

Changing Capabilities of Northern Communities: Environmental Protection

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Abstract

Northern communities appear to lack the power of many southern governments to influence their course of development. One clear exception is the North Slope Borough in the American Arctic, which benefits from the strong grant of authority to local governments in the Alaska Constitution and the ability to tax oil and gas property at Prudhoe Bay. This article examines how northern communities respond to environmental threats posed by recent oil and gas development projects. It finds that the borough's participation in the intergovernmental regulatory regime brings advantages to community interests, but that there are costs as well.

Introduction

Throughout the North, Native communities encounter threats to their capability for self-determination. Lying at the periphery of powerful post-industrial states, they cannot autonomously chart the course of their future, because governments to the South curb their authority. Multinational corporations and global market forces envelop them increasingly in complex webs of economic dependency. Increasingly drawn into modern market and state systems, Native communities face challenges to subsistence ways of life, and threats to the preservation of their culture.¹

This article examines the capabilities of Native communities in one region of northern Alaska: the North Slope Borough (NSB). It does so through an analysis of their responses, at the community and regional levels, to environmental threats posed by recent oil and gas development projects.

The article begins by chronicling briefly the development of borough government on the North Slope, and by describing its relationships with other Native governments and the North Slope Native communities. It then introduces four oil-and-gas development projects—Badami, Alpine, North Star, and Liberty—that affect Native interests negatively and positively. The article demonstrates areas in which the intergovernmental regulatory regime was successful in satisfying Native interests. The regime succeeded by inducing industry to involve Native groups and communities in early stages of plan-

ning, by influencing state and federal agencies, by increasing the Borough's ability to monitor and mitigate environmental disturbances, and by increasing economic benefits for residents. The article also points out the costs of reaching accommodations: assimilation to federal and state institutions in the regulatory regime, and conflict with other Native organizations.

Borough Government on the North Slope

Alaska's "model" constitution gives local government more power than constitutions of the other states. Only two forms of local government are created—cities and boroughs (which are county-type local government units with strong mandatory powers of taxation, planning and zoning, and education). Further, the framers sought to increase local government power in the explicit language of Article X: "A liberal construction shall be given to the powers of local government units."²

The North Slope Borough, incorporated on 1 July 1972, was Alaska's first borough government serving a predominant Native constituency. The movement to form a borough government was interconnected with the land claims movement on the North Slope. A clear motivation was to capture rents from oil and gas development at Prudhoe Bay, previously unavailable to North Slope residents except through indirect transfers from the state. Leaders sought to ease material conditions of life in the eight Native villages that would comprise the borough, particularly the high rate of unemployment. They were strongly motivated to establish high schools, not then available on the North Slope.³

Leaders and residents also contended that Native communities needed protection from agencies, organizations, and events that had made their lives unstable. They feared threats to subsistence pursuits, upon which most of the people depended for sustenance. They were worried about the impacts of oil and gas development, which would precipitate great changes and pose potential hazards to people and the fragile arctic ecosystem. Borough government seemed to promise greater environmental security through land-use planning and zoning powers.⁴

During the next quarter-century, the borough developed capabilities in four areas: governmental infrastructure, social welfare distribution, fiscal extraction, and environmental regulation. Initially, borough government was a highly centralized institution operating out of the borough's largest town, Barrow, which has about 60 percent of borough population. Protests from the other seven villages (Pt. Hope, Pt. Lay, Wainwright, Atkasook, Nuiqsut, Anaktuvuk Pass, and Kaktovik) led to representation of villages on the assembly, school board, and planning commission, and designation of borough liaison officers in each community. Nevertheless, the borough remains a centralized administrative structure today, with the largest local government staff

of any region outside Anchorage. Furthermore, the mayor has greater authority within the borough than that of any other Alaska mayor. For a time, lack of bureaucratic and legislative checks (through the borough assembly) on mayoral power enabled corruption and scandal.⁵ Closer scrutiny of borough officials and increased political competition on the North Slope seem to have remedied these flaws.

