

Agency: Commerce, Community and Economic Development

Grants to Named Recipients (AS 37.05.316)

Grant Recipient: Marine Exchange of Alaska

Federal Tax ID: 92-0173630

Project Title:

Marine Exchange of Alaska - Alaska Vessel Tracking System Upgrades

State Funding Requested: \$ 1,250,000

House District: Statewide (1-40)

Future Funding May Be Requested

Brief Project Description:

Expand the Marine Exchange of Alaska's existing vessel tracking network used to track cruise ships and other vessels to enhance maritime safety and security, environmental protection and emergency response. The funds will support expansion of the vessel tracking capabilities used to track the transits of major cruise ships with a capacity of over 500 passengers when sailing in Alaska waters.

Funding Plan:

Total Cost of Project: \$6,750,000

	<u>Funding Secured</u>		<u>Other Pending Requests</u>		<u>Anticipated Future Need</u>	
	<i>Amount</i>	<i>FY</i>	<i>Amount</i>	<i>FY</i>	<i>Amount</i>	<i>FY</i>
Federal Funds	\$2,500,000	2001-2008			\$350,000	2009
State Funds	\$1,200,000	2001-2008			\$1,250,000	2009
Other	\$2,000,000	2001-2008			\$320,000	2009
Total	\$5,700,000				\$1,920,000	

Explanation of Other Funds:

The Alaska maritime industry has supported the non-profit Marine Exchange of Alaska through membership fees, use of services and support of the vessel tracking system since 2001 totaling over \$2 million since inception of the vessel tracking system.

Detailed Project Description and Justification:

The non-profit Marine Exchange of Alaska has developed through the use of federal, state and marine industry funding a vessel tracking system that has been used to track cruise ships, tankers, AMHS ferries, containerships, fishing vessels, oil exploration vessels, tugs and barges. This system has proven to be instrumental in aiding the emergency response to the grounding of cruise ship EMPRESS OF THE NORTH in 2007, the ferry Le Conte in 2004 and cargo ship Selendang Ayu in 2004 and other maritime incidents. The system also monitors and validates cruise ships' compliance with environmental discharge requirements and speed restrictions. This enhanced vessel tracking system will aid safe, secure, efficient and environmentally sound maritime operations.

The requested funds will be used to:

- 1) Provide a 24x7 Operations Center that will monitor vessels' movements and the proper operation of the vessel tracking system network. Estimated Cost: \$350k
- 2) Upgrade software and hardware capabilities to improve the reliability and capabilities of the vessel tracking network.

Estimate Cost: \$250k

3) Build, install and operate additional shore based AIS (Automatic Identification System) vessel tracking sites that provide more complete coverage of the waters major cruise ships sail in Alaska thus enhancing the maritime safety, environmental monitoring and maritime security. Estimate Cost: \$650k

NOTE: This proposal has been amended to reflect a decrease in budget as a result of reducing the extent of vessel tracking capability in Alaska to only areas where large cruise ships operate. Tracking in other areas of Alaska will be provided for with other industry and agency funding. The Marine Exchange will be asking for additional operating funding of approx \$500k per annum.

Project Timeline:

Planning and design work for the expanded vessel tracking site locations has been completed. Construction will commence in 2009.

Entity Responsible for the Ongoing Operation and Maintenance of this Project:

Marine Exchange of Alaska

Grant Recipient Contact Information:

Contact Name: Captain Ed Page

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Juneau, AK 99801

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Has this project been through a public review process at the local level and is it a community priority? Yes No

Cruise Ship Capital Funds Expenditure Upgrade to the Alaska Vessel Tracking System

Updated March 25, 2008

Description of Project:

