

**Biological Report**  
**Shadow Light Ranch**

**Garberville, Humboldt County, California**

**APNs 223-061-038, 223-061-043, 223-073-004, 223-073-005**

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*Revised*  
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## **I. Summary of Findings and Conclusions**

The project includes existing cannabis cultivation on three parcels, APNs 223-061-038, 223-061-043, 223-073-004, 223-073-005, concentrated in the southern portions of the APNs. The parcels are located east of the town of Garberville in Humboldt County, California (Figure 1).

This biological report reviewed the projects at the above APNs to determine to what extent species currently listed or proposed for listing (Table 1) would be impacted (Table 2). No special status species were detected during the site visit (Table 3). It has been determined that the projects and operations on the parcels are likely to have no impacts on these species given all measures are taken to prevent any light or noise pollution.

### ***Summary of Further Surveys Needed and Mitigation Recommendations***

- No use of plastic support netting. This plastic netting is a hazard to all forms of wildlife and is not to be used. CDFW recommends using netting of natural materials such as jute or hemp, with no welded seams. For example (not endorsement), see this product made in southern Humboldt: <https://consciousgardeners.com/>
- No rodenticides shall be used.
- Surveys for foothill yellow-legged frogs should occur in the vicinity of any earth moving activities near Class II water courses. If it is determined earth moving activities will need to occur at or near the Lower Pond, surveys should be conducted on the adjacent Class II stream prior to determine presence/absence.
- Any structure requiring lighting (mixed light greenhouses) **MUST** be covered from one hour before sunrise to one hour after sunset to avoid any adverse effects on nocturnal wildlife. Further, all attempts to keep noise levels at a minimum during year-round operations will help maintain the quality of habitat for all wildlife species.
- Strict adherence to Humboldt County Commercial Medical Marijuana Land Use Order (CMMLUO 1.0) regarding performance standard for noise at cultivation sites for generator use, if being implemented in operations. Generator will need to be housed in a ventilated and sound-insulated box to reduce noise pollution.

## II. Introduction

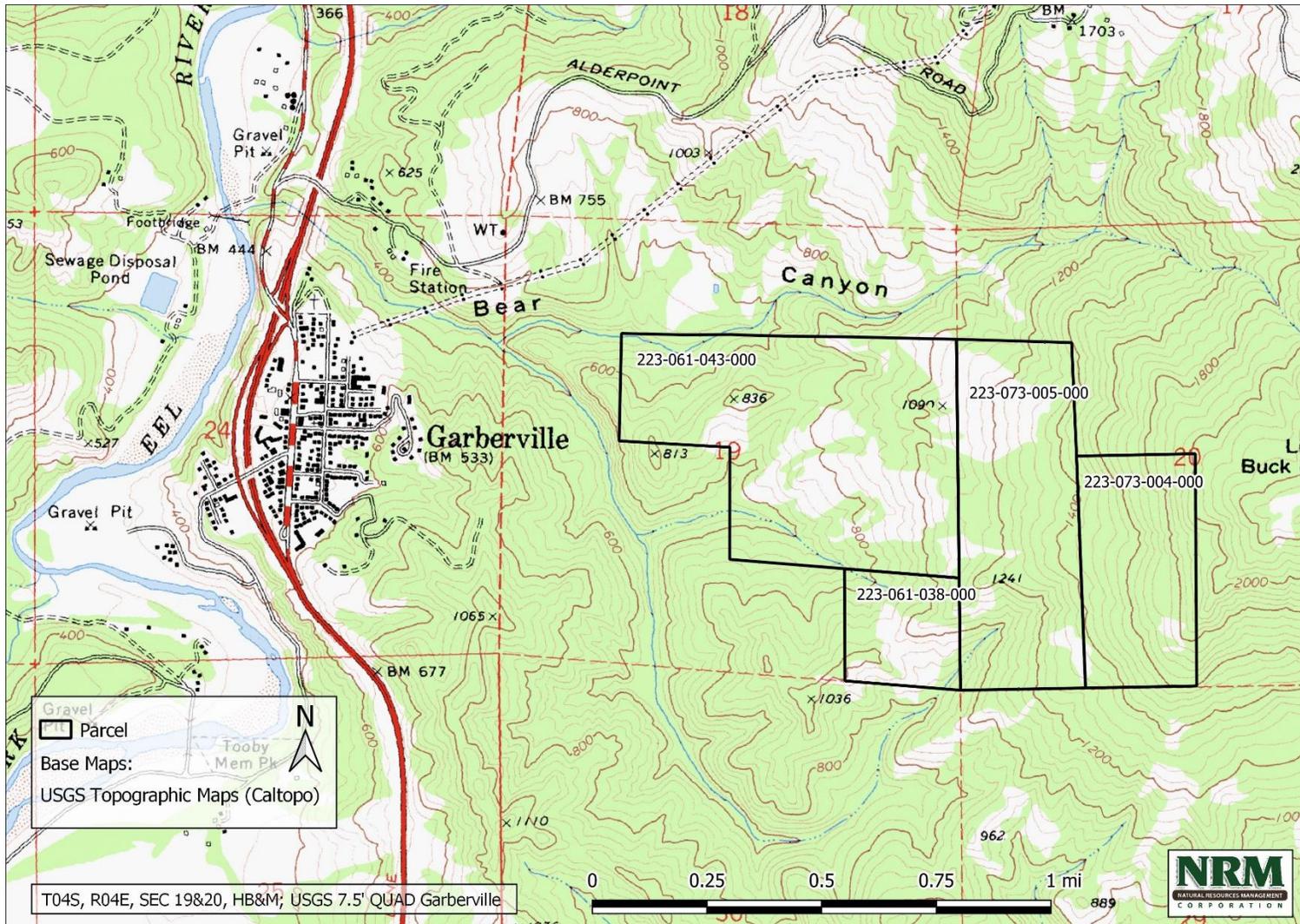
The purpose of this Biological Report is to review the project (described below) in sufficient detail to determine existing or potential impacts to wildlife species currently listed or formally proposed for listing as endangered or threatened under the federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA), or designated as sensitive by the California Department of Fish and Wildlife (CDFW); these species are hereinafter referred to as special status species (Table 1).