The NSB's distributive capability, funded by taxes on oil and gas property (primarily at Prudhoe Bay and Kuparuk) located within its jurisdiction, is greater than that of any local government in Alaska. It has had the state's most handsomely funded school district, and the most aggressive housing program for residents. The massive Capital Improvements Program brought new clinics, schools, roads, housing, water and sewer facilities, airports, light, power and heating systems, and sanitary facilities to each of the eight North Slope villages, at a total cost by 2000 of over \$1 billion. Construction work on facilities as well as jobs in borough government employed well over half of North Slope adults seeking full-time employment.⁶

After withstanding two oil company and state challenges to its taxation powers in the early and mid-1970s, the borough had 15 years of fiscal stability. However, the sunk costs of general government and social welfare programs as well as growing interest payments on bonded indebtedness grew to comprise the lion's share of the borough budget. And that budget began to decline in pace with the reduction in oil production from Prudhoe Bay in the 1990s; property tax revenue fell for the first time in FY1999. The borough's response was to develop status quo budgets in the late 1990s, to consolidate services, and to begin privatization of some central government services. These measures balanced borough budgets. For example, the FY2001 general fund budget of the borough totaled \$309 million, with \$168 million spent on regular government operations and \$142 million on debt service.⁷ The most notable indication of fiscal capability was the establishment by borough voters in 1984 of the North Slope Borough Permanent Fund. By March 31, 2000, the fund's corpus was \$482 million. Through charter changes in 1997, 5.5 percent of the rolling average total value of the fund is transferred to the general fund annually. The principal amount of contributions and growth in excess of annual transfers remains in the fund in perpetuity.⁸

The final area of borough capability bears most directly on this article—NSB's ability to provide environmental security for communities and residents. The borough is both advocate and intercessor, standing between Native subsistence users and state and federal agencies that regulate species populations. In the particular area of whaling, the borough's development of a correlative agency, the Alaska Eskimo Whaling Commission (AEWC) has made it a major player in the protection of the species most vital to six of the eight North Slope villages.

The borough has regulatory power over oil and gas development that is as strong as that of any Alaska municipality. It derives this authority from two courses. First, any Alaska borough has mandatory constitutional powers of planning and zoning, and the NSB has used this power to form land use control ordinances to regulate oil and gas development.⁹ Second, any coastal region may seek additional protection of its environment under federal and state coastal resource management legislation. To be included in the state program, a borough's plan must be approved by a state council and the federal government.¹⁰ Once approved, however, the Borough has a voice in all state and federal decisions affecting coastal development. Oil/gas development and production activities must be consistent with the state plan before they can proceed. This authority is implemented by the Planning Commission, the Department of Planning and Community Services, and the Department of Wildlife Management.

The borough sits at the center of a relatively large number of Native organizations (for a sparsely populated northern region). It represents eight villages, each of which has a village corporation and village council. As we shall see, on occasions the borough has taken positions at odds with those of individual villages affected by oil and gas development. Village corporations are integrated vertically through the Arctic Slope Regional Corporation (ASRC), the private for-profit regional corporation chartered under terms of the Alaska Native Claims Settlement Act of 1971. ASRC is one of the richest ANCSA corporations in Alaska; its land holdings contain potentially vast recoverable oil and gas resources, and sometimes it challenges the interest of the borough in environmental protection. Another regional organization that vies with the borough in the environmental area is the Inupiat Community of the Arctic Slope (ICAS), a regional Native corporation chartered under terms of the Indian Reorganization Act of 1936. For much of the period since its resurrection in 1977, the ICAS served as a vehicle for transferring federal health and welfare assistance funding to borough residents.¹¹ In the late 1990s, after a period of inactivity, it directed attention to environmental protection issues, contesting the position of the borough and AEWC, as noted below.

In these four areas—developing a comprehensive governmental infrastructure, a social welfare distribution system, an effective funding mechanism, and subsistence and environmental protection regulations—the borough has attained a degree of capability rivaled by few other northern communities. For a demonstration of this capability, we turn to four recent cases of oil and gas development on Alaska's North Slope.

