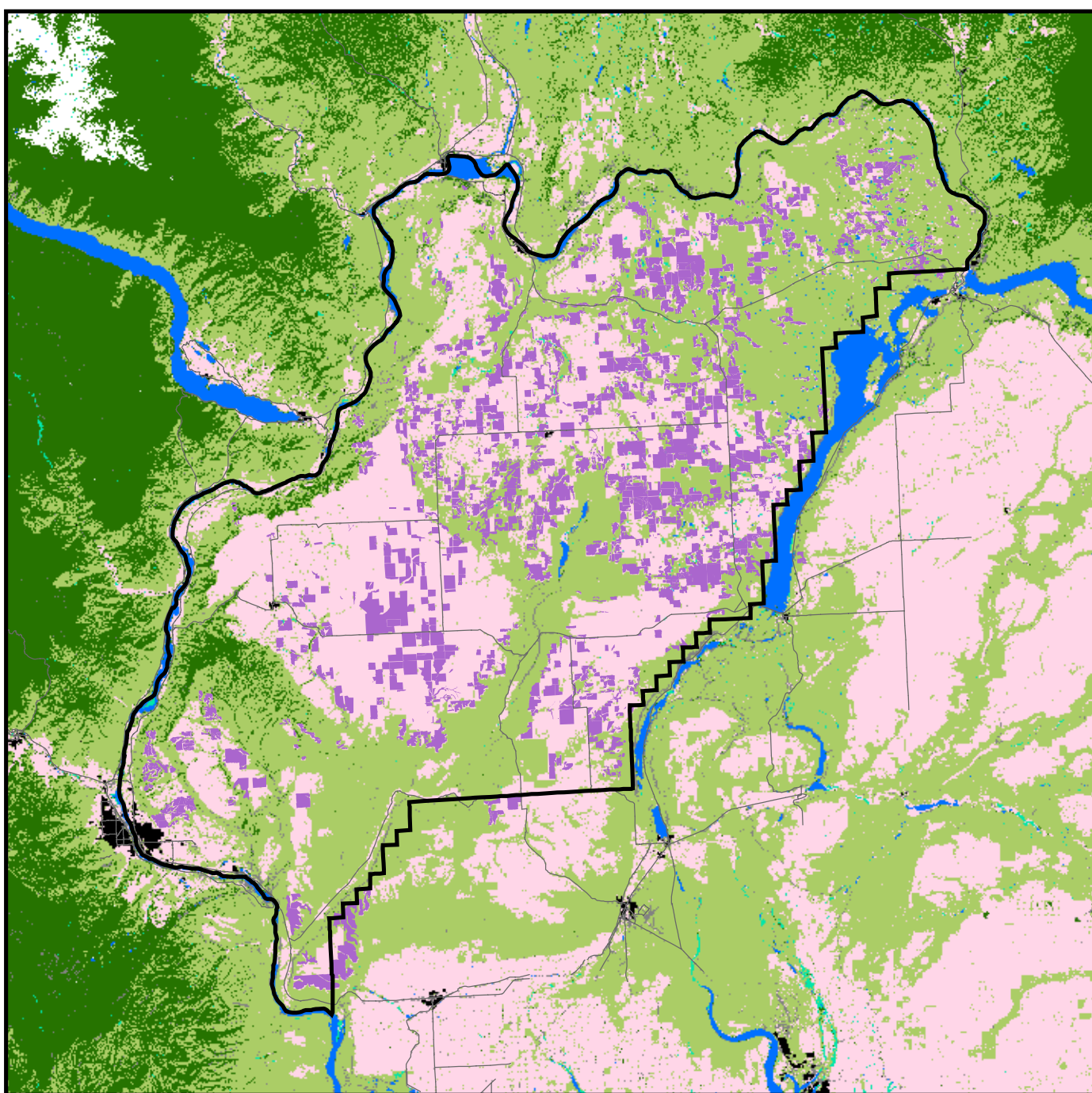


Assessing Fragmentation of Shrubsteppe Habitat in Douglas County, WA

To assist in the development of a Habitat Conservation Plan for Douglas County, WA, the Washington Department of Fish & Wildlife and the Nature Conservancy of Washington conducted an analysis of shrubsteppe habitat fragmentation. This analysis ranks CRP parcels and existing shrubsteppe patches according to relative degree of fragmentation, based on existing landcover and road density.



Douglas County Land Cover

- Douglas County
- Major Roads
- CRP Lands
- Agriculture
- Shrubsteppe
- Water
- Forest
- Barren
- Palustrine Wetland
- Urban

Data Source: Shrubsteppe Mapping of Eastern Washington Using Landsat Satellite Thematic Mapper Data, Washington Department of Fish and Wildlife, August 2000.