Since 2001, over \$5.5M in State, Coast Guard and marine industry funds have been allocated to build a vessel tracking system operated by the Marine Exchange of Alaska to aid safe, secure, efficient and environmentally sound maritime operations. The system uses both satellite and Automatic Identification System (AIS) to track vessels throughout Alaska waters. An additional \$1.25M will substantially increase the capabilities of this system. **Note: This proposal has been amended to reflect a decrease in budget as a result of reducing the extent of vessel tracking capability in Alaska to only areas where large cruise ships operate. Tracking in other areas of Alaska will be provided for with other industry and agency funding.**

To date this vessel tracking system has been used to aid the response to several serious maritime casualties some of which are noted below:

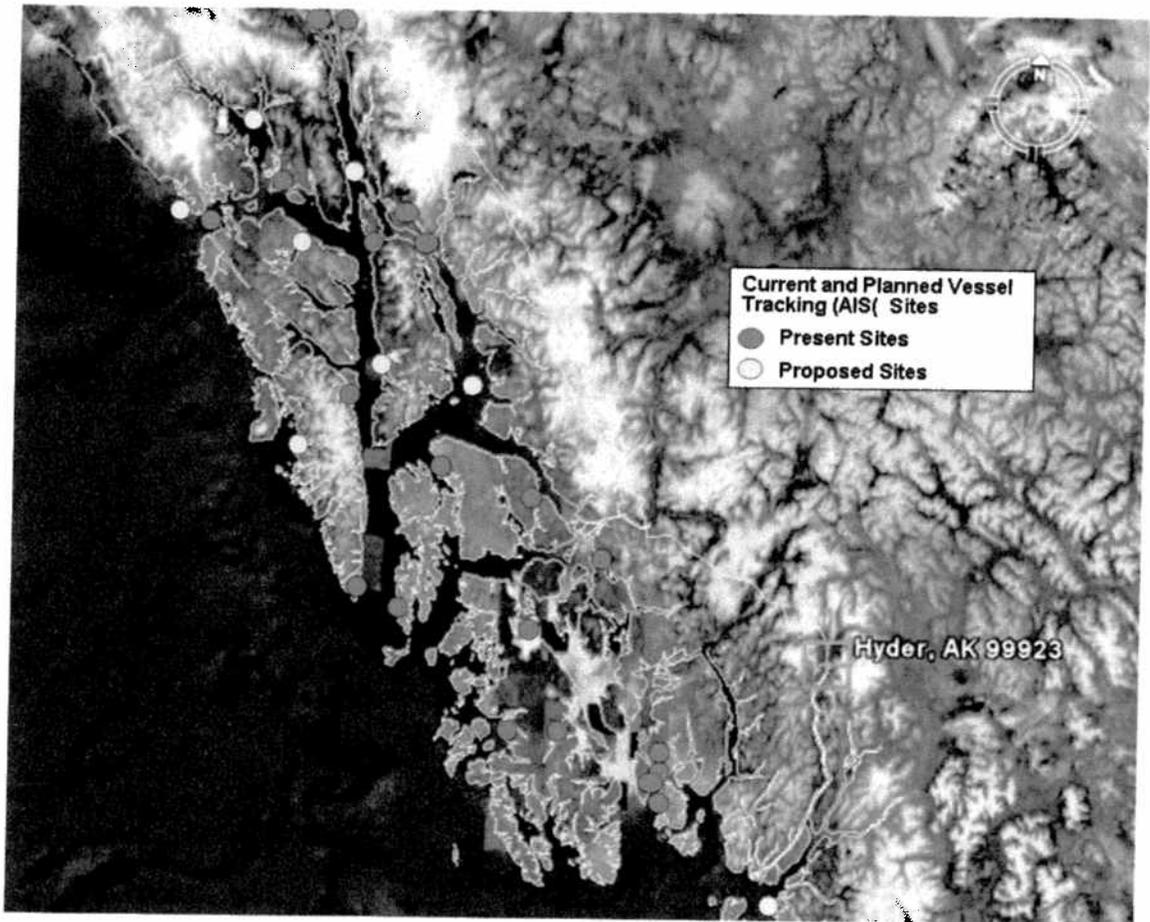
- The cargo ship *Selendang Ayu* grounding near Dutch Harbor and the follow on search and rescue and oil spill response operations.
- The tank vessel *Seabulk Pride* grounding and the follow on emergency response.
- The tracking of an abandoned Russian barge in the Gulf of Alaska as requested by the Coast Guard to warn other vessels of the hazard to navigation.
- The search for a “man overboard” from a cruise ship sailing in Clarence Strait with the tracking system providing the Coast Guard with the vessel’s trackline and probable location of the passenger.
- The storm damages “semester at sea” cruise ship *Explorer* in the North Pacific which was tracked for the Coast Guard by the system.
- The grounding and abandon ship of the *Empress of the North* and the follow on emergency response, salvage and oil spill response operations.

