



Porcupines in California: historical and current status

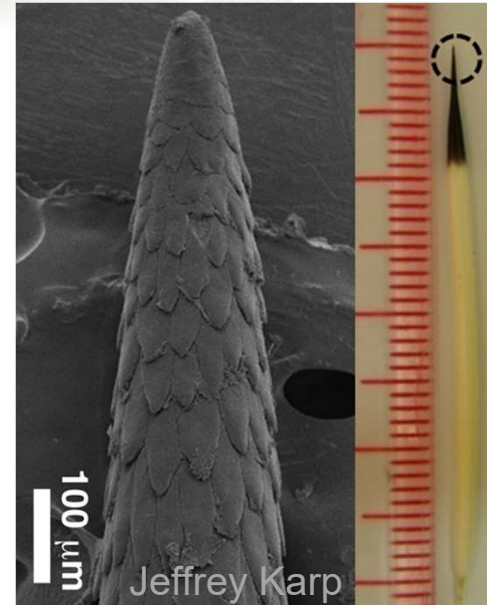
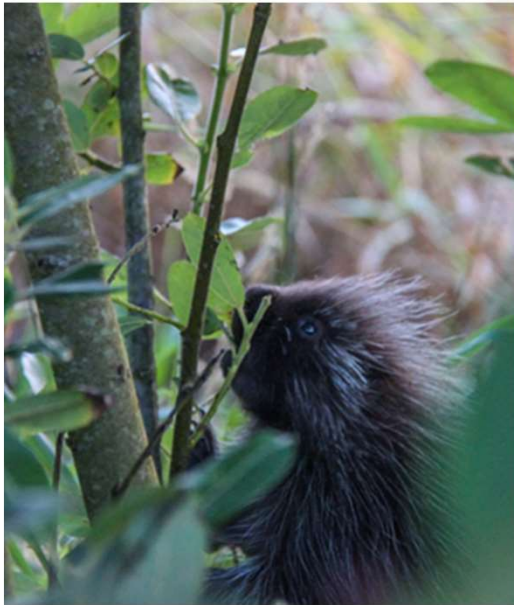
Tim Bean, Assistant Professor
Cal Poly - SLO

Outline

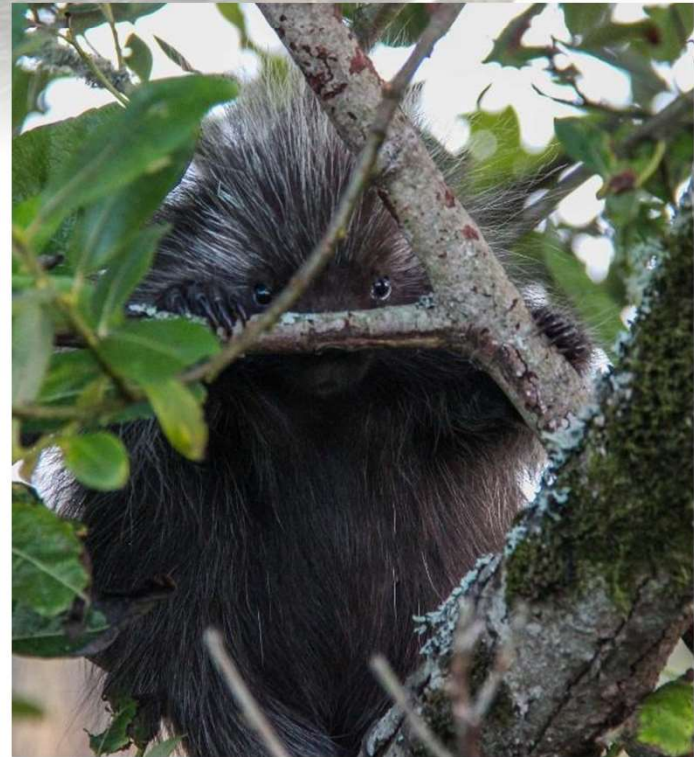
- Porcupine natural history
- Porcupine distribution



