

Field Studies of the Himalayan Snowcock in the Ruby Mountains of Nevada (USA)

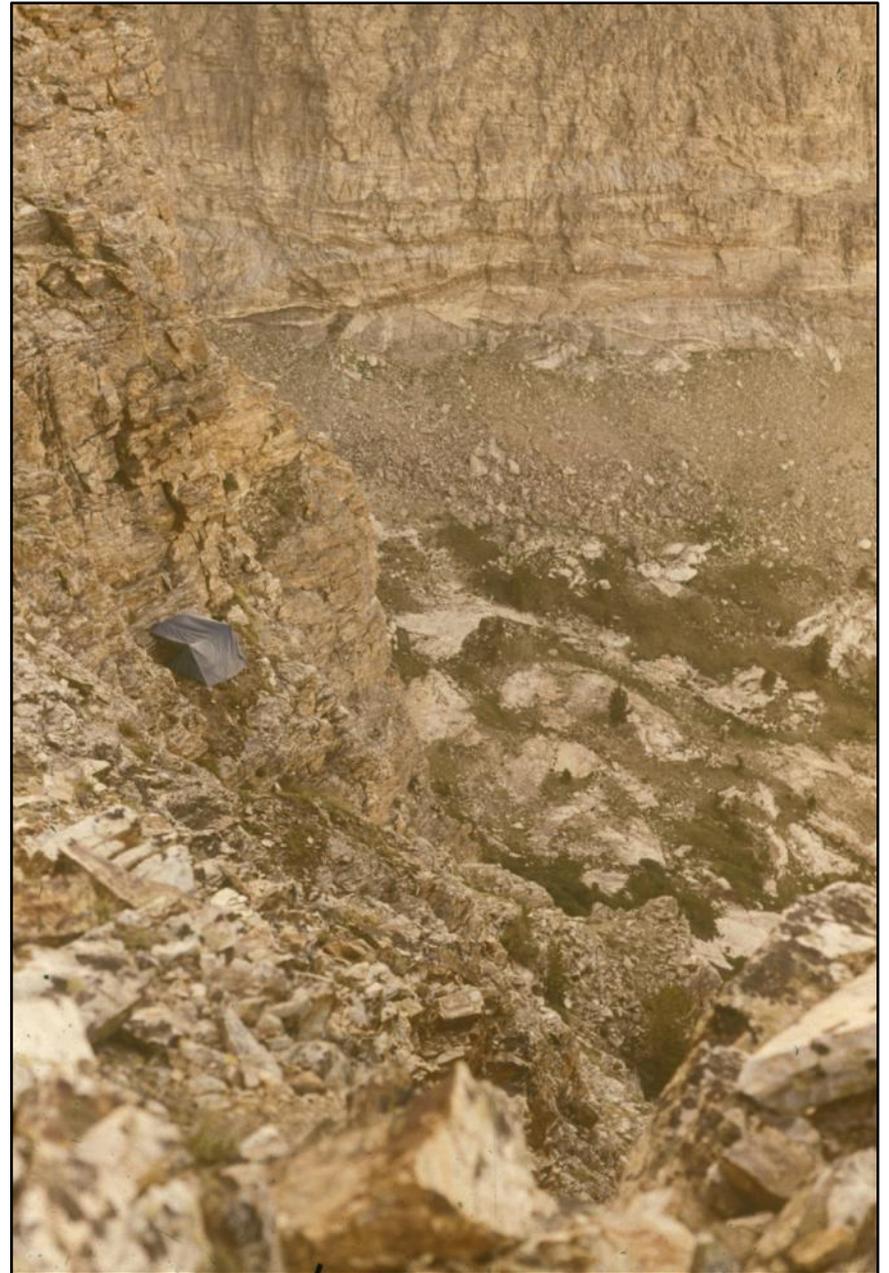
James D. Bland



I first became acquainted with Himalayan Snowcocks in 1979, when I assisted Nevada Department of Wildlife with their last release of captive-reared snowcocks into the Ruby Mountains.



My initial field efforts, in 1981, entailed week-long observations from a one-person tent perched on the side of sheer, unstable, cliffs where snowcocks roosted (~11,000 ft elevation). Snowcocks are very skittish, and required this degree of concealment in order to observe them behave naturally. I documented the daily activity patterns of the species, using my own study design. I funded the work by doing menial labor in Elko between stints in the field.

