HIGHLAND WILLOW FARM INTELLIGENCE

# Land Baseline report

**Sample: Blue Ridge Parkway at Doughton Park (public land)**. 1,174.9 acres as outlined, in 1 parcel, centered near 36.4172, -81.1820.

**SAMPLE REPORT. Shown as an example of what a Land Baseline report contains. It was not prepared for a customer, and the land is public or is shown with its owner's written approval.**

**Reviewed by Highland Willow on 2026-11-22.** The review covers the points listed at the end. It is not a site inspection.

This is a desk study from public data. It is not a legal survey, a site inspection, a soil test or an engineering determination. The outline was supplied by the customer and is not a surveyed boundary. Every figure names its source and its date in the ledger near the end.

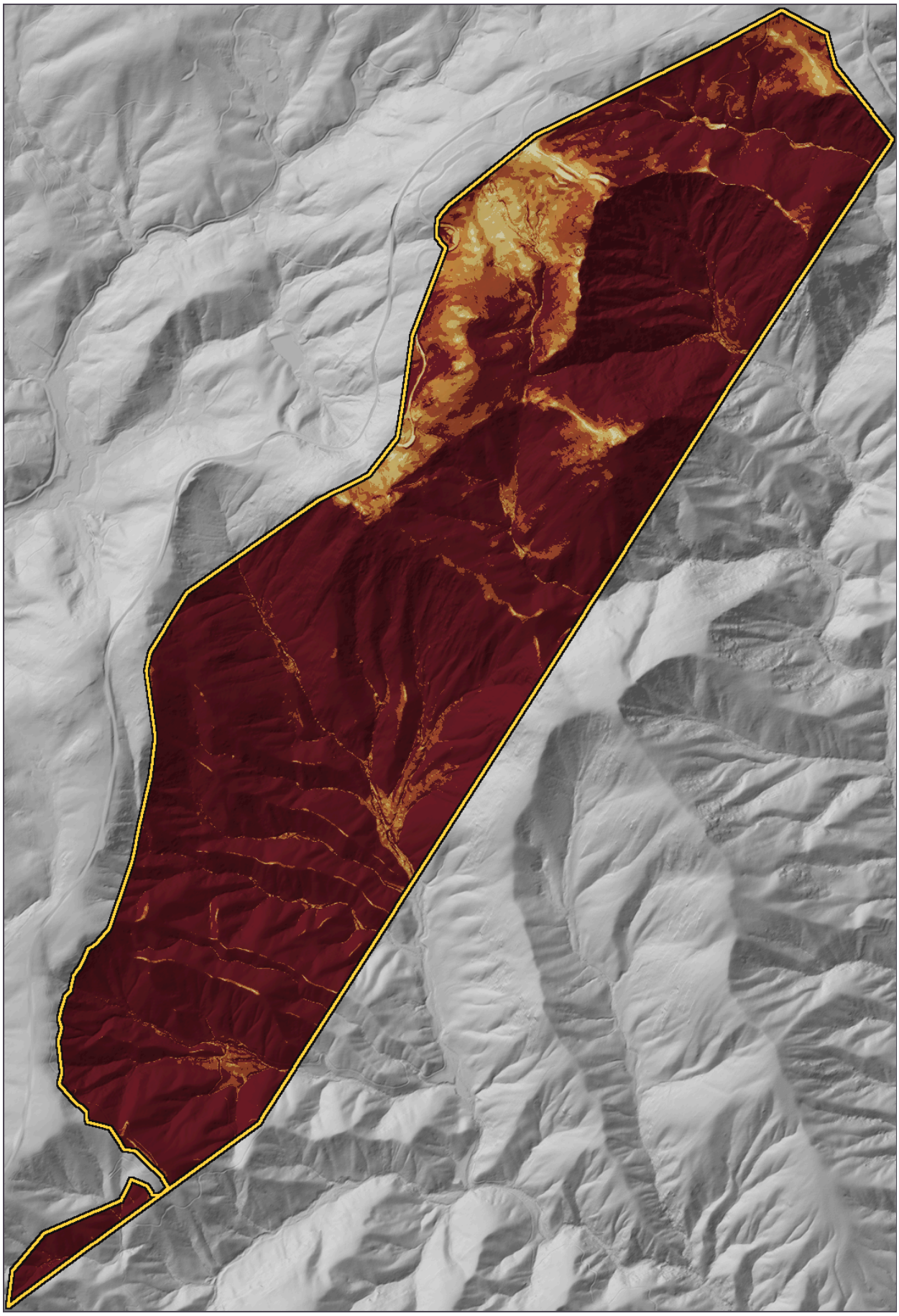
## AT A GLANCE

Outlined area
**1,174.9 ac**
475.47 ha. Perimeter 41,573 ft.

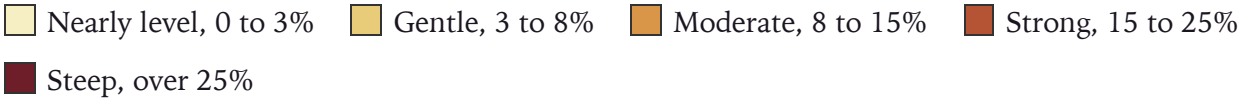
Elevation
**2,138 to 3,794 ft**
Relief 1,656 ft. Median slope 54.9%.

Largest soil unit
**626.1 ac**
Stony steep land. 24 units in all.

Main land cover, 2024
**967.5 ac**
Deciduous forest.