Recent Oil and Gas Development on the North Slope

Within four years of incorporation, borough leaders had adopted an active stance on onshore oil/gas development. The borough contracted with NANA

regional corporation for the construction of a sewage/solid waste treatment plant and sanitary water facility at Prudhoe Bay.¹² Funded by oil industry user fees, this action, and subsequent construction of waste treatment facilities for the Kuparuk oil field, demonstrated the intention of borough government to facilitate onshore development. The borough's attitude toward onshore development was cautious but supportive. Leaders believed that their subdivision and zoning ordinances as well as the Alaska Coastal Management Plan would provide adequate protection for Native interests.

However, since the incorporation of the borough, leaders have opposed offshore (Outer Continental Shelf or OCS) oil and gas development in the Beaufort Sea. When Eben Hopson, the borough's first mayor, campaigned in 1976 for the Alaska seat in the US House of Representatives, he made OCS development the leading issue in his campaign. He argued that exploration technology in the Arctic, especially under pack ice conditions, was inadequate, and that a blowout or spill would endanger the habitat of whales, other marine mammals, and fish—species on which most Inupiat depended. In 1979 the borough filed suit in federal court to halt lease sales in all Beaufort Sea areas outside the barrier reef.

In the following twenty years, the borough became significantly more dependent on oil and gas property taxes. Too, industrial technology for petroleum exploration and production advanced. The footprint for development facilities has shrunk nearly 75 percent in size; ice roads, leaving virtually no summer trace, have replaced gravel roads, making roadless development possible. Re-injection of drilling fluids has reduced the risk of contamination as has improvements in pipeline design. Four recent oil and gas development projects allow us to assess if expected changes in borough positions have materialized, as well as to evaluate the current capability of the borough and other Native organizations to regulate developments that endanger environmental values.

Our four case studies include two onshore projects—Badami and Alpine—and two offshore—North Star and Liberty. We consider first the nature of each project and the threat it presented to North Slope Native interests.

Badami

British Petroleum (BP) proposed the Badami project in the early 1990s. Located 25 miles east of Prudhoe Bay, the site is the farthest eastern point in the range of North Slope oil and gas development; it is considered the oil industry's "gateway" to the Arctic National Wildlife Refuge. The Badami site is offshore, beneath Mikkelsen Bay, but BP proposed directional drilling from a dock onshore. Development work entailed excavation of 17 million square yards of gravel and *overburden* (waste earth and rock covering mineral deposits) from 116 acres of flood plain and tundra. A construction pad, doubling as a drill

and facilities pad, was connected by a short in-field road system to the east Badami mine site, including an airstrip. Essentially, the project describes a roadless development. As originally proposed, a 17.8-mile chilled, buried pipeline with ten valve pads would be tied into the Endicott pipeline. Partly because of agency and borough concerns with the buried, chilled pipeline (new technology for the American Arctic yet used previously in Canada), but primarily because of technical and cost disadvantages to this method, BP changed the design in 1996 to an elevated pipeline; it also eliminated a satellite drill site it had proposed initially.

Badami presented borough authorities with three environmental risks. The first (and standard) concern pertained to pipeline height, and the ability of migrating caribou herds to cross the pipeline route while seeking insect relief during the calving season. The second concern focused on the dampers that BP intended to use to mitigate noise from pipeline vibration, which were thought a danger to snow machine traffic under the pipeline. The third issue was the dock length, which seemed likely to obstruct passage of arctic grayling and new fish species. All three issues were resolved to the satisfaction of the borough (as well as state agency officials) before pipeline right-of-way and lease-operations approvals were issued.

Alpine

Arco Alaska planned the second onshore project in the early 1990s. The discovery wells were 35 miles west of the central processing facility at the Kuparuk oil field. At the farthest westward point in the range of North Slope oil and gas development, Alpine attracted special attention, stimulated by its location on the boundary of the National Petroleum Reserve-Alaska (NPR-A). For the latter reason Alpine has been called the “gateway to NPR-A.” Arco planned an above-ground pipeline, with a single, underground crossing of the Colville River. The proposal called for placement of 1.3 million square yards of gravel over 110 acres of wetlands, and construction of a drill pad, production facilities, storage tanks, roads, and an air strip, 8 miles from the village of Nuiqsut. The two gravel pads required for drilling and operations would be connected by a 3-mile road; the oil and gas would move by pipeline to Kuparuk, and sewage and solid waste would be hauled there.