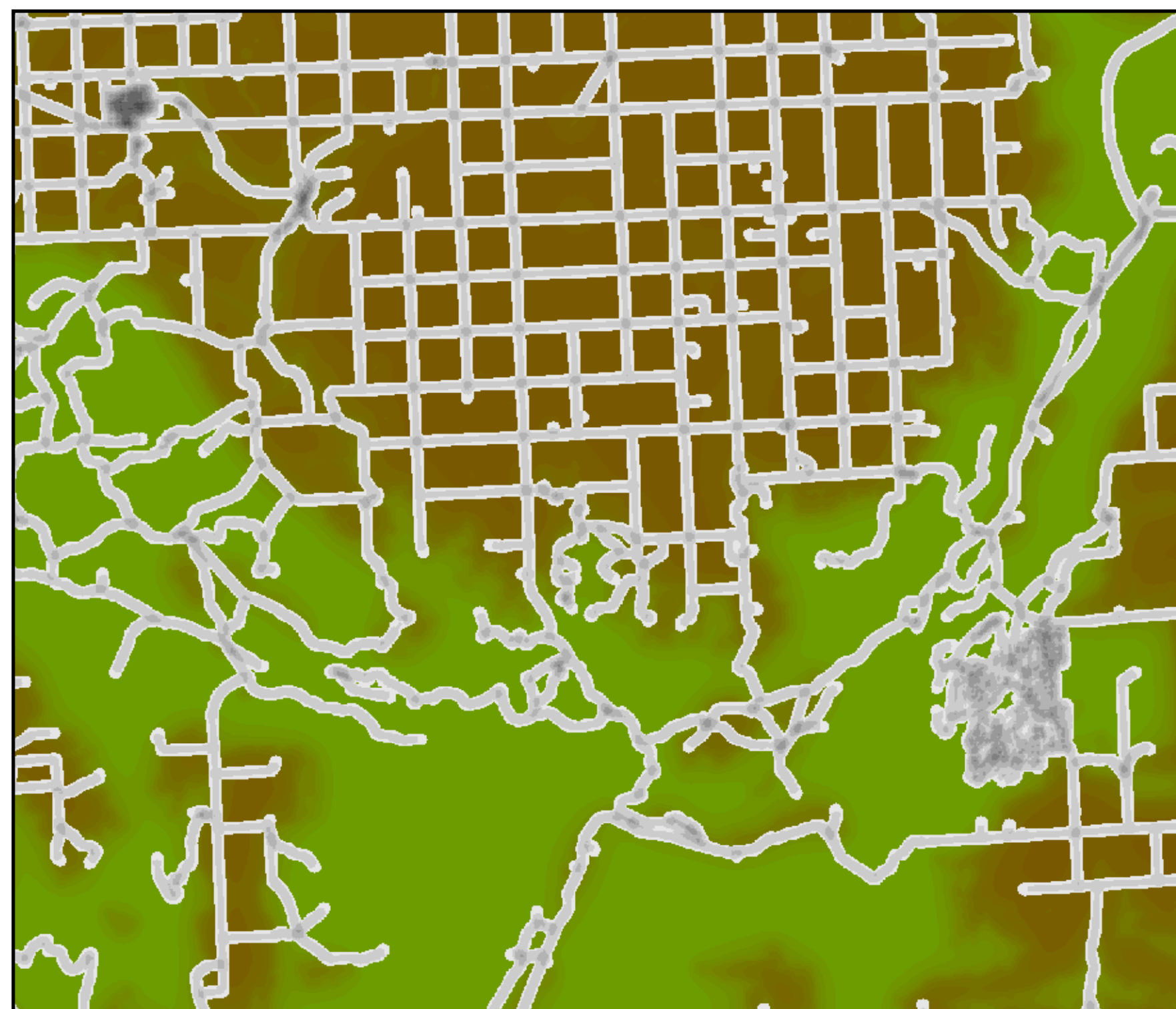
STEP 1: Landscape Fragmentation Index

In order to predict and map habitat condition, we measured:

- a) percent area under natural landcover within a 2km radius neighborhood, as a distance-weighted average, and
- b) road density within a 240 m radius neighborhood (values re-scaled to 0-100).

Using the formula below, we combined these two metrics to produce an index of landscape fragmentation. This index is intended to measure the degree of conversion from native shrubsteppe, and functions as a coarse-scale indicator of potential habitat condition.

$$\text{Landscape Fragmentation Index (LFI)} = \% \text{converted landcover} + \text{road density}$$



Percent Converted Land Cover (2 km radius neighborhood)

- 100 % converted
- 0 % converted

Road Density (240 m radius neighborhood; values re-scaled to 0 - 100)

- Highest (100)
- Lowest (0)

