

7 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Section 102(2)(c)(ii) of the National Environmental Policy Act (NEPA) requires that an environmental impact statement (EIS) include information on any adverse environmental effects that cannot be avoided, should the proposed action be implemented. A commitment of a resource is considered *irreversible* when the primary or secondary impacts from its use limit the future options for its use. An *irretrievable* commitment refers to the use or consumption of a resource that is neither renewable nor recoverable for use by future generations.

7.1 MINERAL RESOURCES

The development of oil and gas production facilities, as well as all exploration and project support activities, would result in the consumption of ship and aircraft fuel, structural steel, and other materials. Upon decommissioning, some of these materials would be available for reuse. The consumption of fuels during exploration, construction, production, and decommissioning would represent an irreversible and irretrievable commitment. The offshore oil and natural gas resources recovered as a result of the proposed action would be irretrievable once they are consumed.

7.2 BIOLOGICAL RESOURCES

In general, the impact of routine operations would not constitute an irreversible and irretrievable commitment of resources. During exploration, construction, production, and decommissioning, some biota would be affected, and for most species population-level effects (which could result in irreversible and irretrievable commitment of biological resources) would not be expected. Offshore and onshore oil and gas activities, such as facility construction; platform removal; and aircraft, vessel, and vehicle traffic could result in direct habitat loss in some limited areas and displace some fauna and flora species from favorable habitats to unfavorable habitats. Displacement and habitat loss may result in the reduction of some local populations and become irretrievable if alterations to the environment were permanently maintained. However, the degree of displacement and amount of irretrievable habitat loss should represent a transitory and negligible effect on the overall populations of most species.

An irreversible and irretrievable commitment of biological resources may occur where habitats (such as wetlands and corals) are impacted by dredging, construction activities, or oil spills. Dredging and construction activities can destroy coastal wetland vegetation, which results in soil erosion and wetland loss. Dredging and construction in offshore areas could similarly destroy marine benthic habitats and sessile biota inhabiting the disturbed areas. These types of losses would be greatest in areas where oil and gas activities are currently not occurring. However, implementation of habitat restoration measures may limit the amount of habitat that could be permanently lost.

An irretrievable and irreversible commitment of biological resources may also be incurred if one or more individuals of a species listed under the Endangered Species Act is

injured or killed, or important habitats such as nesting sites are disturbed. However, consultation and coordination with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA) prior to initiation of any oil and gas development activities would identify mitigation measures to reduce or eliminate potential impacts to listed species, and implementation of such measures would act to reduce the potential for an irreversible and irretrievable commitment of these biotic resources.

7.3 LAND USE

In general, land used for support of oil and gas development and processing would not revert to its predevelopment characteristics; however, the land may become favorable to other urban or industrial uses. Some areas of land disturbance may be returned to predevelopment characteristics with active restoration.

7.4 ARCHAEOLOGICAL RESOURCES

Irretrievable prehistoric archaeological sites and cultural materials may be lost through indiscriminate or accidental activity on known and unknown sites such as placement of a pipeline across a shipwreck. Archaeological protection requirements should mitigate some losses.