United States Department of the Interior
U.S. GEOLOGICAL SURVEY
Western Ecological Research Center
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Dear Ms. Kim Smith and Dr. Preston,

This letter transmits the U.S. Geological Survey (USGS) Western Ecological Research Center's Draft Final: San Diego Western Pond Turtle Monitoring and Recovery Effort January 2020-December 2021. This work was completed under agreement number 548642. We expect to publish these data in a synthesis paper in 2023 as part of the U.S. Fish and Wildlife Service prelisting synthesis of the western pond turtle.

Please note that this information is preliminary or provisional and is subject to revision. It is being provided to meet the need for timely best science. The information has not received final approval by the USGS and is provided on the condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from the unauthorized use of this draft data for interpretation or resource decision-making.

Please direct any questions to me at (619) 206-5686.

Sincerely,

ROBERT FISHER
Digitally signed by ROBERT FISHER
Date: 2022.04.13 01:17:18 -07'00'

Principal Investigator

Draft Final: San Diego Western Pond Turtle Monitoring and Recovery Effort January 2020-December 2021

Draft Final: San Diego Western Pond Turtle Monitoring and Recovery Effort, January 2020-December 2021

By: James C. Molden, Chris Brown, and Robert N. Fisher

U.S. GEOLOGICAL SURVEY
WESTERN ECOLOGICAL RESEARCH CENTER

Data Summary

Prepared for:

San Diego Association of Governments

Research authorized by:

California Department of Fish and Wildlife
Scientific Collecting Permit (Entity) and MOU: SCP838

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Cover photographs: hatchling western pond turtle (*Actinemys pallida*; top) and California lyresnake (*Trimorphodon lyrophanes;* bottom) captured in Pine Valley Creek and adult western pond turtle (middle) captured in Black Canyon. Photos by James Molden.

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INTRODUCTION

The southwestern pond turtle (*Actinemys pallida*, hereafter referred to as the pond turtle) is California's only extant native freshwater turtle (Thomson et al. 2016). Having been extirpated from much of coastal southern California, this species is in decline throughout its range (Bury and Germano 2008, Thomson et al. 2016). Historically, the pond turtle inhabited coastal draining streams, ponds, and lakes feeding primarily on small aquatic invertebrates and vegetation while having no native aquatic predators (Bury and Germano 2008). However, threats to the pond turtle now include altered hydrology (dams and diversions), habitat fragmentation, direct mortality from roads and development, and predation by nonnative aquatic species including bullfrogs (*Lithobates catesbeianus*) and largemouth bass (*Micropterus salmoides*) (Brattstrom and Messer 1988, Stephenson and Calcarone 1999).

Until 2014 the western pond turtle was considered one species and referred to as *Actinemys* (*Emys*) *marmorata* (Spinks et al. 2014). Recently the species has undergone taxonomic revisions with different agencies using variations of the taxonomy for the southern clade, the U. S. Fish and Wildlife Service recognizes the southern group as *Actinemys marmorata pallida* and the California Department of Fish and Wildlife recognizes it as *Emys marmorata*. Following the taxonomic revision to recognize two distinct species we will refer to it as the southwestern pond turtle (*Actinemys pallida*; pond turtle) (Turtle Taxonomy Working Group 2021).

Actinemys (Emys) marmorata (western pond turtle) is identified as a Species of Special Concern by California Department of Fish and Wildlife (CDFW) (Jennings and Hayes 1994, Thomson et al. 2016, CNDDB 2022) and was petitioned for listing by the U.S. Fish and Wildlife Service (USFWS) under the Endangered Species Act in 1992 and again in 2012 (Center for Biological Diversity 2012). *Actinemys pallida* was formerly considered a subspecies of *A. marmorata*. In 1997, *Clemmys (Actinemys) marmorata pallida* was included as one of the 75 species that the San Diego Multiple Species Conservation Program (MSCP) aims to conserve within coastal San Diego County (City of San Diego 1998). The San Diego Management and Monitoring Program (SDMMP) supports the MSCP and has developed the Management Strategic Plan to define a management area (the western portion of San Diego County; MSPA) with distinct management units (11 management units grouping preserves and preserve complexes; MU) within the MSPA to assist with prioritizing management actions to conserve the 75 species covered by the MSCP, including the pond turtle (SDMMP 2013).

The USGS conducts research on the natural history of, and threats and impacts to, reptiles and amphibians in coastal southern California, which includes the MSPA, to understand the demography of rare and listed taxa in the region. This research includes studying the responses of the pond turtle to large scale threats, such as drought and wildfire, as well as localized threats, such as from nonnative taxa. Our research includes seeking to understand the causes of decline of the pond turtle on conserved lands within the MSPA and how the populations respond to management actions, such as pond turtle translocation and nonnative aquatic species removal.

Translocations of pond turtles and nonnative species removal have been the primary methods used for restoration of the pond turtle on public and conserved lands within the MSPA of San Diego County, CA since 2009 (Brown et al. 2015). In 2009, the USGS partnered with San Diego Zoo and CDFW to study the effects of removing nonnative aquatic species and headstarting pond turtles (raising hatchlings in a controlled environment before releasing them to the wild) at CDFW's Sycuan Peak Ecological Reserve (SPER). In 2014, the USGS began to study translocations as a conservation tool for pond turtles. Eighteen pond turtles were translocated from private ponds in the Pine Valley Creek watershed to ponds at CDFW's Rancho Jamul Ecological Reserve (RJER) to restore pond turtle populations to the Otay River watershed. In 2019, the USGS translocated 12 pond turtles in the Santa Ysabel watershed from Black Canyon to a restored pond near the headwaters of Scholder Creek at The Nature Conservancy's Wheatley Preserve. In 2020 and 2021, the USGS continued to monitor these translocations and conducted surveys on other conserved lands to find additional translocation study sites.

This study builds on the previous work by the USGS and its partners in support of pond turtle restoration and management in the MSPA (Brown et al, 2020). Here we report on the search for new pond turtle populations, continued monitoring of translocated individuals and removal of nonnative aquatic species from 1 January 2020 to 31 December 2021. Specific activities reported here are summarized in Table 1. This work is part of the larger study to assess the pond turtle in San Diego, Orange, and Riverside counties. Pond turtle restoration and translocation has been a collaborative effort between the USGS and our partners: San Diego Zoo, CDFW, SDMMP, San Diego Association of Governments (SANDAG), City of San Diego (City), County of San Diego (County), U.S. Forest Service (USFS), U.S. Fish and Wildlife Service (USFWS), Endangered Habitats Conservancy (EHC), and The Nature Conservancy (TNC).

Study Area

The study area included twenty-nine sites in the MSPA representing eight different watersheds in San Diego County (Table 1, Figure 1). Included in this study were specific survey and trapping locations within the Escondido, Otay, San Diego, San Dieguito, San Luis Rey, Santa Margarita, Sweetwater, and Tijuana watersheds (Figures 1–2).

METHODS

Surveys for native and nonnative aquatic species were conducted following the USGS protocols for aquatic species in the south coast ecoregion (USGS 2006a–d). Semi-aquatic species are included in these methods and results since they are most commonly detected in aquatic environments during surveys. Survey methods included daytime visual encounter surveys, nighttime visual encounter surveys for bullfrogs, radio telemetry, and trapping. Daytime visual encounter surveys were used to determine species presence and activity as well as to remove bullfrogs if they were observed. Radio telemetry surveys were used to determine movement and site preference of translocated pond turtles at TNC Wheatley Preserve. Trapping was used to determine native and nonnative aquatic species presence and to capture turtles to assess health and change transmitters. The narrative in this report includes pond turtle surveys as well as nonnative species removal surveys at RJER, SPER, and TNC Wheatley Preserve.

Visual Encounter Surveys
Daytime visual encounter surveys were conducted to assess riparian and aquatic habitat and determine presence of active aquatic species. Surveys were conducted by walking the creek and pond perimeter and recording any native or nonnative amphibians or reptiles encountered in accordance with the USGS stream survey protocols (USGS 2006a and 2006c). Dip nets, seine nets, snorkeling, and noodling were used to detect species underneath aquatic vegetation, floating material, and overhanging banks and tree roots.

Nighttime Visual Encounter Surveys
Nighttime nonnative aquatic species surveys included removal of bullfrogs from the creek channels and ponds at Wheatley Preserve and Rancho Jamul following the USGS protocols for aquatic species (USGS 2006d). Methods included using hand capture, polespears (slings), and .22 caliber rimfire rifles using lead free frangible ammunition to collect adult bullfrogs.

Radio telemetry
Telemetry was used at Wheatley Preserve to determine site fidelity of the pond turtles translocated during the previous study. Data on specific pond or stream reaches and habitat use (whether turtles were in the water, on the shore, under the cattail mat, or in the upland) were recorded when possible. Transmitter pulse period was also recorded for each individual to determine temperature of the transmitters attached to the turtles. Presence data were recorded for other aquatic or riparian species observed.

Trapping Surveys
Trapping surveys were used to capture pond turtles and other native and nonnative aquatic species. Trapping surveys were useful for removing nonnative aquatic species including crayfish (*Procambarus* sp.), sunfish (*Lepomis* sp.), African clawed frogs (*Xenopus laevis*), and bullfrog larvae. Methods followed Madden-Smith et al. (2005) and the "USGS western pond turtle (*Actinemys pallida*) trapping survey protocol for the south coast ecoregion" (USGS 2006b). Trapping surveys used up to three different size funnel traps to increase the probability of aquatic species detection. Traps used included 1.5- or 1-foot diameter flat mouthed hoop traps (hereafter referred as "turtle traps") and 7.5-inch diameter galvanized minnow traps baited with freshly frozen commercial mackerel or canned sardines. Turtle traps were deployed with floats to provide an area for trapped animals to surface and breathe. Traps were checked daily.

RESULTS

The USGS surveyed a total of 29 sites for pond turtles during the 2020 and 2021 field season (Table 1, Figure 3). We found pond turtles at 10 of the 29 sites surveyed and recorded 269 detections of at least 181 individual pond turtles from 2020–2021 during countywide surveys (Tables 2–3). Nonnative species removal at pond turtle restoration sites RJER, Scholder Creek, and SPER totaled 115 day and 107 night surveys that resulted in the removal of 55,913 crayfish, 321 American bullfrogs, and 11,727 African clawed frogs (Table 1, Table 4). Overall, there were 58 different species represented in 77,955 recorded animals during pond turtle survey monitoring and recovery efforts from 2020–2021 (Tables 5–6).

Beauty Mountain Wilderness
One daytime visual survey and one trapping survey were conducted 12 to 16 September 2020 at Beauty Mountain (Figure 4) to assess the presence of native or nonnative turtles. Twenty-one turtle traps and five minnow traps were baited with mackerel. The traps yielded aquatic invertebrates only. Incidental observations included Baja California treefrogs (*Pseudacris hypochondriaca*), two-striped gartersnake (*Thamnophis hammondii*), southern Pacific rattlesnake (*Crotalus oreganus helleri*), and California striped racer (*Coluber lateralis lateralis*).

Cockleburr Canyon
Trapping surveys were conducted at Cockleburr Canyon (Figure 5) from 28 September to 2 October 2020. Twenty-three turtle traps were baited with mackerel and yielded 96 pond turtle observations of 54 unique individuals, 9 of which were juvenile. Also detected were tidewater goby (*Eucyclogobius newberryi*), mosquitofish (*Gambusia affinis*), and 359 red swamp crayfish (*Procambarus clarkii*); the mosquitofish and the crayfish were removed. Researchers noted that there were more crayfish detected during this survey than any previous visit to this site.

Escondido Creek Conservancy
The surveys at Escondido Creek Preserve took place at seven different locations spanning approximately 24 km of Escondido Creek (Figure 6). Visual encounter surveys were conducted on 17 August 2020 and sites were trapped from 18 to 22 August 2020. Pond turtles were detected at only one location, Wildflower Valley.

1.) Elfin Glen: Five turtle traps at Elfin Glen yielded bullhead catfish (*Ameiurus* sp.), crayfish, mosquitofish, bullfrog, and largemouth bass.
2.) Harmony Grove: Five turtle traps at Harmony Grove yielded green sunfish, largemouth bass, crayfish, and eight red-eared sliders (*Trachemys scripta elegans*).
3.) Lower Cielo: Five turtle traps at Lower Cielo yielded bullhead, green sunfish, crayfish, a juvenile slider, and incidental observations of bass (unknown species), Asian clam (*Corbicula fluminea*), and Baja California treefrogs.
4.) Sardina Preserve: A total of nine turtle traps set at Sardina Preserve Pond yielded largemouth bass, crayfish, two-striped gartersnake, bullfrogs and bullfrog tadpoles and incidental observations of goldfish (*Carassius auratus*), a California striped racer, and a western toad (*Anaxyrus boreas*).
5.) Upper Cielo: Five turtle traps at Upper Cielo captured bullhead, green sunfish, crayfish, bullfrogs, juvenile bass, and a juvenile slider.
6.) Wildflower Valley: Ten turtle traps set at Wildflower Valley resulted in the capture of four pond turtles on 19 August 2020, three of which were adults and one juvenile (carapace length 70 mm). No pond turtles were captured on subsequent days. Also captured were bullhead, green sunfish, crayfish, bullfrogs, and bass. A total of 101 bullhead were captured at Wildflower Valley alone. The number of bullhead captured were not consistently tallied at the other sites in Escondido Creek Preserve.
7.) Questhaven: A reconnaissance survey was conducted at Questhaven in Escondido Creek, and the decision was made not to trap. The habitat is similar to Elfin Glen, which is just 500 m upstream.

Hollenbeck Canyon
Approximately 4.5 kilometers of Hollenbeck Canyon (Figure 7) were surveyed on 11 August 2020 to determine the presence of surface water, invasive species, and pond turtle habitat. Surface water was found intermittently in small sections and two bedrock pools appeared marginally suitable for pond turtles. Species detected were California treefrog (*Pseudacris cadaverina*), Baja California treefrog, bullfrog, green sunfish, California striped racer, speckled rattlesnake (*Crotalus mitchellii*), and crayfish.

Jamul Creek
Approximately 2.25 kilometers of Jamul Creek within Hollenbeck Canyon WA (Figure 7) were surveyed on 12 August 2020 to assess pond turtle habitat and invasive species. The habitat was mostly dry with small, isolated sections of shallow (<10 cm) to medium (<1 m) depth water. The only semi-aquatic species were California treefrog and Baja California treefrogs. No invasive animals were observed.

Lilac Ranch
Nearly 8 kilometers of stream were surveyed during walking transects in Keys Creek and associated tributaries within Lilac Ranch (Figure 8) from 13 to 15 August 2020. Most of the surface water was shallow with a sandy aquatic substrate which looked suitable for arroyo toad (*Anaxyrus californicus*), although none were detected. Species observed during the surveys were Asian clam, southern Pacific rattlesnake, mosquitofish, Baja California treefrog, sunfish, largemouth bass, and crayfish. Eight turtle traps were placed in the cistern which contained less than 0.5 m of water depth. The cistern was abundant with dragonfly larvae (order Odonata), and three western spadefoot tadpoles (*Spea hammondii*) were captured by hand. A southern Pacific rattlesnake, and a metamorph western toad were observed nearby.

Little Valley
A visual survey on 28 October 2021 at Little Valley Pond in the Carrizo Creek watershed (Figure 9) yielded no aquatic species were seen.

Lower Cottonwood Creek
During arroyo toad surveys on 8 May 2020, researchers hand captured an adult pond turtle in Lower Cottonwood Creek south of Barrett Reservoir (Figure 10). Researchers returned on 4 November to find the site dry except for three isolated pools of water, one of which was suitable to trap. Researchers returned 18 November and set twelve turtle traps and two minnow traps baited with mackerel. From 19 to 20 November the traps yielded one juvenile American bullfrog and aquatic invertebrates. Species detected during the visual survey on 4 November included Baja California treefrog, San Diego gophersnake (*Pituophis catenifer annectens*), two-striped gartersnake, Great Basin fence lizard (*Sceloporus occidentalis longipes*), and Virginia opossum (*Didelphis virginiana*).

Lower San Luis Rey
Twenty-eight turtle traps were set in portions of the Lower San Luis Rey River (Figure 11) from 25 to 29 August 2020. Species observed included bullhead, common carp (*Cyprinus carpio*), striped mullet (*Mugil cephalus*) mosquitofish, longjaw mudsucker (*Gillichthys mirabilis*), green sunfish, bluegill (*Lepomis macrochirus*), largemouth bass, Baja California treefrog, California

kingsnake (*Lampropeltis californiae*), California striped racer, crayfish, bullfrog, and red-eared slider.

Middle Sweetwater River
Twenty-two turtle traps were set from 12–15 October 2021 in the Middle Sweetwater River at the San Diego National Wildlife Refuge (SDNWR) (Figure 12). Species observed included bluegill, green sunfish, common carp, bullfrog, African clawed frog, Asian clam, crayfish, orange-throated whiptail (*Aspidoscelis hyperythra*), and a common snapping turtle (*Chelydra serpentina*).

Noble Canyon
On 19 May 2020, while conducting surveys near Nobel Canyon within Pine Valley Creek approximately seven kilometers upstream from the known turtle population (Figure 13), researchers placed four turtle traps in a small pool that appeared to be suitable pond turtle habitat. The traps were placed in the morning and retrieved later that afternoon. One adult pond turtle was captured, and a California treefrog tadpole observed. Biologists revisited the site on 6 November 2020 and found it completely dry with no animals.

Oak Valley
Thirty pond turtle traps and nine minnow traps were placed in three ponds at Oak Valley (Figure 14) from 7 to 10 October 2020. The eastern pond is ephemeral and used heavily by grazing cattle, the middle pond is permanent and stocked with fish, and the western pond is part of Oak Valley Creek which drains into Pine Valley Creek to the northwest. Animals captured included 28 adult pond turtles, Baja California treefrogs, predaceous diving beetles (family Dytiscidae), green sunfish, bluegill, largemouth bass, and crayfish. Pond turtles were found in the western pond only.

Palo Verde Ranch
From 7 to 10 October 2020, fifteen turtle traps and four minnow traps were placed in the Palo Verde Homeowners Association Viejas Creek Pond (also known as Small Lake and South Grade Pond, Figure 15). Species captured included an adult western toad, bluegill, largemouth bass, 142 crayfish, five bullfrogs, and 30 red-eared sliders. An introduced population of western tiger salamanders (*Ambystoma mavortium*) is known to occur here, but none were detected during our late-season survey.

Pilgrim Creek Tributary
While setting traps at Cockleburr Canyon on 28 September 2020, biologists set four turtle traps near Foss Lake in the tributary that flows under Douglas Drive and into Pilgrim Creek to the east (Figure 16). Three crayfish were captured, and the traps removed on 29 September 2020. Foss Lake was dry and therefore could not be trapped.

Pine Valley Creek
Three visual encounter surveys were conducted in Pine Valley Creek (Figure 17) on 16 October, 27 October, and 3 November 2020 and resulted in the capture of 37 adult, 14 juvenile, and 3 hatchling pond turtles. Other herpetofauna species detected during these surveys include Baja California treefrog, California treefrog, California striped racer, two-striped gartersnake, red diamond rattlesnake (*Crotalus ruber*), California lyresnake (*Trimorphodon lyrophanes*), and

western skink (*Plestiodon skiltonianus*). Seining two pools, researchers captured 315 green sunfish (mostly juveniles), 551 fathead minnows (*Pimephales promelas*), two crayfish, and a juvenile rainbow trout (*Oncorhynchus mykiss*). This was the first time that fathead minnows or rainbow trout were detected by the USGS in this section of the creek. All non-native species captured were removed from the site.

Potrero Creek

On 28 October 2021, a visual encounter survey was conducted at two ponds near Potrero Creek (Figure 18). One pond contained water. Only odonate larvae were observed in the pond and a rosy boa (*Lichanura trivirgata*) was captured while traveling to the site.

Rainbow Creek

Two visual encounter surveys were conducted on 29 July and 17 September 2021 in Rainbow Creek Tributary of the Santa Margarita River (Figure 19). Species observed were common carp, mosquitofish, arroyo chub (*Gila orcuttii*), green sunfish, fathead minnows, and pond loach (*Misgurnus anguillicaudatus*). Pond loach is a nonnative fish species that was documented for the first time in this watershed during these surveys.

Rancho Jamul Ecological Reserve

Ten trap days, 73 daytime and 34 nighttime surveys were conducted at RJER in major ponds, Jamul Creek, and tributaries during 2020 and 2021 (Figure 20). Surveys primarily involved seining and trapping areas with high densities of African clawed frog and crayfish. Species observed were Baja California treefrog, African clawed frog, mosquitofish, crayfish, bullfrog, and one pond turtle.

Ritchie Creek

A daytime survey on 27 July 2021 at three ponds in Ritchie Creek (Figure 21) yielded a Baja California treefrog, all age classes of bullfrog, two-striped gartersnake, yellow-bellied racer (*Coluber constrictor mormon*), and an unknown Emydidae turtle. Researchers plan to trap the pond with the unknown turtle in the 2022 field season.

Santa Margarita River

Four trap days (21–24 September 2021) and two visual encounter surveys (29 September and 1 October 2021) were conducted in the Santa Margarita River within The Wildlands Conservancy's Santa Margarita River Trail Preserve (Figure 19). Species observed included brown bullhead catfish (*Ameiurus nebulosus*), yellow bullhead catfish (*Ameiurus natalis*), common carp, mosquitofish, green sunfish, largemouth bass, bullfrog, Asian clam, Odonate larvae, crayfish, beaver (*Castor canadensis*), two-striped gartersnake, and red-eared slider. Seventeen pond turtles were also captured, 15 unique individuals and 2 recaptures from earlier in the survey.

Scholder Creek

Nine telemetry surveys took place from January to July 2020 and resulted in 77 observations of fifteen pond turtles at Scholder Creek on the Wheatley Preserve (Figure 22). Thirty-six daytime and 61 nighttime visual encounter surveys resulted in the observation of 80 bullfrogs and one bullfrog egg mass which was removed. Two trapping sessions in August of 2020 and 2021

produced three adult pond turtle recaptures. Other species observed included western toad, Baja California treefrog, California red-legged frog (*Rana draytonii*), western skink, Great Basin fence lizard, granite spiny lizard (*Sceloporus orcutti*), side-blotched lizard (*Uta stansburiana*), odonate larvae, garden slender salamander (*Batrachoseps major major*), southern Pacific rattlesnake, San Diego gophersnake, two-striped gartersnake, and red-eared slider.

