This section describes the regulatory setting, regional biological resources, and impacts that are likely to result from project implementation. There were two written comments received during the public review period for the Notice of Preparation regarding this topic:

- A letter to Shasta County from resident Kirk Sanders, dated July 31, 2009 indicated that there are numerous species of wildlife in the vicinity of the project site that may be adversely affected by the proposed project.

- An undated letter to Shasta County singed by residents Ashley Wayman, Tim Wedan, and Barbara Wedan, received on August 3, 2009 requested that the EIR address potential impacts to fish, wildlife and plants in the project vicinity.

Information in this section is derived primarily from the following:

- California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California (Skinner, Mark W. and Bruce M. Pavlik, Eds. 2001);
- A Manual of California Vegetation (Sawyer, John and Todd Keeler-Wolf 1995);
- Terrestrial vegetation of California (Barbour and Major 1988);
- Jepson Manual: Higher Plants of California (Hickman, James C. 1993);
- "Special Plants List." Natural Diversity Database. (California Dept. of Fish and Game);
- "Special Animals List." Natural Diversity Database. (California Dept. of Fish and Game);
- "Special Vascular Plants, Bryophytes, and Lichens List." Natural Diversity Database. (California Dept. of Fish and Game).
- Army Corps of Engineers Wetland Delineation Manual. (ACOE 1987)
- Shasta County General Plan (Shasta County, 2004)

3.3.1 ENVIRONMENTAL SETTING

Shasta County encompasses approximately 3785 square miles in north central California. The western part of the county is located in the northern Klamath Mountains, the eastern portion is in the Cascade Mountains and Modoc Plateau, and the south-central portion is in the Sacramento Valley. The climate varies by region, but generally the county has cool, wet winters and hot, dry summers. Precipitation is normally in the form of rain, with snow in the higher elevations, and ranges from approximately 20 to 80 inches per year.

The project site is located within the Great Valley geomorphic province. The Great Valley is an alluvial plain about 50 miles wide and 400 miles long in the central part of California. Its northern part is the Sacramento Valley, drained by the Sacramento River and its southern part is the San Joaquin Valley drained by the San Joaquin River. The Great Valley is a trough in which sediments have been deposited almost continuously since the Jurassic (about 160 million years ago). Great oil fields have been found in southernmost San Joaquin Valley and along anticlinal uplifts on its southwestern margin. In the Sacramento Valley, the Sutter Buttes, the remnants of an isolated Pliocene volcano, rise above the valley floor.

BIOREGIONS

The county is defined by three different bioregions including the Sacramento Valley, Klamath/North Coast, and Modoc. The proposed project is located within the Sacramento Valley Bioregion which is briefly described below.

The Sacramento Valley Bioregion is a watershed of the Sierra Nevada that encompasses the northern end of the great Central Valley, stretching from Redding to the southeast corner of Sacramento County. The bioregion is generally flat, and is rich in agriculture. The south-central portion of the County falls within this bioregion, which has a climate that is characterized by hot dry summers and cool wet winters. Oak woodlands, riparian forests, vernal pools, freshwater marshes, and grasslands provide the major natural vegetation of the bioregion. This bioregion is the most prominent wintering area for waterfowl, attracting significant numbers of ducks and geese to its seasonal marshes along the Pacific Flyway. Species include northern pintails, snow geese, tundra swans, sandhill cranes, mallards, grebes, peregrine falcons, heron, egrets, and hawks. Black-tailed deer, coyotes, river otters, muskrats, beavers, ospreys, bald eagles, salmon, steelhead, and swallowtail butterflies are some of the wildlife that are common in this bioregion.

NATURAL COMMUNITIES

Natural communities provide the primary habitat for the biological resources in Shasta County. Agricultural communities also provide habitat for a variety of biological resources in the region. Sensitive habitats include those that are of special concern to resource agencies or those that are protected under CEQA, the Fish and Game Code, the Clean Water Act, or a conservation planning document/policy. Additionally, sensitive habitats are usually protected under specific policies from local agencies.

Shasta County is a biologically diverse part of the state. According to the California Wildlife Habitat Relationship System there are 43 wildlife habitat classifications in Shasta County out of 59 found in the state. The project site is located within the Sacramento Valley Bioregion which contains 19 of the 43 wildlife habitat classifications found in Shasta County. The project site is characterized as barren, but land in the regional vicinity contains diverse micro habitats and does, or can, include any of these 19 wildlife habitat classifications. These habitat classifications are briefly described below.

Hardwood Woodland

Blue oak-foothill pine habitat occurs in a typically Mediterranean climate with hot, dry summers and cool, wet winters. Most precipitation falls as rain from November through April, averaging 20 to 40 inches within the primary range of blue oak. The frost-free growing season ranges from 150 to 300 days, with winter temperatures averaging 30 F and summer temperatures averaging 90 F. Soils are from a variety of generally well-drained parent materials, ranging from gravelly loam through stony clay loam, with soils commonly rich in rock fragments.

Blue oak woodland habitat is usually associated with shallow, rocky, infertile, well-drained soils from a variety of parent materials. The climate is Mediterranean, with mild wet winters and hot

dry summers. Average annual precipitation varies from 20 to 40 inches over most of the range, although extremes are noted from 10 to 60 inches. Mean temperatures range from 75-96 F in summer to 29-42 F in winter. The growing season ranges from 6 months in the north to the entire year in the south, with 175 to 365 frost-free days.

Eucalyptus habitats have been extensively planted throughout the state since their introduction in 1856. They are found in highly variable site characteristics, but generally on relatively flat or gently rolling terrain, occasionally in the foothills. Climatic conditions are typically Mediterranean, characterized by hot, dry summers and cool, mild winters. Precipitation ranges from approximately 12 to 24 inches. Temperature regimes range from a 43 F to 73 F.

Valley oak woodland habitat occurs in a wide range of physiographic settings but is best developed on deep, well-drained alluvial soils, usually in valley bottoms. Most large, healthy valley oaks are probably rooted down to permanent water supplies. Stands of valley oaks are found in deep sills on broad ridge-tops in the southern Coast Range. Where this type occurs near the coast, it is usually found away from the main fog zone. The climate is Mediterranean, with mild, wet winters and hot, dry summers.

Valley-foothill riparian habitats are found in valleys bordered by sloping alluvial fans, slightly dissected terraces, lower foothills, and coastal plains. They are generally associated with low velocity flows, flood plains, and gentle topography. Valleys provide deep alluvial soils and a high water table. The substrate is coarse, gravelly or rocky soils more or less permanently moist, but probably well aerated. Frost and short periods of freezing occur in winter (200 to 350 frost-free days). This habitat is characterized by hot, dry summers, mild and wet winters. Temperatures range from 75 to 102 F in the summer to 29 to 44 F in the winter. Average precipitation ranges from 6-30 inches, with little or no snow. The growing season is 7 to 11 months.

Herbaceous

Perennial Grassland habitat typically occurs on ridges and south-facing slopes, alternating with forest and scrub in the valleys and on north-facing slopes. The length of the frost free season averages 250 to 300 days (18 to 21 fortnights). Annual precipitation is highest in northern California.

Wet meadows occur where water is at or near the surface most of the growing season, following spring runoff. Hydrologically, they occupy lotic, sunken concave, and hanging sites. Lotic sites are those with main input flow (other than precipitation) from upstream sources; at least early in the growing season, water flows across them at depths of 4-8 inches. Downstream runoff is the principal output flow. Lotic sites are topographic basins but have a slight slope, which permits drainage of surface water. Percolation is nil due to the saturated or slowly permeable nature of underlying materials. Sunken concave sites also receive water input from upstream sources, but evapotranspiration is the main output flow. Percolation is slowed by heavy-textured soils and/or shallow bedrock; however, in contrast to lotic and hanging sites, soil of sunken concave sites may dry to considerable depth by fall. Hanging sites are watered by hydrostatic flows as springs or

seeps. They frequently occur on rather steep slopes, and downstream runoff is the main output flow. Surface flows, although constant, are usually no more than 0.4 inches deep.

