

2.2 BPA SERVICE TERRITORY AND COLUMBIA RIVER BASIN

This section provides a brief description of the Columbia River Basin, including its air, land, water, fish, wildlife, and peoples.

2.2.1 Natural Setting

The Columbia River Basin, approximately 260,000 square miles, and BPA's service territory generally coincide with the Pacific Northwest states (see Figure 2.2). The Columbia River is the predominant river within Bonneville's service area. This river flows over 1,200 miles from British Columbia south through eastern and central Washington, and then west between Washington and Oregon, to the Pacific Ocean. The Columbia River is often used to define the Pacific Northwest Region and is cited as the outstanding natural resource of the Region.

Many tributaries feed the Columbia. The largest of these—the Snake River—drains more than 40% of the surface area of the Columbia Basin, and supplies about 20% of the Columbia's flow. Most of the Snake River Basin lies in southern Idaho and the easternmost part of Oregon, a dry region whose development has depended almost totally on water availability. A lesser part of the Basin drains western Wyoming and small pockets of northern Utah and Nevada. The major tributaries of the Snake River include the Salmon, Clearwater, Boise, Owyhee, Grande Ronde, Palouse, and Tucannon. Other streams drain central Idaho and a portion of Montana west of the Rockies.

Other tributaries to the Columbia River include Kootenai, Pend Oreille, Spokane, Okanogan, Wenatchee, Yakima, Walla Walla, John Day, Deschutes, Hood, and Willamette rivers. Rivers not part of the Columbia River system but within Bonneville's service area include the Skagit, Skykomish, Snoqualmie, Nisqually, Chehalis, Nestucca, Flathead, Bitterroot, and Umpqua rivers.

The Pacific Northwest environment is highly complex, principally because of the ocean and mountains. Climate close to the coast is strongly influenced by the Pacific Ocean. At lower elevations west of the Olympic Mountains and the Coast Range, temperatures remain consistently mild and summer fog reduces moisture stress during an otherwise dry season. Dense, moist forests of primarily western hemlock and Douglas fir predominate west of the Cascades. Cool, wet winters; warm, dry summers; and rich soils promote fast and prolonged vegetation growth.

East of the Cascades, increased aridity and frequent fires promote open, park-like stands of ponderosa pine, lodgepole pine, and western larch in mountainous areas and juniper woodlands, sagebrush-steppe, and grasslands at lower elevations. The Klamath Mountains ecoregion supports a diverse mixture of drought-resistant conifers and hardwoods, a result of lower precipitation and a complex geological and ecological

BPA Service Area & Columbia River Basin

Figure 2.2

Columbia River Basin (CRB)	259659.4 sq. miles	
CRB in Canada	39989.2 sq. miles	15.4% of total
CRB in USA/BPA	219670.2 sq. miles	84.6% of total
CRB in Washington	47812.1 sq. miles	18.4% of total
CRB in Oregon	56098.5 sq. miles	21.6% of total
CRB in Idaho	79962.5 sq. miles	30.8% of total
CRB in Montana	25121.0 sq. miles	9.7% of total
CRB in other states (NV, UT, WY)	10676.1 sq. miles	4.1% of total



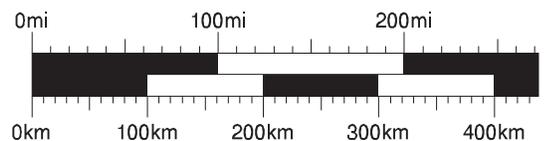
 BPA Service Area

BPA Service Territory 315434.8 sq. miles

BPA in Washington	67477.8 sq. miles	21.4% of total
BPA in Oregon	96911.4 sq. miles	30.7% of total
BPA in Idaho	83425.0 sq. miles	26.4% of total
BPA in Montana	38969.3 sq. miles	12.4% of total
BPA in other states (CA, NV, UT, WY)	28651.3 sq. miles	9.1% of total



Disclaimer: Map to be used for general display purposes only and not intended to represent any legal boundaries or information. Created with best available data at time of plot date.
Source: BPA Regional GIS Database, 2002.



history. In addition, the lowland river valleys of western Oregon and Washington support extensive oak woodlands, grasslands, and wetlands composed of herbaceous plants.

