Appendix B

EPA Ecoregion Descriptions for the Upper Mid Snake River Subbasin

(figure at end)

12. Snake River Plain

The plains and low hills of Ecoregion 12 are part of the xeric intermontane west. Where irrigation water and soil depth are sufficient, sugar beets, potatoes, alfalfa, small grains, or vegetables are grown. Elsewhere, livestock grazing is widespread. Cattle feedlots and dairy operations are found locally. Potential natural vegetation is mostly sagebrush steppe but barren lava fields and saltbush–greasewood also occur. Streams generally have lower gradients, are warmer, and have finer grained substrates than do streams in the montane ecoregions. Streams typically have higher primary productivity than streams with a forest canopy overstory. Natural stream fish assemblages in Ecoregion 12 are typically a mix of mesothermal minnows and suckers but some stenothermal salmonids and sculpins are also present. Ecoregion 12j has many large springs along the Snake River that support endemic fish and mollusc species. Shoshone Falls is a major zoogeographic barrier and different species occur above and below them.

12a. The Treasure Valley ecoregion has irrigated cropland, pastureland, and rapidly growing cities, suburbs, and industries. Many canals, reservoirs, and diversions occur. Aridic soils predominate and require irrigation to grow commercial crops. Surface water quality has been significantly affected by channel alteration, dams, irrigation return flow, and urban, industrial, and agricultural pollution. Crops include wheat, barley, alfalfa, sugar beets, potatoes, and beans. Crop diversity is greater, temperatures are warmer, and the mean frost free season is longer than in Ecoregions 12e and 12i. Population density is much greater than in nearby, rangeland-dominated ecoregions.

12b. The Lava Fields ecoregion contains basalt flows, cinder cones, and spatter cones. Exposed basalt or very shallow loessial soils over volcanics are characteristic and are either barren or sparsely covered by hardy shrubs and grasses. Livestock carrying capacity is low. Surface water availability is very limited. Ecoregion 12b includes the Craters of the Moon National Monument and parts of the Idaho National Engineering Laboratory. Lithology, depth to bedrock, stock carrying capacity, and water availability are unlike neighboring ecoregions.

12c. The Camas Prairie ecoregion is a cold, wet valley used for small grain and alfalfa farming, pasture, range, and wildlife refuge. It is flanked by the foothills of Ecoregions 12f and 16f. These foothills trap mountain runoff in Ecoregion 12c. Resultant wet soils and flooding occur and are local and seasonal problems. Frigid Mollisols are common and are colder than the soils of the lower Treasure Valley (12a). Wet bottomlands support meadow grasses and sedges. Alluvial fans and terraces are covered by grasses and sagebrush.

12f. The shrub- and grass-covered Semiarid Foothills ecoregion is higher and more rugged than nearby Ecoregions 12a, 12c, and 12h. A few perennial streams flow across the

ecoregion but are absent on the lacustrine deposits of the Unwooded Alkaline Foothills (12j). Shallow, clayey soils are common and often support medusahead wildrye, cheatgrass, and scattered shrubs. Wildfire frequency is high. Land use is primarily livestock grazing and is distinct from the irrigated agriculture of the Treasure Valley (12a).

12g. The Eastern Snake River Basalt Plains ecoregion typically has shallow, stony soils that are unsuitable for cultivation. Only small areas have soils deep enough to be farmed under sprinkler irrigation. Rangeland is widespread and contrasts with the cropland of Ecoregions 12d, 12e, and 12i. Potential natural vegetation is mostly sagebrush and bunchgrass. It is cool enough to have some regeneration capacity and still contains native plants unlike Ecoregion 12h. Eastern parts of Ecoregion 12g are higher and more continental than the west.

12h. The Mountain Home Uplands ecoregion is arid and shrub- and grass-covered. It is mostly rangeland and is sparsely populated unlike Ecoregions 12a and 12i. Local relief is between that of the flanking foothills and the Magic and Treasure valleys. Mesic soils are common and are warmer than the frigid soils of Ecoregion 80a. Today, cheatgrass, medusahead wildrye, and sagebrush occur and stock carrying capacity is low; native grasses are much rarer and vegetative regeneration capacity is more limited than in the cooler Ecoregion 12g.