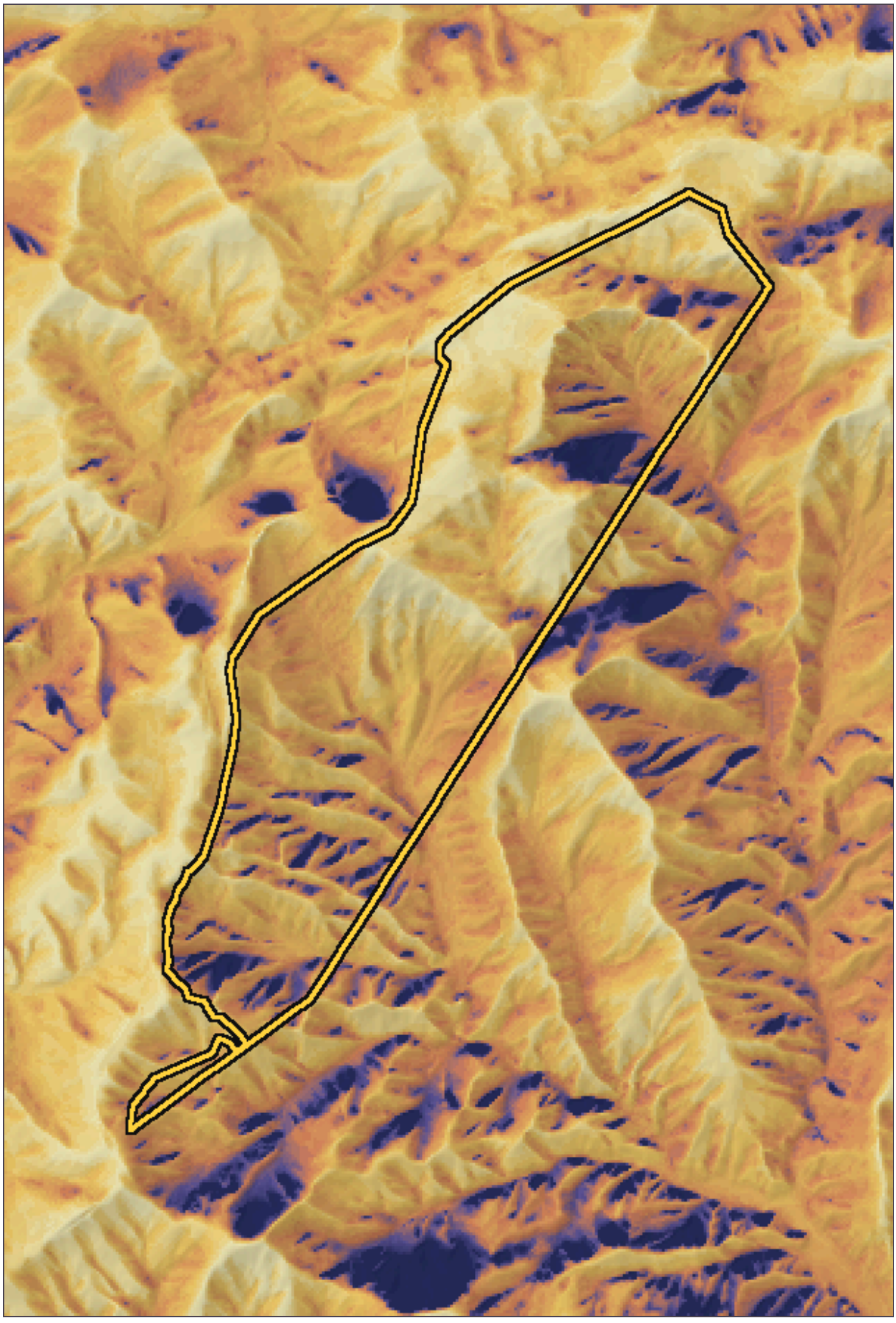
Slope class with relief shading. North is up. Cell size about 3.0 m.




| SLOPE CLASS | ACRES | SHARE |
|---|---|---|
| NEARLY LEVEL, 0 TO 3% | 3.6 | under 1% |
| GENTLE, 3 TO 8% | 23.2 | 2% |
| MODERATE, 8 TO 15% | 52.8 | 4% |
| STRONG, 15 TO 25% | 97.3 | 8% |
| STEEP, OVER 25% | 998.0 | 85% |

Elevation runs from 2,138 to 3,794 ft (652 to 1,156 m), mean 3,082 ft. Nine cells in ten are flatter than 85.6%.

Of the ground steeper than 3%, the most common facings are south (20%), southeast (18%), east (18%). South and west faces dry out and green up sooner; north faces hold moisture and frost longer.



Hours of direct sun on 21 December, from terrain alone. Dark is shaded, pale is sunlit all day. North is up. Worked on 14 m cells, 24,237 of them inside the outline, with 2,000 m of surrounding ground.

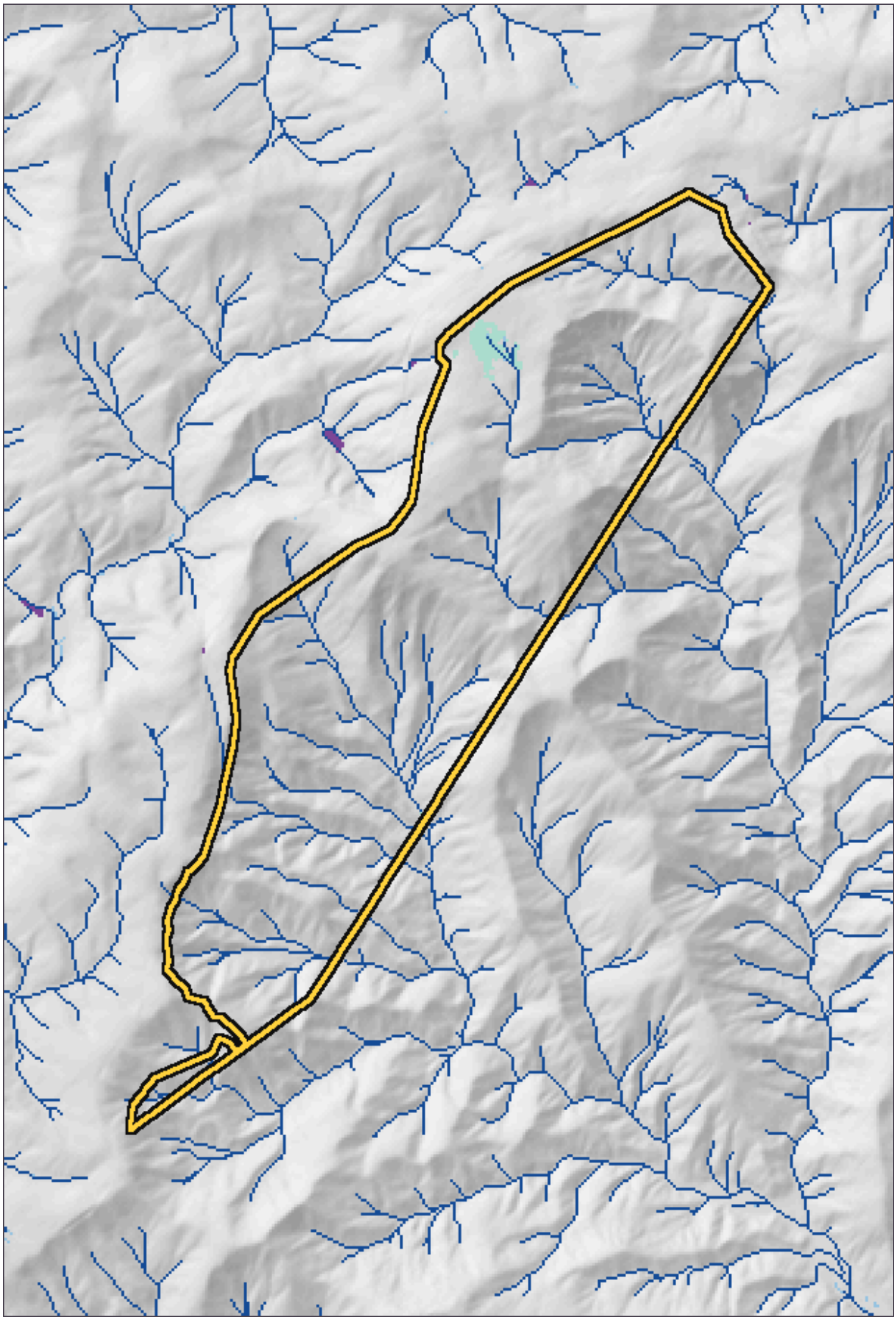
| DAY | HOURS THE SUN IS UP | TYPICAL CELL | LEAST | MOST | ACRES LIT UNDER HALF THE DAY |
|---|---|---|---|---|---|
| 21 DECEMBER | 9.3 | 7.3 | 0.0 | 9.3 | 103.5 |
| 21 MARCH AND 21 SEPTEMBER | 11.3 | 9.3 | 4.0 | 11.3 | 0.2 |
| 21 JUNE | 14.0 | 11.3 | 8.0 | 14.0 | 0.0 |

A cell counts as lit when it faces the sun and no ground within the mapped area stands in the way, checked every 20 minutes of solar time while the sun is more than 2 degrees up. Typical is the median cell. Trees, buildings, cloud and haze are not counted, and ridges more than 2 km away are not seen. This ranks places against each other. It is not a measurement of light or warmth.