Porcupine Natural History



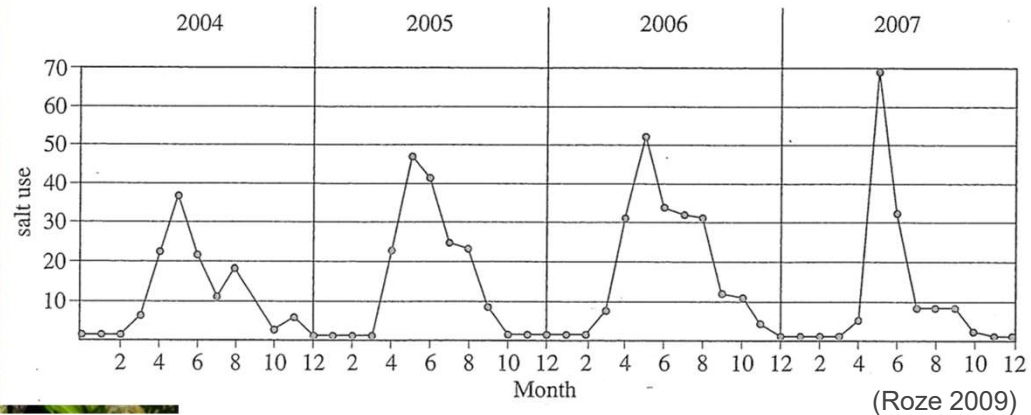
Porcupine Natural History



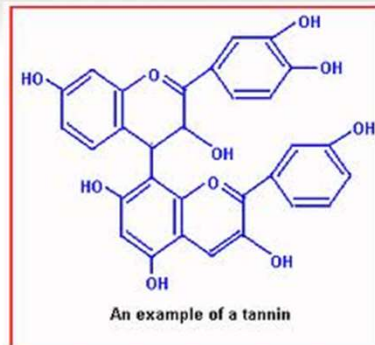
Porcupine Natural History

Most plant tissues have Potassium-to-sodium ratios up to 500:1

Animals need to maintain 1:1 ratios



Porcupine Natural History



Porcupine Natural History



Porcupine Natural History



The American Midland

NATURALIST

1982

Correlation Between Fisher and Porcupine Abundance in Upper Michigan

RICHARD D. EARLE¹ and KENNETH R. KRAMM
Department of Biological Sciences, Michigan Technological University, Houghton 49931

Conservation Biology



Near-Extinction of Porcupines by Mountain Lions and Consequences of Ecosystem Change in the Great Basin Desert

1997

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Ecology

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ISBE

International Society for Behavioral Ecology

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Original Article

Predation shapes the movement of a well-defended species, the North American porcupine, even when nutritionally stressed

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2015

Why aren't there more porcupines in California?

- rodenticide
- “harassment” from USFS / timber companies
- increase in mountain lions / fisher
- change in forestry practices
- natural fluctuation
- some other limiting factor

