

OBSERVATIONS ON MOVEMENTS AND HOME RANGE OF SNOW LEOPARD (*PANTHERA UNCIA*) IN THE LANGU GORGE, WEST NEPAL

by Rodney Jackson and Gary Ahlborn California
Institute of Environmental Studies

Five snow leopards, three males and two females, were radio-tracked over periods of 2 years in the Langu Valley, West Nepal. The tagged cats were located a total of 711 times, about 27 - 68% of the field days. Snow leopards were found in a different place on 72% of all

consecutive days located. They moved distances of about 1.1 km (straight line) between successive days, with no significant difference between the sexes being noted. Distances of more than three or four kilometers in a day were rare. The actual distance moved was considerably greater because snow leopards tend to travel circuitous routes. Movements in a female decreased after she gave birth: by the time her cubs were eight months old, she was again traveling typical distances. Usually the tagged animals remained in small areas for two to ten days before shifting to a relatively distant part of the range. The Langu leopards were primarily crepuscular, being most active in the early morning and late afternoon or early evening.

All cats showed a strong preference for moving along major ridgelines, bluff edges, and along cliff bases or crests. All preferred to utilize steeper sites and places where cliffs were interspersed with undulating slopes or moderately to heavily broken terrain.

Ranges of the five cats overlapped almost entirely, both between and within sexes. Total home range size covered from 11.7 to 38.9 square km, figures which do not compensate

for additional surface area resulting from the substantial relief of the study area. The average range size was almost 21 square km. All ranges were at least twice as long as wide, reflecting the river gorge topography. We found no evidence that snow leopards patrol their home range boundaries or that they occupy separate seasonal (summer/winter) ranges.

Core-use areas of two males and two females overlapped to a very large degree, though the cats' occupancies were staggered in time. On the average, radio-tagged snow leopards were nearly 2 km apart on the same day. Forty to sixty percent of home range use was estimated to occur in the individual's core area, which comprised only about 14 to 24 percent of the total home range. The core areas were centered on the confluence of a permanent stream with the Langu river, an area with many bharal and prolific snow leopard sign. A young female used her core area to the least extent: a female with two cubs, to the greatest degree.