Alpine presented environmental risks because of its location in the Colville Delta, regarded as one of the richest fish and wildlife resources areas in the American Arctic. The crossing of the Colville challenged construction technology, leading Arco to propose use of the horizontal directional drilling method, to that point untested in the Arctic. However, an under-river pipe might rupture, causing an oil spill that would endanger fish habitat, leading Arco to amend its proposal by encasing the pipe. Finally, Arco presented an oppor-

tunity for Nuiqsut residents, who sought a natural gas pipeline connection to the village, which would significantly lower their fuel costs.

Arco employees met with Nuiqsut residents to learn their concerns before submitting its application for a lease-operations approval, the pipeline right-of-way, and related permits and materials sales contracts. It satisfied objections raised by the village council, the Kukpik (village corporation) board, and the borough planning department. Also, Arco (now Phillips Petroleum, which bought Arco's Alaska holdings from BP in April 2000) ran a gas line to the village, but the borough has not yet constructed a year-round road.

North Star

This is the most controversial recent case in Alaska North Slope oil and gas development. The site, eight miles north of Milne Point in the Beaufort Sea, was first leased by Conoco, which failed to discover oil and abandoned its two gravel islands (Seal and North Star). BP then purchased the lease in 1993 and proceeded to test for oil and gas, discovering small but commercially recoverable deposits (under 200 million barrels). BP then convinced the Knowles administration to forego royalties in exchange for its commitment to develop the resource, with the state sharing in the profits.

Because North Star would be the first American oil project operating in the OCS, with significant potential impacts on the nearshore ecosystem, under the National Environmental Policy Act an environmental impact statement (EIS) was required. The US Army Corps of Engineers (COE) invited relevant federal, state, and local government agencies to participate in the EIS process as cooperating agencies. The Knowles administration disallowed state resource agencies from taking part, arguing that a cooperating agency status would compromise the agencies' abilities to deal directly with BP to guarantee the best environmental mitigation measures. However, the North Slope Borough saw advantages in working within the EIS process. It was the only Alaska representative on the EIS team, serving with the COE, Environmental Protection Agency, US Fish and Wildlife Service (FWS), Minerals Management Service (MMS), and the National Marine Fisheries Service.

Most of the plans for production were unexceptional: a gravel island work surface for drilling, oil production, drilling equipment, and processing facilities. It was the transportation method and route that aroused debate. BP proposed a sub-sea pipeline from the production island to Pump Station #1 of the Trans-Alaska Pipeline. The sub-sea pipeline was preferable to a pipe on the ocean floor, but sub-sea pipelines are untested in arctic waters and still are susceptible to warping such as ice keels, gouging, and ice strudel. An oil spill in the ocean endangers all adjacent fisheries and waterfowl; it particularly threatens bowhead whales (primary subsistence targets of Inupiat Eskimos), seals, walrus, and polar bears.

BP favored the direct route for cost and competitive reasons (the chief alternative location was operated by then-rival Arco). State resource agencies, influenced by the Knowles administration, supported BP's design. Federal resource agencies, on the other hand, joined by the North Slope Borough, favored a pipeline route traveling around the barrier islands to the West dock. Although costing \$4.5 million more, this route would avoid fish and waterfowl habitats valued by borough residents. Some supporters alleged that this route would produce less noise, which influences whale migration routes. When the COE approved BP's route, the borough did not object. Whether it was pressured by the Knowles administration or ASRC interests (benefitting from collaboration with BP), believed its questions had been answered,¹⁴ or simply was eager to have the project underway so that it could increase the borough's revenue stream,¹⁵ is unclear. However, the federal Fish and Wildlife Service objected and elevated the decision through its director to the Secretary of the Interior. The National Marine Fisheries Service, whose chief concern had been risks to bowhead whales, was inclined to support Fish and Wildlife in the elevation request; it queried the AEWG for guidance on whether it should support elevation. AEWG said the West Dock route was not superior to the BP proposal, and declined to support elevation.¹⁶