Species with potential habitat present, or whose presence was not confirmed but may potentially occur, are considered in further detail and include fisher (*Pekania pennanti*).

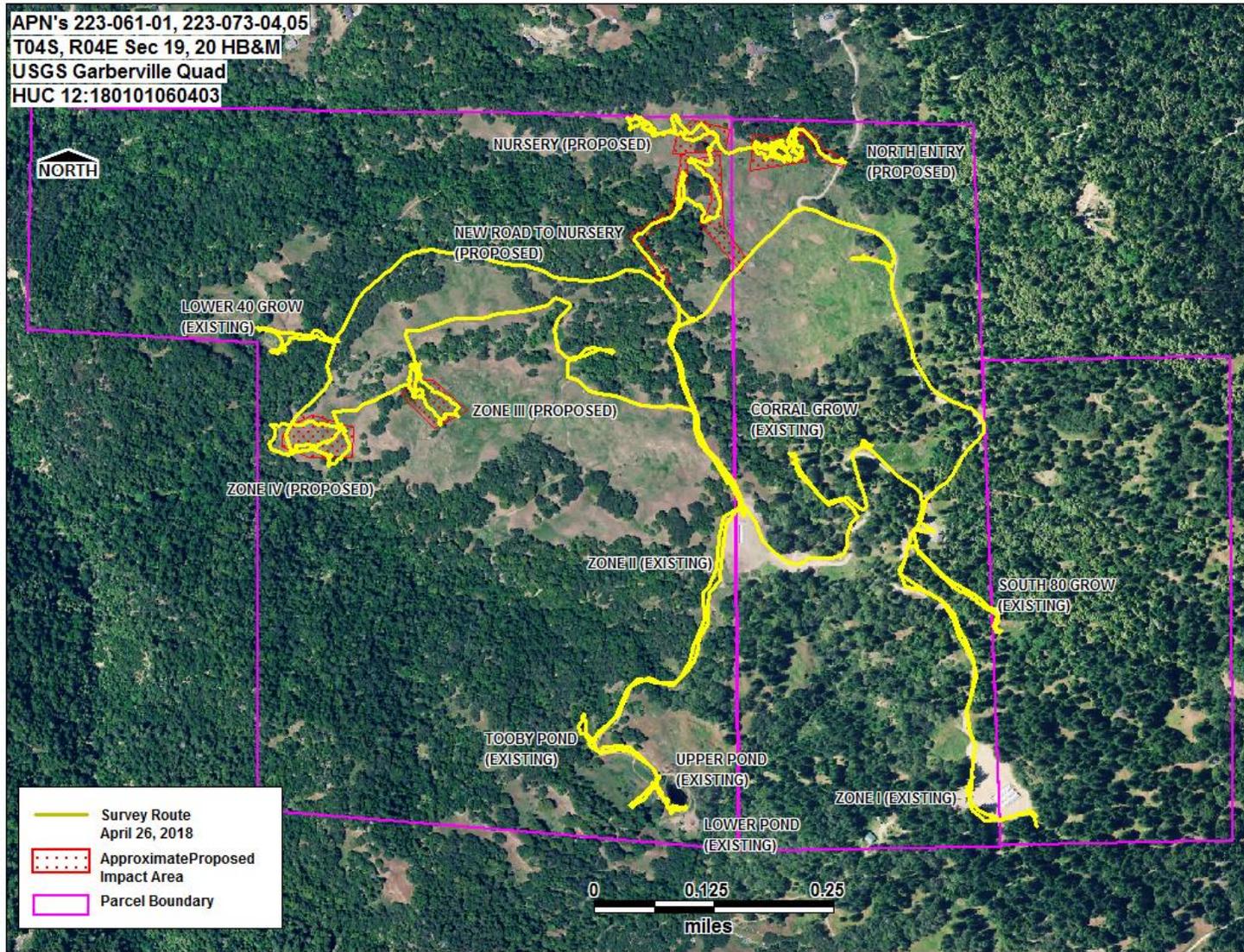
The project parcels APNs 223-061-038, 223-061-043, 223-073-004, 223-073-005 are located east of the town of Garberville in Humboldt County, California (Figure 1), approximately one mile from the nearest parcel boundary. Projects on these parcels include cannabis cultivation in the pre-existing cultivation areas of Zones I and II, with a nursery site to be located in Zone II (Figure 2), and the Roadside cultivation site, located just above Zone II. There are two existing ponds that will remain, an upper pond constructed in 2016 (Upper Pond), and a Lower Pond constructed around 2006; the Upper Pond is to be utilized for irrigation water (Figure 2). Within this report, these areas are collectively referred to as the Study Area.

