

INSTRUCTIONS FOR PIKA SURVEYS IN CALIFORNIA

vs 102710

Contact: Connie Millar, USDA Forest Service, PSW Research Station, Albany, CA; Ph: 510-559-6435, Email: cmillar@fs.fed.us

Survey Methods: Search for pika and pika sign in preferred habitat: talus fields (boulder slopes) with open rock matrix; rock sizes ranging from 25-90cm; minimal fine sediments or soil within the talus; sloping terrain from shallow to steep; in California above 1700m, more commonly above 2800m especially at southern latitudes. No obvious preference for aspect or substrate type. Preferred talus locations are adjacent to patches of herbaceous vegetation (shrub and forbs of diverse species), less commonly adjacent to conifer forests or shrublands, or locations of expansive talus fields without surrounding or interspersed vegetation. Time search for **30 minutes**. Note if 1) pika seen or heard, 2) pika indirect sign found, or 3) no sign of pika. Distinctive pika calls are raspy chirps (1-3 repetitions per set): “chee chee chee”, but vary geographically.

For the talus survey, start near the lower edge of talus (~20m of the border) and search for indirect pika sign, staying attentive to pika sightings and vocalizations. Look into rock openings below the surface, especially those that have protective overhangs and access into deeper rock matrices (i.e., not where soil is compacted). A flashlight helps to see into the openings. Pika sentry or perch rocks are ~20cm diameter, often conical, and often situated on the center floor of the opening, allowing a view for perched pika toward the talus below. Pika sit on these perches and pellets and urine stains accumulate on and below them. Urine stains accumulate to about 10cm dia; much larger & “messier” urine stains are made by woodrats and can be confused for pika sign. Fresh pika urine stains are white-yellowish and smeary; old urine is chalky white with flaking edges and looks like typewriter “white-out”. Pika fecal pellets are rabbit-like, completely round (like BB gunshot), ~2-3 mm diameter, dark green-brown when fresh, becoming black then white as they age; with more aging pellets decompose and become soil-like. Very recent pellets are often ‘glued’ into urine on sentry rocks. Collect intact pellets if possible (plastic or paper bag) and note condition of urine stains. Pika (as all rabbit relatives) produce a second type of feces known as caecotrophs – these are rarely seen but are tar-like, black, smeary, and flat, ~1cm diameter.

Search also for pika haypiles, which are concentrated accumulations of leafy vegetation in stacks up to 1.5m dia, usually but not always near the base of the talus field. They can include diverse species (not just grasses or “hay”). Because pika prefer green vegetation, their haypiles comprise mostly leaves and green branches, not piles of woody stems, the latter being woodrat sign. Branches are up to 30cm long. Haypiles are usually separated in the talus by >25m. Search also for feeding dens, which are characterized by tightly stuffed vegetation around the basal margin of large boulders (1.5m – 3m diameters) perched amidst finer talus matrix. Abundant pellet piles are usually intermixed with the stacks of vegetation.

Location Information. Use a GPS unit to record latitude, longitude, and elevation. Identify the sites by a name related to the general region (canyon, mountain peak), and number sites accordingly. Do not record sites <75M distant from one another (these are likely the same animal). Describe, as possible, the geomorphic landform, substrate, slope aspect, and any additional notes or comments that seem useful. If possible, photograph: 1) pika perch/den microsite, 2) talus site, & 3) environmental context.

Photos: 1) Typical pika pose on perch; 2) Fresh urine stain on pika perch with fresh pellets adhering; 3) Fresh pellet pile; 4) Large haypile under typical feeding-den boulder; 5) Excellent pika habitat – boulder-stream talus adjacent to wetland. Photo credits #1: A. Tshcherbina; #2-5: C. Millar

References:

Millar, C.I. and R.D. Westfall. 2010. Distribution and climatic relationships of the American Pika (*Ochotona princeps*) in the Sierra Nevada and western Great Basin, U.S.A.; Periglacial landforms as refugia in warming climates. Arctic, Antarctic, and Alpine Research 42:76-88.