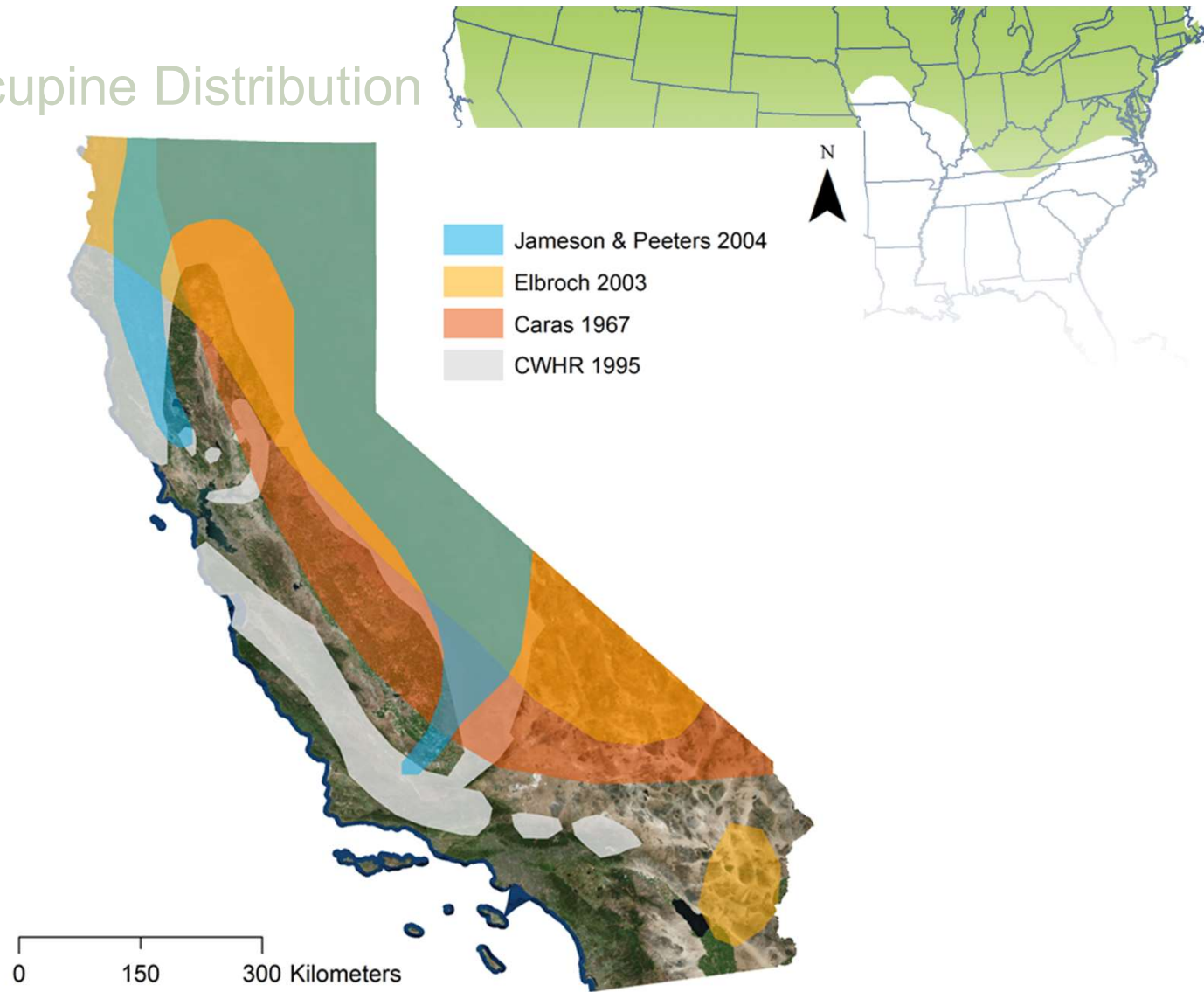


Distribution



The map illustrates the distribution of the American mink across North America. The distribution is shown as a solid green area covering the entire northern half of the continent, from Alaska and the Yukon in the west, through the Canadian provinces, and down to the northern United States. The southern half of the continent, including the United States, Mexico, and Central America, is shown in white, indicating no distribution.

