

Appendix D

Biological Survey Report

BIOLOGICAL EVALUATION

KEHOE DAIRY IMPROVEMENT PROJECT INVERNESS, CALIFORNIA

1/16/03

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SUMMARY

Wildlife Research Associates was commissioned to conduct a biological evaluation of a proposed project within the Kehoe Dairy, located in Marin County, California. The approximately 4.0 acre proposed project includes shelter capacity improvements to an existing loafing barn to reduce the amount of animal waste entering an unnamed creek, and creation of an additional manure holding pond. The purpose of this biological evaluation was to assess the potential for the presence of special-status biological resources and to evaluate the potential biological impacts associated with the proposed project. Potential biological impacts were analyzed with respect to the grading requirements for the barn expansion and the new manure holding pond.

The Kehoe Dairy property consists of approximately 1,263 acres of mostly undeveloped land. The property is located north of Inverness, on Pierce Point Road, west of Tomales Bay and the historic K Ranch, which form the eastern boundary, and east of Point Reyes Beach, which forms the western boundary. The northern property boundary is the historic Pierce Ranch and the southern boundary is the McClure Dairy (historic I Ranch). The site topography consists of gently south-facing, sloping lands with clay loam soils.

Habitats within the Kehoe Dairy property have been altered as the result of cattle grazing, and planting of non-native grasslands. On-site, a perennial creek, with headwaters that begin on the northwestern corner of the property, supports willow riparian scrub and drains into the Pacific Ocean. An ephemeral creek that is a tributary to the perennial creek originates in the northeastern portion of the site and supports coastal scrub habitat. Several Monterey cypress trees occur along Pierce Point Road.

A total of 21 special-status plant species and 22 special-status wildlife species were evaluated in this biological evaluation, based on known occurrences in the vicinity and/or the type of habitats present on site. No special-status vegetation communities or plant species occur within the proposed project site. Several federal and state bird species of concern have a low to moderate potential to occur on site, including nesting passerines (perching birds). The California red-legged frog, a federally listed Threatened species with a strong population in the area, is known to occur within the project area.

1.0 INTRODUCTION

Wildlife Research Associates was hired by Kehoe Dairy to prepare a biological evaluation on a 4.0-acre portion of the 1,263-acre property located approximately 6 miles northwest of Inverness, Marin County, California (Figure 1). The Kehoe Dairy, part of the historic J Ranch site in Point Reyes National Seashore (PRNS), is situated toward the northern end of Pierce Point Road, south of the historic Pierce Ranch, east of the Pacific Ocean, north of the McClure Dairy (historic I Ranch), and west of Tomales Bay and the historic K Ranch.

The Kehoe Dairy is bifurcated by Pierce Point Road with two structures, a calf shed and a hay barn, located on the western portion of the property. Several structures sited on the eastern portion of the property include three occupied residences, two unused residences, one garage, a barn attached to a dairy, two calf sheds and a loafing barn with a concrete pad.

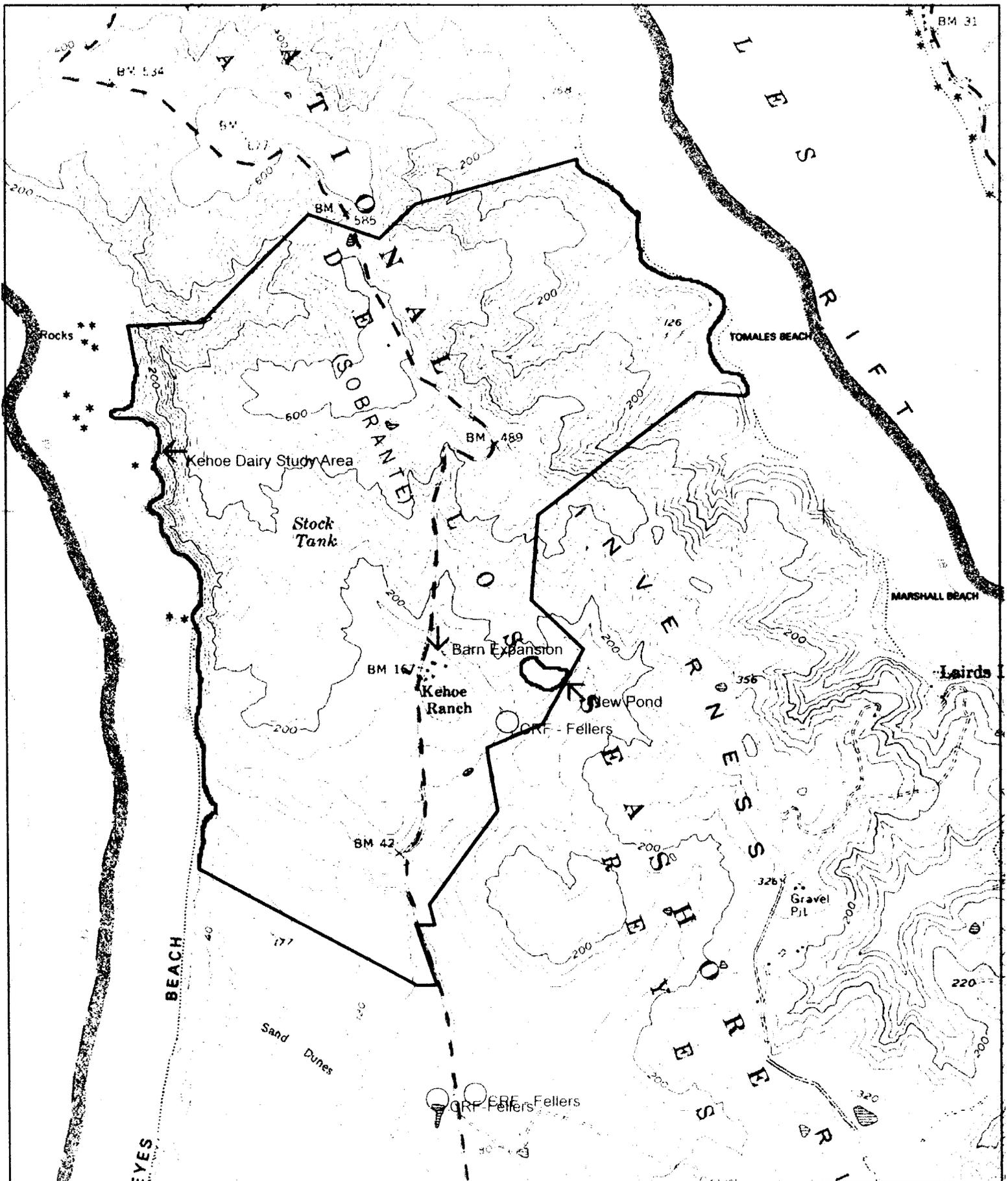
Four ponds occur within the entire property – three within the proposed project vicinity, and one, a stock pond, located outside the proposed project site in the western portion of the property. Two of the ponds are located just north of the dairy complex and have capacities of approximately 3.5 and 0.3 acre-feet. The third holding pond, located on the opposite hillside to the northeast has a capacity of approximately 4.1 acre-feet. All three of these ponds are used for animal waste management and are dredged annually to remove accumulated waste (Erickson Engineering 2002a). The ponds are clay lined to prevent seepage into the nearby creeks. As a result of the high nutrient loads and annual dredging, no emergent vegetation occurs along the edges.

This report presents the results of a reconnaissance-level survey of the project site and vicinity, a discussion of the existing plant communities and wildlife habitats, potentially occurring special-status natural communities, and special-status plant and animal species, and identifies potential impacts and mitigation measures.

1.1 Project Description

The proposed project site, approximately 4.0 acres, is located in the central area of the dairy complex and currently consists of a horse barn, a cattle barn and a calf corral. The proposed project includes shelter capacity improvements to the existing eastern loafing barn to reduce the amount of animal waste entering the unnamed creek, and creation of an additional manure holding pond.

Improvements to the shelter capacity are proposed for the western and eastern sides of the existing loafing barn, comprising 26,800 square feet and 21,500 square feet, respectively. A free-standing 18,000 square-foot addition will be constructed adjacent to the existing barn on the west side, and a 5,600 square-foot calf barn will be added adjacent to the east side. Grading, including approximately 1,000 square-foot area of fill on the east side, will be required to provide flatter ground contours upon which to place the new structures. The proposed grading will occur approximately 300 feet from the top of bank of Kehoe Creek at its nearest point. These additions to the barn will require the removal of two existing structures located to the west of the loafing barn, including the existing horse barn and the lean-to calf shed attached to the shop. The project also includes the construction of a 2,500 square-foot storage building adjacent to the existing shop.



