Draft Northwestern Pond Turtle Conservation Measures for Caltrans Bridge Projects

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***LOCAL ASSISTANCE PROJECTS: This guidance was drafted with Caltrans capital projects in mind. Local Agencies will be responsible for all surveys, technical studies, environmental documents and updates that may be needed to local assistance projects with Caltrans acting as NEPA lead. Highlighted sections in this document that identify project responsible parties have been edited to include local agencies were appropriate.

The following draft conservation measures were developed for the proposed threatened northwestern pond turtle (*Actinemys marmorata,* NWPT) for Caltrans bridge project action areas where, (1) suitable aquatic and/or terrestrial (hereafter "upland") habitat is present, (2) NWPT occupancy has been confirmed by surveys or presumed by Caltrans, and (3) significant impacts to NWPT and/or NWPT habitat are expected. These measures do not necessarily represent a complete list of all conservation measures needed for a given bridge project, nor will all these measures necessarily be applicable to every bridge project.

The term "Service-approved biologist" below refers to individuals with adequate experience and training in species identification, suitable habitat delineation, survey protocols, and handling and relocation techniques for the NWPT (or similar species as determined by the Service). Caltrans/ Local Agency will submit the names and qualifications of prospective Service-approved biologists to the Service for approval prior to the commencement of proposed work activities.

Worker Environmental Awareness Training

A Service-approved biologist (biologist) will implement and administer the survey and monitoring duties outlined in this conference opinion. The biologist will also develop a Worker Environmental Awareness Training Program that will be presented to all construction personnel that may work within suitable NWPT habitat prior to commencement of work activities. Awareness training will include a brief review of the biology of NWPT and a description of these conservation measures, which must be followed by all construction personnel.

Biological Monitor

The biologist will appoint a biological monitor (monitor) with qualifications meeting or exceeding that of the Service-approved biologist. The monitor will be responsible for on-site NWPT "clearance" surveys and monitoring (detailed below) of occupied NWPT areas during ground-disturbing activities, in-water work, and any other time when project activities could reasonably result in adverse effects to NWPT. The biologist or the monitor will notify the Resident Engineer if NWPT is encountered within the action area during project activities. The biologist or monitor will have the authority to temporarily stop work activities that may result in adverse effects to NWPT until reasonable protective measures can be applied.

Species Surveys and Relocation

In coordination with the Service, Caltrans/Local Agency shall develop survey and relocation plans prior to conducting NWPT surveys, and capturing, handling, marking, and relocation of NWPT. The Service recommends a thorough survey of all areas where ground- or water-disturbing activities will occur (including vehicle routes), plus an additional 300 feet outside the work areas 24 hours prior to the onset of such activities. In addition, the biologist or monitor shall conduct daily prework surveys (of the actual work areas only) to ensure NWPT have not moved into active work areas after the initial survey. If NWPT are detected during surveys, construction activities will not begin in the area the NWPT was detected until the biologist or monitor can safely capture, handle, mark (optional), and relocate the NWPT to nearby suitable habitat outside the work area. If the biologist or monitor exercises this authority, the Service will be notified by telephone or e-mail within 48 hours.

Individual identification marking of NWPT is optional but may be used for future survivorship estimates of relocated NWPT and to determine whether relocated individuals have returned to work areas; potentially prompting an adjustment to relocation distance. NWPT captured during dewatering and other in-water work should be relocated to deep pools with adequate concealment and escape cover such as undercut banks or large woody debris. Prior to releasing NWPT the biologist or monitor shall conduct a visual survey for sign (e.g., scat, tracks) of potential predators (e.g., bears, coyotes, meso-carnivores) along the edges of the selected aquatic release area. If recent sign of predators is detected, the biologist or monitor shall release the NWPT in an alternate aquatic release area. Alternate release areas should be identified prior to conducting work activities that could result in the need for NWPT relocation. If all aquatic release areas have signs of recent predator presence, the biologist or monitor may select the release area that contains the most in-water escape cover. For NWPT captured in upland habitat, the biologist or monitor should relocate the individuals to the same aquatic release areas unless it is determined that the NWPT was attempting to access fenced suitable nesting or overwintering habitat within the work area, in which case the NWPT should be relocated to the nearest patch of suitable nesting (or overwintering, as applicable) habitat outside work areas. Presumed suitable nesting and overwintering habitat for relocation should be located prior to conducting surveys and adequately marked for avoidance by construction personnel: All personnel on site should be made aware of the location of all aquatic and suitable upland relocation areas.

Stream Diversion and Dewatering

Stream diversion and cofferdam dewatering with associated NWPT capture and relocation from within de-watered areas will occur during the proposed in-water work window (between June 15 and October 15) by a Service-approved biologist (which may be the biologist or monitor). NWPT capture and relocation will begin as soon as possible following stream diversion or cofferdam closure and commencement of dewatering or prior to implementing pile driving or hoe-ram demolition activities. Nets used for capture and relocation of NWPT must be of suitable mesh size to minimize NWPT injury. Water pumps will be screened with wire mesh screens small enough (e.g. < 1/4 inch) to prevent hatchling NWPT from entering the pump system. All captured NWPT will be released to an established aquatic relocation area.

