Level III and IV Ecoregions of EPA Region 8

January 2011

12 Snake River Plain
- 12d Dissected Plateaus and Teton Basin

13 Central Basin and Range
- 13a Salt Deserts
- 13b Shadscale-Dominated Saline Basins
- 13c Sagebrush Basins and Slopes
- 13d Woodland- and Shrub-Covered Low Mountains
- 13e High Elevation Carbonate Mountains
- 13f Moist Wasatch Front Footslopes
- 13g Wetlands
- 13i Malad and Cache Valleys

14 Mojave Basin and Range
- 14a Creosote Bush-Dominated Basins
- 14b Arid Footslopes
- 14c Mojave Mountain Woodland and Shrubland

15 Northern Rockies
- 15a Grave Creek Range-Nine Mile Divide
- 15b Camas Valley
- 15c Flathead Valley
- 15d Tobacco Plains
- 15e Flathead Hills and Mountains
- 15h High Northern Rockies
- 15i Clearwater Mountains and Breaks
- 15k Clark Fork Valley and Mountains
- 15l Salish Mountains
- 15o Coeur d Alene Metasedimentary Zone
- 15p St. Joe Schist-Gneiss Zone
- 15q Purcell-Cabinet-North Bitterroot Mountains
- 15t Stillwater-Swan Wooded Valley

16 Idaho Batholith
- 16a Eastern Batholith
- 16b Lochsa Uplands
- 16e Glaciated Bitterroot Mountains and Canyons
- 16h High Idaho Batholith

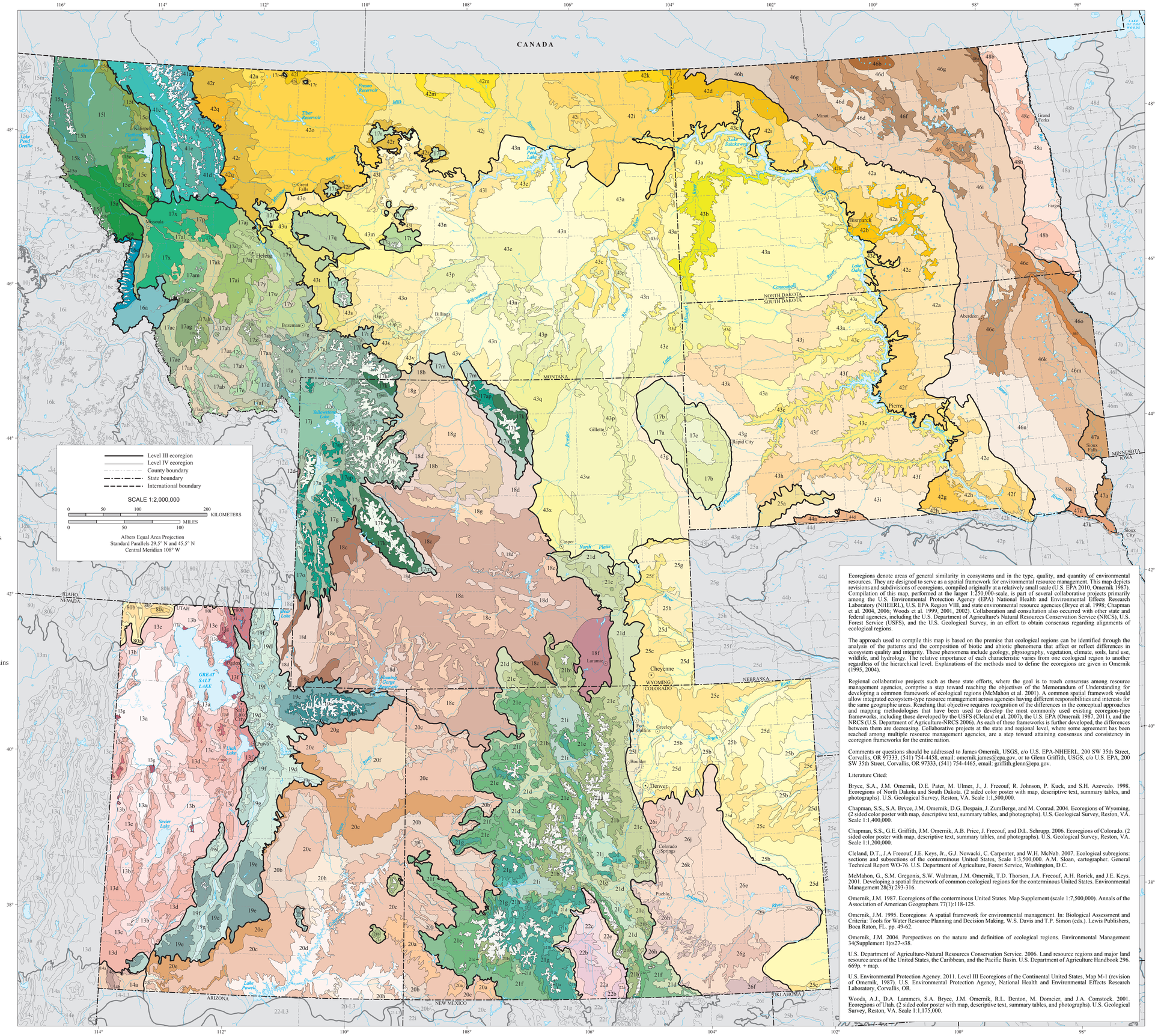
17 Middle Rockies
- 17a Black Hills Foothills
- 17b Black Hills Plateau
- 17c Black Hills Core Highlands
- 17d Eastern Gravelly Mountains
- 17e Barren Mountains
- 17f Crazy Mountains
- 17g Mid-elevation Sedimentary Mountains
- 17h Alpine Zone
- 17i Absaroka-Gallatin Volcanic Mountains
- 17j Yellowstone Plateau
- 17k Granitic Subalpine Zone
- 17l Gneissic-Schistose Forested Mountains
- 17m Dry Mid-elevation Sedimentary Mountains
- 17n High Elevation Valleys
- 17o Partly Forested Mountains
- 17p Foothill Potholes
- 17q Big Snowy-Little Belt Carbonate Mountains
- 17r Scattered Eastern Igneous-Core Mountains
- 17s Bitterroot-Frenchtown Valley
- 17t Limy Foothill Savanna
- 17u Paradise Valley
- 17v Big Belt Forested Highlands
- 17w Townsend Basin
- 17x Rattlesnake-Blackfoot-South Swan-Northern Garnet-Sapphire Mountains
- 17y Townsend-Horseshoe-London Sedimentary Hills
- 17z Tobacco Root Mountains
- 17aa Dry Intermontane Sagebrush Valleys
- 17ab Dry Gneissic-Schistose-Volcanic Hills
- 17ac Big Hole
- 17ad Western Beaverhead Mountains
- 17ae Forested Beaverhead Mountains
- 17af Centennial Basin
- 17ag Pioneer-Anaconda Ranges
- 17ah Eastern Pioneer Sedimentary Mountains
- 17ai Elkhorn Mountains-Boulder Batholith
- 17aj Eastern Divide Mountains
- 17ak Deer Lodge-Philipsburg-Avon Grassy Intermontane Hills and Valleys
- 17al Southern Garnet Sedimentary-Volcanic Mountains
- 17am Flint Creek-Anaconda Mountains
- 17ao Absaroka Volcanic Subalpine Zone
- 17ap Sedimentary Subalpine Zone

