

Representative Species Model: Black Bear (*Ursus americanus*)

Black Bear

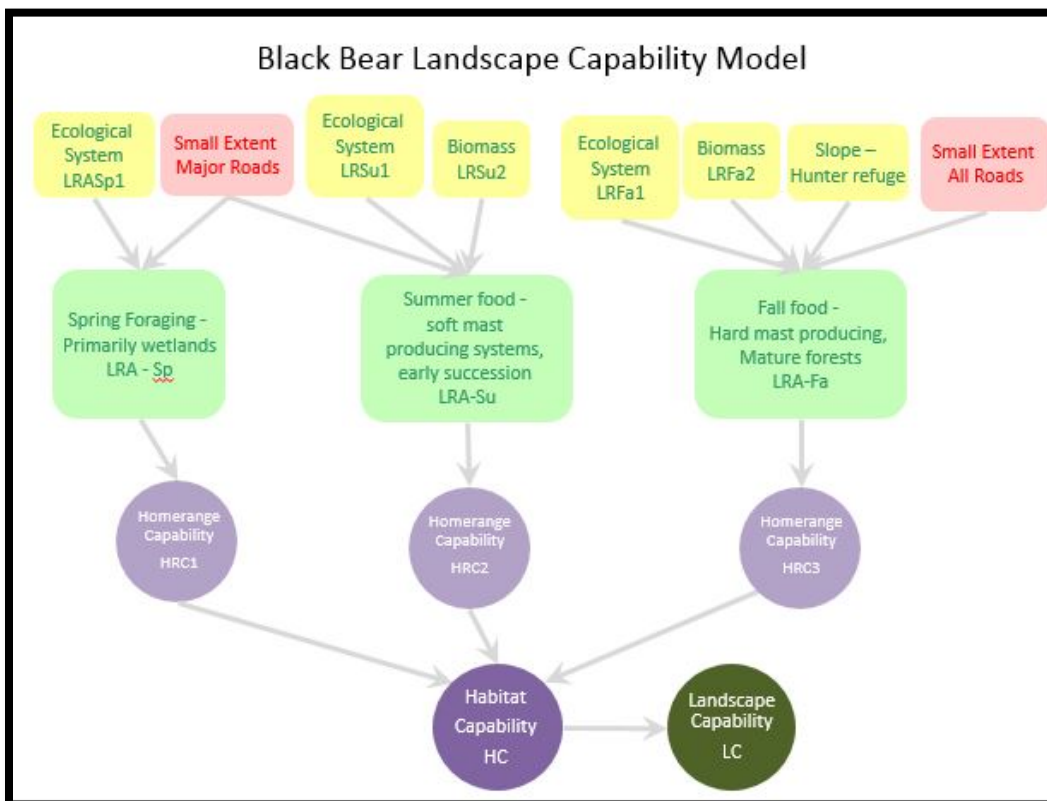
Black bear was selected as a representative species for the Designing Sustainable Landscapes project of the North Atlantic LCC (https://scholarworks.umass.edu/designing_sustainable_landscapes/). The habitat clusters (ecological systems) and associated wildlife species that it represents generally comprise of wetlands, early successional forests and mature hard mast-producing forests. The **Landscape Capability (LC)** index only includes **Habitat Capability** for this species. **Climate niche (CN)** is not estimated for black bear because its suitable climate conditions encompass the majority of North America. Therefore, it is unlikely that the northeast will experience climate conditions outside of this range by 2080. **Prevalence** is also not used for black bear **LC** due its extensive range in North America and the lack of broad scale occupancy data.

Habitat capability (HC) -- The **HC** index considers three factors for foraging habitat representing: (1) Spring foraging as defined by ecological systems that provide herbaceous cover, wetlands in particular, (2) Summer foraging as defined by ecological systems and succession stage (biomass) that produce soft mast, particularly early successional forests, (3) Fall foraging