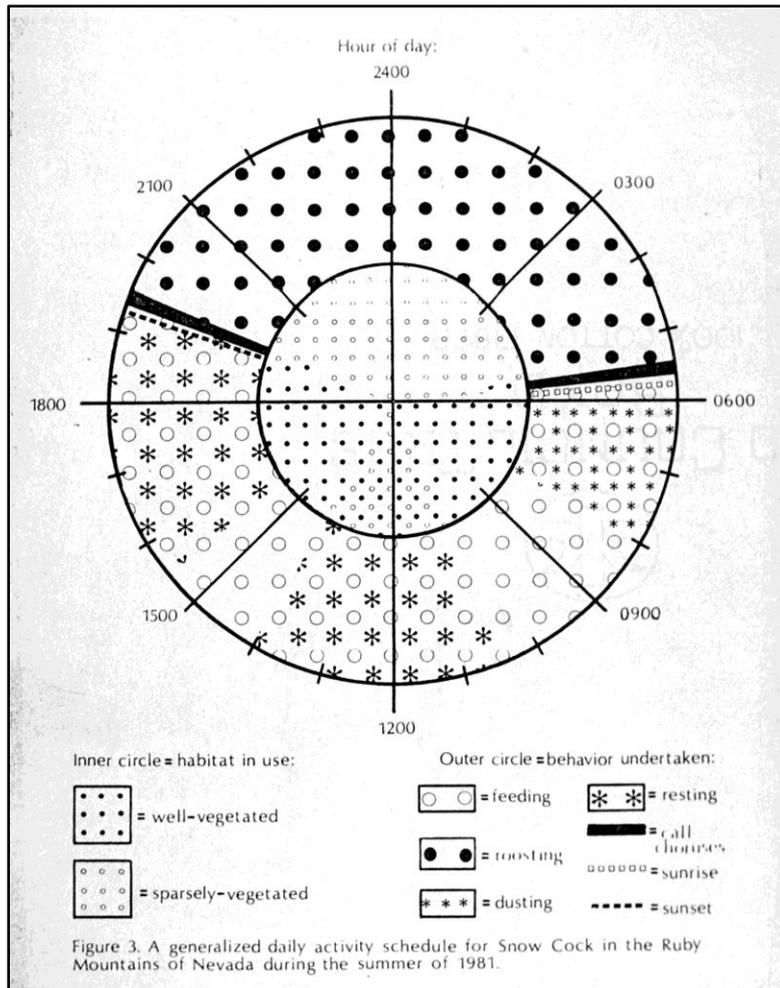


I assessed food plants, and used fecal droppings as an index of habitat preference.



The work became my undergraduate thesis at Humboldt State (1982).

And it won me an invitation and US Fish and Wildlife Service travel grant to an International Symposium on Galliformes held in the Indian Himalaya, where I was able to see the species in its native habitat.



In 1985, I returned to conduct my Master's thesis (UW-Madison, 1988; advised by Stanley Temple). The objective was to study how the threat of predation by Golden Eagles influences habitat selection by snowcocks. I built a more substantial base camp this time on a shoulder of Thomas Peak (11,325 ft), ferried in by helicopter.



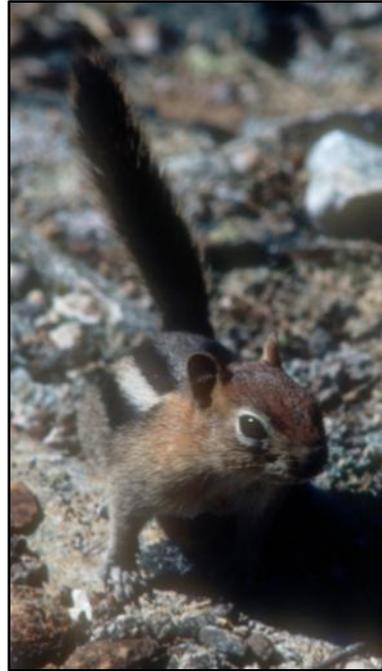


The camp site provided a commanding view of the study area. It was far enough away from core snowcock use areas to minimize disturbance, but allowed direct viewing of wild birds with telescopes. It was not ideally situated with regard to lightening , but I survived.