Name: TOMALES
 Date: 1/16/2003
 Scale: 1 inch equals 1818 feet

Location: 038° 09' 47.5" N 122° 55' 58.5" W
 Caption: Kehoe Dairy Study Area

In order to further minimize the production of wastewater, improvements are planned for the existing clean water runoff system, which will control roof runoff from the existing and planned barns and shelters. No new swales or creek outfalls are planned. Minor improvements to the existing surface drainage system will include armoring at certain locations to prevent scouring and bank erosion. There are no plans to increase the total size of the dairy herd. However, the increased manure production within the barns and shelters resulting from the shelter expansion will require additional capacity at the existing manure holding ponds. This will be accomplished by creating a new manure holding pond located on the hillside east of the perennial creek, just downstream from an existing holding pond, approximately 1,000 feet northeast of the main dairy complex. The pond will be located more than 75 feet northeast of the ephemeral creek, at 180 feet in elevation, with a work area comprising 2.75 acres (120,000 square feet) of which the pond surface area will be 1.3 acres (Erickson Engineering 2002b). No alterations are planned to the existing animal waste conveyance piping system.

These improvements will allow for the restoration of nearby pasture areas that become severely degraded by cows during the wet winter months under current conditions. Revegetation and stabilization of these pastures will also reduce soil erosion and consequent sediment transport to the adjacent creek.

2.0 METHODS AND LIMITATIONS

Focused surveys for special-status wildlife species were not conducted as part of this effort. Information on special-status plant species was compiled through a review of the California Natural Diversity Data Base (CNDDDB 2002) for the Tomales 7.5-minute topographic quadrangle, the California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Vascular Plants of California* (Skinner and Pavlik 1999), the California Department of Fish and Game's (CDFG) *Special Plants List* (CDFG 2002a) and the USFWS list of special-status plants (USFWS 2002).

A list of special-status wildlife species known or expected to occur on the site was compiled through a review of the CNDDDB (CNDDDB 2002), the CDFG's *Special Animals List* (CDFG 2002b), *State and Federally Listed Endangered and Threatened Animals of California* (CDFG 2002c) and the USFWS list of special-status plants (USFWS 2002).

A site visit was conducted on October 15, 2002 by Wildlife Research Associates ecologist Trish Tatarian. The reconnaissance-level site visit was intended only as an initial evaluation of on-site and adjacent habitat types. For purposes of this report, the study area consists of all lands within the property boundaries - approximately 1,263 acres. The project site, approximately 4.0-acres, consists of those areas proposed for expansion, including the loafing barn, the horse barn, the calf shed and the open field downstream of the large existing manure holding pond (i.e., site of the proposed additional manure holding pond). Dominant plant species and wildlife habitats and vegetation communities were recorded.

3.0 EXISTING CONDITIONS

3.1 Setting

The Kehoe Dairy study area is bordered by the Pacific Ocean on the west and Tomales Bay on the east. The rectangular-shaped study area, approximately 1,263 acres, is located within the central portion of the Tomales 7.5-minute topographic quadrangle, within the Township 4N and Range 10W area. The study area is located on south-facing, gently sloping lands, that range in elevations between 640 feet to 0 feet. Soils in this area include Kehoe loam within the upland

portions of project site, and Rodeo clay loam along the riparian corridor (Erickson Engineering 2002b)

The majority of the study area contains non-native grassland habitat that has been grazed by cattle since the early 1900's. Along with grazing, non-native grasses are seeded each year as an erosion control measure and for grazing (Kehoe, pers. comm.). One perennial creek (Kehoe Creek) occurs on-site, with its headwaters originating near the northwestern portion of the property, flowing through the property and draining into the Pacific Ocean at Kehoe Beach in the southwestern portion of the property. Riparian scrub is supported in this creek. The headwaters of Kehoe Creek, located approximately 2,270 feet from the project site, supports a stock pond and a blown out stock pond occurs at Kehoe Beach, approximately 3,190 feet from the project site. An ephemeral creek is located along the southeastern border of the property and flows into the perennial creek. Riparian scrub and coastal scrub occur along the length of this creek. A north-facing rock outcrop is located in the southern portion of the property.

The proposed cattle loafing barn expansion project site is bounded by Pierce Point Road on the west, Kehoe Creek on the north and east and manure storage and residential components of the ranch complex on the south. The immediate areas surrounding the existing loafing barn are devoid of vegetation due to the presence of cattle throughout the year. The existing calf barn proposed for removal consists of corrugated aluminum sheets on a wood frame. The horse barn proposed for removal was built in the 1860's (Kehoe, pers. comm.). The structure consists of single board walls, with a mixture of wood shingles and corrugated aluminum sheets overlaying on wooden rafters. Many of the walls had gaps between the boards greater than one-half inch, and the wall to roof gap was six inches to one-foot.

The proposed manure holding pond is located in non-native grassland that is used as a cattle-grazing pasture.

3.2 Vegetation Communities

Several vegetation communities occur on the 1,263-acre property, but not within the project site; as a result these communities will not be discussed in this report. The communities described below refer to those that are located within and adjacent to the project site.

3.2.1 Non-native Grassland

Non-native annual grassland is generally found in open areas in valleys and foothills throughout coastal and interior California (Holland 1986). It typically occurs on soils consisting of fine-textured loams or clays that are somewhat poorly drained. This vegetation type is dominated by non-native annual grasses and weedy annual and perennial forbs, primarily of Mediterranean origin, that have replaced native perennial grasslands and scrub as a result of human disturbance. Scattered native wildflower species, representing remnants of the original vegetation may also be common. Onsite, non-native annual grassland intergrades with coastal terrace prairie, northern coastal scrub and all of the disturbed habitats are dominated by non-native species.

Within the project site, non-native grassland occurs in the area of the proposed manure holding pond, and supports spiny cocklebur (*Xanthium spinosum*), yarrow (*Achillea millefolium*), and poison hemlock (*Conium maculatum*), among others. Characteristic non-native annual grasses commonly found onsite include red oats (*Avena fatua*), brome grasses, wild barley (*Hordeum* spp.), quaking grass (*Briza* spp.), Italian ryegrass (*Lolium multiflorum*), and fescue (*Vulpia* spp.). Common non-native forbs include field bindweed (*Convolvulus arvensis*), crane's-bill (*Geranium*

dissectum), sheep sorrel (*Rumex acetosella*), bur-clover (*Medicago polymorpha*), and black mustard (*Brassica nigra*), and among others.

3.2.2 Ornamental Landscape

Ornamental landscape lands are those on which the native vegetation has been completely removed and replaced with horticultural species. Because disturbed, cultivated and landscaped areas have little potential to support significant botanical resources, they were not surveyed in detail.

Several ornamental plants have been planted around the two houses east of Pierce Point Road.

3.2.3 Central Coast Riparian Scrub

Central Coast riparian scrub typically consists of a scrubby streamside, open to impenetrable thickets composed of one to several species of willows. This plant community occurs close to river channels and near the coast on fine-grained sand and gravel bars with a high water table. It is distributed along and at the mouths of most perennial and many intermittent streams of the South Coast Ranges, from the Bay Area to near Point Conception (Holland 1986). Central Coast riparian scrub is generally regarded as early seral, meaning that it typically precedes the development of other riparian woodland or forest communities in the absence of severe flooding. However, outside of riparian situations, that is, near groundwater seeps, willow-dominated scrub represents a relatively stable plant community and is not considered seral.

Adjacent to the project site, Central Coast riparian scrub is restricted to the narrow drainages of Kehoe Creek and the ephemeral creek. Characteristic native species occurring on-site include narrow-leaved willow (*Salix exigua*) and Hooker willow (*S. hookeriana*), as well as California blackberry (*Rubus ursinus*) and poison oak (*Toxicodendron diversilobum*), among others.

3.2.4 Northern (Franciscan) Coastal Scrub

Northern coastal scrub consists of a dense cover of low shrubs up to six feet high with a well-developed herbaceous or low woody understory. It is frequently interspersed with coastal terrace prairie grassland. Northern coastal scrub is most extensive on windy, exposed sites with shallow, rocky soils. This vegetation community is distributed in a discontinuous strip from southern Oregon to Point Sur, Monterey County within the immediate coastal zone and at elevations up to 1,500 feet (Holland 1986).

Adjacent to the project site, Northern coastal scrub occurs on the ravine sides of the ephemeral creek, situated within the property, but outside the project site. Characteristic species present include sticky monkey-flower (*Mimulus guttatus*), California sagebrush (*Artemisia californica*), coyote brush (*Baccharis pilularis*), poison oak, coffeeberry (*Rhamnus californica* ssp. *californica*), western bracken fern (*Pteridium aquilinum* var. *pubescens*), cow parsnip (*Heracleum lanatum*), and yarrow (*Achillea millefolium*), among others.