STEP 2: Ranking CRP Parcels

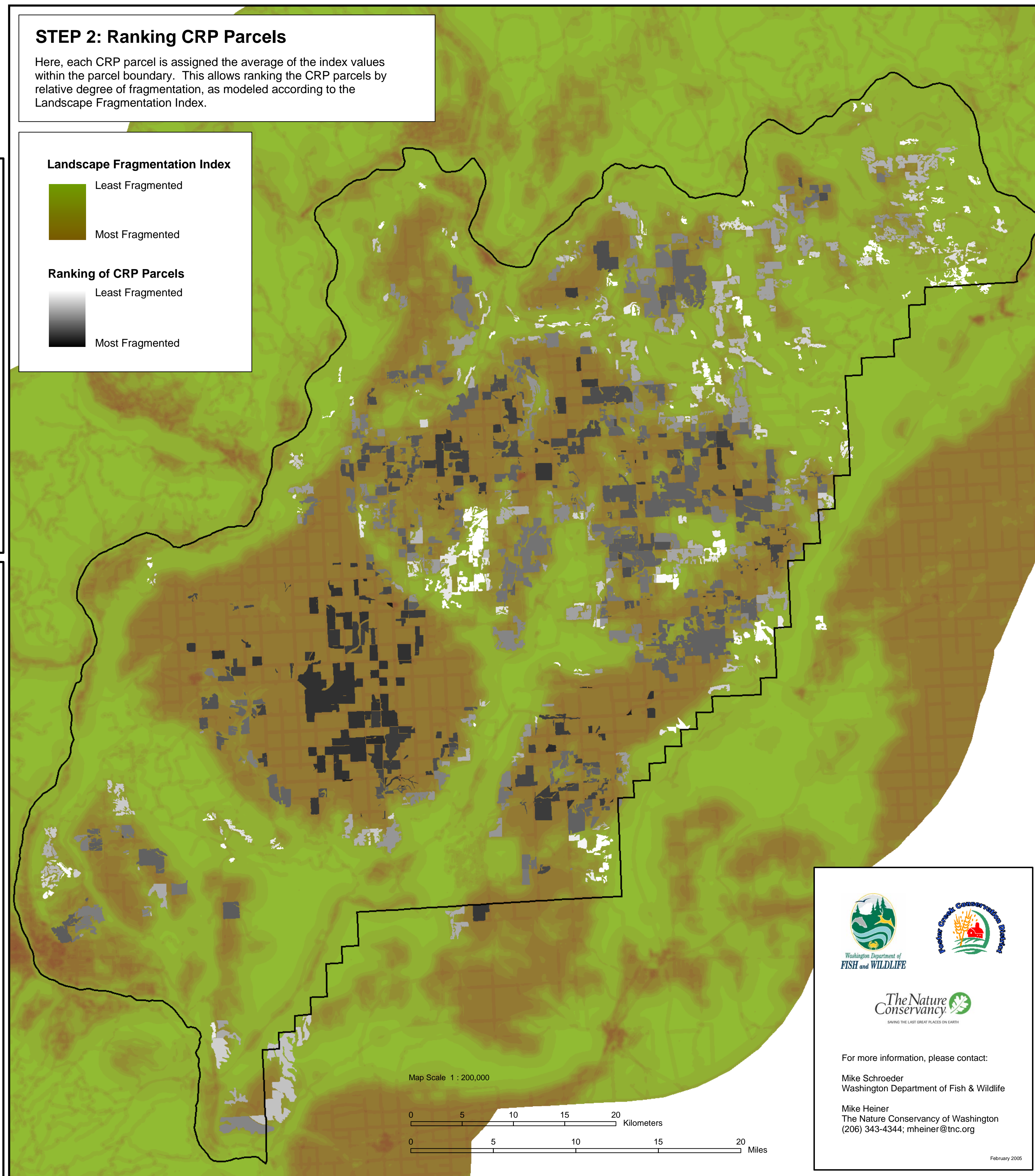
Here, each CRP parcel is assigned the average of the index values within the parcel boundary. This allows ranking the CRP parcels by relative degree of fragmentation, as modeled according to the Landscape Fragmentation Index.

Landscape Fragmentation Index

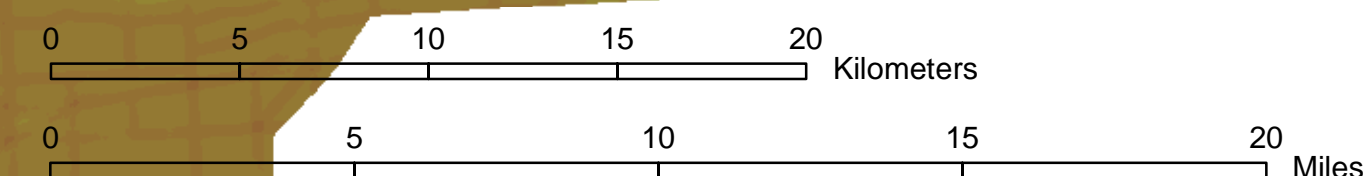
- Least Fragmented
- Most Fragmented

Ranking of CRP Parcels

- Least Fragmented
- Most Fragmented



Map Scale 1 : 200,000



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