

The Ecological Scorecard Project: Monitoring in the Adirondack Park, NY

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Introduction

In recent years, human recreation on many public lands has increased, including in the Adirondack Park. To assess how the park's natural and recreation resources are responding to visitor use, we partnered with the New York State Department of Environmental Conservation in 2019 to implement the Ecological Scorecard project.

This long-term monitoring project assesses how selected areas may be changing over time due to recreation. Identifying trends in such areas alongside visitor use allows for evidence-based management, and continued monitoring of how such management action may help to improve ecological outcomes. This process enables a feedback loop of adaptive management.

Sampling sites

Since 2020, we have sampled up to 16 points of interest (POIs) used for recreation (e.g., campsites, lean-tos, and trails), a trail not yet open to the public, and two non-recreational control sites in ESF's Huntington Wildlife Forest, Newcomb, NY. Recreation sites are on DEC lands designated as Wilderness, Wild Forest, or Primitive Area (Fig. 1).

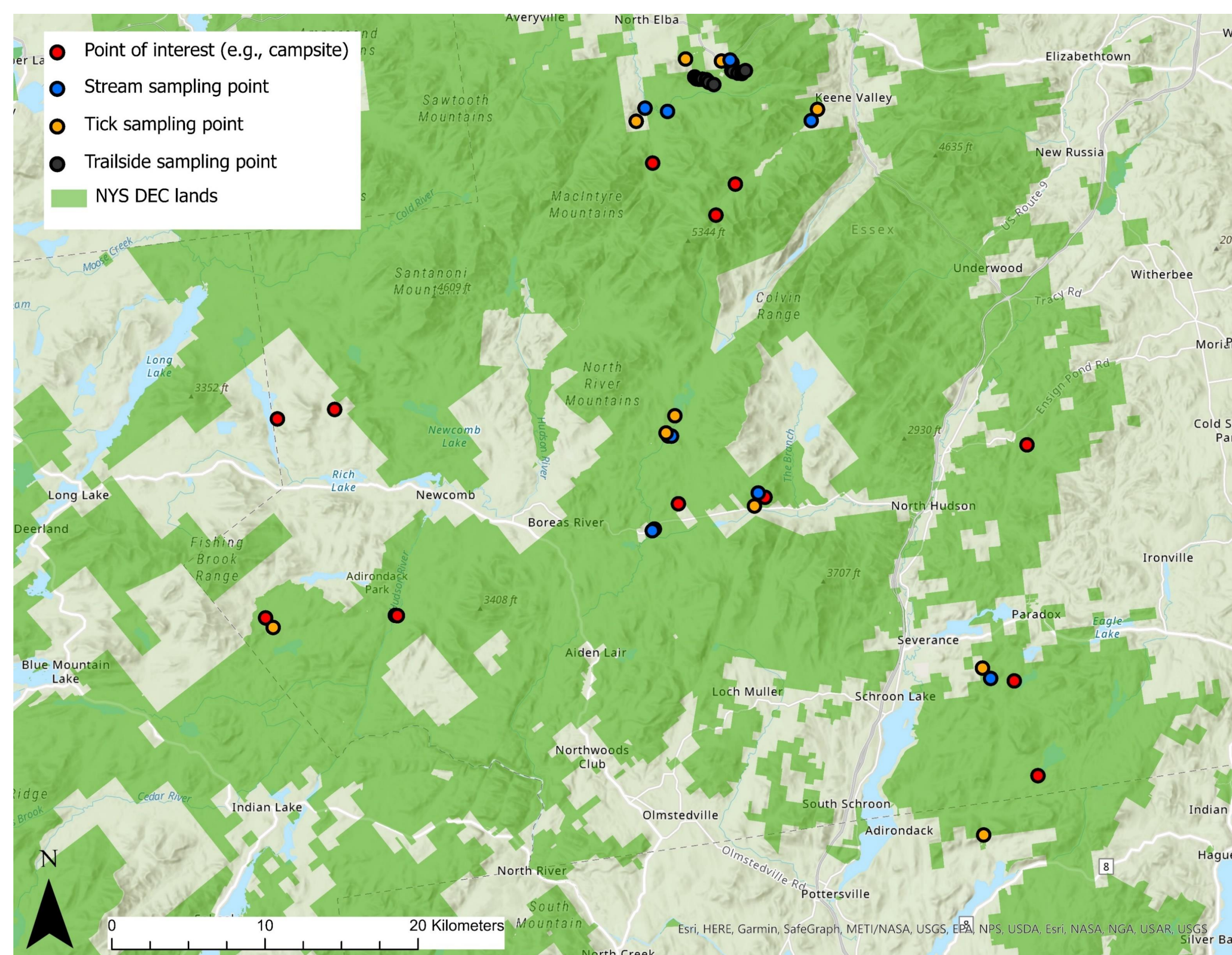


Fig. 1: Locations sampled in 2022 as part of the Ecological Scorecard monitoring project in Adirondack Park, NY.

Methods

At each point of interest, we sample a suite of ecological indicators from which inferences on recreation can be made. Monitoring is carried out in several settings: randomly oriented transects, 1m² quadrats, standardized photo-points (Fig. 3, 4), and point surveys of indicators.

Red indicators show potential problems; blue indicators show limited recreation impact:

- Ticks at trailheads and edges of parking areas.
- Salamanders.
- Invasive earthworms.
- Percent coverage of different ground cover types (e.g., bare soil, rock, moss, and woody vegetation).
- Percent vertical structural complexity (VSC) measured 0–0.5m and 0.5–1m above ground (Fig. 2).
- Audio data of human sounds and vocalizations of wildlife.
- Invasive plants, forest pests and diseases.
- Loons at sites with adjacent lentic waters.
- Macroinvertebrate communities at sites with adjacent lotic waters:
 - Pollution-sensitive taxa and pollutant-tolerant taxa.

