



Western Pond Turtles (*Clemmys marmorata*) in the Multiple Species Conservation Program Area

Preliminary Survey Results 2002

U.S. Department of Interior
U.S. Geological Survey





Loss and modification of habitat has lead to declines in the pond turtle





Objective

**Attempt to detect pond turtles
on public lands inside the
MSCP area in San Diego County**

Surveys

- Visual surveys of each site to assess it for potential suitability
 - Looked for turtles and turtle habitat within survey reach or site
- Trapping surveys at sites deemed suitable

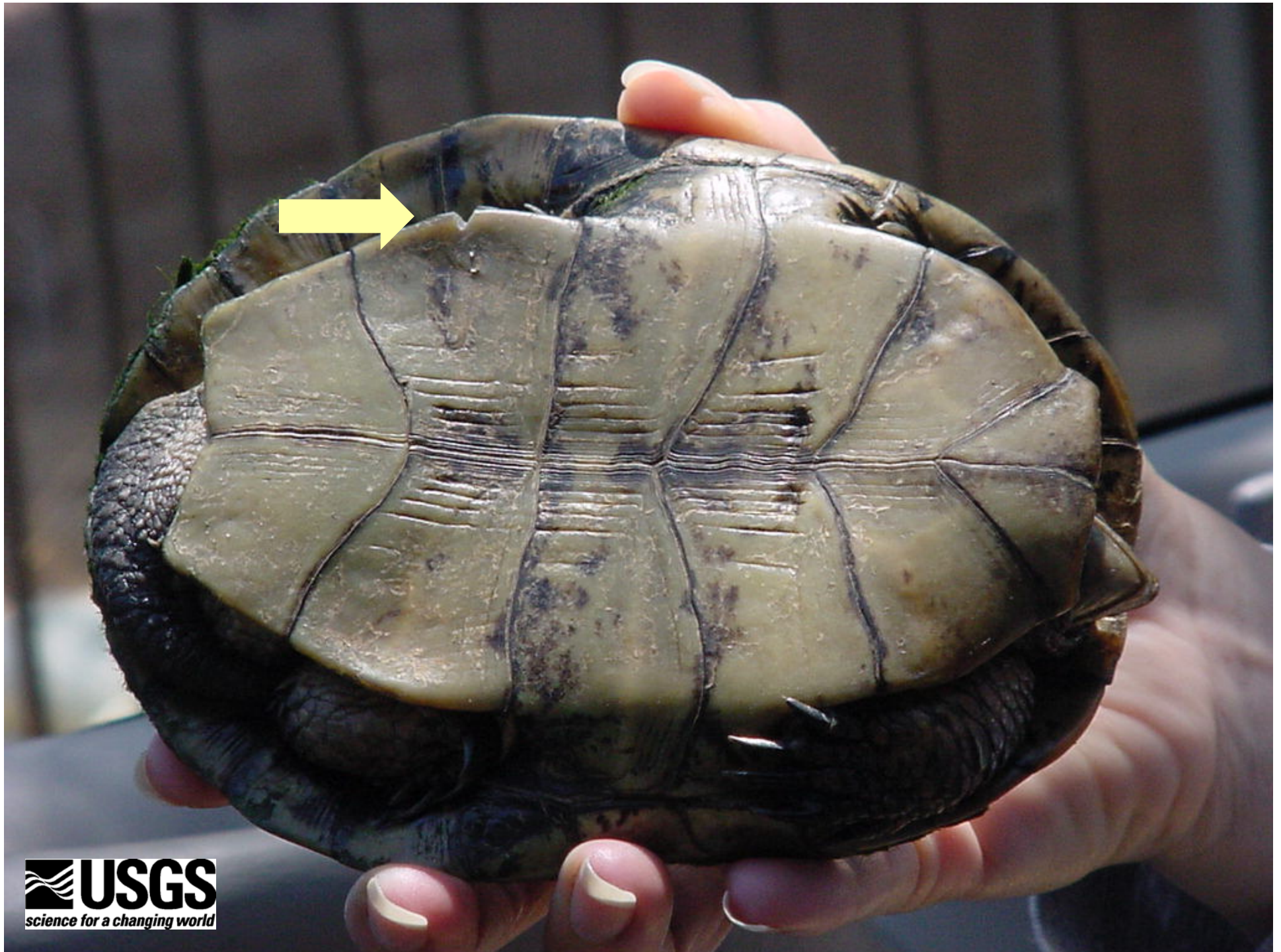




Animal processing

- Shell measurements
- Weight
- Sex
- Deformities
- Injuries
- Assigned Unique ID