3.3 Wildlife Habitats

Several wildlife habitats, which include vegetation communities and anthropogenic structures (i.e., human-made), occur within the 1,263-acre property; however, the descriptions below pertain to those habitats that are within and adjacent to the project site, including non-native grasslands, coastal scrub, riparian scrub and structures.

3.3.1 Non-native Grassland

Grassland habitat, including native and non-native grasslands, attract reptiles and amphibians, such as northern alligator lizard (*Gerrhonotus multicarinatus*), western fence lizard (*Sceloporus occidentalis*), and Pacific slender salamander (*Batrachoseps attenuatus*), which feed on invertebrates found within and beneath fallen logs within the vegetation community. This habitat also attracts seed- and insect-eating species of birds and mammals. California quail (*Lophortyx californicus*), mourning dove (*Zenaidura macroura*), and meadowlark (*Sturnella neglecta*) are a few seed-eaters that nest and forage in grasslands. Insect-eaters such as scrub jays (*Aphelocoma coerulescens*), barn swallows (*Hirundo rustica*), and mockingbirds (*Mimus polyglottus*) use the habitat for foraging only. Grasslands are important foraging grounds for aerial and ground foraging insect-eating bat species such as myotis (*Myotis* spp.) and pallid bat (*Antrozous pallidus*). A large number of other mammal species such as California vole (*Microtus californicus*), deer mouse (*Peromyscus maniculatus*), Botta's pocket gopher (*Thomomys bottae*), California ground squirrel (*Spermophilus beecheyi*) and black-tailed jackrabbit (*Lepus californicus*) also forage and nest within grasslands. Small rodents attract raptors (birds of prey) such as owls that hunt at night, as well as day-hunting raptors such as red-tailed hawks (*Buteo jamaicensis*), northern harrier (*Circus cyaneus*) and white-shouldered kite (*Elanus leucurus*), among others. Black-tailed deer (*Odocoileus hemionus californicus*) use grassland for grazing and, if the grass is tall enough, for nesting at night.

3.3.2 Ornamental Landscape

The ornamental landscape around the two residences may provide perching and roosting sites for a small number of avian species, such as Anna's hummingbird (*Calypte anna*). However, the lack of understory growth does not provide much habitat for insects and other invertebrates and, therefore, reptiles that prey upon them rarely occur within this habitat. For this same reason, mammals would not use this habitat except for cover and resting areas.

3.3.3 Riparian Corridors

The perennial and ephemeral creeks on the property, and adjacent to the project site, support willow (*Salix* sp.) riparian scrub. This habitat is a low shrubby tree structure that can cover an entire watercourse, with an impenetrable understory and includes fallen limbs and other debris.

The dense canopy and shallowness of the creek is unsuitable for many of the anadromous fish species in the region. The willow riparian habitat attracts bird species that hover while catching insects, such as Hutton's vireo (*Vireo huttoni*), and black phoebe (*Sayornis nigricans*). Other species, such as snowy egrets (*Egretta thula*), use the shallow quiet waters of the river or stream to forage for small fish and invertebrates. The American crow (*Corvus brachyrhynchos*) is found in this habitat and others, feeding on insects, fruits, carrion, amphibians, and reptiles. A high diversity of passerines can be found in this habitat and, depending on the location, can include yellow-rumped warbler (*Dendroica coronata*), and bushtit (*Psaltriparus minimus*). Omnivores, such as the raccoon (*Procyon lotor*) and striped skunk (*Mephitis mephitis*), forage on invertebrate species, plant parts, amphibians and fruits.

3.3.4 Structures

Anthropogenic structures, such as the horse barn located in the project site, provide potential roosting habitat for various wildlife species, including birds and bats.

Bird species that use anthropogenic structures include passerines, such as barn swallows (*Hirundo rustica*) and black phoebe (*Sayornis nigricans*), and raptors, such as barn owls (*Tyto alba*). These species have adapted to the disturbances associated with human settlements and will

nest and forage in close proximity to humans. In general, the nesting season for both passerines and raptors typically begins at the end of February and may last to mid-August. The conclusion of the nesting season is variable, as female barn swallows and black phoebe, for example, may produce 2-3 broods each year (Alsop 2001).

Evidence of previously nesting passerines, either barn swallows or black phoebe, was observed in the horse barn.

Statewide, buildings provide significant roosting habitat, and it appears that large bat populations are supported by the availability of buildings. Because bats show high roost fidelity, older structures may have provided roost habitat for generations. However, not all buildings available to bats provide the temperature, humidity and other requirements for bats; such factors vary by building design, materials, location, human activity patterns, and by bat species. As a result not all buildings provide suitable roost habitat.

No evidence of bat use was observed in any of the structures located within the project site.

3.4 Wildlife Movement Corridors

Wildlife movement includes migration (*i.e.*, usually one way per season), inter-population movement (*i.e.*, long-term genetic flow) and small travel pathways (*i.e.*, daily movement corridors within an animal's territory). While small travel pathways usually facilitate movement for daily home range activities such as foraging or escape from predators, they also provide connection between outlying populations and the main corridor, permitting an increase in gene flow between populations.

These linkages between habitat types can extend for miles between primary habitat areas and occur on a large scale throughout California. Habitat linkages facilitate movement between populations located in discrete areas and populations located within larger habitat areas. The mosaic of habitats found within a large-scale landscape results in wildlife populations that consist of discrete sub-populations comprising a large single population, often referred to as a meta-population. Even where patches of pristine habitat are fragmented, such as occurs with coastal scrub, the movement between wildlife populations is facilitated through habitat linkages, migration corridors and movement corridors. Depending on the condition of the corridor, genetic flow between populations may be high in frequency, thus allowing high genetic diversity within the population, or may be low in frequency. Potentially low frequency genetic flow may lead to complete isolation and, if pressures are strong, potential extinction (McCullough 1996; Whittaker 1998).

Movement corridors within the study area include the Kehoe Creek and the ephemeral stream that provide a suitable corridor for north-south movements of passerines, such as yellow warbler, reptiles, such as terrestrial garter snake (*Thamnophis elegans*), and amphibians, such as California red-legged frog (*Rana aurora draytonii*). The non-native grasslands of the new manure pond site provide an east-west movement corridor for medium and large mammals, such as skunk, raccoon, and black-tailed deer. The disturbed nature of the project site around the loafing barn negates the potential for its use as a movement corridor.

4.0 SPECIAL-STATUS SPECIES AND NATURAL COMMUNITIES

Certain plants and wildlife species are designated as having special status due to their overall rarity, endangerment, restricted distribution, and/or unique habitat requirements. In general, special status is a combination of these factors that leads to the designation of a species as

sensitive. The Federal Endangered Species Act (FESA), enacted by Congress in 1973, outlined the procedures whereby species are listed as endangered or threatened and established a program for the conservation of such species and the habitats in which they occur. Many individual states have enacted their own listing procedures to provide for the protection of additional locally sensitive biological resources. The California Endangered Species Act (CESA) of 1984 amends the California Fish and Game Code to protect species deemed to be locally endangered and essentially expands the number of species protected under the FESA.

The CDFG has also compiled a list of "Special Plants" (CDFG 2002c) and "Special Animals" (CDFG 2002d) which include California Special Concern species. These designations are given to those plant species whose vegetation communities are seriously threatened and those wildlife species whose breeding populations are in serious decline. Although these species may be abundant elsewhere they are considered to be at some risk of extinction in California. Although Special Concern species are afforded no official legal status under FESA or CESA, they may receive special consideration during the planning stages of certain development projects and adverse impacts may be deemed significant under the California Environmental Quality Act (CEQA).

4.1 Special-Status Plant Species

Special-status plant species include those listed as Endangered, Threatened, Rare or Candidates for listing by the USFWS (2002), the CDFG (2002a) and the CNPS (Skinner and Pavlik 1999). The CNPS listing is sanctioned by the CDFG and serves essentially as their list of "candidate" plant species.

Based on a review of the California Natural Diversity Data Base (CDFG 2002e), and general knowledge of the flora of Marin County, a total of 21 special-status plant species were determined to have at least some potential for occurring in the project region. See Appendix A. Appendix C provides the federal and state listing definitions. None of these target species were detected during the reconnaissance survey and none are considered to occur within the project site due to the highly disturbed nature of the site.

Below is a description of those species that have been reported within or adjacent to the Kehoe Dairy and their expected occurrence in the proposed project site.