Scholder Creek – Kennel Pond

In 2021, the USGS began removing bullfrogs at a private landowner's pond. This will provide data for our long-term study of the effect of bullfrog removal on native at-risk species. This activity is also likely to control migration of bullfrogs to the adjacent TNC Wheatley Preserve (Figure 22). One daytime and 12 nighttime surveys resulted in the observation of 59 bullfrogs. Other species observed at the Kennel Pond included mosquitofish, green sunfish, largemouth bass, western toad, Baja California treefrog, San Diego gophersnake, and a spiny softshell turtle (*Apalone spinifera*).

Stone Creek

On 15 September 2021, a daytime visual encounter survey for turtles was conducted in Stone Creek at the Santa Margarita Ecological Reserve - San Diego State University Field Station (Figure 19). Species observed included arroyo chub, Baja California treefrog, bullfrog tadpoles, and crayfish.

Sycuan Peak Ecological Reserve, Middle Sweetwater River

Five visual surveys were conducted at SPER Middle Sweetwater River (Figure 23) on 16 March, 26 June, 21 August, and 24 September in 2020 and 7 September 2021. Nine trapping days took place on 17–20 August 2021, 7–10 September 2021, and 21–22 October 2021. Species observed included green sunfish, California treefrog, Baja California treefrog, African clawed frog, odonate larvae, crayfish, southern alligator lizard, garden slender salamander, and 44 pond turtle observations of 25 unique individuals.

Temescal Creek

Four ponds were surveyed on 27 July 2021 in Temescal Creek at the Eagle Peak Preserve (Figure 24). Water was present at two of the four ponds, but no animals were detected.

Upper San Diego River

During a two-day backpacking survey for arroyo toads 18–19 June 2020 in the Upper San Diego River (Figure 25), researchers incidentally detected nine adult and two juvenile pond turtles.

Upper Santa Ysabel

A visual encounter survey was conducted at the San Dieguito River Valley Regional Open Space Park (Figure 26) at ponds connected to the Upper Santa Ysabel Creek Tributary 11A on 11 September 2020. Mosquitofish and all age classes of bullfrog were observed.

Upper Tijuana River

Two visual surveys were conducted in the Tijuana River (Figure 27) on 18 September 2020 and 11 November 2020. Mosquitofish, crayfish, and a single Baja California treefrog were observed. Fifteen turtle traps and five minnow traps were set in the Tijuana River from 18 to 20 November

2020. Green sunfish, mosquitofish, six African clawed frogs, and 226 crayfish were captured. A Baja California treefrog was heard calling during the trap checks.

Whelan Lake Bird Sanctuary and San Luis Rey Water Treatment Plant

Forty-seven turtle traps were set at Whelan Lake and the San Luis Rey Water Treatment Plant ponds (Figure 28) from 31 August to 4 September 2020. Two adult pond turtles were captured in Whelan Lake. Other species captured included pied-billed grebe (*Podilymbus podiceps*), raccoon (*Procyon lotor*), crayfish, bullfrog, and 161 red-eared slider captures.

Wilderness Gardens

Trapping efforts at Wilderness Gardens (Figure 29) took place from 7–10 September 2021 and yielded nonnative species only. Animals observed included mosquitofish, green sunfish, all age classes of bullfrogs, crayfish, and an adult red-eared slider.

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Table 1. Pond turtle sites surveyed from 1 January 2020 to 31 December 2021. This table includes the number of trap days, visual encounter daytime surveys, and visual encounter nighttime surveys.

Watershed	Site Name	Year	Surveys			Reaches	Start[1]		End[1]	
			Trap Days	Day VE	Night VE		Latitude	Longitude	Latitude	Longitude
Santa Margarita	Beauty Mountain	2020	5	0	1	2	33.4186	-116.6829	33.4186	-116.6829
Gulf of Santa Catalina	Cockleburr Canyon	2020	5	0	0	1	33.2505	-117.4318	33.2505	-117.4318
Escondido	Escondido Creek Conservancy	2020	5	1	0	11	33.0542	-117.2029	33.1779	-117.0065
Otay	Hollenbeck Canyon	2020	0	1	0	20	32.6777	-116.8229	32.7041	-116.8003
Otay	Jamul Creek	2020	0	1	0	9	32.6942	-116.8248	32.7106	-116.8153
San Luis Rey	Lilac Ranch	2020	4	3	0	21	33.2921	-117.1074	33.2896	-117.0720
Tijuana	Little Valley	2021	0	1	0	1	32.6222	-116.2860	32.6222	-116.2860
Tijuana	Lower Cottonwood Creek	2020	3	3	0	14	32.6358	-116.6828	32.6785	-116.6719
San Luis Rey	Lower San Luis Rey River	2020	5	1	0	13	33.2086	-117.3814	33.2511	-117.2875
Sweetwater	Middle Sweetwater River	2021	4	1	0	5	32.7114	-116.9577	32.7220	-116.9472
Tijuana	Noble Canyon	2020	1	1	0	1	32.8637	-116.5175	32.8637	-116.5175
Tijuana	Oak Valley	2020	5	0	0	3	32.8004	-116.5567	32.8063	-116.5486
Sweetwater	Palo Verde Ranch	2020	4	0	0	4	32.8201	-116.7528	32.8214	-116.7512
San Luis Rey	Pilgrim Creek Tributary	2020	1	0	0	1	33.2600	-117.3095	33.2600	-117.3095
Tijuana	Pine Valley Creek	2020	0	3	0	13	32.7532	-116.6485	32.7835	-116.6276
Carrizo	Potrero Creek	2021	0	1	0	2	32.6376	-116.5459	32.6487	-116.5593
Santa Margarita	Rainbow Creek	2021	0	2	0	13	33.4112	-117.2162	33.4059	-117.1783
Otay	Rancho Jamul Ecological Reserve	2020, 2021	10	73	34	7	32.6676	-116.8627	32.6941	-116.8685
San Diego	Ritchie Creek	2021	0	1	0	3	33.0275	-116.6879	33.0417	-116.6753
Santa Margarita	Santa Margarita River	2021	4	2	0	17	33.4069	-117.2259	33.4317	-117.1970
San Dieguito	Scholder Creek	2020, 2021	8	36	61	4	33.1985	-116.7601	33.1979	-116.7546
San Dieguito	Scholder Creek (Kennel Pond)	2021	0	1	12	1	33.2019	-116.7603	33.2019	-116.7603
Santa Margarita	Stone Creek	2021	0	1	0	6	33.4285	-117.1962	33.4291	-117.1832
Sweetwater	Sycuan Peak Ecological Reserve	2020, 2021	10	5	0	8	32.7732	-116.8009	32.7634	-116.7928
San Diego	Temescal Creek	2021	0	1	0	4	33.0397	-116.6523	33.0435	-116.6532
San Dieguito	Upper Santa Ysabel Creek Trib11A	2020	0	1	0	2	33.1210	-116.7201	33.1229	-116.7169
Tijuana	Upper Tijuana River	2020	4	2	0	3	32.5605	-116.8217	32.5631	-116.7871
San Luis Rey	Whelan Lake	2020	5	1	0	1	33.2427	-117.3400	33.2470	-117.3330
San Luis Rey	Wilderness Gardens	2021	4	0	0	1	33.3521	-117.0364	33.3527	-117.0357
Grand Total			87	143	108	191				

[1]Locations obtained in NAD83 datum in decimal degrees

Table 2. Total number of pond turtle observations during 2020-2021 trapping and visual encounter surveys in San Diego County.

Site	pond turtles			Total
	Adult	Juvenile	Unknown	
Cockleburr Canyon	84	12		96
Escondido Creek Conservancy	3	1		4
Lower Cottonwood Creek	1			1
Noble Canyon	1			1
Oak Valley	28			28
Pine Valley Creek	35	18	1	54
Rancho Jamul Ecological Reserve	1		1	2
Santa Margarita River	14	3		17
Scholder Creek	8			8
Sycuan Peak Ecological Reserve	33	8	4	45
Upper San Diego River[1]	8	3		11
Whelan Lake	2			2
Grand Total	**218**	**45**	**6**	**269**

[1]Detected during arroyo toad survey in 2020

Table 3. Total number of verified unique individual pond turtles observed during 2020-2021 trapping and visual encounter surveys in San Diego County.

Site	pond turtles			Total
	Adult	Juvenile	Unknown	
Cockleburr Canyon	45	9		54
Escondido Creek Conservancy	3	1		4
Lower Cottonwood Creek	1			1
Noble Canyon	1			1
Oak Valley	20			20
Pine Valley Creek	34	9	1	44
Rancho Jamul Ecological Reserve	1			1
Santa Margarita River	13	2		15
Scholder Creek	3			3
Sycuan Peak Ecological Reserve	21	4		25
Upper San Diego River[1]	8	3		11
Whelan Lake	2			2
Grand Total	**152**	**28**	**1**	**181**

[1]Detected during arroyo toad survey in 2020

Table 4. Total number of nonnative species removed from pond turtle restoration sites during 2020-2021 surveys in San Diego County.

Site	Crayfish	American bullfrogs	African clawed frogs	Total
Rancho Jamul Ecological Reserve	54938	206	11284	66428
Scholder Creek		65		65
Scholder Creek Kennel Pond		50		50
Sycuan Peak Ecological Reserve	975		443	1418
Total	**55913**	**321**	**11727**	**67961**

Table 5. Species observations during pond turtle trapping and visual encounter surveys from 1 January 2020 to 31 December 2021, in San Diego County for birds, fish, and anurans (frogs and toads). Native species are in bold. Part 1 of 2.

Type	Common Name	Scientific Name	Beauty Mountain	Cockleburr Canyon	Escondido Creek Conservancy	Hollenbeck Canyon	Jamul Creek	Lilac Ranch	Little Valley	Lower Cottonwood Creek	Lower San Luis Rey River	Middle Sweetwater River	Noble Canyon	Oak Valley	Palo Verde Ranch	Pilgrim Creek Tributary	Pine Valley Creek	Potrero Creek	Rainbow Creek	Rancho Jamul Ecological Reserve	Ritchie Creek	Santa Margarita River	Scholder Creek	Sholder Creek (Kennel Pond)	Stone Creek	Sycuan Peak Ecological Reserve	Temescal Creek	Upper Santa Ysabel Creek Trib11A	Upper Tijuana River	Whelan Lake	Wilderness Gardens	Grand Total
Bird			0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	4	0	1	0	1	1	0	0	0	0	0	0	1	0	13
	Grebe	***Aechmophorus* sp.**																														**1**
	Mallard	***Anas platyrhynchos***			**1**																											**1**
	Great blue heron	***Arsea herodias***						**1**												**1**												**2**
	Great horned owl	***Bubo virginianus***																			**1**											**1**
	Green heron	***Butorides virescens***																**4**														**4**
	Black-crowned night heron	***Nycticorax nycticorax***								**1**																						**1**
	Pied-billed grebe	***Podilymbus podiceps***																													**1**	**2**
	Virginia rail	***Rallus limicola***																					**1**									**1**
Fish			0	201	176	3	0	15	0	0	54	9	0	159	7	0	868	0	29	57	0	389	1	12	4	200	0	1	3	0	67	2255
	Brown bullhead	*Ameiurus nebulosus*			61																	213										274
	Yellow bullhead	*Ameiurus natalis*			90																	74										164
	Bullhead sp.	*Ameiurus* sp.			8						8											1										17
	Common Carp	*Cyprinus carpio*									24	1							2			25										52
	Tidewater goby	***Eucyclogobius newberryi***		**1**																												**1**
	Western mosquitofish	*Gambusia affinis*		200	6			10			10								1	57		15		7				1	2		2	311
	Longjaw mudsucker	***Gillichthys mirabilis***									**5**																					**5**
	Arroyo chub	***Gila orcuttii***																	**4**						**4**							**8**
	Green sunfish	*Lepomis cyanellus*			5						1	2		155			315		1			50		1		200			1			731
	Bluegill sunfish	*Lepomis macrochirus*			2						1	6		2	6								1								65	83
	Sunfish sp.	*Lepomis* sp.				3		4			2						1							1								11
	Largemouth bass	*Micropterus salmoides*			4			1			2			2	1							11		3								24
	Pond loach	*Misgurnus anguillicaudatus*																	3													3
	Striped mullet	***Mugil cephalus***									**1**																					**1**
	Rainbow trout	***Oncorhynchus mykiss***															**1**															**1**
	Fathead minnow	*Pimephales promelas*															551		18													569
Frog			12	0	30	15	14	44	0	2	5	4	1	2	6	0	10	0	19	13887	5	1	2973	65	2	454	0	10	8	9	69	17647
	Western toad	***Anaxyrus boreas***			**1**			**3**							**1**					**17**			**1603**	**1**								**1626**
	American bullfrog	*Lithobates catesbeianus*			27	2			1	3	1				5					397	4	1	81	59	1			10		9	69	670
	California treefrog	***Pseudacris cadaverina***				**5**	**7**					**1**					**7**		**6**				**1**			**6**						**33**
	Baja California chorus frog	***Pseudacris hypochondriaca***	**12**		**2**	**6**	**7**	**38**		**1**	**1**			**2**			**3**		**13**	**73**	**1**		**1051**	**5**	**1**	**1**			**2**			**1219**
	Treefrog sp.	***Pseudacris* sp.**				**2**					**1**																					**3**
	California red-legged frog	***Rana draytonii***																					**237**									**237**
	Western spadefoot	***Spea hammondii***						**3**												**8**												**11**
	African clawed fog	*Xenopus laevis*										3								13392						447			6			13848

Table 6. Species observations during pond turtle surveys from 1 January 2020 to 31 December 2021, in San Diego County for reptiles, salamanders, invertebrates, and mammals. Native species are in bold. Part 2 of 2.

Type	Common Name	Scientific Name	Beauty Mountain	Cocklebur Canyon	Escondido Creek Conservancy	Hollenbeck Canyon	Jamul Creek	Lilac Ranch	Little Valley	Lower Cottonwood Creek	Lower San Luis Rey River	Middle Sweetwater River	Noble Canyon	Oak Valley	Palo Verde Ranch	Pilgrim Creek Tributary	Pine Valley Creek	Potrero Creek	Rainbow Creek	Rancho Jamul Ecological Reserve	Ritchie Creek	Santa Margarita River	Scholder Creek	Sholder Creek (Kennel Pond)	Stone Creek	Sycuan Peak Ecological Reserve	Temescal Creek	Upper Santa Ysabel Creek Trib11A	Upper Tijuana River	Whelan Lake	Wilderness Gardens	Grand Total
Invertebrate			3	359	74	8	1	12	0	5	169	124	0	65	142	3	5	2	17	55073	0	17	6	0	7	1027	0	0	227	15	102	57463
	Toe biter	***Abedus herberti***								**5**							**1**			**1**												**7**
	Tarantula sp.	***Aphonopelma* sp.**															**1**						**1**									**2**
	Asian clam	*Corbicula fluminea*			1			1			1	1										2										6
	Dragonfly or damselfly	**Odonata**	**3**			**3**	**1**	**2**						**1**			**1**	**2**	**3**	**1**		**3**	**5**			**25**						**50**
	Red swamp crayfish	*Procambarus clarkii*		359	73	5		9			168	123		64	142	3	2		14	55071		12			7	1002			227	15	102	57398
Lizard			0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	1	0	0	4	0	0	2	0	0	0	0	0	10
	Orange-throated whiptail	***Cnemidophorus hyperythrus***										**1**																				**1**
	Southern alligator lizard	***Elgaria multicarinata***																								**2**						**2**
	Western skink	***Plestiodon skiltonianus***															**1**						**1**									**2**
	Great Basin fence lizard	***Sceloporus occidentalis***								**1**										**1**			**1**									**3**
	Granite spiny lizard	***Sceloporus orcutti***																					**1**									**1**
	Side-blotched lizard	***Uta stansburiana elegans***																					**1**									**1**
Mammal			0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	1	0	5
	Beaver	*Castor canadensis*																				1										1
	Virginia opossum	*Didelphis virginiana*								1										1												2
	Raccoon	***Procyon lotor***																		**1**										**1**		**2**
Salamander			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
	Garden slender salamander	***Batrachoseps major major***																					**1**			**1**						**2**
Snake			4	0	2	2	0	2	0	2	2	0	0	0	0	0	9	1	0	16	2	1	46	1	0	0	0	0	0	0	0	90
	Western yellow-bellied racer	***Coluber constrictor mormon***																			**1**											**1**
	Red racer	***Coluber flagellum***									**1**																					**1**
	California striped racer	***Coluber lateralis***	**1**		**1**	**1**											**1**															**4**
	Speckled rattlesnake	***Crotalus mitchellii***				**1**																										**1**
	Southern Pacific rattlesnake	***Crotalus oreganus helleri***	**1**					**2**																								**3**
	Red diamond rattlesnake	***Crotalus ruber***															**1**															**1**
	California kingsnake	***Lampropeltis californiae***									**1**												**4**									**5**
	Rosy Boa	***Lichanura orcutti***																**1**														**1**
	San Diego gophersnake	***Pituophis catenifer annectens***								**1**													**1**									**2**
	Two-striped gartersnake	***Thamnophis hammondii***	**2**		**1**					**1**							**6**			**16**	**1**	**1**	**41**	**1**								**70**
	California lyresnake	***Trimorphodon lyrophanes***															**1**															**1**
Turtle			0	96	13	0	0	0	0	0	2	1	1	28	30	0	54	0	0	1	1	20	11	1	0	44	0	0	0	163	1	470
	Western pond turtle	***Actinemys pallida***		**96**	**4**					**1**			**1**	**28**			**54**			**2**		**17**	**9**			**44**				**2**		**258**
	Spiny softshell turtle	*Apalone spinifera*																						1								1
	Common snapping turtle	*Chelydra serpentina*										1																				1
	Red-eared slider	*Trachemys scripta*			9						2				30					1		2	2							161	1	208
	Unknown turtle	Emydidae																			1	1										2
Grand Total			19	656	296	28	15	73	1	12	233	139	2	254	185	3	947	7	65	69038	8	430	3043	79	13	1728	0	11	238	189	239	77955

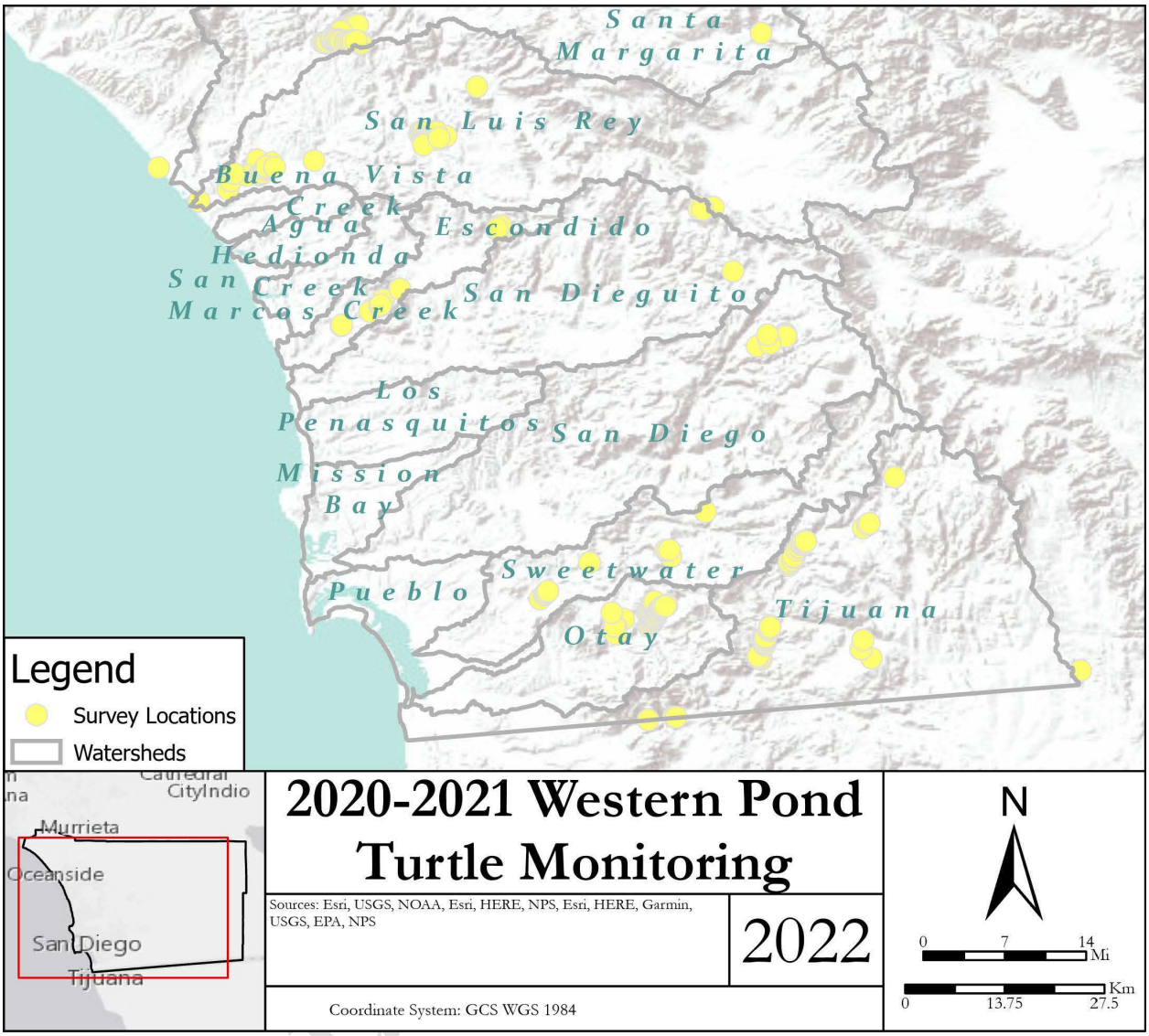

Figure 1. Map showing San Diego County watersheds and sites surveyed for pond turtles from 1 January 2020 to 31 December 2021. Each yellow dot represents a 250-meter stream transect or trapping location. Included in this study were the Santa Margarita, San Luis Rey, Escondido, San Dieguito, Sweetwater, Otay, and Tijuana watersheds.