Fresh emergent wetland habitats occur on virtually all exposures and slopes, provided a basin or depression is saturated or at least periodically flooded. They are most common on level to gently rolling topography. They are found in various depressions or at the edge of rivers or lakes. Soils are predominantly silt and clay, although coarser sediments and organic material may be intermixed. In some areas organic soils (peat) may constitute the primary growth medium. Climatic conditions are highly variable and range from the extreme summer heat to winter temperatures well below freezing.

Pastures are planted on flat and gently rolling terrain. Flat terrain is irrigated by the border and check method of irrigation, except on sandy soils or where water supplies are limited. Pastures established on sandy soils or hills are sprinklered. Hilly lands also use wild flooding; that is, ditches that follow the grade along ridges and hillsides, where water is released at selected points along the ditch. Climate influences the length of growing season. For example, pastures at higher elevations or in the north have a shorter growing season.

Other

There are a variety of other habitat types documented with Sacramento Valley bioregion. These include aquatic habitats such as lacustrine and riverine, and agricultural habitats such as deciduous orchard, dryland grain crops, irrigated grain crops, irrigated hayfields, irrigated row and field crops, and rice. Additionally, this bioregion contains areas that are barren, and/or classified as urban.

Salmon and Steelhead Trout Fisheries

Salmon and steelhead trout are anadromous fish species that are present in the Sacramento River Basin. Anadromous fish are born in freshwater rivers and streams, and then migrate to the Pacific Ocean to grow and mature before returning to their place of origin to spawn. The Sacramento River system produces most of the Chinook salmon (*Oncorhynchus tshawytscha*) and a large percentage of the steelhead trout (*Oncorhynchus mykiss*) in California.

Anadromous fish resources once flourished naturally in the Sacramento River system, but as a result of habitat destruction from water storage/diversion projects, mining, sedimentation, and bank degradation, they are protected species under the Endangered Species Act. The Sacramento River system has historically supported steelhead trout and four distinct spawning runs of Chinook salmon: fall, late fall, winter, and spring. The salmon runs have declined since the late 1800s and are now characterized as episodic. The Central Valley steelhead was federally listed as threatened in 2003. The fall/late fall-run salmon is a federal and state species of concern, and a candidate species for federal listing. The spring-run Chinook salmon population is listed as threatened by both federal and state agencies. Winter-run Chinook salmon population is listed as a federally and state endangered species. Populations of Central Valley Steelhead and Chinook salmon are supported by hatcheries within the Sacramento River Basin.

Water remaining behind the dams by the start of the spawning run in October is often warmed by summer heat. Warm water and low water elevation are harmful to most coldwater anadromous fish species. Riparian vegetation is critical for the maintenance of high quality fish habitat. It provides cover, controls temperature, stabilizes stream banks, provides food, and buffers streams from erosion and impacts of adjacent land uses. Riparian vegetation also affects stream depth, current velocity, and substrate composition. The decline of riparian communities in California is a factor contributing to the loss of high quality fish habitat.

COLEMAN NATION FISH HATCHERY. In 1942, the Coleman National Fish Hatchery (NFH) was established near the town of Anderson on the north bank of Battle Creek approximately five miles east of the Sacramento River. Chinook salmon and Steelhead Trout returning from the ocean, travel up the Sacramento River and Battle Creek where they are enticed by water flow into the fish hatchery. Eggs are collected, fertilized and incubated artificially until they hatch. The young fish are then raised in ponds at the hatchery until they are sufficient size to be released and return to the ocean. Long term production goals for Coleman NFH Complex are as follows: 12,000,000 Fall Chinook Salmon, 1,200,000 Late Fall Chinook Salmon, 1,500,000 Winter Chinook Salmon, and 600,000 Steelhead Trout annually.

CRYSTAL LAKE STATE FISH HATCHERY was formerly named Burney Creek Hatchery, and was constructed by PG&E on the Burney Creek arm of Lake Britton, ½ mile downstream from Burney Falls. Hatchery operations began in 1927 with 100 troughs capable of raising a million fingerling trout. The hatchery was modernized in 1976 and today annually raises 1,500,000 fish weighing approximately 500,000 pounds.

MT. SHASTA STATE FISH HATCHERY was established in 1888 and is the oldest operating fish hatchery west of the Mississippi. The hatchery is located near the headwater springs of the Sacramento River and is one of three major brood stock hatcheries in the state. The hatchery produces five to 10 million trout a year and stocks Northern California's lakes and streams.

DARRAH SPRINGS STATE FISH HATCHERY was established in 1941 by the State of California on what was originally Simon Darrah's homestead. When built, it was the largest trout hatchery in California. The hatchery raises several varieties of trout, including rainbow, Lahonton, cut throat and Eagle Lake trout. The hatchery supplies an average of 430,000 lbs of trout annually to waters throughout the state of California. The brood fish are kept at the facility but are sent to Mt. Shasta Hatchery to spawn.

Migratory Deer

Shasta County has ten deer winter ranges which support migratory deer herds as well as other associated flora and fauna species. Shasta County's deer include both resident and migratory populations. Although Columbian black-tailed deer (*Odocoileus hemionus columbianus*) and mule deer (*Odocoileus hemionus)* are not recognized as a special-status species, preserving deer habitat and migration corridors is of concern to the California Department of Fish and Game (CDFG) in many foothill and mountainous regions of California currently experiencing urbanization. The CDFG completed a study on deer movement, migration corridors, fall and spring holding areas,

summer ranges, and seasonal habitat requirements within Shasta County resulting in land use recommendations to support the deer herds.

The Eastern Tehama deer herd is the largest migratory deer herd in the county and is considered the most extensive range in the state. The range includes portions of Tehama, Plumas, Lassen, Shasta, and Butte counties. Winter range is approximately 520,000 acres; migratory and summer ranges total approximately 920,000 acres and migration routes to and from seasonal ranges are the longest in the state, covering a distance of 50 to 100 miles.

Deer migration is a result of annual weather patterns. The first winter storms of the year will initiate the herd migration to a lower elevation. The herds will generally hold as high as possible until the first major snowstorm forces the deer to migrate lower. The deer migration reverses in late winter to early spring when weather conditions begin to warm and the snow begins to melt at higher elevations.

Land in the immediate vicinity of the project site has a resident/local deer population. However, the project site is not within a CDFG recognized migration corridor, fall or spring holding area, or summer range.

LOCAL SETTING

The project site is located west of Interstate 5 and the Sacramento River, and east of State Route 273 and the Southern Pacific Railroad. Land to the north of the mill is agricultural lands. Land to the east across the Sacramento River is residential and undeveloped open space. Land to the west across the railroad and SR 273 include residential and agricultural. Land to the south of the project site consists of agricultural, industrial, and rural residential.

The project site was formerly a log pond that has been partially filled. The project site is currently barren undeveloped land covered with gravel, and has historically served as a log storage area. Vegetative communities on the project site are classified as ruderal.

The project site is largely void of vegetation. The lack of vegetation is a result of historical disturbance associated with log storage, and the limitation that aggregate rock and woody debris creates for plant growth. Ruderal vegetation can provide habitat for a variety of wildlife populations; however, the frequent disturbance associated with the milling activities limits the ability of wildlife to utilize the project site.

Run-off from the project site sheet flows to the log ponds that remain. The log ponds are not Hydrologically connected to Spring Gulch or the Sacramento River. The Sacramento River is located approximately 1000 feet to the east of the project site.

Land in the regional vicinity of the project site includes a variety of habitats including: blue oak-foothill pine, blue oak woodland, eucalyptus, valley oak woodland, valley-foothill riparian, perennial grassland, wet meadows, fresh emergent wetland, pastures, lacustrine, riverine, deciduous orchard, dryland grain crops, irrigated grain crops, irrigated hayfields, irrigated row and field crops, rice, barren, and urban.

SPECIAL-STATUS SPECIES

The following discussion is based on a background search of special-status species that are documented in the California Natural Diversity Database (CNDDB), the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants, and the U.S. Fish and Wildlife Service's (USFWS) endangered and threatened species lists. The background search was regional in scope and focused on the documented occurrences within a five-mile radius of the project site.

