

CREEK ASSESSMENT FOR STEARNS SENIOR CARE PROJECT

8220 SUNRISE BLVD

November 29, 2007

Reviewed by: Laurie Warner Herson

Prepared by: STEPHEN STRINGER, M.S.

Introduction:

At the request of Mr. John Steitz, HDR Engineering, Inc. (HDR) has prepared this creek assessment report (report) for the Stearns Senior Care project located at 8220 Sunrise Blvd, Citrus Heights, CA (APN 216-0090-012-0000). The property is located on the “Citrus Heights, CA” USGS 7.5 minute topographic quadrangle. The subject property (hereafter referred to as “Property”) is 4.55 acres and an unnamed tributary to Cripple Creek (hereafter referred to as “unnamed drainage”) flows along the eastern and northern Property boundaries. The project proponent plans to construct a senior assisted living facility consisting of 96 living units and 51 parking spaces. The boundaries of the Property (as well as the study area) are based on the Site Plan for Monarch Senior Assisted Living prepared by Two Rivers Architects, Inc. (**Attachment A**).

The purpose of the creek assessment is to document the dominate plant and animal species observed in the unnamed drainage, to provide a description of the drainage’s morphology (bed and bank characteristics), to discuss the general biological value of the drainage as it pertains to common fish and wildlife species occurring in the vicinity of the Property, and to evaluate the potential for the drainage to contain, or provide habitat for, federal or state listed special-status plant and/or animal species. This report documents the results of a reconnaissance level survey of the drainage and a database search of regionally-occurring special-status species.

Methods:

An HDR biologist, Stephen Stringer, conducted a reconnaissance level biological survey of the unnamed drainage on November, 16, 2007. Prior to conducting the survey, a list of special-status species known to occur and/ or having the potential to occur on the Citrus Heights USGS 7.5 minute quadrangle was obtained from the California Natural Diversity Database (CNDDDB) maintained by the California Department of Fish and Game (CDFG). During the creek assessment, the unnamed drainage was evaluated for the potential to provide habitat for the target special-status species. Photos of the unnamed drainage are included as **Attachment B**. The CNDDDB list of special-status species known to occur on the “Citrus Heights, CA” quad is included as **Attachment C**.

Results:

An approximately 600 foot long segment of an unnamed drainage tributary to Cripple Creek occurs on the Property. The unnamed drainage flows onto the Property through residential development to the east, flows north for approximately 150 feet along the eastern boundary of the Property, and then makes a 90 degree turn and flows for approximately 450 along the northern boundary of the Property. The unnamed drainage exits the Property through a double box culvert under Sunrise Blvd. then empties into Cripple Creek approximately 1,200 ft downstream. The segment of the unnamed drainage on the Property is mapped as perennial on the USGS map and does appear to contain water year around based on the type of vegetation observed in the creek during the survey. Based on the size and geographic location of the watershed, the creek appears to be primarily sustained by storm water runoff during the winter and spring months and by urban runoff (e.g., excess irrigation) during the summer months. A leaking water main that crosses through the creek is also contributing hydrology to the creek. Several culvert outfalls were observed in the creek originating from neighboring properties. These culverts appeared to be installed by property owners to drain standing water from their properties into the creek. In addition, a 24 inch culvert that collects runoff from a roadside ditch along Sunrise Blvd empties into the unnamed drainage on the east side of Sunrise Blvd.

A thin line of scattered riparian trees occurs in the drainage and along the top of the bank on both sides. The unnamed drainage ranges from 5 to 12 ft wide at the ordinary high water mark (OHWM) as it runs through the Property. The bed of the drainage varies from exposed bedrock to bedrock overlain with several inches of silt. The bank is composed of silty sand. Bank vegetation consists of an overstory of scattered riparian trees and Himalayan blackberry (*Rubus discolor*) and non-native grasses and forbs in the understory. The segment of the drainage on the eastern half of the property differs significantly enough from the segment on the western half of the property to warrant a separate discussion. In order to facilitate discussion, the first 300 ft of the drainage as it enters the property from the east is referred to as the eastern segment and the last 300 ft of the drainage prior to crossing under Sunrise Blvd is referred to as the western segment.

The eastern segment of the drainage is deeply incised, with the bed elevation approximately 8 ft below the top of bank. In this segment, the drainage is an average of 10 ft in width. The bed consists of bedrock overlain by several inches of silt and sand. The banks are covered with dense Himalayan blackberry and scattered riparian trees such as white alder (*Alnus rhombifolia*), and willows (*Salix* spp.). This segment of the creek is best characterized as “glide” habitat. Water was ponded to a depth of 20+ inches in this segment of the drainage at the time of the survey. Two large mammal burrows of unknown origin were observed in the bank of the drainage near the waterline. These burrows could potentially be used by river otter, which have been observed in the unnamed drainage (pers. comm., Mr. John Steitz). Numerous fish and crayfish were also observed in the eastern segment. The majority of the fish observed appeared to be mosquitofish (*Gambusia affinis*) and several different species in the minnow family (Cyprinidae). Several bullfrog (*Rana catesbeiana*) tadpoles and one juvenile bullfrog were observed in this segment. The drainage is mostly void of emergent vegetation in this segment.

