

LASSEN VOLCANIC NATIONAL PARK
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STATE OF CALIFORNIA—HEALTH AND WELFARE AGENCY

RONALD REA

DEPARTMENT OF PUBLIC HEALTH

2151 BERKELEY WAY
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Bureau of Vector Control
Room 14 - 2135 Akard Avenue
Redding, California
January 8, 1968

Mr. Richard H. Boyer, Superintendent
Lassen National Park
Mineral, California 96063

Subject: Summary of 1967 Plague
Surveillance Activities
Lassen Volcanic National
Park

Dear Mr. Boyer:

Plague surveillance was conducted in Lassen Volcanic National Park during the period March 9 to October 19, 1967. Most trapping was in lines of 20 Sherman traps at 25-foot intervals. Several National traps were also used in certain localities. Trapping records and laboratory results of the work in the Park are enclosed.

A total of 882 trap nights resulted in the capture of 138 animals. Eutamias speciosus, Peromyscus maniculatus, and Citellus lateralis were taken in the greatest numbers and throughout the areas trapped. Eutamias townsendi was taken in moderate numbers primarily in the Manzanita Lake area. Eutamias amoenus was captured in the Manzanita Lake area and also at Summit Lake and Hat Creek. Other species trapped included Neotoma cinerea, Ochotona princeps, and Sorex vagrans.

Populations of animals in and around the Manzanita Lake area appeared normal. A heavy concentration of chipmunks and golden mantled ground squirrels still existed at the Park dumpsite near Summertown as in 1966.

Visual observations of animal densities were made several times in the Summit Lake area where a plague infected chipmunk was found in August, 1966. The area was trapped twice; once in July and again in October. The population of chipmunks in this area was much lower than in 1966. A total of 165 trap nights resulted in the capture of only 12 Eutamias spp. Our observations in the area indicate that a die-off of chipmunks and golden mantled ground squirrels probably occurred in this area sometime after our final inspection in September 1966. There is also some evidence that this epizootic may have involved chipmunks and golden-mantled ground squirrels in the area from Twin Lakes west to Summit Lake and south to Drakesbad. No sick or freshly dead animals were observed or reported anywhere within the Park, however, a chipmunk captured by a commercial trapper in the Willow Camp area approximately six miles south of the Park was positive for plague.

California Dept. of
Public Health
(Summary)

Mr. Richard H. Boyer
Lassen National Park
Mineral, California

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None of the ectoparasite pools from animals captured in the Park were positive for plague. The three positive blood sera obtained from chipmunks in the Badger Flat and Lost Creek camp areas are somewhat equivocal evidence of recent plague activity in the area.

It seems possible that the primary plague involvement in the Park during the early summer and fall of 1966 may have been in wood-rat populations with the chipmunk and golden-mantled ground squirrels not being actively caught up in the epizootic until late fall. The decimation of these species which was observed in certain areas during the past summer (1967) probably occurred after our final observations in the fall of 1966.

We would suggest that Park personnel remain alert to the possibility of the occurrence of plague and that any sick or dead rodent or rabbit be immediately transmitted to us for laboratory examination. In addition any unusual disappearance or decrease of animal populations should be reported.

Our surveillance activities in the area during 1968 will be primarily concerned with areas outside the boundaries of Lassen Park, however, with your approval we would like to make some observations on the recovery of animal populations in the Summit Lake-Twin Lake area and other areas of suspected decimation.

Very truly yours,

Richard F. Peters, Chief
Bureau of Vector Control

Ernest E. Lusk
Senior Vector Control Specialist

EKL:as
cc: BVC - Berkeley

Encls.