North Star was the first OCS development endorsed by the North Slope Borough, but the borough's position did not represent all constituent groups on the North Slope. When the Secretary of the Army upheld the COE's permit approval, allowing BP to proceed, and when Greenpeace sued to enjoin this action, the ICAS joined in opposition to the BP alternative and to oil and gas development in the Alaska OCS.¹⁷

An officer of ICAS explained the Native organization's opposition with two reasons: 1) BP lacked an acceptable contingency plan: "It cannot clean up an oil spill in the Arctic; it tried last fall and failed"; and 2) "Our major concern is the health of marine mammals: We have no Wendy's or McDonald's and rely on them for subsistence."¹⁸ Residents of Nuiqsut also opposed the North Star project.

Liberty

Unlike the previous three cases, Liberty is still in the proposal stage. BP also owns the Liberty leases, which are in Foggy Island Bay, federal waters of the central Beaufort Sea, traversing state lands both off- and onshore. The site is 1.5 miles west of Tern Island, 6 miles offshore in 22 feet of water (deeper than North Star). However, it is inside the barrier islands. BP has proposed offshore drilling and production facilities on an artificial island, connected to onshore facilities and the Badami pipeline by a sub-sea pipeline.

In many respects, Liberty resembles the North Star case: an offshore location, which would need to be connected to onshore facilities by a sub-sea

pipeline; development would be subject to unpredictable sea ice movements; oil spills would adversely affect prime resource values of North Slope Inupiat. Liberty, however, would be developed primarily in federal waters; the state and borough would receive fewer economic benefits than from projects in state waters. Its location within the barrier islands would give it protection from some ocean current and ice movements. On the other hand, Liberty lies east of North Star and a sub-sea pipeline to shore would cross a unique boulder patch community, with rare resource values.

The federal MMS leads the EIS process on Liberty and has invited federal and state agencies, as well as the borough, to participate. The time commitments required for cooperation have discouraged several federal and state agencies from participating at this point. To the present, the North Slope Borough has not agreed to join the process.

Compared to the early years after borough incorporation, three of these four cases in the 1990s demonstrate the NSB's capabilities in environmental protection. Its planning and zoning authority is upheld by the state and recognized by the oil industry. Major participants acknowledge the borough's expertise in traditional ecological knowledge. The borough has a clear right to participate in each of the three regulatory processes that determine whether and how oil and gas development will proceed on the Alaska North Slope. NSB has commenting powers and can issue stipulations on pipeline right-of-way applications to the Joint Federal-State Pipeline Office.¹⁹ Its Coastal Zone Management Plan has been accepted by the Coastal Policy Council; each oil and gas development project on the North Slope must be consistent with the borough's coastal management plan, which is perhaps the borough's strongest authority. Finally, the borough can cooperate with federal and state agencies as part of the federal EIS process, with a direct impact on the alternatives considered and adopted.

By participating in the intergovernmental environmental regulatory regime, the North Slope Borough has gained numerous advantages for its Inupiat and non-Native population, which are illustrated below. We follow this section with an analysis of the costs of accommodation for North Slope communities.

Benefits of State Affiliations

Several advantages flow from the borough's membership in the North Slope oil and gas regulatory regime. As an authoritative government institution, it legitimately can advise industry to give it advance notification on development projects and to consult with the communities directly affected. Compared to the early hostile relationships between the borough and the oil industry, contacts today are amicable and productive. Oil companies routinely invite the borough to scoping and pre-application meetings to comment and

advise industry on proposals not yet ready for application. The industry also regularly makes presentations to the planning commission, and visits affected communities to learn concerns of residents.²⁰ For example, Arco representatives visited Nuiqsut several times before filing applications to develop the Alpine field, and changed its plans to accommodate subsistence and local energy needs. BP invited whaling captains to Endicott, demonstrating the new technologies used to reduce impacts on marine mammals, and won the support of many captains for North Star.

