

**California Department of Parks and Recreation
Natural Resources Division**

Monitoring Reptiles & Amphibians at Wilder Ranch State Park

**by
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Introduction

Reptiles and amphibians have been unappreciated for their contribution to the world we share. Through a biologist's eyes, these organisms are beautiful, fascinating, and valued contributors to the Earth's ecosystem. Reptiles and amphibians live in diverse habitats from wetland to terrestrial environments and are critical in their roles as predator and prey. Some species are used as indicators of ecological health and habitat quality for habitat loss and degradation, environmental pollution, introduced invasive species, disease and parasitism, and others. Declines and disappearances in reptile and amphibian populations have been noted worldwide.

An example of an amphibian population currently in decline is the California red-legged frog (*Rana aurora draytonii*). This species is a State species of concern and federally listed as threatened because of habitat degradation and loss, urbanization and other land uses and management practices, disease, and introduced non-native species (USFWS 1996). The California red-legged frog is found at Wilder Ranch State Park, which is designated as a core area in the draft recovery plan for the frog (USFWS 2000), but was not designated as critical habitat (USFWS 2001).

Wilder Ranch State Park has a diversity of reptile and amphibian species and habitats. There are two existing herptofauna lists: Wilder Ranch State Park Checklist of Reptiles (July 1979) and Special Status Amphibians and Reptiles, Gray Whale Ranch, Santa Cruz County (July 1991). These lists are not adequate as the former is over twenty years old and the latter is specific only to State or Federally-listed species on the Gray Whale property. An inventory of herptofauna at Wilder Ranch State Park, including the relatively new acquisitions of the Gray Whale and Scaroni properties, is needed to fill this information gap for park planning, operations, and resources management.

The Santa Cruz District identified a herptofauna inventory as one of their Inventory, Monitoring, and Assessment projects at Wilder Ranch State Park. The Inventory, Monitoring, and Assessment Support Team from the Natural Resources Division was tasked to initiate a herptofauna inventory with recommendations for monitoring. The proposed inventory would be limited to reptiles and terrestrial amphibians as another contractor would complete aquatic amphibian surveys as part of an aquatic stream and vertebrate inventory (see J. Hagar and N. Kawamoto 2001). Unfortunately, a comprehensive reptile and terrestrial amphibian inventory was not done at Wilder Ranch State Park for many reasons, including workloads for other IMAP projects at Wilder Ranch State Park, difficulty in finding a suitable contractor and developing a scope of work, contracts freeze, and finally lack of funding. However, the following is information that will be useful should the Santa Cruz District decide to pursue a herpetofauna inventory in the future.

Background

Eleven agency, academic, and private persons were contacted regarding the proposed herptofauna inventory of Wilder Ranch State Park. See Contacts. Dr. Robert Fisher, USGS/Biological Resources Division, was willing to do the inventory at Wilder Ranch State Park. Dr. Fisher is inventorying and monitoring amphibian and reptiles at many Southern California state park units, including Torrey Pines State Park, Anza Borrego State Park (Coyote Canyon), Chino Hills State Park, and Silverwood Lake State Recreation Area. To have Dr. Fisher conduct the inventory and monitoring at Wilder Ranch State Park would have been an opportunity to establish a standardized inventory and monitoring protocol in State and National parks throughout California. Fisher's group would share the project with the northern California USGS/Biological Resources Division to reduce the project costs, e.g., travel expenses, per diem, etc. Also, this field survey would have been an opportunity to test state-of-the-art technical methods as Dr. Fisher's technicians use Palm Pilots to collect the data. Dr. Fisher's goal is to go from "field to the lab without paper" thereby eliminating the time consuming and sometimes error-generating manual entry of data into a computer.

See Appendix A for Dr. Fisher's proposed inventory and monitoring scope of work and estimated costs.