## LOW GROUND WHERE COLD AIR CAN SETTLE

10.9 acres (1%) lie at least 2 m below the average ground within 200 m and are flatter than 8%. The lowest cell sits 210 ft below its surroundings. These cells are tinted pale green on the map in the next section.

On clear, still nights cold air drains downhill and pools in ground like this. The thresholds are Highland Willow screening choices and have not been checked against thermometers on this land. No temperature or frost date is estimated.



Terrain screen. North is up. Worked on 14 m cells, 24,237 of them inside the outline, with 2,000 m of surrounding ground.

Gathers water (wetness index)  Flow path draining 5 acres or more

Hollow with no surface outlet  Low, gentle ground (cold-air screen)

33.3 acres (3%) score 10 or more on a topographic wetness index, meaning a lot of ground drains to them and they are nearly flat. About 60,860 ft of flow path inside the outline drains 5 acres or more, and the largest area draining through any one cell is 381 acres. 0.2 acres are hollows at least 1 ft deep with no surface outlet in the elevation model; the deepest is 1.9 ft.

Method: hollows are filled level from the edge of the mapped area (priority-flood), each cell then drains to its steepest lower neighbour, and the index is the natural log of drained width over slope. No mapped stream is burned in. A culvert, bridge, ditch or tile line can make a hollow here that does not exist on the ground, and water arriving from more than 2 km away is not counted. This is an inspection-priority layer. It is not a flood model, a wetland boundary or a drainage design.

## SOILS

Acres of each soil map unit inside the outline, from the national soil survey. The attributes describe the dominant condition of the map unit.

| MAP UNIT | ACRES | SHARE | DRAINAGE | HYDROLOGIC GROUP | FARMLAND CLASS | HYDRIC RATING | FLOODING | WATER STORAGE, TOP 100 CM |
|---|---|---|---|---|---|---|---|---|
| STONY STEEP LAND (STF) | 626.1 | 53% | Excessively drained | A | Not prime farmland | 0% | None | 5.0 cm |
| CHANDLER STONY SILT LOAM, 45 TO 65 PERCENT SLOPES (CDG) | 152.0 | 13% | Somewhat excessively drained | A | Not prime farmland | 0% | None | 12.9 cm |
| ASHE STONY FINE SANDY LOAM, 45 TO 65 PERCENT SLOPES (ASG) | 73.9 | 6% | Somewhat excessively drained | B | Not prime farmland | 0% | None | 9.6 cm |
| TUSQUITEE STONY LOAM, 15 TO 25 PERCENT SLOPES (TSE) | 66.2 | 6% | Well drained | A | Not prime farmland | 0% | None | 15.8 cm |
| PORTERS LOAM, 10 TO 25 PERCENT SLOPES (POE) | 62.0 | 5% | Well drained | A | Farmland of local importance | 0% | None | 15.5 cm |
| ROCK OUTCROP (RO) | 52.7 | 4% | not reported | not reported | Not prime farmland | 0% | None | 0.0 cm |
| ASHE STONY FINE SANDY LOAM, 25 TO 45 PERCENT SLOPES (ASF) | 43.6 | 4% | Somewhat excessively drained | B | Not prime farmland | 0% | None | 9.6 cm |
| ASHE FINE SANDY LOAM, 25 TO 45 PERCENT SLOPES (AHF) | 34.5 | 3% | Somewhat excessively drained | B | Not prime farmland | 0% | None | 9.6 cm |
| PORTERS STONY LOAM, 25 TO 45 PERCENT | 22.1 | 2% | Well drained | A | Not prime farmland | 0% | None | 14.0 cm |