Although conifers dominate many areas, the Region also includes large areas of temperate and semi-arid grass- and brush lands. Rainshadow effects of the mountains cause aridity and temperatures to increase progressively farther inland, especially east of the Cascade Range. The warmest and driest habitats in this region occur at low elevations in the Snake River Basin - High Desert region. Here, semi-arid deserts of sagebrush and grasses dominate the landscape. These varied ecosystems support a vast diversity of wildlife species.

There is substantial variation in weather from year to year. The amount of precipitation especially varies, depending on ocean conditions, and annual precipitation amounts in some locations can vary by an order of magnitude.

Rivers and streams support a large number of anadromous fish species (species that migrate to the ocean to mature, then return to their natal streams to spawn; see map Figure 2.17 at the end of this chapter), as well as varied populations of resident fish (fish that live their entire lives in fresh water). The Columbia River and its tributaries are home to a variety of native salmonid and non-salmonid fish. A number of fish and wildlife species are listed as threatened or endangered under the ESA (see Appendix C) or as sensitive (special designations by the U.S. Forest Service [USFS] or the Bureau of Land Management [BLM] for species in decline).¹ Listed fish species include some runs of coho, chinook, chum, and sockeye salmon, and steelhead and sea-run cutthroat trout, the Kootenai River white sturgeon, and bull trout (see map Figure 2.8 at the end of this chapter). Bird species currently listed as threatened or endangered include the bald eagle, northern spotted owl, and marbled murrelet. Listed mammals include the Canadian lynx, woodland caribou, grizzly bear, Columbian white-tailed deer, and gray wolf (see map Figure 2.11 at the end of this chapter).²

2.2.2 Human Population

It is not known exactly when Native Americans began to inhabit the continent of North America. However, their settlements occurred widely across the Pacific Northwest, shaped in many cases by the natural resources that supported their lives—fish, forest-, or plains-dwelling animals; water for drinking, fishing, or transportation; forests and plant materials. Each tribe developed its own unique cultural adaptations. When European explorers (and later settlers) came to the Columbia Basin, they found a relatively stable balance of abundant resources that had readily supported growing tribal populations for thousands of years.

¹ USDOE/BPA 2000a, p. 130. See Appendix C of this Final EIS for a complete list of ESA-listed species.

² USDOE/BPA 2000a, p. 132.

European-Americans settled and developed the West generally in response to two factors:

- the presence of ample natural resources; and
- the evolution of Federal land policies.

National and international demand shaped the economic development of the Region, as natural resources were identified, obtained, and marketed by non-Indian settlers. First sought were marine and terrestrial fur-bearing animals. Next was land with favorable climate, ranging from cool and wet west of the Cascades to temperate and dry to the east. Gold and other minerals, timber, salmon, and the Columbia River itself were targeted for development. Those goals—and the methods used to pursue them—significantly changed the environment, and profoundly diminished both tribal well-being and tribal access to traditional natural resources.

The attraction of the Pacific Northwest continues today, demonstrated by steadily increasing populations, as people migrate here from other parts of the United States and abroad. Between 1990 and 2000, based on the U.S. Census Bureau data, the Region (OR, WA, ID, MT) experienced about a 21% growth in population; it has a projected growth of about 19% between 2000 and 2015.³ Table 2.2-1 below depicts the Region's state-specific population estimates for 2001 and percent increase from 1990 to 2000. The growing population continues to shape the uses of the Region's natural resources and puts an increasing pressure on them (see map Figure 2.10 at the end of this chapter).

Table 2.2-1: Regional Population Estimates and Growth Rates

State	2001 Estimated Population	Percent Increase 1990-2000
Idaho	1,321,006	28.5
Montana	904,433	12.9
Oregon	3,472,867	20.4
Washington	5,987,973	21.1

2.3 POLICY EVOLUTION

The evolution of fish and wildlife public policy—state, Federal, and tribal—in the Region has affected, and has been affected by, the human environment. The closer we get to the present, the more complex and inconsistent public policy has become. The discussion below summarizes that evolution. The first major section (2.3.1) reviews the evolution of policy up to 1980 (the year of the passage of the Regional Act). The second section (2.3.2) focuses on policy from 1980 to the present. To begin, Table 2.3-1 captures major events shaping fish and wildlife policy in the Columbia River Basin.⁴

³ USDOC/US Census Bureau 1996.

⁴ Some of the major events listed on this table through 1994 came from a timeline taken from Mighetto, L. and Ebel, W.J. 1994.