

FINAL REPORT OF THE



WORKING DRAFT 11.10.14

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1 Foreword

[PLACEHOLDER FOR MESSAGE FROM THE CO-CHAIRS]

2 Overview

The opportunities that come with an accessible Arctic are of strategic importance to Alaskans, who build on years of vision, hard work, and experience living and working in the region. Alaskans are at the forefront of emerging economic and resource development opportunities, promoting health and human safety, as well as circumpolar cooperation. Alaska's leaders remain engaged in and monitor the local, national, and global impacts of a changing Arctic. The Alaska Arctic Policy Commission presents a vision that advances economic development, resilient communities, a healthy environment and thriving cultures. The Commission believes that this can be achieved through strong state of Alaska leadership, tapping into the expert knowledge within the state, and building more collaborative partnerships.

While it is certainly the case that the Arctic is changing, and that international attention on the Arctic is growing, the state of Alaska has been responsive to these changes and is well-positioned to continue addressing increased activity in the region. The Alaska Arctic Policy Commission recognizes the many efforts already underway and led by state agencies:

1. Resource and geospatial mapping
2. Sub-area planning and emergency response
3. Competitive fiscal regime
4. Stable governance
5. Workforce development and training
6. Innovative technology development and application
7. Sewer, water and sanitation upgrades
8. Effective and inclusive permitting and regulatory system
9. Science-based decision making
10. Energy and power testing and research
11. Northern port assessment

The state is able to leverage these assets for great impact in the Arctic, where challenge and opportunity intersect, even as it is able to offer its expertise to national and international efforts.

About the Alaska Arctic Policy Commission

In April 2012, the Alaska State Legislature established the Alaska Arctic Policy Commission to “develop an Arctic policy for the state and produce a strategy for the implementation of an Arctic policy.” The Commission has conducted a baseline review of the Alaskan Arctic by evaluating strengths, gaps and opportunities in their Preliminary Report, submitted to the Alaska State Legislature in January 2014. Building on that foundation, the Commission has produced this Final Report that sets forth a proposed Arctic policy and implementation plan.

The Commission has operated under the conviction that the state is an active and willing leader and partner in Arctic decision making, bringing expertise and resources to the table. Furthermore, the Commission has remained committed to producing a vision for Alaska's Arctic that reflects the values of Alaskans, provides a suite of options to capitalize on the opportunities and mitigate risk, and stands the test of time as a living document.

Alaska's Arctic policy will guide the state's initiatives and inform U.S. domestic and international Arctic policy in ways that ensure that Alaskans benefit and Alaska's people and environment are healthy and secure. The Commission has considered a broad diversity of perspectives, drawing from a wealth of knowledge within Alaska, while considering the national and international context of ongoing Arctic initiatives. This Final Report summarizes the Commission's findings and serves as the basis for both the Alaska Arctic Policy and Implementation Plan.

The Alaska Arctic Policy Commission has, in this report to Alaskans, provided:

1. A review of economic, social, cultural and environmental factors, described in this section, of relevance to the Arctic and more broadly to all Alaskans
2. A draft Alaska Arctic Policy, which drew on vision and policy statements developed through consensus, reflecting the values of Alaskans, that provide guidance for future decision making
3. An Implementation Plan that presents four lines of effort and strategic recommendations that form a suite of potential independent actions for legislative consideration.

In its review of economic, social, cultural, and environmental considerations it was important to the Commission to demonstrate the breadth of the issues that were considered in relation to the Arctic. The following discussion and statements review this more fully and provide some context for the Commission's work on the resulting Arctic Policy and Implementation Plan.

Review of Alaska's Arctic – A Foundation that Rests upon Economic and Resource Development

The state of Alaska has been engaged in Arctic development and protection since statehood. Prior to this, peoples of the region pioneered resource management, development and conservation for the benefit of the region. With statehood came the promise that Alaska's significant land and resource base would build its economy and support its citizenry¹. Today, oil and gas development is a third of its economic activity and provides roughly 90% of Alaska's state revenue, with minerals, timber, seafood, and tourism contributing to the balance. Alaska has over 45 years of oil and gas development experience in the Arctic and over 100 years of mining

¹ Alaska State Constitution sections: 8.1 and 8.2

experience.² The Trans Alaska Pipeline System (TAPS) is one of those early transformative infrastructure and resource developments that took a great deal of vision, collaboration, and work to complete in 1977. Still in operation today TAPS has transported over 16 billion barrels of oil from the North Slope to the Valdez Marine Terminal where it is loaded on tankers headed south.

The Arctic will inevitably see expanding development as it is increasingly the focus of new commercial opportunities for resource exploration, development and production. Changing Arctic maritime access could mean more efficient and expeditious delivery of extracted resources to markets across the globe. Arctic marine traffic is primarily driven by globalization of the region, the ability to move cargo faster, and the linkage of Arctic natural resources to global markets. Alaska's maritime industry has been prudently operating in these waters for nearly a century. An emerging Arctic, with more activity due to diminishing sea ice, is a key aspect of the need for continued and long-term investment in our maritime assets. Many organizations are actively engaged in this arena. These and other partners have an important role to play in maritime safety and security and in collaborating with the state and industries to establish best practices for safe development of the Arctic.