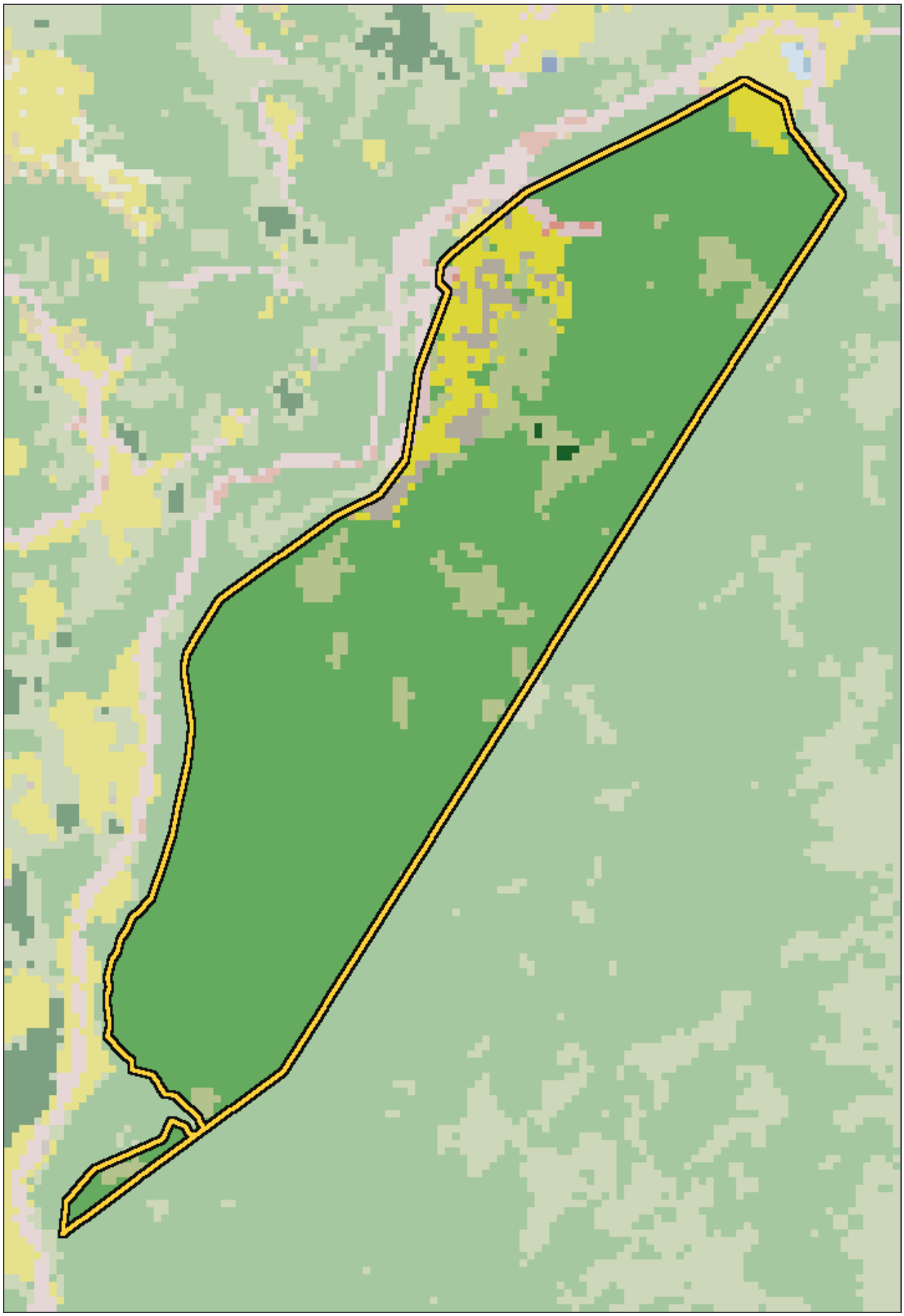
| MAP UNIT | ACRES | SHARE | DRAINAGE | HYDROLOGIC GROUP | FARMLAND CLASS | HYDRIC RATING | FLOODING | WATER STORAGE, TOP 100 CM |
|---|---|---|---|---|---|---|---|---|
| SLOPES (PSF) | | | | | | | | |
| CHANDLER STONY SILT LOAM, 25 TO 45 PERCENT SLOPES (CDF) | 8.7 | 1% | Somewhat excessively drained | A | Not prime farmland | 0% | None | 13.3 cm |
| TUSQUITEE LOAM, 10 TO 15 PERCENT SLOPES (TLD) | 8.4 | 1% | Well drained | A | Farmland of statewide importance | 0% | None | 18.5 cm |
| ALLUVIAL LAND, WET (NIKWASI) (AD) | 8.1 | 1% | Very poorly drained | A/D | Not prime farmland | 80% | Frequent | 12.6 cm |
| CHESTER LOAM, 6 TO 10 PERCENT SLOPES (CEC) | 5.1 | under 1% | Well drained | B | Farmland of statewide importance | 0% | None | 12.9 cm |
| CHESTER LOAM, 10 TO 25 PERCENT SLOPES (CEE) | 4.4 | under 1% | Well drained | B | Farmland of local importance | 0% | None | 12.9 cm |
| PORTERS STONY LOAM, 10 TO 25 PERCENT SLOPES (PSE) | 3.2 | under 1% | Well drained | A | Not prime farmland | 0% | None | 14.0 cm |
| GULLIED LAND (GU) | 1.6 | under 1% | not reported | not reported | Not prime farmland | 0% | None | not reported |
| CLEVELAND–ROCK OUTCROP COMPLEX, 8 TO 90 PERCENT SLOPES (CNF) | 0.7 | under 1% | Somewhat excessively drained | D | Not prime farmland | 0% | None | 2.0 cm |

| MAP UNIT | ACRES | SHARE | DRAINAGE | HYDROLOGIC GROUP | FARMLAND CLASS | HYDRIC RATING | FLOODING | WATER STORAGE, TOP 100 CM |
|---|---|---|---|---|---|---|---|---|
| CHESTNUT–EDNEYVILLE COMPLEX, 25 TO 60 PERCENT SLOPES, STONY (CHE) | 0.5 | under 1% | Well drained | B | Not prime farmland | 0% | None | 9.4 cm |
| CHESTNUT–ASHE COMPLEX, 25 TO 90 PERCENT SLOPES, VERY STONY (CEF) | 0.4 | under 1% | Well drained | B | Not prime farmland | 0% | None | 8.6 cm |
| PORTERS LOAM, 25 TO 45 PERCENT SLOPES (POF) | 0.2 | under 1% | Well drained | A | Not prime farmland | 0% | None | 15.5 cm |
| WATAUGA LOAM, 6 TO 10 PERCENT SLOPES (WAC) | 0.1 | under 1% | Well drained | B | Farmland of statewide importance | 0% | None | 15.1 cm |
| CULLASAJA VERY COBBLY SANDY LOAM, 15 TO 60 PERCENT SLOPES, EXTREMELY BOULDERY (CUE) | 0.0 | under 1% | Well drained | A | Not prime farmland | 0% | None | 8.4 cm |
| CHESTNUT–ASHE COMPLEX, 8 TO 25 PERCENT SLOPES, VERY STONY (CED) | 0.0 | under 1% | Well drained | B | Not prime farmland | 0% | None | 8.6 cm |
| CHESTNUT–EDNEYVILLE COMPLEX, 8 TO 25 PERCENT SLOPES, | 0.0 | under 1% | Well drained | B | Not prime farmland | 0% | None | 9.6 cm |

| MAP UNIT | ACRES | SHARE | DRAINAGE | HYDROLOGIC GROUP | FARMLAND CLASS | HYDRIC RATING | FLOODING | WATER STORAGE, TOP 100 CM |
|---|---|---|---|---|---|---|---|---|
| STONY (CHD) | | | | | | | | |

Mapped soil polygons cover 1,174.8 of the 1,174.9 outlined acres; the difference of 0.1 acres is water, unmapped ground or rounding at polygon edges. Hydric rating is the share of the map unit made up of hydric components.

## LAND COVER, 2024



Annual NLCD 2024, MRLC display copy. 5,064 cells inside the outline.

Deciduous forest | Mixed forest | Pasture or hay | Barren land | Developed, open space
Evergreen forest | Developed, low intensity | Shrub or scrub

| CLASS | ACRES | SHARE | CELLS |
|---|---|---|---|
| DECIDUOUS FOREST | 967.5 | 82% | 4,170 |
| MIXED FOREST | 101.6 | 9% | 438 |
| PASTURE OR HAY | 67.5 | 6% | 291 |
| BARREN LAND | 23.7 | 2% | 102 |
| DEVELOPED, OPEN SPACE | 11.4 | 1% | 49 |
| EVERGREEN FOREST | 1.6 | under 1% | 7 |
| DEVELOPED, LOW INTENSITY | 1.4 | under 1% | 6 |
| SHRUB OR SCRUB | 0.2 | under 1% | 1 |

## LAND COVER OVER TIME, 2001 TO 2021

| CLASS | 2001 | 2006 | 2011 | 2016 | 2021 | CHANGE, 2001 TO 2021 |
|---|---|---|---|---|---|---|
| DECIDUOUS FOREST | 946.9 | 782.8 | 907.8 | 948.9 | 943.8 | -3.1 |
| SHRUB OR SCRUB | 3.8 | 170.6 | 2.7 | 6.2 | 7.8 | +4.0 |
| MIXED FOREST | 101.7 | 101.2 | 103.2 | 103.0 | 103.2 | +1.6 |
| PASTURE OR HAY | 100.1 | 97.9 | 95.4 | 93.4 | 93.4 | -6.7 |
| GRASSLAND OR HERBACEOUS | 0.0 | 0.0 | 42.7 | 0.2 | 3.6 | +3.6 |
| DEVELOPED, OPEN SPACE | 10.7 | 10.7 | 10.7 | 10.5 | 10.5 | -0.2 |
| EVERGREEN FOREST | 9.8 | 9.8 | 10.5 | 10.5 | 10.5 | +0.7 |
| DEVELOPED, LOW INTENSITY | 2.0 | 2.0 | 2.0 | 2.2 | 2.2 | +0.2 |

Acres in each class, from 5,282 cells classified in every year. 22.9 acres (2%) are in a different class in 2021 than in 2001.