Point Reyes blennosperma (*Blennosperma nanum* var. *robustum*), a federal Species of Concern and a State listed Rare species, occurs in native annual grassland with California buttercup (*Ranunculus californicus*), cow parsnip (*Heracleum lanatum*), western swordfern (*Polystichum munitum*), shiny Oregon grape (*Berberis pinnata*), creamcups (*Platystemon californicus*), baby blue eyes (*Nemophila menziesii*) and yarrow (*Achillea millefolium*) on shallow soils. This species has been reported both north and south of Kehoe Dairy; however, there are no native annual grasslands within the project site, and cattle-grazing is not conducive for growth of this species. Therefore, this species is not expected to occur within the project site.

Beach layia (*Layia carnosa*), a federal and state listed Endangered species, occurs in semi-stabilized coastal dunes, usually behind foredunes. This species has been reported at Kehoe Beach, in the southern portion of Kehoe Dairy; however, no suitable habitat occurs within the project site. Therefore, this species does not occur within the project site.

Point Reyes checkerbloom (*Sidalcea calycosa* ssp. *rhizomata*), a federal Species of Concern, occurs in freshwater marshes along the coast. This species has been reported on the east side of

Pierce Point Road, northeast of McClure Ranch. Although coastal riparian scrub occurs on the property, no suitable habitat occurs within the project site. Therefore, this species is not expected to occur within the project site.

Mount Vision ceanothus (*Ceanothus gloriosus* var. *porrectus*), a federal Species of Concern, occurs on Point Reyes sandy soils in a variety of habitats, including closed-cone coniferous forest, coastal prairie, coastal scrub and foothill grassland. This species has been reported on the west side of Kehoe Dairy, approximately 1.2 miles north of Kehoe Beach trailhead and north of the project site, and at Tomales Point, on the west side of L Ranch. Although coastal scrub and non-native grasslands occur on the 1,263-acre property, these habitats do not occur within the project site. Therefore, this species is not expected to occur within the project site.

San Francisco owl's clover (*Triphysaria floribunda*), a federal Species of Concern, occurs in coastal prairie and valley and foothill grasslands on serpentine soils and Point Reyes sandy soils. This species has been reported on Pierce Point Road 0.7 miles north of Kehoe Dairy. No coastal prairie occurs within the project site. Therefore, this species is not expected to occur within the project site.

4.2 Special-Status Wildlife Species

Special-status animal species include those listed by the USFWS (2002) and the CDFG (2002b, 2002d). The USFWS officially lists species as either Threatened or Endangered, and as candidates for listing. Additional species receive federal protection under the Bald Eagle Protection Act (*e.g.*, bald eagle, golden eagle), the Migratory Bird Treaty Act (MBTA) and state protection under CEQA Section 15380(d). In addition, many other species are considered by the CDFG to be species of special concern; these are listed in Remsen (1978), Williams (1986), and Jennings and Hayes (1994). Although such species are afforded no official legal status, they may receive special consideration during the planning stages of certain development projects. The CDFG further classifies some species under the following categories: "fully protected", "protected fur-bearer", "protected amphibian", and "protected reptile". The designation "protected" indicates that a species may not be taken or possessed except under special permit from the CDFG; "fully protected" indicates that a species can be taken for scientific purposes by permit only.

A total of 22 special-status animal species have been recorded in the region or may be present within the project site. A complete list of wildlife species, including their potential to occur on site, their legal status and habitat affinities, is included in Appendix B. Appendix C provides the federal and state listing definitions. Of these, two species are considered to have a moderate potential to occur on site, two species are considered to have a high potential to occur on site, and one species is present on site, based on habitats present, proximity of known populations within the region and the observed presence on site.

The following is a discussion of species having potential to occur on site and/or are species that are prominent in today's regulatory environment, such as the California red-legged frog. This document does not address impacts to species that may occur in the region but for which no habitat occurs on site, and include the species listed in Appendix D.

4.2.1 Federally Threatened and Endangered Wildlife Species

The California red-legged frog (*Rana aurora draytonii*)(CRF) is listed by the USFWS as Threatened with associated critical habitat (areas that are essential to the conservation of the species that require special management considerations or protection), and is classified by the

CDFG as a California Special Concern species. The Point Reyes Critical Habitat Unit 12 extends along the western boundary of Marin County, from San Francisco Bay north to the northern portion of Marin County (USFWS 2001). One of the core recovery areas within this unit, as identified in the *Recovery Plan for the California Red-legged Frog* (USFWS 2002), is the North Coast and North San Francisco Bay unit that encompasses the Point Reyes Peninsula, and the watershed of Tomales-Drakes Bays (USFWS 2002). Although core areas have no legal mandate for protection under FESA, the designation of critical habitat requires proponents with projects that have a nexus with a Federal agency to consult with the USFWS regarding any action that could destroy or adversely modify critical habitat (USFWS 2002).

California red-legged frogs breed primarily in ponds, but will also breed in slow moving streams, or deep pools in intermittent streams. Inhabited ponds are typically permanent, at least 2 feet (0.6 meters) in depth, and contain emergent and shoreline vegetation. Sufficient pond depth and shoreline cover are both critical, because they provide means of escape from predators. Additionally, emergent vegetation is necessary for the deposition of eggs. The breeding period begins during heavy rains, from early to late winter, usually November through early May. The larvae mature in 11 to 20 weeks. Non-breeding CRF have been found in both aquatic and upland habitats. The majority of individuals prefer dense, shrubby or emergent vegetation, closely associated with deep (>0.7 meters) still, or slow moving water. However, some individuals use habitats that are removed from aquatic habitats, seeking cover under coyote brush (*Baccharis pilularis*) and non-native grasslands (Fellers, pers. com. 2000; Tatarian, personal observation). Upland habitat, used for foraging, migration and dispersal, includes areas up to 300 feet from a stream corridor or breeding pond and includes natural features, such as boulders, rocks, trees, shrubs, and logs (USFWS 2001). Incised stream channels with portions narrower than 18 inches and depths greater than 18 inches may also provide aestivation habitat. In general, densely vegetated terrestrial areas adjacent to the riparian corridor provide important sheltering habitat during the winter flooding of the streams. Habitats within 300 feet of a stream corridor or breeding habitat are protected under the critical habitat designation.

Although no records occur in the CNDDDB, the National Park Service conducts surveys throughout the PRNS, and CRF have been detected breeding throughout the McClure Dairy, located approximately 1.2 miles south of Kehoe Dairy (Prunuske Chatham 2001). California red-legged frogs have also been detected in the perennial creek (Kehoe Creek) (Fellers, pers. comm.).

Although the 1,263-acre property provides suitable breeding habitat (large stock pond in the northwestern portion of the site and Kehoe Marsh, on Kehoe Creek located on the southern portion of the property) and movement corridors (perennial Kehoe Creek and ephemeral stream), no suitable breeding habitat occurs within the 4.0-acre project site. The proposed expansion of the freestall barn to the west and the fill area proposed east of the calf barn are located outside the 300-foot setback from Kehoe Creek. As a result, no “take” of CRF habitat will occur with this the barn expansion project. The proposed manure holding pond is located approximately 70 feet from the high water mark of the ephemeral creek (Erickson Engineering 2002). The potential for individuals moving around the proposed fill areas is low if construction is to occur during the dry season, such as late summer, when the ground is drier and frogs are less likely to move into areas of short grass.

4.2.2 Other Special-Status Wildlife Species

Western burrowing owl (*Athene cunicularia hypugaea*), a federal and state species of concern like other raptors and birds in general, is protected under California Fish and Game Code 3503 and 3503.5, which prohibits the taking or destroying of nest or eggs of any bird and prohibits the taking or destroying of any bird or nest in the order of Falconiformes (falcons, kites, and hawks)

and Strigiformes (owls). As a migratory species, burrowing owls are protected under the federal Migratory Bird Treaty Act (16 U.S.C. 703-711). The burrowing owl is small, and long-legged, with dull brown plumage that is barred and spotted with white. Burrowing owls are typically observed on the ground, at or near a burrow, or on elevated areas, such as dirt mounds or fence posts, that are used as observational or hunting perches. Burrows are the essential component of burrowing owl habitat (CDFG 1995, CBOC 1993) and are often the limiting factor in occupied habitat (Zarn 1974). Burrows used by burrowing owls are usually dug by small mammals, such as California ground squirrel (*Spermophilus beecheyi*), in loose soil, and are enlarged by the owls for nesting. Other structures used for nesting include soil under slabs of concrete, railroad ties, wood debris piles, and other anthropomorphic features (CBOC 1993). Burrows are used repeatedly for nesting, but not necessarily by the same pair of owls (Zarn 1974). During the breeding season, several burrows may be renovated, but only one will be used per pair, with non-nest (satellite) burrows created nearby for escaping, perching and observation points (Dechant, et al. 1999). Burrowing owls exhibit high site fidelity, reusing burrows year after year (CBOC 1997).