Porcupine Distribution



Porcupine Distribution

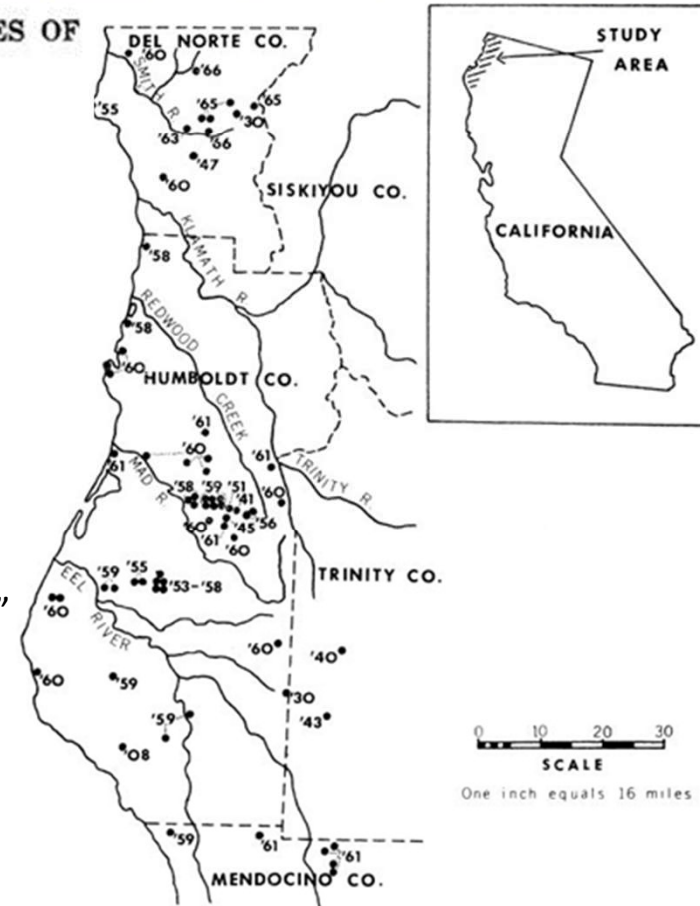


INVASION OF HUMBOLDT AND DEL NORTE COUNTIES OF NORTHWESTERN CALIFORNIA BY PORCUPINES

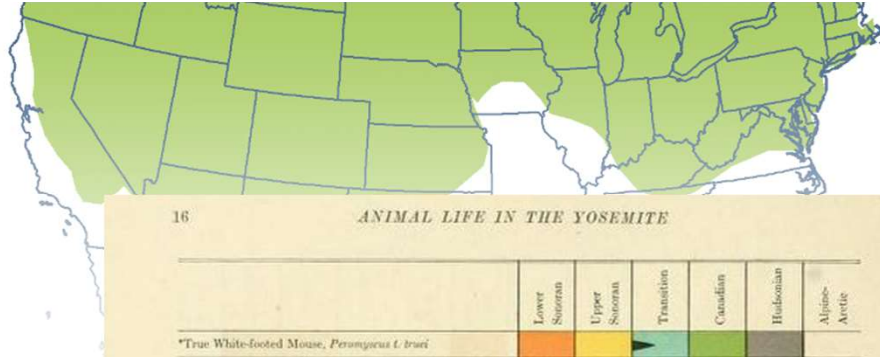
CHARLES F. YOCOM

“From these records, one can see that porcupines were not in the redwood regions of Humboldt and Del Norte counties in the early days, and probably were absent from the entire area prior to the 1900s. If they were, they were scarce and probably restricted to the southern and southeastern portions of Humboldt County.”

C. F. Yocom, 1971



Porcupine Distribution



Historical accounts of Joseph Grinnell

- *Animal Life in the Yosemite*, 1924

16

ANIMAL LIFE IN THE YOSEMITE

	Lower Sonoran	Upper Sonoran	Transition	Canadian	Hudsonian	Alpine-Arctic
*True White-footed Mouse, <i>Peromyscus l. truei</i>						
Parasitic White-footed Mouse, <i>Peromyscus c. californicus</i>						
*Short-tailed Grasshopper Mouse, <i>Onychomys l. brevicaudus</i>						
Long-tailed Harvest Mouse, <i>Reithrodontomys m. longicauda</i>						
Streater Wood Rat, <i>Neotoma f. streatori</i>						
Gray Backed-tailed Wood Rat, <i>Neotoma c. cinerea</i>						
Yosemite Meadow Mouse, <i>Microtus m. yosemitae</i>						
Tule Meadow Mouse, <i>Microtus c. arizonae</i>						
Mariposa Meadow Mouse, <i>Microtus c. mariposae</i>						
Sierra Cantankerous Meadow Mouse, <i>Microtus m. sierrae</i>						
*Short-tailed Meadow Mouse, <i>Lagurus curtatus</i>						
Mountain Lemming Mouse, <i>Phenacomys erophilus</i>						
Fresno Pocket Gopher, <i>Thomomys b. pascalis</i>						

	Lower Sonoran	Upper Sonoran	Transition	Canadian	Hudsonian	Alpine-Arctic
*Mono Kangaroo Mouse, <i>Dipodomys spectabilis</i>						
Allen Jumping Mouse, <i>Zapus p. alleni</i>						
Yellow-haired Porcupine, <i>Erethizon e. epixanthum</i>						
Sierra Mountain Beaver, <i>Aplodontia r. californica</i>						
Southern Sierra Marmot, <i>Marmota f. sierrae</i>						
California Ground Squirrel, <i>Citellus b. beecheyi</i>						

HELP LOCATE PORCUPINES!