Although the vast mineral and hydrocarbon reserves make the Alaskan Arctic attractive for investment, development is challenged by distance to markets, limited infrastructure, costs and risks attendant to its remoteness, challenging weather and environmental conditions, and a dwindling subfreezing season necessary for maintaining ice roads and conditions suitable for safe travel and operation within the Arctic.³ Despite this challenging environment, exploration and development investment in the Arctic has steadily increased and will continue to increase, if commodity prices remain high and if Alaska remains competitive for investment dollars.⁴ Alaska should not ignore the fact that it is in a global race to attract investment that will open new opportunities in the Arctic.

To encourage new capital investment, and secure the benefits of new resource development upon which state and local communities depend, Alaska and its federal counterparts must continue to spearhead new strategies to keep Alaska competitive. Alaska has some of the most sophisticated interagency coordination and permitting processes in the country, with the expertise, experience and commitment to safely develop the Alaskan Arctic's vast resources. With this history and experience, Alaska is well positioned to respond to increased resource development activity in the Arctic.

² Banet, Jr., Arthur C., *Oil and Gas Development on Alaska's North Slope: Past results and future prospect*, USDO I – BLM – Alaska, Open File Report 34, March 1991; See Table 1, www.blm.gov/pgdata/etc/medialib/blm/ak/aktest/ofr.Par.49987.File.dat/OFR_34.pdf (Accessed May 2013)

³ USGCRP. 2009. *Regional climate impacts: Alaska*. in T.R. Karl, J.M. Melillo, and T.C. Peterson (Editors), *Global climate change impacts in the United States: A state of knowledge report from the U.S. Global Change Research Program*. Cambridge University Press, New York, N.Y., p. 139-144, <http://downloads.globalchange.gov/usimpacts/pdfs/climate-impacts-reports.pdf> (Accessed May 2013).

⁴ Haley, S., M. Klick, N. Szymoniak, and A. Crow. 2011. Observing trends and assessing data for Arctic mining. *Polar Geography* 34:1-2, 37-61.

Ensuring a sound economy for its residents is a key concern facing the Arctic; so too is protecting the environment. Some Alaskan Arctic communities are currently supporting new resource extraction projects, recognizing that oil, gas and mining industries offer meaningful employment, stable cash economies and reliable municipal revenues that support clean water, sanitation, health clinics, airports and other infrastructure necessary for strong, safe and healthy communities. While circumstances differ between local governments, resource development projects have often meant an influx of new revenue sources. This new revenue has, in many cases, meant that local governments have the resources needed to expand emergency response and search and rescue capabilities, take an active role in oil spill preparedness, and implement meaningful measures to protect regional ecosystems and local food sources that are critical to a subsistence culture. Resource development also holds the potential of increasing access to affordable energy in remote communities, which suffer from staggering energy costs.

New resource development opportunities both on- and offshore must be balanced against potential impacts by incorporating appropriate safeguards. Although the debate about potential risks to the environment and subsistence resources is often heated and emotional, it is important to the state of Alaska that a balance is met and that debates remain constructive and oriented towards finding workable solutions. This includes ensuring that rural development includes protections for subsistence resources, cultural identity and lands, while providing needed infrastructure, services, and employment training opportunities.

Emerging resource development opportunities and the opening of maritime routes will create an increased demand for a skilled workforce. In addition, ongoing public investment in construction, infrastructure, and resource development projects in Alaska will require active attention to providing relevant training and education resources. The university system, with industry and nonprofit partners, is actively engaged in delivering quality training and meeting the needs of a future workforce.

The balance between economic prosperity – which in Alaska rests on resource development – and socio-environmental health should result in more resilient communities. ‘Resilient communities’ is an expression that captures both the intent and challenge of planning for Alaska’s Arctic future. The justification for addressing Arctic issues is not only to better understand increasing changes taking place or human activity in the region, but to recognize that Alaskans live here, with corresponding needs to enjoy a quality of life consistent with and responding to national standards, traditional ways of living, and a remote Arctic environment.

This can be accomplished through strong partnerships, such as the local government, state, and industry collaboration that occurs with frequency and success in Alaska. The manner and scope of this community engagement continues to evolve as the state, communities and private sector work to meet new concerns and demands. Arctic communities affected by new development prospects are engaged during all phases of a project’s development. Partnership also extends

beyond the state, and Alaska is well-suited to lead national and international dialogue on resource development in the Arctic. Subject matter experts and state leaders lend a strong voice of knowledge and expertise to resource management and development opportunities as they emerge in the Arctic.

Economic and resource development, and community resilience, also rely on safe and effective infrastructure. The state has invested heavily in infrastructure development, as state agencies work to ensure that priorities addressing the infrastructure gap are met. This gap remains a prominent challenge not only to maritime transportation, but to moving goods and services between and to communities throughout Alaska. Investment in Alaska's transportation system is a perennial issue for state and federal agencies that weigh an ever-expanding list of needs against dwindling resources. Increased change and activity in the Arctic will place further demands on the state's transportation infrastructure. In the Arctic, a region where infrastructure often follows resource development projects, the vast majority of communities are unconnected entirely from the state or national road system, maritime and aviation infrastructure and assets become all the more critical. Ports, airports, road and rail all play a significant role in the development of the region's resources, in community resupply, safety and security, healthcare delivery, and in future economic activity. The state of Alaska continues to have a fundamental role in addressing these necessary demands, the solution to which is a robust economy supported by active and prudent resource development.

