Chapter 24 Short-Term Uses versus Long-Term Productivity

NEPA requires that an EIS include a discussion of the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity (42 USC 4332(C)(iv) (see also 40 CFR 1502.16). This chapter discusses whether construction and operation of the proposed project could cause short-term uses of the environment that would affect, either positively or negatively, the long-term productivity of the environment. For the purposes of this chapter, "short term" generally refers to the more immediate period of time during which the proposed project would be constructed, whereas "long term" refers to an indefinite period beyond this timeframe.

Words in **bold** and acronyms are defined in Chapter 32, Glossary and Acronyms.

Short-term uses of the environment associated with the action alternatives are generally the same as the environmental impacts described for each environmental resource in Chapters 5 through 22 of this EIS. These impacts include both temporary and permanent "use" of the physical environment as a result of developing the proposed project and energy and resource use during project construction and maintenance. In considering the affect of these uses on long-term productivity, four main types of long-term productivity are considered: soil productivity, hydrological productivity, biological productivity, and economic productivity.

24.1 Soil Productivity

While maintenance of long-term soil productivity is mainly a concern in areas that are in agricultural use, this concern also can arise anywhere that soils provide an economic or ecological benefit. Construction of the project would affect soil productivity through land clearing, grading, and occupation by project facilities. At tower and substation sites and along access roads, project construction would have a long-term negative effect on soil productivity since these soils would be taken out of use for the life of the project or longer if facilities are abandoned and not restored. In areas between tower and substation sites and outside of access roads, the proposed project would not be expected to affect long-term soil productivity since these areas would be restored, either actively or naturally, to general pre-project conditions, and the soils in these areas could be put to other uses in the long term.

24.2 Hydrological Productivity

Wetlands, groundwater resources, and floodplains contribute to long-term hydrological productivity by providing filtration, habitat for sensitive species, and essential recharge for agricultural and municipal use. Construction of the project would affect wetlands through land clearing, grading, and occupation by project facilities. At tower and substation sites and along access roads, project construction would have a long-term effect on wetlands unless recovery efforts were made to offset disturbance. Impacts to wetlands would vary depending on which alternative is selected. In areas between towers, wetlands would be permanently converted from forested to non-forested wetlands; altering these wetlands could affect their long-term productivity.

Water bodies and floodplains would lose some productivity in the short term from increased sedimentation from erosion during construction, and increased amounts of pollutants that could enter construction sites from construction equipment and soil-disturbing activities. Culverts placed in streams and drainages for new or improved access roads would cause short-term productivity losses for aquatic species. Where construction requires removing tall-growing riparian vegetation along stream banks, water temperatures could increase, and short- and long-term aquatic species productivity could be affected if the vegetation is not replaced.

Substation and access road sites could contribute to long-term effects to groundwater quality by increasing the potential for pollutant discharge into groundwater.

In areas between tower and substation sites and outside of access roads, the project would not affect long-term floodplain or groundwater productivity since those areas would be restored, either by BPA or through natural recovery, to similar pre-project conditions.

24.3 Biological Productivity

Plant communities, fish, and wildlife contribute to biological productivity; their long-term productivity provides an ecological and recreational benefit in sensitive or remote areas. Project construction would affect biological resources through land clearing, grading, and occupation by project components.

During construction, all tall-growing trees and shrubs within the 150-foot-wide right-of-way and substation sites would be permanently removed. In some cases where forest dominates the landscape, danger trees would be removed outside of the 150-foot right-of-way and around substation sites. After construction, natural recovery and vegetation restoration would take place in some areas but in others, vegetation and habitat would be permanently altered. Where danger trees are removed, trees would be allowed to grow back and could recover in the long term (unless removed again at a much later time). However, trees and shrubs within the right-of-way would not be permitted to grow beyond allowable limits during the life of the project. Long-term productivity could be restored if the area is later reclaimed.

Fish habitat would be degraded as construction activities increase erosion and sedimentation, and riparian vegetation is removed. The loss or alteration of stream and riparian habitats from installing culverts at access road crossings could impede water movement, and alter stream and wetland hydrology, although culvert replacements using better designs could improve movement. Impacts to hydrology could result in long-term productivity impacts to fish resources, unless the area is restored.

Transmission line construction would also impact wildlife. Substantial habitat could be permanently lost, altered, and fragmented. The noise and increased human activity related to construction could decrease some wildlife species' breeding success, and in some cases cause direct mortality. At the same time, habitat alteration can encourage the increase of species that can best adapt to the altered habitats, potentially increasing species diversity. Over the long term, species that are highly adaptable or who avoid areas during short-term construction activities could return once construction is complete.

24.4 Economic Productivity

Timber production, agriculture, urban and suburban development, and industrial uses can contribute to economic productivity. Transmission line construction and operation could affect the economic productivity of some resources by limiting their long-term revenue potential, but could contribute to long-term revenue potential in sectors that benefit from a reliable transmission system.

Project construction would affect economic productivity through land clearing, grading, and occupation by project components. At tower and substation sites and along access roads, project construction would have a long-term negative effect on land used for agriculture or timber production since those areas would be taken out of use for the life of the project. In areas between tower and substation sites and outside of access roads, the project would not be expected to affect long-term economic productivity for agricultural activities such as grazing or unsupported crops less than four feet at maturity, since these areas would be restored, either actively by BPA or naturally, to pre-project conditions. Crops that exceed height restrictions in the right-of-way could be permanently excluded from production, but could be put to other agricultural uses in the long term. Timber production land would have long-term productivity losses both in the right-of-way and outside of the right-of-way (danger trees), and in areas where transmission line placement limits accessibility (stranded use).

Project components could remove existing urban and suburban uses, such as homes, commercial structures, and industrial facilities. Some areas could be excluded from future types of urban development. These losses could contribute to long-term loss in economic productivity through the loss of jobs and revenue if alternative locations are not available for redevelopment or relocation. In areas between tower and substation sites and outside of access roads, some activities within urban and suburban land use could return to previous uses (recreation), provided those activities do not interfere with the safe operation of the transmission facilities.

The project could create a long-term increase to economic productivity by providing a more reliable transmission system. Increased reliability could create a long-term economic benefit to existing businesses that rely on transmission service for production output. Transmission system reliability could also attract new industrial and commercial business to the area, which would provide a long-term increase in economic productivity through increased revenue and jobs.

Page intentionally left blank