The largest moves between those two years:

- Deciduous forest to Shrub or scrub: 7.8 acres
- Pasture or hay to Deciduous forest: 4.9 acres
- Deciduous forest to Grassland or herbaceous: 3.6 acres
- Shrub or scrub to Deciduous forest: 3.6 acres
- Pasture or hay to Mixed forest: 1.3 acres

These are the National Land Cover Database epochs on their own 30 m grid. They are a different product from the 2024 map above, so the two tables will not agree exactly. A cell that changes class may be a real change or a difference in how two years were classified, and one cell is about a quarter acre. Treat small figures as noise.

## MAPPED SURFACE WATER

| NAME | TYPE | FLOW | LENGTH INSIDE THE OUTLINE |
|---|---|---|---|
| COVE CREEK | Stream or river | intermittent | 3,581 ft |
| UNNAMED | Stream or river | intermittent | 3,023 ft |
| UNNAMED | Stream or river | intermittent | 2,505 ft |
| WILDCAT BRANCH | Stream or river | intermittent | 2,474 ft |
| UNNAMED | Stream or river | intermittent | 2,024 ft |
| UNNAMED | Stream or river | intermittent | 2,011 ft |
| UNNAMED | Stream or river | intermittent | 1,973 ft |
| BASIN CREEK | Stream or river | perennial | 1,885 ft |
| UNNAMED | Stream or river | intermittent | 1,785 ft |
| UNNAMED | Stream or river | intermittent | 1,756 ft |
| UNNAMED | Stream or river | perennial | 1,489 ft |
| WILDCAT BRANCH | Stream or river | perennial | 1,297 ft |
| COVE CREEK | Stream or river | perennial | 928 ft |
| UNNAMED | Stream or river | perennial | 424 ft |
| WILDCAT BRANCH | Stream or river | perennial | 319 ft |
| UNNAMED | Stream or river | intermittent | 282 ft |
| BASIN CREEK | Artificial path | not classified | 146 ft |

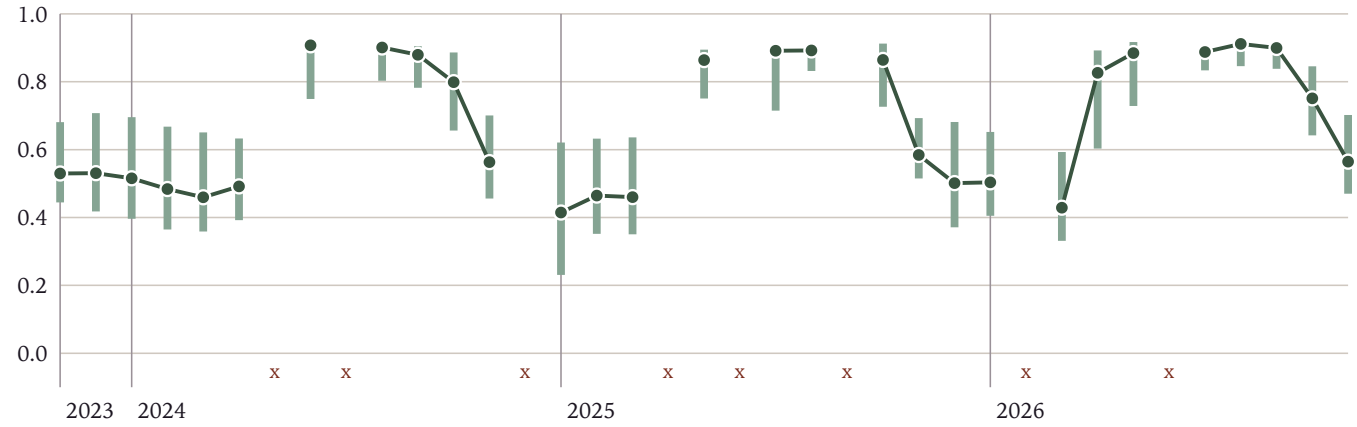
Total mapped length inside the outline: 27,899 ft.

Mapped waterbodies touching the outline: Unnamed (whole feature about 0.0 acres); Unnamed (whole feature about 0.0 acres).

## VEGETATION HISTORY FROM SENTINEL-2

One scene per calendar month from 2023-11-22 to 2026-11-22: the least cloudy scene that left at least 70% of the outline clear. 29 of 37 months had one. NDVI is a

greenness index between about 0 (bare soil) and 0.9 (dense green growth).



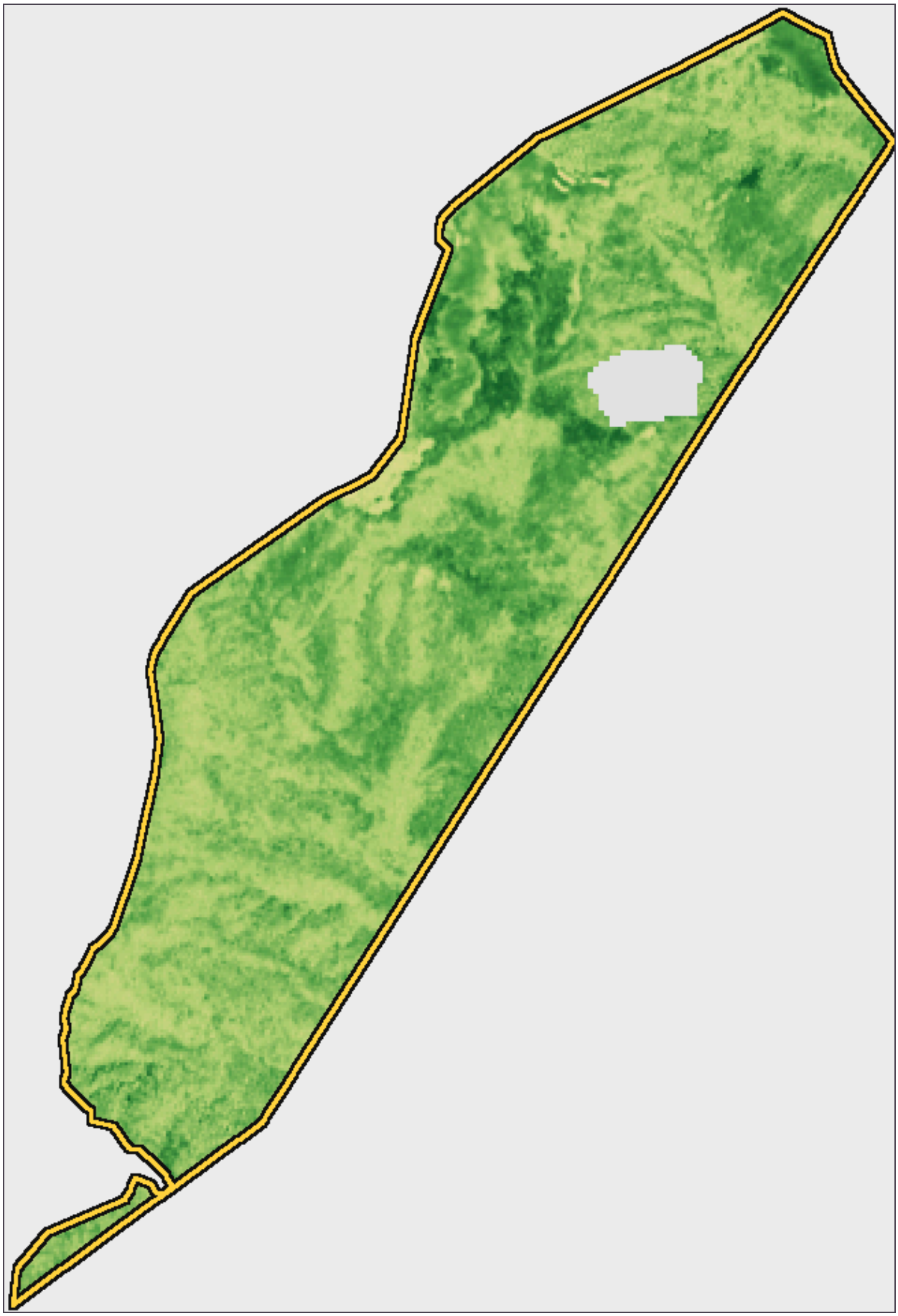
Dot: median. Bar: 10th to 90th percentile of cells. x: no clear scene that month.