Millar, C.I. and R.D. Westfall. 2008. Rock glaciers and periglacial rock-ice features in the Sierra Nevada; Classification, distribution, and climate relationships. Quaternary International 188:90-104.



AMERICAN PIKA (*Ochotona princeps*) SURVEY FORM (sample)

OBSERVER: Connie Millar

Address: 800 Buchanan St
Albany, CA 94710

Affiliation: US Forest Service

Phone: xxx-xxx-xxxx

Email Address: xxx@fs.fed.us

OBSERVATION DATE: July 4, 2009 **TIME:** 1330 hr **SITE SURVEYED FOR** 30 minutes

SITE NAME: Lundy Cyn

SITE #: LC-1

LOCAL REGION: Moat Lake cirque

COUNTY: Mono

MTN RANGE: Sierra Nevada

STATE: CA

LAT °N: 38° 3.210 **LONG °W:** 119° 16.325 **ASPECT:** 211° (SW)

ELEV: 3159 m__ ft__ **Estimated by:** GPS ☒ Map__ eMap (Topo, Google Earth)__
Other:

LANDFORM: Circle all that are applicable

talus rock glacier boulder stream patterned ground inselberg eroded bedrock

anthropogenic rockfall moraine lava flow/lava cave tephra

rock crevice cliff face *Other and/or more landform detail:*

Large boulder-stream talus field covers extensive slope; adjacent to wetland with abundant vegetation

SUBSTRATE:

Circle if: granitic metamorphic sedimentary igneous

Additional substrate detail:

PIKA Circle if: SEEN HEARD **PIKA SIGN** (below) **NO PIKA SIGN** (after 30 min search)

PELLETS: fresh ☒ old__ few__ abundant_☒ **COLLECTED** Yes ☒ No__
Caecal feces observed __ Y or N ☒

URINE SIGN: fresh (silver-white & smeary) ☒ old (chalk white & flakey) __

HAYPILE: present ☒ if yes, plant material green__ or brown ☒ Haypile absent__

Surrounding vegetation (plant species or plant community): Distance to live vegetation 50m/ft

Salix lakeside community; Leptodactylon pungens, Artemesia spp, Ericameria suffruticosa, Symphoricarpus spp.

Sign of other species? Marmot Sm Rodent None Other:

SITE PHOTOGRAPHED: Y ☒ N__

ADDITIONAL NOTES -- use back as needed

AMERICAN PIKA (*Ochotona princeps*) CALIFORNIA SURVEY FORM (vs 102710)

OBSERVER:

Address:

Affiliation:

Phone:

Email Address:

OBSERVATION DATE:

TIME: ____ hr

SITE SURVEYED FOR ____ minutes

SITE NAME:

SITE ID #:

COUNTY:

MTN RANGE:

LOCAL REGION:

STATE:

LATITUDE °N:

LONGITUDE °W:

ASPECT:

ELEV: ____ m or ft

Estimated by: GPS__ Map__ Other (eMap, Topo, Google Earth) __

LANDFORM: *Circle all that are applicable:*

talus rock glacier boulder stream patterned ground inselberg eroded bedrock
anthropogenic rockfall, moraine lava flow/lava cave tephra rock crevice
cliff face *Other and/or more landform detail:*

SUBSTRATE:

Circle if: granitic metamorphic sedimentary igneous other

More substrate detail:

PIKA: Circle if SEEN

HEARD

PIKA SIGN (below)

NO PIKA SIGN (30 min search)

PELLETS: fresh old few abundant none **COLLECTED** Yes____ No____

Caecal feces observed Y____ or N ____

URINE SIGN fresh (white-yellow & smeary) ____ old (chalk white & flakey) ____

HAYPILE present __, if yes, plant material: green ____ brown ____ Haypile absent ____

SURROUNDING VEGETATION (plant species or plant community):

Distance to live vegetation _____m or ft

Sign of other species? Marmot Sm Rodent None Other:

SITE PHOTOGRAPHED: Y__ N__

ADDITIONAL NOTES: Use back side