Beyond transportation, Arctic peoples experience a demanding physical environment unkind to homes and public structures like schools, washeterias, local government offices and health clinics. There is a wide array of efforts in place to address these issues, including a very strong weatherization program, energy planning, and applied research on power and energy, as well as cold weather housing innovation. A long history of design and construction materials unresponsive to northern and remote conditions has resulted in inefficient heating and electrical systems, poorly insulated or ventilated homes, and structural deficiencies that aren't able to account for permafrost changes or freeze/thaw cycles. Alaska's Arctic geography and remoteness also make building, maintaining, and providing reliable communication services at an affordable price for the end user difficult. Even with the fast-paced change of communications technology, which brings more efficient and cost-effective solutions over time, the economics of statewide broadband infrastructure deployment remain challenging. The state is leading activities that address this challenge, working with the private sector to address gaps and improve telecommunications.

One of the state's priorities – expressed in projects, planning, and funding – is to see more affordable energy in every Alaskan community. While huge progress has been made, Alaska's rural communities pay some of the highest prices for energy in the United States. One major factor contributing to high costs is a lack of statewide energy supply infrastructure systems, such as an electrical grid or gas pipeline network. For interconnecting villages, distance and lack of

infrastructure are huge and costly impediments, though increased connectivity or the development of more efficient microgrids has the potential for significant savings on energy costs. Significant progress has been made developing local, often renewable, energy sources to offset some of the diesel fuel use.⁵ In villages where residents must spend more than half of their annual income on fuel and electricity, even modest economic activity, such as maintaining a local consumer economy, is severely limited. These same costs compromise the effectiveness of local governments, schools, and utilities; the high cost of energy will be a significant consideration when new industries begin operations and invest in the Arctic. In the recent past, the legislature and the executive branch have created and funded many substantial programs and tools focused on energy and power issues. The Alaska Energy Authority (AEA) has approved more than \$202 million in grants for 228 renewable energy projects in Alaska through 2012, which have displaced more than 10 million gallons in diesel fuel. AEA calculates that the first 62 funded projects to reach operation will provide more than half a billion dollars in net benefits over their lifetimes.

Living conditions in Alaska communities are a real and serious concern, though by no means as difficult as they were even a decade ago. While most Americans don't think twice about turning on the tap or flushing the toilet, that is simply not the case in remote Alaskan communities, where thousands of homes don't have access to either, and many never will because of prohibitive capital costs. Rural communities are coming up with innovative solutions to afford operations and maintenance bills for water and wastewater systems even as they respond to aging systems that are failing. In places where jobs are scarce and household income is low, the cost of water is a significant economic issue that leads to household water rationing, which further escalates serious public health problems. Over the past 50 years the state of Alaska, and their federal partners, have supported community sanitation systems in rural Alaska. The state continues to put resources toward addressing rural water and sanitation needs, examining best practices, and facilitating innovative solutions that result in healthier communities.

A combination of socio-economic and environmental factors, preventive measures and clinical treatment, have the potential to significantly impact and improve Alaskan community wellbeing. Capability and capacity over a vast and isolated landscape are existing challenges to providing adequate health care, medical emergency responses, and preventive services. A rapidly changing environment, evolving social and governance systems and increasing human activity in Alaska's Arctic exacerbate these challenges. Service capacity in the region – whether in the form of local or state government, federal agencies, and Alaska Native health organizations – is increasing, and a high percentage of resources are allocated to respond to the area's needs. At the same time, many rural villages are actively working to address alcoholism and substance abuse, as well as domestic and sexual violence. Many communities have some degree of law enforcement, which the state continues to address through investments in the State Troopers, VPSOs, and VPOs.

⁵ Irwin, Conway. Displacing Diesel May Prove Cost-Prohibitive in Rural Alaska. August 1, 2013.

Beyond additional resources, solutions do come with robust economic development and support for traditional ways of living.

One of the most important components of Alaska Natives' traditional ways of living is food security. Based on initial work in Alaska, the Inuit Circumpolar Council (ICC) found that food security is synonymous with environmental health, and includes the concepts of availability, accessibility, the Inuit ecosystem and identity, livelihood, preference of food, traditional knowledge, management, community and social networks, responsibility and accountability to educate youth, stewardship, and the protection of the environment and culture.⁶ Changing environmental conditions are a particularly prominent source of food insecurity, reducing the efficacy of subsistence hunting due to changes in the weather and ice, impacts to subsistence species distribution and potentially health, and making food preservation and storage more difficult. The economic, health, social, cultural and spiritual values of all Alaskan Arctic communities are closely tied to subsistence. There are robust systems in place, reflecting local, tribal, state and federal collaboration, which facilitate effective protection of the environment. Alaska is world-renowned for its diverse and abundant wildlife, ranging from some of the largest free-ranging caribou herds in the world to a wide variety of marine mammals including several iconic to the Arctic such as the bowhead whale and walrus. The region supports important nesting habitat for a wide range of waterfowl species. Alaskans also depend on sustainable fisheries for their sustenance, livelihood, and recreation. Fishing has been a major source of food for Alaskans and a provider of employment and economic benefits to those engaged in this activity and their communities. This is an area where the state has excelled, in cooperation with many stakeholders.

