- Most wildlife can be protected by constructing silt fence completely around the open trench. Silt fence should be supported from sagging by t-posts, rebar, or stakes and buried at the base to preclude animals from moving below the fence. If construction of a silt fence is a required best management practice for erosion control, then, to preclude the need for a biological monitor, escape ramps, and concurrent backfilling, the guidelines for silt fence installation and maintenance in the Trenching Guidelines should be followed.

Wetlands

The current project area appears to contain one or more wetland types as classified by the New Mexico Environment Department's [Wetland Map](#). Information on wetlands in your project area can also be viewed on the ERT's [Create Project/Map](#) page. This [key](#) can assist in interpreting Landscape Position, landform, water flow path, and waterbody type (LLWW) codes in the ERT's wetland data. Wetlands provide important habitat for numerous species of wildlife and pollinators and provide ecosystem services, such as water filtration and storage, to downstream users. The Department recommends avoiding disturbance of wetlands whenever possible, avoiding actions or infrastructure installment that may disrupt natural wetland hydrological processes, and reseeding or replanting areas where disturbance cannot be avoided with native wetland plant species appropriate to the local wetland type. For a list of native seed providers, please see the Department's habitat handbook guideline for [Restoration and Management of Native and Non-native Trees in Southwestern Riparian Ecosystems](#). For projects involving filling wetlands under federal jurisdiction, please contact the [Army Corps of Engineers](#) for more information on permits required under the Clean Water Act.