The loafing barn site is highly disturbed and supports no grassland habitat. Although the grasslands proposed for the waste management pond contain short grasses suitable for nesting and foraging for this species, no ground squirrel burrows were observed in the pasture. In addition, the pasture is actively grazed by cattle that may do damage to nests and nestlings. Therefore, this species is not expected to occur within the project site.

Passerines (perching birds) are protected under the MBTA and CDFG code 3503, which protects the nest and eggs of any passerine. The horse barn to be demolished showed evidence (old nests) of several pairs of nesting barn swallows or black phoebe using the structure. Several ground nesting species also have potential to occur within the non-native grasslands within the project site, specifically the area of the proposed manure holding pond. These ground nesting species include western meadowlark (*Sturnella neglecta*) and California horned lark (*Eremophila alpestris actia*). A third area of potential nesting is the riparian willow scrub adjacent to the project site. Several passerine species have potential to nest in this habitat, such as saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*), reported in Kehoe Lagoon on the southern portion of the property, and yellow warbler (*Dendroica petechia*).

Based on the presence of suitable nesting habitat within the project site, there is potential for “take” of individuals if demolition or construction (ground breaking) is proposed during the nesting season. No impacts will occur to the riparian corridor on either the perennial or ephemeral streams. See Section 5 below.

Bats species, in general, are protected under Fish and Game Code 4150, as indigenous non-game mammals. Many bat species, such as big brown bat (*Eptesicus fuscus*), little brown bat (*Myotis lucifugus*), Yuma myotis (*Myotis yumanensis*), Brazilian free-tailed bat (*Tadarida brasiliensis*), and to some extent, pallid bat (*Antrozous pallidus*), a California Special Concern species, and several others, evolved to roost in rock crevices and caves, but have adapted quite well to using man-made structures such as buildings and bridges.

Based on the structure of the buildings no potential roosting habitat occurs within the project site. No evidence of bat roosting was observed during the site reconnaissance. Therefore, no impacts to special status bat species will occur.

5.0 IMPACTS AND MITIGATION MEASURES

5.1 Wildlife

Potential Impact 1: The proposed project could result in “take” of individual California red-legged frog that may move into the non-native grasslands in the proposed manure holding pond site. *This is a less-than-significant impact with the following mitigation measures incorporated.*

Mitigation Measure: To avoid “take” and to determine presence or absence of this species before construction, the following measures are recommended:

- Pre-construction surveys of the non-native grassland should be conducted prior to grading for the proposed manure holding pond. Based on the grassland height and density, surveys should consist of one daytime survey to be conducted the same day as grading commences. A qualified biologist should walk the area looking for individual CRF. If an individual is found, it should be able to leave of its own volition. Ground breaking may commence after the individual has left. If no individuals are found, ground breaking may start immediately. During grading and construction, a walk through should be conducted each morning to search for individuals.

Potential Impact 2: The proposed project could result in the removal of potential passerine nesting site in the non-native grasslands at the new manure pond site, and a structure that has shown evidence of nesting (the horse barn). Disturbance during the nesting season may result in the potential nest abandonment and mortality of young. *This is a less-than-significant impact with the following mitigation measures incorporated.*

Mitigation Measure: To avoid “take” and/or further evaluate presence or absence of passerines, the following measures are recommended:

Alternative Mitigation A: Demolition of buildings, such as the horse barn, and grading within the grasslands should be conducted outside the nesting season, which occurs between February 1 and August 15, approximately.

Alternative Mitigation B: If demolition and grading in the potential nesting areas is not feasible outside of the nesting season, a nesting bird survey shall be performed by a qualified biologist prior to grading or demolition. This pre-construction survey shall be conducted no more than one week prior to planned demolition and/or grading activity.

- If nesting birds with eggs or young are observed during the pre-construction surveys, grading and/or demolition in the affected project area (i.e., horse barn or grasslands at the manure pond) shall not commence until after the young have fledged. In the case of the swallows in the eaves in the barn, early removal of the nesting structure in February or early March, while the nest is being built but before eggs are laid, would also be sufficient to prevent “take” of individuals.
- If no nesting birds are observed no further action is required and demolition, grading and construction may proceed, provided it commences within one week of the survey to prevent “take” of individual birds that may have begun nesting after the survey. These surveys may be conducted in conjunction with the amphibian survey.

6.0 LITERATURE CITED

- ALSOPI III, F. 2001. *BIRDS OF NORTH AMERICA, WESTERN REGION*. SMITHSONIAN HANDBOOKS. LONDON, NEW YORK.
- CALIFORNIA DEPARTMENT OF FISH AND GAME (CDFG). 1986. *MAMMALIAN SPECIES OF SPECIAL CONCERN IN CALIFORNIA*. REPORT 86-1.
- CALIFORNIA DEPARTMENT OF FISH AND GAME (CDFG). 2002A. *STATE AND FEDERALLY LISTED ENDANGERED, THREATENED AND RARE PLANTS OF CALIFORNIA*. HABITAT CONSERVATION DIVISION. OCTOBER.
- CALIFORNIA DEPARTMENT OF FISH AND GAME (CDFG). 2002B. *STATE AND FEDERALLY LISTED ENDANGERED AND THREATENED ANIMALS OF CALIFORNIA*. HABITAT CONSERVATION DIVISION. OCTOBER.
- CALIFORNIA DEPARTMENT OF FISH AND GAME (CDFG). 2002C. *SPECIAL PLANTS LIST*. NATURAL HERITAGE DIVISION. JANUARY.
- CALIFORNIA DEPARTMENT OF FISH AND GAME (CDFG). 2002D. *SPECIAL ANIMALS LIST*. NATURAL HERITAGE DIVISION, NATURAL DIVERSITY DATA BASE. AUGUST.
- CALIFORNIA DEPARTMENT OF FISH AND GAME (CDFG). 2002E. *CALIFORNIA NATURAL DIVERSITY DATA BASE INVERNESS 7.5-MINUTE TOPOGRAPHIC QUADRANGLE*. OCTOBER.
- ERICKSON ENGINEERING INC. 2002A. KEHOE DAIRY, PIERCE POINT ROAD, INVERNESS, CALIFORNIA. *STALL BARN EXPANSION WITH BARN AND REVISIONS AND MANURE POND SYSTEM EXPANSION*. AUGUST 20.
- ERICKSON ENGINEERING INC. 2002B. KEHOE DAIRY, PIERCE POINT ROAD, INVERNESS, CALIFORNIA. *SOILS PER USDA SCS MARIN COUNTY SOIL SURVEY*. JUNE 4.
- HOLLAND, R. 1986. *PRELIMINARY DESCRIPTIONS OF TERRESTRIAL NATURAL COMMUNITIES OF CALIFORNIA*. CALIFORNIA DEPARTMENT OF FISH AND GAME, THE RESOURCES AGENCY. 156 PP.
- JENNINGS, M.R. AND M.P. HAYES. 1994. *AMPHIBIAN AND REPTILE SPECIES OF SPECIAL CONCERN IN CALIFORNIA*. PREPARED FOR THE CALIFORNIA DEPARTMENT OF FISH AND GAME, INLAND FISHERIES DIVISION, RANCHO CORDOVA, CALIF. NOVEMBER 1. 255 PP.
- MCCULLOUGH, D. 1996. *METAPOPULATIONS AND WILDLIFE CONSERVATION*. ISLAND PRESS. 429PP.
- NEWTON, I. 1979. *POPULATION ECOLOGY OF RAPTORS*. BUTEO BOOKS, VERMILION, S.D. 399 PP.
- ORLENDORFF, R. D. BIBLES, M. DEAN, J. HAUGH, AND M. KOCHERT. 1989. *RAPTOR MANAGEMENT ON PUBLIC LANDS*. RAPTOR RESEARCH REPORT NO. 8. PP 36-40.
- PRUNUSKE CHATHAM, INC. 2001. *BIOLOGICAL ASSESSMENT FOR CALIFORNIA RED-LEGGED FROG MCCLURE DAIRY BARN AND RESOURCE ENHANCEMENT PROJECT, POINT REYES NATIONAL SEASHORE*. PREPARED FOR POINT REYES NATIONAL SEASHORE.
- STEBBINS, R. AND N. COHEN. 1997. *A NATURAL HISTORY OF AMPHIBIANS*. PRINCETON UNIVERSITY PRESS.
- U.S. FISH AND WILDLIFE SERVICE (USFWS). 2001. *FINAL DETERMINATION OF CRITICAL HABITAT FOR THE CALIFORNIA RED-LEGGED FROG*. FEDERAL REGISTER 66(49):14626-14758. MARCH 13.
- U.S. FISH AND WILDLIFE SERVICE (USFWS). 2002. *RECOVERY PLAN FOR THE CALIFORNIA RED-LEGGED FROG (RANA AURORA DARYTONII)*. U.S. FISH AND WILDLIFE SERVICE, PORTLAND, OREGON. VIII + 173 PP.
- WHITTAKER, R. 1998. *ISLAND BIOGEOGRAPHY: ECOLOGY, EVOLUTION AND CONSERVATION*. OXFORD UNIVERSITY PRESS. 285PP.