There are three additional established cultivation areas that are dispersed on the parcels, Lower 40, Corral, and South 80, which the landowner is abandoning along with the proposed new zones associated with these areas, including the Nursery, Zones III and Zone IV (Figure 2).

The current cannabis sites are ‘grandfathered’ by the Humboldt County Commercial Medical Marijuana Land Use Order (CMMLUO 1.0), which requires they remain at their current location unless there are associated environmental concerns. A biological assessment was conducted to evaluate any environmental issues. In addition, these areas were surveyed in order to describe any terrestrial and aquatic animals occurring in the Study Area, as well as determine whether habitat exists for any special status species. At the time of the site visit, the proposed project included the development of cannabis related infrastructure (Figure 2) that was required to comply with the General Waiver of Waste Discharge Requirements and General Water Quality Certification for Discharges of Waste Resulting from Cannabis Cultivation and Associated Activities or Operations with Similar Environmental Effects in the North Coast Region, Order No. R1-2015-0023 (NCRWQCB 2015). The Order outlines protections for wetlands and watercourses. For this reason, the presence of wetland indicator and riparian vegetation was also surveyed for within and around the current and previously proposed projects.



**Figure 1.** Vicinity map for APNs 223-061-038, 223-061-043, 223-073-004, 223-073-005



**Figure 2.** Project map with current and formerly proposed project areas

### **III. Background and Project Understanding**

#### ***Project Site***

The project areas on parcel APNs 223-061-038, 223-061-043, 223-073-004, 223-073-005 are located approximately 2.5 air miles east of US Highway 101 and the town of Garberville, in Humboldt County, California. The legal description is T04S, R04E, Sections 19 and 20, HB&M, within the USGS 7.5' Garberville quadrangle topographic map. These four contiguous parcels total approximately 443 acres: 223-061-038 is 39 acres; 223-061-043 is 196 acres; 223-073-004 is 81 acres; and 223-073-005 is 127 acres.

Overall, this area can be described as a mid-mature forest dominated by Douglas fir interspersed with large open grassland areas within the rolling hills of the coastal range. When viewing the general area in Google Earth imagery (1993-2019, Google Earth Pro 2020), it appears the open areas previously utilized for cannabis cultivation are natural. Some open areas appear larger in earlier imagery, suggesting forest encroachment into the natural grassland openings.