The western segment of the drainage is also deeply incised, with the bed elevation ranging from approximately 6 to 8 feet in elevation below the top of bank. In this segment the drainage ranges from 5 to 10 ft in width. The bed is composed of exposed bedrock in the majority of this segment with a thin layer of silt, sand, and/ or cobble in places. The bank is vegetated with Himalayan blackberry and non-native grasses with an overstory of scattered riparian trees including white alder, willow, and box elder (*Acer negundo*) as well as several native interior live oaks (*Quercus wislizenii*) and blue oaks (*Quercus douglasii*). This segment of the unnamed drainage is best characterized as “riffle/ run” habitat. The water depth ranged from 2 inches in the riffles to 12 inches in the runs. Numerous mosquitofish and crayfish were observed in this segment. Patches of emergent vegetation also occur in this segment. Plant species observed in this segment include water smartweed (*Polygonum* sp.), water plantain (*Alisma* sp.), water cress (*Rorippa nasturtium-aquaticum*), nutsedge (*Cyperus eragrostis*), Dallis grass (*Paspallum dilatatum*), and cattail (*Typha* sp.). Sanford’s arrowhead (*Sagittaria sanfordii*) was also observed in this segment of the creek.

Special-Status Fish Species

According to the CNDDDB, several federal listed fish species have the potential to occur in, or be affected by projects in the Citrus Heights USGS quad including Delta smelt (*Hypomesus transpacificus*), Central Valley steelhead (*Oncorhynchus mykiss*), and Chinook salmon (*Oncorhynchus tshawytscha*; Central Valley spring-run, Winter-run). However, the project is outside of the range of Delta smelt and is not expected to impact this species. The National Marine Fisheries Service should be contacted regarding the potential for listed salmonids to occur in the unnamed drainage.

Other Special-Status Species (Including Raptors and Other Migratory Birds)

Sanford’s arrowhead, a California Native Plant Society List 1B species, was observed in the unnamed drainage. The occurrence has been reported to CNDDDB. Western pond turtle (*Emmys marmorata*), a California Species of Special Concern protected by CDFG could potentially occur in the unnamed drainage as turtles have been observed (pers. comm., Mr. John Steitz). No special-status species other than Sanford’s arrowhead were observed in the drainage and it is not expected to provide habitat for any of the other special-status plant or animal species known to occur on the “Citrus Heights, CA” USGS quad, with the possible exception of western pond turtle. No elderberry shrubs, which provide habitat for the federal listed threatened Valley elderberry longhorn beetle, were observed along the drainage. Trees along the drainage provide potential nesting habitat for raptors and other migratory birds, but no bird nests were observed along the drainage.

Wildlife Habitat/ Movement Corridor

Wildlife movement corridors link areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or areas of human disturbance or urban development. Topography and other natural factors, in combination with urbanization, can fragment or