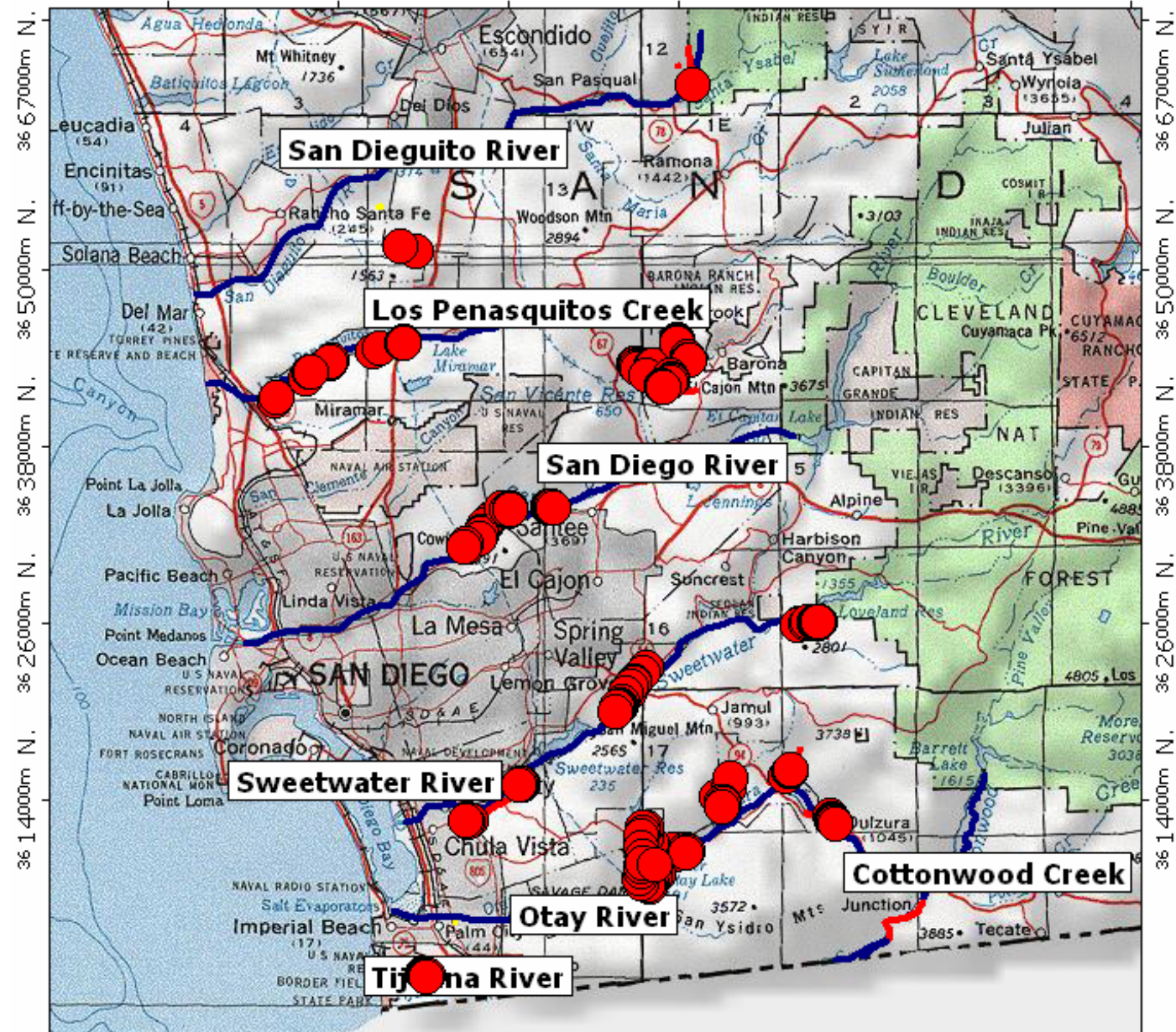


2002 Effort in MSCP

- 25 Visual surveys conducted
 - 20 Sites Deemed potentially suitable
- 17 Sites trapped
- 743 Trap days
- 18,000 Trap hours

TOPO! map printed on 02/11/03 from "MSCP_TURTLE_MAP_MSCP_ONLY.tpo" and "Untitled.tpg"

473000m E, 485000m E, 497000m E, 509000m E, WGS84 Zone 11S 541000m E.

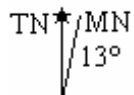


