

Soft-Bottom Channel Reach 115 (Lower San Gabriel River) Maintenance – Turtle Mitigation Plan

Los Angeles County Flood Control District Facilities and Projects, Los Angeles County, California

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September, 2018

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1.0 INTRODUCTION

This Turtle Mitigation Plan (Plan) is intended for implementation with maintenance activities occurring in Los Angeles County Flood Control District's (LACFCD's) Soft-bottom Channel Reach 115, Lower San Gabriel River, Long Beach, California in compliance with Streambed Alteration Agreement (SAA) Notification No. 1600-1999-0076-R5. The Plan provides guidelines for protecting the green turtle (*Chelonia mydas*) and western pond turtle (*Emys marmorata*) during permitted maintenance activities within the channel.

1.1 SITE LOCATION AND DESCRIPTION

Reach 115 is a nearly 4-mile segment of the San Gabriel River located in southeastern Los Angeles County between the cities of Los Alamitos and Seal Beach (Exhibit 1). The upstream terminus of Reach 115 is located north of Interstate Highway 405 approximately 1,750 feet upstream at confluence of Coyote Creek and continues downstream until the channel empties into the Pacific Ocean. The channel consists of an earthen-bottom, or soft-bottom, with earthen levees on either of side hardened with rip-rap. Mature vegetation is established on both banks in the upper portions of Reach 115 within lower portions of the rip-rap levee and within sediment benches occurring at the toe of the levee slope. Vegetation diminishes moving downstream with no vegetation present downstream of the Pacific Coast Highway Bridge. The entire length of Reach 115 is tidally influenced.

2.0 SPECIES DESCRIPTION AND ECOLOGY

Both green turtle and western pond turtle have potential to occur within the Reach 115 maintenance area and are described below.

2.1 GREEN TURTLE

The green turtle, a federally Endangered species, is one of the largest hard-shelled sea turtles. They are unique among sea turtles in that they are herbivores, eating mostly seagrasses and algae. This diet is what gives their cartilage and fat a greenish color (not their shells), which is where their name comes from. The typical adult is 3 to 4 feet long and weighs 300 to 350 pounds. They have dark brown or black shells and a much lighter, yellow underside. Their shells have five scutes (bony plates) running down the middle and four scutes on each side. Another distinct characteristic of the green turtle is their two large scales located between the eyes (NOAA 2018).


Adult and juvenile green turtles are generally found near shore as well as in bays and lagoons, on reefs, and especially in areas with seagrass beds. Adults migrate from foraging areas to nesting beaches and may travel hundreds or thousands of miles each way. After emerging from the nest, hatchlings swim to offshore areas, where they live for several years. Once the juveniles reach a certain age/size range, they leave the open ocean habitat and travel to near shore foraging grounds (NOAA 2018).

Green turtles become sexually mature at 25 to 35 years, and some may be 40 years old before they reproduce. Their reproductive lifespan is uncertain, but some individuals have been observed nesting for at least 38 years. In the United States, the breeding season occurs in late spring and early summer. Males mate with females on foraging grounds, along migratory pathways, and off nesting beaches. Adult males can breed every year, but females migrate from their foraging areas to nest every 2 to 5 years (NOAA 2018).

Female green sea turtles lay about 100 eggs per nest and will nest every two weeks over several months before leaving the nesting area and returning to their foraging grounds. After about



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 Study Area

Regional Location

Lower San Gabriel River Reach 115

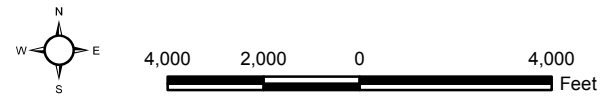


Exhibit 1



two months, the eggs hatch and the hatchlings make their way to the water. The newly hatched green sea turtles are susceptible to nighttime predators; however, hatchlings emerge at night when fewer predators are active. The lifespan for green turtles is currently unknown but thought to be at least 60 to 70 years (NOAA 2018).

Green sea turtles are found around the world in warm subtropical and tropical ocean waters, and nesting occurs in over 80 countries. There are populations with different colorings and markings in the Atlantic, Indian, and Pacific Oceans. Though not well understood, these turtles are highly migratory and undertake complex movements and migrations (National Wildlife Federation 2018). In the eastern North Pacific, green turtles have been sighted from Baja California to southern Alaska, but most commonly occur from San Diego south (NOAA 2018). In recent years, a population of green turtle has been discovered occupying the lower San Gabriel River.