A good example of how Alaska's Arctic communities have managed development and food security is the Red Dog Mine, which produces zinc, lead and silver ore from one of the largest base metal deposits in the world, and is owned by NANA Regional Corporation, an Alaska Native Corporation, and operated by Teck Alaska. Before initial development began, NANA directly engaged in a decades-long dialogue with their Inupiat shareholders to determine if resource development was right for their region. As a result of this extensive dialogue, in 1982 NANA and Cominco signed an innovative operating agreement that protects the subsistence resources of the Inupiat of Northwest Alaska and contributes to the regional economy with the production of valuable zinc and lead concentrate at the Red Dog Mine. The 1982 agreement also created a management and oversight committee consisting of members of NANA and Cominco (now Teck Alaska, LLC) and a Subsistence Committee consisting of Elders from neighboring communities who regularly work with mine officials to address local concerns regarding subsistence impacts. The mine has proven to be an economic catalyst in the region while protecting the Inupiat way-of-life.

⁶ North Slope Regional Food Security Workshop: How to Assess Food Security from an Inuit Perspective: Building a Conceptual Framework on How to Assess Food Security in the Alaskan Arctic. Inuit Circumpolar Conference, November, 2013.

As mentioned, rapid warming, reduced summer sea ice extent, thawing permafrost, and a variety of other changes are affecting people and the physical environment in the Arctic⁷. Diminishing sea ice and ocean acidification have multiple impacts that change marine productivity and shift habitats and trophic structures in the ocean⁸. Persistent organic pollutants and heavy metals such as mercury, lead and cadmium from sources far to the south reach the Arctic by air and water. Once there, they accumulate through the food web and affect the health of individual animals and humans. Alaska is concerned about the potential impacts of vessel traffic and development activity outside U.S. jurisdiction or transiting close to U.S. waters and from lower latitudes as sources of pollution, litter, and sewage that could have significant impacts for marine and terrestrial ecosystems and biodiversity. The Arctic region is particularly vulnerable to drastic climate-related changes such as: decreased summer sea-ice extent, increases in permafrost melt, widespread glacial retreat, coastal erosion, ocean acidification, and changing vegetation and wildlife patterns that will impact food security, national security and economic security.⁹ Alaska state agencies are active and engaged participants in these discussions at local, national and international levels and by actively monitoring trans-boundary contaminants (DEC), collaborating with the University of Alaska Fairbanks to study shipping and related considerations for commerce and international trade (DCCED), and monitoring, conducting research, and managing fish and wildlife populations across the Arctic region (DF&G). On the coasts and in the absence of summer and fall sea ice cover, there has been a significant increase in the occurrence of strong storms.¹⁰ Climate change is a global challenge and Alaska's citizens and economy shouldn't bear the consequences of mitigation. Economic development will provide funding for needed infrastructure that will empower Alaskans to adapt, respond, and plan for changes that may be caused elsewhere. The state is actively monitoring and assessing major and irreversible impacts on biodiversity, ecosystems, and the well-being of indigenous peoples and Arctic communities.

There are many institutions, organizations, private sector and government agencies carrying out research in the Arctic who collaborate with one another and with international partners to accomplish the assessment, monitoring, and modeling necessary. A short list of priority questions that focus needed attention on highly urgent problems, include: economic and socio-economic factors affecting community wellbeing and ability to adapt; human physiological, behavioral, and mental health; civil and industrial infrastructure planning; ocean acidification and its possible impacts on subsistence and commercial fisheries; tracking of trans-boundary contaminants and persistent pollutants and their cumulative impacts on Arctic inhabitants and

⁷ Arctic Report Card: Update for 2013. NOAA Arctic Research Program. December 12, 2013.

⁸ Hinzman L.D, Deal C.J., McGuire A.D., Mernild S.H., Polyakov I.V., and Walsh J.E. Trajectory of the Arctic as an integrated system. *Ecological Applications*, 23(8), 1837-1868, 2013.

⁹ Chapin, F. S., III, S. F. Trainor, P. Cochran, H. Huntington, C. Markon, M. McCammon, A. D. McGuire, and M. Serreze, 2014: Ch. 22: Alaska. *Climate Change Impacts in the United States: The Third National Climate Assessment*, J. M. Melillo, Terese (T.C.) Richmond, and G. W. Yohe, Eds., U.S. Global Change Research Program, 514-536. doi:10.7930/J00Z7150.

¹⁰ Stewart, B.C., K.E. Kunkel, L.E. Stevens, L. Sun, and J.E. Walsh. *Regional Climate Trends and Scenarios for the U.S. National Climate Assessment. Part 7. Climate of Alaska*, NOAA Technical Report NESDIS 142-7, 60 pp., 2013.

ecosystems. There is a trend toward more community-driven research, and the state of Alaska is – and should be – increasingly involved in setting the research agenda.

