

5.0 REPTILES - SL, SO, SS

5.1 Southwestern Pond Turtle (*Emys pallida*) – Category SL

Management Units with Known Occurrences

The southwestern pond turtle is the only turtle native to coastal California (Madden-Smith et al. 2005). It has historically been found in most coast-facing drainages from Washington to northern Baja California. Once a widespread and common species in Southern California, it has declined substantially to only a few remaining self-sustaining occurrences. The pond turtle is a habitat generalist that occurs in riparian and other wetland habitats with permanent to intermittent water and in freshwater to brackish environments (Holland 1991, 1994; Buskirk 2002). The species prefers habitat with slow-moving flows and woody or rocky debris for basking and underwater refugia (Madden-Smith et al. 2005).

Between 2002 and 2012, USGS conducted surveys of southwestern pond turtle in the MSPA (Brown et al. 2012) and found that pond turtle presence is correlated with low human access and high naturalness of the site (Madden-Smith et al. 2005). Based on the results of their surveys, the only significant occurrence of southwestern pond turtle occurs in MU3 in the Sweetwater River at Sycuan Peak Ecological Reserve (see Table of Occurrences and online map: <http://arcg.is/2kUbbKp>). Southwestern pond turtles have also been detected in MUs 4, 5, 6, 8, 10, and 11. See MSP-MOM for a complete listing of all locations where southwestern pond turtle has been detected on Conserved Lands in the MSPA. The turtles detected in MUs 4, 5, and 6 may only be remnants of historical occurrences and there may be no current reproduction at these detection sites.

Management Categorization Rationale

The southwestern pond turtle should be managed as a Species Management Focus Category SL Species due to a high risk of loss from Conserved Lands in the MSPA (see Vol. 1, Table 2-4). Factors contributing to this high risk of loss include the small numbers of existing occurrences, small occurrence sizes, and low rates of recruitment (see Vol. 3, App. 1, Species Profiles).

The delayed sexual maturity and low reproductive output of native pond turtles means that human activities (e.g., habitat alteration, dam operations) may cause rapid declines with very slow recovery (Brooks et al. 1991). Direct habitat loss, in addition to hydrological alterations and nonnative species, has resulted in decreased viable populations of the pond turtle in Southern California (Brattstrom and Messer 1988; Jennings et al. 1992; Jennings and Hayes 1994).

Invasive nonnative aquatic species (e.g., bass, bullfrogs, sunfish), invasive nonnative plant species, and invasive upland species (e.g., feral pigs) are all threats to pond turtles in the MSPA (Madden-Smith et al. 2005). Nonnative turtles serve as vectors for disease and parasites, and compete with pond turtles for critical resources, such as basking sites and food. During a 2002–2003 USGS survey, invasive predatory species were detected at 51 of the 68 sites surveyed. Southwestern pond turtles are more likely to occur at natural sites with limited human access, while nonnative turtles are more likely to occur at artificially modified sites.

During periods of drought, water courses with drinking water reservoirs upstream are more likely to go dry below the dam during the summer months (Madden-Smith et al. 2005). These dry periods may be extended during droughts due to the need to maximize water capture in drinking water reservoirs. In addition, fluctuating water levels may affect shoreline vegetation and invertebrate communities, resulting in suboptimal habitat for pond turtles. It is not known how long pond turtles can survive during extended periods of drought.

Nonnative aquatic species removal, head-starting of pond turtles, and translocation of pond turtles have all been used as strategies for restoring and enhancing pond turtle populations in San Diego County (Brown et al. 2015). Translocation of pond turtles in conjunction with nonnative aquatic species management has been identified as a means of restoring the species to drainages from which they have been extirpated within the region. Translocation can also be used to preserve the genetic makeup of distinct populations through geographic replication. The southwestern pond turtle population at Sycuan Peak Ecological Reserve has approximately doubled since the nonnative aquatic species removal and head-starting programs began in 2009.

Management and Monitoring Approach

The overarching goal for southwestern pond turtle is to protect and enhance existing populations to self-sustaining levels (i.e., 200+ individuals, even sex ratio,

evidence of recruitment) in areas that meet the conditions for long-term management (low human access; high naturalness) and create new self-sustaining occurrences to ensure persistence over the long term (>100 years).

For the 2017–2021 planning cycle, the management and monitoring approach is the following:

- (1) Prepare a management plan for southwestern pond turtles that includes identification of high-priority management actions at sites with self-sustaining populations, as well as actions to establish at least 2 additional pond turtle populations to increase resilience to fire and other threats. Implement highest-priority management actions as identified in the Southwestern Pond Turtle Management Plan and monitor the effectiveness of management actions implemented.
- (2) Establish a program and permits to allow emergency management actions for the southwestern pond turtle during or immediately following wildfire events, such as implementation of emergency rescue and temporary translocation, to protect from potential loss or extirpation. Implement the Southwestern Pond Turtle Rescue Program during wildfire events to protect from loss and/or extirpation. Monitor the effectiveness of the Southwestern Pond Turtle Rescue Program following wildfire events, including translocation or reintroduction efforts.
- (3) Continue efforts to expand and translocate occurrences to self-sustaining levels in MU3 in the Sweetwater and Otay River Watersheds and identify, expand, and translocate pond turtles in at least 2 other watersheds in the MSPA.
- (4) Continue monitoring the effectiveness of translocation experiments at Sycuan Peak Ecological Reserve and Rancho Jamul Ecological Reserve (see Table of Occurrences) and any additional translocated occurrences.
- (5) Implement invasive aquatic animal and invasive plant control at natural and translocated pond turtle occurrences as needed to increase recruitment and basking habitat.
- (6) Biennially inspect the existing occurrences to identify necessary management actions to support the expansion of the occurrence to self-

sustaining levels and conduct routine management actions identified through the IMG regional protocol monitoring, including protecting populations from disturbance, removing invasive plants, and removing aquatic predators and exotic species within the known occupied and suitable habitat.

- (7) Implement post-fire management actions to ensure the recovery of pond turtles at occupied sites following wildfire events, including invasive plant and animal control, debris/sediment removal, erosion control, or other management actions as needed for 3 years after fire.
- (8) Monitor stream conditions and the effectiveness of management actions implemented to assist in recovery of southwestern pond turtle for 3 years following wildfire events.

For details and the most up-to-date goals, objectives, and actions, go to the MSP Portal Southwestern Pond Turtle summary page: https://portal.sdmmp.com/view_species.php?taxaid=668677

Southwestern Pond Turtle References

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