## Growing season, April to October

| YEAR | MONTHS WITH A CLEAR SCENE | MEDIAN OF MONTHLY MEDIANS | LOWEST MONTH | HIGHEST MONTH |
|---|---|---|---|---|
| 2024 | 5 of 7 | 0.88 | 0.49 | 0.91 |
| 2025 | 4 of 7 | 0.88 | 0.86 | 0.89 |
| 2026 | 6 of 7 | 0.89 | 0.75 | 0.91 |

Years with few clear months are not comparable with years that have many. No trend is claimed from this table.

## Most recent clear scene: 2026-11-16



Captured 2026-11-16. This is the last clear observation in the record, not current conditions.




**Every month**

| MONTH | SCENE DATE | MEDIAN NDVI | 10TH TO 90TH PERCENTILE | OUTLINE CLEAR | SCENE |
|---|---|---|---|---|---|
| 2023-11 | 2023-11-27 | 0.53 | 0.44 to 0.68 | 95% | S2A_17SMA_20231127_0_L2A |
| 2023-12 | 2023-12-12 | 0.53 | 0.42 to 0.71 | 94% | S2B_17SMA_20231212_0_L2A |
| 2024-01 | 2024-01-11 | 0.52 | 0.40 to 0.70 | 97% | S2B_17SMA_20240111_0_L2A |
| 2024-02 | 2024-02-05 | 0.48 | 0.36 to 0.67 | 99% | S2A_17SMA_20240205_0_L2A |
| 2024-03 | 2024-03-21 | 0.46 | 0.36 to 0.65 | 100% | S2B_17SMA_20240321_0_L2A |
| 2024-04 | 2024-04-15 | 0.49 | 0.39 to 0.63 | 100% | S2A_17SMA_20240415_0_L2A |
| 2024-05 | No scene left enough of the outline clear. No value is shown. | | | | |
| 2024-06 | 2024-06-24 | 0.91 | 0.75 to 0.92 | 76% | S2A_17SMA_20240624_0_L2A |
| 2024-07 | No scene left enough of the outline clear. No value is shown. | | | | |
| 2024-08 | 2024-08-23 | 0.90 | 0.80 to 0.91 | 86% | S2A_17SMA_20240823_0_L2A |
| 2024-09 | 2024-09-22 | 0.88 | 0.78 to 0.90 | 100% | S2A_17SMA_20240922_0_L2A |
| 2024-10 | 2024-10-12 | 0.80 | 0.66 to 0.89 | 100% | S2A_17SMA_20241012_0_L2A |
| 2024-11 | 2024-11-16 | 0.56 | 0.46 to 0.70 | 98% | S2B_17SMA_20241116_0_L2A |
| 2024-12 | No scene left enough of the outline clear. No value is shown. | | | | |
| 2025-01 | 2025-01-25 | 0.41 | 0.23 to 0.62 | 89% | S2B_17SMA_20250125_0_L2A |
| 2025-02 | 2025-02-04 | 0.46 | 0.35 to 0.63 | 98% | S2B_17SMA_20250204_0_L2A |