The search revealed documented occurrences of 20 special-status species, including: six plants, four invertebrates, one reptile, two fish, three birds, and four mammals. In addition, there are three documented sensitive natural communities within a five-mile radius including: Great Valley Cottonwood Riparian Forest, Great Valley Valley Oak Riparian Forest, and Great Valley Willow Scrub. All three sensitive natural communities are associated with the Sacramento River.

Tables 3.3-1 provide a list of special-status species that are documented, their habitat, and current protective status (*Note: the potential for each of these species to occur is addressed in the impact discussion of this chapter.) Figure 3.3-1 illustrates the location of the special-status species in the vicinity of the project site.

TABLE 3.3-1: DOCUMENTED SPECIAL STATUS SPECIES WITHIN A 5-MILE RADIUS OF PROJECT SITE

SPECIES	*STATUS*	*HABITAT*
Plants		
Agrostis hendersonii Henderson's bent grass	--;--;3	VALLEY AND FOOTHILL GRASSLAND, VERNAL POOLS. LITTLE INFORMATION EXISTS; MOIST PLACES IN GRASSLAND OR VERNAL POOL HABITAT. 70-305M.
Carex vulpinoidea brown fox sedge	--;--;2	MARSHES AND SWAMPS, RIPARIAN WOODLAND. WET PLACES. 30-1200M.
Cryptantha crinita silky cryptantha	--;--;1B	CISMONTANE WOODLAND, VALLEY FOOTHILL GRASSLAND, LOWER MONTANE CONIFEROUS FOREST, RIPARIAN FOREST, RIPARIAN WOODLAND. IN GRAVELLY STREAM BEDS. 85-220M.
Juncus leiospermus var. *leiospermus* Red Bluff dwarf rush	--;--;1B	CHAPARRAL, VALLEY AND FOOTHILL GRASSLAND, CISMONTANE WOODLANDS, VERNAL POOLS. VERNALLY MESIC SITES. SOMETIMES ON EDGES OF VERNAL POOLS. 30-1020M.
Legenere limosa legenere	--;--;1B	VERNAL POOLS. MANY HISTORICAL OCCURRENCES ARE EXTIRPATED. IN BEDS OF VERNAL POOLS. 1-880M.
Orcuttia tenuis slender orcutt grass	FT;CE;1B	VERNAL POOLS. 30-1735M.
Invertebrates		
Branchinecta lynchi vernal pool fairy shrimp	FT;--;--	ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS. INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.
Desmocerus californicus dimorphus valley elderberry longhorn beetle	FT;--;--	OCCURS ONLY IN THE CENTRAL VALLEY OF CALIFORNIA, IN ASSOCIATION WITH BLUE ELDERBERRY (SAMBUCUS MEXICANA). PREFERS TO LAY EGGS IN ELDERBERRIES 2-8 INCHES IN DIAMETER; SOME PREFERENCE SHOWN FOR "STRESSED" ELDERBERRIES.
Lepidurus packardi vernal pool tadpole shrimp	FE;--;--	INHABITS VERNAL POOLS AND SWALES IN THE SACRAMENTO VALLEY CONTAINING CLEAR TO HIGHLY TURBID WATER. POOLS COMMONLY FOUND IN GRASS BOTTOMED SWALES OF UNPLOWED GRASSLANDS. SOME POOLS ARE MUD-BOTTOMED & HIGHLY TURBID.
Linderiella occidentalis California linderiella	--;CSC;--	SEASONAL POOLS IN UNPLOWED GRASSLANDS WITH OLD ALLUVIAL SOILS UNDERLAIN BY HARDPAN OR IN SANDSTONE DEPRESSIONS. WATER IN THE POOLS HAS VERY LOW ALKALINITY, CONDUCTIVITY, AND TDS.
Reptiles		

SPECIES	STATUS	HABITAT
Actinemys marmorata marmorata northwestern pond turtle	--;CSC;--	ASSOCIATED WITH PERMANENT OR NEARLY PERMANENT WATER IN A WIDE VARIETY OF HABITATS. REQUIRES BASKING SITES. NESTS SITES MAY BE FOUND UP TO 0.5 KM FROM WATER.
Fish		
Oncorhynchus tshawytscha spring-run Chinook salmon	FT;CT;--	ADULT NOS. DEPEND ON POOL DEPTH & VOLUME, AMOUNT OF COVER, & PROXIMITY TO GRAVEL. WATER TEMPS >27 C IS LETHAL TO ADULTS FEDERAL LISTING REFERS TO POPS SPAWNING IN SACRAMENTO RIVER & TRIBUTARIES.
Oncorhynchus tshawytscha Chinook salmon winter-run	FE;CE;--	SACRAMENTO RIVER BELOW KESWICK DAM. SPAWNS IN THE SACRAMENTO RIVER BUT NOT IN TRIBUTARY STREAMS. REQUIRES CLEAN, COLD WATER OVER GRAVEL BEDS WITH WATER TEMPERATURES BETWEEN 6 & 14 C FOR SPAWNING.
Birds		
Agelaius tricolor tricolored blackbird	--;CSC;--	HIGHLY COLONIAL SPECIES, MOST NUMEROUS IN CENTRAL VALLEY & VICINITY. LARGELY ENDEMIC TO CALIFORNIA. REQUIRES OPEN WATER, PROTECTED NESTING SUBSTRATE, & FORAGING AREA WITH INSECT PREY WITHIN A FEW KM OF THE COLONY.
Pandion haliaetus osprey	--;MBTA;--	OCEAN SHORE, BAYS, FRESH-WATER LAKES, AND LARGER STREAMS. LARGE NESTS BUILT IN TREE-TOPS WITHIN 15 MILES OF A GOOD FISH-PRODUCING BODY OF WATER.
Riparia riparia bank swallow	--;CT;--	COLONIAL NESTER; NESTS PRIMARILY IN RIPARIAN AND OTHER LOWLAND HABITATS WEST OF THE DESERT. REQUIRES VERTICAL BANKS/CLIFFS WITH FINE-TEXTURED/SANDY SOILS NEAR STREAMS, RIVERS, LAKES, OCEAN TO DIG NESTING HOLE.
Mammals		
Lasionycteris noctivagans silver-haired bat	--;CSC;--	PRIMARILY A COASTAL & MONTANE FOREST DWELLER FEEDING OVER STREAMS, PONDS & OPEN BRUSHY AREAS. ROOSTS IN HOLLOW TREES, BENEATH EXFOLIATING BARK, ABANDONED WOODPECKER HOLES & RARELY UNDER ROCKS. NEEDS DRINKING WATER.
Lasiurus blossevillii western red bat	--;CSC;--	ROOSTS PRIMARILY IN TREES, 2-40 FT ABOVE GROUND, FROM SEA LEVEL UP THROUGH MIXED CONIFER FORESTS. PREFERS HABITAT EDGES & MOSAICS WITH TREES THAT ARE PROTECTED FROM ABOVE & OPEN BELOW WITH OPEN AREAS FOR FORAGING.
Lasiurus cinereus hoary bat	--;CSC;--	PREFERS OPEN HABITATS OR HABITAT MOSAICS, WITH ACCESS TO TREES FOR COVER & OPEN AREAS OR HABITAT EDGES FOR FEEDING. ROOSTS IN DENSE FOLIAGE OF MEDIUM TO LARGE TREES. FEEDS PRIMARILY ON MOTHS. REQUIRES WATER.
Myotis yumanensis Yuma myotis	--;CSC;--	OPTIMAL HABITATS ARE OPEN FORESTS AND WOODLANDS WITH SOURCES OF WATER OVER WHICH TO FEED. DISTRIBUTION IS CLOSELY TIED TO BODIES OF WATER. MATERNITY COLONIES IN CAVES, MINES, BUILDINGS OR CREVICES.