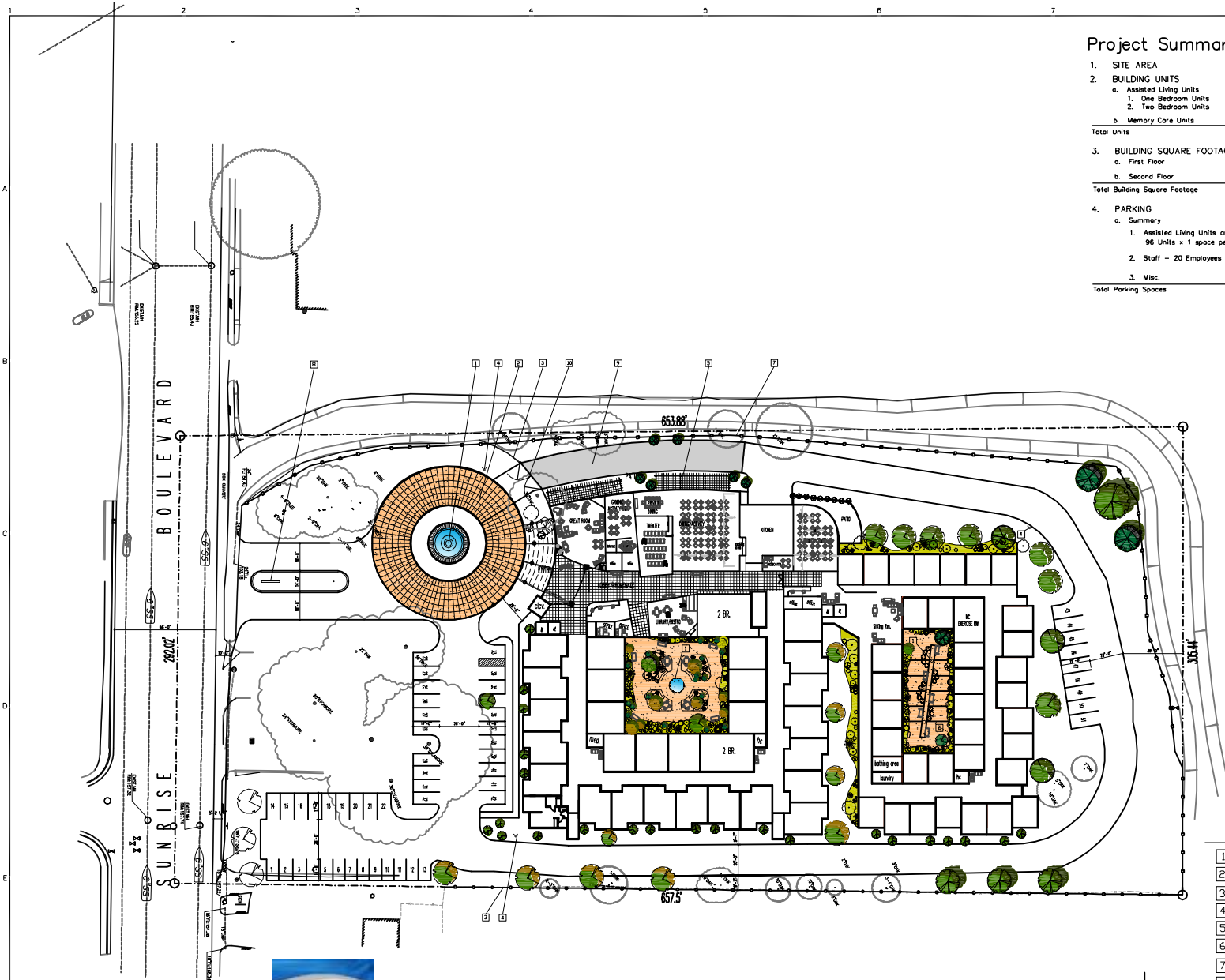
separate large open-space areas. The fragmentation of natural habitat creates isolated “islands” of habitat that may not provide sufficient area to accommodate sustainable populations and can adversely impact genetic and species diversity. Movement corridors mitigate the effects of this fragmentation by allowing animals to move between remaining habitats, which in turn allows depleted populations to be replenished and promotes genetic exchange between separate populations.

The unnamed drainage provides a movement corridor through the urbanized surroundings. This movement corridor allows common aquatic and terrestrial wildlife species to safely move back and forth between suitable habitats, which allows dispersal and subsequent gene flow between wildlife populations. In addition, common wildlife species are expected to utilize the unnamed drainage for dispersal and foraging habitat as well as a drinking water source.

Summary:

The unnamed drainage on the Property is expected to provide habitat and a movement corridor for aquatic and terrestrial fish and wildlife species common to the region. It may also provide habitat for special-status salmonids. Sanford’s arrowhead, a California Native Plant Society List 1B.2 species, occurs in the unnamed drainage. Sanford’s arrowhead is afforded protection under the California Environmental Quality Act and the Native Plant Protection Act. Impacts to this species should be avoided by the project. Western pond turtle could potentially occur in the unnamed drainage. Invasive plant species occur in and along the unnamed drainage including Himalayan blackberry and parrot’s feather (*Myriophyllum aquaticum*). Removal of these invasive plant species would likely be beneficial to the overall health of the unnamed drainage by allowing native species to colonize as well as improving flows through the unnamed drainage.

Attachment A: Site Plan



Project Summary

1. SITE AREA	4.55 Acres
2. BUILDING UNITS	
a. Assisted Living Units	
1. One Bedroom Units	58 Units
2. Two Bedroom Units	4 Units
b. Memory Core Units	34 Units
Total Units	96 Units
3. BUILDING SQUARE FOOTAGE	
a. First Floor	54,000 s.f.
b. Second Floor	26,000 s.f.
Total Building Square Footage	80,000 s.f.
4. PARKING	
a. Summary	
1. Assisted Living Units and Memory Core Units	24 Spaces
96 Units x 1 space per 4 Unit	
2. Staff - 20 Employees	20 Spaces
3. Misc.	7 Spaces
Total Parking Spaces	51 Spaces



