

Cumulative Impacts of Oil and Gas Development on the North Slope

Institutional Challenges: Managing Cumulative Effects of North Slope Oil and Gas Development

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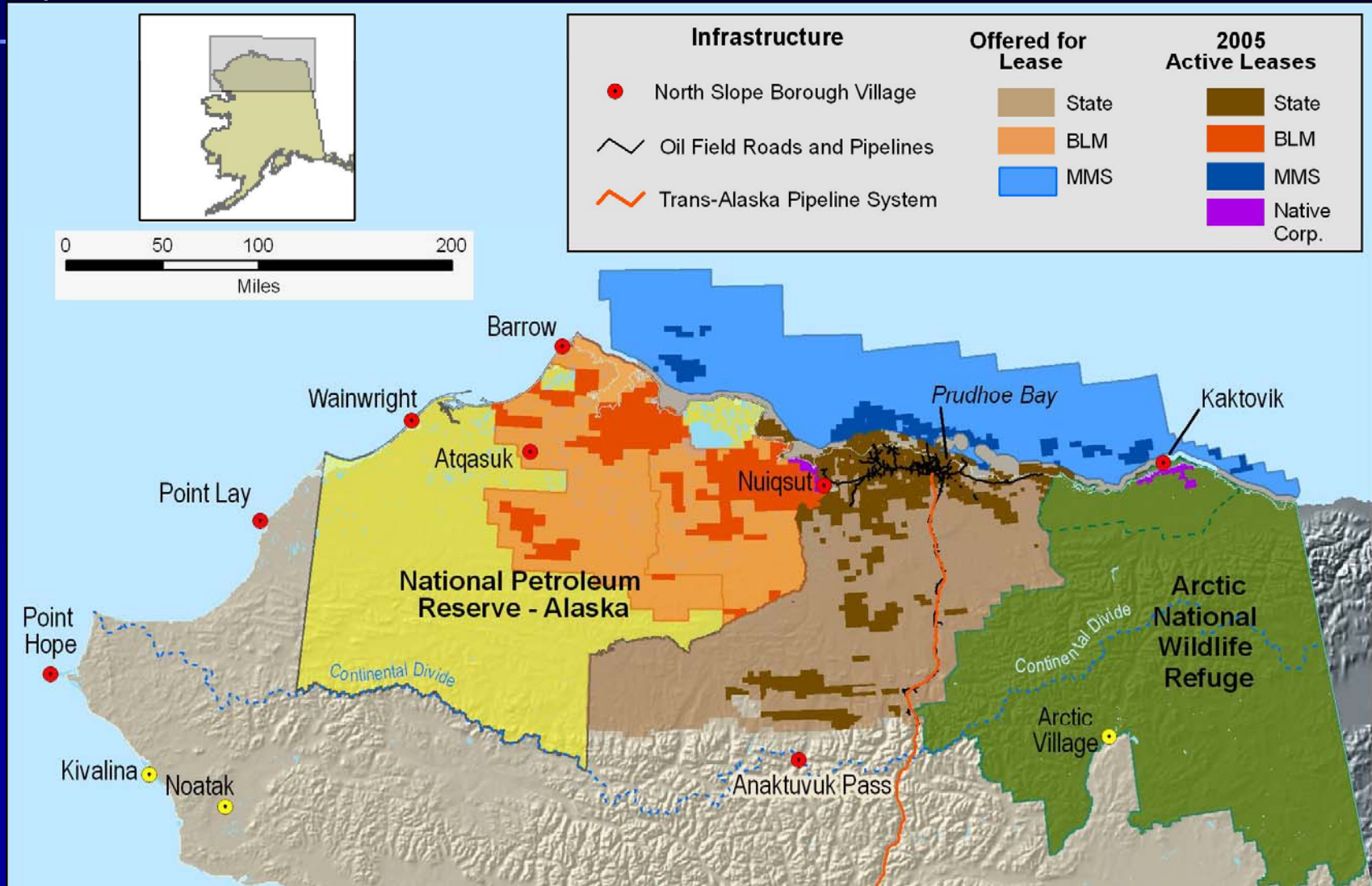
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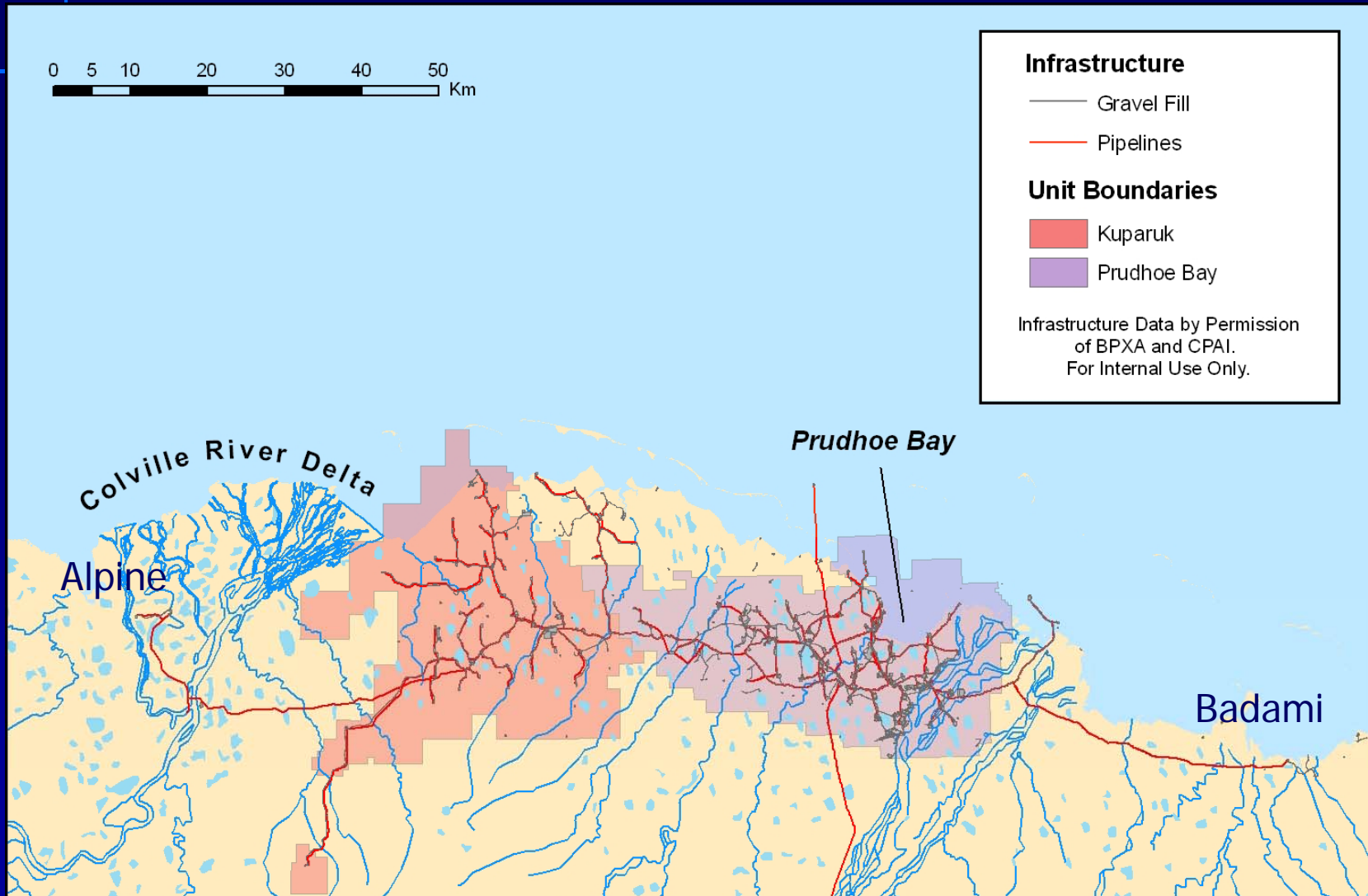
History of Alaska's North Slope Oil and Gas Development