Conclusion

The review here demonstrates that economic, social, cultural and environmental health and well-being provide a fundamental and intentional starting point for the work and direction of the Alaska Arctic Policy Commission. The Commission has addressed these directly and indirectly through its four strategic lines of effort and recommendations and can point to each as motivation – Economic and Resource Development, Response Infrastructure, Science and Research, and Community Health.

The Alaska Arctic Policy Commission is building on a legacy of state efforts and believes that it is important to provide Alaskans with a well-vetted, comprehensive overview of the issues that impact the economic, social, cultural and environmental health and well-being of the region. These issues are balanced against the technical, physical and fiscal constraints facing the state and region; scope of the Commission’s work and authority; and jurisdictional authority of the State of Alaska.

Over the course of two years, the Commission has heard from a wide array of interests and partners about just how large and complex an issue Arctic Policy is now and will continue to be in the future. To be effective while also responsive means that the Commission weighed multiple priorities to identify a short list of recommendations that will have the most impact. The following Alaska Arctic Policy and Implementation Plan demonstrate where focused attention is needed to have the greatest impact.

3 Alaska's Arctic Policy

The Alaskan Arctic Vision Statement

The Alaska Arctic Policy Commission respectfully submits to the 29th Alaska State Legislature for careful consideration the establishment of an Arctic Policy for the state of Alaska.

Alaskans recognize the need for a higher level of attention to and deeper understanding of the “emerging Arctic.” Increasing activity, change and opportunity; globalization and resource development; a sensitive environment and rich and diverse cultures are now framing the Arctic.

Therefore, the state of Alaska envisions an Arctic that:

- ***Values Community Sustainability and Thriving Cultures***

Alaska will continue to value and strengthen the sustainability of communities and respect Arctic peoples' cultures and knowledge.

- ***Advances Economic Development and a Healthy Environment***

Alaska will continue its commitment to economically vibrant communities supported by development activities that recognize the need and our responsibility for a healthy environment.

- ***Ensures Public Safety and Security***

Alaska will provide a safe and secure Arctic for individuals and communities, and coordinate with federal agencies on national defense obligations to enhance Alaska security.

- ***Incorporates Transparency and Inclusion into Decision Making***

Alaska will collaborate with other levels of government, industry, non-governmental organizations, and tribes to achieve transparent and inclusive Arctic decision making that results in more informed, sustainable and beneficial outcomes.

The Alaskan Arctic Policy Statements

Therefore, it is important to the state of Alaska, as it relates to the Arctic, to:

- Recognize Arctic indigenous peoples' cultures and unique relationship to the environment, including traditional reliance on a subsistence way of life for food security, which provides a spiritual connection to the land and sea
- Sustain current and develop new approaches for responding to a changing climate
- Manage Arctic fisheries and wildlife for abundance and sustained yield
- Build capacity to conduct science and research and advance innovation and technology
- Ensure that local communities receive direct and indirect benefits from nearby economic and resource development activities.
- Strengthen disaster prevention and emergency response capability
- Improve the efficiency and predictability of permitting and regulatory processes
- Strengthen cross-border relationships and support international cooperation
- Pursue opportunities to meaningfully participate as a partner in development of federal and international Arctic policies and incorporate state and local government knowledge and expertise
- Employ integrated, strategic planning that considers scientific, local and traditional knowledge
- Attract Arctic investment by establishing a competitive business environment
- Provide a safe and secure Alaskan Arctic
- Sustain current and develop new community, response and resource-related infrastructure

4 National and International Interests

The Alaska Arctic Policy Commission, as part of its two year effort to identify the current state of the Arctic and make recommendations for responding to change and activity, recognizes that it shares that region with others who have jurisdictional authority. The Bering Strait, for instance, is an international waterway; the federal government controls waters outside three miles and within its Exclusive Economic Zone; and federal agencies own and manage federal lands within much of the Arctic. The Commission has produced a number of recommendations that speak to those issues outside its authority, as they relate directly to the health and well-being of Alaskans.

Therefore, the Alaska Arctic Policy Commission recommends that the U.S. government and federal agencies consider:

1. Sufficiently funding the U.S. Coast Guard to carry out its assigned and emerging duties in the U.S. maritime Arctic without compromising its capacity to conduct all Alaskan missions.
2. Replacement of the U.S. Coast Guard's Polar Class icebreakers and ice-capable cutters.
3. Application of current domestic and international fisheries management programs to emerging fisheries of the Arctic region.
4. U.S. ratification of the United Nations Convention on the Law of the Sea and submission of an extended Continental Shelf claim.
5. Ensure close collaboration with USCG on the establishment of IMO-endorsed shipping routes through the Bering Strait.
6. Development of policies to maximize the value and use of emerging fisheries and other marine resources to the benefit of residents of the Arctic.
7. Establishment of federal revenue sharing with impacted communities from resource development opportunities on the Arctic OCS.