2.2 WESTERN POND TURTLE

The western pond turtle, a member of the Emydidae family, is the only turtle native to coastal California. These reptiles are small and typically reach between four to twelve inches at maturity. Pond turtles are cryptically colored and vary from a brown to olive-brown to dark brown. The scutes on their carapace have a radiating marbled pattern that are sometimes only visible in sunlight and their head and body have a mottled appearance. This species is considered omnivorous. Aquatic plant material, including pond lilies, beetles and a variety of aquatic invertebrates as well as fishes, frogs, and even carrion have been reported among their food (Stebbins 1972; Nussbaum et al. 1983).

Pond turtles can often be found thermoregulating on aquatic basking areas such as rocks, downed logs, or emergent vegetation. They have acute hearing and eyesight and are easily disturbed. They will often be heard as they splash into the water to take cover before they are visible. Basking behavior may be witnessed year-round in southern populations due to warmer year-round temperatures (USGS 2006). In colder areas, hibernation occurs and is spent underwater within the mud or sediment (Zeiner 1988-1990).

The western pond turtle is uncommon to common in suitable aquatic habitat throughout California, west of the Sierra-Cascade crest and absent from desert regions, except in the Mojave Desert along the Mojave River and its tributaries. Elevation range extends from near sea level to 4690 ft (Jennings and Hayes 1994). Associated with permanent or nearly permanent water in a wide variety of habitat types (Zeiner 1988-1990).

A California Natural Diversity Data Base (CNDDB) search conducted in September 2018 revealed no recent (within 20 years) records of this species within the project area (CNDDB 2018).

3.0 AVOIDANCE AND MINIMIZATION MEASURES

Measures have been outlined below to provide for avoidance and minimization of impacts to both green turtles and western pond turtles. These measures are to be followed on a daily basis both prior to and during maintenance activities. Should unexpected circumstances arise, which do not appear to have been considered below, the biological monitor on-site shall have the authority to stop work and determine the next course of action which may include agency consultation.

1. Environmental Education Training – To increase understanding and recognition of the green turtle and western pond turtle, environmental education training shall be provided. This training shall take place during initial construction activities (i.e., during the first tailboard session) and periodically thereafter as needed. The training will focus upon detection, avoidance, and ecology of each of the two species of turtles. A brochure providing applicable information as well as representative photos of the two turtle species will be provided and should be kept on-site by construction personnel for reference.
2. Clearance Surveys – Prior to construction activities a daily clearance survey of the active work areas and their immediate surroundings shall be conducted to determine presence/absence of both species of turtles. This clearance survey shall be conducted by a qualified individual familiar with green turtle and western pond turtle, their eggs, and hatchlings.
3. Green Turtle Observations – Upon observation of a green turtle within or adjacent to active maintenance activities, all activities shall cease until the individual has moved away from the area a minimum distance of 50 feet. This determination shall be made by the qualified biological monitor present on-site. Green turtles shall not be approached, captured or relocated.
4. Western Pond Turtle Observations – If a western pond turtle is observed within or adjacent to active maintenance areas, the biological monitor shall determine whether the individual will be impacted by maintenance activities. If the biological monitor determines that the turtle is not likely to be impacted, they shall monitor the individual until it has left the area or maintenance activities are completed. If the biological monitor determines that the turtle may be impacted by maintenance activities, the monitor shall relocate the individual within suitable habitat downstream and outside of the immediate work area as determined by the biological monitor on site.

During the relocation effort, the monitor shall:

- a. Wear latex or nitrile gloves during handling.
- b. Use a sterile container during transport.
- c. Avoid undue stress or handling.
- d. Document the number, sex and age of the individual turtle, preferably including photographs.
- e. Notch the scutes using a triangular file following USGS protocol.
- f. Record the approximate date and time of capture and release.
- g. Collect a Geographic Position System (GPS) point where the turtle is released.

Western pond turtle breeding season is typically during May through July (USGS 2006). Construction activities are not expected to impact nesting areas or hatchlings as they will take place outside of this period. However, should eggs or hatchlings be encountered

within or adjacent to the active construction areas, all activities shall be suspended by the biological monitor for appropriate consultation with the California Department of Fish and Wildlife (CDFW).