Second, as a member of the regulatory regime, the borough can influence state and federal agencies. It has access to each of the three processes and to each agency participating in them. This means that the borough must be consulted about development projects and its requests for changes in projects listened to (if not in all cases honored). Legally, the borough's objections must be relevant to its regulatory authority. For example, the borough has clear authority to regulate developments that endanger historical and archaeological sites. It does not, though, have the authority to protect migratory fish or endangered species. However, the borough can persuade state and federal agencies to adopt its objections where it lacks authority to attach stipulations or conditions. During two decades, the borough has developed close relationships with state and federal resource agencies. At the state level, its interests most closely are aligned with the Department of Fish and Game, Environmental Conservation, and the Division of Lands in the Department of Natural Resources. At the federal level, the borough cooperates most frequently with the Fish and Wildlife Service, Environmental Protection Agency, and the National Marine Fisheries Service.

The relationship between the borough, AEWC, MMS, and the National Marine Fisheries Service presents a special case of the role North Slope communities now play in environmental regulation. A standard stipulation of the MMS OCS lease (Industry Site-Specific Bowhead Whale-monitoring Program) requires the oil industry to engage in a monitoring program approved by the Regional Supervisor of MMS, involving the borough, AEWC, and the National Marine Fisheries Service. In this respect, both Borough and the organization of whaling captains function as agents of the federal government in the protection of migratory whales.²¹

Third, participation in the regulatory regime enhances the borough's surveillance and monitoring of oil and gas development activities, assisting it in preventing or mitigating disturbances to the environment. The borough's environmental enforcement staff numbers only two members, but they are permanently resident on the North Slope.²² Borough planning and wildlife management staff regularly consult with federal and state enforcement officers. When, for example, borough enforcement officers discovered that three sections of the Badami pipeline were less than five feet high, potentially impe-

ding caribou crossings, BP declined to raise the pipe because to that point both state and federal agencies had agreed to industry's interpretation that the five-foot requirement was the average for the length of the pipeline, not the height of each section. The borough pressed its case with the state Fish and Game department, which supported it with the Department of Natural Resources and the Joint Pipeline Office, resulting in industry's acceptance of five feet as the required minimum height for each section of pipeline.

Finally, the borough derives direct economic benefits from its full participation in the North Slope regulatory regime. One example was mentioned above: the ability of Nuiqsut villagers to lower fuel costs by tapping into Alpine natural gas, a requirement that the borough was able to impose through the permitting process. A second example is the local-hire stipulation, which is part of the boilerplate that borough administrators attach to each lease-operations approval permit. The borough's local-hire requirement is constitutionally suspect, yet North Slope operators observe it in their hiring practices.²³ A BP permitting officer remarked: "We know it's in our best interest."²⁴

These advantages of borough participation in the North Slope regulatory regime are the product of two decades of cooperative ties, in which state and federal agencies as well as the oil industry have learned about the needs of North Slope communities. The benefits, however, have not come without costs.

Costs of Accommodation

One cost to participation in the regulatory regime is the Borough's assimilation to processes and institutions whose interests may not coincide with those of North Slope communities. The intent of environmental regulations at the state and federal level is to mitigate environmental disturbances, not to prevent or unnecessarily delay oil and gas development. By participating fully in the process, the borough acknowledges the legitimacy of the outcome: oil industry development of the North Slope's hydrocarbon resources.

In one respect, borough participation in state and federal regulation is a natural result of its dependence on revenues of oil and gas production on the North Slope. Without Prudhoe Bay, no strong and wealthy borough government would have been established on the North Slope; the survival of borough government infrastructure and social welfare distribution critically relies on the exploration for and production of new oil and gas fields. It is highly unlikely that a majority of borough residents seek a return to conditions of the 1950s and 1960s, when government services were minimal and regular cash jobs few.

In another respect, however, assimilation to the regulatory regime may compromise the interests of communities and cultural traditions. At the North Star public hearings conducted by the COE in Nuiqsut, a number of Native

residents mentioned the adverse impact of oil field development on the caribou they hunted; they feared that developing North Star would adversely affect whale migration and diminish community norms of sharing that center on whaling.