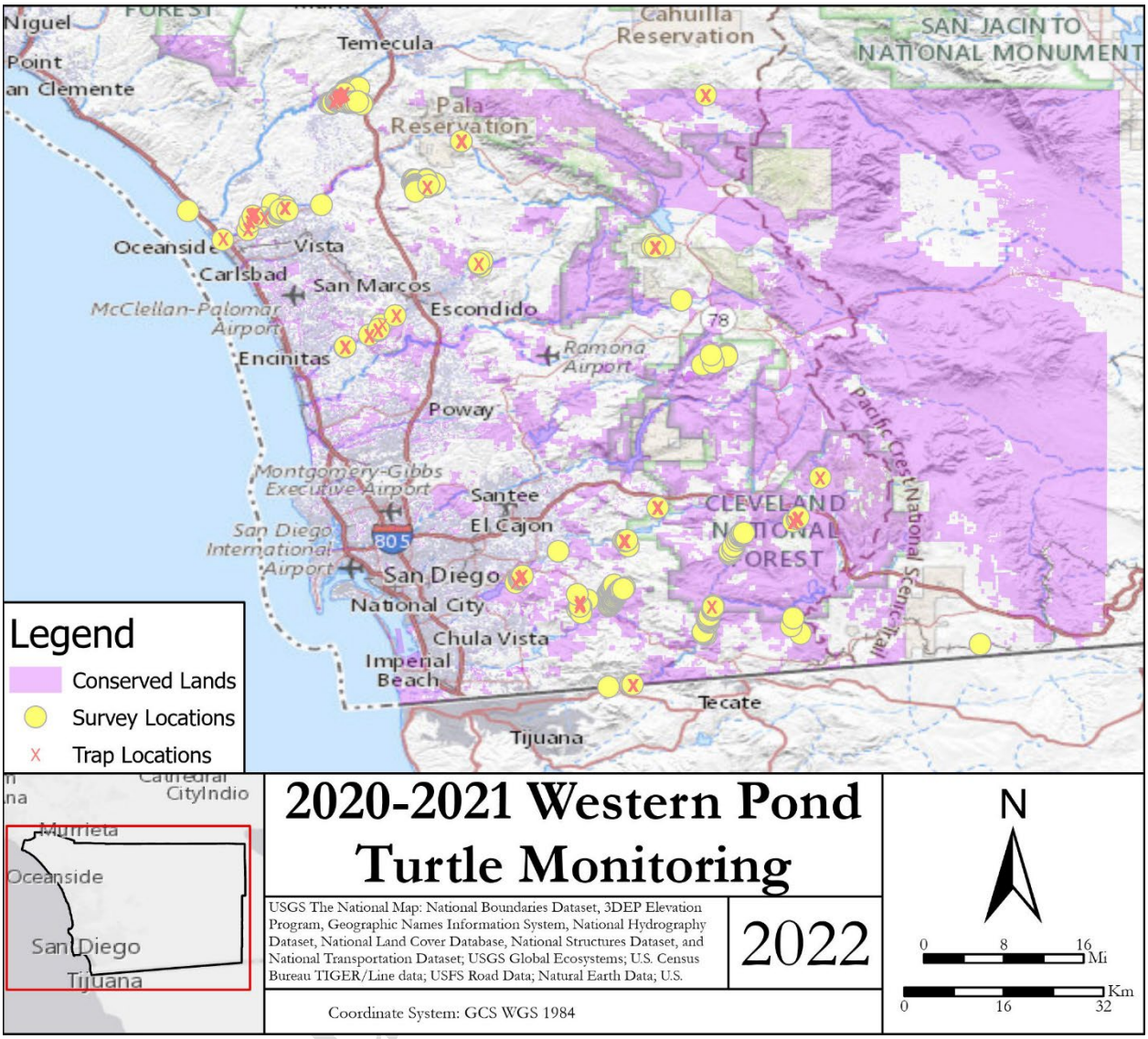

Figure 2. Map showing survey and trapping locations for pond turtles from 1 January 2020 to 31 December 2021. Each yellow dot represents a 250-meter stream transect or trapping location and red X's represent traps. Pink shows lands conserved in San Diego County.

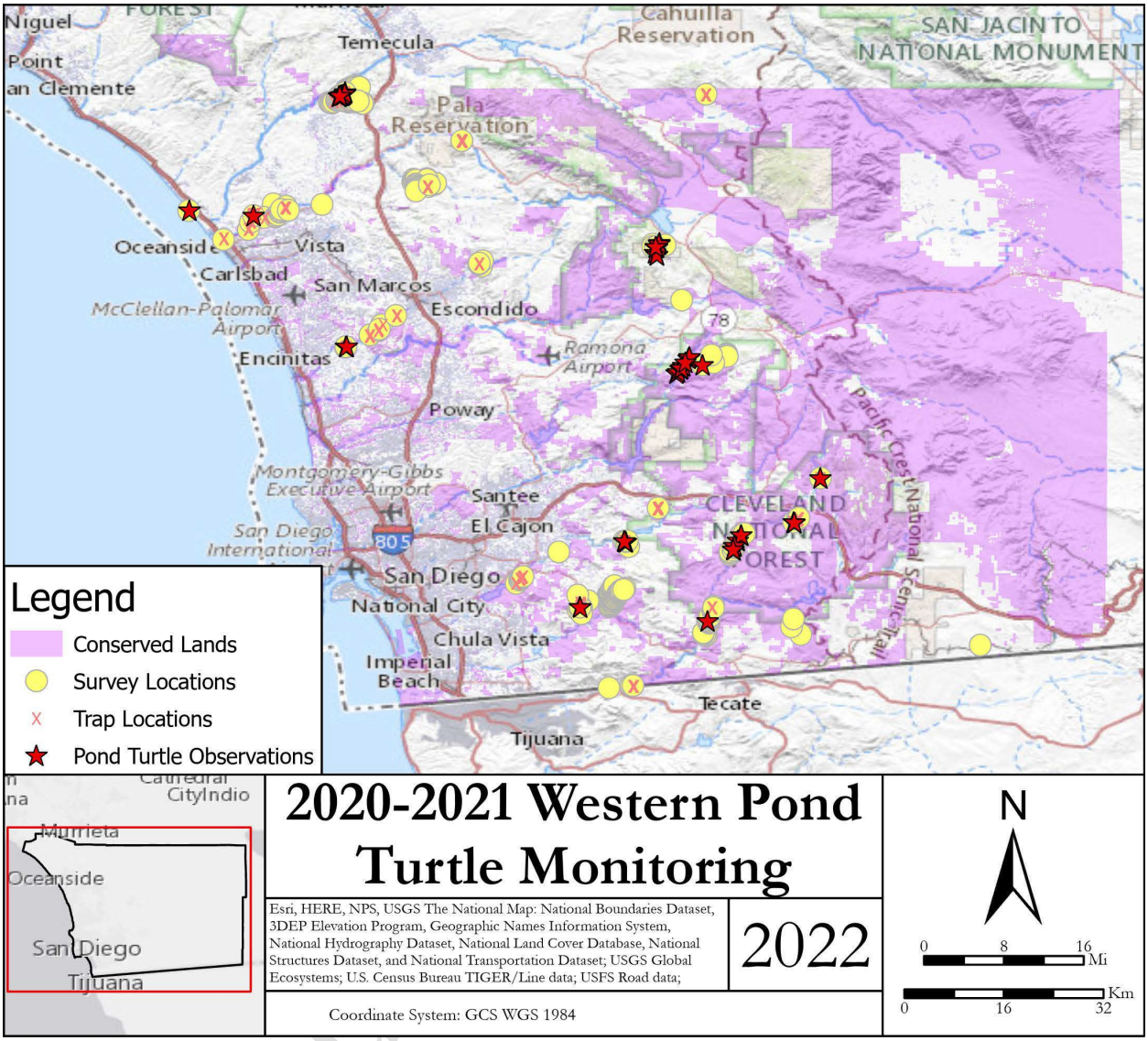

Figure 3. Map showing survey locations and observations for pond turtles 1 January 2020, to 31 December 2021. Each yellow dot represents a 250-meter stream transect or trapping location, red X's represent traps, and red stars represent pond turtle observations. Pink shows lands conserved in San Diego County.

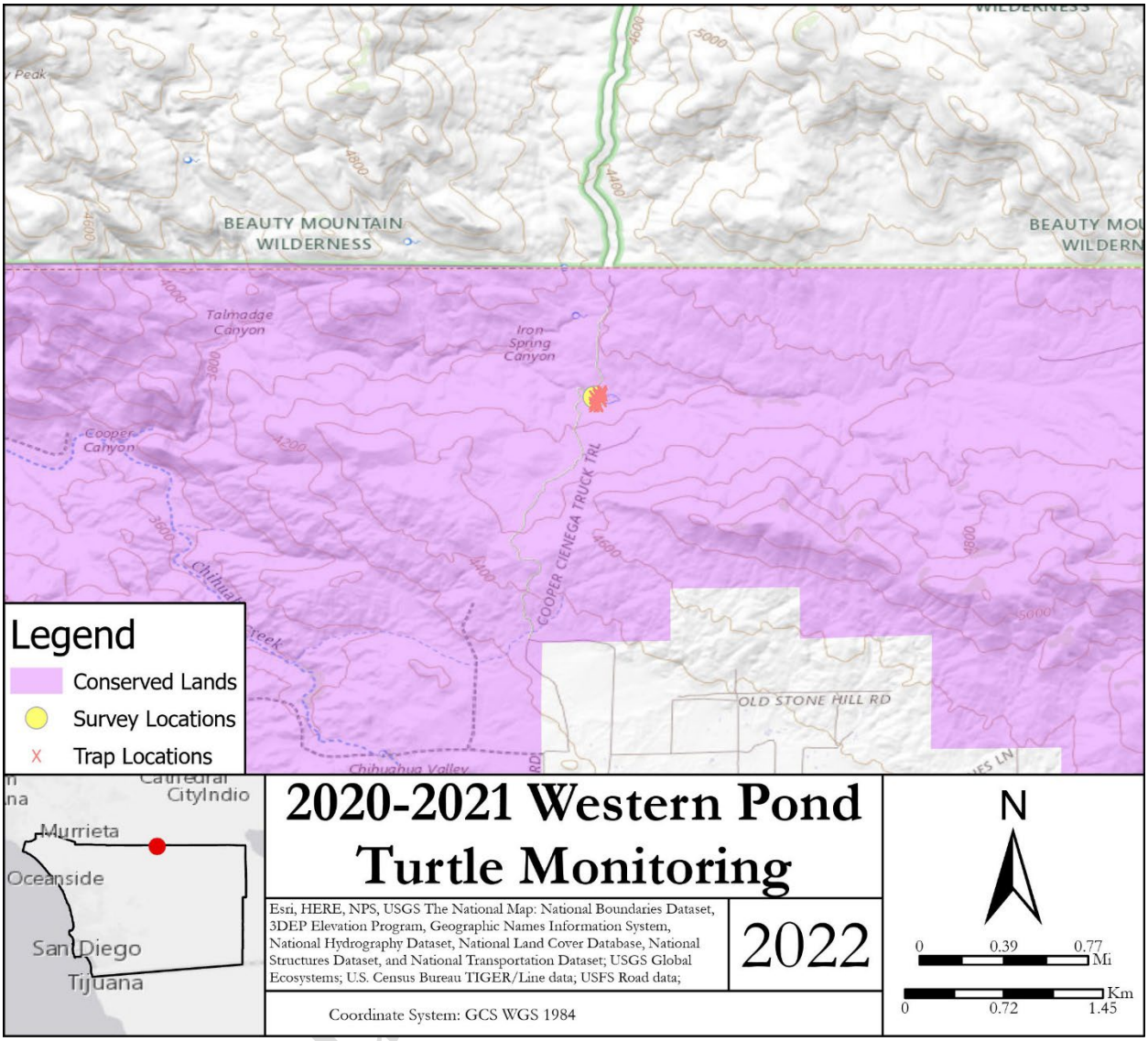

Figure 4. Map showing the 2020 pond turtle survey location for Beauty Mountain.

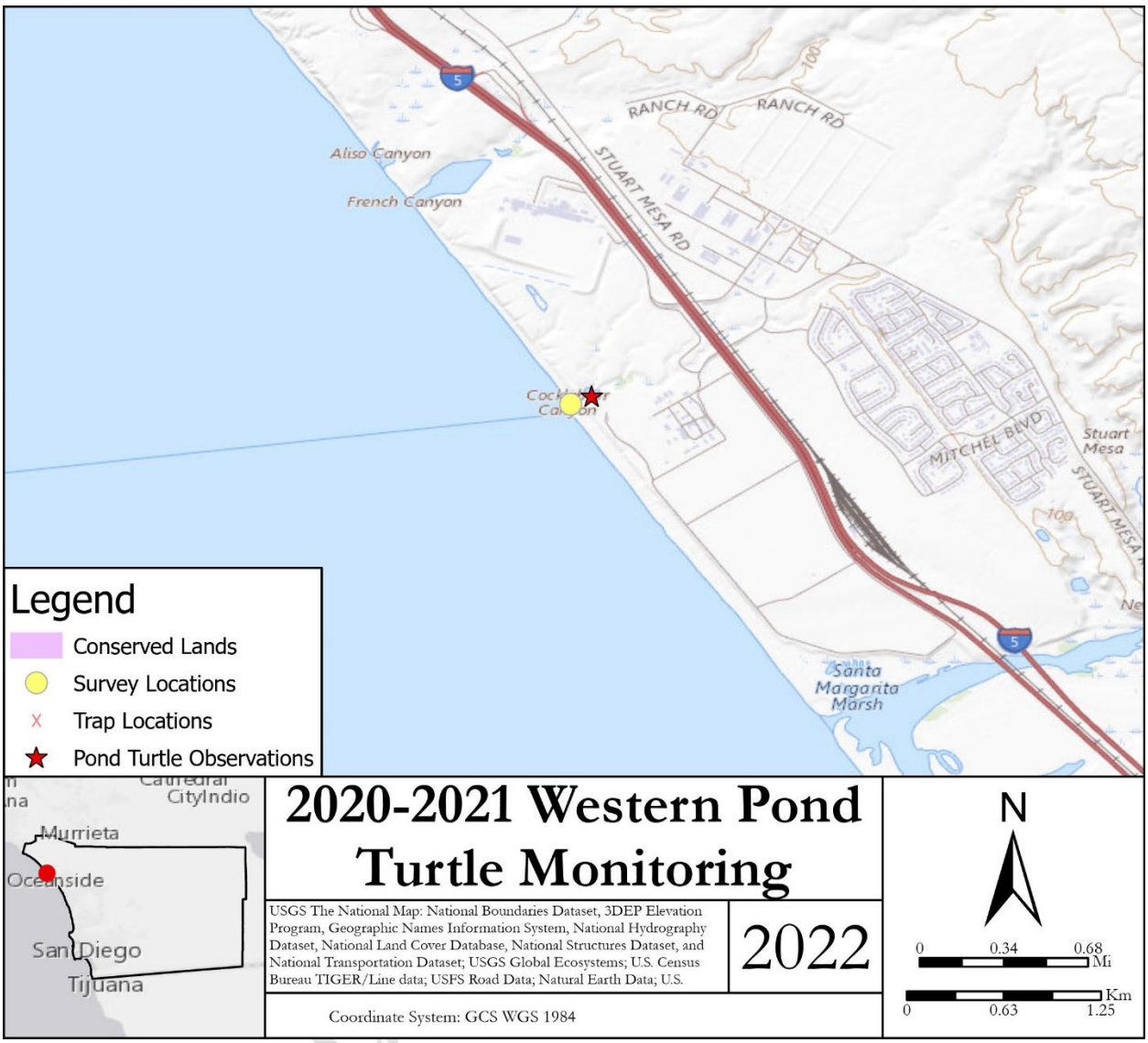

Figure 5. Map showing the 2020 pond turtle survey location for Cockleburr Canyon.

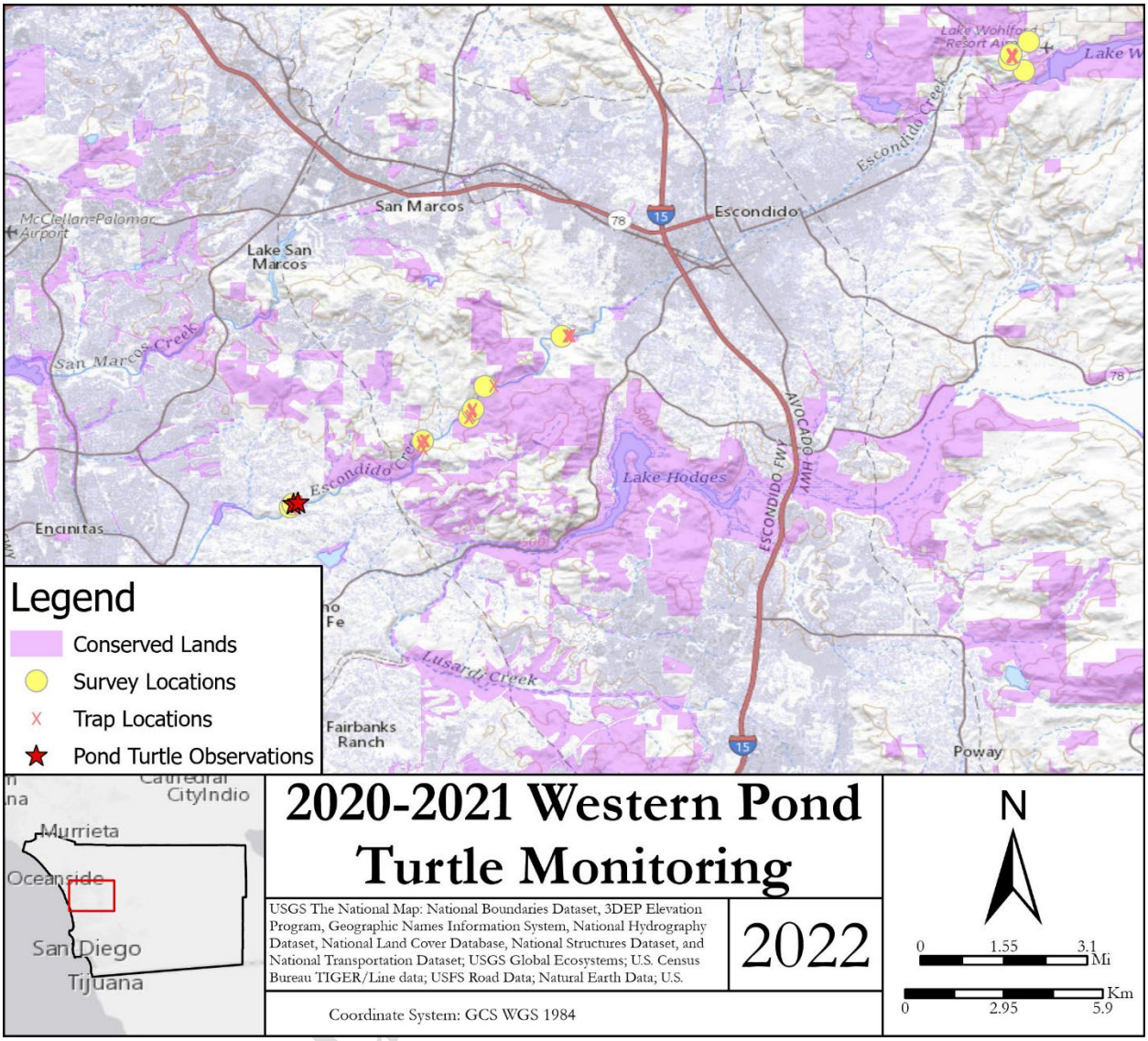

Figure 6. Map showing the 2020 pond turtle survey locations for Escondido Creek Conservancy.

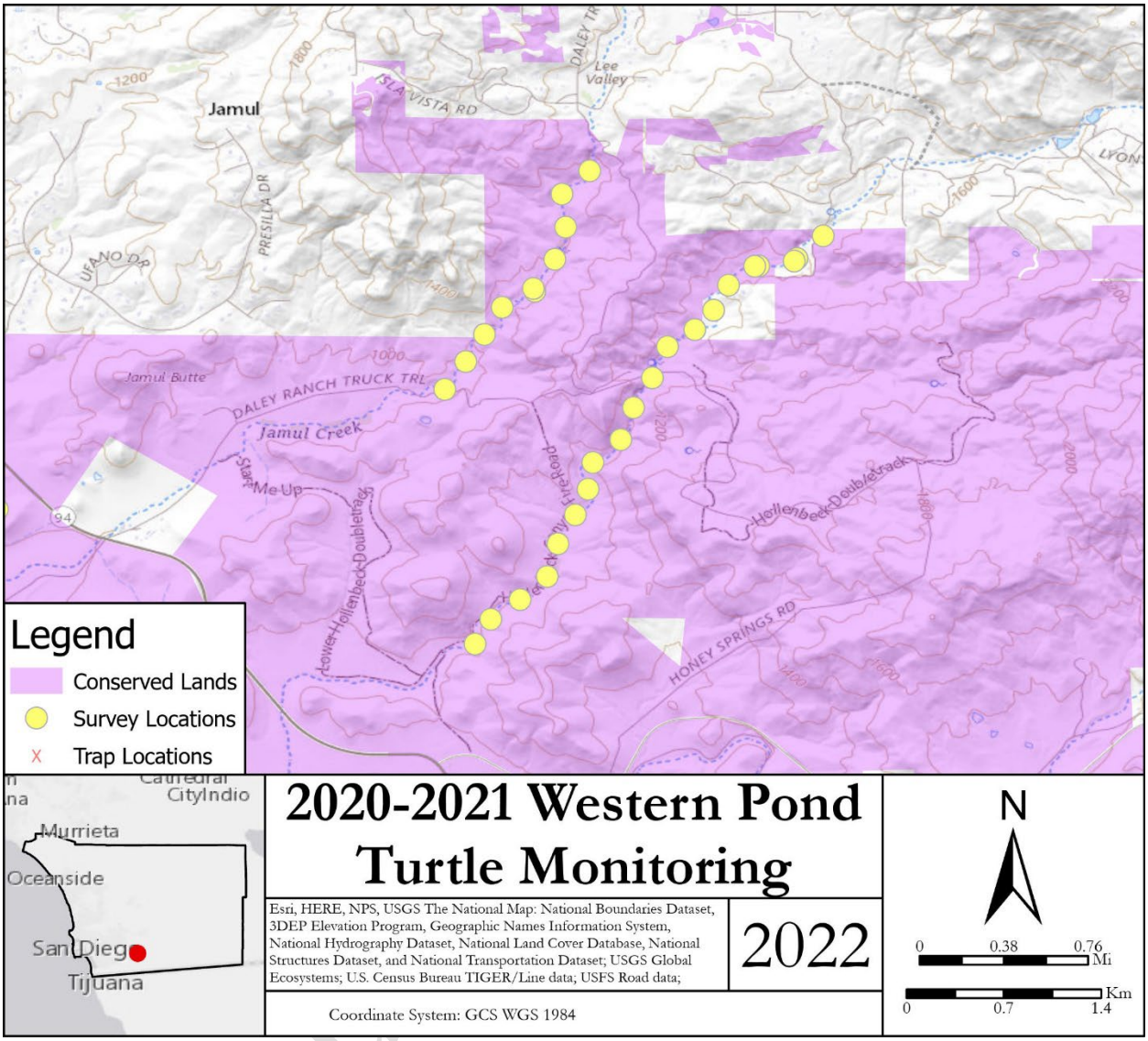

Figure 7. Map showing the 2020 pond turtle survey location for Hollenbeck Canyon and Jamul Creek.