TN★MN
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473000m E, 485000m E, 497000m E, 509000m E, WGS84 Zone 11S 541000m E.

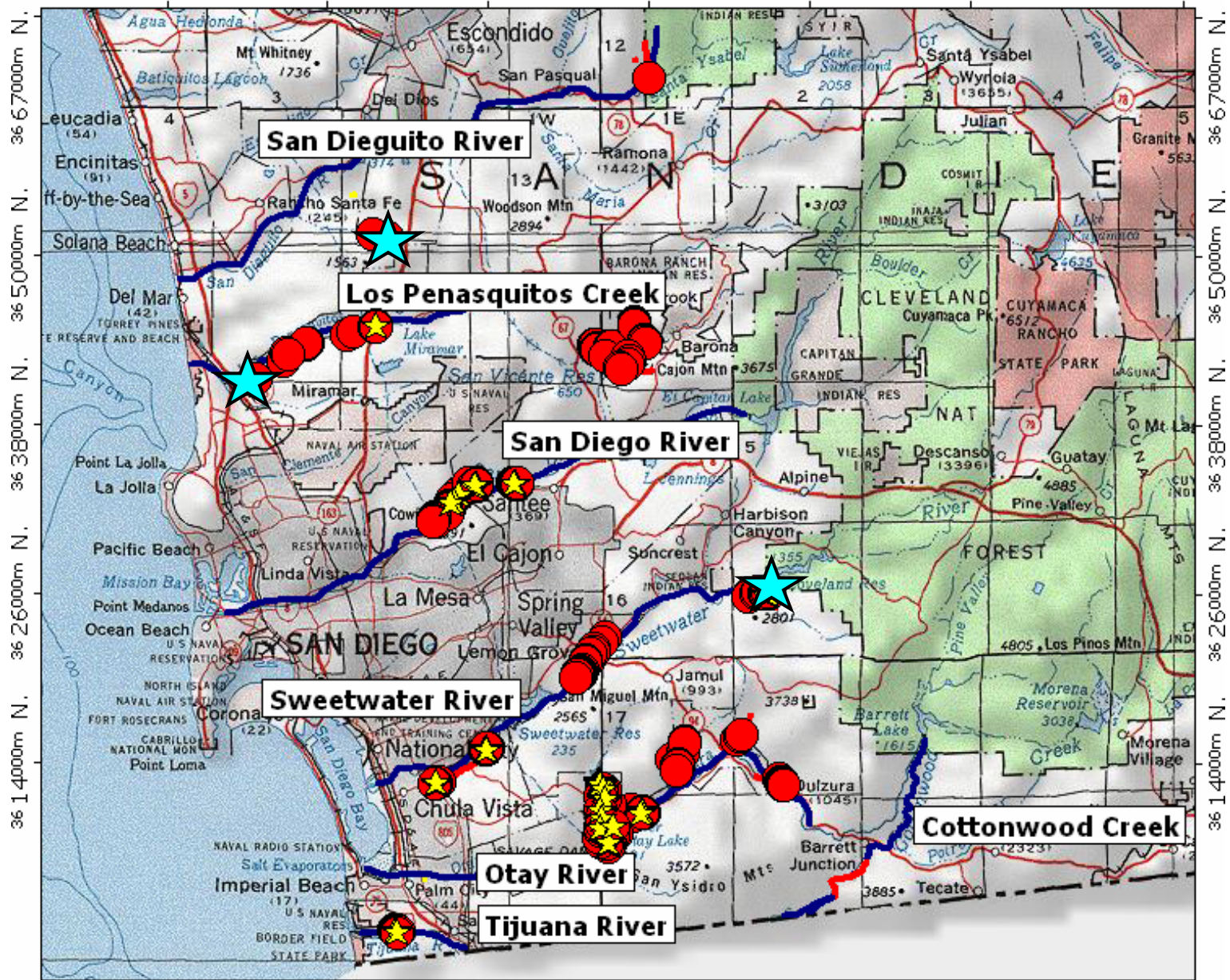
0 5 10 15 20 25 miles
0 5 10 15 20 25 30 35 40 km
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474000m E, 486000m E, 498000m E, 510000m E, 522000m E, 534000m E, 550000m E.