Observations

The Inventory, Monitoring, and Assessment Program (IMAP) staff observed a variety of reptiles and amphibians at Wilder Ranch State Park while conducting other fieldwork. See Table 1. Additional amphibian and reptile observations are included in the stream surveys conducted by IMAP contractors Jeff Hagar (Hagar Environmental Services) and Noriko Kawamoto (K.E.S.). See their final report, Aquatic Habitat and Aquatic Vertebrate Survey at Wilder Ranch State Park (Hagar and Kawamoto 2001).

Recommendations

When funding becomes available, an inventory of the herptofauna of the entire Wilder Ranch State Park, including the Scaroni and Gray Whale properties should be conducted. If at all possible, use herptofauna inventory and monitoring methods compatible with other similar agencies, i.e., National Park Service, United States Geologic Survey (Biological Resources Division), etc. Monitoring of special status species should be conducted per United States Fish and Wildlife Service protocol, e.g., California red-legged frog, etc. The monitoring season and frequency of sampling will depend upon the methods used.

Table 1: Amphibian and Reptiles Observed by IMAP at Wilder Ranch State Park**AMPHIBIANS**

Common Name	Species	Date	Observer(s)*	Location	Comments
Calif. Giant Salamander	<i>Dicamptodon ensatus</i>	7/1/01	CS	Baldwin Creek	Juvenile, along Enchanted loop trail
		7/27/01	TS,TH	Stump cave	Near entrance
		7/28/01	TS,PG	IXL cave	Found at entrance of the cave
		8/24/01	TS,PG	IXL cave	Two individuals beyond the keyhole
		9/01	KO,RW	Wilder Creek	5" long, upper reach
		11/01	KO,RW	Majors Creek	2" long, upper reach
		12/14/01	TS,TH	Bat cave	Near entrance
		12/14/01	DS	Stump cave	
Calif. Newt	<i>Taricha torosa</i>	9/9/01	CS	Major Creek	south of dam
Calif. Red-legged Frog	<i>Rana aurora draytonii</i>	6/5/01	CS	Wilder Creek wetland	natural preserve
		7/1/01	CS	Baldwin Creek	Enchanted loop trail along creek
		7/12/00	TS,TH	Wilder Creek north of dam	red-legged frog project survey
		8/8/01	CS	Majors Creek	dam
		10/6/01	CS	Wilder Creek wetland	natural preserve
Rough-skinned Newt	<i>Taricha granulosa</i>	8/14/01	PG	Enchanted loop trail	east end, along Baldwin Creek

LIZARDS

Common Name	Species	Date	Observer(s)*	Location	Comments
Alligator Lizard Southern	<i>Elgaria multicarinata</i>	5/3/01	TS	Englesmann loop trail	Dead
		4/8/01	PG	Baldwin loop trail	grassland
		7/1/01	CS	Baldwin loop trail	PG3
Northern	<i>Elgaria coeruleus</i>	4/8/01	PG	Baldwin loop trail	grassland
		7/1/01	CS	Several locations in WRSP	
Northwestern Fence Lizard	<i>Sceloporus occidentalis occidentalis</i>	all summer	CS	Wilder Ridge, Englesmann, etc.	Young of year, adults
		4/8/01	PG	Baldwin loop trail	near Enchanted Loop trail
Western Skink	<i>Eumeces skiltonianus</i>	6/7/01	CS	Twin Oaks trail	