From camp, I watched the seasons pass on Thomas Peak



And most of the Rubys' high elevation fauna eventually visited camp.



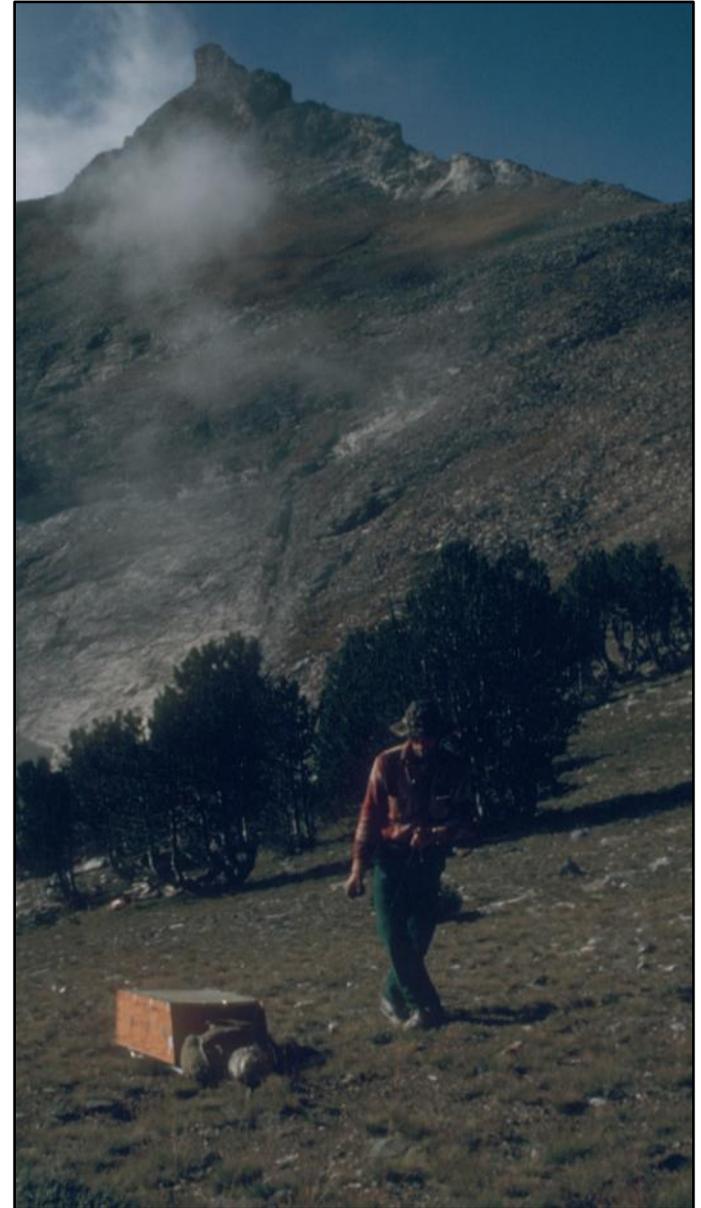
I trapped a few wild birds with a rocket net, but the environment proved too rugged for conventional radiotelemetry, so I abandoned radiotelemetry.



I assessed the availability of snowcock foods in different environmental settings by observing the foraging rate of hand-reared snowcocks. I imprinted these birds to humans from the time of hatching, essentially becoming their parent. This made it possible to control them under field conditions.



I finished rearing the birds in the field, to make sure they would be familiar with local food plants.



After the birds matured, I transported them to different meadows, in different environmental settings, to measure their foraging rate (pecks/minute) during timed feeding trials.



I assessed the “unease” wild birds experienced in different environmental settings by measuring their “vigilance” behavior – the proportion of time spent searching the sky for aerial predators rather than foraging. In order to not disrupt the wild birds – which fly effortlessly to another mountain if disturbed – I had to arrive and depart observation blinds under the cover of darkness.



