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Ecoregions denote areas of general similarity in ecosystems and in the type, quality, and quantity of environmental resources; they are designed to serve as a spatial framework for the research, assessment, management, and monitoring of ecosystems and ecosystem components. By recognizing the spatial differences in the capacities and potentials of ecosystems, ecoregions stratify the environment by its probable response to disturbance (Bryce and others, 1999). These general purpose regions are critical for structuring and implementing ecosystem management strategies across federal agencies, state agencies, and nongovernment organizations that are responsible for different types of resources within the same geographical areas (Omernik and others, 2000).

The approach used to compile this map is based on the premise that ecological regions can be identified through the analysis of the spatial patterns and the composition of biotic and abiotic phenomena that affect or reflect differences in ecosystem quality and integrity (Wiken, 1986; Omernik, 1987, 1995). These phenomena include geology, physiography, vegetation, climate, soils, land use, wildlife, and hydrology.

The relative importance of each characteristic varies from one ecological region to another regardless of the hierarchical level. A Roman numeral hierarchical scheme has been adopted for different levels of ecological regions. Level I is the coarsest level, dividing North America into 15 ecological regions. Level II divides the continent into 52 regions (Commission for Environmental Cooperation Working Group, 1997). At level III, the continental United States contains 104 ecoregions and the conterminous United States has 84 ecoregions (United States Environmental Protection Agency [USEPA], 2000). Level IV is a further subdivision of level III ecoregions. Explanations of the methods used to define the USEPA's ecoregions are given in Omernik (1995), Omernik and others (2000), Griffith and others (1994), and Gallant and others (1989).

Idaho is made up of semiarid shrub- and grass-covered plains, irrigated agricultural valleys, volcanic plateaus, forested mountains, woodland- and shrubland-covered hills, glaciated peaks, lava fields, and wetlands. Ecological diversity is enormous. There are 10 level III ecoregions and 71 level IV ecoregions in Idaho and many continue into ecologically similar parts of adjacent states.

The level III and IV ecoregion map on this poster was compiled at a scale of 1:250,000 and depicts revisions and subdivisions of earlier level III ecoregions that were originally compiled at a smaller scale (USEPA, 2000; Omernik, 1987). This poster is part of a collaborative project primarily between USEPA Region X, USEPA National Health and Environmental Effects Research Laboratory (Corvallis, Oregon), Idaho Division of Environmental Quality (IDEQ), United States Department of Agriculture–Forest Service (USFS), United States Department of Agriculture–Natural Resources Conservation Service (NRCS), United States Department of the Interior–Bureau of Land Management (BLM), and United States Department of the Interior–Geological Survey (USGS)–Earth Resources Observation Systems (EROS) Data Center.

The project is associated with an interagency effort to develop a common framework of ecological regions. Reaching that objective requires recognition of the differences in the conceptual approaches and mapping methodologies applied to develop the most common ecoregion-type frameworks, including those developed by the USFS (Bailey and others, 1994), the USEPA (Omernik, 1987, 1995), and the NRCS (U.S. Department of Agriculture–Soil Conservation Service, 1981). As each of these frameworks is further refined, their differences are becoming less discernible. Regional collaborative projects such as this one in Idaho, where agreement has been reached among multiple resource management agencies, are a step toward attaining consensus and consistency in ecoregion frameworks for the entire nation.

## Literature Cited:

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Missoula

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Bailey, R.G., Avers, P.E., King, T., and McNab, W.H., eds., 1994, Ecoregions and subregions of the United States (map) (supplementary table of map unit descriptions compiled and edited by McNab, W.H. and Bailey, R.G.): Washington, D.C., USFS, scale 1:7,500,000.

- Bryce, S.A., Omernik, J.M., and Larsen, D.P., 1999, Ecoregions a geographic framework to guide risk characterization and ecosystem management: Environmental Practice, v. 1, no. 3, p. 141-155.
- Commission for Environmental Cooperation Working Group, 1997, Ecological regions of North America toward a common perspective: Montreal, Commission for Environmental Cooperation, 71 p.
- Gallant, A.L., Whittier, T.R., Larsen, D.P., Omernik, J.M., and Hughes, R.M., 1989, Regionalization as a tool for managing environmental resources: Corvallis, Oregon, U.S. Environmental Protection Agency, EPA/600/3-89/060, 152 p.
- Griffith, G.E., Omernik, J.M., Wilton, T.F., and Pierson, S.M., 1994, Ecoregions and subregions of Iowa a framework for water quality assessment and management: Journal of the Iowa Academy of Science, v. 101, no. 1, p. 5-13.
- Omernik, J.M., 1987, Ecoregions of the conterminous United States (map supplement): Annals of the Association of American Geographers, v. 77, no. 1, p. 118-125, scale 1:7,500,000.
- Omernik, J.M., 1995, Ecoregions a framework for environmental management, *in* Davis, W.S. and Simon, T.P., eds., Biological assessment and criteria-tools for water resource planning and decision making: Boca Raton, Florida, Lewis Publishers, p. 49-62.
- Omernik, J.M., Chapman, S.S., Lillie, R.A., and Dumke, R.T., 2000, Ecoregions of Wisconsin: Transactions of the Wisconsin Academy of Sciences, Arts, and Letters, v. 88, p. 77-103.
- U.S. Department of Agriculture–Soil Conservation Service, 1981, Land resource regions and major land resource areas of the United States: Agriculture Handbook 296, 156 p.
- U.S. Environmental Protection Agency, 2000, Level III ecoregions of the continental United States (revision of Omernik, 1987): Corvallis, Oregon, USEPA National Health and Environmental Effects Research Laboratory, Map M-1, various scales.

- **10** Columbia Plateau 10f Dissected Loess Uplands 10h Palouse Hills 10j Nez Perce Prairie 101 Lower Snake and Clearwater Canyons **11 Blue Mountains** 11d Melange 11e Wallowas/Seven Devils Mountains 11f Canyons and Dissected Highlands 11g Canyons and Dissected Uplands 11i Continental Zone Foothills 111 Mesic Forest Zone 11m Subalpine–Alpine Zone 12 Snake River Plain 12a Treasure Valley 12b Lava Fields 12c Camas Prairie 12d Dissected Plateaus and Teton Basin 12e Upper Snake River Plain 12f Semiarid Foothills 12g Eastern Snake River Basalt Plains 12h Mountain Home Uplands 12i Magic Valley 12j Unwooded Alkaline Foothills **13** Central Basin and Range
  - 13b Shadscale-Dominated Saline Basins
- 13c Sagebrush Basins and Slopes
- 13d Woodland- and Shrub-Covered Low
- Mountains
- 13i Malad and Cache Valleys
  - 15 Northern Rockies
  - 15f Grassy Potlatch Ridges
- 15h High Northern Rockies
- 15i Clearwater Mountains and Breaks
- 15j Lower Clearwater Canyons
- 15m Kootenai Valley15n Weippe Prairie
- 150 Coeur d'Alene Metasedimentary Zone
- 15p St. Joe Schist–Gneiss Zone
- 15q Purcell–Cabinet–North Bitterroot
  - Mountains
- 15s Spokane Valley Outwash Plains
- 15u Inland Maritime Foothills and Valleys
- 15v Northern Idaho Hills and Low Relief Mountains
- 15w Western Selkirk Maritime Forest
- 15y Selkirk Mountains
  - 16 Idaho Batholith
- 16b Lochsa Uplands
- 16c Lochsa–Selway–Clearwater Canyons
- 16d Dry, Partly Wooded Mountains