SNAKES

Common Name	Species	Date	Observer(s)*	Location	Comments
Coast Mountain Kingsnake	<i>Lampropeltis zonata multifasciata</i>	5/24/01	PG,TS	West Englesmann loop trail	wet area of grasslands, snake 3 ft. long
		6/1/01	CS,PG,TS	Zane Gray	north end of trail
Garter Snake		5/3/01	TS	Wilder Ridge loop trail by corrals	Young of year snake, run over
		5/28/01	PG	Eastmost Sandhill	In hole
		7/12/01	TS	Wagonwheel trail	Sunning in trail
Gopher Snake	<i>Pituophis melanoleucus</i>	4/19/01	CS	Corrals north of Highway 1	2 adults mating
		5/01	PG,SL	Zane Gray trail	north end of trail
		8/01	RW	Twin Gates area	3 ft. long, on trail
		8/14/01	CS	Chinquapin trail	Mom & Dad's Meadow
Monterey Ringneck Snake	<i>Diadophus punctatus vandenburgii</i>	3/28/01	PG,SL,KO	No location given	
		7/18/01	CS	On trail from Lime Kiln to Wilder Ck.	about ¼ way down trail by gully
Rattlesnake	<i>Crotalus viridis</i>	4/8/01	PG	East Baldwin loop trail	baby snake, near Enchanted loop
		6/7/01	CS	Wilder Ridge loop trail overlook	2 adults
Rubber boa	<i>Charina bottae</i>	3/28/01	PG	Wilder Ridge loop trail, above corral	1 adult on road
			PG	Zane Gray	Oak 27
		9/24/01	RW,GW,TS	Eucalyptus loop	Oak 15, caught in small mammal trap
California Racer	<i>Coluber constrictor</i>	6/10/02	PG	Baldwin loop	

TURTLES

Common Name	Species	Date	Observer(s)*	Location	Comments
Southwestern Pond Turtle	<i>Clemmys marmorata pallida</i>	5/3/01	TS	W most pond Englesmann loop trail	5 turtles sunning
		5/29/01	SL,KO,RW	Wilder Creek near removed dam	baby turtle during stream survey
		8/8/01	CS	Wilder Creek south of Highway 1	4 turtles
		8/22/01	CS	ponds at Englesmann loop trail	6 turtles
		9/8/01	CS	Wilder Creek wetland	6 turtles on the same log
		10/6/01	CS	Wilder Creek wetland	2 turtles

*Note: Key to IMAP Observer initials

CS = Craig Swolgaard, Environmental Services Intern

DS = Daniel Snyder, Cave Volunteer

GW = Gary Walter, Research Program

KO = Krista Orr, Environmental Services Intern

PG = Pat Gilbert, Research Analyst

RW = Roy Woodward, Environmental Specialist IV

SL = Sarah Lee, Environmental Services Intern

TS = Tamara Sasaki, Associate Resource Ecologist

Contacts

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(Pitfall trapping is very costly and intensive work that he does not do.)

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(Advertised to graduate students @ UCB but no interest.)

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Literature Cited

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Appendix A

Proposed herptofauna inventory for Wilder Ranch State Park and estimated costs

Dr. Robert Fisher
United States Geologic Survey, Biological Resources Division

DRAFT
Proposal for Wilder Ranch Herpetofaunal Inventory

Purpose

We purpose to establish the infrastructure and training necessary for developing a process for inventorying the reptiles and amphibians at Wilder Ranch State Park, including Gray Whale and Scaroni properties, in Santa Cruz County, California. This inventory will serve as a basis for establishing long-term monitoring for reptiles and amphibians at Wilder Ranch State Park.

Methods

A series of 20 pit-fall trap arrays will be established across the habitat strata available at Wilder State Park and associated properties. These will follow the standard protocol outlined in "Herpetological Monitoring Using a Pitfall Trapping Design in Southern California Scrub Habitat", a US Geological Survey Open File Report under development. A draft of this Open File Report can be found at: <ftp://ftp.cbi.usgs.gov/incoming/fisher/> and is labeled as "maintext". Included in this preliminary report are extensive materials and procedures lists necessary to install and conduct a pitfall sampling survey. Examples of field data forms, raw data spreadsheets, summary tables and statistics are also reviewed.

Time Line

Nov 2001: site selection and construction completed

Feb 2002: 5-day sample period

Mar 2002: 5-day sample period

Mar 2002: 5-day vegetation survey

Apr 2002: 5-day sample period

May 2002: 5-day sample period

Jun 2002: Reports due

Jun 2002: 5-day sample period for the continued training for State Park employees

Products

1. The establishment of materials and protocols necessary for long term monitoring of reptiles and amphibians at Wilder Ranch State Park.
2. A technical report on the findings of reptile and amphibian pitfall surveys conducted at the State Park, to include species accounts and distributions, spatial data across the site, and detailed information and materials needed for State Parks to continue monitoring the site into the future.

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