Plague Surveillance - Trapping and Laboratory Results
Lassen Volcanic National Park - 1967

Date	Location Trapped	Trap Nights	Captures	Ectos - pools	Sera	Lab Results
3-9-67	Summertown Dump	20 S	1 - <u>P. maniculatus</u>	None	None	--
6-13-67	Manzanita Lake Entrance Station	20 S	2 - <u>E. speciosus</u> 5 - <u>P. maniculatus</u>	2 fleas (1) 1 flea (1)	None 4	Negative
6-13-67	Sunset Campground	20 S	1 - <u>E. townsendi</u> 3 - <u>E. speciosus</u> 2 - <u>E. amoenus</u> 1 - <u>P. maniculatus</u>	1 flea (1) 11 fleas (3) 1 flea (1) 3 fleas (1)	None None None 1	Negative Negative Negative Negative
6-13-67	Summertown Dump	20 S	3 - <u>C. lateralis</u> 4 - <u>E. townsendi</u> 2 - <u>E. speciosus</u>	4 fleas (3) 5 fleas (4) 2 fleas (1)	None None None	Negative Negative Negative
6-13-67	Along road to Summertown Dump	20 S	5 - <u>E. speciosus</u> 4 - <u>E. amoenus</u> 1 - <u>E. townsendi</u> 2 - <u>P. maniculatus</u>	1 flea (1) 1 flea (1) None 1 flea (1)	None None None 2	Negative Negative -- Negative
6-14-67	Manzanita Lake Entrance Station	20 S	1 - <u>E. townsendi</u> 4 - <u>E. speciosus</u>	None 5 fleas (3)	None None	-- Negative
6-14-67	Summertown Dump	20 S	4 - <u>E. townsendi</u> 2 - <u>E. amoenus</u> 1 - <u>E. speciosus</u> 1 - <u>P. maniculatus</u>	6 fleas (2) 7 fleas (2) 1 flea (1) 1 flea (1)	None None None 1	Negative Negative Negative Negative
6-14-67	Summertown Dump	20 S	2 - <u>C. lateralis</u> 2 - <u>P. maniculatus</u>	None 4 fleas (2)	None 2	-- Negative
6-14-67	Along road to Summertown Dump	20 S	1 - <u>C. lateralis</u> 2 - <u>E. townsendi</u> 1 - <u>E. speciosus</u>	1 flea (1) 5 fleas (1) 1 flea (1)	None None None	Negative Negative Negative
6-15-67	Summertown Dump	20 S	2 - <u>C. lateralis</u> 1 - <u>E. speciosus</u> 1 - <u>P. maniculatus</u>	None 1 flea (1) None	None None 1	-- Negative Negative
6-15-67	Sunset Campground	20 S	1 - <u>E. townsendi</u> 2 - <u>P. maniculatus</u>	2 fleas (1) 7 fleas (2)	None 2	Negative Negative
6-15-67	Amphitheater	20 S	2 - <u>E. amoenus</u> 2 - <u>E. speciosus</u> 1 - <u>E. townsendi</u>	None 3 fleas (2) 1 flea (1)	None None None	-- Negative Negative
6-15-67	Reflection Lake Picnic Area	20 S	5 - <u>C. lateralis</u> 2 - <u>E. speciosus</u>	28 fleas (4) 4 fleas (2)	None None	Negative Negative
7-18-67	South Summit Lake Campground	20 S	No captures	--	--	--