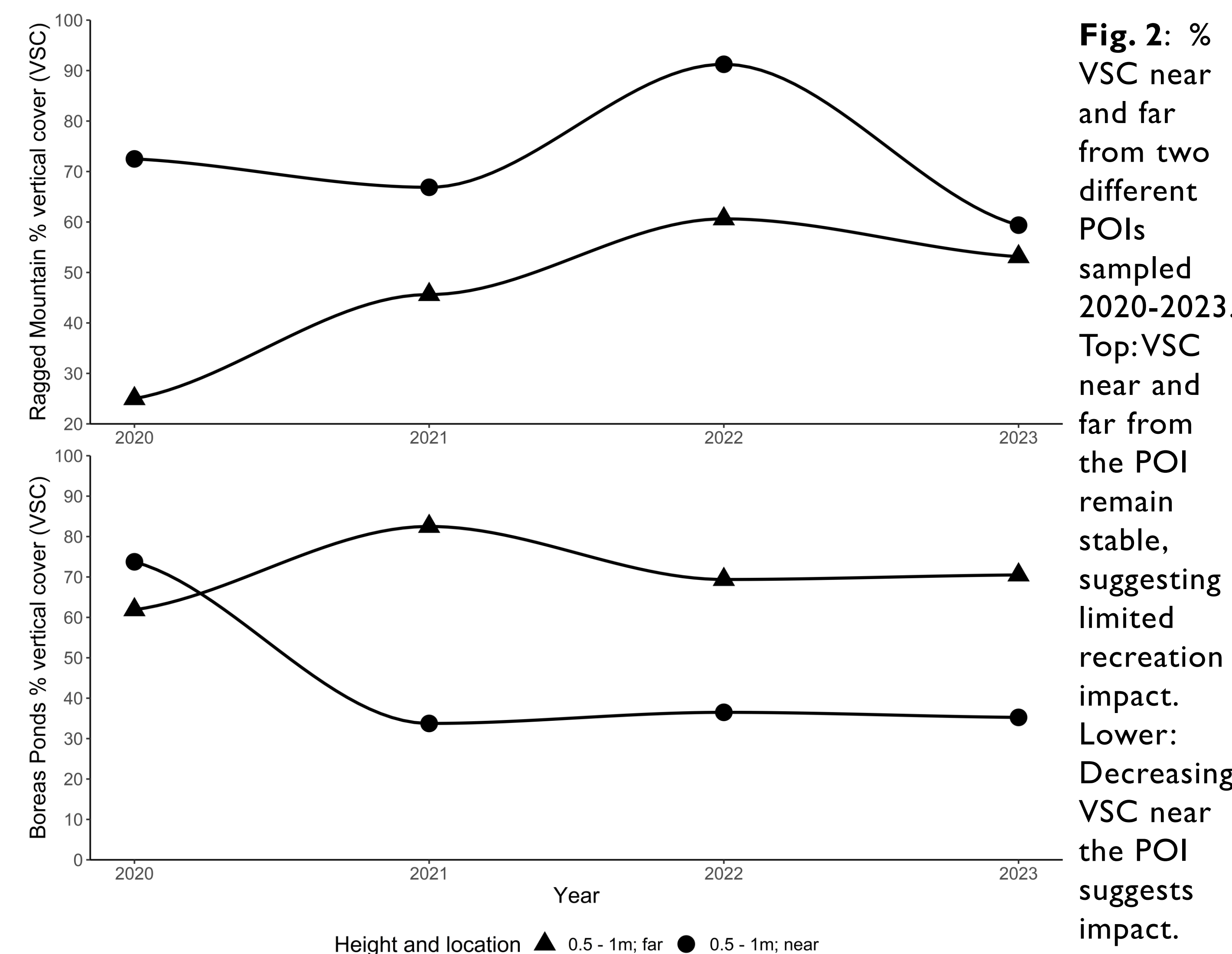
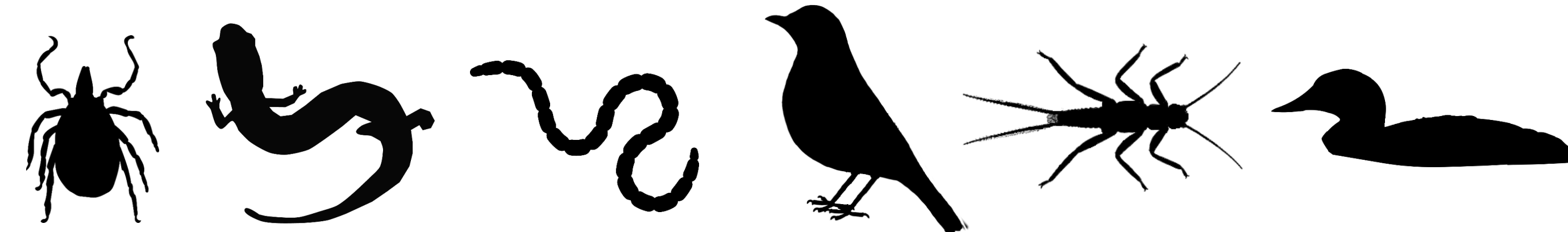


Fig. 2: % VSC near and far from two different POIs sampled 2020-2023. Top: VSC near and far from the POI remain stable, suggesting limited recreation impact. Lower: Decreasing VSC near the POI suggests impact.

Analysis and scoring

Trend analyses to monitor change in indicators through time are ongoing. Our monitoring methods include comparing recreational sites with control sites and comparing cover/structure sampled adjacent to points of interest (near plots) with cover/structure sampled 100m from the point of interest (far plots), where recreational use is less likely (Fig. 2).

We assign each site a score based on a semiquantitative index to summarize its current condition and changes in its condition across time. The index weighs quantitative ecological indicator data and qualitative information, such as visually apparent change in erosion (Fig. 4) and presence of trash.

Fig. 3: Photographs of a site used for rock climbing. Erosion and hindered vegetation growth is visible in the left photograph, whereas an unused section at the base of a rock wall supports vegetative growth on the right.



Fig. 4: In the left photograph, a frequently used trail (Cascade Mountain), exhibits exposed rocks, soil erosion, and compaction from high visitor use. The photograph on the right shows a new trail constructed with a moderate grade that aims to minimize erosion once open for recreation.