#### ***Topography and Hydrology***

The parcels have a general western aspect towards the South Fork (SF) Eel River watershed, with elevations ranging from approximately 500 feet at the northwest corner to approximately 2,000 feet at the northeast parcel boundary, with several promontories across the open grassland areas. They are bound to the west by Garberville and the South Fork Eel River, to the east by Little Buck Mountain, to the north by Bear Canyon and Alderpoint Road, and to the south by the East Branch of the South Fork Eel River (Figure 1).

At the northwest corner of the project parcels, a tributary to the SF Eel River in Bear Canyon flows into and back out of the northern parcel boundary, approximately 2 miles east of the SF Eel River. Just west of the parcel boundary this tributary joins another tributary with forks originating in the south central portion of APN 223-061-038, approximately 0.2 miles (1,055 feet) west of Zone II, and in the southwest corner of APN 223-073-005, approximately 0.2 miles west of Zone I. This meets the required watercourse setbacks (buffers) for the State Waterboard and Humboldt County.

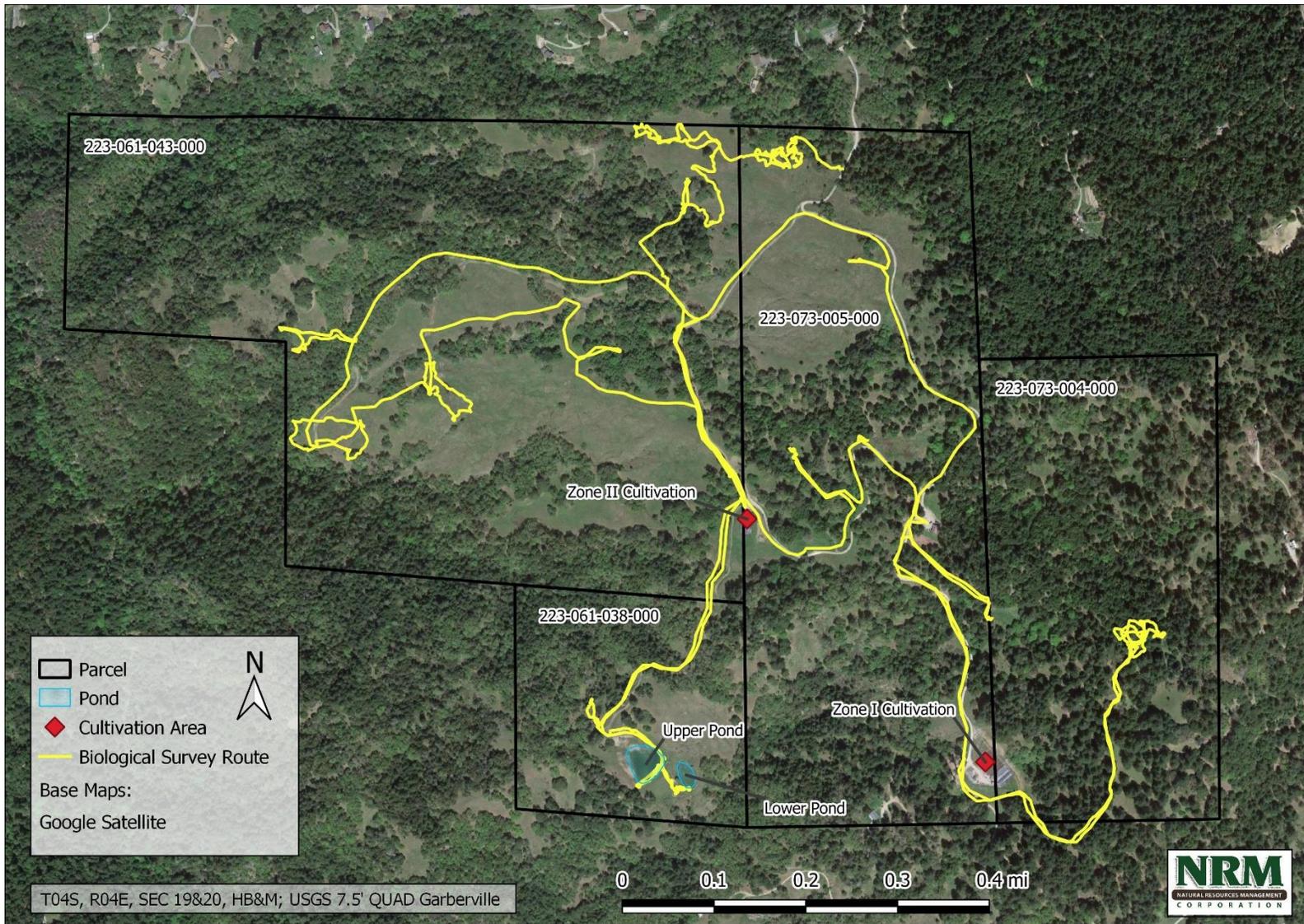
The mainstem Eel River, a Class I fish bearing watercourse, flows northwest from Garberville to the confluence with South Fork Eel River at Dyerville, continuing another 20 air miles to the confluence with the Van Duzen River, then flows approximately 12 additional air miles to the Pacific Ocean.