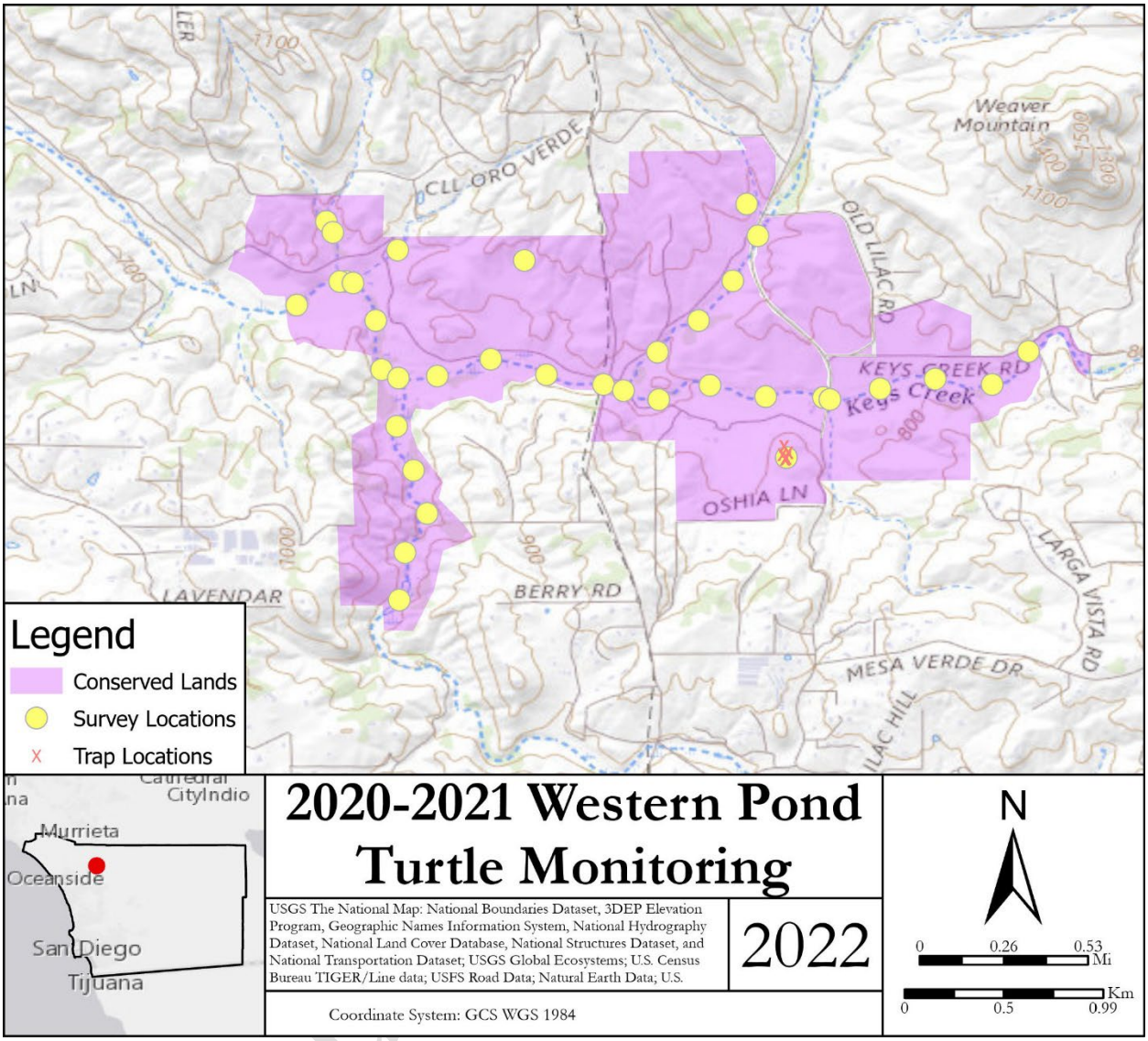

Figure 8. Map showing the 2020 pond turtle survey locations for Lilac Ranch.

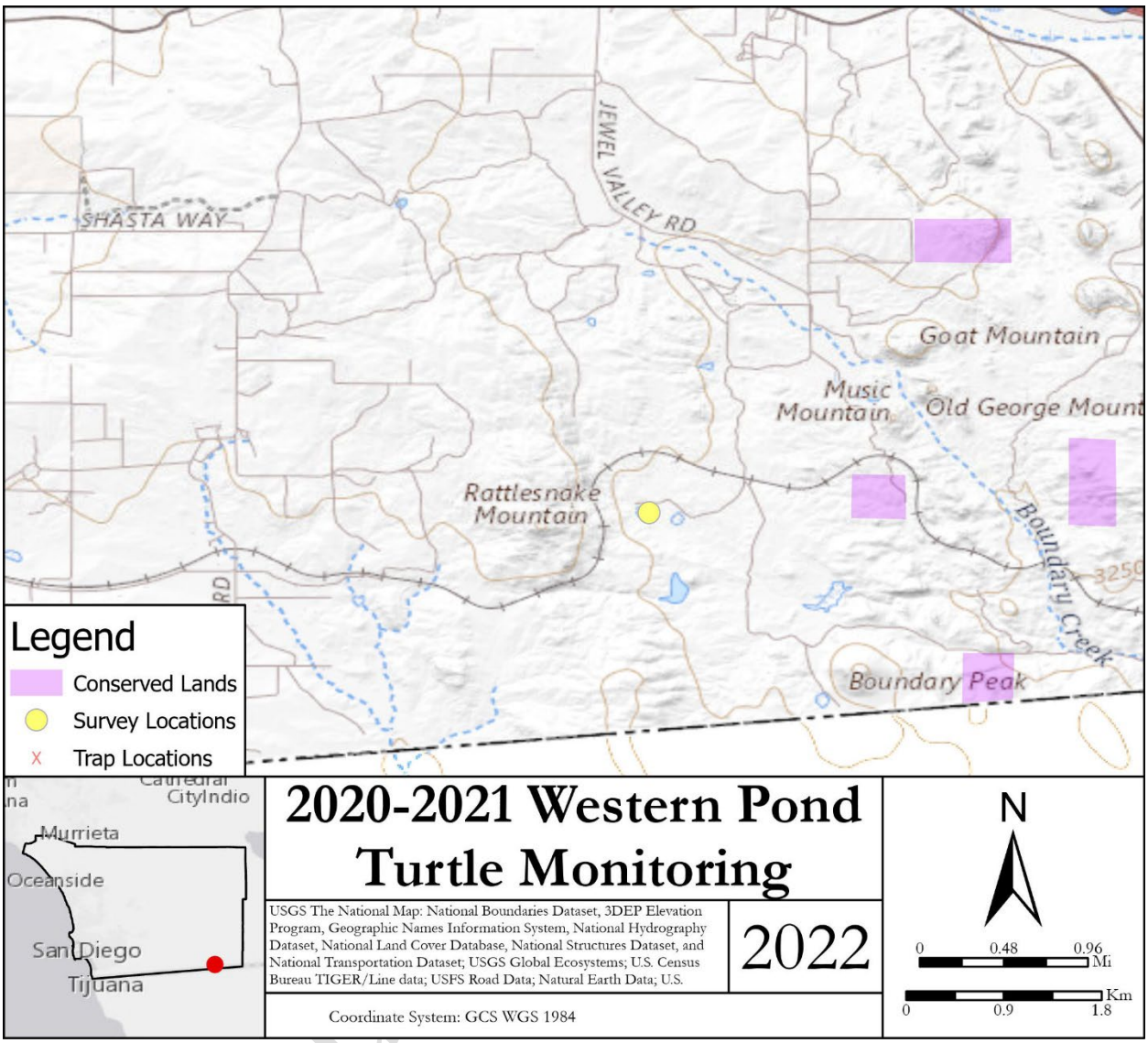

Figure 9. Map showing the 2021 pond turtle survey location for Little Valley.

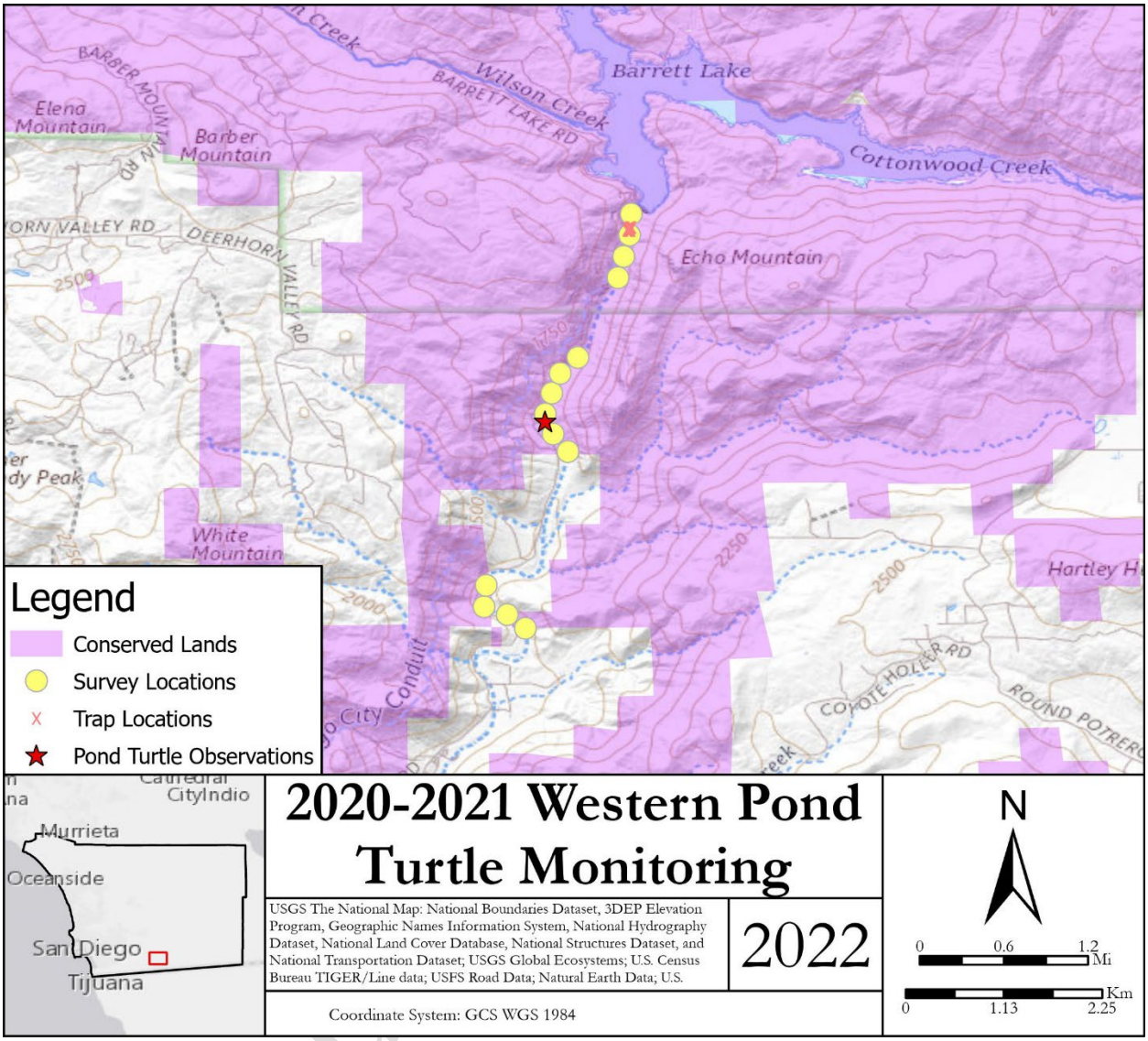

Figure 10. Map showing the 2020 pond turtle survey locations for Lower Cottonwood Creek.

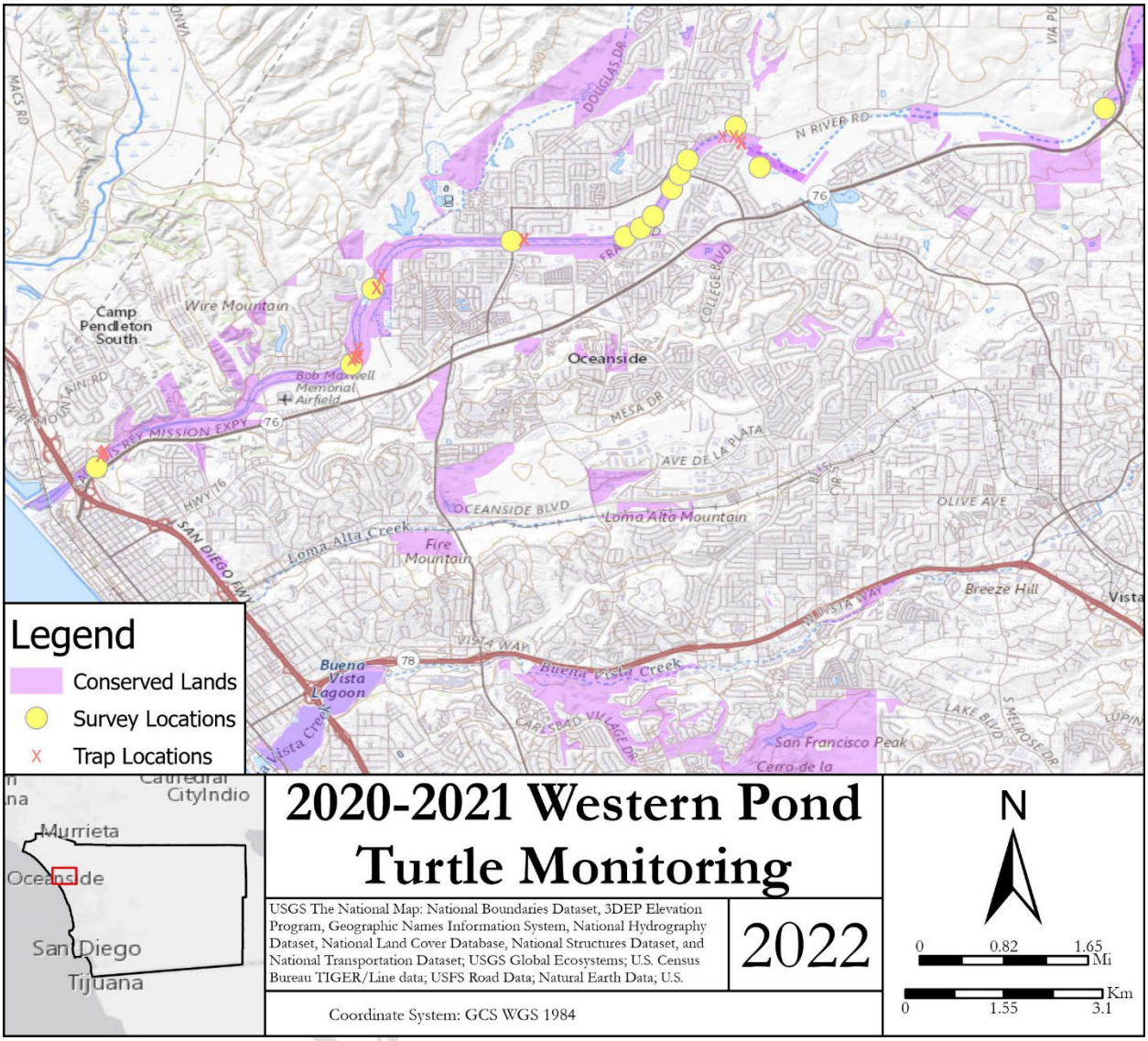

Figure 11. Map showing the 2020 pond turtle survey locations for Lower San Luis Rey River.

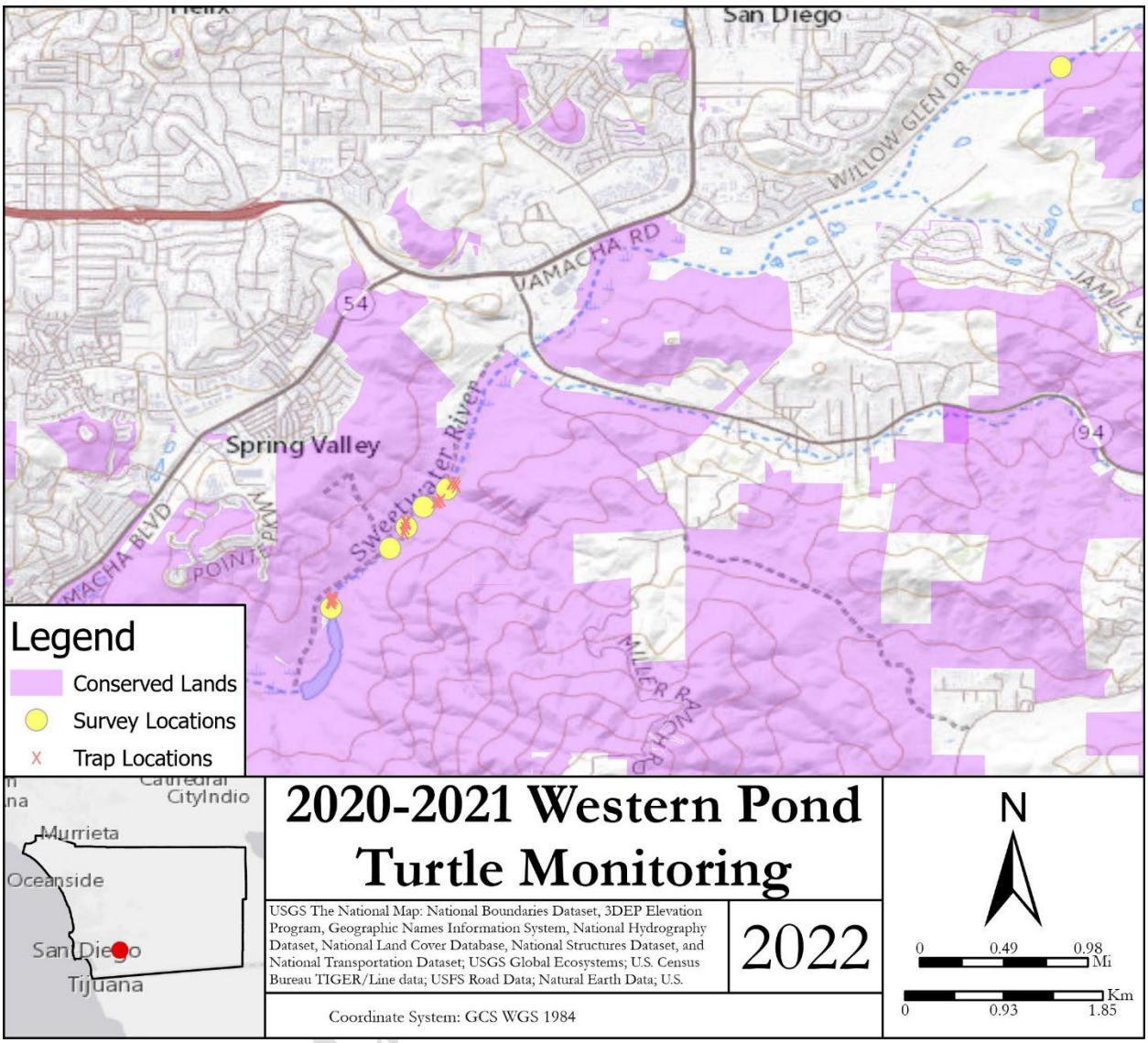

Figure 12. Map showing the 2021 pond turtle survey locations for Middle Sweetwater River.