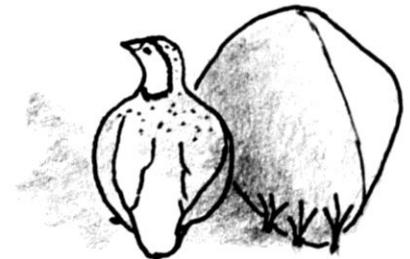


Vigilance behavior is influenced by group size. The larger the group, the less vigilant – watchful – each individual needs to be.

I found that the availability of snowcock food was no different on steeply sloping versus level meadows, yet snowcocks foraged more often on steeply sloping meadows, where they were at less risk of predation, and hence less vigilant. Put another way, the risk of predation by Golden Eagles limited the use of level meadows by snowcocks, even though there were good food resources there.

I observed three different behavioral mechanisms snowcocks use to avoid predation by aerial predators. Snowcocks are large ground birds (4-6 lbs.) that usually occupy alpine habitats devoid of the shrubby escape cover most gamebirds use to hide from aerial predators. Instead, amazingly, snowcocks evade aerial predators by out-maneuvering them on the wing! This is why they prefer to remain on or near steeply sloping ground.

If the threat level is relatively low, such as when a raptor soars high overhead, a snowcock will crouch, next to a rock if available, with its tail lowered to the ground and neck retracted, until the threat passes.

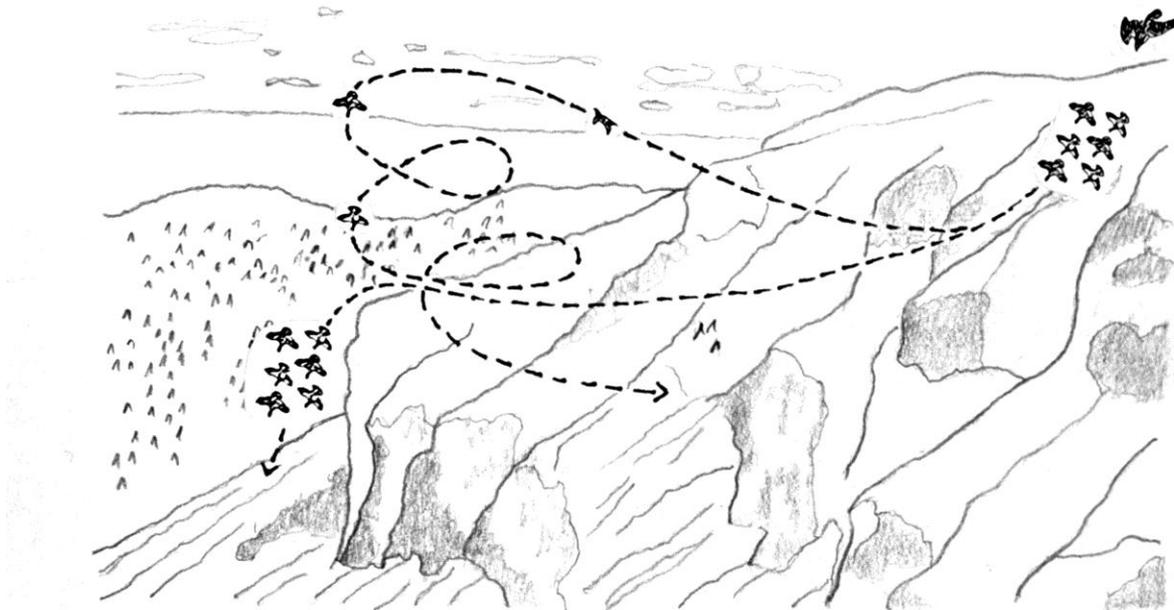


If a medium-sized raptor (Red-tailed Hawk, Northern Harrier) that has been flying in plain view tries to irresolutely descend on a snowcock that is on level ground or with young, the snowcock will stand its ground. It lowers its wings and raises its hackles to increase its apparent size, and emits angry vocalizations. Females with broods will charge mid-sized raptors if pressed.



If an eagle or adult Red-tailed hawk stoops on snowcocks from high above, or suddenly appears nearby and low, snowcocks will run a short distance down slope to gain velocity, flap their wings a few times, then dive toward the canyon floor on set wings. If the raptor continues to pursue (many give up at this point), the snowcocks level off and soar to another steep cliff, plummet over it, and almost always leave the raptor behind. Snowcocks have a higher body weight to wing surface ratio than eagles, so they can accelerate faster.