Furthermore, in cooperation with federal partners, the state of Alaska, should:

1. Coordinate information sharing for arctic missions as identified by U.S. Northern Command/NORAD, U.S. Pacific Command, Joint Task Force Alaska, Alaska Command, FEMA, and others as necessary.
2. Collaborate on the implementation of the IMO Polar Code so that it meets the state's interests and recognizes its priorities, while developing practical and voluntary measures that encourage best practices.
3. Encourage development of appropriately integrated systems to monitor and communicate Arctic marine information.
4. Strengthen and implement cross-border SAR and oil spill response agreements with the Arctic states and through ongoing bilateral efforts with Canada and Russia.

5 Implementation Plan

Introduction

The Commission has framed the recommendations that follow around four strategic areas of interest – economic and resource development, response infrastructure, science and research, and healthy communities. Together as part of the Implementation Plan for the Arctic Policy these recommendations present a menu of options for consideration and evaluation by the Alaska State Legislature. The lines of effort in the Implementation Plan are those the Commission thought would benefit from immediate attention and state of Alaska leadership to build productive and collaborative partnerships.

These four lines of effort, which comprise the strategic recommendations of the Commission, ultimately address the socio-economic factors related to Arctic activity, while responding to change, opportunity and risk. The Commission considers these the building blocks from which areas that weren't addressed directly – education, healthcare, language, domestic violence, etc. – can find innovative solutions that correspond to unique circumstance and statewide resonance. Alaska's Arctic must be both economically and environmentally vibrant, achieved through economic and resource development and respect for the environment upon which Alaskans depend.

Within each line of effort, Commissioners have identified strategic recommendations as important for priority consideration given their potential scale of impact – responding to significant gaps and/or opportunities. These have been further developed under the Implementation Plan, as a suite of options for future action. The Implementation Plan provides 'shovel-ready' actions for state policy-makers as interest develops and resources become available.

In an increasingly busy Arctic, it is critical that Alaska proceed prudently. The work of the Commission is a culmination of the many years of effort, resources, and attention the Legislature has devoted to further understanding the current and emerging challenges in the Arctic. Through this process the Commission has learned about and relied upon coordination among jurisdictions, cooperation at all levels of government – including international, national, state, local and tribal – and sought to balance multiple values to protect, promote, and enhance the well-being of the Alaskan Arctic including the people, flora, fauna, land, water and other resources. Alaska should fully engage and lead now so that policies developed will align with priorities and needs of Alaskans.

Economic and Resource Development

The Commission recognizes that natural resource development is the most important economic driver in Alaska, today and into the future. Alaska has successfully integrated new technology, best practices and innovative design into resource development projects in Alaska's Arctic and must continue to be a leader. The strong economy put in place by responsible natural resource development provides a base for Alaska's Arctic communities to thrive by creating new economic opportunities such as infrastructure, jobs, contracting services, and community revenue sharing. The State must continue to foster an economic investment climate that encourages and promotes development of the Arctic.

With a sound base in place, economic opportunity can be created and leveraged through stable and strong state and federal government investment; mobilization of capital by Alaska Native regional and village corporations; and local economies that are supported by tourism, fishing, arts and other small businesses. Investment is necessary to take advantage of Alaska's strategic location in the opening Arctic, which is critical to the nation's security and important to global shipping routes.

While the state is rich in resources, there are five major barriers to economic and resource development to address:

- **Capital Intensity** – Fiscal policies must recognize the high capital costs required to develop new infrastructure and natural resources in the Arctic and the high energy and transportation costs in communities: utilize hybrid power systems for communities that result in more affordable energy.
- **Regulatory Uncertainty** – Advocate for sound regulatory policies that are legally defensible and minimize third-party lawsuits which only increase the risk and cost to project planning and discourage investment in the Arctic.
- **Revenue Sharing** - find new ways to cost-share between communities or with neighboring jurisdictions to ensure community benefits are real and shared by those that live in the Arctic.
- **Distance to/from markets and communication centers**– identify and invest in small-scale value-added businesses that displace outside dependence; evaluate and cultivate new markets; and invest in improved communication systems in Alaska's Arctic.
- **Access** –demand access to/through federal land holdings and consider state co-investment in resource-based infrastructure.

These are important to consider, especially, when evaluating the Arctic. However, with increased national and international attention, this could be the right moment in history to overcome basic challenges. The state should be strategic in its approach by leveraging assets currently in place and facilitating strategic investments.

Strategic Recommendation #1 – Promote Economic and Resource Development

- 1(a) Facilitate the development of an Arctic port in the Bering Strait region.
- 1(b) Strengthen or develop a mechanism for resource production related revenue sharing to impacted communities.
- 1(c) Lead collaborative efforts between multiple levels of government that achieve predictable, timely and efficient state and federal permitting based on sound science and economic feasibility.
- 1(d) Promote entrepreneurship and enterprise development.
- 1(e) Support access to and advocate for multiple use of Arctic public lands; uphold and defend ANILCA; and promote prudent oil and gas exploration and development in the Arctic.
- 1(f) Increase returns to Alaska and Alaskan communities and individuals from maritime and fisheries activities.
- 1(g) Support development of the Ambler mining district, Donlin Creek prospect, and North Slope coal; including consideration of road and rail to resources.
- 1(h) Build on and promote Alaska’s position as a global leader in microgrid deployment and operation to advance a knowledge-based export economy, creating new jobs and revenue for the state.
- 1(i) Encourage foreign and domestic private sector capital investment in Alaska’s resource industries through stable, predictable and competitive tax policies.