SOURCE: DFG CNDDB 2009

Abbreviations:

FE	Federal Endangered
FT	Federal Threatened
FC	Federal Candidate
FPD	Federal proposed for delisting
FPT	Federal proposed threatened
FD	Federal delisted
MBTA	Protected by Migratory Bird Treaty Act
CE	California Endangered Species
CT	California Threatened
CR	California Rare (Protected by Native Plant Protection Act)
CSC	CDFG Species of Special Concern
CC	State candidate for listing
1B	CNPS - Rare, Threatened, or Endangered

3.3.2 REGULATORY SETTING

There are a number of regulatory agencies whose responsibility includes the oversight of the natural resources of the state and nation including the CDFG, USFWS, USACOE, and the National Marine Fisheries Service. These agencies often respond to declines in the quantity of a particular habitat or plant or animal species by developing protective measures for those species or habitat type. Federal and state agencies are increasingly involved with projects at the local level in Shasta County. The following is an overview of the federal, state and local regulations that are applicable to the proposed project.

FEDERAL

Federal Endangered Species Act

The Federal Endangered Species Act (FESA), passed in 1973, defines an endangered species as any species or subspecies that is in danger of extinction throughout all or a significant portion of its range. A threatened species is defined as any species or subspecies that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Once a species is listed it is fully protected from a "take" unless a take permit is issued by the USFWS. A take is defined as the harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct, including modification of its habitat (16 USC 1532, 50 CFR 17.3). Proposed endangered or threatened species are those species for which a proposed regulation, but not a final rule, has been published in the Federal Register.

Migratory Bird Treaty Act

To kill, posses, or trade a migratory bird, bird part, nest, or egg is a violation of the Federal Migratory Bird Treaty Act (FMBTA: 16 U.S.C., §703, Supp. I, 1989), unless it is in accordance with the regulations that have been set forth by the Secretary of the Interior.

Clean Water Act – Section 404

Section 404 of the CWA regulates all discharges of dredged or fill material into waters of the U.S. Discharges of fill material includes the placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)].

Waters of the U.S. include lakes, rivers, streams, intermittent drainages, mudflats, sandflats, wetlands, sloughs, and wet meadows. Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" [33 C.F.R. §328.3(b)]. Waters of the U.S. exhibit a defined bed and bank and

ordinary high water mark (OHWM). The OHWM is defined by the USACOE as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" [33 C.F.R. §328.3(e)].

The USACOE is the agency responsible for administering the permit process for activities that affect waters of the U.S. Executive Order 11990 is a federal implementation policy, which is intended to result in no net loss of wetlands.

Clean Water Act – Section 401

Section 401 of the CWA (33 U.S.C. 1341) requires an applicant who is seeking a 404 permit to first obtain a water quality certification from the Regional Water Quality Control Board. To obtain the water quality certification, the Regional Water Quality Control Board must indicate that the proposed fill would be consistent with the standards set forth by the state.

STATE

Fish and Game Code §2050-2097 - California Endangered Species Act

The California Endangered Species Act (CESA) protects certain plant and animal species when they are of special ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the State. CESA established that it is State policy to conserve, protect, restore, and enhance endangered species and their habitats.

CESA was expanded upon the original Native Plant Protection Act and enhanced legal protection for plants. To be consistent with Federal regulations, CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the Act as threatened species, but did not do so for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Under State law, plant and animal species may be formally designated by official listing by the California Fish and Game Commission.

Fish and Game Code §1900-1913 California Native Plant Protection Act

In 1977 the State Legislature passed the Native Plant Protection Act (NPPA) in recognition of rare and endangered plants of the state. The intent of the law was to preserve, protect, and enhance endangered plants. The NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare, and to require permits for collecting, transporting, or selling such plants. The NPPA includes provisions that prohibit the taking of plants designated as "rare" from the wild, and a salvage mandate for landowners, which requires notification of the CDFG 10 days in advance of approving a building site.

Fish and Game Code §3503, 3503.5, 3800 - Predatory Birds

Under the California Fish and Game Code, all predatory birds in the order Falconiformes or Strigiformes in California, generally called "raptors," are protected. The law indicates that it is unlawful to take, posses, or destroy the nest or eggs of any such bird unless it is in accordance with

the code. Any activity that would cause a nest to be abandoned or cause a reduction or loss in a reproductive effort is considered a take. This generally includes construction activities.

Fish and Game Code §1601-1603 – Streambed Alteration

Under the California Fish and Game Code, CDFG has jurisdiction over any proposed activities that would divert or obstruct the natural flow or change the bed, channel, or bank of any lake or stream. Private landowners or project proponents must obtain a "Streambed Alteration Agreement" from CDFG prior to any alteration of a lake bed, stream channel, or their banks. Through this agreement, the CDFG may impose conditions to limit and fully mitigate impacts on fish and wildlife resources. These agreements are usually initiated through the local CDFG warden and will specify timing and construction conditions, including any mitigation necessary to protect fish and wildlife from impacts of the work.

Public Resources Code § 21000 - California Environmental Quality Act

The California Environmental Quality Act (CEQA) identifies that a species that is not listed on the federal or state endangered species list may be considered rare or endangered if the species meets certain criteria. Under CEQA public agencies must determine if a project would adversely affect a species that is not protected by FESA or CESA. Species that are not listed under FESA or CESA, but are otherwise eligible for listing (i.e. candidate, or proposed) may be protected by the local government until the opportunity to list the species arises for the responsible agency.

Species that may be considered for review are included on a list of "Species of Special Concern," developed by the CDFG. Additionally, the California Native Plant Society (CNPS) maintains a list of plant species native to California that have low numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. List 1A contains plants that are believed to be extinct. List 1B contains plants that are rare, threatened, or endangered in California and elsewhere. List 2 contains plants that are rare, threatened, or endangered in California, but more numerous elsewhere. List 3 contains plants where additional information is needed. List 4 contains plants with a limited distribution.

Public Resources Code § 21083.4 - Oak woodlands conservation

In 2004, the California legislature enacted SB 1334, which added oak woodland conservation regulations to the Public Resources Code. This new law requires a County to determine whether a project, within its jurisdiction, may result in a conversion of oak woodlands that will have a significant effect on the environment. If a County determines that there may be a significant effect to oak woodlands, the County must require oak woodland mitigation alternatives to mitigate the significant effect of the conversion of oak woodlands. Such mitigation alternatives include: conservation through the use of conservation easements; planting and maintaining an appropriate number of replacement trees; contribution of funds to the Oak Woodlands Conservation Fund for the purpose of purchasing oak woodlands conservation easements; and/or other mitigation measures developed by the County.

California Wetlands Conservation Policy

In August 1993, the Governor announced the "California Wetlands Conservation Policy." The goals of the policy are to establish a framework and strategy that will:

- Ensure no overall net loss and to achieve a long-term net gain in the quantity, quality, and permanence of wetland acreage and values in California in a manner that fosters creativity, stewardship, and respect for private property.
- Reduce procedural complexity in the administration of State and federal wetland conservation programs.
- Encourage partnerships to make landowner incentive programs and cooperative planning efforts the primary focus of wetland conservation and restoration.

The Governor also signed Executive Order W-59-93, which incorporates the goals and objectives contained in the new policy and directs the Resources Agency to establish an Interagency Task Force to direct and coordinate administration and implementation of the policy.

LOCAL

Shasta County General Plan

The Fish and Wildlife Element of the Shasta County General Plan contains objectives and policies that address the need to preserve unique and important aquatic, fish and wildlife habitats, and plant communities for their biological resource and ecological values, as well as for their direct and indirect benefits to the citizens of Shasta County. The polices that are relevant to the proposed project are presented below.

FW-c: Projects that contain or may impact endangered and/or threatened plant or animal species, as officially designated by the California Fish and Game Commission and/or the U. S. Fish and Wildlife Service, shall be designed or conditioned to avoid any net adverse project impacts on those species.

FW-d: The significant river and creekside corridors of Shasta County shall be designated on the General Plan maps. The primary purpose of this designation is to protect the riparian habitats from development and from adverse impacts from conflicting resources uses. The purpose is also to encourage open space and recreation (policy OSR-e). Mapping of significant waterway corridors in areas designated as resource protection lands is not required since it is assumed that resource land uses will also act to protect such waterway corridors. Riparian habitat protection along the significant river and creekside corridors, as designated on the plan maps shall be achieved, where appropriate, by the following measures:

- regulation of vegetation removal.
- design of grading and road construction to restrict sediment input to all streams.
- establishment of a development set-back.
- the siting of structures, including clustering.