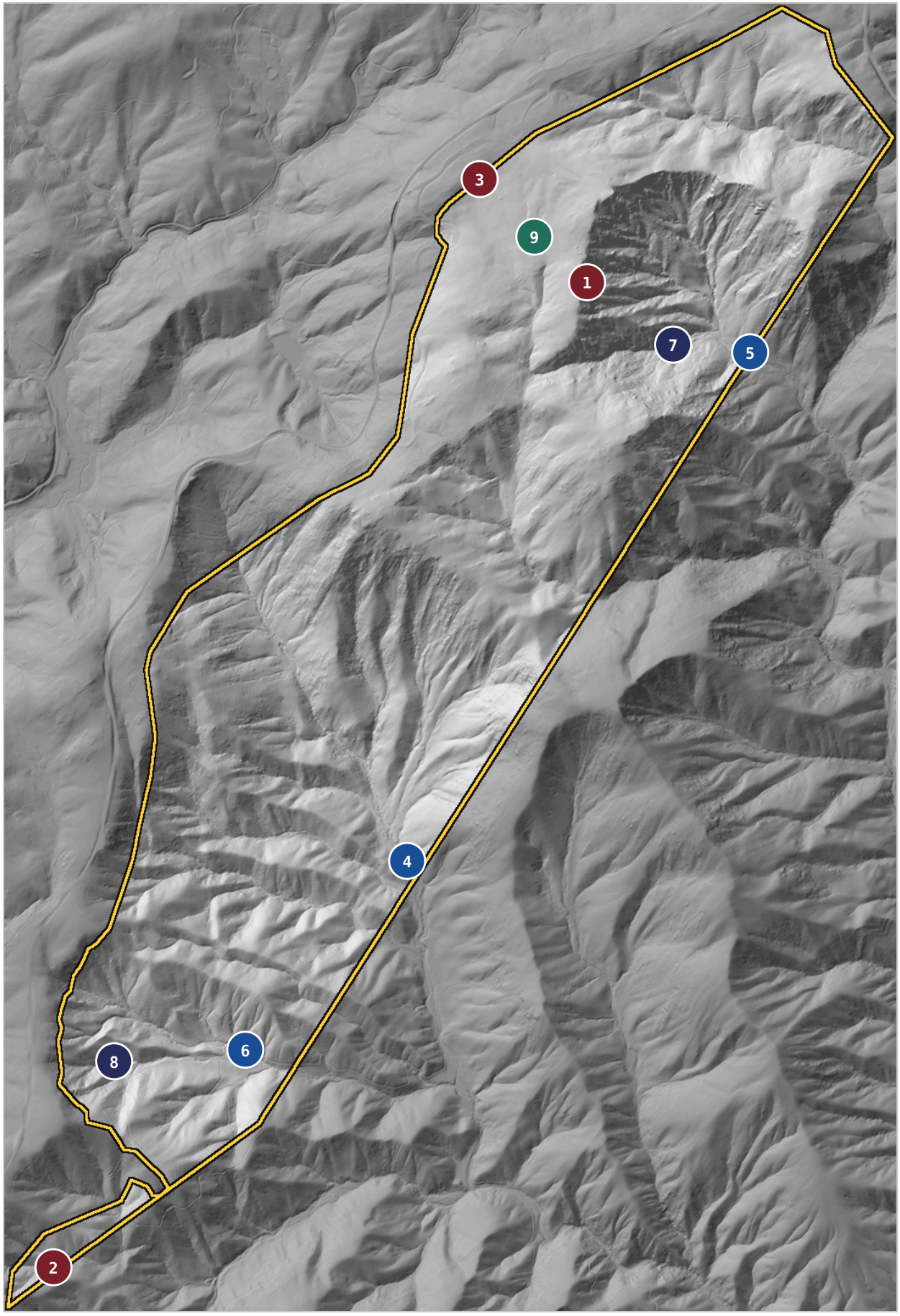
| MONTH | SCENE DATE | MEDIAN NDVI | 10TH TO 90TH PERCENTILE | OUTLINE CLEAR | SCENE |
|---|---|---|---|---|---|
| 2025-03 | 2025-03-11 | 0.46 | 0.35 to 0.64 | 100% | S2C_17SMA_20250311_0_L2A |
| 2025-04 | No scene left enough of the outline clear. No value is shown. | | | | |
| 2025-05 | 2025-05-22 | 0.86 | 0.75 to 0.89 | 76% | S2A_17SMA_20250522_1_L2A |
| 2025-06 | No scene left enough of the outline clear. No value is shown. | | | | |
| 2025-07 | 2025-07-24 | 0.89 | 0.71 to 0.91 | 91% | S2B_17SMA_20250724_0_L2A |
| 2025-08 | 2025-08-30 | 0.89 | 0.83 to 0.91 | 100% | S2A_17SMA_20250830_1_L2A |
| 2025-09 | No scene left enough of the outline clear. No value is shown. | | | | |
| 2025-10 | 2025-10-09 | 0.86 | 0.73 to 0.91 | 100% | S2A_17SMA_20251009_1_L2A |
| 2025-11 | 2025-11-06 | 0.58 | 0.52 to 0.69 | 96% | S2C_17SMA_20251106_0_L2A |
| 2025-12 | 2025-12-16 | 0.50 | 0.37 to 0.68 | 96% | S2C_17SMA_20251216_0_L2A |
| 2026-01 | 2026-01-20 | 0.50 | 0.40 to 0.65 | 74% | S2B_17SMA_20260120_0_L2A |
| 2026-02 | No scene left enough of the outline clear. No value is shown. | | | | |
| 2026-03 | 2026-03-01 | 0.43 | 0.33 to 0.59 | 100% | S2B_17SMA_20260301_0_L2A |
| 2026-04 | 2026-04-30 | 0.83 | 0.60 to 0.89 | 98% | S2B_17SMA_20260430_0_L2A |
| 2026-05 | 2026-05-10 | 0.88 | 0.73 to 0.92 | 100% | S2B_17SMA_20260510_0_L2A |
| 2026-06 | No scene left enough of the outline clear. No value is shown. | | | | |
| 2026-07 | 2026-07-29 | 0.89 | 0.83 to 0.90 | 100% | S2B_17SMA_20260729_0_L2A |

| MONTH | SCENE DATE | MEDIAN NDVI | 10TH TO 90TH PERCENTILE | OUTLINE CLEAR | SCENE |
|---|---|---|---|---|---|
| 2026-08 | 2026-08-25 | 0.91 | 0.85 to 0.92 | 98% | S2A_17SMA_20260825_1_L2A |
| 2026-09 | 2026-09-17 | 0.90 | 0.84 to 0.91 | 100% | S2B_17SMA_20260917_0_L2A |
| 2026-10 | 2026-10-27 | 0.75 | 0.64 to 0.85 | 100% | S2B_17SMA_20261027_0_L2A |
| 2026-11 | 2026-11-16 | 0.56 | 0.47 to 0.70 | 98% | S2B_17SMA_20261116_0_L2A |

## WHERE TO LOOK

Candidate points for a visit, picked by software from the screens above: the largest patches of each kind, one point in each. They are unverified.

> **These are places to look at, not a route.** Nothing here says a point is safe to reach. Steep, wet and unstable ground should be viewed from a safe spot, and not alone.




Numbered as in the table. North is up.

Steepest ground  Ground that gathers water  Least winter sun  Low ground where cold air settles

| POINT | WHAT | WHERE | LATITUDE, LONGITUDE | PATCH, ACRES | WHAT TO CHECK |
|---|---|---|---|---|---|
| P1 | Steepest ground: slope about 348% at this cell | In the outline | 36.42694, -81.17600 | 1,066.4 | Look at ground cover, tracks and any slip or rill. |
| P2 | Steepest ground: slope about 114% at this cell | In the outline | 36.39464, -81.19754 | 15.8 | Look at ground cover, tracks and any slip or rill. |
| P3 | Steepest ground: slope about 66% at this cell | In the outline | 36.43032, -81.18036 | 4.5 | Look at ground cover, tracks and any slip or rill. |
| P4 | Ground that gathers water: wetness index 14.4 | In the outline | 36.40798, -81.18325 | 9.5 | Look for standing water, rushes or pugging, and for a ditch or tile that already drains it. |
| P5 | Ground that gathers water: wetness index 13.2 | In the outline | 36.42466, -81.16939 | 6.9 | Look for standing water, rushes or pugging, and for a ditch or tile that already drains it. |
| P6 | Ground that gathers water: wetness index 12.1 | In the outline | 36.40178, -81.18979 | 4.0 | Look for standing water, rushes or pugging, and for a ditch or tile that already drains it. |
| P7 | Least winter sun: about 0.0 hours of direct sun on 21 December | In the outline | 36.42491, -81.17251 | 27.4 | Note snow, ice or mud that lingers, and whether trees add to the shade. |
| P8 | Least winter sun: about 0.0 hours of direct sun on 21 December | In the outline | 36.40140, -81.19510 | 13.3 | Note snow, ice or mud that lingers, and whether trees add to the shade. |
| P9 | Low ground where cold air settles: about 21 ft below the ground around it | In the outline | 36.42843, -81.17814 | 9.7 | Note where frost comes first and stays latest. |

Coordinates are WGS84 and mark the middle of a 3 to 10 m cell of the elevation model, so expect to be within a few paces, not on a stake. The same points are in

`field_points.gpx` and `field_points.geojson` beside this report, for a phone map.