Pile Driving

The following measures will be implemented to minimize potential impacts from pile driving and minimize exceedance of threshold sound levels during pile driving and hoe-ram operations. Caltrans/Local Agency will require that the contractor implement the following measures, developed in coordination with project design engineers, to minimize the exposure of NWPT to potentially harmful underwater sounds during each construction season that impact pile driving occurs:

- Vibratory pile driving will be used in lieu of impact pile driving whenever feasible. Impact driving and hoe-ram operations will be minimized to the extent practicable.
- If possible, in-water pile driving activities will be conducted when NWPT are least likely to occur within aquatic habitat as determined by the Service.
- If in-water impact pile driving occurs, the contractor shall first dewater the area using a clear water diversion or install a sound attenuation device while driving piles to minimize the extent to which the interim peak and cumulative SEL thresholds are exceeded (as determined by the Service) for piles driven in water. Types of sound attenuation system include, but are not limited to, (1) confined bubble curtain, (2) unconfined bubble curtain, or (3) isolation casings.
- During impact driving, the contractor will limit the number of strikes per day to the minimum necessary to complete the work and will limit the total number of hammer strikes per day to stay below the cumulative sound exposure level (SEL) injurious to NWPT as established by the Service. Pile-driving activities will cease for the day if the sound levels approach specified thresholds.
- Impact pile driving and hoe-ram operations will be limited to daylight hours only and would be followed by a minimum period of 12 hours with no impact pile driving to allow the accumulated SEL to reset to zero.

Hydroacoustic Monitoring

A hydroacoustic monitoring plan will be prepared by Caltrans/Local Agency and approved by the Service prior to construction. The plan will address monitoring methodology, frequency of monitoring, positions that hydrophones will be deployed, techniques for gathering and analyzing acoustic data, quality control measures, and reporting protocols. Hydroacoustic monitoring will be conducted during all construction activities that have the potential to produce impulsive sound waves, which includes any pile driving, hoe-ramming, or jackhammering.

Nest Avoidance

In northwestern California, NWPT are expected to nest between 15 May and 15 September. If a known or presumed nesting area occurs within areas proposed for ground-disturbing activities, Caltrans/Local Agency may use one or both options below. If covering or fencing is unfeasible, daily nest surveys shall occur. If during daily prework surveys new nesting areas are detected, adult NWPT shall be captured and relocated with the exception of females that are actively nesting. If a female is found actively nesting, she will not be disturbed until egg laying is

complete and moves away from the nest on her own volition. Any nests shall be flagged, or otherwise delineated, for avoidance by construction personnel and equipment and carefully monitored during work activities until the work is completed or the NWPT have hatched and dispersed to adjacent aquatic habitat the following spring.

- Fencing: Service-approved barriers shall be installed around the nesting habitat between 1 April and 1 May to prevent NWPT from nesting in the project area. The type of fencing material and the distance of the fencing from existing and newly detected nesting areas will be determined through coordination with the Service. Fencing must be, (1) properly installed, trenched in and vertically stout, and regularly maintained, (2) at least three feet in height and submerged 6 inches below ground, and (3) only removed at the end of activities and after all disturbed habitat is restored to natural condition.

- Covering: Service-approved material can be placed over a suitable nesting area between 1 April and 1 May to prevent NWPT nesting in an area. Covering shall be, (1) flush with the ground, (2) staked firmly, and (3) checked frequently for entrapped NWPT and other wildlife.

Overwintering Avoidance

The NWPT may overwinter in aquatic or muddy substrates or on land as far as 1640 feet from aquatic habitat. NWPT that overwinter in upland habitat can begin movements as early as 25 August (peaking between September and October) through 30 November. NWPT will begin moving back to aquatic habitat between 1 February and 1 May. Use of exclusion fencing or covering, as described above, may be used to prevent overwintering or movement within the project footprint, but must receive Service approval prior to implementation. Monitoring of ground-disturbing activities in suitable upland habitat, within 1640 feet from presumed occupied aquatic habitat, shall occur from 25 August to 1 December and from 31 January to 1 May. If an overwintering NWPT is excavated and unharmed, construction activities will cease within 50 feet of the turtle until the biologist or monitor can relocate the NWPT to a location specified in the relocation plan. If a NWPT is excavated and injured, the biologist will take the NWPT to a Service-approved rehabilitation center. If it is killed, the NWPT will be taken to a designated repository. If the biologist or monitor exercises this authority, the Service will be notified within 48 hours.

Entrapment

To prevent the inadvertent entrapment of NWPT, all excavated, steep-walled holes or trenches more than 3 inches wide and 1 foot deep will be inspected for NWPT then covered at the close of each working day by plywood or similar materials. If it is not feasible to cover an excavation, one or more escape ramps constructed of earthen fill or wood ≥ 6 inches wide shall be installed. Before such holes or trenches are filled, they must be thoroughly inspected by the biologist for trapped NWPT. If at any time a trapped NWPT is detected, the biologist or monitor will relocate the NWPT to nearby suitable habitat well outside the work area.

Vegetation Alteration and Removal

Vegetation alteration and removal will be done with the use of hand tools (including chainsaws) to the maximum extent feasible, but the use of heavy equipment is expected. If vehicles or equipment are used off the existing paved or graveled surface, the work area will first be surveyed for the NWPT by the biologist immediately before and during the proposed work.

Predator Avoidance

All food-related trash will be disposed of in closed containers that are to be removed from the action area at least twice per week during the construction period. Food may attract NWPT predators to the action area. No pets will be allowed anywhere in the action area during construction.

Toxic Materials

Any heavy equipment to be operated in or near water or suitable upland habitat will use non-toxic (e.g., vegetable oil-based) hydraulic fluids only. A spill management plan will be developed to ensure that all equipment will be free of oil and fuel leaks. Equipment refueling and maintenance will only occur at staging areas to avoid fuel, hydraulic fluids, and lubricants from entering the waterway or suitable upland habitat. Further, absorptive pads or impermeable pans should be placed under the vehicles to contain spills and leaks.