### ***Project Description***

Within the Study Area, the proposed cultivation sites include Zone I (Photo 1), Zone II, and Roadside, located just above Zone II. These are existing cultivation areas with established greenhouses. The current location of three other established cannabis cultivation areas that are dispersed across the parcels are Lower 40, Corral, and South 80 will be abandoned and the sites remediated (Figure 2).

As part of the permitting process the landowner has been instructed to either remove or improve stability of the Upper Pond, constructed in 2016 (Photo 2) prior to record-setting winter precipitation when some minor bank failure occurred. The landowner is planning to improve the stability of land around this pond and utilize the water for cannabis irrigation.

The Lower Pond, constructed around 2006, is connected to the upper pond via a culvert (Photo 3). The earthen dam (Photo 4) at the end opposite where the culvert enters from the Upper Pond has had some issues, apparent by the erosion around the two outlet culverts (Photo 5) which deposit into a Class II drainage. The landowner, who has been instructed to either mitigate or remove this pond, is planning to improve the stability of land around this pond.



**Figure 3.** Revised project map for APNs 223-061-038, 223-061-043, 223-073-004 and 223-073-005

## IV. Methods

### *Pre-Field Review*

Prior to the survey, the CDFW California Natural Diversity Data Base (CNDDDB, CDFW 2018) records of wildlife species occurrences for Humboldt County was queried for a nine-quad area surrounding the project parcels to determine if there were any known locations for special status species in the general area (Table 1). A recent query was done for this revision to ensure no additional records were added to the database since the site visit in 2018.

**Table 1.** CNDDDB list of potential special status species in the Garberville nine-quad area

Common Name	Scientific Name	Fed/State Listing
Cooper's hawk	<i>Accipiter cooperii</i>	Watch List
golden eagle	<i>Aquila chrysaetos</i>	Fully Protected
osprey	<i>Pandion haliaetus</i>	Watch List
American peregrine falcon	<i>Falco peregrinus anatum</i>	Delisted, Fully Protected
little willow flycatcher	<i>Empidonax traillii brewstersi</i>	State Endangered
Sonoma tree vole	<i>Arborimus pomo</i>	SSC
Pacific fisher- West Coast DPS	<i>Pekania pennanti</i>	Proposed & Candidate Threatened
pallid bat	<i>Antrozous pallidus</i>	SSC
western pond turtle	<i>Emys marmota</i>	SSC
Pacific tailed frog	<i>Ascaphus truei</i>	SSC
foothill yellow-legged frog	<i>Rana boylei</i>	Candidate Threatened
southern torrent salamander	<i>Rhyacotriton variegatus</i>	SSC
red-bellied newt	<i>Taricha rivularis</i>	SSC

### *Field Survey*

On April 26<sup>th</sup>, 2018 NRM wildlife biologist Michelle McKenzie and botanist Claire Brown conducted a site visit to survey the existing and proposed projects and surrounding area for all terrestrial and aquatic species present. The survey was conducted for approximately 7 hours on a mild (60°F/15°C), partly sunny afternoon (Figure 2, survey track in yellow).

While walking between project areas all audial detections of bird and mammal (particularly squirrel) species were noted, as well as any sign, such as tracks and scat. In addition, large trees and snags were inspected for activity or sign of use by wildlife (cavities, nests or accumulated vegetation), and all cover objects were inspected for potential amphibian species at all proposed and existing project areas. The two pond areas were surveyed by traversing the perimeter, scanning ahead with binoculars prior to approaching to detect all potential species, particularly escaping amphibians, and stopping every 50 meters for several minutes of observation.

In addition, all previously proposed and existing project areas were surveyed for the presence of wetland-indicator and riparian vegetation.