- recreation plans for the Sacramento River, Clear Creek, and other feasible waterway resources.

FW-e: Salmon spawning gravel in the following rivers and creeks shall be protected:

- Sacramento River: Keswick Dam to Shasta-Tehama County line.
- Battle Creek: Mouth to the mouth of South Fork Battle Creek.
- Cow Creek: Mouth to: Powerhouse on South Cow Creek; the mouth of Coal Gulch on Old Cow Creek; the mouth of Dry Clover Creek on Clover Creek; the mouth of Tracy Creek on Oak Run Creek; the mouth of Salt Creek on Little Cow Creek.
- Cottonwood Creek: Mouth to west line of Section 6, T.29N., R.5W., M.D.B.& M.
- Bear Creek: Mouth to the Highway 44 bridge.
- Clear Creek: Mouth to Whiskeytown Dam.
- Churn Creek: Mouth to Redding City limits.
- Stillwater Creek: Mouth to the Highway 299E bridge.
- Olney Creek: Mouth to mouth of Tadpole Creek.
- Anderson Creek: Mouth to Interstate 5.

Regional Conservation Planning

A Habitat Conservation Plan (HCP) is a federal planning document that is prepared pursuant to Section 10 of the Federal Endangered Species Act (FESA). An approved HCP within a defined plan area allows for the incidental take of species and habitat that are otherwise protected under FESA during development activities.

A Natural Community Conservation Plan (NCCP) is a state planning document administered by CDFG. An approved NCCP within a defined plan area allows for the incidental take of species and habitat that are otherwise protected under CESA during growth and development activities.

Shasta County does not have an approved HCP or NCCP that is administered in the region.

3.3.3 IMPACTS AND MITIGATION MEASURES

METHODS

Literature and Database Review

De Novo Biologist Steve McMurtry conducted a literature review and database search to gather information regarding sensitive plants, animals, and habitats. The purpose of the literature and database review is to identify species known to occur within the region based on historic range, observations, and habitat requirements. Information for the literature and database review is derived primarily from the following:

- California Natural Diversity Data Base (CNDDB RareFind 3, 2009);
- California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California (Skinner, Mark W. and Bruce M. Pavlik, Eds. 2001);

- A Manual of California Vegetation (Sawyer, John and Todd Keeler-Wolf 1995);
- Terrestrial vegetation of California (Barbour and Major 1988);
- Jepson Manual: Higher Plants of California (Hickman, James C. 1993);
- "Special Plants List." Natural Diversity Database. (California Dept. of Fish and Game);
- "Special Animals List." Natural Diversity Database. (California Dept. of Fish and Game);
- "Special Vascular Plants, Bryophytes, and Lichens List." Natural Diversity Database. (California Dept. of Fish and Game).
- Army Corps of Engineers Wetland Delineation Manual. (ACOE 1987)
- Updated Biological and Wetland Screening for a Proposed Cogeneration Facility at the Sierra Pacific Industries, Inc., Sawmill in Anderson. (Enplan 2007)

Aerial-Photo Survey

De Novo Biologist Steve McMurtry examined aerial photographs of the project site to document the existing conditions and assess any changes that have occurred from historical aerial photos.

Field Surveys

On July 21, 2009 De Novo Biologist Steve McMurtry performed a reconnaissance-level survey of the project site. The survey included a traverse of the project site on foot to determine the potential for presence of plant communities, special status species, and sensitive habitats. Additionally, a windshield survey was conducted for the area within an approximately one-mile radius of the project site. The purpose of the site survey was to document the existing biological conditions on the project site, and in the project area. On September 24, 2007 a reconnaissance-level survey was also performed by ENPLAN Biologist Darrin Doyle.

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on biological resources if it will:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

IMPACTS AND MITIGATION

Impact 3.3-1: Direct or indirect effects on special-status invertebrate species (Less than Significant)

Special-status invertebrates that occur within five miles of the project site include: the California linderiella; vernal pool fairy shrimp; and vernal pool tadpole shrimp, which requires vernal pools and swale areas within grasslands; and the valley elderberry longhorn beetle, which is an insect that is only associated with blue elderberry plants, oftentimes in riparian areas and sometimes on land in the vicinity of riparian areas.

Direct Impacts: The project site is best characterized as mostly barren with limited ruderal vegetation. The project site does not contain vernal pools or elderberry plants which is essential habitat for these special status invertebrates. Furthermore, evidence of these species was not encountered during multiple field surveys. Implementation of the proposed project would have a **less than significant** direct impact on special status invertebrates.

Indirect Impacts: Land outside, but within the immediate vicinity of the project site, includes habitat that is appropriate for special status invertebrates known to the region. Grassland habitat is commonly found throughout the regional vicinity, with vernal pools and swales occurring sporadically within the grassland areas. Vernal pools and swales are essential habitat for the California linderiella, vernal pool fairy shrimp, and vernal pool tadpole shrimp. The closest documented occurrence of these three special status species is located approximately 2 miles northeast of the project site.

Riparian habitat is also commonly found throughout the region, most notably along the Sacramento River to the east and various tributaries and sloughs. Elderberry plants are common within riparian habitat in the Sacramento River basin, and elderberry is essential habitat for valley elderberry longhorn beetle. The closest documented occurrence of valley elderberry longhorn beetle is located approximately 3 miles east of the project site along the Sacramento River.

The project site is located in a confined area within the existing Sierra Pacific Industries lumber milling operations. The project site is located at such a great distance from the documented occurrences discussed above that it is highly unlikely that they would be affected by construction or operation activities. Implementation of the proposed project would have a **less than significant** indirect impact on special status invertebrate species located outside the project site.

Impact 3.3-2: Direct or indirect effects on special-status reptile and amphibian species (Less than Significant)

Special-status reptiles that occur within five miles include: the northwestern pond turtle, which requires aquatic environments located along ponds, marshes, rivers, and ditches. There are no documented occurrences of special status amphibians within a five-mile radius of the project site.

Direct Impacts: The project site does not contain the appropriate aquatic environment necessary for the northwestern pond turtle (*Actinemys marmorata marmorata*). This species is generally known to bask in upland areas that are relatively short distances from their aquatic habitat. Additionally, they are known to nest up to 1,500 feet from their aquatic habitat. Evidence of this species was not encountered during multiple field surveys of the project site. Implementation of the proposed project would have a **less than significant** direct impact on special status reptiles.

Indirect Impacts: Land outside, but within the immediate vicinity of the project site, includes aquatic habitat including ponds, marshes, rivers, and ditches, which is appropriate for the northwestern pond turtle. The closest documented occurrence of this special status species is located approximately 5 miles northwest of the project site.

The project site is located in a confined area within the existing Sierra Pacific Industries lumber milling operations. The project site is located at such a great distance from the documented occurrences discussed above that it is highly unlikely that they would be affected by construction or operation activities. Implementation of the proposed project would have a **less than significant** indirect impact on special status reptile species located outside the project site.

Impact 3.3-3: Direct or indirect effects on special-status fish species (Less than Significant with Mitigation)

Special-status fish that occur within the five miles include: the spring-run Chinook salmon, and winter-run Chinook salmon, which are all found in the rivers, streams, and tributaries of the Sacramento River Basin. Although not documented in the CNDDB within five miles, steelhead trout is a special status species that is well known within the Sacramento River Basin.

Direct Impacts: The project site does not contain aquatic or wetland habitat. The project site is mostly barren with limited ruderal vegetation, which is not habitat for fish. Implementation of the proposed project would have a **less than significant** direct impact on special status fish.

Indirect Impacts: Land outside, but within the immediate vicinity of the project site, includes habitat that is appropriate for special status fish known to the region. It is well documented that Chinook salmon and steelhead trout spawn in the Sacramento River located immediately east of the project site.

Chinook salmon and steelhead trout are anadromous fish species that are present in the Sacramento River Basin. The Sacramento River system has historically supported steelhead trout and four distinct spawning runs of Chinook salmon: fall, late fall, winter, and spring. The fall/late fall-run salmon is a federal and state species of concern, and a candidate species for federal listing.