18 Wyoming Basin
- 18a Rolling Sagebrush Steppe
- 18b Bighorn Basin
- 18c Sub-Irrigated High Valleys
- 18d Foothill Shrublands and Low Mountains
- 18e Salt Desert Shrub Basins
- 18f Laramie Basin
- 18g Bighorn Salt Desert Shrub Basins

19 Wasatch and Uinta Mountains
- 19a Alpine Zone
- 19b Uinta Subalpine Forests
- 19c Mid-Elevation Uinta Mountains
- 19d Wasatch Montane Zone
- 19e High Plateaus
- 19f Semiarid Foothills
- 19g Mountain Valleys

20 Colorado Plateaus
- 20a Monticello-Cortez Uplands
- 20b Shale Deserts and Sedimentary Basins
- 20c Semiarid Benchlands and Canyonlands
- 20d Arid Canyonlands
- 20e Escarpments
- 20f Uinta Basin Floor
- 20g Northern Uinta Basin Slopes
- 20h Sand Deserts

21 Southern Rockies
- 21a Alpine Zone
- 21b Crystalline Subalpine Forests
- 21c Crystalline Mid-Elevation Forests
- 21d Foothill Shrublands
- 21e Sedimentary Subalpine Forests
- 21f Sedimentary Mid-Elevation Forests
- 21g Volcanic Subalpine Forests



21 Southern Rockies (continued)
- 21h Volcanic Mid-Elevation Forests
- 21i Sagebrush Parks
- 21j Grassland Parks

22 Arizona/New Mexico Plateau
- 22a San Luis Shrublands and Hills
- 22b San Luis Alluvial Flats and Wetlands
- 22c Salt Flats
- 22e Sand Dunes and Sand Sheets

25 High Plains
- 25a Pine Ridge Escarpment
- 25b Rolling Sand Plains
- 25c Moderate Relief Plains
- 25d Flat to Rolling Plains
- 25f Pine Bluffs and Hills
- 25g Sandy and Silty Tablelands
- 25h Platte River Valley and Terraces
- 25l Front Range Fans

26 Southwestern Tablelands
- 26e Piedmont Plains and Tablelands
- 26f Mesa de Maya/Black Mesa
- 26g Purgatoire Hills and Canyons
- 26h Pinyon-Juniper Woodlands and Savannas
- 26i Pine-Oak Woodlands
- 26j Foothill Grasslands
- 26k Sandsheets

41 Canadian Rockies
- 41a Northern Front
- 41b Crestal Alpine-Subalpine Zone
- 41c Western Canadian Rockies
- 41d Southern Carbonate Front
- 41e Flathead Thrust Faulted Carbonate-Rich Mountains