Personal Communication

Fellers, G. 2003. US Geologic Service Biologic Survey. California red-legged frog specialist. Personal communication with Trish Tatarian. January 14.

Fellers, G. 2000. US Geologic Service Biologic Survey. California red-legged frog specialist. Personal communication with Trish Tatarian. February 4.

Kehoe, T. 2002. Owner, Kehoe Dairy on the historic J Ranch. Personal communication with Trish Tatarian. October 15.

APPENDIX A
Potentially Occurring Special-Status Plant Species in the Vicinity of the
Proposed Kehoe Dairy Project Site

Scientific Name Common Name	Status¹	Habitat Affinities and Reported Localities in the Project Area	Blooming Period/ Life Form	Potential for Occurrence	
<i>Abronia umbellata</i> ssp. <i>breviflora</i> pink sand verbena	Federal State CNPS	FSC None 1B	Foredunes and interdunes with sparse cover from the north coast of California into Oregon.	July-September Perennial herb	No suitable habitat present in project site.
<i>Agrostis blasdalei</i> Blasdale's bent grass	Federal State CNPS	FSC None 1B	Coastal dunes, coastal bluff scrub and coastal prairie communities on sandy or gravelly soils close to rocks.	May-July Perennial herb	No suitable habitat present in project site.
<i>Blennosperma nanum</i> var. <i>robustum</i> Point Reyes blennosperma	Federal State CNPS	SC rare 1B	Coastal prairie and coastal scrub in open hills with sandy soils. Reported from south of Upper Pierce Ranch, and McClures Ranch south of Kehoe Creek.	March Annual herb	No suitable habitat present in project site.
<i>Campanula californica</i> Swamp harebell	Federal State CNPS	FSC None 1B	Bogs and fens in a variety of communities, such as closed-cone coniferous forest, coastal prairie, meadows, and freshwater marsh.	June-September Perennial herb	No suitable habitat present in project site.
<i>Ceanothus gloriosus</i> var. <i>porrectus</i> Mt. Vision ceanothus	Federal State CNPS	FSC None 1B	Closed cone coniferous forest, coastal prairie, coastal scrub and valley and foothill grasslands with sandy soils.	March-May Shrub	No suitable habitat present in project site.
<i>Chorizanthe cuspidate</i> var. <i>cuspidate</i> San Francisco Bay spineflower	Federal State CNPS	FSC None 1B	Coastal bluff scrub, coastal dunes, and coastal prairie communities on terraces and slopes with sandy soils.	April-July Annual herb	No suitable habitat present in project site.
<i>Chorizanthe cuspidate</i> var. <i>varvillosa</i> Woolly-headed spineflower	Federal State CNPS	FSC None 1B	Coastal bluff scrub, coastal dunes, and coastal prairie communities on sandy soils. This species is endemic only along the coastline from Bodega Bay to Point Reyes.	May-August Annual herb	No suitable habitat present in project site.
<i>Clarkia concinna</i> ssp. <i>raichei</i> Raiche's red ribbons	Federal State CNPS	FSC None 1B	Coastal bluff scrub on highly exposed rocky bluffs with a near vertical slope.	April-May Annual herb	No suitable habitat present in project site.
<i>Cordylanthus maritimus</i> ssp. <i>palustris</i> Point Reye's bird beak	Federal State CNPS	FSC None 1B	Coastal saltmarsh.	June-October Annual herb	No suitable habitat present in project site.
<i>Delphinium bakeri</i> Baker's larkspur	Federal State CNPS	FE Rare 1B	Coastal scrub and grasslands.	March-May Perennial herb	No suitable habitat present in project site.
<i>Delphinium luteum</i> Yellow larkspur	Federal State CNPS	FE Rare 1B	Chaparral, coastal prairie and coastal scrub	March-May Perennial herb	No suitable habitat present in project site.
<i>Fritillaria affinis</i> var. <i>tristulis</i> Marin checker lily	Federal State CNPS	FSC None 1B	Coastal bluff scrub, coastal scrub and coastal prairie, within canyons and riparian areas.	February-April Perennial herb	No suitable habitat present in project site.
<i>Fritillaria liliacea</i> Fragrant fritillary	Federal State CNPS	FSC None 1B	Coastal scrub, valley and foothill grassland and coastal prairie communities on serpentine rock but also on clay.	February-April Perennial herb	No suitable habitat present in project site.

APPENDIX A
Potentially Occurring Special-Status Plant Species in the Vicinity of the
Proposed Kehoe Dairy Project Site

Scientific Name	Status¹		Habitat Affinities and Reported Localities in the Project Area	Blooming Period/ Life Form	Potential for Occurrence
Common Name					
<i>Horkelia cuneata ssp. sericea</i>	Federal	FSC	In openings of closed cone coniferous forest, coastal scrub and chaparral communities.	April-September Perennial herb	No suitable habitat present in project site.
Kellogg's horkelia	State	None			
	CNPS	1B			
<i>Layia carnosa</i>	Federal	FE	Coastal dunes, in semi-stabilized dunes that are sparsely vegetated.	May-July Annual herb	No suitable habitat present in project site.
Beach layia	State	SE			
	CNPS	1B			
<i>Linanthus rosaceus</i>	Federal	FSC	Coastal bluff scrub	May-July Annual herb	No suitable habitat present in project site.
Rose linanthus	State	None			
	CNPS	1B			
<i>Lupinus tidestromii</i>	Federal	FE	Partially stabilized dunes immediately near the ocean.	May-June Perennial herb	No suitable habitat present in project site.
Tidestrom's lupine	State	SE			
	CNPS	1B			
<i>Phacelia insularis var. continentis</i>	Federal	FSC	Coastal bluff scrub on coastal dunes on open maritime bluffs on sandy soils.	March-May Annual herb	No suitable habitat present in project site.
North coast phacelia	State	None			
	CNPS	1B			
<i>Polygonum marinense</i>	Federal	FSC	Coastal saltmarshes and brackish marshes.	June-August Annual herb	No suitable habitat present in project site.
Marin knotweed	State	None			
	CNPS	3			
<i>Sidalcea calycosa ssp. rhizomata</i>	Federal	FSC	Freshwater marshes near the coast.	April-September Perennial herb	No suitable habitat present in project site.
Point Reyes checkerbloom	State	None			
	CNPS	1B			
<i>Triphysaria floribunda</i>	Federal	FSC	Coastal prairie and valley and foothill grassland communities.	April-May Annual herb	No suitable habitat present in project site.
San Francisco owl's-clover	State	None			
	CNPS	1B			

Note: See Appendix C for descriptions of classifications.

APPENDIX B
Potentially Occurring Special-Status Animal Species in the Vicinity of the
Proposed Kehoe Dairy Project Site

Scientific Name Common Name	Status ¹	Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence in Project Site	
Invertebrates				
<i>Icaricia icarioides</i> Point Reyes blue butterfly	Federal State	FSC	Larval foodplant is Lupine sp.	No suitable larval or nectar plants on project site.
<i>Speyeria zerene myrtleae</i> Myrtles silverspot butterfly	Federal State	FE	Restricted to the foggy, coastal dunes of the Point Reyes peninsula. Larval food plant is <i>Viola adunca</i> , with nectar sources of thistles and gum weed (<i>Grindelia rubicaulis</i>).	No suitable larval or nectar plants on project site.
Fish				
<i>Oncorhynchus kisutch</i> Coho salmon – Central California ESU	Federal State	FT, CH CE	Central California Coast group occurs from Punta Gorda in northern California to the San Lorenzo River, in Santa Cruz County, and includes coho salmon populations from several tributaries of San Francisco Bay.	No suitable spawning habitat on project site.
<i>Oncorhynchus mykiss</i> Steelhead – Central California Coast ESU	Federal State	FT	Commonly spends 2 years in ocean before entering freshwater one year prior to spawning.	No suitable spawning habitat on project site.
<i>Oncorhynchus tshawytscha</i> Chinook salmon – California coastal	Federal State	FT	Spawning occurs in larger coastal streams north of San Francisco Bay to Oregon.	No suitable spawning habitat on project site.
Amphibians				
<i>Rana aurora aurora</i> Northern red-legged frog	Federal State	none CSC, FP	Range occurs from northern Sonoma County to British Columbia. Inhabit perennial and ephemeral streams with quiet waters and dense emergent vegetation.	None: Low potential for Kehoe Creek to be used as migration corridor.
<i>Rana aurora draytonii</i> California red-legged frog	Federal State	FT, CH CSC, FP	Prefers semi-permanent and permanent stream pools, ponds and creeks with emergent and/or riparian vegetation. Occupies upland areas especially during the wet winter months.	High: Kehoe Creek is used as a migration corridor.
Reptiles				
<i>Clemmys marmorata marmorata</i> western pond turtle	Federal State	SC CSC, FP	Prefers permanent, slow-moving creeks, streams, ponds, rivers, marshes and irrigation ditches with basking sites and a vegetated shoreline. Requires upland sites for egg-laying.	No suitable nesting habitat on site.
Birds				
<i>Accipiter cooperi</i> Cooper's hawk (nesting site only)	Federal State	MB CSC	Nests primarily in deciduous riparian forests. May also occupy dense canopied forests from gray pine-oak woodland to ponderosa pine. Forages in open woodlands.	No suitable nesting habitat on site.
<i>Accipiter striatus</i> sharp-shinned hawk (nesting site only)	Federal State	MB CSC	Dense canopy pine or mixed conifer forest and riparian habitats. Water within one mile required.	No suitable nesting habitat on site.