The spring-run Chinook salmon population is listed as threatened by both federal and state agencies. Winter-run Chinook salmon population is listed as a federally and state endangered species. The steelhead trout was federally listed as threatened in 2003. Populations of Chinook salmon and steelhead have been supported by hatcheries within the Sacramento River Basin.

It is important that any development located adjacent to the Sacramento River be reviewed for impacts to riparian habitat, which is critical for the maintenance of high quality fish habitat. Riparian vegetation provides cover, controls temperature, stabilizes stream banks, provides food, and buffers streams from erosion and impacts of adjacent land uses. Riparian vegetation also affects stream depth, current velocity, and substrate composition.

The proposed project would not result in the direct disturbance to the Sacramento River or its associated riparian habitat. However, uncontrolled runoff from the project site during construction or operation could cause sediment layers to damage gravelly reaches of the Sacramento River that are essential for Salmon and steelhead spawning. Additionally, uncontrolled runoff from the project site during construction or operation could cause other pollutants to enter the Sacramento River affecting the water chemistry, nutrient loads, temperatures, and critical food sources. Any changes to these important factors can affect the ability of mature Chinook salmon and steelhead to spawn, as well as the ability for eggs to hatch and young to develop. This is a **potentially significant** indirect impact.

The following mitigation measures would ensure that construction and operation activities would not result in indirect impacts to Chinook salmon from sedimentation of spawning grounds or other pollutants entering the waterway. Additionally, the following mitigation measures ensure that the riparian vegetation located along the Sacramento River on lands outside, but adjacent to the project site, are not disturbed as a result of construction or operation of the proposed project. Implementation of this mitigation measure would reduce the potentially significant indirect impact on Chinook salmon and steelhead trout to a **less than significant** level.

MITIGATION MEASURES

Mitigation Measure 3.3-1*: Prior to issuance of a grading permit, a Storm Water Pollution Prevention Plan (SWPPP) shall be prepared. A copy of the SWPPP shall be available and implemented at the construction site at all times. The SWPPP shall outline the source control and/or treatment control BMPs to avoid or mitigate runoff pollutants at the construction site to the maximum extent practicable. Such BMPs shall include: erosion control (i.e. mulch, grass, stockpile covers, etc.) and sediment controls (i.e. silt fence, inlet protection, sediment traps, rocked construction entrances, etc.). BMPs shall be maintained throughout the construction phase by minimizing disturbance, preserving vegetation, and good housekeeping (i.e. daily clean-up of construction site).*

Mitigation Measure 3.3-2*: Prior to issuance of a grading permit, a Notice of Intent shall be prepared and submitted to the Regional Water Quality Control Board in compliance with the National Pollution Discharge Elimination System (NPDES) requirements. The Notice of Intent shall include a copy of the SWPPP showing intent to comply with the State of California General Permit.*

Mitigation Measure 3.3-3*: A Water Quality Management Plan shall be prepared for use as a post construction/operational SWPPP. The intent of the Water Quality Management Plan is to design a storm drain system that treats storm water to federal and state standards and to ensure that storm water is treated prior to entering a downstream protected wetland, jurisdictional water, and aquatic habitat for fish. The system should route all drainage from impermeable surfaces either through swales, buffer strips, or sand filters or it should be treated with a filtering system prior to discharge to the storm drain system.*

SIGNIFICANCE AFTER MITIGATION

Implementation of Mitigation Measures 3.3-1 through 3.3-3 would reduce potential impacts to special-status fish species and aquatic habitat to a **less than significant** level.

Impact 3.3-4: Direct or indirect effects on special-status bird species (Less than Significant with Mitigation)

Special-status birds that occur within the region include: bank swallow, tricolored blackbird, and osprey, which are associated with streams, rivers, lakes, wetlands, marshes, and other wet environments; the osprey, which require open water to forage for food, while they typically perch on cliffs, large trees, or snags; and raptors that are present in varying habitats throughout the region.

Direct Impacts: The project site does not contain suitable nesting habitat for the special status bird species documented in the region. Furthermore, evidence of these species was not encountered on the project site during multiple field surveys. Implementation of the proposed project would have a **less than significant** direct impact on special-status birds.

Indirect Impacts: Land outside, but within the immediate vicinity of the project site, includes appropriate nesting and foraging habitat for the three special status bird species that are documented within five miles. It is important to note that the high mobility of birds makes it possible for many other special birds to frequent the region for foraging and/or nesting. Also, it is highly likely that the extensive riparian habitat located along the Sacramento River supports additional special status birds that, although not documented in the CNDDB, are known within the region.

The closest documented occurrence of the bank swallow is 4.5 miles north of the project site along the Sacramento River. Additional occurrences of bank swallow are located 5 miles east of the project site, also along the Sacramento River. The habitat along the Sacramento River is essential for this species, and although not documented in the CNDDB immediately adjacent to the project site, appropriate habitat exists.

The riparian habitat along the Sacramento River is also appropriate nesting and foraging habitat for numerous other special status birds, including protected raptors. If construction equipment were to go off the project site and into the riparian habitat, whether intentional or not, nesting and/or foraging activities could potentially be disrupted. Operation of the proposed cogeneration plan is not expected to disrupt nesting and foraging habitat in the vicinity because operational

activities would be substantially the same as current activities and therefore, would not encroach on riparian habitat along the river.

Mitigation Measures 3.3-3 is designed to mitigate for this potentially significant impact. The mitigation measures would require the project proponent to install construction fencing along the riparian areas adjacent to the Sacramento River (within the project proponent's land) to ensure that construction activities do not go off the project site and disturb the riparian area located offsite. Implementation of this mitigation measures would reduce the potentially significant indirect impact on special status bird habitat to a **less than significant** level.

Osprey Nest. There is evidence of an osprey nest located approximately 500 feet west of the Area of Potential Improvement (API). According to the CNDDB, the osprey nest was first reported in 1990. Personal accounts/observations indicate that it has been used repeatedly since that time. Ospreys nest between April 1 and July 31, which is expected to overlap with the construction period for the proposed project. Excessive noise levels associated with construction or operational activities can disturb nesting raptors causing them to abandon a nest.

Because of the proximity of the API to the documented osprey nest it was necessary to assess the potential noise impacts on nesting ospreys. The existing noise levels at the project site were compared to the future noise levels as a result of construction and operational activities. A noise assessment was performed by Enplan in 2007. j.c. brennan & associates performed a second noise assessment in April 2010, which provided the same results. The noise assessment uses the Equivalent Sound Level (Leq) measurement. The Leq is the equivalent, steady-state noise level that would contain the same acoustic energy as fluctuating noise levels measured over a stated period of time—the mean sound level. The Lx represents the sound level that is exceeded x percent of the time. For example, the L90 represents the sound level exceeded 90 percent of the time, and the L50 represents the sound level exceeded 50 percent of the time—the median sound level. The LMAX represents the maximum noise level recorded during the monitoring period. The results of the noise study are presented in Table 3.3-2.

TABLE 3.3-2: RESULTS OF BASELINE NOISE MONITORING

MONITORING LOCATION	*MEASUREMENT PERIOD (MIN)*	LEQ	L10	L33	L50	L90	LMAX
Osprey Nest	6	73.6	73.5	73.5	72.5	70.0	84.0
Proposed Cogeneration Site	6	68.1	68.5	68.0	68.0	67.5	70.0

SOURCE: ENPLAN 2007

The 2010 noise assessment performed by j.c. brennan & associates, Inc. included noise level measurements of the lumber mill operations at the base of the tower where the nest is located. The primary noise sources were the planer building and the bag house. Measured noise levels were 70 dB Leq at the base of the tower, which is approximately 3.6 dB Leq lower than the 2007 report. However, assuming that other contributions of noise occur at the elevated nesting site, it is estimated that the lumber mill noise levels could reach levels of 73 dB Leq at the nesting site, which is consistent with the 2007 assessment prepared by Enplan.