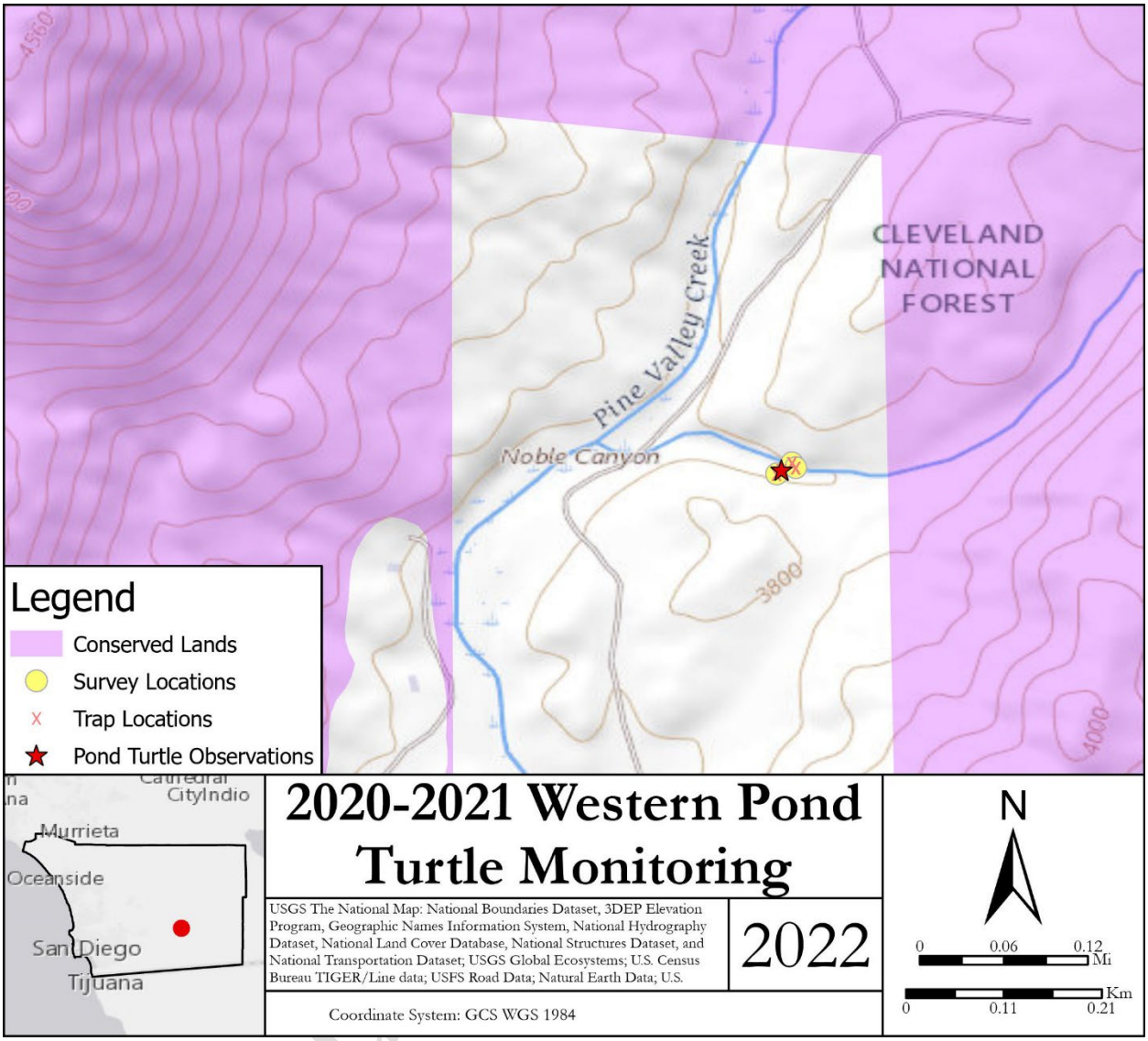

Figure 13. Map showing the 2020 pond turtle survey locations for Noble Canyon.

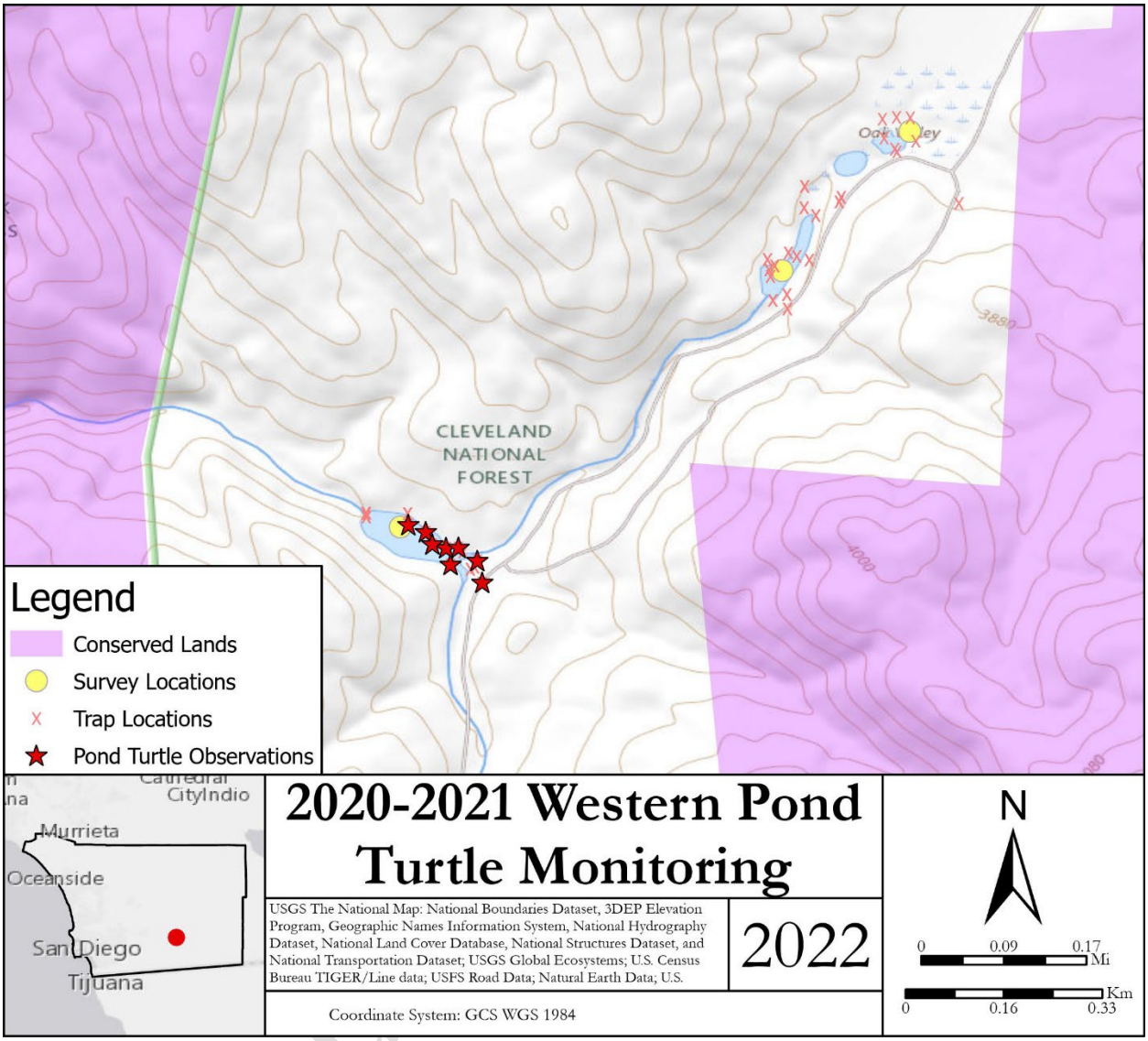

Figure 14. Map showing the 2020 pond turtle survey locations for Oak Valley.

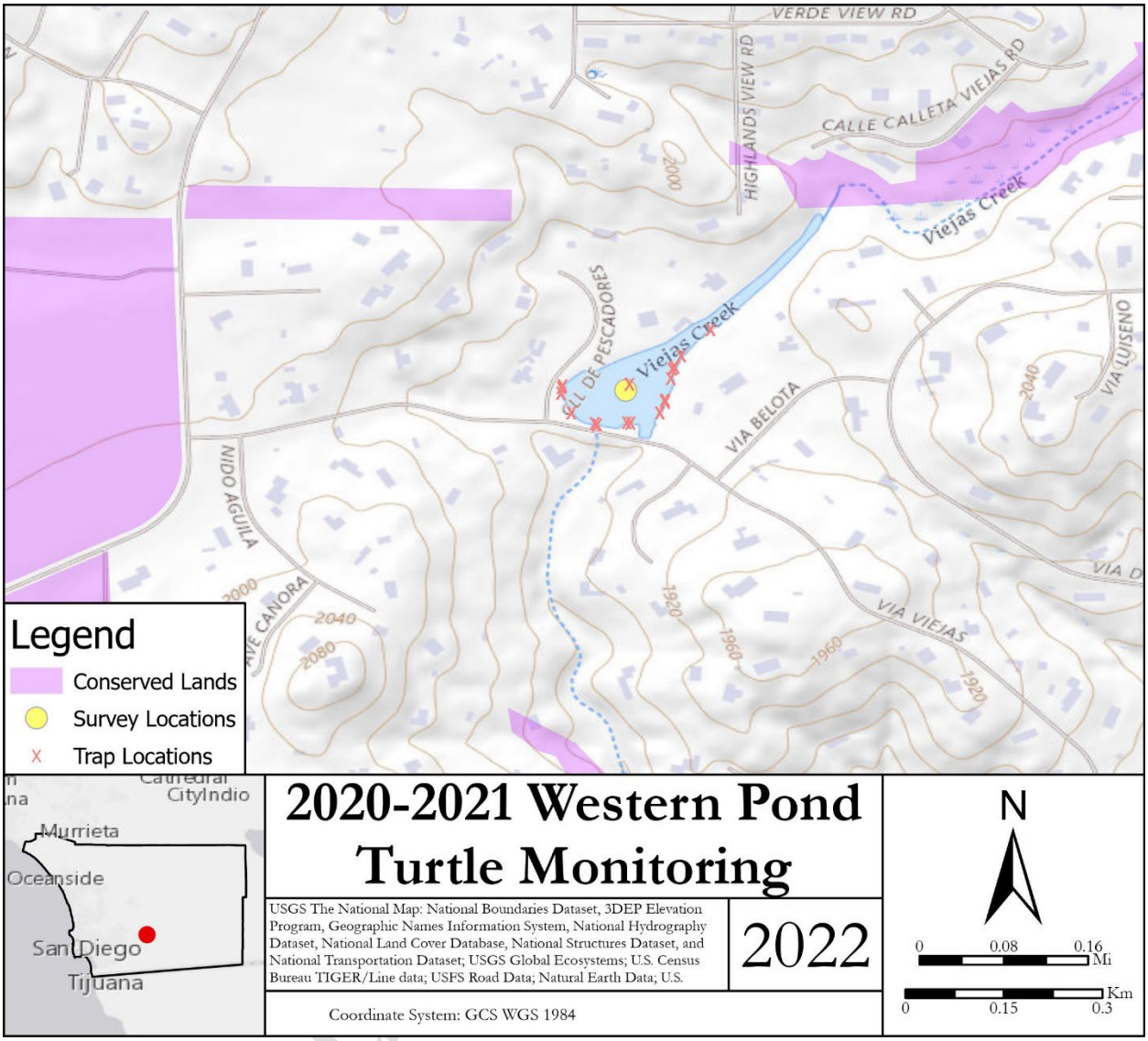

Figure 15. Map showing the 2020 pond turtle survey locations for Palo Verde Ranch.

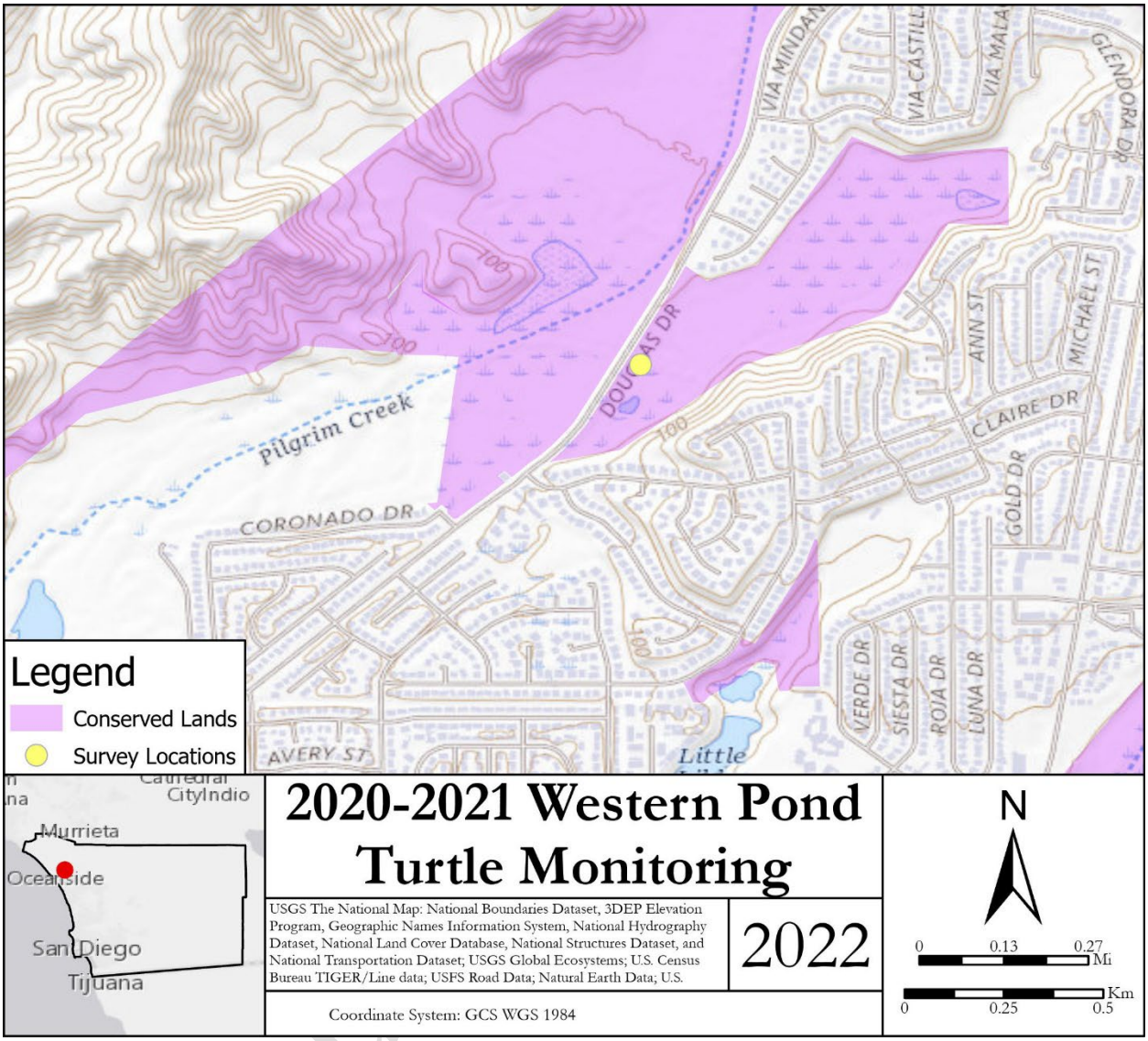

Figure 16. Map showing the 2020 pond turtle survey location for Pilgrim Creek tributary.

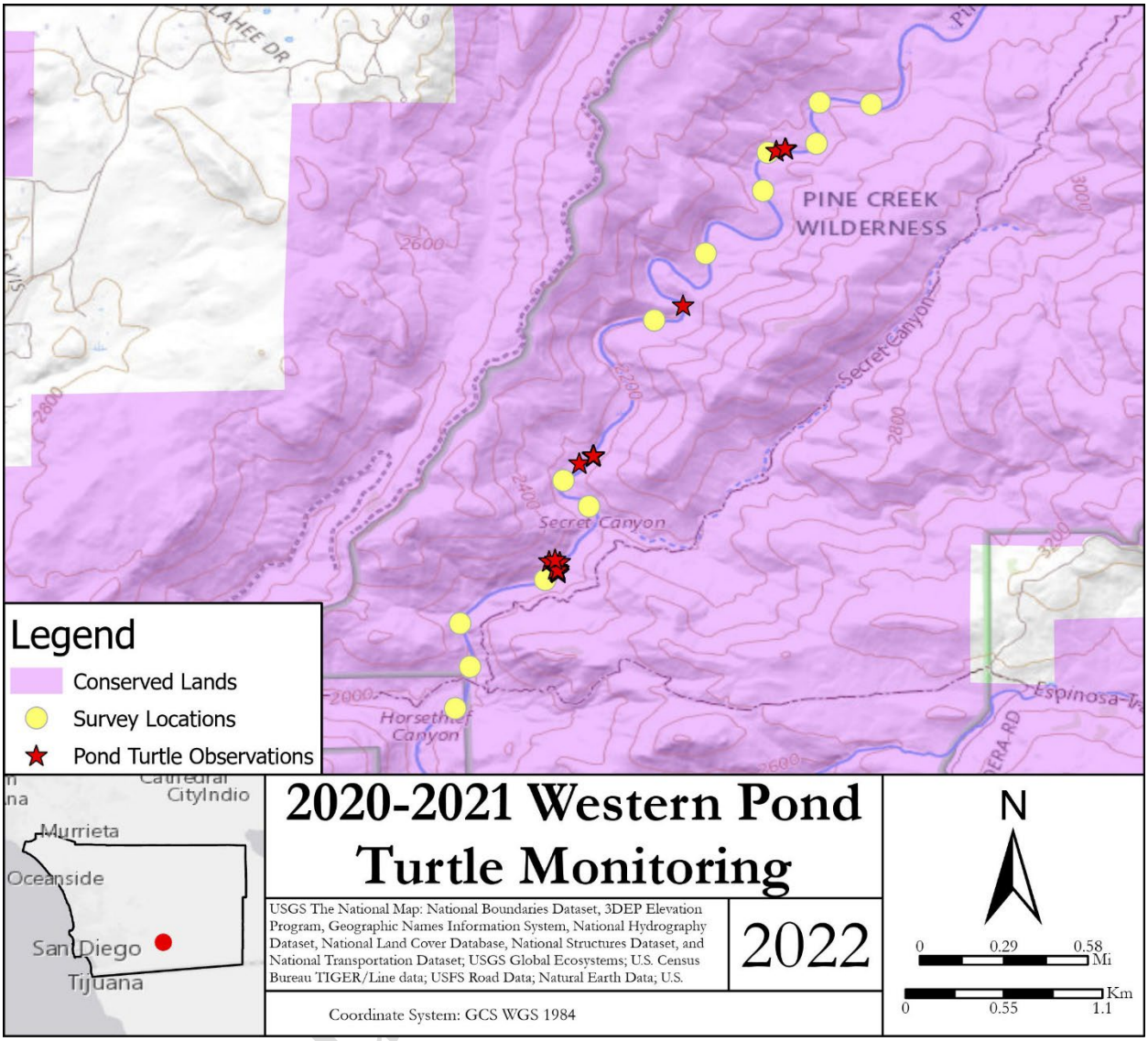

Figure 17. Map showing the 2020 pond turtle survey locations for Pine Valley Creek.

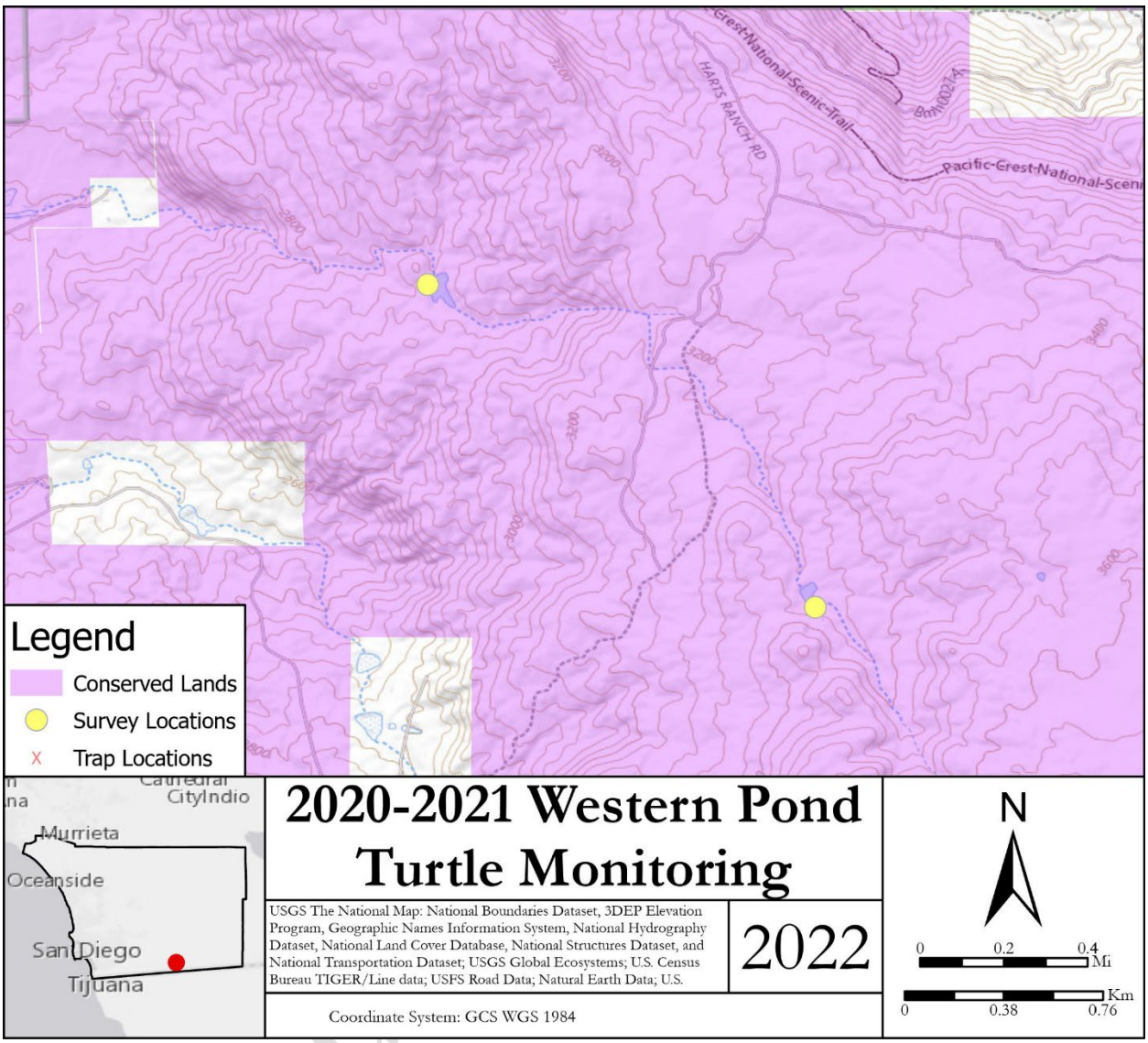

Figure 18. Map showing the 2021 pond turtle survey locations for Potrero Creek.

