

Orome Land Audit Report

Executive Summary

This report presents the results of a terrain-based land audit for wildlife management. Analysis covers an area of interest with bounds (-76.8270, 42.4730) to (-76.7729, 42.5270). Using high-resolution elevation data (0.0m resolution), we identified 8 optimal camera locations targeting travel corridors and bedding zones.

Interactive 3D Visualization

An interactive 3D terrain visualization has been generated as **terrain_3d.html**. Open this file in a web browser to explore the terrain, camera placements, and parcel boundaries in an interactive 3D environment. You can rotate, zoom, and hover over cameras for details. The yellow boundary line shows the parcel extent.

Recommended Camera Locations

Cameras are strategically placed at the highest-scoring terrain features based on slope analysis. High-score areas may have multiple cameras for intensive coverage. Each camera's placement rationale is detailed below based on local terrain characteristics.

| # | Location | Score | Terrain | Placement Rationale |
|---|---------------------------|-------|------------------------------|--|
| 1 | 42.51347°N -76.82465°W | 1.000 | Slope: 14.9° Aspect: 215° | Prime bedding habitat (score=1.00). SW-facing gentle slope with edge cover provides ideal security and visibility. |
| 2 | 42.51272°N -76.82631°W | 1.000 | Slope: 14.5° Aspect: 313° | Prime bedding habitat (score=1.00). NW-facing gentle slope with edge cover provides ideal security and visibility. |
| 3 | 42.51239°N -76.82250°W | 1.000 | Slope: 15.4° Aspect: 190° | Prime bedding habitat (score=1.00). S-facing gentle slope with edge cover provides ideal security and visibility. |
| 4 | 42.51098°N -76.82349°W | 1.000 | Slope: 13.0° Aspect: 284° | Prime bedding habitat (score=1.00). W-facing gentle slope with edge cover provides ideal security and visibility. |
| 5 | 42.51040°N -76.82565°W | 1.000 | Slope: 13.2° Aspect: 246° | Prime bedding habitat (score=1.00). SW-facing gentle slope with edge cover provides ideal security and visibility. |
| 6 | 42.50924°N -76.77696°W | 1.000 | Slope: 14.8° Aspect: 28° | Prime bedding habitat (score=1.00). NE-facing gentle slope with edge cover provides ideal security and visibility. |
| 7 | 42.50824°N -76.77547°W | 1.000 | Slope: 14.7° Aspect: 268° | Prime bedding habitat (score=1.00). W-facing gentle slope with edge cover provides ideal security and visibility. |
| 8 | 42.50791°N -76.77323°W | 1.000 | Slope: 11.8° Aspect: 292° | Prime bedding habitat (score=1.00). W-facing gentle slope with edge cover provides ideal security and visibility. |

Methodology Notes

Slope-Based Scoring: Terrain is analyzed using elevation derivatives to identify optimal camera placement locations. Steep slopes (20-35°) indicate travel corridors (pinch points) where movement is funneled. Moderate slopes (8-15°) indicate bedding zones with good drainage and visibility. Even slight elevation changes (2-8°) in otherwise flat terrain are prioritized.

Camera Spacing: Cameras are placed at the highest-scoring locations with enforced spacing to prevent redundant coverage. Pinch point cameras maintain full separation (minimum distance enforced) since corridors are linear features. Bedding zone cameras may cluster slightly (down to 85% of minimum) in exceptional areas where zones overlap naturally.

Terrain Characteristics: Score calculations incorporate slope angle (primary factor), aspect (sun exposure), terrain ruggedness (habitat complexity), and topographic position.