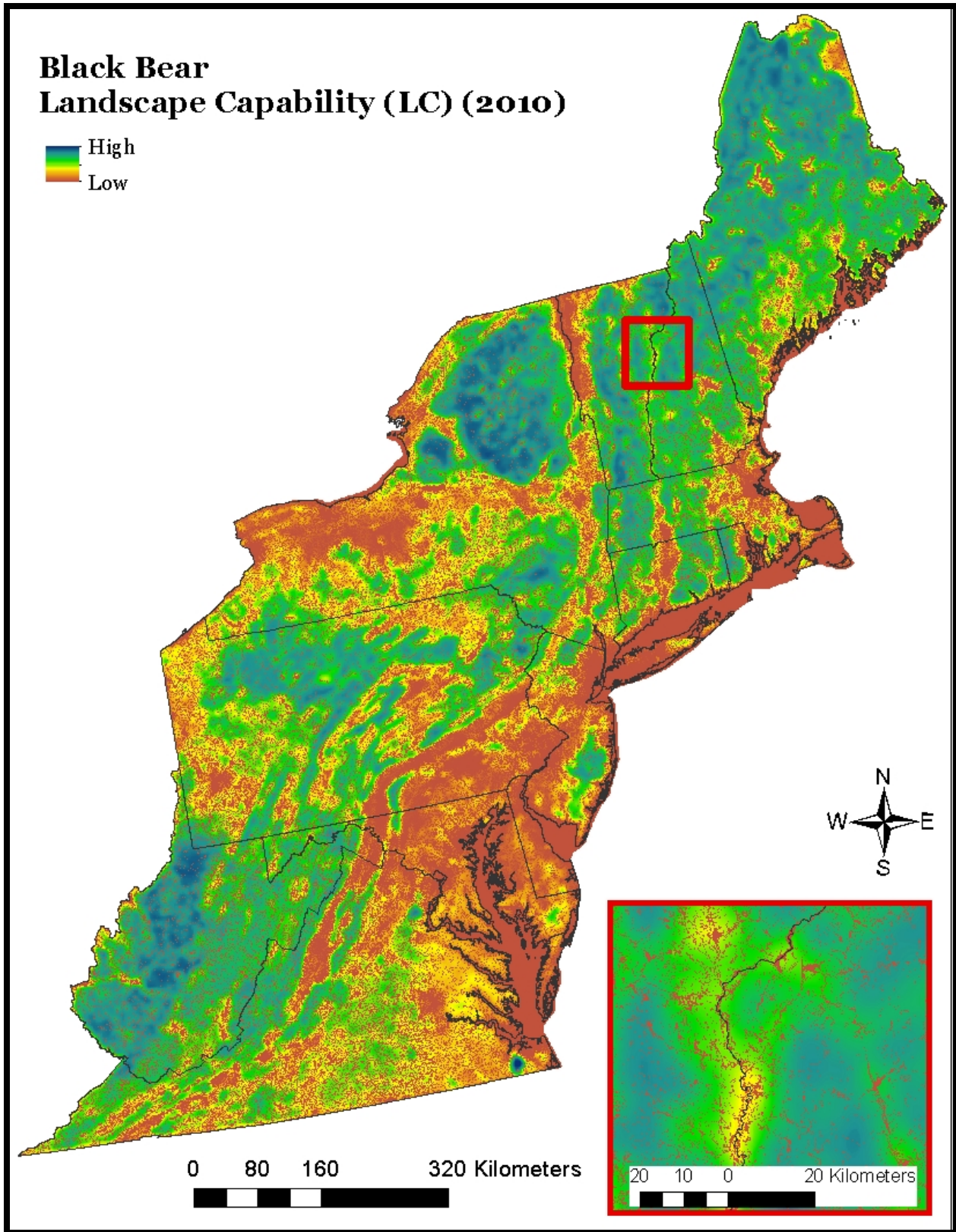


represents primarily mature forests that provide hard mast. Spring and summer habitat are negatively influenced by local proximity to major roads. To reflect the avoidance of habitat accessed by hunters, fall habitat is negatively influenced by local proximity to all road categories and habitat with gentle slopes. The **HC** index represents the relative capacity of a site to provide the habitat needed by the species based on current scientific knowledge.

The **LC** index computed for 2010 reflects the gradient of worst (0) to best (maximum value) sites within the landscape



that support this species. The index computed for the future (e.g., 2080) reflects the relative value compared to the 2010 standard. Due to the lack of occurrence data for bear across its range, we are currently unable to statistically evaluate **LC**.



See technical document on species at https://scholarworks.umass.edu/designing_sustainable_landscapes/ for a detailed description of the Landscape Capability modeling process.