12i. The Magic Valley ecoregion is underlain by alluvium, loess, and basalt flows. Its aridic soils require irrigation to grow commercial crops. Many canals, reservoirs, and diversions supply water to its pastureland, cropland, and residential, commercial, and industrial developments. Small grains, alfalfa, sugar beets, potatoes, and beans are grown. Livestock and dairy farms occur; dairying is more common than in Ecoregion 12a. Dams, irrigation diversions, pollution, and channel alteration have affected water quality. Over-watering from sprinkler irrigated portions of Ecoregion 12g has raised ground water levels and created artificial wetlands. Natural vegetation is mostly sagebrush and bunchgrass but low terraces have salt tolerant plants. Population density is greater than in the rangeland-dominated Ecoregions 12g and 12h.

12j. The shrub- and grass-covered Unwooded Alkaline Foothills ecoregion is higher and more rugged than Ecoregion 12a. Sandy, alkaline lacustrine deposits occur unlike in other ecoregions and support a unique flora. Potential natural vegetation is saltbush–greasewood and sagebrush steppe. Today, cheatgrass and crested wheatgrass are also common and the ecoregion is used for livestock grazing. Land use is unlike that of Ecoregions 12a and 12i. Perennial streams are rare and are much less common than in Ecoregion 12f.

16. Idaho Batholith

Ecoregion 16 is mountainous, deeply dissected, partially glaciated, and characteristically underlain by granitic rocks. The lithological mosaic and related slope stability and water quality issues are different from Ecoregions 15 and 17. Soils derived from granitics are droughty and have limited fertility and, therefore, provide only limited amounts of nutrients

to aquatic ecosystems. They are highly erodible when vegetation is removed. Maritime influence is slight and lessens toward the south. Grand fir, Douglas-fir, western larch, and, at higher elevations, Engelmann spruce and subalpine fir occur; ponderosa pine, shrubs, and grasses grow in deep canyons. Pacific tree species are less numerous than in Ecoregion 15; western hemlock is absent and western redcedar is limited to the north. Overall, the vegetation is unlike that of Ecoregions 15 and 17. Land uses include logging, grazing, and recreation. Streams are likely to suffer from increased loads of fine sediments after disturbance by humans. Declining anadromous fish runs once brought much needed nutrients but are now in danger of extirpation due to dams on the Columbia and lower Snake rivers, hatchery operations, and habitat degradation. Fish assemblage composition is similar to Ecoregion 15. Macroinvertebrate assemblages are more similar to those found in Ecoregions 12, 17, and 80 than those found in Ecoregion 15.

16d. The Dry, Partly Wooded Mountains ecoregion is largely underlain by sedimentary and extrusive rocks; granitics are less common than in other parts of the Idaho Batholith (16). Ecoregion 16d is in the rain shadow of high mountains. Winter precipitation is less than in Ecoregions 16h and 16k and maritime influence is absent. A mosaic of shrubland, open Douglas-fir forest, and aspen occurs and is unlike other parts of Ecoregion 16. Mining has affected water quality. Rapid residential and commercial growth is occurring near Ketchum.

16f. The Foothill Shrublands–Grasslands ecoregion is in the rain shadow of high mountains. Its hills and benches are dry, treeless, and covered by shrubs and grasses. The vegetation mosaic is unlike the open forests of Ecoregion 16k and the mountain sagebrush/forest mosaic of the lithologically distinct Ecoregion 16d. Land use is mostly grazing but rural residential development is expanding near Boise.

16k. The Southern Forested Mountains ecoregion is mantled by droughty soils derived from granitic rocks and is only marginally affected by maritime influence. Forest diversity is less than in wetter Ecoregion 16b. Open Douglas-fir is common, grand fir and subalpine fir occur at higher elevations, and ponderosa pine grows in canyons. Mountain sagebrush and forest are found in the south. Streams are subject to high sediment loading when soils are disturbed. Macroinvertebrate assemblages are distinct from those of Ecoregion 16i.