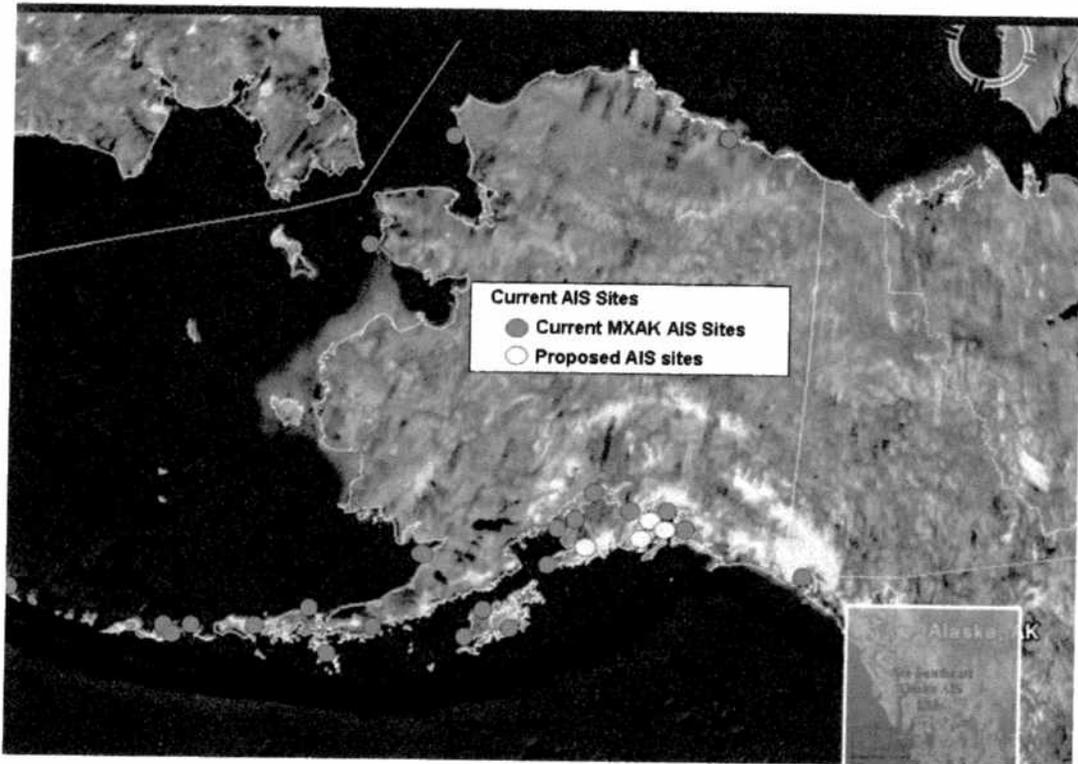
With respect to environmental compliance the system has also been used to:

- Monitor the safe speed of cruise ships operating in areas where whales are present (Glacier Bay) to minimize impacts.
- Monitor the transits of cruise ships to aid DEC validate overboard discharges are done in accordance with the environmental regulations.

