

# Natural Landscapes

## Park Analysis of Landscapes and Monitoring Support



### What and why

The patterns of Natural Landscapes indicator measures the landscape context of parks and protected areas, which is designed to evaluate the pattern and fragmentation of natural landscapes, and the landscape dynamics over time. This indicator characterizes pattern by measuring the proportion of a location that using a robust, multi-scale method that examines context at local (<1 km) to regional (~100 km) neighborhoods.

### How it works

We assigned a score ranging from 0.0 for completely human-modified and 1.0 for “natural” using data on land cover, residential development, road presence, and highway traffic. Land cover data were from National Land Cover Change retrofit for 2001. Housing density data were from Census 2000 block level housing counts. The proportion of a 30 m cell occupied by a road was calculated using Esri/GDT Streetmap data and applying the footprint estimates: 100% interstates/highways; 50% secondary roads; 30% local roads, and 10% 4WD roads. Traffic volume for highways was calculated using National Transportation Atlas Database values on Average Annual Daily Traffic, smoothed by a 1 km radius kernel. We combined these layers by finding the minimum value of the four layers.

### Examples

This indicator is available for the conterminous US (at 270 m resolution) that reflect conditions for 1992, 2001, and 2030. Here we provide an example of the NL indicator for Delaware Water Gap (top) and Rocky Mountain National Park (middle). Darker red areas indicate a lower NL value or a higher degree of human modification, while blue areas indicate more higher NL values with a low degree of human modification. In addition this indicator can be used to examine how the variety of park units are placed within different ecoregional contexts (lower).

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<http://science.nature.nps.gov/im/monitor/lulc/palms/index.cfm>