## V. Results and Discussion

For all species, direct impacts are those which are caused by the action (project) and occur at the same time and place. Indirect impacts are defined as those effects that are caused by the proposed action and are later in time, but still reasonably certain to occur. Special status and additional species of interest, and the potential for project impacts, are presented in Table 2, below. None of these species are expected to experience significant impacts from the proposed projects, either directly or indirectly. The proposed project areas (Zone I, Zone II, Roadside) are existing cultivation flats with greenhouses, and the ponds have been established for several years.

The CNDDDB database search for all special status species within a 1-mile radius of the project revealed records for foothill yellow-legged frog (presumed extant) and pallid bat (based on coordinates provided). The Study Area at Shadow Light Ranch did not reveal any optimal habitat for foothill yellow-legged frogs though some habitat may exist in the forested portions of watercourses elsewhere on the parcels. The presence of pallid bats is likely due to the interior location and open grassland habitat, although only during the summer months. Favored roosting include rock crevices, which exist on property, as well as buildings and bridges.

There are no northern spotted owl (NSO) activity centers (ACs) in the general vicinity of Shadow Light Ranch and no nesting or roosting habitat; the nearest is HUM0012 at over 3.7 miles to the southwest.

A recent CNDDDB query for this revision was conducted and included no new records for the general area.

No listed wildlife species or species of concern were detected during the survey; see Table 2 for species-specific information. In addition, no sensitive species or natural communities of plants were detected during the survey and no wetland indicator vegetation was identified in the proposed cultivation areas.

The Upper pond, which has been determined needs removed or mitigated to improve stability, contained hundreds of tadpoles on the margins that appeared to be Northern Pacific tree frogs. According to the landowner this pond, as well as the Tooby pond across the road, is shallow and tends to be dry by June which likely contributes to keeping the non-native bullfrog from establishing. This pond appears stable; what slumping has occurred appears contained and was perhaps due to unseasonably saturating rains the winter following construction. Should CDFW determine this pond needs removed it should be done once it has dried up and juvenile frogs have had time to disperse into the surrounding landscape.

A culvert connecting the Upper Pond and Lower Pond showed some signs of slumping but did not appear to be delivering sediment to the Lower Pond. It has been determined that the Lower Pond may need mitigation or removal as well. This more established pond currently contains Pacific tree frog tadpoles and some nesting red-winged blackbirds in the cattails. The habitat at

this site is similar to that of the Upper Pond, but with an established emergent wetland along the margins. The area between the Lower Pond and the adjacent Class II below has some significant erosion issues that need addressed to avoid delivering sediment to the watercourse downslope. The Class II stream course was not surveyed during this visit; it is assumed if habitat for foothill yellow-legged frog existed in the stream course that adults would be present year-round. Should CDFW determine this pond needs removed it should be done once it dries, if indeed it does, and juvenile frogs or fledgling red-winged blackbirds from the last nesting attempt have had the opportunity to disperse. In addition, surveys for foothill yellow-legged frogs should occur if earth moving activities are required in the vicinity of the stream course at any time of year.

The general area is dominated by open grassland prairie habitat, optimal for foraging golden eagles that utilize these areas for hunting rabbits, ground squirrels and other prey items. Nesting structures, such as broken tops of large diameter trees, are required and are often associated with steep-walled canyons that locally are typically associated with larger river systems, such as the mainstem and SF Eel Rivers. The nearest CNDDDB record for this species is greater than 5 miles north, in the Bear Buttes area.

There does not appear to be sufficient extensive habitat in the immediate project area to support listed or candidate species (fisher, little willow flycatcher, foothill yellow-legged frog), although foraging by fisher on the parcels is presumed, utilizing forested patches for cover. There is no willow of any extent on the parcels to support willow flycatchers, and the watercourses surveyed during the course of the biological assessment did not provide optimal habitat for foothill yellow-legged frog although habitat may exist elsewhere on the ranch; presence was not confirmed for either species. In addition to the red-winged blackbirds, migratory birds are presumed to nest in the area.