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 CONSULTANT

REVISIONS

KEY PLAN

KEY NOTES

- 1 FOUNTAIN
- 2 50' TEXTURED CIRCULAR DRIVE
- 3 8' MASONRY FENCE
- 4 NEW FIRE HYDRANT
- 5 COURT YARD & TRESSIS
- 6 INTERIOR COURTYARD
- 7 WROUGHT IRON FENCE
- 8 LOW LIT SIGNAGE
- 9 TURF BLOCK DRIVE
- 10 20' WIDE GATE



SITE PLAN
 November 8th, 2007

1" = 30' - 0"



PROJECT TITLE
Monarch Senior Assisted Living

Client:
John Steltz Enterprises
 8220 Sunrise Blvd.
 Citrus Heights, CA

SHEET TITLE
**SITE PLAN
 MASTER PLAN**

DRAWN BY
 LW
 PROJECT NO.
 1048
 COMPUTER NO.
 03
 DATE
 11-08-07

CHECKED BY
 LW
 SHEET NO.
A1.1

Attachment B: Site Photos



Photo 1. View of the western segment of the unnamed drainage looking upstream.



Photo 2. View of the western segment of the unnamed drainage looking downstream.



Photo 3. View of the eastern segment of the unnamed drainage looking downstream.



Photo 4. View of the eastern segment of the unnamed drainage looking upstream.



Photo 5. View of the riparian vegetation along the unnamed drainage. Photo was taken from the top of the bank looking toward the east.



Photo 6. View of the culvert under Sunrise Blvd through which the unnamed drainage exits the Property.

Attachment C: Regionally Occurring Special-Status Species Lists

California Department of Fish and Game Natural Diversity Database List of Special-Status Species Reported on the Citrus Heights USGS 7.5 Minute Quad

Sacramento Fish and Wildlife Office List of Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Citrus Heights USGS 7.5 Minute Quad

California Department of Fish and Game
 Natural Diversity Database
 Selected Elements by Scientific Name - Landscape
 Citrus Heights quad

Scientific Name	Common Name	Element Code	Federal Status	State Status	Global Rank	State Rank	CNPS	CDFG
1 <i>Andrena subapasta</i>	A vernal pool andrenid bee	IHYM35050			G1G3	S1S3		
2 <i>Ardea herodias</i>	great blue heron	ABNGA04010			G5	S4		
3 <i>Desmocerus californicus dimorphus</i>	valley elderberry longhorn beetle	ICCOL48011	Threatened		G3T2	S2		
4 <i>Elaeus leucurus</i>	white-tailed kite	ABNKKC06010			G5	S3		
5 <i>Linderella occidentalis</i>	California linderella	ICBRA06010			G3	S2S3		
6 <i>Northern Volcanic Mud Flow Vernal Pool</i>	Northern Volcanic Mud Flow Vernal Pool	CTT44132CA			G1	S1.1		
7 <i>Riparia riparia</i>	bank swallow	ABPAU08010		Threatened	G5	S2S3		
8 <i>Sagittaria sanfordii</i>	Sanford's arrowhead	PMALU04000			G3	S3.2		1B.2

Sacramento Fish & Wildlife Office
Federal Endangered and Threatened Species
that Occur in or may be Affected by Projects in the
CITRUS HEIGHTS (512A)
U.S.G.S. 7 1/2 Minute Quad
Database Last Updated: August 16, 2007
Document Number: 071119112506

Species of Concern - The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. See www.fws.gov/sacramento/es/spp_concern.htm for more information and links to these sensitive species lists.

Red-Legged Frog Critical Habitat - The Service has designated final critical habitat for the California red-legged frog. The designation became final on May 15, 2006. See our [map index](#).

Listed Species

Invertebrates

Branchinecta lynchi

vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus

valley elderberry longhorn beetle (T)

Lepidurus packardii

vernal pool tadpole shrimp (E)

Fish

Hypomesus transpacificus

delta smelt (T)

Oncorhynchus mykiss

Central Valley steelhead (T) (NMFS)

Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha

Central Valley spring-run chinook salmon (T) (NMFS)

winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense

California tiger salamander, central population (T)

Rana aurora draytonii

California red-legged frog (T)

Reptiles

Thamnophis gigas
giant garter snake (T)

Key:

- (E) *Endangered* - Listed (in the Federal Register) as being in danger of extinction.
- (T) *Threatened* - Listed as likely to become endangered within the foreseeable future.
- (P) *Proposed* - Officially proposed (in the Federal Register) for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the National Marine Fisheries Service. Consult with them directly about these species.
- Critical Habitat* - Area essential to the conservation of a species.
- (PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
- (C) *Candidate* - Candidate to become a proposed species.
- (X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, or may be affected by projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the quad or quads covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the nine surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All plants and animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

Take may include significant habitat modification or degradation where it actually kills

or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our [critical habitat page](#) for maps.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark

Littlefield of this office at (916) 414-6580.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be February 17, 2008.