No movement or relocation of western pond turtle eggs or hatchlings is to be conducted without written authorization from the CDFW.

5. Turtle Observation Notification – Should a green turtle or western pond turtle be observed the following individuals representing State and federal resources agencies shall be notified:

**TABLE 1
RECOMMENDED AGENCY CONTACTS**

Agency	Name	Contact Information
California Department of Fish and Wildlife	Steve Gibson	Phone: (562) 342-2106 Email: matthew.chirdon@wildlife.ca.gov
National Marine Fisheries Service - Protected Resources Division	Penny Ruvelas	Phone: (562) 980-4197 Email: Penny.Ruvelas@noaa.gov
National Marine Fisheries Service - Long Beach Office	Anthony Spina	Phone: (562) 980-4045 Email: Anthony.Spina@noaa.gov

6. Biological Monitoring – A biological monitor shall be present on-site during construction activities that occur within or adjacent to occupied habitat. Green sea turtles have been observed within Reach 115 and can move freely, therefore they are always presumed to be present and the habitat occupied. While on-site the monitor shall be responsible for relocating western pond turtles, conducting surveys for all sensitive species, and communicating with the crews. The biological monitor shall have the authority to stop work should the situation warrant it. The monitor will provide a daily summary email describing the day’s activities and any details of pertinent observations. Special status species will be reported to the California Natural Diversity Database (CNDDDB).
7. Turtle Relocation Reporting – Once Reach 115 maintenance activities have been completed a final report shall be prepared and submitted to the CDFW. This report will detail the number of turtles collected, relative size classes, sex ratio and the duration of time turtles were held and where they were released (including GPS points).
8. Best Management Practices – The following best management practices (BMP’s), as applicable to turtles, have been required under the SAA and are summarized as follows:
 - a. The Permittee shall only use an herbicide approved for use in an aquatic environment. Contact shall be avoided with native vegetation and be applied on calm days (wind less than 5 miles per hour) to prevent airborne transfer of herbicides.
 - b. Mechanical equipment shall not be operated in the streambed except as subsequently approved by the CDFW.
 - c. Install sediment and erosion control measures and maintain sediment control(s) in good operating condition throughout the construction period and the following rainy season.
 - d. Should the sediment barrier fail to retain sediment, Permittee shall employ corrective measures and notify the CDFW immediately.

- e. Materials used in the sediment barriers shall not pose an entanglement risk to fish/wildlife.
- f. Remove siltation curtain and any supportive material once work is completed.
- g. Upon CDFW determination that turbidity/siltation levels resulting from project-related activities constitute a threat to aquatic life, activities associated with the turbidity/siltation shall be halted until effective CDFW-approved control devices are installed, or abatement procedures are initiated.
- h. All activities performed in or near a stream shall have absorbent materials designated for spill containment and cleanup activities on-site for use in an accidental spill. If a spill occurs the Permittee shall immediately notify the California Emergency Management Agency at 1-800-852-7550 and immediately initiate the cleanup activities. CDFW shall also be notified by the Permittee and consulted regarding clean-up procedures.

4.0 REFERENCES

USGS. 2006. *USGS Western Pond Turtle (Emys marmorata) Trapping Survey Protocol for the Southcoast Ecoregion*. Sacramento, CA: United States Geological Survey, Western Ecological Research Center.

National Wildlife Federation. 2018 (September). *Green Sea Turtle*. <https://www.nwf.org/Educational-Resources/Wildlife-Guide/Reptiles/Sea-Turtles/Green-Sea-Turtle>

Zeiner, D.C., W.F.Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. *California's Wildlife*. Vol. I-III. California Depart. of Fish and Game, Sacramento, California.

California Department of Fish and Wildlife (CDFW). 2018. *California Natural Diversity Database. Records of Occurrence for the western pond turtle in Los Angeles County*. Sacramento, CA: CDFW, Natural Heritage Division

National Oceanic and Atmospheric Administration (NOAA) Fisheries. (September 2018, access date). *Species Directory, Green Turtle*. NOAA: Silver Spring, MD. www.fisheries.noaa.gov/species/green-turtle.