**Table 2.** Special status species, species potentially present in the project areas, and potential impacts

Common Name	Listing Status	General Habitat Description	Presence of Suitable Habitat w/in Site?	Potentially Impacted by Project?	Comments
<b>BIRDS</b>					
Cooper's hawk	WL	Dense stands of live oak, riparian deciduous or other forest habitats near water used most frequently. Woodland, chiefly of open, interrupted or marginal type for hunting; nests usually in second growth conifer stands or deciduous riparian areas near streams	Yes	No	No impacts; nesting/foraging habitat present in wider general area; more likely utilizing watercourse areas
golden eagle	FP	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas	Yes	No	No impacts; parcel in vicinity of habitat but unlikely to have any impacts due to extensive options and no nearby historic records
osprey	WL	Ocean shore, bays, freshwater lakes, and larger streams. Large nests built in tree-tops within 15 miles of a good fish-producing body of water	No	No	No impacts; likely present in SF Eel river watershed
American peregrine falcon	FP	Breeds near water in woodland, forest, and coastal habitats. Riparian areas important year-round. Requires cliffs, ledges for cover and breeding	No	No	No impacts; some large cliff areas typically of this species (locally) in the vicinity
northern spotted owl	T	Old-growth forests or mixed stands of old-growth and mature trees; occasionally in younger forests with patches of big trees	No	No	No impacts; nearest known AC is greater than 3 miles from project areas
little willow flycatcher	SE	Breeds in moist brushy thickets, open second-growth, and riparian woodland, especially with willow	No	No	No impacts; no concentrated areas of willow or other riparian brushy areas observed on parcels

<b>MAMMALS</b>					
Sonoma tree vole	SSC	North coast fog belt from Oregon border to Sonoma County; in Douglas-fir, redwood & montane hardwood-conifer forests	Yes	No	No impacts; if habitat on parcel it occurs in areas with no disturbance; no habitat being removed
fisher	CT	Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure; denning structures include hollow trees, logs and snags	Yes	No	No impacts; this wide ranging species expected to be in general area foraging; may be denning structures present on ranch; no habitat being removed
Pallid bat	SSC	Frequents open habitats for foraging, often taking prey on the ground, such as crickets and grasshoppers; day roosts in caves, crevices and occasionally hollow trees and buildings; night roosts more open sites such as bridges and open buildings; prefers rocky outcrops, cliffs to access open habitats	Yes	No	No impacts; foraging habitat present, assume roosting in general vicinity
<b>HERPETOFAUNA</b>					
western pond turtle	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation	Yes	No	No impacts; not present/detected at pond sites, which dry up by July
Pacific tailed frog	SSC	Occurs in montane hardwood-conifer, redwood, Douglas-fir & ponderosa pine habitats	No	No	No impacts; Class III creek surveyed is not considered consistent or cool enough for this species
Red-bellied newt	SSC	Prefers clean rocky streams and rivers with moderate to fast flows	No	No	No impacts; no habitat; may be out of range for this species
foothill yellow-legged frog	CT	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg-laying. Need at least 15 weeks to attain metamorphosis	No	No	No impacts; rarely encountered far from rocky streams with permanent water; no habitat in surveyed areas
southern torrent salamander	SSC	Coastal redwood, Douglas-fir, mixed conifer, montane riparian, and montane hardwood-conifer habitats; Old growth forests	No	No	No impacts; requires cold, well shaded permanent water; stays within splash zone; class III not permanent

## ***Species Accounts***

### **Fisher**

*Regulatory Status:* The west coast population of fisher is a Federal and State Proposed Candidate Threatened species, and a State Species of Special Concern.

*Habitat Requirements and Natural History:* This species occurs in intermediate to large-tree stages of coniferous forests and deciduous-riparian habitats with a high canopy closure. Breeds February through May with a litter size of 1-4 young, that stay with female until late autumn.

*Potential for Occurrence within the Project Area:* Assume nighttime foraging can/will occur in the project vicinity; potential breeding habitat in the vicinity.

*Direct Effects:* If fisher denning in the area equipment noise could disturb adults and young.

*Indirect Effects:* No indirect effects are expected.

*Determination:* It is determined that the project will have no effect on the fisher, particularly due to no construction.

### ***Survey Results***

Species, or their sign, observed during the survey are summarized in Table 3, below. An additional pond (Figure 2, Tooby pond) located across the road from the previously mentioned Upper and Lower Ponds was surveyed due to the landowner concerns of American bullfrogs (*Lithobates catesbeianus*) presence. Inspection of the Tooby pond revealed several adult rough-skinned newts coming to the surface for air then swimming back down to the bottom out of view; it is assumed this is a breeding pond for newts and that no bullfrog are present in any of the existing ponds. There were no direct sightings of mammal species, all were inferred from sign.