Such concerns also are reflected in the second cost to participation in the regulatory regime: division of the Inupiat community between supporters and opponents of specific oil and gas development projects. Until the borough government assented to the North Star permitting, nearly all Inupiat opposed OCS oil and gas development because of the risks of oil spills affecting whales and other marine mammals. Although ASRC and the borough supported North Star, some communities did not (Nuiqsut, Kaktovik); several whaling captains opposed OCS development at North Star, and the ICAS formally protested federal and state approval of it.

This division of community opinion may be inevitable in the developmental process on the North Slope. Certainly, most other American communities display the not-in-my-back-yard (or NIMBY) phenomenon whenever a new development venture is proposed, and supporters of change square off against those most likely to bear the costs of development. Such a clear division of community organizations and opinions on the North Slope, however, did not occur until the North Star proposal.

Conclusions

The North Slope Borough in 2001 has an enhanced capability to protect the borough environment, as compared to the early years of the borough from 1972 to the late 1970s and early 1980s. As compared to all the other rural boroughs and most of Alaska's urban local governments, the NSB is more centralized and powerful. It has the most extensive social welfare programs in the state, reaching nearly every single borough resident.

The borough also spends more per capita on government services (and debt reimbursement) than any other jurisdiction of the state and perhaps than any other municipality in the nation. The dependence of the borough on a single source of revenue—taxes on oil and gas development property—alerted leaders early to the need for economic diversification, much as the state of Alaska has sought to diversify its revenue portfolio. NSB voters in 1984 established a borough permanent fund and by 2000, the PF contained nearly one-half billion dollars. On a per-capita basis, the fund's corpus is many times larger than the value of the \$28 billion in the Alaska Permanent Fund. And borough leaders wisely allocated 5.5 percent of fund proceeds to the general fund annually (and did not give dividends to residents), thereby insuring that oil revenues would support public programs.

Given the dependence of the NSB on oil and gas development, it is perhaps surprising that it seeks to regulate the industry at all. Yet environmental

security was a chief objective in borough formation, and over its history the borough's regulatory authority and performance have improved. We noted the effects of borough regulation in four recent cases of oil and gas development projects. These provide demonstrations of the efficacy of the North Slope regulatory regime, which is an intergovernmental construct composed of local, state, and federal components.

Participation in the regulatory regime brings significant and sizable benefits to the communities and residents of Alaska's North Slopes. The benefits are not free, however. They come at the cost of accommodation with state and federal interests in environmental protection, and assimilation to the concept of oil and gas development itself. This has begun to compromise interests of some communities affected by new development projects and some cultural traditions. The changes also have divided the borough as a regional institution of governance against some of its constituent villages and some Native organizations. These costs of accommodation seem likely to increase as oil and gas development spreads to other areas of the North Slope.

A final question: how representative is the North Slope Borough's experience in environmental protection? Borough regulatory activities depend on a rich oil/gas resource base. This is matched in no other American Arctic Native region and in few aboriginal communities elsewhere. The legal and constitutional authority of the Borough, however, is comparable to that of other Alaska local governments. It may be greater than the authority of Russian local governments, but is perhaps less than the powers of First Nations in the Canadian Arctic.

A critical factor influencing the applicability of the NSB experience is the nature of the American environmental regulatory regime. The regime is quite complex, with federal, state, local, and non-governmental actors, and with competing visions among each stratum of participants. This rich intergovernmental web combined with public participation requirements gives advantages to political entrepreneurs (such as the NSB) who can mobilize support from different sectors and organize alliances across levels. Thus, the experience of the Borough may not be replicable easily outside Alaska and the US.