- We need your help reporting sightings of the North American porcupine on the north coast of California
- Any observations are helpful – live, dead, tracks, scat or tree damage
- Information needed: time, location, photo (if possible), type of observation

Please report any sightings to:

www.porcufinder.com



GBIF

Global Biodiversity
Information Facility

2011-05-12 11:01:41 AM M 2/3

13°C



Richard Callas

DFG R1 CAM12374

RECONYA

2011-05-21 12:25:58 AM M 3/3

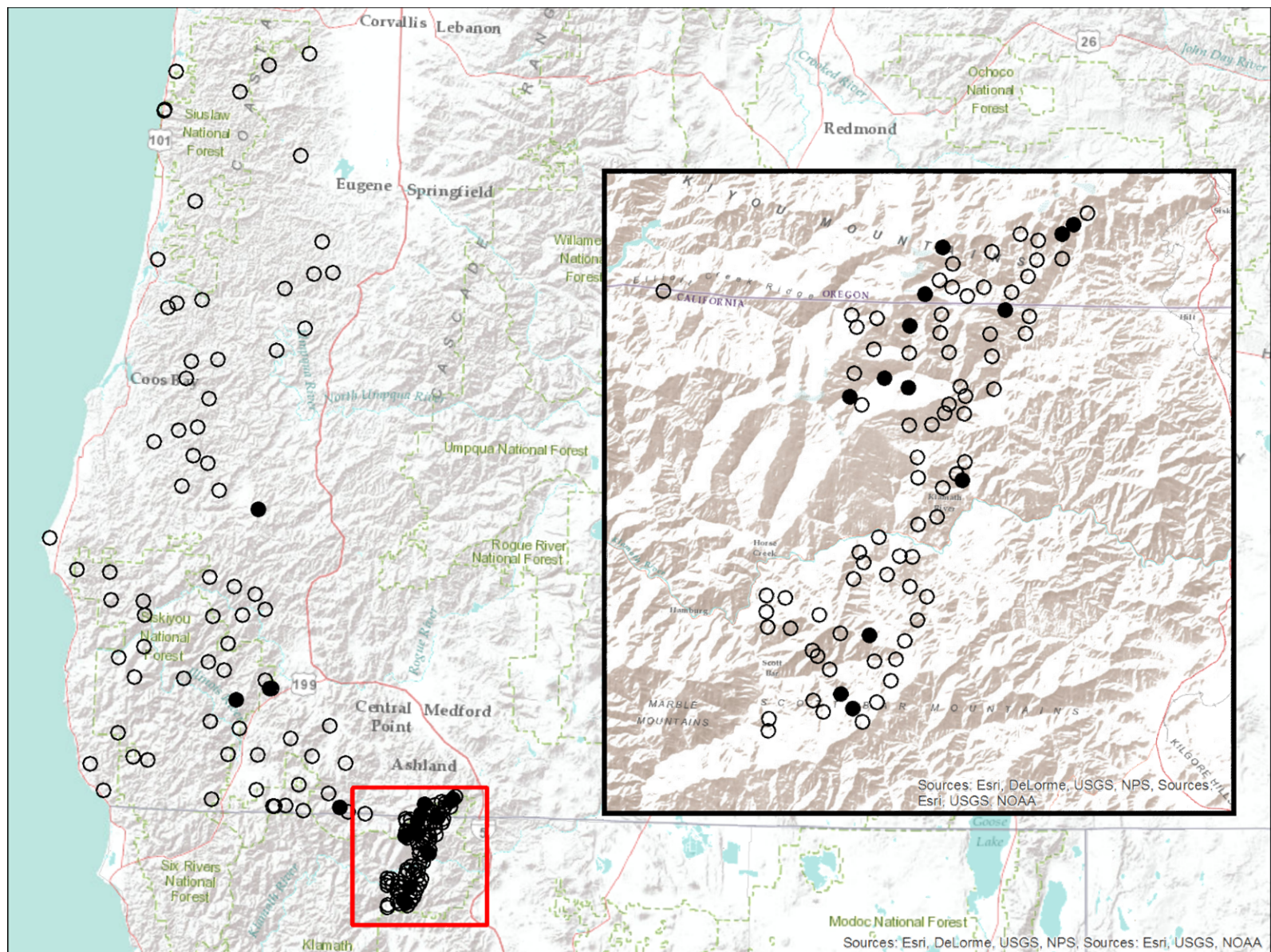
14°C



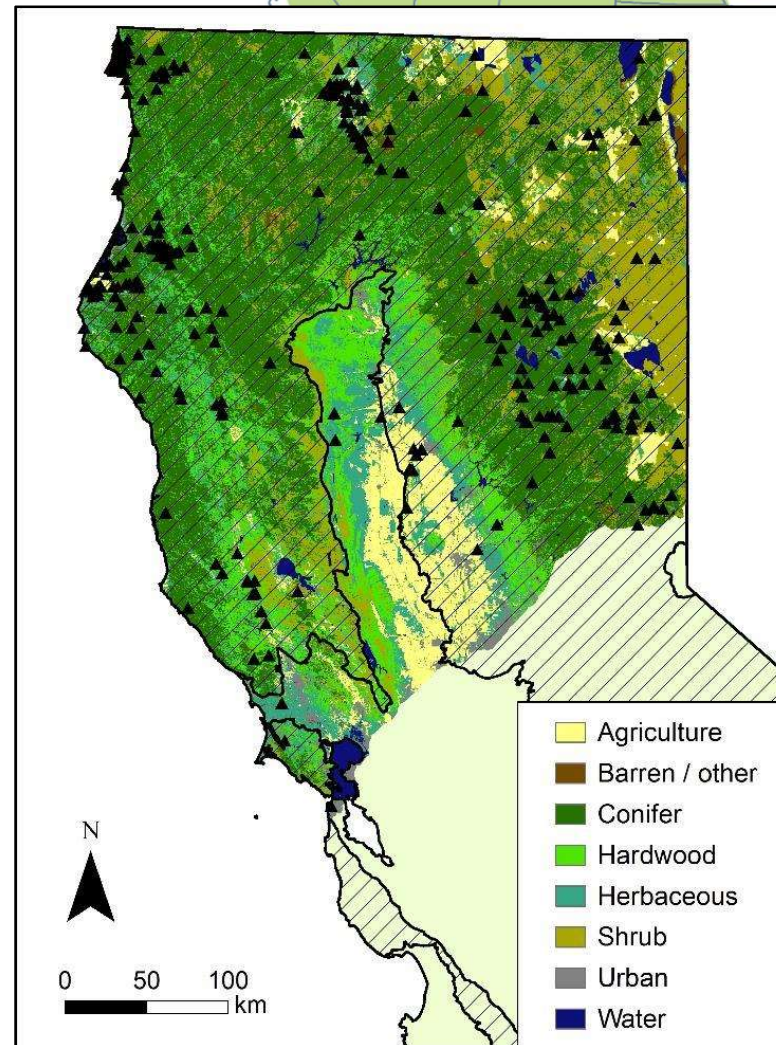
Richard Callas