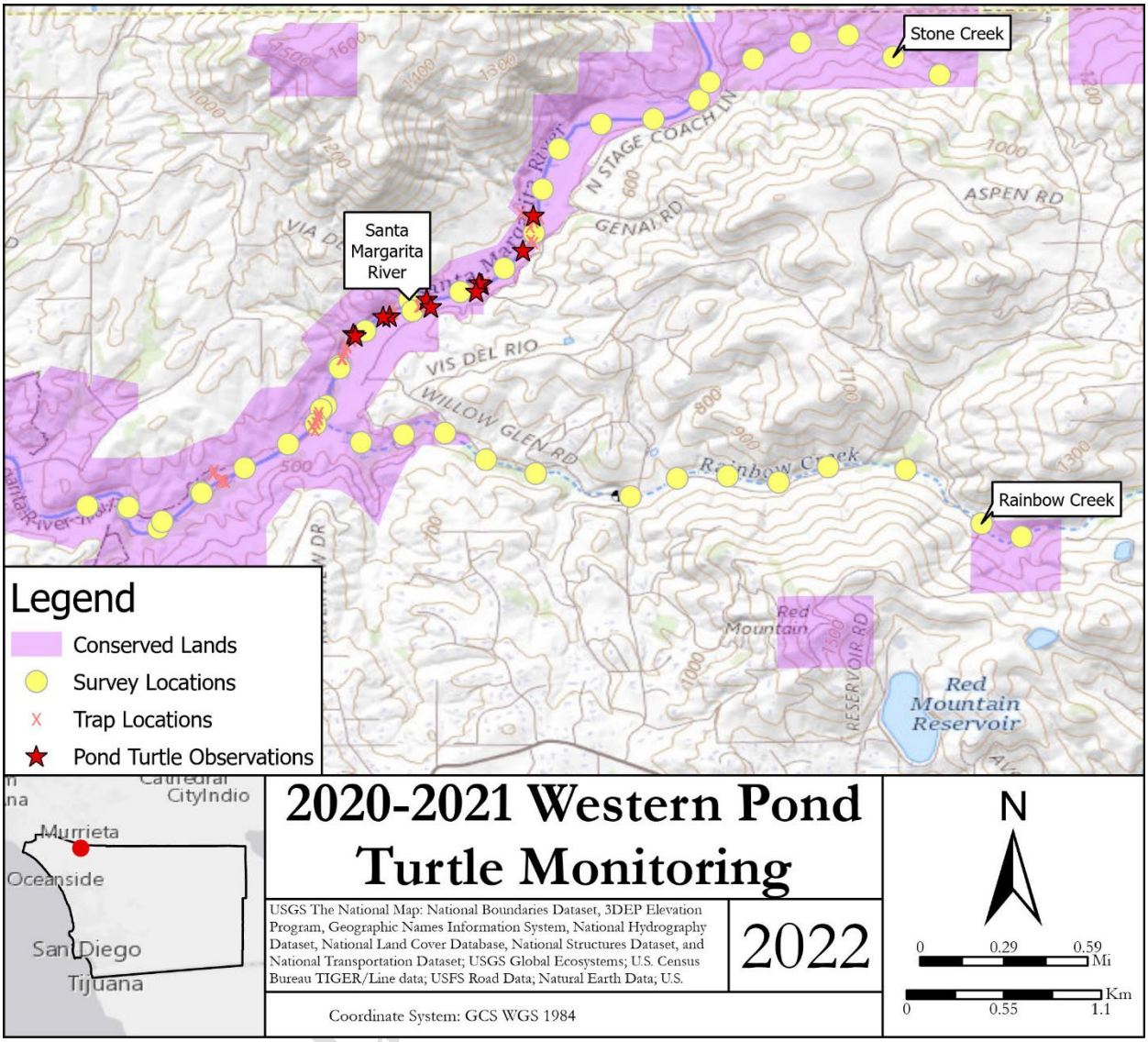

Figure 19. Map showing the 2021 pond turtle survey locations for Santa Margarita River, Rainbow Creek, and Stone Creek.

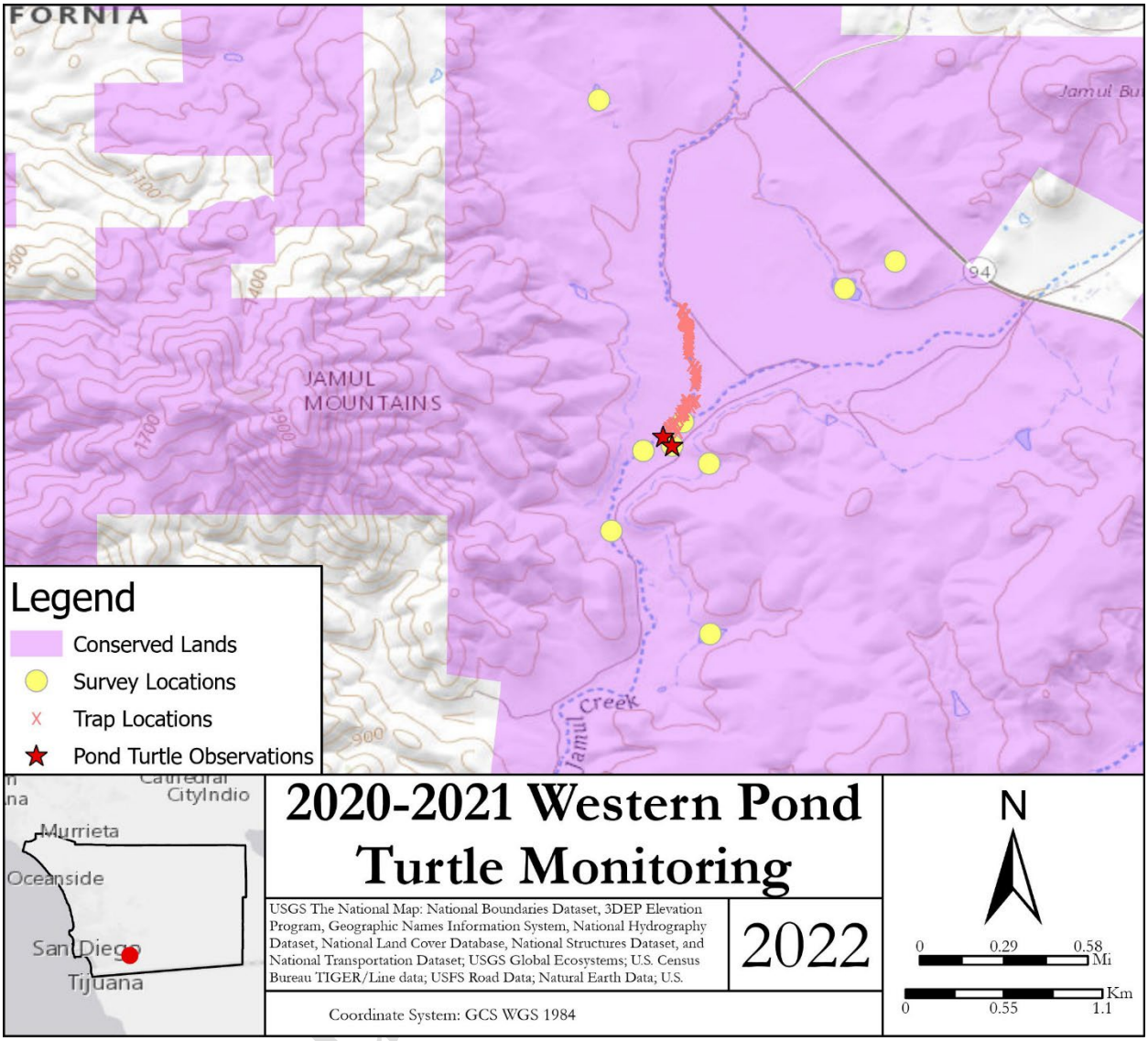

Figure 20. Map showing the 2020 and 2021 pond turtle survey locations for Rancho Jamul Ecological Reserve. Survey locations are established research and monitoring sites and were surveyed in both 2020 and 2021.

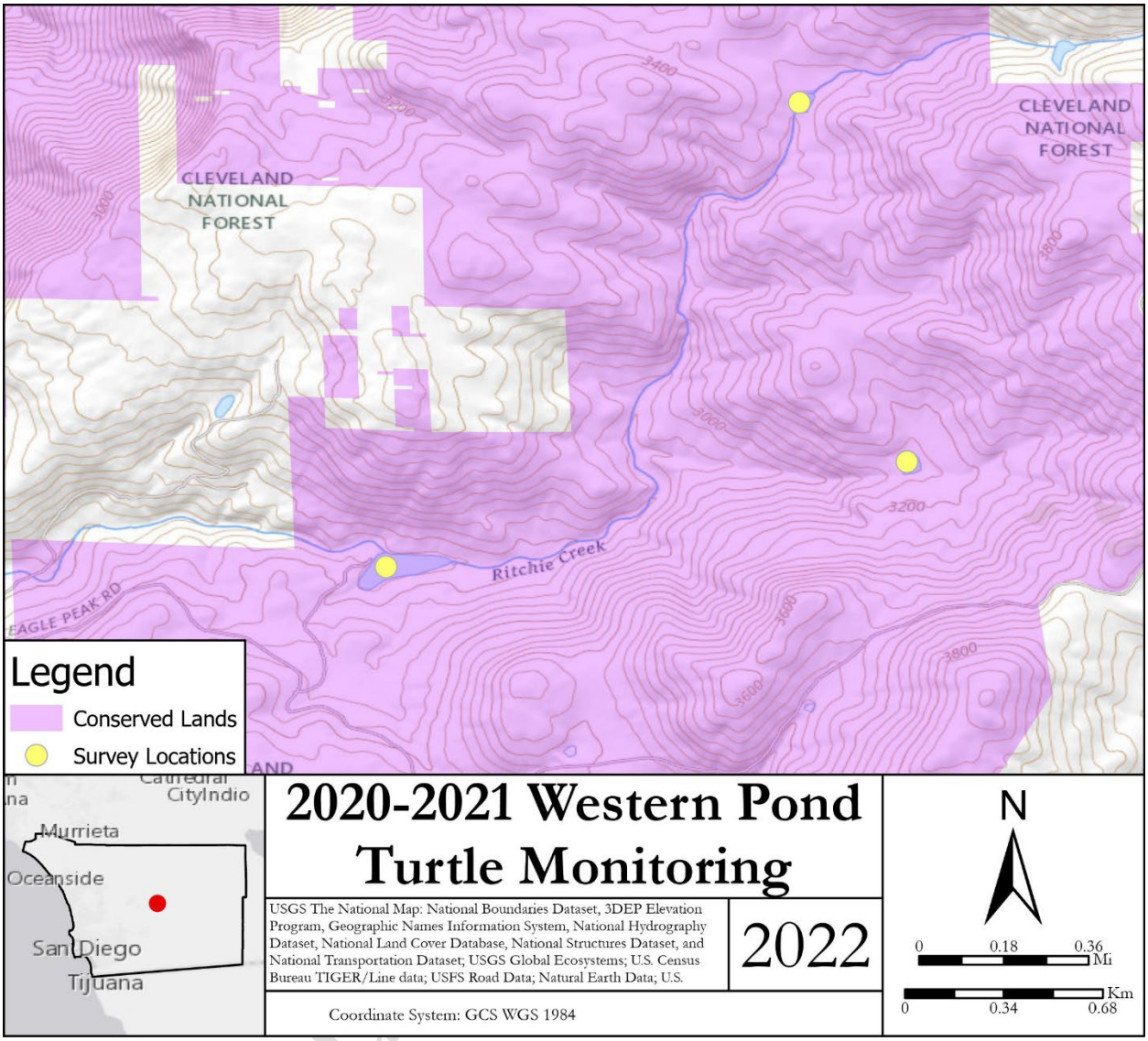

Figure 21. Map showing the 2021 pond turtle survey locations for Ritchie Creek.

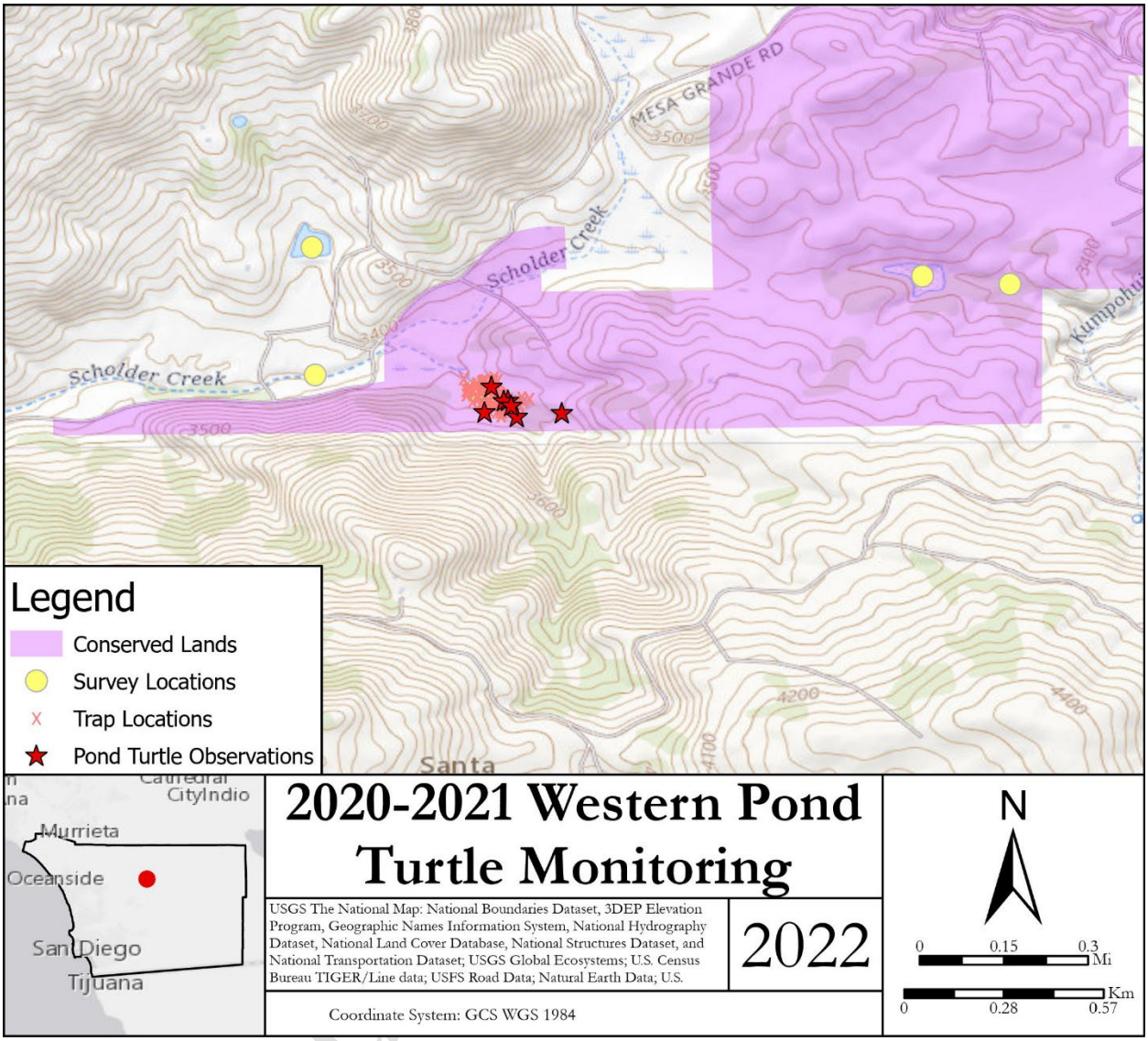

Figure 22. Map showing the 2020 and 2021 pond turtle survey locations at Scholder Creek, Kennel Pond, and the Wheatley Preserve. All sites were surveyed in both years except for the Kennel property (not within the conserved lands) which was only surveyed in 2021.

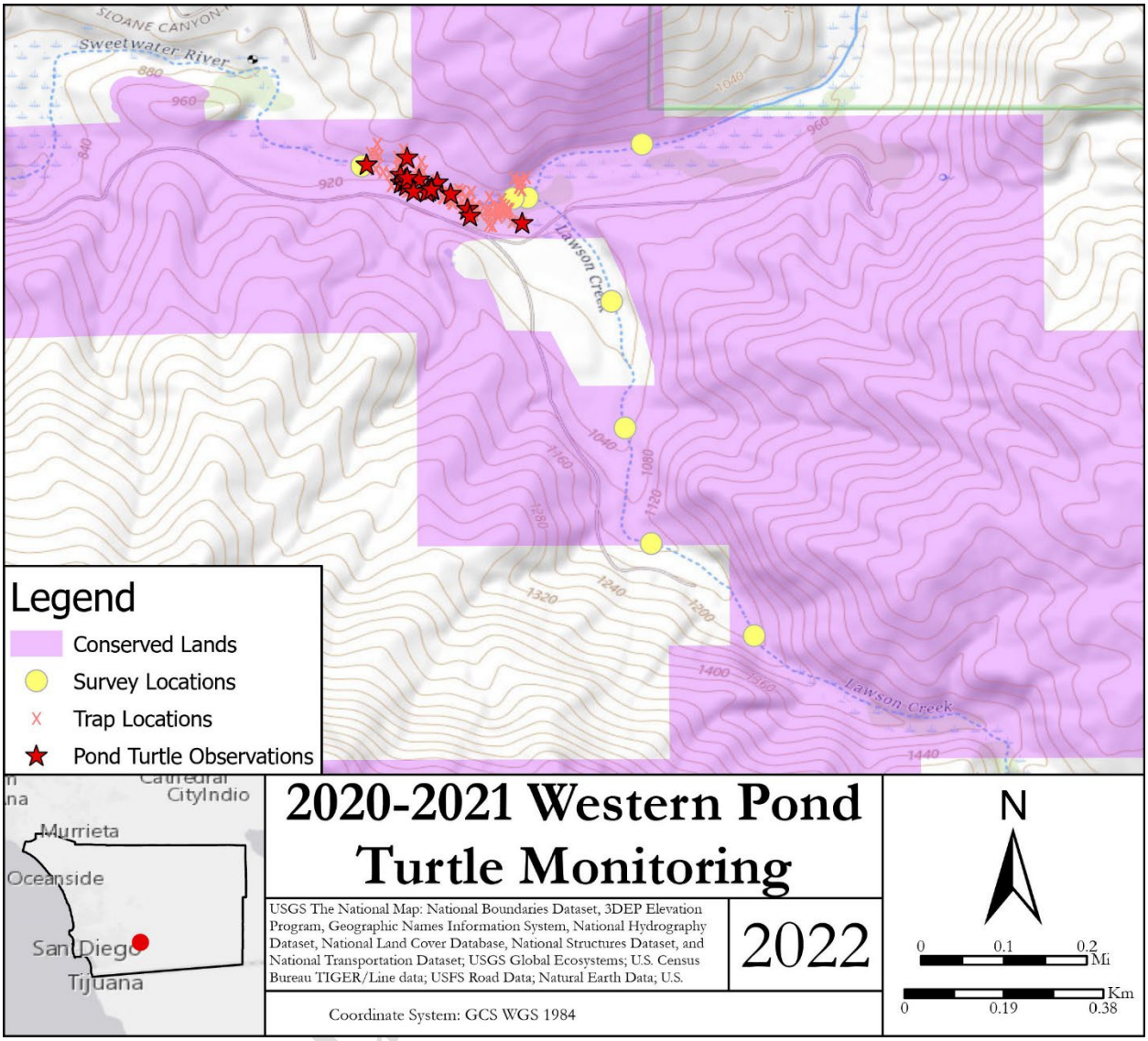

Figure 23. Map showing the 2020 and 2021 pond turtle survey locations at Sycuan Peak Ecological Reserve. All survey locations were surveyed in both 2020 and 2021.

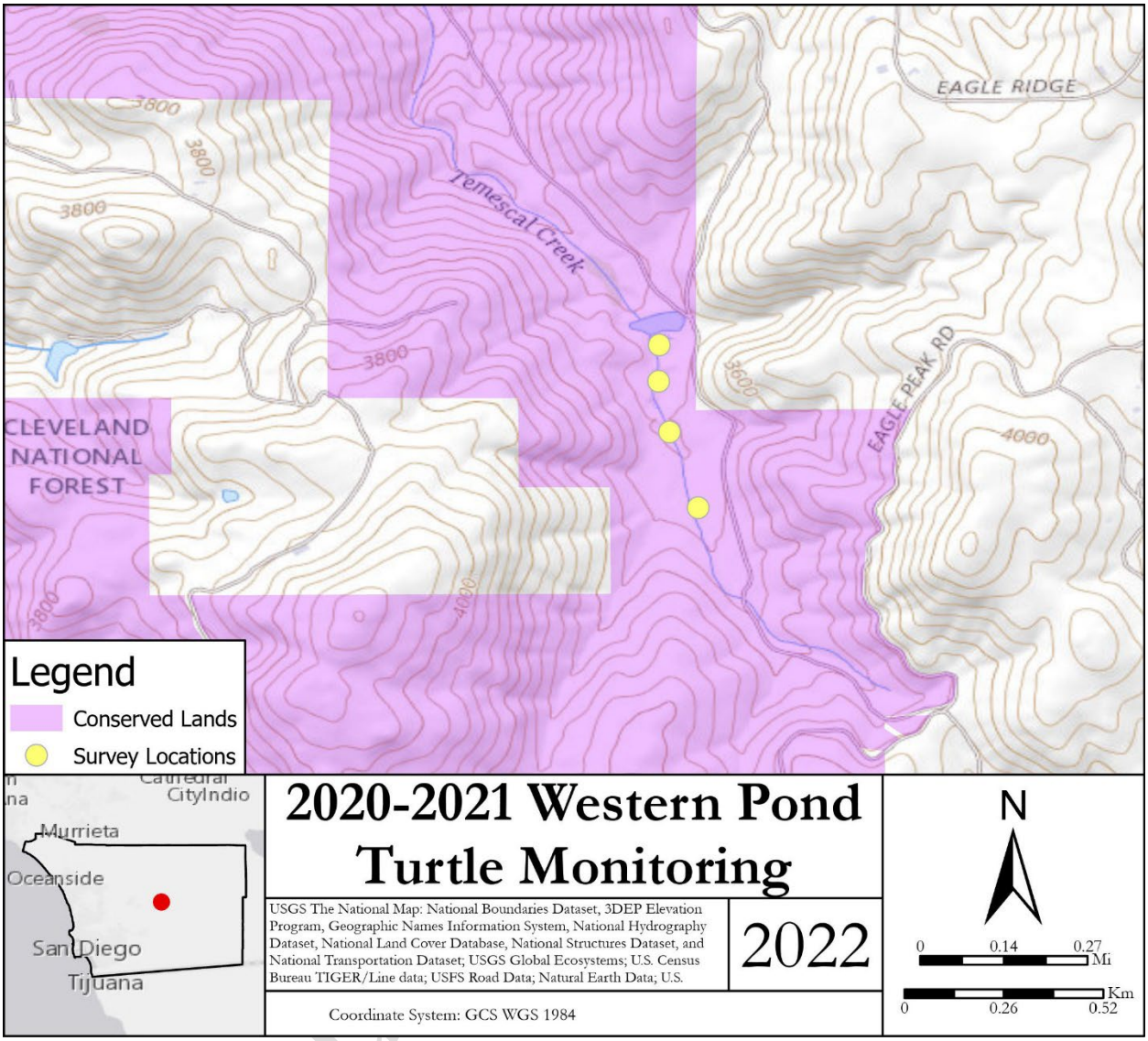

Figure 24. Map showing the 2021 pond turtle survey locations at Temescal Creek.