## OBSERVATION REGISTER

Each row comes only from the figures above and is unverified until someone looks. They are prompts for a visit, not findings of damage or risk.

| ID | WHERE | WHAT THE DATA SHOWS, AND WHAT TO CHECK | STATE |
|---|---|---|---|
| OBS-001 | Whole outline | About 1,095.3 acres are steeper than 15%. Is the ground cover holding there, or do you see bare soil, rills or slips? See points P1, P2, P3. | Unverified |
| OBS-002 | Whole outline | About 8.1 acres are mapped in units rated mostly hydric. Do those areas stay wet into late spring? | Unverified |
| OBS-003 | Whole outline | About 8.1 acres are in map units with a flooding frequency other than none. Where does water actually stand or run after a big rain? | Unverified |
| OBS-004 | Whole outline | 24 soil map units are present. Do field boundaries or fences follow the changes between them? | Unverified |
| OBS-005 | Whole outline | About 27,899 ft of mapped stream or channel cross the outline. Are the banks stable, and is livestock access controlled where it matters? | Unverified |
| OBS-006 | Whole outline | The lowest growing-season greenness in this record was in the scene of 2025-05-22. Does that match what you remember: drought, a hay cut, heavy grazing or something else? | Unverified |
| OBS-007 | Whole outline | Terrain alone keeps about 103.5 acres in shade for more than half of a midwinter day. Does snow, ice or mud linger there, and do trees add to it? See points P7, P8. | Unverified |
| OBS-008 | Whole outline | About 10.9 acres sit in low, gentle ground where cold air can settle on still nights. Is that where frost comes first and stays latest? See point P9. | Unverified |
| OBS-009 | Whole outline | The shape of the ground gathers water on about 33.3 acres, and 0.2 acres are hollows with no surface outlet in the elevation model. Do those spots stay wet, or does a ditch, tile or culvert drain them? See points P4, P5, P6. | Unverified |
| OBS-010 | Whole outline | The land cover maps call about 7.8 acres "Deciduous forest" in 2001 and "Shrub or scrub" in 2021. Was that a real change in how the land was used, and when? | Unverified |
| OBS-011 | Whole outline | The land cover map calls most of this land "Deciduous forest" (2024). Is that how it is used today? | Unverified |

## SOURCE LEDGER

| SOURCE | STATUS | DATA DATE | CELL SIZE | LIMITS | TERMS |
|---|---|---|---|---|---|
| USGS 3D ELEVATION PROGRAM, DYNAMIC ELEVATION SERVICE | Used | Service dated October 27, 2026. Survey years vary by area and are not reported per cell. | 3.0 m | Bare-earth elevation model resampled to the stated cell size. Not a site survey. | https://www.usgs.gov/3d-elevation-prog |
| USGS 3D ELEVATION PROGRAM, OUTLINE AND SURROUNDING GROUND | Used | Survey years vary by area and are not reported per cell. | 14.0 m | Bare-earth model with 2,000 m of surrounding ground. Trees, buildings, culverts and bridges are not in it. Terrain farther away is not counted. | https://www.usgs.gov/3d-elevation-prog |
| USDA NRCS SOIL SURVEY GEOGRAPHIC DATABASE (SSURGO) VIA SOIL DATA ACCESS | Used | Survey area NC005, NC193, version saved 8/31/2026, 9/10/2026. | Vector | Soil map units are generalized at survey scale, commonly 1:12,000 to 1:24,000. Unit attributes describe the dominant condition of the unit. | https://www.nrcs.usda.gov/resources/da ssurgo |

| SOURCE | STATUS | DATA DATE | CELL SIZE | LIMITS | TERMS |
|---|---|---|---|---|---|
| | | | | This is not a soil test. | |
| MRLC ANNUAL NLCD 2024, MRLC DISPLAY COPY | Used | Land cover year 2024. | 30 m | Classified from 30 m Landsat cells. This copy is resampled by MRLC to web-mercator cells for display, so acreages are approximate. One cell covers about a quarter acre, so small features are missed. | https://www.mrlc.gov/data |
| MRLC NATIONAL LAND COVER DATABASE, 2001 TO 2021 EPOCHS, NATIVE GRID | Used | Land cover years 2001, 2006, 2011, 2016, 2021. | 30 m | Classified from 30 m Landsat cells. A cell that changes class can be a real change or a difference in how two years were classified. One cell covers about a quarter acre. | https://www.mrlc.gov/data |
| USGS NATIONAL HYDROGRAPHY | Used | Compiled over many | Vector | Mapped at about | https://www.usgs.gov/national-hydrogra |

| SOURCE | STATUS | DATA DATE | CELL SIZE | LIMITS | TERMS |
|---|---|---|---|---|---|
| DATASET, LARGE-SCALE FLOWLINES AND WATERBODIES | | years; no per-feature date is returned. | | 1:24,000. Small, seasonal or re-routed channels, ponds, springs and drain tile are often missing. Lengths are measured along the mapped line inside the outline. | |
| COPERNICUS SENTINEL-2 LEVEL-2A SURFACE REFLECTANCE, VIA THE EARTH SEARCH STAC CATALOG AND PUBLIC CLOUD-OPTIMIZED FILES | Used | Scenes from 2023-11-22 to 2026-11-22; each row carries its own capture date. | 10 m | NDVI is a greenness index, not forage mass, yield or soil health. Cloud, shadow, haze, snow, mowing, grazing and crop stage all move it. Winter values over snow or frozen ground are unreliable. One scene per month is a thin sample. | https://sentinels.copernicus.eu/documer |

## How to read the figures

- **Read from a public dataset:** soil unit names and attributes, land cover classes, mapped streams. Accuracy is the dataset's, at its stated scale.
- **Computed here from a public dataset:** acreages, slope classes, facing, NDVI statistics. Method and cell size are stated beside each.
- **Screening only:** sun hours, low cold-air ground, the water-gathering map and the observation register. Each ranks places for a look on the ground and none is a measurement.

## What this report cannot tell you

- Nothing here measures soil nutrients, forage mass, carrying capacity, water quality or anything below the surface.
- No image or dataset used here is live. Each carries the date shown.
- The outline is not a legal boundary, and acreages will differ from deeds, tax records and surveys.

### ANALYST REVIEW

| | |
|---|---|
| THE LAND IS PUBLIC, OR ITS OWNER HAS APPROVED IN WRITING ITS USE AS A SAMPLE | Yes |
| EACH MAP CHECKED AGAINST THE BASEMAP | Yes |
| UNAVAILABLE SOURCES EXPLAINED | Yes |
| OBSERVATIONS REWORDED OR REMOVED AS NEEDED | Yes |
| EVERYTHING IN IT MAY BE SHOWN TO THE PUBLIC | Yes |
| REVIEWER AND DATE | Highland Willow, 2026-11-22T18:54:43Z |
| REPORT ID | 352f451d09214794a856e9fe3c56c00f |

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