

Water Resource Management Challenges on the North Slope

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From an area that could legitimately be described as one of the largest wetland complexes in the world, Alaska's North Slope has provided about 15 percent of America's domestic oil production over the past twenty years. During this time, environmental attitudes and practices have evolved, and the current state of these attitudes and practices can be summarized as four basic principles: 1. Industry—recognizing its responsibilities to both shareholders and external stakeholders—should strive to understand potential impacts, including those that may not be associated with specific developments, 2. Stakeholder representatives should be engaged as early as possible and remain engaged during project planning and implementation, 3. Information about potential impacts and stakeholder concerns should be used to avoid and minimize impacts, and 4. Ongoing monitoring and review should be used to assess long-term impacts of development. Hundreds of environmental studies have been undertaken to understand impacts and potential impacts to whales, seals, sea ducks, caribou, bears, foxes, vegetation, other biota, and lakes. These studies are undertaken by government laboratories, private sector providers, nonprofits, and universities, often working collaboratively to produce publicly available reports and, in many cases, peer-reviewed journal articles. Stakeholder engagement is common during project planning, but examples of stakeholder engagement on issues not associated with specific developments—such as engagement on water usage and polar bear management—are less common. Minimization and avoidance of impacts include footprint reduction, pipeline height requirements, pad siting and road routing, seasonal activity restrictions, subsea sound reduction, and rehabilitation of disturbed lands. Two important examples of minimization and avoidance include the growing rehabilitation program on the North Slope and BP's recent decision to develop the Liberty offshore reservoir using extended reach drilling from on shore. In the past, ongoing monitoring and reviews have been a relatively low priority, but many examples of long-term monitoring exist, and BP's recently launched long-term monitoring program may reflect growing recognition of the value of long-term monitoring and review. Future activities on the North Slope will probably include construction of a gas pipeline, heavy oil production, frontier and offshore development, and rehabilitation of abandoned sites. Importantly, development of other arctic regions will look to the North Slope for leadership. Environmental stewardship for future endeavors on the North Slope and elsewhere can be improved through effective application of the principles described here, perhaps in part coordinated by collaborative organizations such as the North Slope Science Initiative and industry trade associations.