APPENDIX B
Potentially Occurring Special-Status Animal Species in the Vicinity of the
Proposed Kehoe Dairy Project Site (Cont'd)

Scientific Name Common Name	Status ¹		Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence in Project Site
<i>Agelaius tricolor</i> Tricolored blackbird	Federal State	SC, MB CSC	Nests colonially near open water but often in dense thistles or cattails.	No suitable nesting habitat on site.
<i>Ammodramus savannarum</i> Grasshopper sparrow	Federal State	SC	Typically found in tall, dense grass, nesting on the ground at the base of grass tuft.	No suitable nesting habitat on site.
<i>Asio flammeus</i> Short-eared owl	Federal State	SC, MB	Nests in tall grasses and in freshwater marshes.	No suitable nesting habitat on site.
<i>Athene cunicularia hypugaea</i> Western burrowing owl	Federal State	SC, MB SSC	Open, dry grasslands, deserts, prairies, farmland and scrublands with abundant active and abandoned mammal burrows. Prefers short grasses and moderate inclined hills.	No suitable nesting habitat in grassland.
<i>Chaetura vauxi</i> Vaux's swift	Federal State	SC, MB	Nests in tree cavities in woodlands.	No suitable nesting habitat on site.
<i>Circus cyaneus</i> northern harrier	Federal State	MB CSC	Nests and forages in grasslands and open marshland, both salt and fresh. Nests consist of a thin to thick layer of small sticks and reeds, lined with grasses.	No suitable nesting habitat in grassland.
<i>Dendroica petechia brewsteri</i> California yellow warbler (nesting)	Federal State	MB CSC	Nests in riparian areas dominated by willows, cottonwoods, sycamores or alders and in mature chaparral. May also inhabit oak and coniferous woodlands and urban areas near stream courses.	None: Suitable nesting habitat in Kehoe Creek, outside project site.
<i>Elanus leucurus</i> white-tailed kite (nesting sites only)	Federal State	MB CFP	Inhabits low rolling foothills and valley margins with scattered oaks and river bottom- lands or marshes adjacent to deciduous woodlands. Nests and perches in dense-topped trees and perching.	No suitable nesting habitat.
<i>Eremophila alpestris actia</i> California horned lark	Federal State	MB CSC	Nests on relatively flat ground in open grasslands, removed from shrubs and trees. Nest is a cup made of dry grass and plant stems in a small hollow.	Moderate – suitable nesting habitat in grassland
<i>Empidonax trailii brewsteri</i> willow flycatcher	Federal State	MB SE	Nest sites occur in extensive thickets of low lying, dense willows on edge of wet meadows, ponds or backwaters. 2,000-8,000 feet in elevation. This species requires dense willow thickets for nesting and roosting.	No suitable nesting habitat.
<i>Geothlypis trichas sinuosa</i> saltmarsh common yellowthroat	Federal State	SC CSC	Nests in fresh and saltwater marshes in tall grasses, cattail patches and willows that provide dense cover to waterline.	None - Suitable nesting habitat in Kehoe Creek, outside project site.
<i>Hirundo rustica</i> barn swallows	Federal State	MB	Nests in anthropogenic structures stuck against a vertical surface. Nest made of mud pellets mixed with vegetable fibers and plant fibers.	High – suitable nesting habitat in horse barn.

APPENDIX B
Potentially Occurring Special-Status Animal Species in the Vicinity of the
Proposed Kehoe Dairy Project Site (Cont'd)

Scientific Name Common Name	Status ¹		Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence in Project Site
<i>Lanius ludovicianus</i> loggerhead shrike	Federal State	SC, MB CSC	Nests in woodland and scrub habitats at margins of open grasslands. Often uses lookout perches such as fence posts. Resident and winter visitor in lowlands and foothills throughout California.	None –Moderately suitable nesting habitat in riparian scrub.
<i>Sayornis nigricans</i> black phoebe	Federal State	MB	Nests in anthropogenic structures on ledges. Nest made of mud pellets, dry grasses, weed stems, plant fibers and hair.	High – suitable nesting habitat in horse barn.
<i>Selasphorus rufus</i> Rufous hummingbird	Federal State	SC, MB	Nests in chaparral, coniferous forest, scrub habitats and riparian habitats. Nests are placed on a downward drooping structure.	None - Suitable nesting habitat in Kehoe Creek, outside project site.
<i>Selasphorus sasin</i> Allen's hummingbird	Federal State	SC, MB	Nests in wooded areas, meadows, or thickets along shaded streams, on a branch low down on stem, although placement height varies between 10 inches and 90 feet.	None - Suitable nesting habitat in Kehoe Creek, outside project site.
<i>Sturnella neglecta</i> western meadowlark	Federal State	MB	Nests in grasslands removed from trees and shrubs. Nest is domed in structure.	Moderate – suitable nesting habitat in grassland.
Mammals				
<i>Antrozous pallidus</i> pallid bat	Federal State	none CSC	Day roosts include rock outcrops, mines, caves, hollow trees, buildings and bridges. Recent research suggests high reliance on tree roosts.	No suitable roosting habitat.
<i>Corynorhinus (Plecotus) townsendii townsendii</i> Townsend's big-eared bat	Federal State	none CSC	Roosting sites include caves, mine tunnels, abandoned buildings and other structures. Forages in a variety of plant communities including coastal conifer and broad-leaf forests, oak and conifer woodlands, arid grasslands and deserts. Most commonly associates with mesic sites. Highly sensitive to human disturbances.	No suitable roosting habitat.
<i>Myotis ciliolabrum</i> small-footed myotis bat	Federal State	SC none	Roosts in caves, mine tunnels, crevices in rocks and buildings, generally near forested areas. Feeds low among trees or over shrubs.	No suitable roosting habitat.
<i>Myotis evotis</i> long-eared bat	Federal State	SC none	Day roosts in hollow trees under exfoliating bark, and crevices in rock outcrops. Found roosting under bark of small black oaks in northern California. Found throughout California.	No suitable roosting habitat.

APPENDIX B
Potentially Occurring Special-Status Animal Species in the Vicinity of the
Proposed Kehoe Dairy Project Site (Cont'd)

<i>Myotis thysanodes</i> fringed myotis bat	Federal State	SC none	Roosts in colonies in caves, cliffs and attics of old buildings. Will also use trees as day roosts.	No suitable roosting habitat.
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Scientific Name Common Name	Status ¹		Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence in Project Site
<i>Myotis volans</i> long-legged myotis	Federal State	SC none	Day roosts in hollow trees, particularly large diameter snags or live trees with lightning scars. Habitat usually defined by montane coniferous forests, pinyon-juniper, and Joshua tree woodland habitats.	No suitable roosting habitat.
<i>Myotis yumanensis</i> Yuma myotis bat	Federal State	SC none	Roosts colonially in caves, tunnels and buildings. Inhabits arid regions.	No suitable roosting habitat.

A definition of sensitivity codes is located in Appendix C.

APPENDIX C EXPLANATION OF SENSITIVITY STATUS CODES

AGENCIES

USFWS = U.S. Fish and Wildlife Service
 CDFG = California Department of Fish and Game
 CNPS = California Native Plant Society
 BLM = Bureau of Land Management
 USFS = U.S. Forest Service

CALIFORNIA NATIVE PLANT SOCIETY DESIGNATIONS

List 1: Plants of highest priority
 List 1A: Plants presumed extinct in California
 List 1B: Plants rare and endangered in California and elsewhere
 List 2: Plants rare and endangered in California but more common elsewhere
 List 3: Plants about which additional data are needed
 List 4: Plants of limited distribution

CNPS R-E-D Codes

R (Rarity)

- 1 = Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction or extirpation is low at this time.
- 2 = Occurrence confined to several populations or to one extended population.
- 3 = Occurrence limited to one or a few highly restricted populations, or present in such low numbers that it is seldom reported.