Alaska’s Arctic has an enviable resource base that, with careful consideration and state investment, will continue to produce returns to the state and communities that ensure community health and vitality. Economic development has not in the past and will not in the future come at the cost of stewardship and federal agencies should respect Alaska’s long-standing ability to deliver both.

Addressing the Response Infrastructure Gap

One of the primary motivating factors for addressing an “emerging Arctic” is the concern for human and environmental security in the face of increasing change and activity, even as that increased activity brings the benefit of additional response resources to the region. Alaska’s response capacity is measured by private sector, government, community and non-governmental infrastructure, assets and planning. When considering strategic investment in infrastructure in the Alaskan Arctic, it is important to understand the scope of the region, diversity, and its current

resources. Differences in proximity, risk, geography, and scale of challenge make evaluation of response capacity and the design of solutions difficult—there is not a one-size-fits-all approach.

Time and distance are big logistics challenges for security and defense operations, and Alaska's Arctic compounds these with a lack of communications and response infrastructure. Essentially, capabilities to address threat or aggression are sufficient; capabilities to support the civil sector and carry out response – whether for oil spills or search and rescue – operations are limited, further stressed by the lack of 1) economic activity, 2) infrastructure, and 3) public awareness. Further development of the region's resources results in additional resources in the region that can contribute to response. This is extremely important as agencies and organizations responsible for responding are poorly resourced.

Industry carries the primary responsibility for prevention, preparedness and response, and where economic activity or resource development occurs the most response capacity can be found. Development of natural resources, shipping routes and tourism are activities happening on a global scale regardless of whether or not Alaska is participating. The lack of infrastructure and the speed at which global development in the Arctic is occurring should be a call to action; as response capacity increases with industry it is vital that Alaska's industry is allowed to grow in order to ensure appropriate safe guards are in place to respond to the inherent risks of our neighbors' development activities. Response resources will either be brought to bear by the companies themselves, or through Oil Spill Response Organizations, which are the 'boots on the ground' for oil spill response. There is also a high level of very effective coordination and communication between the private sector, state and federal agencies and a clear recognition that no single entity can address Arctic issues alone, which reinforces the need for collaboration. The Alaska Regional Response Team is the state, federal and tribal coordinating body for response operations and is an effective mechanism for developing and implementing the Unified Plan and sub-area planning process. Additional resources can be found in local government, e.g. the North Slope Borough currently conducts all Search and Rescue operations north of the Brooks Range.

Strategic Recommendation #2 – Address the Response Infrastructure Gap

- 2(a) Strengthen capacity within the Governor's office to address Arctic maritime, science, climate, and security issues.
- 2(b) Improve and support, invest in and complete communications and mapping, nautical charting, navigational infrastructure, hydrography and bathymetry.
- 2(c) Expand development of appropriately integrated systems to monitor and communicate Arctic marine, terrestrial, and air information.
- 2(d) Facilitate and secure public and private investment in support of critical search and rescue, oil spill response, and broader emergency response infrastructure.

- 2(e) Strengthen the Department of Environmental Conservation’s Spill Prevention and Response efforts.
- 2(f) Strengthen Oil Spill Response Organizations (OSROs) to ensure expertise in open water, broken ice, near shore, and sensitive area protection, and be able to meet contingency plan requirements and operate effectively in the Arctic.
- 2(g) Foster and strengthen international partnerships with other Arctic nations, establishing bilateral partnerships with, in particular, Canada and Russia, to address emerging challenges in the Arctic.
- 2(h) Explore preauthorization of dispersants as a response tool in oil or hazardous substance discharge or release.

Action is needed to enable the responsible development of resources; facilitate, secure, and benefit from new global transportation routes; and safeguard Arctic residents and ecosystems. Response infrastructure will by necessity require strong partnership and communication to prepare for incidents, respond, and develop best practices.

Healthy Communities

Increasing changes and activity in the Alaskan Arctic are likely to hold enormous implications for the health and well-being of inhabitants of the region as socio-economic systems react, additional stress is placed on both existing and future infrastructure, and global processes impact local planning. While there is a strong link between vibrant economies and healthy communities, socio-economic and environmental factors that lead to healthy communities can have a huge impact mitigating adverse health impacts that may emerge in the future.

In an increasingly busy Arctic, it is critical that Alaska continue to utilize transparent public processes that engage stakeholders, lead to informed decision making, and hold decision makers accountable. It must include coordination among jurisdictions, cooperation at all levels of government – including international, national, state, local and tribal – with clearly defined functions and roles, and balancing multiple values to protect, promote, and enhance the well-being of the Alaskan Arctic including the people, flora, fauna, land, water and other resources. Much of this is already in place.

Local governments with active resource development within their boundaries work collaboratively with the state and industry to support and sustain the communities in their region, ensuring that rural development includes protections for subsistence resources, cultural identity and lands, while providing needed infrastructure, services, and employment training opportunities.

