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Scat Survey Methodology for Snow Leopards

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Goal: Obtain sufficient scat samples from snow leopards for population size estimates in designated study area.

Study Area:

Determine the region for which population size will be estimated. An area totaling 3,000–4,000 km^2 area can be surveyed in 2–3 weeks, depending upon roads or overall ease of access.

Survey Blocks:

Each survey block should be 25–35 km^2 in size, and either square or rectangular depending on habitat distribution. In each survey block, 2 transects are surveyed. Survey blocks are a minimum of 8 km apart, and a maximum of 20 km apart. An area of 3,000–4,000 km^2 can covered with about 8 survey blocks. See Figure 1.

Transects:

The length of a transect will depend on the ruggedness of the terrain, quality of habitat (including the availability of preferred marking features), and the amount of scat present. Transects surveyed during previous fieldwork have ranged from 3–7 km, but they need not be this long, especially in high-quality snow leopard habitat. The criteria for transects are:

1. Conduct two transects in each sampling block, these transects can be adjacent to each other, but are preferably ≥ 1 km apart with a maximum of 5 km separation.
2. Spend a maximum 1 day on each transect. If you have only one survey team, it will take 2 days to finish 1 survey block. If you can split into two sampling teams, you can survey both transects in a single survey block in 1 day.
3. Collect a maximum of 36 field-identified (see Figure 1 below for definitions) snow leopard scats per sampling block (for both transects). Do not collect more than 36 scats in one survey block.
4. If no snow leopard scat is observed in the first 1 km of transect, take the GPS location of the transect, go back to the starting point, move 3–5 km and begin a new transect (and adjust the location of the survey block correspondingly).
5. Record the same basic Habitat Information as on SLIMS form No. 2 (see below).

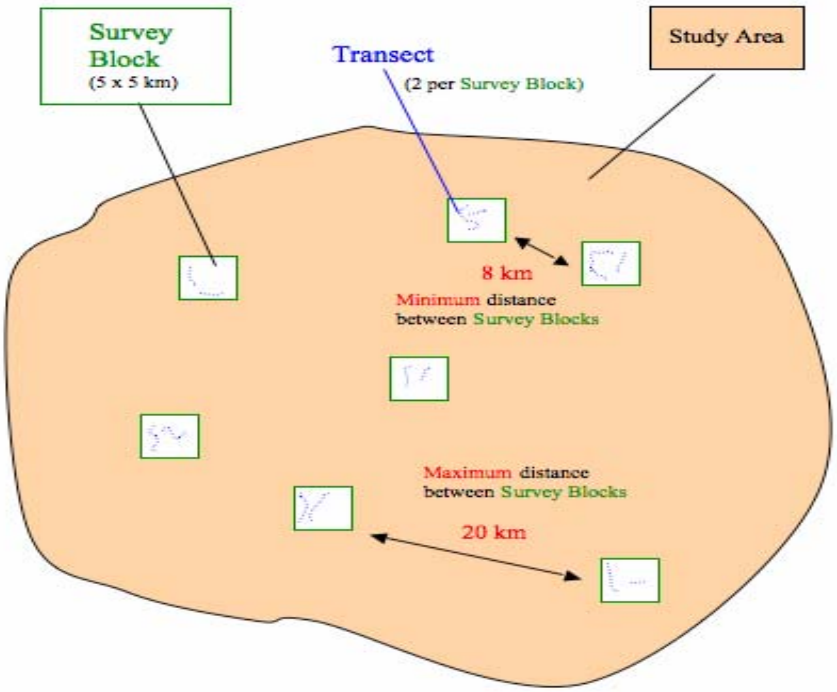

Figure 1. Schematic diagram of survey design.

Characteristics of Snow Leopard Feces:

Figure 2. Snow leopard scat

Size and Configuration: Like other felids, snow leopards scats tend to be uniform in diameter (1.8 cm average diameter, comprised of several slightly constricted "cords" or connected blocky segments up to 8-10 cm). The scat usually has blunt ends, compared to canid scats that tend to be tapered on both or at least one end, of irregular diameter and without any obvious constrictions. Note, however, that snow leopards may also deposit small, fox-like or "token" scats.

Associated Features: Snow leopard scats are often, but not always deposited on or near scrapes or near a scented rock, along wildlife trails (especially at bends), and near kill remains. Record the presence or absence of such sign when collecting scats.

There is a large amount of field-identification error. We have observed up to 50% misidentification of red fox scat as snow leopard by experienced biologists. Therefore, it is important that when there are multiple intact scats in a site (for example, scrape site) that field personnel collect a sample of all intact scats.

Habitat Information for each Transect:

Dominant topographic feature (tick one):
Cliff base ☐ Ridgeline ☐ Hillside ☐ Valley bottom ☐ Terrace Stream bed ☐
Other_____(specify)
General comments on topography:

Primary Vegetation Type (tick dominant one):
Barren ☐ Grass ☐ Shrub ☐ Woodland ☐ Forest ☐
General comments on habitat:

Grazing Status: Year-round ☐ Seasonal ☐ Non-grazing ☐
General comments on grazing:

Landform Ruggedness (tick one which is dominant at site):
Flat ☐ Rolling ☐ Slightly broken ☐ Moderately broken ☐ Very broken ☐
General comments on ruggedness:

Overall compass aspect of transect:
Other wildlife seen and number:
Other Comments