

6 RELATIONSHIP BETWEEN SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The short-term uses of man's environment in relation to the 2012-2017 Outer Continental Shelf (OCS) Leasing Program (the Program) are the offshore and onshore activities needed to develop oil and gas resources to meet the energy needs of the United States. The Bureau of Ocean Energy Management (BOEM) makes every attempt to minimize the environmental effects from these uses. By adopting mitigating measures for OCS operations, BOEM attempts to minimize long-term impacts and maintain or enhance the long-term productivity of areas in which oil and gas have been exploited. With proper removal of offshore oil and gas facilities, or their disposal in areas designed to enhance recreational fishing, offshore areas will continue to maintain fish resources and provide habitat for marine mammals, birds, and reptiles long after oil and gas operations have ceased. After the completion of oil and gas production, the marine environment that may be affected by routine operations under the Program is generally expected to remain at or return to its anticipated long-term productivity levels. The long-term productivity of the marine environment in GOM and Alaskan waters is affected by a wide variety of factors, many unrelated to OCS oil and gas activities, and it is speculative to suggest what productivity levels in these OCS waters may be in 40 to 50 years when the Program oil and gas activities would be completed. The onshore effects of the OCS program and the proposed action will contribute to the continuing alteration of nearby coastal areas from natural environments to urbanized and industrialized environments.

One confounding factor that may affect long-term productivity of the areas included in the Program is climate change. Even in the absence of the oil and gas activities that would occur under the Program and the proposed action, baseline environmental conditions (such as sea level and ocean acidification) are changing as a consequence of climate change; this is especially true in the Arctic (see Section 3.3 for a discussion of climate change and baseline conditions). As climate-driven changes occur, productivity may be expected to change as well, and any changes in long-term productivity that could occur as a result of the Program would be in addition to any climate-related changes.

Short-term use of the environment in the vicinity of OCS activities includes the exploration and development of OCS oil and gas resources during the period of activity needed for the completion of the proposed action. The overall life of the proposed action is estimated to be about 40–50 years, with about 10-15 years of oil and gas exploration and delineation activity and about 30–35 years of resource development and production activity. Many of the effects of routine operations discussed in Chapter 4 are the result of short-term uses and are greatest during the exploration, development, and early production phases. These effects may be reduced by mitigation measures required by BOEM, and are not expected to adversely affect long-term productivity of affected areas or resources.

Extraction and consumption of offshore oil and natural gas would be a long-term depletion of nonrenewable resources. Economic, political, and social benefits would accrue from the use of these natural resources. Most benefits would be short-term and would delay the

increase in the dependency of the United States on oil imports. The production of offshore oil and natural gas from the proposed action would provide short-term energy sources and perhaps additional time for the development of long-term alternative energy sources or substitutes for these nonrenewable resources.

In the event of a catastrophic discharge event (CDE), such as the Deepwater Horizon (DWH) event or the *Exxon Valdez* spill in Alaska, some natural resources may incur long-term effects on productivity. Studies on the effects of the *Exxon Valdez* spill on biota and habitats in Prince William Sound show some resources to have recovered, others to still be showing possible spill effects, and yet for others that is no clear indication of the presence or absence of long-term effects (see discussions in Chapter 4). It is too early to ascertain whether the 2010 DWH event will cause long-term changes in productivity of affected resources. Long-term impacts of large oil spills to local economies and sociocultural systems may also be expected, especially in the Alaska planning areas.

Onshore facility construction (e.g., pipelines, processing facilities, service bases, etc.) causes definite short- and long-term changes, with localized long-term effects on coastal habitats along onshore pipeline corridors. Some biological resources, such as nesting birds, may have difficulty repopulating altered habitats and could be permanently displaced from the local construction area. Short-term biological productivity would be reduced or lost in the immediate onshore areas where construction takes place; however, areas where long-term effects may be incurred would be very limited in spatial extent and the long-term productivity in some of these areas could be mitigated with habitat reclamation. After the completion of oil and gas production, the marine environment is generally expected to remain at or return to its normal long-term productivity levels.

In the Alaska region, habitat disturbance associated with routine activities could cause local impacts to subsistence resources, which could threaten subsistence as a way of life. Road construction resulting from the proposed action would improve accessibility to primitive areas in the region. The wilderness values of the coast and along pipeline routes and associated access roads would decrease with increased human activity in these areas, particularly in areas that do not already have extensive oil and gas activities. Land use changes would be noticeable at onshore facility sites and along pipeline routes. Short-term changes may include a shift in land use from subsistence-based activities to industrial activities during the life of the proposed action. Areas adjacent to onshore facilities and pipeline corridors would probably be subject to hunting regulations and restrictions. Land use in some localized areas would change from conservation to resource development. Long-term effects on land use may result if the infrastructure or facilities continued to be used after the lifetime of the proposed action.

Increased population and minor gains in revenues have the potential for disrupting coastal communities in the short term. In Alaska, an added incentive to shift from a subsistence-based economy to a cash-based economy, a reduction in subsistence resources, a decrease in subsistence activities, and other changes brought about by the proposed action could be factors in long-term consequences for Native social and cultural systems. In the event of an oil spill, sociocultural systems and subsistence of local communities and populations may incur

short-term consequences, while a large spill such as a CDE may have long-term consequences to affected communities and populations.

Archaeological and historic finds discovered during development would enhance long-term knowledge. Overall, finds may help to locate other sites, but destruction of artifacts or damage to sites would represent long-term losses.

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