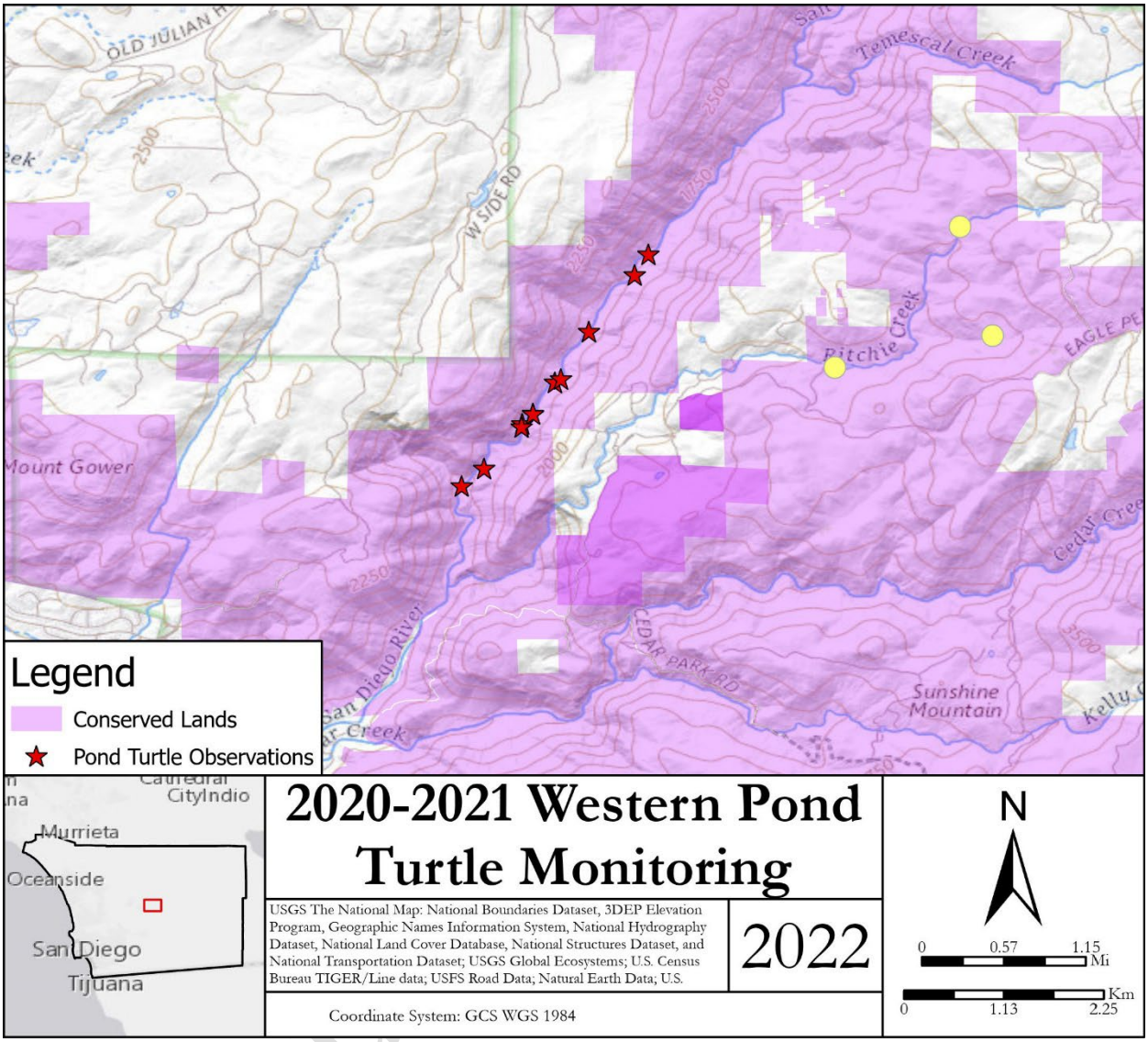

Figure 25. Map showing 2020 pond turtle observations during arroyo toad surveys in the Upper San Diego River.

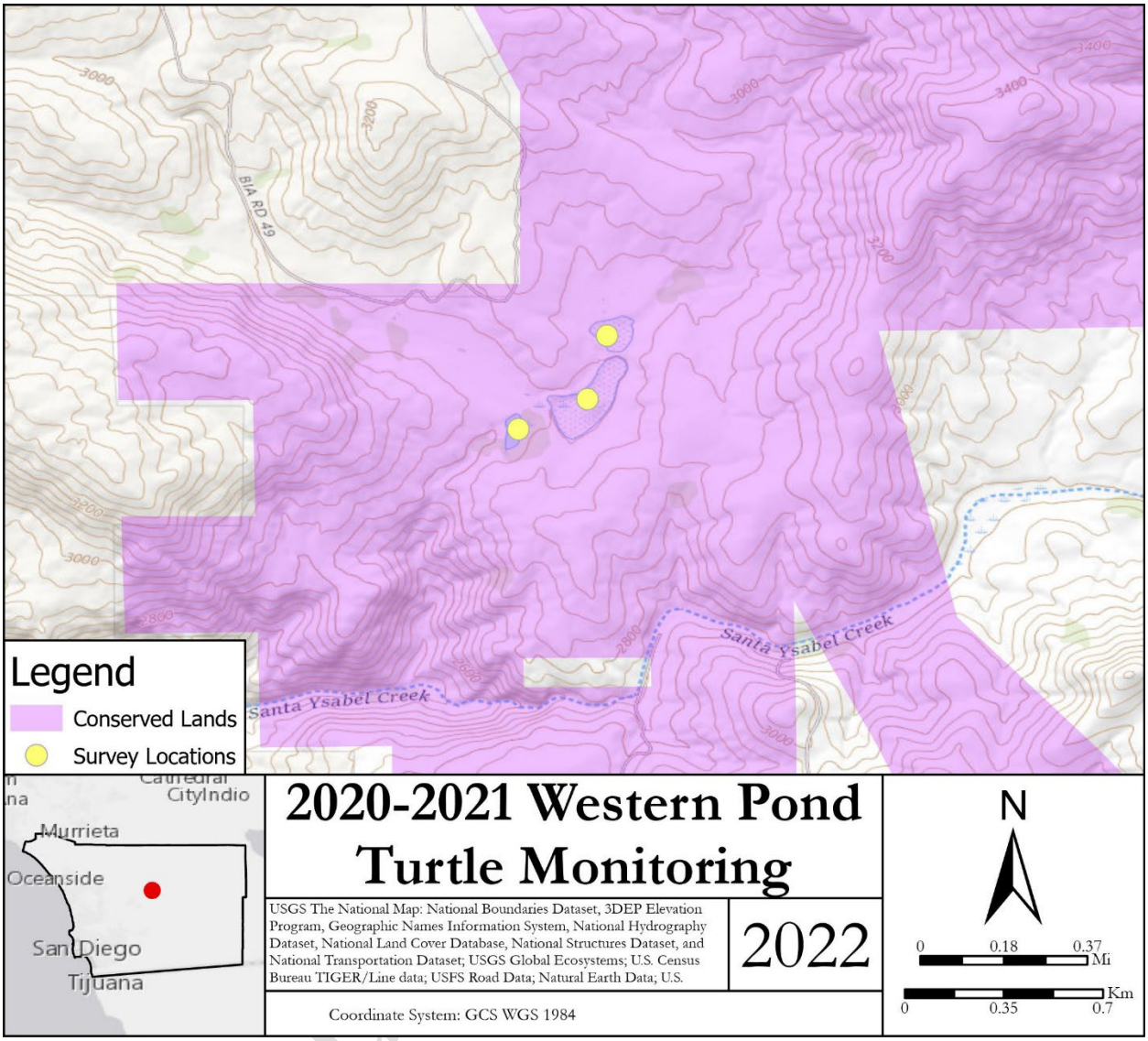

Figure 26. Map showing the 2020 pond turtle survey locations at Upper Santa Ysabel Creek Tributary 11A.

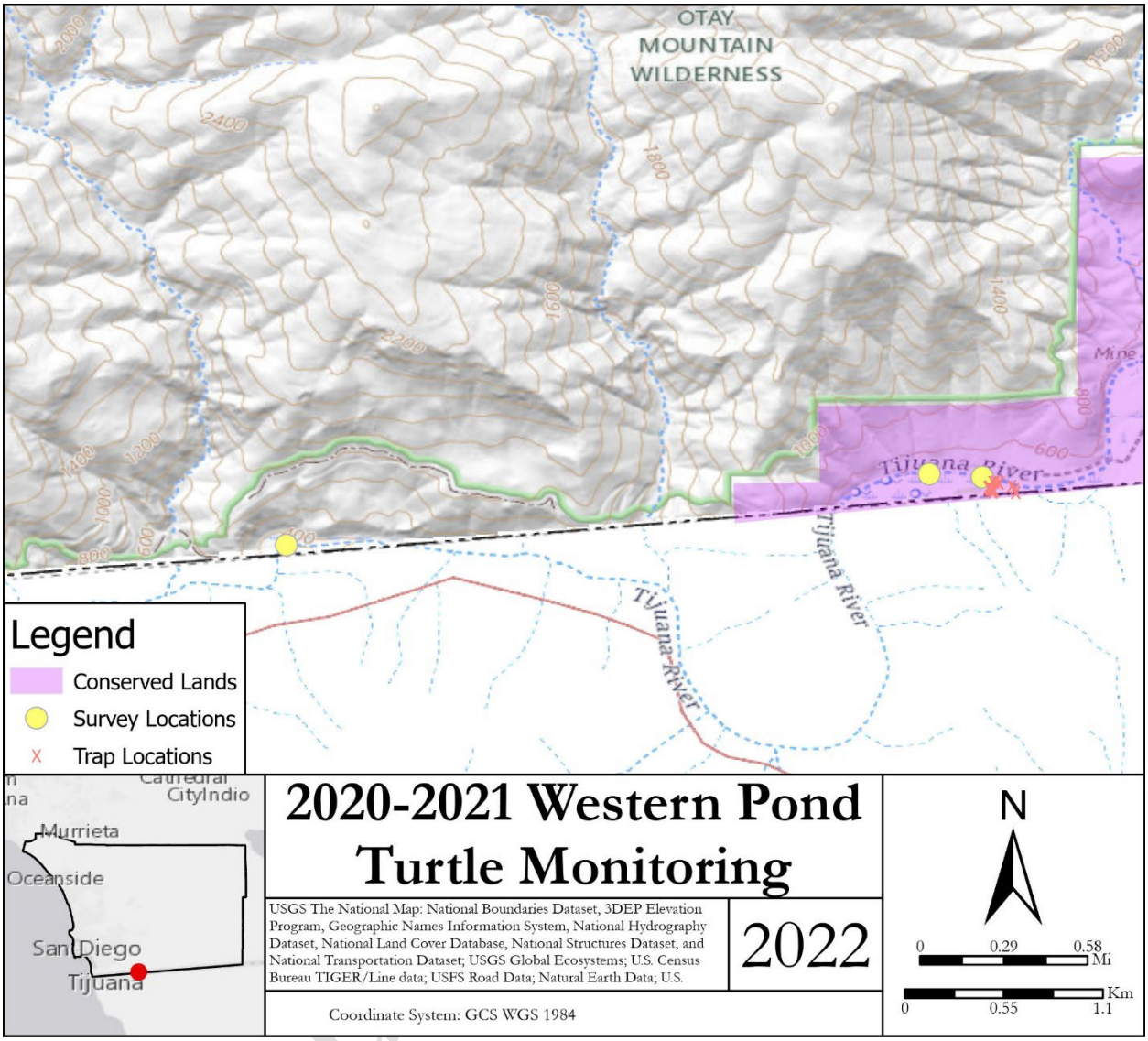

Figure 27. Map showing the 2020 pond turtle survey locations at Upper Tijuana River.

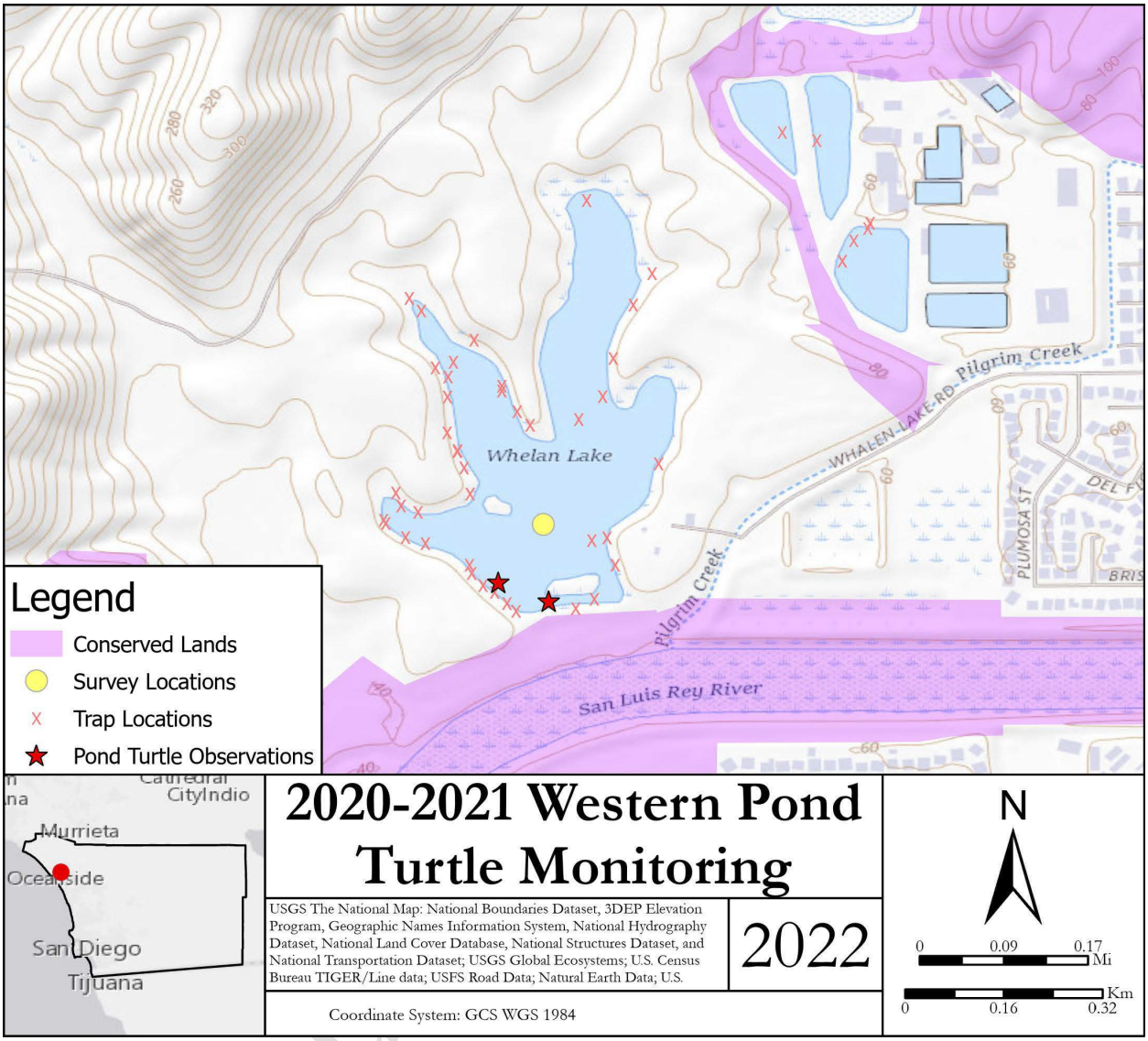

Figure 28. Map showing the 2020 pond turtle survey locations at Whelan Lake Bird Sanctuary and San Luis Rey Water Treatment Plant.

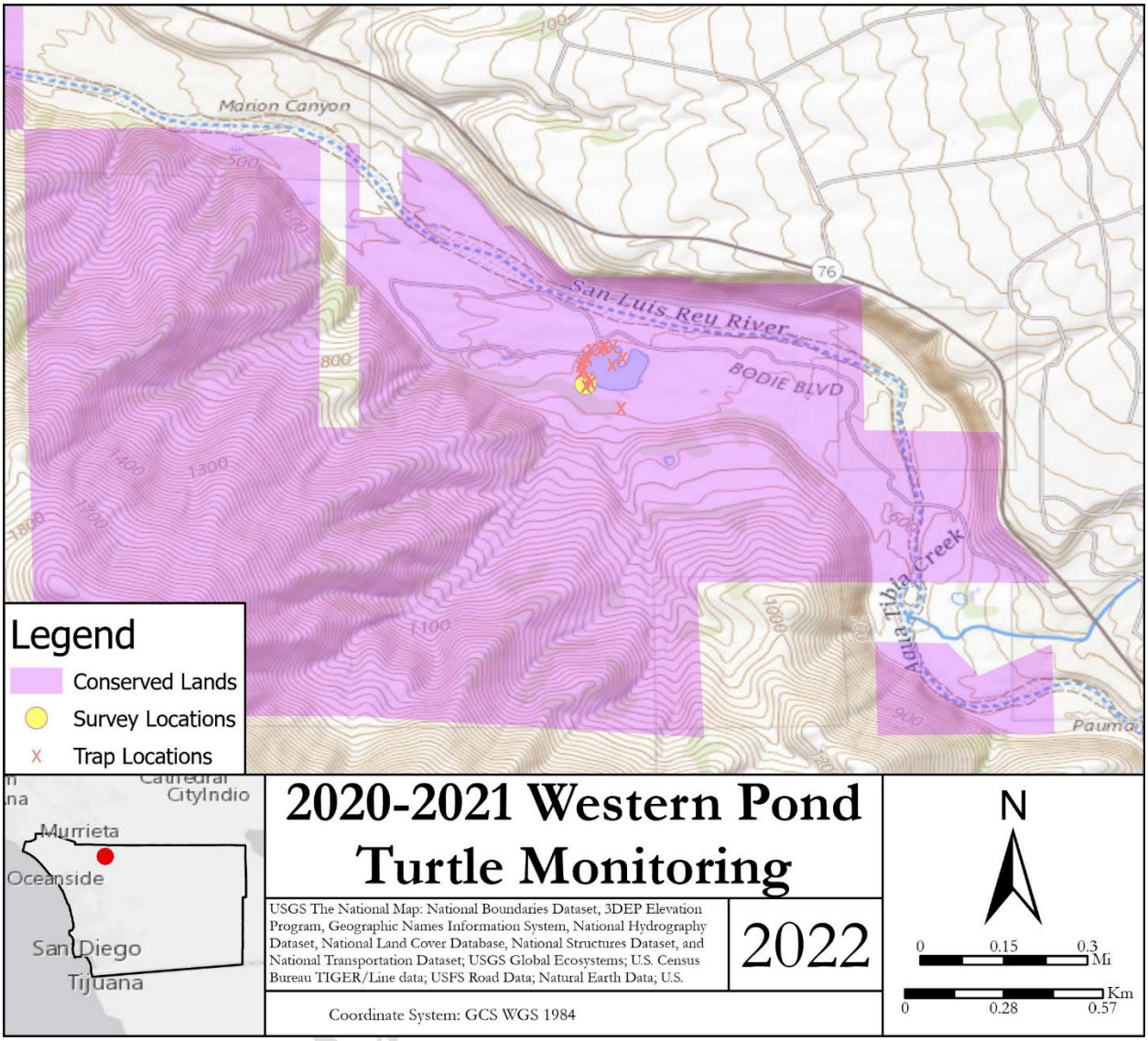

Figure 29. Map showing the 2021 pond turtle survey locations at Wilderness Gardens.

Appendix A. All pond turtle records from pond turtle trapping and visual encounter surveys 2020-2021 in San Diego County.