DFG R1 CAM12374



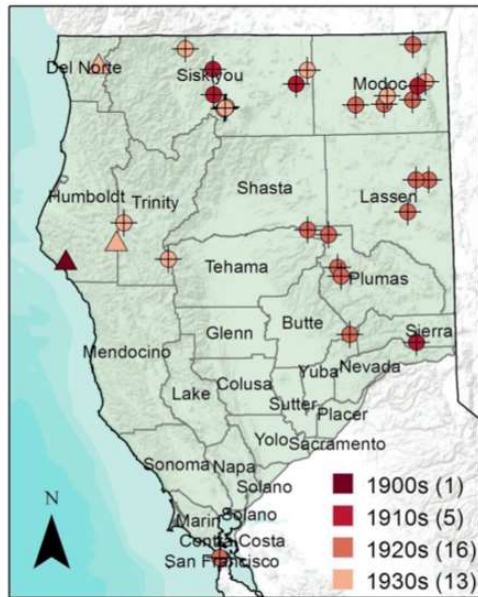


Porcupine Distribution

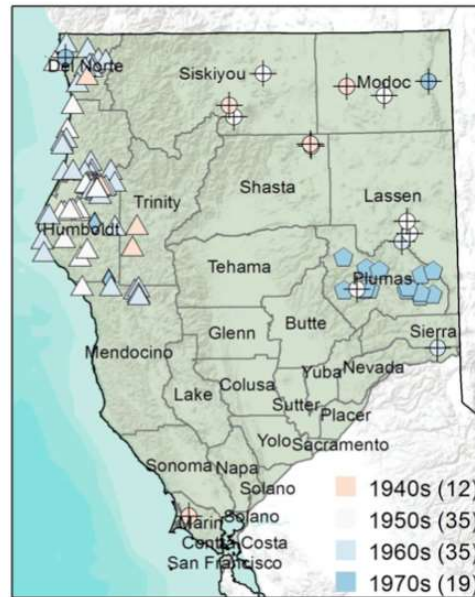


Appel et al. 2017
Western Wildlife

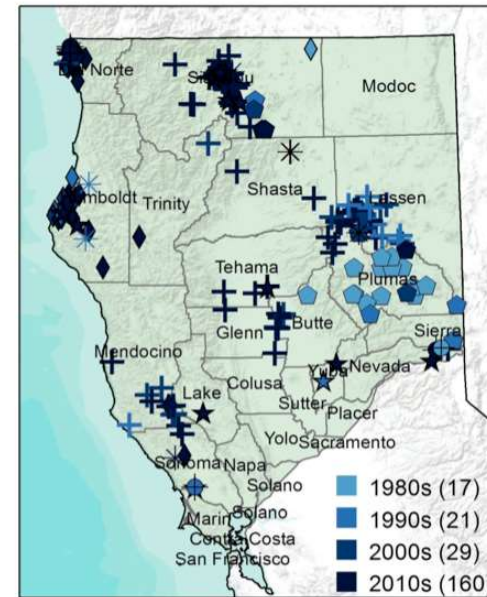
Porcupine Distribution



0 100 200 km



+ CDFW △ Yocom ◇ PF ⊕ GBIF ○ NRIS ☆ CROS * Misc.