**Table 3.** Species detected at the Shadow Light Ranch, April 26, 2018

Common Name	Scientific Name	Fed/ State Listing	Detection Method
red-tailed hawk	<i>Buteo jamaicensis</i>	No	Visual
sharp-shinned hawk	<i>Accipiter striatus</i>	No	Visual
northern flicker	<i>Colaptes auratus</i>	No	Visual, Auditory
red-breasted sapsucker	<i>Sphyrapicus ruber</i>	No	Foraging holes, Visual
sooty grouse	<i>Dendragapus fuliginosus</i>	No	Auditory
wild turkey	<i>Melegris gallopavo</i>	No	Feathers (predated), Visual
turkey vulture	<i>Cathartes aura</i>	No	Visual
common raven	<i>Corvus corax</i>	No	Auditory
chimney swift	<i>Chaetura pelagica</i>	No	Visual
American robin	<i>Turdus migratorius</i>	No	Visual
spotted towhee	<i>Pipilo maculatus</i>	No	Visual
dark-eyed junco	<i>Junco hyemalis</i>	No	Visual
black-throated gray warbler	<i>Setophaga nigrescens</i>	No	Auditory
hermit warbler	<i>Setophaga occidentalis</i>	No	Auditory
Wilson's warbler	<i>Cardellina pusilla</i>	No	Auditory
orange-crowned warbler	<i>Vermivora celata</i>	No	Auditory
Cassin's vireo	<i>Vireo cassinii</i>	No	Auditory
warbling vireo	<i>Vireo gilvus</i>	No	Visual
American goldfinch	<i>Spinus tristis</i>	No	Visual
red-winged blackbird	<i>Agelaius phoeniceus</i>	No	Visual
black phoebe	<i>Sayornis nigricans</i>	No	Visual, Auditory
Steller's jay	<i>Cyanocitta stelleri</i>	No	Visual, Auditory
winter wren	<i>Troglodytes hiemalis</i>	No	Visual
varied thrush	<i>Ixoreus naevius</i>	No	Visual, Auditory
song sparrow	<i>Melospiza melodia</i>	No	Visual
Pacific slope flycatcher	<i>Empidonax difficilis</i>	No	Auditory
California vole	<i>Microtus californicus</i>	No	Burrows
black-tailed deer	<i>Odocoileus hemionus columbianus</i>	No	Scat, Tracks
gray fox	<i>Urocyon cinereoargenteus</i>	No	Scat
coyote	<i>Canis latrans</i>	No	Scat
western fence lizard	<i>Sceloporus occidentalis</i>	No	Visual
coast garter snake	<i>Thamnophis elegans terrestris</i>	No	Visual
northern Pacific treefrog	<i>Pseudacris regilla</i>	No	Visual
rough skinned newt	<i>Taricha granulosa</i>	No	Visual

## *Cumulative Effects*

No cumulative effects from the proposed projects on regulated species is expected.

## *Management Recommendations*

- No use of plastic support netting. This plastic netting is a hazard to all forms of wildlife and is not to be used. CDFW recommends using netting of natural materials such as jute or hemp, with no welded seams. For example (not endorsement), see this product made in southern Humboldt: <https://consciousgardeners.com/>
- No rodenticides shall be used.
- Surveys for foothill yellow-legged frogs should occur in the vicinity of any earth moving activities near Class II water courses. If it is determined earth moving activities will need to occur at or near the Lower Pond, surveys should be conducted on the adjacent Class II stream prior to determine presence/absence.
- Any structure requiring lighting (mixed light greenhouses) before sunrise or after sunset MUST be covered to avoid any effects on nocturnal wildlife. Further, all attempts to keep noise levels at a minimum during year-round operations will help maintain the quality of habitat for all wildlife species.
- Strict adherence to Humboldt County Commercial Medical Marijuana Land Use Order (CMMLUO 1.0) regarding performance standard for noise at cultivation sites for generator use, if being implemented in operations. Generator will need to be housed in a ventilated and sound-insulated box to reduce noise pollution.

**Appendix Site Visit Photos taken April 26, 2018**



**Photo 1.** Current cultivation at Zone I



**Photo 2.** Upper Pond needing removed or improved



**Photo 3.** Culvert connected Upper Pond with Lower Pond



**Photo 4.** View of Lower Pond looking toward Class II and cattails with nesting red-winged blackbirds; person to right standing above culverts in the following picture.



**Photo 5.** View of culverts behind earth dam of Lower Pond and erosion, with Class II drainage below