The loudest activity associated with the proposed project is expected to be pile driving during construction. Pile drivers typically generate noise levels on the order of 95 to 100 dBA at a distance of 50 feet. Allowing for noise attenuation over distance, pile driving would generate noise levels up to about 75 to 80 dBA at the osprey nest (actual noise levels may be less due to shielding provided by existing buildings).

The short-duration noise monitoring indicates that maximum noise levels at the Osprey nest currently exceed 80 dBA. Given that the existing noise condition at the Osprey nest exceeds the noise generated from the loudest activities associated with the proposed project, the peak noise levels generated by the proposed project will have a **less than significant** impact on nesting ospreys. Additionally, due to the shielding by buildings and the distance, the long term operation of the proposed project would have a **less than significant** impact on nesting ospreys.

Impact 3.3-5: Direct or indirect effects on special-status mammal species (Less than Significant)

Special-status mammals that occur within five miles of the project site include: silver-haired bat, western red bat, hoary bat, and Yuma myotis bat, which occur in a variety of habitats, including grasslands, foothill woodlands, coniferous forest, caves, mines, and buildings.

Direct Impacts: The project site does not contain suitable roosting habitat for the special-status bat species documented in the region. Furthermore, evidence of these species was not encountered during multiple field surveys. Implementation of the proposed project would have a **less than significant** direct impact on special-status mammals.

Indirect Impacts: Land outside, but within the immediate vicinity of the project site, includes grasslands, foothill woodlands, coniferous forest, caves, mines, and buildings, which are appropriate for the silver-haired bat, western red bat, hoary bat, and Yuma myotis bat, among others. The closest documented occurrence of these special status species is located approximately 2 miles southeast of the project site.

The project site is located within the existing Sierra Pacific Industries lumber milling operations. Surveys of the structures associated with the lumber milling operations and the riparian areas in the immediately vicinity have not revealed the presence of bat roosts. Although there is no direct evidence of bat roosts on the lumber milling grounds, the high mobility of bats makes it possible for special status bats to forage from time to time in and around the lumber milling operations. However, any special-status bat that utilizes the lumber milling grounds for foraging from time to time would be accustomed to the frequency of activities and would not be expected to be disturbed by the proposed project when compared to the existing conditions. Implementation of the proposed project would have a **less than significant** indirect impact on special status bat species.

Impact 3.3-6: Direct or indirect effects on special-status plant species (Less than Significant with Mitigation)

Special-status plants that occur within five miles of the project site include: Henderson's bent grass, Legenere, slender Orcutt grass, which require vernal pool habitat; brown fox sedge, which requires marshes, swamps, and riparian woodland habitat; silky cryptantha, which requires cismontane woodland, valley foothill grassland, lower montane coniferous forest, riparian forest, or riparian woodland; and Red Bluff dwarf rush, which requires chaparral, valley and foothill grassland, cismontane woodlands, or vernal pools.

Three additional special status plants are known to occur within the region, but were not documented in the CNDDB as occurring within five miles. These include: pointed broom sedge, pink creamsacs, and Ahart's paronychia, which are all associated with mesic environments within vernal pools, scrub, chaparral, grasslands, or woodlands.

Direct Impacts: Lumber operations on the project site have involved a high frequency of ground disturbance associated with the milling activities. The project site is best characterized as mostly barren with limited ruderal vegetation. There are no documented special status plants located on the project site. Furthermore, evidence of special status plants was not encountered on the project site during multiple field surveys. Implementation of the proposed project would have a **less than significant** direct impact on special status plants.

Indirect Impacts: Land outside, but within the immediate vicinity of the project site, includes habitat that is appropriate for special status plants known to the region. This includes riparian, marsh, and swamp habitat associated with the Sacramento River to the east and various tributaries and sloughs located throughout the region. Additionally, grassland and woodland habitat is commonly found throughout the regional vicinity. Vernal pools are less common, but are found in the regional vicinity.

There is evidence of brown fox sedge located approximately 600 feet southwest of the project site. There is evidence of silky cryptantha approximately two miles south of the project site. There is evidence of Henderson's bent grass, Legenere, slender Orcutt grass, and Red Bluff dwarf rush approximately four miles northeast of the project site.

The project site is located in a confined area within the existing Sierra Pacific Industries lumber milling operations. The project site is at such a great distance from the documented occurrences discussed above that it is highly unlikely that they would be affected by construction or operation activities. Furthermore, mitigation measures presented in this EIR require the project proponent to implement measures to ensure that construction activities avoid sensitive habitats and minimize runoff from the project site during construction and operation of the proposed project. These measures would ensure that indirect impacts to special-status plants in the vicinity would be mitigated. Implementation of the proposed project would have a **less than significant** indirect impact on special status plant species located outside the project site.

Impact 3.3-7: Direct and indirect adverse effects on riparian habitat or sensitive natural community (Less than Significant with Mitigation)

Direct Impacts: The API does not contain any sensitive natural communities. The API is mostly barren with limited ruderal vegetation. Implementation of the proposed project would have a **less than significant** direct impact on sensitive natural communities.

Indirect Impacts: The CNDDB record search revealed documented occurrences of three sensitive natural communities within five miles including: Great Valley Cottonwood Riparian Forest, Great Valley Valley Oak Riparian Forest, and Great Valley Willow Scrub. All three sensitive natural communities are associated with the Sacramento River. There is additional riparian habitat throughout the region that is associated with Sacramento River tributaries, sloughs, and irrigation canals. Mitigation measures 3.3-1, 3.3-2, and 3.3-3 presented in this EIR section require the project proponent to implement measures to minimize runoff from the project site during construction and operation of the proposed project. Specifically, MM 3.3-1 requires the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP), MM 3.3-2 requires demonstrated compliance with the National Pollution Discharge Elimination System requirements, and MM 3.3-3 requires the preparation and implementation of a Water Quality Management Plan. These measures would ensure that indirect impacts to sensitive natural communities, including riparian habitat in the regional vicinity would be mitigated through avoidance and the implementation of best management practices to remove pollutants from stormwater. Implementation of the proposed project would have a **less than significant** indirect impact on sensitive natural communities and riparian habitat located outside the project site.

MITIGATION MEASURES

Implement Mitigation Measures 3.3-1 through 3.3-3.

SIGNIFICANCE AFTER MITIGATION

Implementation of Mitigation Measures 3.3-1 through 3.3-3 would reduce potential impacts to riparian habitat and sensitive natural communities to a **less than significant** level.

Impact 3.3-8: Effects on protected wetlands (Less than Significant with Mitigation)

Direct Impacts: The project site does not contain any protected wetlands. The project site is mostly barren with limited ruderal vegetation. There are existing water storage ponds located on the project site, immediately adjacent to the proposed construction activities. These ponds are not classified as protected wetlands, and they are not connected to the Sacramento River or other surrounding surface water resources by surface water flows. These isolated water storage ponds are fed by natural underground springs, and supplemented with groundwater pumped from existing on-site wells. Implementation of the proposed project would have a **less than significant** direct impact on protected wetlands.

Indirect Impacts: Land outside, but within the immediate vicinity of the project site, includes protected streams, rivers, ponds, marshes, and vernal pools. These wetlands and jurisdictional waters are of high concern because they provide unique aquatic habitat (perennial and ephemeral) for many endemic species, including special-status plants, birds, invertebrates, and amphibians. These aquatic habitats oftentimes qualify as protected wetlands or jurisdictional waters and are protected from disturbance through the federal and state CWA.

The proposed project would not result in the direct disturbance to a protected wetland and is not subject to the permitting requirements of Section 404 of the federal CWA or 1603 of the state CWA. However, uncontrolled runoff from the project site during construction or operation could affect downstream waterways. This is a **potentially significant** indirect impact.