TOPO! map printed on 02/11/03 from "MSCP_TURTLE_LOCATIONS.tpo" and "Untitled.tpg"

474000m E. 486000m E. 498000m E. 510000m E. 522000m E. 534000m E. 550000m E.



TN★/MN
13°

470000m E. 482000m E. 494000m E. 506000m E. 518000m E. WGS84 Zone 11S 551000m E.
0 5 10 15 20 25 miles
0 5 10 15 20 25 30 35 40 km
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Threats of non-native turtles

- Introduction of diseases and parasites (Powler and Miller 1999)
- Competition for resources (Spinks et al. In press)
- Higher reproductive potential in highly urbanized areas (Spinks et al. In press)

Importance of undisturbed upland habitats

Nesting

- can occur up to 400 meters from water

Overwintering

- Turtles overwinter up to 500 meters from water (Holland 1994) and may spend from 2-10 months (Goodman 1994, Holland 1994, Rathbun et al. 2002) away from the watercourse.







Management recommendations

- Install educational signs at 4S Ranch and Los Penasquitos CP in areas used by public
 - outline the ramifications of releasing pet turtles into these areas
 - offer alternatives ways of getting rid of unwanted pets (for example, provide contact information of Turtle and Tortoise Clubs)

Management recommendations

- Remove non-native turtles from Los Penasquitos CP
- Prevent stocking of game fish in Penasquitos and Lusardi Creeks
- Evaluate the effectiveness of various potential bullfrog control methods and implement a suitable program if one is found at all 3 locations.

Management recommendations

- Use radio-telemetry to quantify extent of upland habitat use
 - Identify overwintering sites (recommended immediately at 4S Ranch)
 - Identify nesting areas (if possible)
 - Set aside important upland areas for turtles by limiting human recreation and dogs to upland areas used by turtles (Garber and Burger 1995)

Management recommendations


- Identify the source of contamination in the lower cattle pond at 4S Ranch to improve the quality of habitat for turtles at this site
- Limit irrigation (even if for habitat restoration efforts) during summer months at sites managed for pond turtles

Management recommendations

- Consider upland habitats to be an integral component of the riparian system (Buhlmann and Gibbons 2001) and should be viewed as a requirement for the western pond turtle



Getting the bigger picture inside the MSCP

 In 2002, USGS matched funding for the following sites outside of the scope of the funded project:

- **Upper and Lower Otay Lakes**
- **Torrey Pines State Reserve**
- **Sweetwater and Loveland Reservoirs***
- **San Diego River along Mission Valley***

*visually assessed only, no trapping conducted

Additional sites we suggest evaluating in the future

- Lake Hodges
- Loveland Reservoir
- Eliso Lagoon
- Miramar Lake

Special Thanks

County of San Diego

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 Tim Hovey

City of San Diego

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Fish and Wildlife Service

 Dave Griffin

USGS (for matching funding additional sites)