Appel et al. 2017
Western Wildlife

Porcupine Distribution

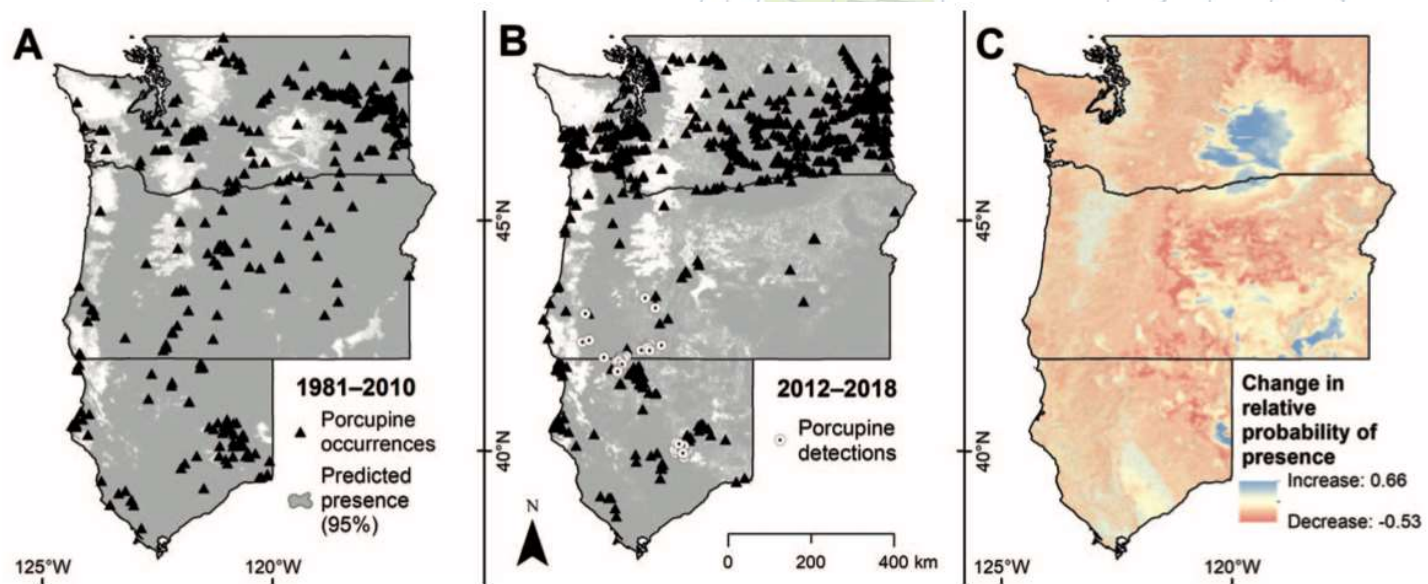


TABLE 4. North American Porcupine (*Erethizon dorsatum*) occurrence records from Washington and Oregon between the years 1913 and 2018, listed by source and type. Sources include the Washington Department of Transportation (WSDOT), the Global Biodiversity Information Facility (GBIF; www.gbif.org), the National Park Service (NPS), the USDA Forest Service Natural Resource Module (NRM), Oregon Department of Transportation (ODOT), miscellaneous records^f (MISC), the Oregon Biodiversity Information Center at Oregon State University (ORBIC), and the Citizen Wildlife Monitoring Project (CWMP) from Conservation Northwest. Only unique records are shown; duplicates were removed within sources (WSDOT = 10) and between sources (NRM = 2 duplicates from GBIF; ORBIC = 38 duplicates from NRM). For information on records from California, see Appel and others (2017).

	WSDOT	GBIF	NPS	NRM	ODOT	MISC ^f	ORBIC	CWMP	Total
road-kill	1226	4	2	0	34	2	0	0	1268
sighting	0	21	38	22	0	17	5	0	103
specimen	0	62	2	0	0	0	0	0	64
camera	0	0	16	7	0	2	1	5	31
unknown	0	0	0	15	0	0	3	0	18
sign	0	7	0	4	0	1	0	0	12
carcass	0	0	1	2	0	2	1	0	6
Total	1226	94	59	50	34	24	10	5	1502

^f Miscellaneous records include observations of Porcupines submitted to Flickr (Yahoo Inc; www.flickr.com, accessed 04 April 2018) and iNaturalist (California Academy of Sciences; www.inaturalist.org, accessed 04 April 2018) not already indexed in GBIF. Users were contacted for permission to include submission details (date and location of sighting).

Porcupine Distribution



Appel et al. 2021
Northwestern Naturalist

Why aren't there more porcupines in California?

- rodenticide
- “harassment” from USFS / timber companies
- increase in mountain lions / fisher
- change in forestry practices
- natural fluctuation / not native
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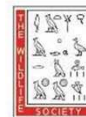
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Holly Heebink
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Payton Kirwan
Erin Phillips
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Amber Transou
Scott Osborn
Anthony Desch
Frank Kemp
Ric Schlexer
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Sandra Jerabek
Marisa Parish
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Ken Mierzwa
Desiree Early
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Alexandre Dairy

*... and everyone who has
submitted porcupine
sightings!*



HUMBOLDT
STATE UNIVERSITY



California North Coast Chapter



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Marine & Coastal Science Institute