? = More data are needed

E (Endangerment)

- 1 = Not endangered
- 2 = Endangered in a portion of its range
- 3 = Endangered throughout its range
- ? = More data are needed

D (Distribution)

- 1 = More or less widespread outside California
- 2 = Rare outside California
- 3 = Endemic to California
- ? = More data are needed

note: currently, all CNPS list 1B and 2 taxa are considered "Special Plants" by the CDFG.

FEDERAL DESIGNATIONS

FE = listed as Endangered by the Federal Government
 FT = listed as Threatened by the Federal Government
 FPE = proposed as Endangered by the Federal Government
 FPT = proposed as Threatened by the Federal Government
 FSS = federal sensitive species, as listed by BLM and USFS
 C¹ = Candidate; taxa for which USFWS has sufficient biological information to support a proposal to list as Endangered or Threatened).
 SC¹ = Species of Concern
 MB = migratory non-game birds of management concern to the USFWS; protected under the Migratory Bird Treaty Act.

¹As of Feb. 28, 1996, all Category 1 candidate taxa are now regarded merely as Candidates. The USFWS ceased to maintain lists of Category 2 and Category 3 candidate taxa; Category 2 taxa are now regarded as Species of Concern.

CALIFORNIA DEPT. OF FISH AND GAME DESIGNATIONS

CE = Listed as Endangered by the State of California
 CR = Listed as Rare by the State of California
 CT = Listed as Threatened by the State of California
 CPE = Proposed for listing as Endangered
 CSC = California Species of Special Concern
 * = taxa that are restricted in distribution, declining throughout their range, or associated with habitats that are declining in California.
 CFP = Fully protected under the Cal. Fish and Game Code.
 CP = Protected Species under Cal. Code of Regulations.
 CEQA = taxa which are considered to meet the criteria for listing as Endangered, Threatened or Rare by the CDFG; impacts to such taxa must be addressed in CEQA documents.
 CEQA? = Taxa that might be locally significant; should be evaluated for consideration during preparation of CEQA documents, as recommended by the CDFG.

APPENDIX D
Special-Status Species Not Addressed for the
Proposed Kehoe Dairy Project Site

Scientific Name	Status ¹
Common Name	
LISTED SPECIES	
Plants	
<i>Layia carnosa</i>	FE
Beach layia	
Mammals	
<i>Arctocephalus townsendii</i>	FT
Guadalupe fur seal	
<i>Balaenoptera borealis</i>	FE
Sei whale	
<i>Balaenoptera musculus</i>	FE
Blue whale	
<i>Balaenoptera physalus</i>	FE
Finback whale	
<i>Eubalaena glacialis</i>	FE
Right whale	
<i>Eumetopias jubatus</i>	FT
Steller sea lion	
<i>Physeter catodon</i>	FE
Sperm whale	
Birds	
<i>Brachyramphus marmoratus</i>	FT
Marbled murrelet	
<i>Charadrius alexandrinus nivosus</i>	FT
Western snowy plover	
<i>Diomedea albatrus</i>	FE
Short-tailed albatross	
<i>Haliaeetus leucocephalus</i>	FT
Bald eagle	
<i>Pelecanus occidentalis californicus</i>	FE
California brown pelican	
<i>Rallus longirostris obsoletus</i>	FE
California clapper rail	
<i>Sterna antillarum browni</i>	FE
California least tern	
<i>Strix occidentalis caurina</i>	FT
Northern spotted owl	
Reptiles	
<i>Caretta caretta</i>	FT
Loggerhead turtle	
<i>Chelonia mydas</i>	FT
Green turtle	
<i>Dermochelys coriacea</i>	FE
Leatherback turtle	
<i>Lepidochelys olivacea</i>	FT
Olive Ridley sea turtle	
Fish	
<i>Eucyclogobius newberryi</i>	FE
Tidewater goby	

APPENDIX D
Special-Status Species Not Addressed for the
Proposed Kehoe Ranch Project Site

Invertebrates

<i>Haliotes sorenseni</i>	FE
White abalone	
<i>Haliotes craherodii</i>	FC
Black abalone	
<i>Syncaris pacifica</i>	FE
California freshwater shrimp	

SPECIAL CONCERN SPECIES

Plants

<i>Amsinkia lunaris</i>	SLC
Bent-flowered fiddleneck	
<i>Arabis blepharophylla</i>	SLC
Coast rockcress	
<i>Astragalus nuttallii</i> var. <i>virgatus</i>	SLC
Nuttall's milk-vetch	
<i>Astragalus pycnostachyus pycnostachyus</i>	SLC
Marsh milkvetch	
<i>Atriplex californica</i>	SLC
California saltbush	
<i>Blennosperma nanum</i> var. <i>nanum</i>	SC
Point Reyes stickyseed	
<i>Calystegia purpurata</i> ssp. <i>saxicola</i>	SLC
Coastal bluff morning-glory	
<i>Castilleja affinis</i> spp. <i>affinis</i>	SLC
Coast Indian paintbrush	
<i>Castilleja ambigua</i> ssp. <i>ambigua</i>	SLC
Salt marsh owl's clover	
<i>Castilleja exsertta</i> ssp. <i>latifolia</i>	SLC
Purple owl's clover	
<i>Cirsium andrewsii</i>	SC
Franciscan thistle	
<i>Clarkia davyi</i>	SC
Davy's clarkia	
<i>Collinsia corymbosa</i>	SC
Roundheaded Chinese houses	
<i>Gilia maritimus</i> ssp. <i>palustris</i>	SC
San Francisco gilia	
<i>Gilia capitata</i> ssp. <i>tomentosa</i>	SC
Woolly-headed gilia	
<i>Gilia millefoliata</i>	SLC
Yarrow-leaf gilia	
<i>Grindelia hirsute</i> var. <i>maritime</i>	SC
San Francisco gum plant	
<i>Lasthenia macrantha</i> ssp. <i>macrantha</i>	SLC
Perennial goldfields	
<i>Linanthus grandiflorus</i>	SC
Large-flowered linanthus	
<i>Microseris paludosa</i>	SLC
Marsh microseris	
<i>Monardella undulate</i>	SC
Curly-leaved monardella	
<i>Perideridia gairdneri</i> ssp. <i>gairdneri</i>	SC
Gairdner's yampah	

APPENDIX D
Special-Status Species Not Addressed for the
Proposed Kehoe Ranch Project Site

<i>Phacelia insularis</i> var. <i>continentis</i>	SC
North coast phacelia	
<i>Spartina foliosa</i>	SLC
Pacific cordgrass	
<i>Stellaria littoralis</i>	SC
Seashore starwort	
Mammals	
<i>Aplodontia rufa phaea</i>	FSC
Point Reyes mountain beaver	
<i>Eumops perotis californicus</i>	FSC
Western mastiff bat	
<i>Zapus trinotatus orarius</i>	FSC
Point Reyes jumping mouse	
Birds	
<i>Histrionicus histrionicus</i>	FSC
Harlequin duck	
<i>Dendroica occidentalis</i>	FSC
Hermit warbler	
<i>Laterallus jamaicensis coturniculus</i>	FSC
Black rail	
<i>Melanerpes lewis</i>	FSC
Lewis' woodpecker	
<i>Numenius americanus</i>	FSC
Long-billed curlew	
<i>Oceanodroma homochroa</i>	FSC
Ashy storm-petrel	
<i>Riparia ripria</i>	FSC
Bank swallow	
<i>Sterna elegans</i>	FSC
Elegant tern	
Reptiles	
<i>Phrynosoma coronatum frontale</i>	FSC
California horned lizard	
Amphibians	
<i>Rana boylei</i>	FSC
Foothill yellow-legged frog	
Fish	
<i>Lampetra tridentate</i>	FSC
Pacific lamprey	
Invertebrates	
<i>Carterocephalus palaemon</i>	FSC
Sonoma arctic skipper	
<i>Cincidela hirticollis gravida</i>	FSC
Sandy beach tiger beetle	
<i>Coelus globosus</i>	FSC
Globose dune beetle	
<i>Helminthoglypta arrosa williamsi</i>	FSC
William's bronze shoulderband snail	
<i>Hydrochara rickseckeri</i>	FSC
Ricksecker's water scavenger beetle	
<i>Lichnanthe ursine</i>	FSC
Bumblebee scarab beetle	