The justification for addressing Arctic issues is not only to better understand increasing changes taking place or human activity in the region, but to recognize that Alaskans live here, with corresponding needs to enjoy a quality of life consistent with and responding to national standards, traditional ways of living, and a remote Arctic environment. With increased attention to the Arctic, local communities should see corresponding workforce development, revenue sharing, and access to affordable energy and transportation.

Strategic Recommendation #3 – Support Healthy Communities

- 3(a) Improve the living conditions in Arctic communities by a) fostering the delivery of reliable and affordable in-home water, sewer, and sanitation services and b) reducing power and heating costs.
- 3(b) Support long term strategic planning efforts that leverage existing methods, synthesize past work, and strengthen local planning that assesses and directs economic, community, and infrastructure development, as well as environmental protection and human safety.
- 3(c) Evaluate and respond to risks from climate change related to erosion to community infrastructure and services and support community efforts to adapt and relocate when necessary.
- 3(d) Develop and support education of the public through outreach efforts that enhance the understanding of the conservation of Arctic biodiversity and sustainable use of biological resources and management of natural resources.
- 3(e) Enforce measures that protect the food security of Arctic peoples and communities.
- 3(f) Identify and promote industry, community and state practices that protect subsistence resources, while guarding against undue ESA listings and broad-brush critical habitat designations.
- 3(g) Create workforce development program to prepare Arctic residents to participate in all aspects and phases of Arctic development.

With sound economic opportunity for Alaskans, the state can build a vibrant economy, driven by private sector growth and a competitive business environment that has the potential to deliver social benefits while responding to the needs for a healthy environment. The state of Alaska can seek a better quality of life for the whole Arctic region without compromising the economic security and well-being of other communities or the state as a whole; healthy marine and terrestrial ecosystems; and effective governance supported by meaningful and broad-based citizen participation.

Science and Research

Alaska's future prosperity depends in large part on the scientific, technological, cultural and socio-economic research it promotes in the Arctic in the coming years and its ability to integrate science into decision making. Ongoing and new research in the Arctic must be designed to help monitor, assess and improve the health and well-being of communities and ecosystems; anticipate impacts associated with a changing climate and potential development activities; identify opportunities and appropriate mitigation measures; and aid in planning successful adaptation to environmental, societal and economic changes in the region.

The vast amount of science and research being done in the Alaskan Arctic is by a broad spectrum of interests, from the public to the private sector and including non-governmental organizations, the University system and many others. It is crucial that the state of Alaska be involved in the various forums that build the information base available to policy makers. Also, while local and traditional knowledge and subsistence activities inform many of the above entities' research priorities, activities and findings, there is a need for more effective use of traditional knowledge. Inquiry into how researchers can better collaborate with local people and include traditional knowledge into their projects is receiving more attention.

Observational systems are among the most effective means for monitoring and documenting change, improving inputs to models and informing permitting decisions. They are also a valuable way to meaningfully involve Arctic communities in research activities. Process studies can add to this knowledge and help to reveal the forces shaping ecosystem structure and function. In addition, the transfer of findings from process studies to models can reduce uncertainties and improve the accuracy of projections.

While models have practical use in developing strategies for managing wildlife and for sustainable and adaptable communities, civil infrastructure, and economic development infrastructure, there are also concerns that the limitations of models developed to aid in decision making be clearly identified. Even as baseline data and component parameterizations improve, decision makers must have a clear understanding of uncertainties present in model projections in order to evaluate contingencies and determine proper levels of precaution in management and strategic approaches.

To ensure organized state input to federal, local and institutional decisions on Arctic research and monitoring needs, a process is needed to establish state government priorities guided by state objectives in the region. As the state's engagement with Arctic issues increases, the executive branch will play an important role in improving coordination of state agencies' roles in matters related to Arctic research. Alaska should pursue strategies to broaden and strengthen the influence of its agencies, its academic experts, and its local governments and associations.

Strategic Recommendation #4 – Strengthen Science and Research

- 4(a) Ensure state funding to, and partnership with, the University of Alaska for Arctic research that aligns with state priorities and leverages the University's exceptional facilities and academic capacity.
- 4(b) Increase collaboration and strengthen capacity for coordination within the Arctic science and research community.
- 4(c) Strengthen efforts to incorporate local and traditional knowledge into research and science and use this collective knowledge to inform management decisions.
- 4(d) Improve, support, and invest in data collaboration, integration, and management.
- 4(e) Support monitoring, baseline, and observational data collection for key ecosystems.
- 4(f) Invest in a real-time Arctic ocean ice meteorological forecasting system.
- 4(g) Update hydrocarbon and mineral resource mapping and estimates in the Alaskan Arctic.

Benefits include increasing the knowledge available to decision makers in both the public and private sectors; strengthening and refining of findings through data synthesis; reducing duplicative research; and enhancing the effectiveness of interdisciplinary research efforts. More coordinated research efforts driven by state of Alaska priorities would have significant impact for policy makers and decision makers being able to respond to opportunities and challenges in the emerging arctic.

6 Alaska Arctic Policy Commission

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The Institute of the North acted as a secretariat, providing staff support for planning, editing and facilitation.

The work of the AAPC benefited greatly from those across the state of Alaska and elsewhere who participated in official meetings, work sessions, listening sessions, and submitted written comments.