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Alaska Arctic Policy Commission
Joint Meeting of the House Committee on
Economic Development, Tourism, and Arctic Policy
and the Senate Committee on the Arctic

October 2, 2015

Dear Alaska Arctic Policy Commission:

Fugro Pelagos, Inc., (Fugro) is a global surveying and mapping organization with a permanent office located in Anchorage, Alaska. Our Anchorage office employs 10 year-round staff and an additional 10 seasonal staff. Working throughout the state, we acquire and process information about the land and sea to inform a wide range of coastal, land-use and natural resource management activities.

Today, I am writing to state Fugro's support of the Commission's work and policy statements expressed in its 2015 Report. The work our company conducts in Alaska goes hand in hand with many objectives stated in the report. I want to specifically comment on Line of Effort #2:

- Addressing the Response Capacity Gap. 2(b) Support efforts to improve and complete communications and mapping, nautical charting, navigational infrastructure, hydrography and bathymetry in the Arctic region.

In Alaska, Fugro has a long history of contributing to nautical charting and topographic mapping through NOAA, USGS and corresponding State of Alaska agencies. In addition to being a data provider, we are also a user, relying on nautical charts and topographic maps to plan and execute Arctic geophysical and geotechnical work for offshore and onshore energy and infrastructure clients. We understand first-hand the role accurate and up-to-date charts and maps play in performing projects safely, efficiently, and with minimal impact to the environment.

Our comments aim to underscore additional benefits baseline geophysical data can provide. Indeed, there are numerous applications important to federal, state, and local government agencies. We feel these applications provide straight forward and compelling reasons for increased cooperation that could optimize efforts by federal, state, academic, and private, sector actors in Alaska.

In addition to obvious benefits, baseline cartographic and topographic data also leads to:

- Improving climate change and ocean circulation models
 - Helping evaluate the potential for ocean energy
 - Improving our understanding of ecosystem dynamics
 - Identifying submerged faults and improve our understanding of tsunami potential
 - Feeding into tsunami inundation models
 - Enabling more effective regulation of offshore development
 - Improving maritime safety
 - Improving our understanding of sediment transport and delivery
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- Supporting fisheries habitat assessment
- Supporting the identification and location of marine protected areas

This range of additional uses speaks to the broader need of an **integrated coastal mapping** requirement in Alaska. Unfortunately, there is no current program—state or federal—that is clearly focused on acquiring coastal data in Alaska, from the shallow nearshore to the backshore, in a consistent manner. The expanded nautical charting effort now being discussed at the Federal level offers an ideal opportunity for the kind of intra- and interagency collaboration (Federal, State, Local) needed to lead this effort in Arctic Alaska, a region undergoing rapid change due to climate change.

As we see it, two of the greatest obstacles to implementing a coastal mapping program in Alaska are size and funding. Alaska comprises over 34,000 miles of coastline, the most of any state in the United States by far. NOAA has developed an Arctic Action Plan supporting the national strategy for the Arctic region, but unfortunately, funding has not increased to support the priorities of this plan. Strategies for overcoming these obstacles include:

- **Making use of existing and planned data:** Nautical charting is an excellent starting point for an integrated coastal mapping program. Nautical chart updates in Alaska have been ongoing since the 1990s with survey sites dominated by vessel-based multibeam echosounder data, backscatter imagery of the seafloor, and high resolution bathymetry. These are the highest quality data possible and will serve numerous end-user needs in the survey areas.
- **Utilizing multiple survey technologies:** Since many of the areas targeted by the plan for new nautical charting have not been surveyed in modern times, it may be beneficial to perform reconnaissance surveys utilizing wide area satellite-derived bathymetry to determine which areas are suitable to serve as transportation corridors and which survey techniques (airborne lidar bathymetry or vessel-based multibeam bathymetry) would be best employed for the given area/conditions. In addition to providing cost-saving reconnaissance functions, the satellite-derived bathymetry would provide less-detailed, but still highly valuable data over the entire area's shoreline and into shallow waters.
- **Regionalizing the effort:** In parallel with the proposed nautical charting efforts, focusing coastal mapping efforts to the Arctic region in the near term would enable a "proof of concept" that could be built on in years to come.

Even with the above strategies, more funding will be needed to see a much-needed coastal mapping program take shape in Alaska. This may seem a daunting task, but there are models of past success, most prominently the California Seafloor Mapping Project. Fugro worked alongside multiple state, local, and federal agencies to help see the California program succeed from concept to completion. We are confident the same is possible in Alaska and we firmly believe that now is the time to make this vision a reality and help prepare the United States as an Arctic nation to manage vessel traffic safely, to support responsible resource development, to prepare for emergencies, to safeguard the environment, and to understand the effects of climate change so that we can safeguard coastal communities from changes in the ocean environment.

Sincerely,
Rada Khadjinova

A handwritten signature in black ink, appearing to read "Rada Khadjinova", written over a light blue horizontal line.

Alaska Division Manager