While the system has proven to be effective in the above listed cases, there are many gaps in the vessel tracking systems' coverage of Alaska waters transited by major cruise ships (over 500 passengers) that can be addressed through the expansion of the existing AIS network. The system will be upgraded with new AIS receivers to provide greater range and coverage, improved software to increase the capabilities of the system, such as programming of automated alerts, and new hardware to increase the reliability through providing back up servers.

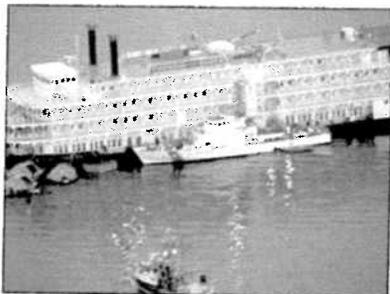
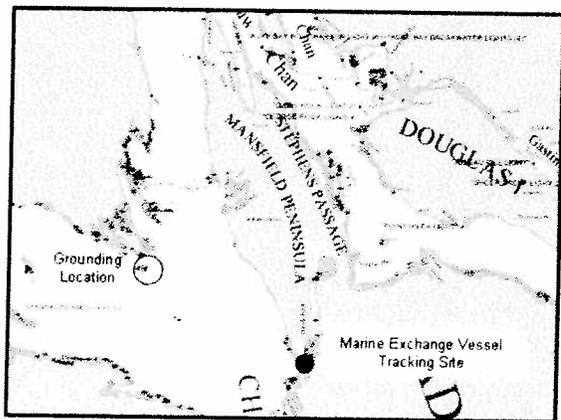
The projected expansion of the AIS receiving network to provide greater coverage of areas transited by cruise ships is represented by the below graphics:





Graphical examples of how the vessel tracking system has been used in the past to aid emergency response are provided below.

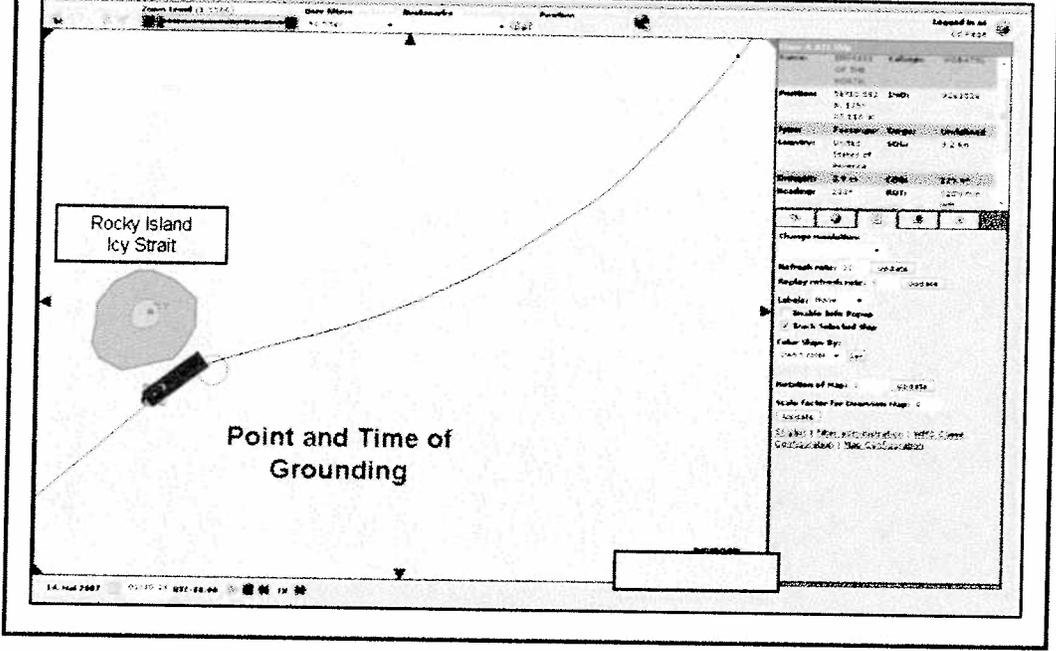
Empress of the North
Marine Casualty
 Icy Strait, Alaska
 14 May 2007