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Endnotes

1. See Michael Pretes, "Underdevelopment in Two Norths: The Brazilian Amazon and the Canadian Arctic," *Arctic*, Vol. 41, No. 2 (June 1988): 109-16 and H.-J. Hammer and J.W. Gartrell, "American Penetration and Canadian Development: A Study of Mature Dependency," in Mitchell A. Seligson and John T. Passé-Smith, eds., *Development and Underdevelopment: The Political Economy of Global Inequality* (Boulder, CO: Lynne Rienner Publishers, 1993), for the dependency explanation of northern development.
2. Alaska Constitution, Article X, Section 1.
3. Transcript of Meeting of the Local Boundary Commission regarding North Slope Borough Incorporation, February 23, 1972, pp. 98-110.
4. Gerald A. McBeath, *North Slope Borough Government and Policymaking* (Anchorage: Institute of Social and Economic Research, University of Alaska), pp. 13-14.
5. Management problems developed in the borough's huge Capital Improvements Projects (CIP) in the 1980s, with millions of dollars wasted and illegally appropriated to contractors and consultants. Several former borough officials and consultants were charged, indicted, or convicted of financial corruption. In 1989, a court convicted two prominent non-Native consultants, both with numerous political connections statewide, of racketeering, extortion, and fraud (see Don Hunger, "Dischner, Mathisen Guilty in Slope Case," *Anchorage Daily News*, May 23, 1989, p. 1).
6. See Gunnar Knapp and Thomas A. Morehouse, "Alaska's North Slope Borough Revisited," *Polar Record*, Vol. 27, No. 163 (1991): 303-312.
7. North Slope Borough *Financial Summary*, Department of Administration and Finance, June 15-16, 2000, p. 9. This budget was \$50 million larger than the FY 2001 budget of the Anchorage Municipality, which totaled \$259.2 million.
8. *Ibid.*, p. 31.
9. Title 18 (Subdivisions) and Title 19 (Zoning) of the North Slope Borough Code of Ordinances.
10. The North Slope Borough Coastal Management Program was approved by the Alaska Coastal Policy Council in April 1985; federal approval from the Office of Ocean and Coastal Resource Management came in April 1988.
11. In 2000, these former functions of the ICAS were being performed by the resurrected Arctic Slope Native Association, the former regional land claims association, after the ICAS was prohibited from receiving Bureau of Indian Affairs transfer funding because of accounting and management irregularities.
12. McBeath, 1981, p. 55.
13. *Ibid.*, p. 68.

14. BP agreed to conduct monitoring for whale migration and shut down operations during the whaling season. Personal interview with NSB Lands Division administrator, Barrow, June 28, 2000.
15. Personal interview with deputy director, NSB Department of Planning and Community Services, February 18, 1999.
16. Personal interview with representative of National Marine Fisheries Service, Anchorage, June 6, 2000. The respondent alleged that the AEWG director, spouse of the borough mayor, was influenced by personal considerations. The mayor himself had reversed his position of opposition to OCS development in the North Star case.
17. Interview with tribal environmental officer, ICAS, Barrow, June 30, 2000.
18. Ibid.
19. Although both the state Department of Natural Resources and federal Bureau of Land Management, which jointly lead the Joint Pipeline Office, are concerned primarily with pipeline integrity issues, each also pays attention to subsistence needs of North Slope Inupiat and to critical species' habitats.
20. For example, a Phillips Petroleum presentation to the Planning Commission on its Meltwater project on June 28, 2000, to inform the commission of development plans and solicit advice on how to proceed in making a subdivision request.
21. The monitoring program, on which both the borough and AEWG may comment, must be approved each year before exploratory drilling operations can begin. Either AEWG or borough representatives can participate in the monitoring program as observers. Monitoring results must be distributed to the borough and AEWG; both agencies recommend experts to review the monitoring program and final results. See Appendix B, d. Stipulation No. 4, p. 6.
22. Of state agencies, only the Alaska Oil and Gas Conservation Commission maintains a year-around office on the North Slope. State Fish and Game, Environmental Conservation, and the Department of Natural Resources' divisions of Land, Water Resources, and Division of Oil and Gas personnel visit the North Slope during the summer, but none maintains a consistent presence during the winter drilling season or the summer field observation season. Federal agency visits to the North Slope similarly are limited in duration.
23. Currently it is under review by the Superior Court because of a challenge by two non-Native residents of Barrow.
24. Personal interview, Anchorage, July 21, 2000.

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