Mitigation Measures 3.3-1 through 3.3-4 are designed to mitigate for this potentially significant indirect impact. The mitigation measures would ensure that the project proponent develops a Storm Water Pollution Prevention Plan (SWPPP) with Best Management Practices (BMPs) to be implemented during construction. The project proponent would also be required to file a Notice of Intent with the Regional Water Quality Control Board (RWQCB) and obtain a General Construction Permit in compliance with the National Pollution Discharge Elimination System (NPDES) prior to the commencement of construction activities. The RWQCB will review the SWPPP and recommend and/or comment on the BMPs. The project proponent would be required to install construction fencing along environmentally sensitive areas in the vicinity to ensure that construction activities do not unintentionally disturb areas outside the project site. The project proponent would also be required to prepare a Water Quality Management Plan for use during the long-term operation of the proposed project. This plan would require a system design that treats storm water to federal and state standards and to ensure that storm water is treated prior to entering a downstream protected wetland or jurisdictional water. Implementation of these mitigation measures would reduce the potentially significant indirect impact to protected wetlands to a **less than significant** level.

Impact 3.3-9: Interference with the movement of native fish or wildlife species or with established wildlife corridors, or impede the use of native wildlife nursery sites (Less than Significant)

There are many native fish and wildlife species within the County that migrate or utilize movement corridors. The most notable for their protection status include the Chinook salmon and steelhead trout. The Columbian black-tailed deer is a migratory wildlife species that is not recognized as a special-status species, but preserving deer habitat and migration corridors is of concern to the CDFG in many regions of California including Shasta County.

Salmon and Steelhead. Chinook salmon and steelhead trout are anadromous fish species that are present in the Sacramento River Basin. The Sacramento River system has historically supported steelhead trout and four distinct spawning runs of Chinook salmon, including populations that are supported by hatcheries.

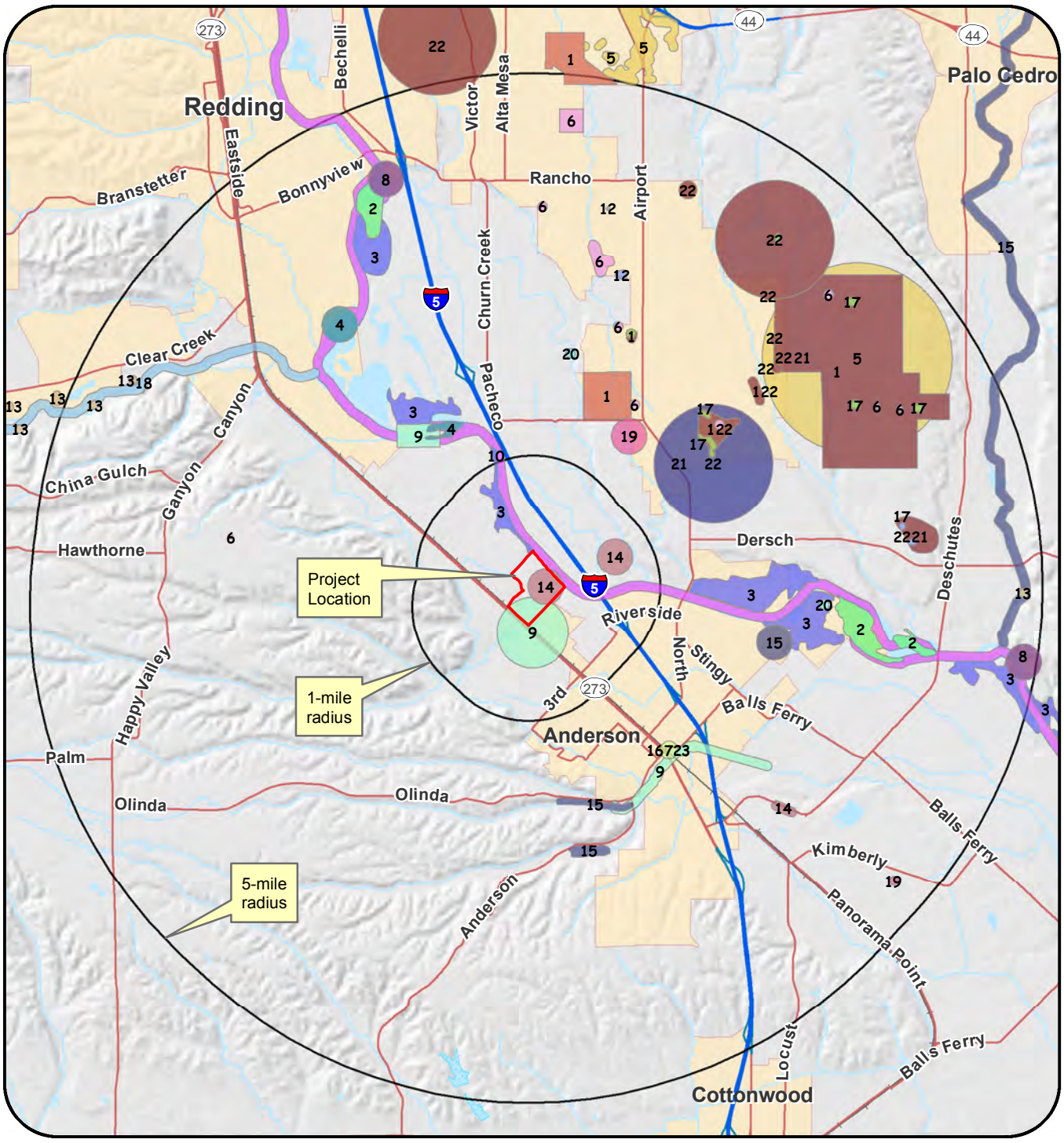
Although the project site does not contain appropriate habitat for these species, it is well documented that they spawn in the Sacramento River located immediately east of the project site. Riparian vegetation located along the river provides many important functions for fish habitat (i.e. controls temperature, stabilizes stream banks, provides food, buffers streams from erosion, etc.).

The proposed project would not result in the direct disturbance to the Sacramento River or its associated riparian habitat. Mitigation measures presented in this EIR require the project proponent to fence off the riparian area to ensure that construction activities do not enter into this area. Additionally, the project proponent would be required to implement measures to minimize runoff from the project site during construction and operation of the proposed project. These measures would ensure that indirect impacts to the Sacramento River and its associated riparian habitat would be mitigated. Implementation of the proposed project would have a **less than significant** direct and indirect impact on Chinook salmon and steelhead trout located outside the project site.

Migratory Deer. There are ten deer winter ranges within Shasta County. The project site is not considered a critical winter range, fall holding area, or fawning ground for the regional deer populations. The historical frequency of the lumber operations on the project site combined with the mostly barren conditions make it highly unlikely that the project site would be frequented by migratory deer. Additionally, the proposed project would not cause fragmentation of habitat whereby the species can no longer move through the area. Implementation of the proposed project would have a **less than significant** direct and indirect impact on migratory deer.

Impact 3.3-10: Conflicts with an adopted habitat conservation plan, natural community conservation plan, recovery plan, or local policies or ordinances protecting biological resources (Less than Significant)

There are no Habitat Conservation Plans or Natural Community Conservation Plans in effect in Shasta County. Shasta County has established 11 policies in the General Plan that are aimed at addressing the preservation, management, and utilization of Shasta County's natural resources. These policies are presented within the Fish and Wildlife Habitat section of the Resources Group Chapter in the General Plan. The proposed project is not in conflict with any of these policies. Implementation of the proposed project would have a **less than significant** impact on this environmental topic.



1 - California linderiella
2 - Great Valley Cottonwood Riparian Forest
3 - Great Valley Valley Oak Riparian Forest
4 - Great Valley Willow Scrub
5 - Henderson's bent grass
6 - Red Bluff dwarf rush
7 - Yuma myotis
8 - bank swallow
9 - brown fox sedge
10 - chinook salmon winter-run
11 - hoary bat
12 - legenere
13 - northwestern pond turtle
14 - osprey
15 - silky cryptantha
16 - silver-haired bat
17 - slender orcutt grass
18 - spring-run chinook salmon
19 - tricolored blackbird
20 - valley elderberry longhorn beetle
21 - vernal pool fairy shrimp
22 - vernal pool tadpole shrimp
23 - western red bat

Figure 3.3-1. Special Status Species

CNDDB 1-Mile and 5-Mile Radius Search

N
W E
S

0 0.5 1 2 Miles

1:100,000

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

Data sources: California Natural Diversity Database, ESRI StreetMap North America, Cal-Atlas Geospatial Clearinghouse. Map date: June 28, 2010.

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