Aid Emergency Response as Was Done when Empress of the North Grounded
 Coast Guard used MXAK's Vessel Tracking System to locate where the incident occurred and to locate vessels that could render assistance. ADEC used the tracking system to aid their pollution response efforts

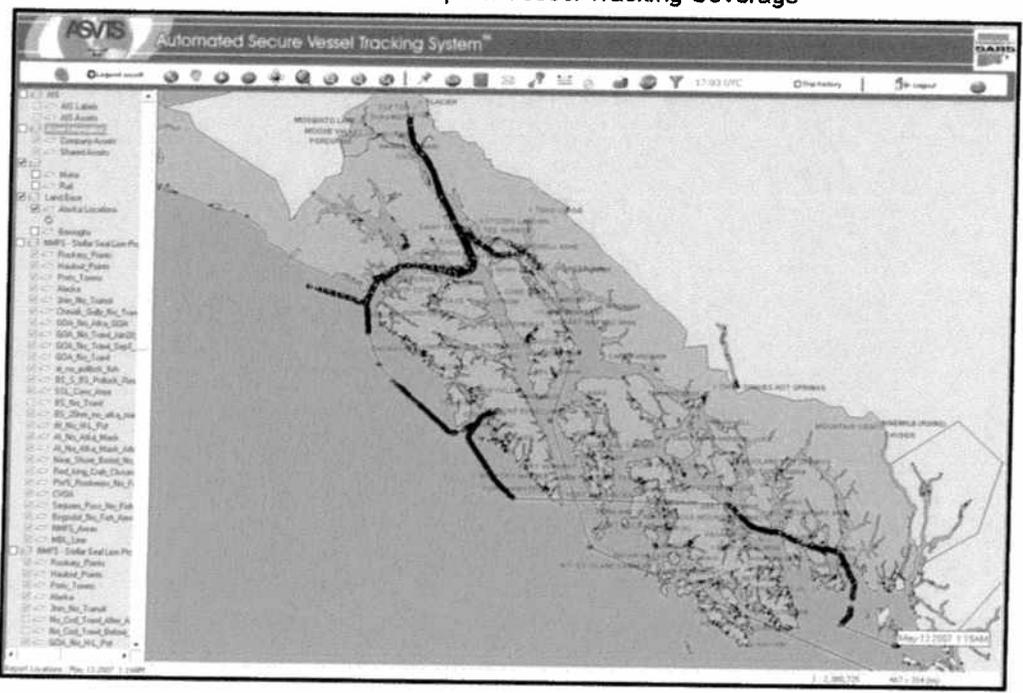
Empress of the North Grounding

Accurate information on incident was provided by Marine Exchange's Vessel Tracking System aiding Emergency Response Operations