42 Northwestern Glaciated Plains
- 42a Missouri Coteau
- 42b Collapsed Glacial Outwash
- 42c Missouri Coteau Slope
- 42d Northern Missouri Coteau
- 42e Southern Missouri Coteau
- 42f Southern Missouri Coteau Slope
- 42g Ponca Plains
- 42h Southern River Breaks
- 42i Glaciated Dark Brown Prairie
- 42j Glaciated Northern Grasslands
- 42k Coteau Lakes Upland
- 42l Sweetgrass Uplands
- 42m Cherry Patch Moraines
- 42n Milk River Pothole Upland
- 42o North Central Brown Glaciated Plains
- 42q Rocky Mountain Front Foothill Potholes
- 42r Foothill Grassland

43 Northwestern Great Plains
- 43a Missouri Plateau
- 43b Little Missouri Badlands
- 43c River Breaks
- 43d Forested Buttes
- 43e Sagebrush Steppe
- 43f Subhumid Pierre Shale Plains
- 43g Semiarid Pierre Shale Plains
- 43h White River Badlands
- 43i Keya Paha Tablelands
- 43j Moreau Prairie
- 43k Dense Clay Prairie
- 43l Missouri Breaks Woodland-Scrubland
- 43m Judith Basin Grassland
- 43n Montana Central Grasslands
- 43o Unglaciated Montana High Plains
- 43p Pine Scoria Hills
- 43q Mesic Dissected Plains
- 43s Non-calcareous Foothill Grassland
- 43t Shield-Smith Valleys
- 43u Limy Foothill Grassland
- 43v Pryor-Bighorn Foothills
- 43w Powder River Basin
- 43x Casper Arch

44 Nebraska Sand Hills
- 44a Sand Hills
- 44d Lakes Area

46 Northern Glaciated Plains
- 46a Pembina Escarpment
- 46b Turtle Mountains
- 46c Glacial Lake Basins
- 46d Glacial Lake Deltas
- 46e Tewaukon/Big Stone Stagnation Moraine
- 46f End Moraine Complex
- 46g Northern Black Prairie
- 46h Northern Dark Brown Prairie
- 46i Drift Plains
- 46j Glacial Outwash
- 46k Prairie Coteau
- 46l Prairie Coteau Escarpment
- 46m Big Sioux Basin
- 46n James River Lowland
- 46o Minnesota River Prairie

47 Western Corn Belt Plains
- 47a Loess Prairies
- 47d Missouri Alluvial Plain
- 47k Northeastern Nebraska Loess Hills
- 47m Western Loess Hills

48 Lake Agassiz Plain
- 48a Glacial Lake Agassiz Basin
- 48b Beach Ridges and Sand Deltas
- 48c Saline Area

80 Northern Basin and Range
- 80a Dissected High Lava Plateau
- 80b Semiarid Hills and Low Mountains
- 80c High Elevation Forests and Shrublands
- 80h Saltbush-Dominated Valleys
- 80i Sagebrush Steppe Valleys

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 environmental resource management. This map depicts revisions and subdivisions of ecoregions, compiled originally at a relatively small scale (U.S. EPA 2010, Omernik 1987). Compilation of this map, performed at the larger 1:250,000-scale, is part of several collaborative projects primarily among the U.S. Environmental Protection Agency (EPA) National Health and Environmental Effects Research Laboratory (NHEERL), U.S. EPA Region VIII, and state environmental resource agencies (Bryce et al. 1998; Chapman et al. 2004, 2006; Woods et al. 1999, 2001, 2002). Collaboration and consultation also occurred with other state and federal agencies, including the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS), U.S. Forest Service (USFS), and the U.S. Geological Survey, in an effort to obtain consensus regarding alignments of ecological regions.

The approach used to compile this map is based on the premise that ecological regions can be identified through the analysis of the patterns and the composition of biotic and abiotic phenomena that affect or reflect differences in ecosystem quality and integrity. 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. Explanations of the methods used to define the ecoregions are given in Omernik (1995, 2004).

Regional collaborative projects such as these state efforts, where the goal is to reach consensus among resource management agencies, comprise a step toward reaching the objectives of the Memorandum of Understanding for developing a common framework of ecological regions (McMahon et al. 2001). A common spatial framework would allow integrated ecosystem-type resource management across agencies having different responsibilities and interests for the same geographic areas. Reaching that objective requires recognition of the differences in the conceptual approaches and mapping methodologies that have been used to develop the most commonly used existing ecoregion-type frameworks, including those developed by the USFS (Cleland et al. 2007), the U.S. EPA (Omernik 1987, 2011), and the NRCS (U.S. Department of Agriculture-NRCS 2006). As each of these frameworks is further developed, the differences between them are decreasing. Collaborative projects at the state and regional level, where some agreement has been reached among multiple resource management agencies, are a step toward attaining consensus and consistency in ecoregion frameworks for the entire nation.

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