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 (-76.8180, 42.4820) to (-76.7820, 42.5180). Using high-resolution elevation data (0.0m resolution), we identified 8 priority zones for camera placement. These zones represent high-value areas where 6 trail cameras should be deployed based on travel corridors, bedding habitat, and terrain characteristics. Rather than prescribing exact coordinates, this advisory approach allows for on-the-ground judgment that accounts for factors like vegetation, property boundaries, and field conditions.

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 with heat maps showing pinch points (red) and bedding areas (green). Recommendation zones are displayed with boundaries and camera counts. You can rotate, zoom, and toggle different terrain features.

Priority Zones for Camera Placement

Instead of placing cameras at exact coordinates, we identify 3 high-priority zones and 5 secondary zones based on terrain analysis. Each zone shows the recommended number of cameras and area covered. This approach allows you to:

• Account for ground conditions not visible in terrain data (vegetation density, property lines, access roads)
• Adapt placement based on historical sightings and hunter knowledge
• Adjust for wind direction, sun exposure, and seasonal factors
• Make informed decisions while maintaining strategic coverage

Zone	Type	Priority	Area (km²)	Cameras	Zone Description
1	■ Corridor	★★★	0.492	1	High-density corridor zone (0.49 km²). Heavy concentration of wildlife travel routes. Id
2	■ Corridor	★★★	0.525	1	High-density corridor zone (0.53 km²). Heavy concentration of wildlife travel routes. Id
4	■ Corridor	★★★	1.007	1	High-density corridor zone (1.01 km²). Heavy concentration of wildlife travel routes. Id
3	■ Corridor	★★	1.357	1	High-density corridor zone (1.36 km²). Heavy concentration of wildlife travel routes. Id
2	■ Corridor	★★	0.163	0	High-density corridor zone (0.16 km²). Heavy concentration of wildlife travel routes. Id
1	■ Corridor	★★	0.480	0	High-density corridor zone (0.48 km²). Heavy concentration of wildlife travel routes. Id
3	■ Corridor	★★	15.960	2	Moderate corridor zone (15.96 km²). Secondary movement area with good detection
5	■ Corridor	★★	15.960	0	Moderate corridor zone (15.96 km²). Secondary movement area with good detection

Methodology Notes

Zone-Based Recommendations: Rather than prescribing exact camera coordinates, the system identifies priority zones where cameras should be concentrated. High-priority zones (★★★) receive the most cameras, while medium-priority zones (★★) provide secondary coverage opportunities.

Slope-Based Scoring: Terrain is analyzed using elevation derivatives to identify optimal camera placement zones. 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.

Heat Map Visualization: The 3D terrain map shows continuous heat maps of pinch point scores (red gradient) and bedding area scores (green gradient). Darker/brighter colors indicate higher-value terrain for each camera type.