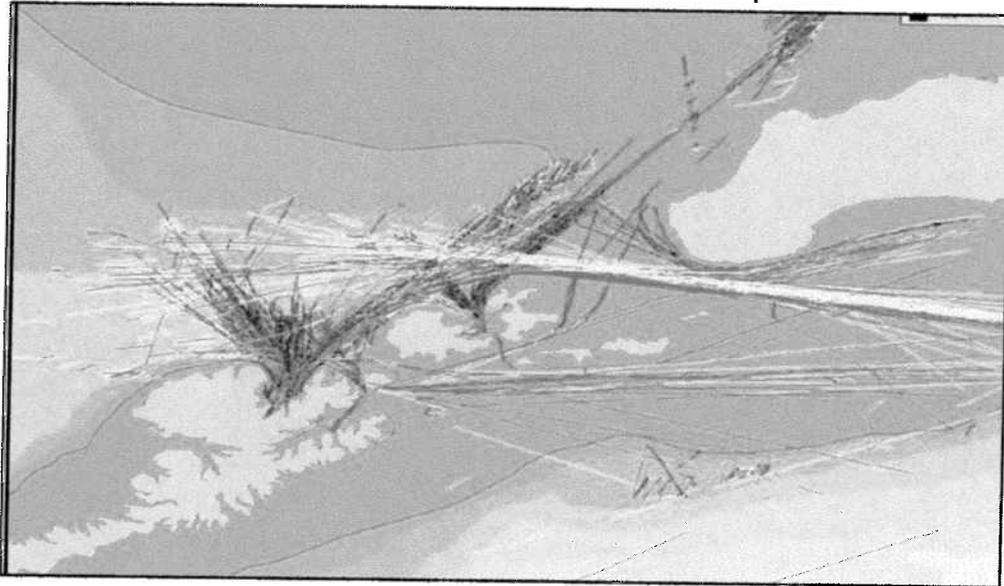
The "gapped areas" of vessel tracking coverage is represented by the graphic below of a cruise ship tracked in 2007. The red lines show the areas where AIS vessel tracking coverage was not available. The vessels positions shown were used by DEC to validate the accuracy of cruise ships' overboard discharge logs.

GTS INFINITY – AK VOYAGE #1 - 2007
Information used by ADEC for Environmental Monitoring
Note Present Gaps in Vessel Tracking Coverage



Traffic analysis is also provided by this system, revealing potential high risk areas to aid in risk assessments and the implementation of risk mitigation measures.

Vessel Traffic Monitoring and Assessment Evaluate Routes to Ensure Minimal Impacts



In summary, the expansion of the vessel tracking system will aid cruise ship operations as represented in the below graphic:

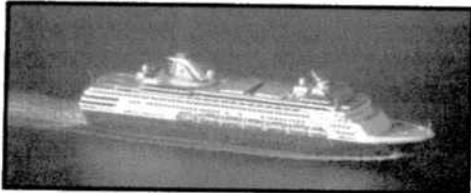


Marine Exchange of Alaska
www.mxak.org

Planned Use of State Cruise Ship Capital Funds



- Expand number of AIS (Automatic Identification System) receiving sites to provide better coverage of areas where cruise ships operate throughout Alaska to enhance:
 - Maritime safety
 - Environmental compliance
 - Maritime Security
 - Efficiency of operations
 - Emergency Response
- Upgrade AIS receiving hardware and software to improve the range, operational capabilities and reliability of the vessel tracking system.





- **Safety:** The safety of cruise ship operations will be aided by the information provided by the expanded tracking system that is used by the Coast Guard to conduct emergency response operations, locating vessels in distress and vessels that are nearby able to assist.
- **Environmental Protection:** The system can aid validation of compliance with various environmental regulations, including overboard discharges and the reduced speed transits in areas where whales are present and ensuring safe distance from protected areas. Additionally, the system aid the response to oil spills by tracking resources.
- **Security:** The system provides information that aids DMVA and the Coast Guard in the execution of their security missions directed at protecting cruise ships, such as escorts.
- **Efficiency:** The system is able to provide information to pilots, tug operators and others supporting cruise ship operations to aid the efficiency of operations.

Allocation of Funds: The requested funds will be expended as follows:

- (1) Provide a 24x7 Operations Center that will monitor vessels' movements and the proper operation of the vessel tracking system network. Estimated cost: \$350k
- (2) Upgrade software and hardware capabilities to improve the reliability and capabilities of the vessel tracking network. \$250k
- (3) Build, install and operate 12 additional shore based AIS (Automatic Identification System) vessel tracking sites that provide more complete coverage of the waters major cruise ships sail in Alaska thus enhancing the maritime safety, environmental monitoring and maritime security. \$650k

The installation and maintenance of additional AIS sites in the Aleutian Islands, Bristol Bay and Arctic and Sub-Arctic regions of Alaska will be funded by other sources to provide vessel tracking for other vessels sailing Alaska waters.