80. Northern Basin and Range

Ecoregion 80 consists of dissected lava plains, rolling hills, alluvial fans, valleys, and scattered mountains. It is higher and cooler than Ecoregion 12 and has more available moisture than Ecoregion 13. Basins support sagebrush grassland or saltbush greasewood vegetation; cool season grasses and Mollisols are more common in the basins of Ecoregion 80 than in the hotter and drier basins of Ecoregion 13 where Aridisols support sagebrush, shadscale, and greasewood. Ranges are covered in mountain sagebrush, mountain brush, Idaho fescue, Douglas-fir, or aspen. Juniper woodlands occur on rugged, stony uplands. Both rangeland and cropland occurs. Ecoregion 80 lies between Ecoregion 13 to the south

and Ecoregions 11 and 12 to the north; its southern boundary is the highest shoreline of Pleistocene Lake Bonneville which once inundated much of Ecoregion 13 but not Ecoregion 80. Stream fish communities share features of Ecoregions 12 and 17. In the Owyhee Mountains, Ecoregions 80j and 80k supported salmonid/cottid fish assemblages that were isolated by the surrounding lower, warmer, regions.

80a. The Dissected High Lava Plateau ecoregion has alluvial fans, rolling plains, and shear-walled canyons that are cut into extrusive rocks. Sagebrush grassland is common and scattered woodland grows on rocky uplands. Overall, Ecoregion 80a is less wooded, lower, and more arid than Ecoregions 80b, 80c, 80j, or 80k. Ecoregion 80a has more cool season grasses than Ecoregion 13c and lacks the saltbush–greasewood of Ecoregion 80h. Frigid and mesic Aridisols and Mollisols occur. Grazing is the primary land use. Cropland is much less common than in Ecoregions 12a and 12i. Areas of high water quality and native fish assemblages occur in isolated canyons.

80b. The Sagebrush Steppe- and Woodland-Covered Hills and Low Mountains ecoregion occupies the elevational band between Ecoregion 80c and the lower, less rugged Ecoregions 12e, 80a, and 80i. Potential natural vegetation is mostly sagebrush steppe. Cool season grasses are more common than in the drier Ecoregion 13c which has less available moisture and has a potential natural vegetation of Great Basin sagebrush. Forest components are much less common than in Ecoregion 80c. Juniper woodland grows on rock outcrops but is not as common as in Ecoregion 13d. Land use is primarily livestock grazing.

80c. The High Elevation Forests and Shrublands ecoregion is mountainous and occupies the elevational band above Ecoregion 80b. It is characterized by a mix of conifers, mountain brush, and sagebrush grassland. North-facing slopes and many flatter areas support open stands of Douglas-fir, aspen and lodgepole pine; overall, forest components are more common than in Ecoregions 80a and 80b which are dominated by sagebrush grassland or juniper woodland. Winters are colder and mean annual precipitation is greater than in lower ecoregions.

80j. The disjunct Semiarid Uplands ecoregion includes mid-elevation zones in the Owyhee and Jarbidge mountains and hills, volcanic cones, buttes, and rocky outcrops that rise out of neighboring, drier lava plains. Mountain sagebrush, western juniper, mountain brush, and grasses grow in the ecoregion. In the Jarbidge Mountains, juniper woodland can be of limited extent or entirely absent. Elsewhere, density and extent of juniper woodland varies with long term climate changes, grazing pressure, and fire suppression.


N
W
E
S
Ketchum
High Idaho Batholith
Southern Forested Mountains
Dry, Partly Wooded Mountains
Foothill Shrublands-Grasslands
Big Wood River
Little Wood Reservoir
Camas Prairie
Camas Creek
Magic Res.
Lava Fields
Little Wood River
Semiarid Foothills
Mountain Home
Mountain Home Uplands
King Hill
Big Wood River
Treasure Valley
Unwooded Alkaline Foothills
Snake River
Bliss Res.
Lower Salmon Falls Res.
Upper Salmon Falls Res.
Eastern Snake River Basalt Plains
Magic Valley
Snake River
Twin Falls
Salmon Falls Creek
Dissected High Lava Plateau
Sagebrush Steppe- and Woodland-Covered Hills and Low Mountains
High Elevation Forests and Shrublands
Salmon Falls Creek Res.
Semiarid Uplands
Ecoregions
Idaho Batholith Ecoregion
Dry, Partly Wooded Mountains
Foothill Shrublands-Grasslands
High Idaho Batholith
Southern Forested Mountains
Snake River Plain Ecoregion
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Northern Basin and Range Ecoregion
Dissected High Lava Plateau
High Elevation Forests and Shrublands
Sagebrush Steppe- and Woodland-Covered Hills and Low Mountains
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