FieldRecordID	Date	Block	Site	Record #	Age	Sex	Count	Recap	PIT
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S8	A	M	1	Y	020868349
CB20-027	10/2/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S131	A	M	1	Y	020868349
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S2	A	M	1	Y	020875548
CB20-027	10/2/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S123	A	F	1	Y	020875548
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S17	A	F	1	Y	020886637
CB20-027	9/30/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S57	A	F	1	Y	020886637
CB20-027	10/2/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S125	A	F	1	Y	020886637
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S22	A	M	1	Y	021004047
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S10	A	M	1	Y	040626081
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S14	A	M	1	Y	043126302
CB20-027	10/1/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S119	A	M	1	Y	043126302
CB20-027	10/1/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S91	A	F	1	Y	048584607
CB20-027	9/30/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S72	A	M	1	Y	048588076
CB20-027	10/1/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S88	A	M	1	Y	048588076
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S3	A	F	1	Y	048591568
CB20-027	10/1/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S97	A	F	1	Y	048591568
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S15	A	M	1	Y	053523637
CB20-027	9/30/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S64	A	M	1	Y	053523637
CB20-027	10/2/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S143	A	M	1	Y	053523637
CB20-027	10/1/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S114	A	M	1	N	059082377
CB20-027	10/2/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S149	A	M	1	Y	059082377
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S24	A	M	1	Y	059548269
CB20-027	9/30/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S61	A	M	1	Y	059548269
CB20-027	10/2/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S139	A	M	1	Y	059548269
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S36	A	M	1	Y	059627589
CB20-027	9/30/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S63	A	M	1	Y	059627589
CB20-027	10/1/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S87	A	M	1	Y	059627589
CB20-027	10/2/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S130	A	M	1	Y	059627589

CB20-027	10/2/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S153	A	M	1	Y	069043033
CB20-027	10/2/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S151	A	F	1	Y	069066057
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S13	A	M	1	Y	096823341
CB20-027	10/1/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S118	A	M	1	Y	096823341
CB20-027	10/2/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S145	A	M	1	Y	096823341
CB20-027	9/30/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S79	A	M	1	Y	096833083
CB20-027	10/2/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S129	A	M	1	Y	096833083
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S1	A	F	1	Y	096845782
CB20-027	9/30/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S69	A	F	1	Y	096845782
CB20-027	10/1/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S99	A	F	1	Y	096845782
CB20-027	10/2/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S136	A	F	1	Y	096845782
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S44	A	M	1	N	605310358
CB20-027	10/1/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S104	A	M	1	Y	605310358
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S34	J	M	1	N	605313769
CB20-027	10/1/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S101	A	F	1	N	605314037
CB20-027	9/30/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S80	A	F	1	N	605321048
CB20-027	9/30/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S85	A	M	1	N	605363635
CB20-027	9/30/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S55	A	M	1	N	605380383
CB20-027	10/2/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S142	A	M	1	Y	605380383
CB20-027	10/2/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S147	A	F	1	N	605518630
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S37	A	M	1	N	605519346
CB20-027	10/2/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S124	A	M	1	N	605519346
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S32	A	M	1	Y	605521039
CB20-027	9/30/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S71	A	M	1	Y	605521039
CB20-027	10/1/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S102	A	M	1	Y	605521039
CB20-027	10/2/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S134	A	M	1	Y	605521039
CB20-027	10/2/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S154	J	M	1	N	605521821
CB20-027	9/30/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S82	A	M	1	N	605522637
CB20-027	10/1/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S92	A	M	1	Y	605522637
CB20-027	9/30/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S60	J	M	1	N	605523891

CB20-027	10/1/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S98	A	M	1	N	605524528
CB20-027	10/1/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S112	A	M	1	N	605524894
CB20-027	10/1/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S110	A	F	1	N	605525613
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S35	A	M	1	N	605525639
CB20-027	9/30/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S75	A	M	1	Y	605525639
CB20-027	10/1/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S109	A	M	1	Y	605525639
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S16	A	M	1	N	605525847
CB20-027	10/1/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S105	A	M	1	Y	605525847
CB20-027	9/30/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S59	J	M	1	N	605526292
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S39	A	M	1	N	605528272
CB20-027	9/30/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S68	A	M	1	Y	605528272
CB20-027	10/2/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S144	A	F	1	Y	605528272
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S38	A	M	1	N	605528811
CB20-027	10/1/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S106	A	M	1	Y	605528811
CB20-027	10/2/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S126	A	M	1	Y	605528811
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S4	A	M	1	N	605528859
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S27	J	M	1	U	605530097
CB20-027	9/30/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S81	A	M	1	N	605532817
CB20-027	10/2/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S152	A	M	1	N	605533266
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S11	A	M	1	N	605533306
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S31	A	M	1	N	605533570
CB20-027	10/1/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S95	A	M	1	Y	605533570
CB20-027	10/2/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S138	A	M	1	Y	605533570
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S20	A	M	1	N	605534027
CB20-027	9/30/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S67	A	M	1	N	605534072
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S19	J	M	1	N	605535541
CB20-027	9/30/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S54	A	M	1	Y	840549004
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S26	J	M	1	Y	840550591
CB20-027	9/30/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S62	J	M	1	Y	840550591
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S29	A	F	1	Y	840550600

CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S25	J	M	1	Y	840553885
CB20-027	10/1/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S96	J	F	1	Y	840553885
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S23	A	M	1	Y	840574568
CB20-027	9/30/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S70	A	M	1	Y	840574568
CB20-027	10/2/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S137	A	M	1	Y	840574568
CB20-027	9/30/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S53	A	M	1	Y	840577605
CB20-027	9/29/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S33	J	M	1	N	N/A
CB20-027	10/1/2020	Cockleburr Canyon	Reach 01-Cockleburr Canyon	CB20-027 -S103	J	U	1	N	N/A
JCM20-059	8/19/2020	Escondido Creek Conservancy	Reach 050-Escondido Creek	JCM20-059 -S63	A	M	1	N	013346338
JCM20-059	8/19/2020	Escondido Creek Conservancy	Reach 050-Escondido Creek	JCM20-059 -S70	A	M	1	N	013370877
JCM20-059	8/19/2020	Escondido Creek Conservancy	Reach 050-Escondido Creek	JCM20-059 -S71	A	M	1	N	013517877
JCM20-059	8/19/2020	Escondido Creek Conservancy	Reach 050-Escondido Creek	JCM20-059 -S69	J	M	1	N	N/A
JCM20-040	5/8/2020	Lower Cottonwood Creek	Reach 067-Lower Cottonwood Creek	JCM20-040 -S7	A	M	1	N	N/A
JBS20-022	5/19/2020	Noble Canyon	Noble Canyon Pond	JBS20-022 -S4	A	M	1	N	013370339
JCM20-064	10/7/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S80	A	M	1	N	840533365
JCM20-064	10/9/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S216	A	M	1	Y	840533365
JCM20-064	10/7/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S66	A	U	1	N	840548819
JCM20-064	10/7/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S82	A	U	1	N	840550826
JCM20-064	10/10/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S279	A	F	1	Y	840550826
JCM20-064	10/7/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S90	A	U	1	N	840551601
JCM20-064	10/8/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S143	A	M	1	Y	840551601
JCM20-064	10/7/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S71	A	M	1	N	840551613
JCM20-064	10/10/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S280	A	M	1	Y	840551613
JCM20-064	10/7/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S67	A	F	1	N	840553333
JCM20-064	10/7/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S86	A	M	1	N	840553804
JCM20-064	10/7/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S81	A	M	1	N	840554317
JCM20-064	10/9/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S215	A	M	1	Y	840554317
JCM20-064	10/10/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S276	A	M	1	Y	840554317
JCM20-064	10/10/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S267	A	F	1	N	840554373
JCM20-064	10/7/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S73	A	M	1	N	840556332

JCM20-064	10/7/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S72	A	M	1	N	840558853
JCM20-064	10/7/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S91	A	M	1	N	840560281
JCM20-064	10/7/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S79	A	F	1	N	840563109
JCM20-064	10/7/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S78	A	M	1	N	840565020
JCM20-064	10/7/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S83	A	M	1	N	840566797
JCM20-064	10/7/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S70	A	M	1	N	840568110
JCM20-064	10/10/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S282	A	F	1	Y	840568110
JCM20-064	10/9/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S217	A	F	1	N	840568294
JCM20-064	10/7/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S87	A	M	1	N	840575577
JCM20-064	10/9/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S207	A	M	1	Y	840575577
JCM20-064	10/7/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S89	A	M	1	N	840575794
JCM20-064	10/7/2020	Oak Valley	Corte Madera Pond 1	JCM20-064 -S77	A	M	1	N	840802039
JCM20-066	10/16/2020	Pine Valley Creek	Reach 042-Pine Valley Creek	JCM20-066 -S26	A	M	1	Y	013313057
JCM20-066	10/16/2020	Pine Valley Creek	Reach 042-Pine Valley Creek	JCM20-066 -S9	A	F	1	Y	104364267
JBS20-062	11/3/2020	Pine Valley Creek	Reach 042-Pine Valley Creek	JBS20-062 -S8	A	M	1	N	605115030
JBS20-062	11/3/2020	Pine Valley Creek	Reach 042-Pine Valley Creek	JBS20-062 -S7	A	M	1	N	605122308
JBS20-062	11/3/2020	Pine Valley Creek	Reach 042-Pine Valley Creek	JBS20-062 -S9	A	M	1	N	605260336
JCM20-066	10/16/2020	Pine Valley Creek	Reach 042-Pine Valley Creek	JCM20-066 -S15	A	M	1	U	840549779
JCM20-066	10/16/2020	Pine Valley Creek	Reach 042-Pine Valley Creek	JCM20-066 -S25	A	M	1	N	840552369
JCM20-066	10/16/2020	Pine Valley Creek	Reach 042-Pine Valley Creek	JCM20-066 -S11	A	F	1	U	840554530
JCM20-066	10/16/2020	Pine Valley Creek	Reach 042-Pine Valley Creek	JCM20-066 -S21	A	F	1	N	840558112
JCM20-066	10/16/2020	Pine Valley Creek	Reach 042-Pine Valley Creek	JCM20-066 -S24	J	F	1	N	840558819
JCM20-066	10/16/2020	Pine Valley Creek	Reach 042-Pine Valley Creek	JCM20-066 -S17	A	M	1	N	840564017
JCM20-066	10/16/2020	Pine Valley Creek	Reach 042-Pine Valley Creek	JCM20-066 -S20	A	M	1	N	840564365
JCM20-066	10/16/2020	Pine Valley Creek	Reach 042-Pine Valley Creek	JCM20-066 -S13	A	F	1	N	840569261
JCM20-066	10/16/2020	Pine Valley Creek	Reach 042-Pine Valley Creek	JCM20-066 -S14	A	F	1	N	840570011
JCM20-066	10/16/2020	Pine Valley Creek	Reach 042-Pine Valley Creek	JCM20-066 -S22	A	M	1	N	840570578
JCM20-066	10/16/2020	Pine Valley Creek	Reach 042-Pine Valley Creek	JCM20-066 -S16	A	F	1	U	840576845
JCM20-066	10/16/2020	Pine Valley Creek	Reach 042-Pine Valley Creek	JCM20-066 -S10	A	F	1	Y	840578064
JCM20-066	10/16/2020	Pine Valley Creek	Reach 042-Pine Valley Creek	JCM20-066 -S23	A	M	1	N	840580325

JCM20-066	10/16/2020	Pine Valley Creek	Reach 042-Pine Valley Creek	JCM20-066 -S12	J	U	1	N	N/A
JCM20-066	10/16/2020	Pine Valley Creek	Reach 042-Pine Valley Creek	JCM20-066 -S27	U	U	1	U	N/A
JBS20-062	11/3/2020	Pine Valley Creek	Reach 042-Pine Valley Creek	JBS20-062 -S6	J	U	1	N	N/A
JCM20-066	10/16/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JCM20-066 -S39	A	F	1	Y	013367011
JCM20-066	10/16/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JCM20-066 -S34	A	M	1	Y	069055031
JBS20-062	11/3/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JBS20-062 -S15	A	M	1	N	605113308
JBS20-062	11/3/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JBS20-062 -S16	A	M	1	N	605125868
JBS20-062	11/3/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JBS20-062 -S17	A	M	1	Y	605260062
JCM20-066	10/16/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JCM20-066 -S42	A	M	1	N	605313873
JCM20-066	10/16/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JCM20-066 -S40	A	M	1	N	605314308
JCM20-066	10/16/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JCM20-066 -S44	A	F	1	N	605317856
JCM20-066	10/16/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JCM20-066 -S31	A	M	1	N	605318589
JCM20-066	10/16/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JCM20-066 -S38	A	F	1	N	605518569
JCM20-066	10/16/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JCM20-066 -S43	A	M	1	N	605523125
JCM20-066	10/16/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JCM20-066 -S41	J	U	1	N	605523524
JCM20-066	10/16/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JCM20-066 -S45	J	U	1	N	605525081
JCM20-066	10/16/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JCM20-066 -S46	J	U	1	N	605526524
JCM20-066	10/16/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JCM20-066 -S32	A	M	1	N	605529043
JCM20-066	10/16/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JCM20-066 -S37	J	U	1	N	605530371
JCM20-066	10/16/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JCM20-066 -S48	J	U	1	N	605530873
JCM20-066	10/16/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JCM20-066 -S35	A	M	1	N	605531268
JCM20-066	10/16/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JCM20-066 -S47	J	U	1	N	605533283
JCM20-066	10/16/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JCM20-066 -S30	A	F	1	N	840580306
JCM20-066	10/16/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JCM20-066 -S52	J	U	1	N	N/A
JCM20-066	10/16/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JCM20-066 -S50	J	U	1	N	N/A
JCM20-066	10/16/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JCM20-066 -S33	J	U	1	N	N/A
JCM20-066	10/16/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JCM20-066 -S49	J	U	1	N	N/A
JCM20-066	10/16/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JCM20-066 -S51	J	U	1	N	N/A
JCM20-066	10/16/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JCM20-066 -S36	J	U	1	N	N/A
JCM20-066	10/16/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JCM20-066 -S53	A	U	1	U	N/A

JBS20-062	11/3/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JBS20-062 -S18	J	U	1	N	N/A
JBS20-062	11/3/2020	Pine Valley Creek	Reach 045-Pine Valley Creek	JBS20-062 -S10	J	U	1	N	N/A
JCM20-067	10/27/2020	Pine Valley Creek	Reach 050-Pine Valley Creek	JCM20-067 -S9	A	U	1	U	N/A
JCM20-067	10/27/2020	Pine Valley Creek	Reach 058-Pine Valley Creek	JCM20-067 -S5	A	M	1	N	605117552
JCM20-067	10/27/2020	Pine Valley Creek	Reach 058-Pine Valley Creek	JCM20-067 -S13	A	M	1	N	605123110
JCM20-067	10/27/2020	Pine Valley Creek	Reach 058-Pine Valley Creek	JCM20-067 -S6	J	U	1	N	605259868
CB20-007	3/27/2020	Rancho Jamul Ecological Reserve	Pump Pond-RJER	CB20-007 -S1	A	U	1	U	N/A
CB20-019	6/26/2020	Rancho Jamul Ecological Reserve	Reach 044-Jamul Creek	CB20-019 -S6	U	U	1	U	N/A
JCM21-018	9/24/2021	Santa Margarita River	Reach 151-Santa Margarita River	JCM21-018 -S162	A	U	1	Y	605117560
JCM21-018	9/22/2021	Santa Margarita River	Reach 151-Santa Margarita River	JCM21-018 -S29	A	F	1	N	605126346
JCM21-018	9/22/2021	Santa Margarita River	Reach 152-Santa Margarita River	JCM21-018 -S33	A	F	1	N	605113845
JCM21-018	9/22/2021	Santa Margarita River	Reach 152-Santa Margarita River	JCM21-018 -S36	A	F	1	N	605117560
JCM21-018	9/22/2021	Santa Margarita River	Reach 152-Santa Margarita River	JCM21-018 -S39	A	F	1	N	605123793
JCM21-018	9/23/2021	Santa Margarita River	Reach 152-Santa Margarita River	JCM21-018 -S103	A	M	1	N	605123864
JCM21-018	9/22/2021	Santa Margarita River	Reach 152-Santa Margarita River	JCM21-018 -S38	A	F	1	N	605256360
JCM21-018	9/22/2021	Santa Margarita River	Reach 152-Santa Margarita River	JCM21-018 -S35	A	M	1	N	605257783
JCM21-018	9/22/2021	Santa Margarita River	Reach 152-Santa Margarita River	JCM21-018 -S34	A	M	1	N	605258084
JCM21-018	9/23/2021	Santa Margarita River	Reach 153-Santa Margarita River	JCM21-018 -S113	A	F	1	N	605125536
JCM21-018	9/22/2021	Santa Margarita River	Reach 154-Santa Margarita River	JCM21-018 -S61	A	U	1	N	605119555
JCM21-018	9/23/2021	Santa Margarita River	Reach 154-Santa Margarita River	JCM21-018 -S121	J	F	1	N	605259864
JCM21-018	9/22/2021	Santa Margarita River	Reach 154-Santa Margarita River	JCM21-018 -S60	J	M	1	N	605260375
JCM21-018	9/23/2021	Santa Margarita River	Reach 154-Santa Margarita River	JCM21-018 -S120	J	M	1	Y	605260375
JCM21-018	9/22/2021	Santa Margarita River	Reach 155-Santa Margarita River	JCM21-018 -S66	A	F	1	N	605256109
JCM21-018	9/24/2021	Santa Margarita River	Reach 156-Santa Margarita River	JCM21-018 -S196	A	M	1	N	605259085
JCM21-018	9/23/2021	Santa Margarita River	Reach 156-Santa Margarita River	JCM21-018 -S138	A	M	1	N	605261602
JBS21-025	8/3/2021	Scholder Creek	TNC Pond-Scholder Creek	JBS21-025 -S28	A	F	1	Y	013344815
JJZ20-013	8/7/2020	Scholder Creek	TNC Pond-Scholder Creek	JJZ20-013 -S66	A	F	1	Y	013525827
CB20-017	6/9/2020	Scholder Creek	TNC Pond-Scholder Creek	CB20-017 -S3	A	U	1	U	N/A
JEM20-092	6/30/2020	Scholder Creek	TNC Pond-Scholder Creek	JEM20-092 -S4	A	U	1	U	N/A
JJZ20-013	8/6/2020	Scholder Creek	TNC Pond-Scholder Creek	JJZ20-013 -S48	A	U	2	U	N/A

CB21-005	6/9/2021	Scholder Creek	TNC Pond-Scholder Creek	CB21-005 -S2	A	U	1	U	N/A
CB21-006	6/9/2021	Scholder Creek	TNC Pond-Scholder Creek	CB21-006 -S1	A	U	1	U	N/A
CB21-009	6/17/2021	Scholder Creek	TNC Pond-Scholder Creek	CB21-009 -S6	A	U	1	U	N/A
ASS21-007	8/18/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S8	A	M	1	Y	004362036
ASS21-007	8/19/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S49	A	M	1	Y	004362036
ASS21-007	8/18/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S21	A	M	1	Y	004364350
ASS21-007	8/19/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S63	A	M	1	Y	004364350
ASS21-007	8/18/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S9	A	M	1	Y	004372621
ASS21-007	8/19/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S52	A	M	1	Y	004372621
ASS21-007	8/18/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S12	A	M	1	Y	004382838
ASS21-007	8/19/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S48	A	M	1	Y	004382838
ASS21-007	8/18/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S36	A	M	1	Y	013354813
ASS21-007	8/18/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S26	A	M	1	Y	013523873
ASS21-007	8/20/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S99	A	F	1	Y	040596055
ASS21-007	8/18/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S32	A	F	1	Y	040607022
ASS21-007	8/18/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S37	A	M	1	Y	040607050
ASS21-007	8/18/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S33	A	F	1	Y	040616565
ASS21-007	8/18/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S7	A	M	1	Y	057275284
ASS21-007	8/18/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S31	A	F	1	Y	058031532
ASS21-007	8/18/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S27	A	F	1	Y	058070368
ASS21-007	8/20/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S98	A	F	1	Y	058070368
ASS21-007	8/18/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S25	A	M	1	Y	059111609
ASS21-007	8/19/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S69	J	U	1	U	605121585
ASS21-007	8/18/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S34	A	F	1	N	605124348
ASS21-007	8/18/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S35	J	U	1	N	605126846
ASS21-007	8/19/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S54	J	U	1	N	605126846
ASS21-007	8/18/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S28	A	M	1	N	605126848
ASS21-007	8/18/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S29	J	U	1	N	605260060
ASS21-007	8/20/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S90	J	U	1	Y	605260060
ASS21-007	8/18/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S15	A	F	1	Y	840547786

ASS21-007	8/19/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S53	A	F	1	Y	840547786
ASS21-007	8/20/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S81	A	F	1	Y	840547786
ASS21-007	8/18/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S14	A	M	1	Y	840547859
ASS21-007	8/18/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S10	J	U	1	Y	840561615
ASS21-007	8/19/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S50	J	U	1	Y	840561615
ASS21-007	8/20/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S79	J	U	1	Y	840561615
ASS21-007	8/19/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S51	A	U	1	Y	840572301
ASS21-007	8/20/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S78	A	U	1	Y	840572301
ASS21-007	8/20/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S83	A	U	1	Y	840572301
ASS21-007	8/19/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S47	A	M	1	Y	840575842
ASS21-007	8/18/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	ASS21-007 -S13	A	U	1	Y	849572301
CB20-024	8/21/2020	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	CB20-024 -S1	U	U	1	U	N/A
MFN21-018	9/9/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	MFN21-018 -S21	A	U	1	N	N/A
MFN21-018	9/9/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	MFN21-018 -S24	A	U	1	U	N/A
MFN21-018	9/9/2021	Sycuan Peak Ecological Reserve	Reach 120-Middle Sweetwater River	MFN21-018 -S27	A	U	3	Y	N/A
JCM20-047	6/18/2020	Upper San Diego River	Reach 081-Upper San Diego River	JCM20-047 -S16	A	U	1	U	N/A
JCM20-047	6/18/2020	Upper San Diego River	Reach 081-Upper San Diego River	JCM20-047 -S14	J	U	1	N	N/A
JCM20-047	6/18/2020	Upper San Diego River	Reach 085-Upper San Diego River	JCM20-047 -S18	J	U	1	N	N/A
JCM20-047	6/18/2020	Upper San Diego River	Reach 085-Upper San Diego River	JCM20-047 -S26	J	U	1	U	N/A
JCM20-047	6/18/2020	Upper San Diego River	Reach 085-Upper San Diego River	JCM20-047 -S30	A	U	1	U	N/A
JCM20-047	6/19/2020	Upper San Diego River	Reach 086-Upper San Diego River	JCM20-047 -S55	A	U	1	U	N/A
JCM20-047	6/18/2020	Upper San Diego River	Reach 087-Upper San Diego River	JCM20-047 -S31	S	M	1	N	013344611
JCM20-047	6/19/2020	Upper San Diego River	Reach 088-Upper San Diego River	JCM20-047 -S52	A	U	1	U	N/A
JCM20-047	6/19/2020	Upper San Diego River	Reach 090-Upper San Diego River	JCM20-047 -S51	A	U	1	U	N/A
JCM20-047	6/19/2020	Upper San Diego River	Reach 093-Upper San Diego River	JCM20-047 -S47	A	U	1	U	N/A
JCM20-047	6/19/2020	Upper San Diego River	Reach 095-Upper San Diego River	JCM20-047 -S46	A	U	1	U	N/A
JJZ20-020	9/2/2020	Whelan Lake	Whelan Lake	44203.629734	A	M	1	N	013339611
JJZ20-020	9/4/2020	Whelan Lake	Whelan Lake	44205.452998	A	M	1	N	013527805