

Gap Analysis of Ecological Systems Nationwide

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The conservation community has increasingly focused on landscape scales for national decision making, but the lack of relevant and consistent data at a national scale has been an impediment. That impediment has been over-

come with the availability of national data for ecological systems (i.e, vegetation communities) as well as newly developed landscape units for conservation initiatives. Ecological systems are groups of vegetation communities that occur together within similar physical environments and are influenced by similar ecological processes

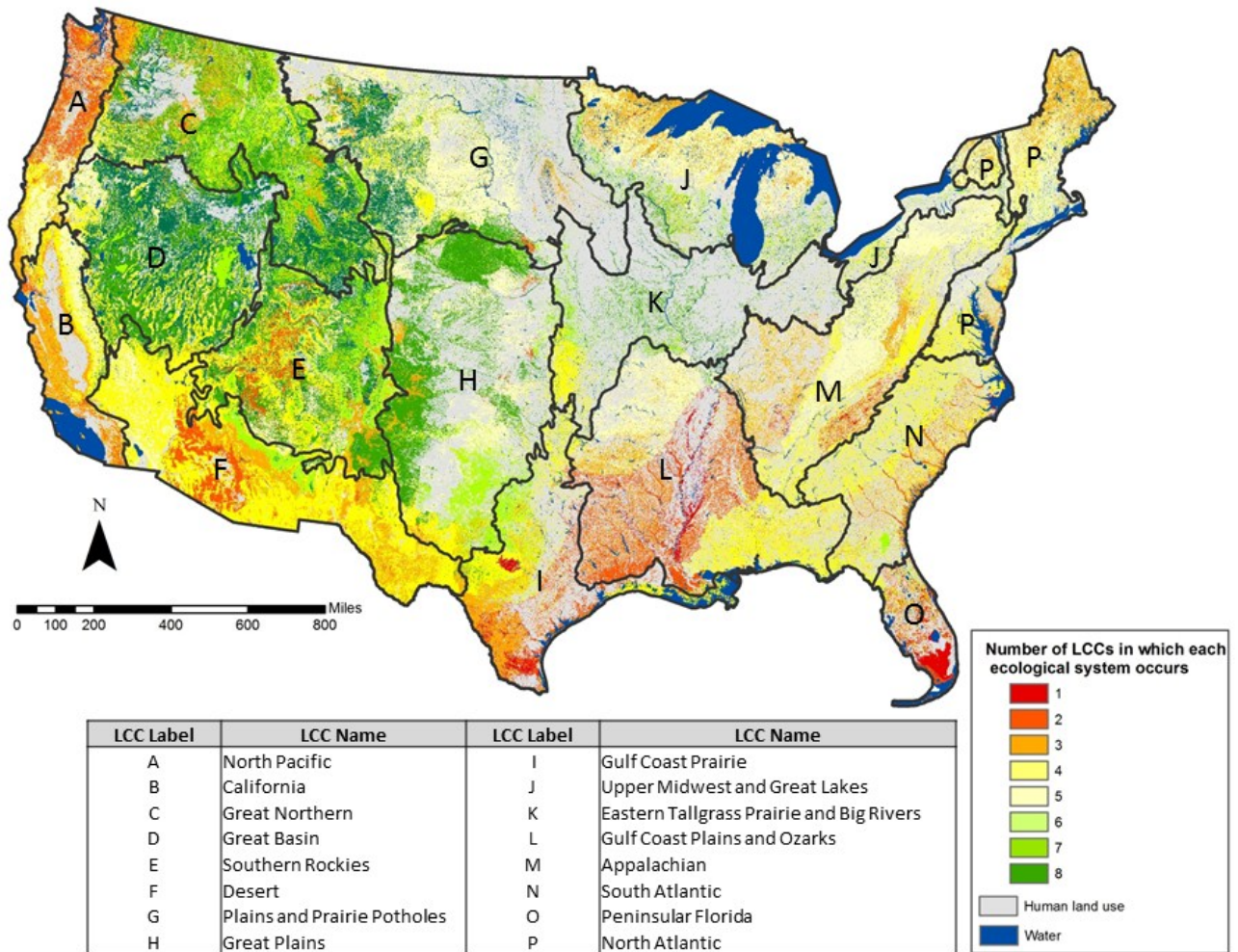


Figure 1. Redundancy of ecological systems within Landscape Conservation Cooperatives. Human land use and water were not included in the analysis. The GAP National Land Cover Data was used for the ecological systems. Lower values indicate low redundancy while higher values imply high redundancy of ecological systems between Landscape Conservation Cooperatives.

(e.g., fire or flooding), substrates (e.g., peatlands), and environmental gradients (e.g., montane, alpine or subalpine zones; Comer et al. 2003). Landscape Conservation Cooperatives (LCCs) are newly defined conservation initiative units that promote conservation-science partnerships between USFWS, USGS, other federal agencies, states, tribes, NGOs, universities, and other stakeholders. There are 16 defined within the continental US (Figure 1) and their intent is to inform resource management decisions to address landscape-scale stressors.

We used the GAP National Land Cover Data along with boundaries for LCCs to conduct a redundancy analysis of ecological systems by LCCs (Shaffer and Stein 2000). Redundancy is calculated by counting the number of LCCs in which each ecological system occurs. Lower redundancy values indicate unique ecological system while higher values show where ecological systems are redundant between LCCs (Figure 1). We did not include human land use or water in our redundancy analysis. This information is important for setting priorities for conservation initiatives and planning within each LCC with regards to ecological systems.

This analysis and the results are part of a more extensive gap analysis of ecological systems nationwide. These data along with additional analyses will be submitted for publication to a peer reviewed journal.

Literature Cited

- Comer, P., D. Faber-Langendoen, R. Evans, S. Gawler, C. Josse, G. Kittel, S. Menard, M. Pyne, M. Reid, K. Schulz, K. Snow, and J. Teague. 2003. *Ecological Systems of the United States: A Working Classification of U.S. Terrestrial Systems*. NatureServe, Arlington, Virginia.
- Shaeffer, M. L., and B. A. Stein. 2000. Safeguarding our precious heritage. Pages 301-321 in B. A. Stein, Kutner, L. S., and Adams, J. S. (Eds.). *Precious Heritage: The status of biodiversity in the United States*. Oxford University Press, New York, New York.