Date	Location Trapped	Trap Nights	Captures	Ectos - pools	Sera	Lab Results
7-18-67	South Summit Lake Campground	20S	1 - <u>E. speciosus</u>	1 flea (1)	None	Negative
7-18-67	South Summit Lake Campground	20S	3 - <u>E. speciosus</u>	2 fleas (1)	None	Negative
7-18-67	South Summit Lake Campground	20S	No captures	--	--	--
7-19-67	½ mi. east South Summit Lake Campground	20S	1 - <u>E. speciosus</u> 1 - <u>E. amoenus</u>	None 1 flea (1)	None None	-- Negative
7-19-67	½ mi. east South Summit Lake Campground	20S	2 - <u>C. lateralis</u> 1 - <u>E. speciosus</u>	2 fleas (1) None	None None	Negative --
7-19-67	Small shallow lake ½ mi. E. South Summit Lake Campground	5N	1 - <u>E. speciosus</u>	None	None	--
7-19-67	½ mi. east of Hat Lake	6N	No captures	--	--	--
7-19-67	Lower Twin Lake	20S	No captures	--	--	--
7-19-67	Lower Twin Lake	20S	1 - <u>E. townsendi</u> 2 - <u>C. lateralis</u> 1 - <u>E. speciosus</u>	None None (1) 4 fleas (1)	None None None	-- -- Negative
7-19-67	Rock Bluff at Sunflower Flat	20S +6N	1 - <u>C. lateralis</u> 1 - <u>P. maniculatus</u>	None 4 fleas (2)	None 2	-- Negative
7-20-67	½ mi. SE Lost Creek Organizational Camp	20S +6N	1 - <u>O. princeps</u> 1 - <u>P. maniculatus</u>	2 fleas (1) 1 flea (1)	1 1	Negative Negative
7-20-67	1 mi SW Reading Peak	20S	No captures	--	--	--
7-20-67	Hat Creek 1 mi. E Raker Peak	20S	1 - <u>P. maniculatus</u>	4 fleas (1)	1	Negative
7-20-67	1.7 mi. W of Badger Flat	20S	1 - <u>E. speciosus</u> 1 - <u>E. townsendi</u> 1 - <u>C. lateralis</u>	1 flea (1) None 2 fleas (1)	1 1 1	Negative Positive Sera 1:128 Negative
7-21-67	Reflection Lake Picnic Ground	20S	1 - <u>E. speciosus</u> 1 - <u>C. lateralis</u> 1 - <u>E. amoenus</u>	1 flea (1) 1 flea (1) None	1 1 1	Negative Negative Negative
7-21-67	½ mi. East, ½ mi. South Table Mountain	20S +3N	2 - <u>C. lateralis</u> 2 - <u>E. amoenus</u>	None 1 flea (1)	2 2	Negative Negative

Date	Location Trapped	Trap Nights	Captures	Ectos - pools	Sera	Lab Results
7-21-67	½ mi. east, ½ mi. south Table Mountain	20S	2 - <u>C. lateralis</u>	None	2	Negative
7-21-67	Hat Lake	20S	1 - <u>C. lateralis</u> 1 - <u>E. amoenus</u>	None None	1 1	Negative Negative
7-21-67	0.6 mi. north, 1 mi east Manzanita Lake	20S	1 - <u>E. amoenus</u> 1 - <u>E. townsendi</u>	None None	1 1	Pos Sera 1:16 Pos Sera 1:64
8-2-67	Warner Valley Campground	20S	1 - <u>P. maniculatus</u>	None	1	Negative
10-18-67	2 mi. south Prospect Peak	20S	2 - <u>E. speciosus</u>	None	2	Negative
10-18-67	0.6 mi. west of Badger Flat	20S +5N	5 - <u>E. speciosus</u>	6 fleas (3)	4	Negative
10-18-67	1.7 mi. west of Badger Flat	20S	2 - <u>E. amoenus</u>	None	2	Negative
10-18-67	1.7 mi. west of Badger Flat	20S	2 - <u>E. amoenus</u>	3 fleas (1)	2	Negative
10-18-67	Hat Creek (Dumbrowski Cabin)	19S	1 - <u>P. maniculatus</u>	None	1	Negative
10-18-67	0.4 mi. south Lost Creek Organizational Camp	12N	No captures	--	--	--
10-19-67	1 mi. south Raker Peak along bluff	20S	3 - <u>E. amoenus</u>	2 fleas (2)	3	Negative
10-19-67	South Summit Lake Camp- ground	20S	3 - <u>E. speciosus</u> 1 - <u>S. vagrans</u>	None None	3 None	Negative --
10-19-67	South Summit Lake Camp- ground	20S	2 - <u>C. lateralis</u> 1 - <u>E. speciosus</u>	1 flea (1) None	1 1	Negative Negative
10-19-67	1½ mi east Raker Peak	20S	1 - <u>C. lateralis</u>	2 fleas (1)	1	Negative
10-19-67	1½ mi east Raker Peak	20S	1 - <u>N. cinerea</u> 1 - <u>E. amoenus</u>	None 1 flea (1)	1 1	Negative Negative