Alternately, after attaining good speed, snowcocks will angle upwards and soar high over a canyon on set wings. If a raptor then closes in (Golden Eagles sometimes hunt in pairs) the snowcocks will plummet to the canyon floor in an erratic, spiraling, flight that the eagle(s) can not replicate.



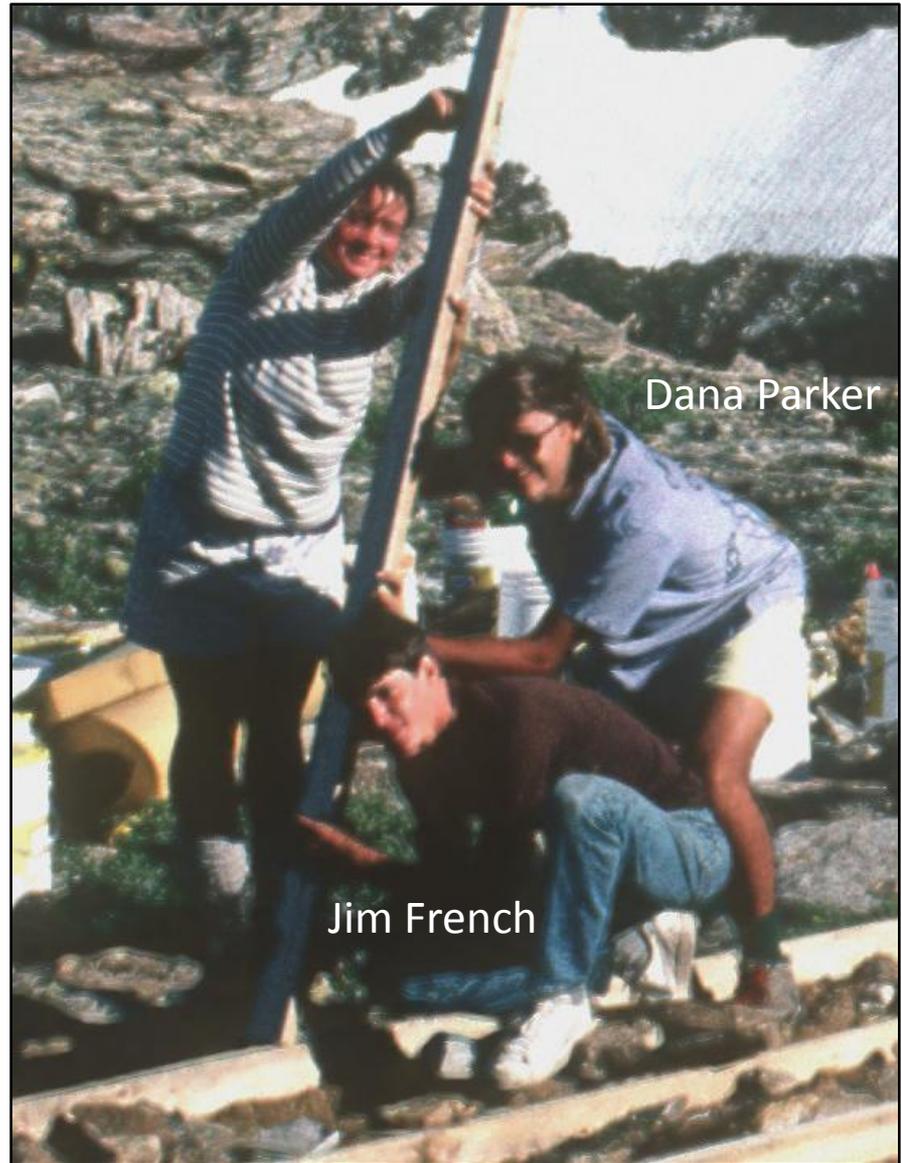
Many thanks to my hard-working field assistants:



Vince Gordon



John Bland



Dana Parker

Jim French

If you can, please remind me of the names of the two women pictured here.

And thanks to Chester
and the other hand-reared snowcocks.