- 1950's – early exploration in Naval Petroleum Reserve
 - Minimal environmental controls
 - Still ongoing damage and cleanup
- 1960's – Exploration, discovery of Prudhoe Bay
- 1970's – TransAlaska Oil Pipeline, West/East docks and waterflood projects
- 1980's – New field and major infrastructure development to the west, nearshore areas
- 1990's – Development of Badami field to the east, Northstar offshore project
- 2000 to present - Development of Alpine field to the west

Existing Infrastructure and Lease Sales



Current Development Today



National Academy of Sciences Report 2003

- Stakeholder concerns over geographic extent and pace of development
- Congressional funding for NAS report
 - Study of development practices and effects
 - Hoped for outcome “clean bill of health”
- Intended and unintended consequences
 - Industry is using best management practices
 - No one is comprehensively addressing certain issues, including cumulative effects
- More easily said than done....

Challenges Addressing Cumulative Effects Multiple Jurisdictions

- **Multiple Federal/State/Local Jurisdictions**
 - **Federal** – multiple leasing, NEPA, permitting, and consultation platforms.... MMS, BLM, ACOE, USFWS
 - **State** – separate development/protection mandates, leasing, and Best Interest Finding platform instead of NEPA
 - **Local** – planning and zoning powers, emphasis on cultural and resource protection
- Different standards, regulatory focus, expectations
- Uncoordinated, duplicative, and conflicting efforts

Challenges Addressing Cumulative Effects Multiple Stakeholders

- Industry
 - Big, small, experienced, new players
- NGO's
 - Pro-development
 - Environmental (consensus vs confrontation)
- North Slope Residents
 - Villages
 - ANCSA corporations
 - Tribal governments

Challenges Addressing Cumulative Effects Natural and Social Changes

- *Global warming/climate changes*
 - Less sea ice, melting permafrost
 - Vegetative, fish/wildlife distribution
- *Increased revenue*
 - Improved quality of life, employment
- *Increased social/cultural disruption*
 - human health concerns
 - cultural practice, sense of place loss
- *Difficult to attribute cause and effect*

Challenges Addressing Cumulative Effects

CE Process and Timing

- Analysis occurs at different levels
 - plan, lease sale, and individual project
 - CE analysis not done by the State
- Analysis is action specific, not regional
- Inadequate or inconsistent baseline studies
- No common research or data repository
- Little monitoring or revisiting of impacts
- Minimal cumulative effects mitigation
 - Broad damage payments
 - Conflict avoidance agreements
- Perceptions/fears vs projections/facts

NEPA: Process Battleground, Legal Hook

- Regulatory requirement for Cumulative Effects analysis
- Requires public process, legal accountability
- Requires a “hard look”, disclosure of impacts
- Requires looking at the effects of past, present, and reasonably foreseeable future actions

NEPA: Murky Guidance, Somber Outlook

- Implications of relative contribution of individual action to cumulative effects
- Mitigation obligations
- Measures/standards of significant impacts
- Significance Thresholds
 - What happens when a project crosses a threshold
 - What happens when a threshold is already crossed
- Obligation to monitor effects and adaptive management
- Equity in shouldering the analysis, mitigating impacts

Cumulative Effects: Suggestions and Solutions

- **Address CE Regionally and Programmatically**
 - World financial institutions, many nations moving this direction
 - Provide a baseline that can be updated
 - Action-specific NEPA can tier subsequent analysis
- **Create a common platform/universe of past, present, and regionally foreseeable future effects**
 - Common analytical comparison between agencies
 - Action-specific NEPA can tier subsequent analysis

Cumulative Effects: Suggestions and Solutions

- **Develop common criteria and standards**
 - VECs – valued ecosystem and social components
 - Significance standards and thresholds
- **More, focused baseline research and monitoring**
 - ID sensitive areas, control areas before development
 - Consistent, funded monitoring
 - Look back review – what happened what didn't

Cumulative Effects: Suggestions and Solutions

- A serious, documented approach to adaptive management
 - Prescribed milestones for reassessment
 - Stakeholder involvement
 - May increase or decrease mitigation
- Continued reduction of development footprint
 - Smaller pads, shared facilities
 - Sharing research and data collection

Cumulative Effects: Suggestions and Solutions

- Spread the burden of solutions
 - Baseline research, technological innovation, mitigation
 - Public, private, and non-profit funding
- Investigate appropriate modeling and predictive impact systems
 - One size does not fit all
- Involve the stakeholders
 - Design forums for solutions, not griping