

An underwater photograph showing a large, translucent blue ice formation on the right side of the frame. The water is dark blue with visible ripples and light filtering through from above, creating a shimmering effect on the surface. The ice has a textured, crystalline appearance with some internal layering.

Recent Developments In Arctic Shipping

Paul Fuhs, Marine Exchange of Alaska

RECENT TRENDS

- Arctic transit shipping is down for 2016: Low fuel prices and international disputes.
- Destination shipping within Russia is increasing.
- Intense and destructive competition in shipping.
- Ice conditions for shipping are improving.
- Russian icebreaker capacity increasing to 65MW.
- Alaskans are proposing efficiencies and safety measures.

Russian LNG terminal



Russian Response Centers



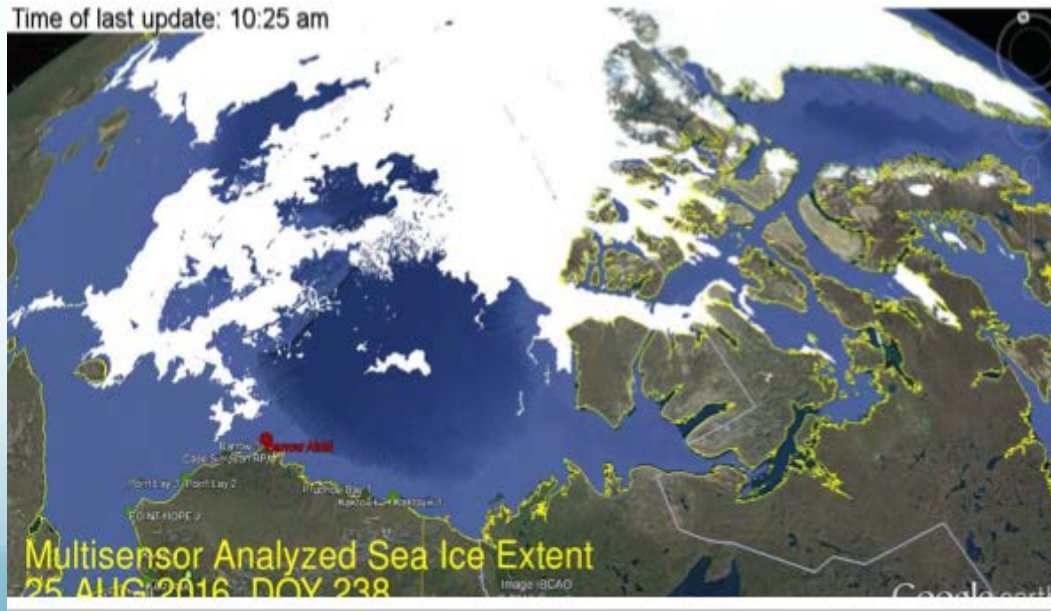
Russian Icebreaker Construction



NSR Container Shipments



Crystal Serenity and Sea Ice Extent



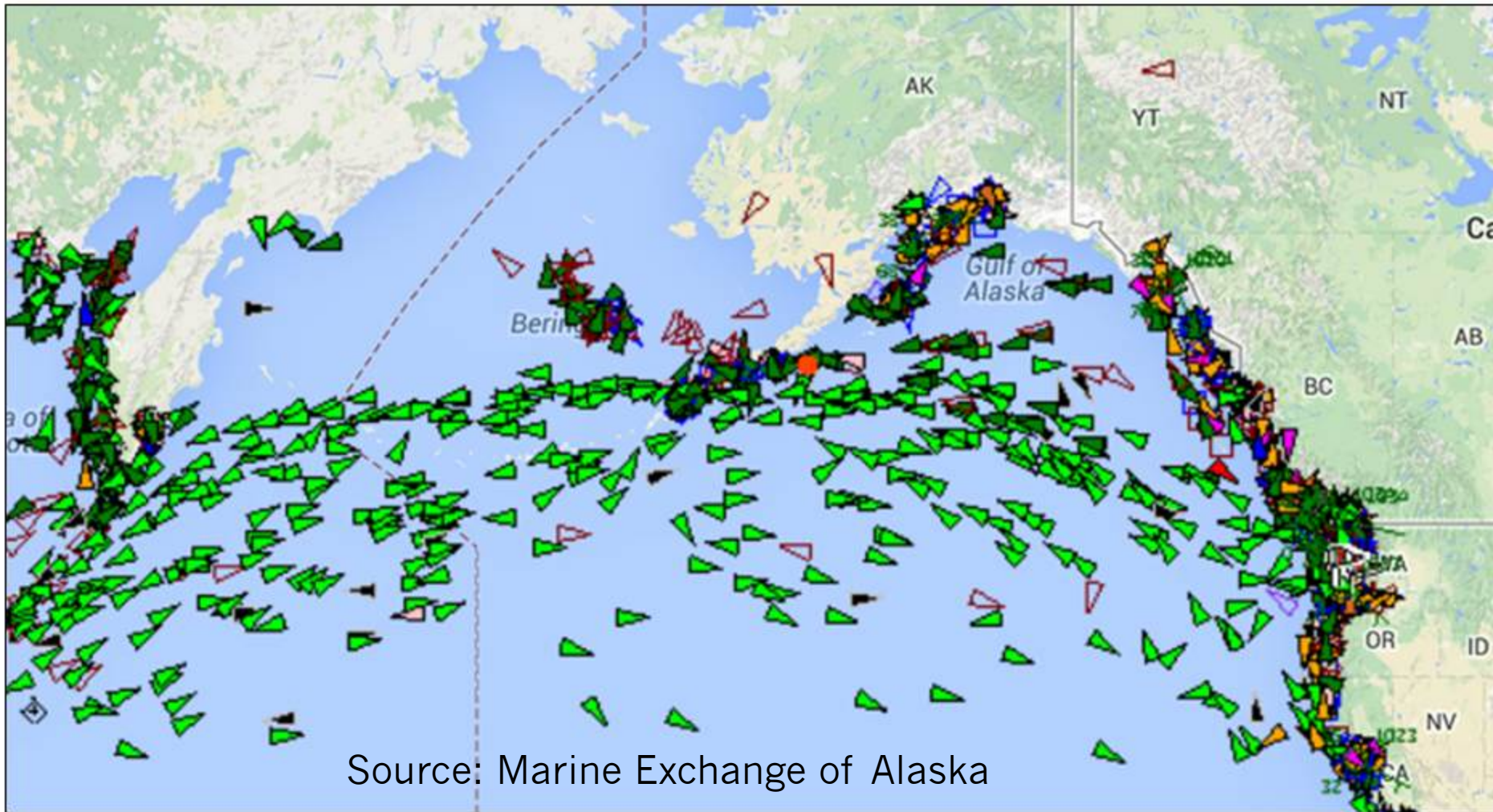
Arctic Shipping Routes



Условные обозначения: Экспорт: 1 - углеводороды, 2 - металлы, 3 - минеральные удобрения, 4 - продукция Норильского ГМК, 5 - лес, 6 - уголь.
Импорт: 7 - продукция (товары).



Great Circle Route Screen Shot January 15, 2014



The Aleut Corporation Proposal



Adak International
Transshipment Hub
Combining World Trade Routes

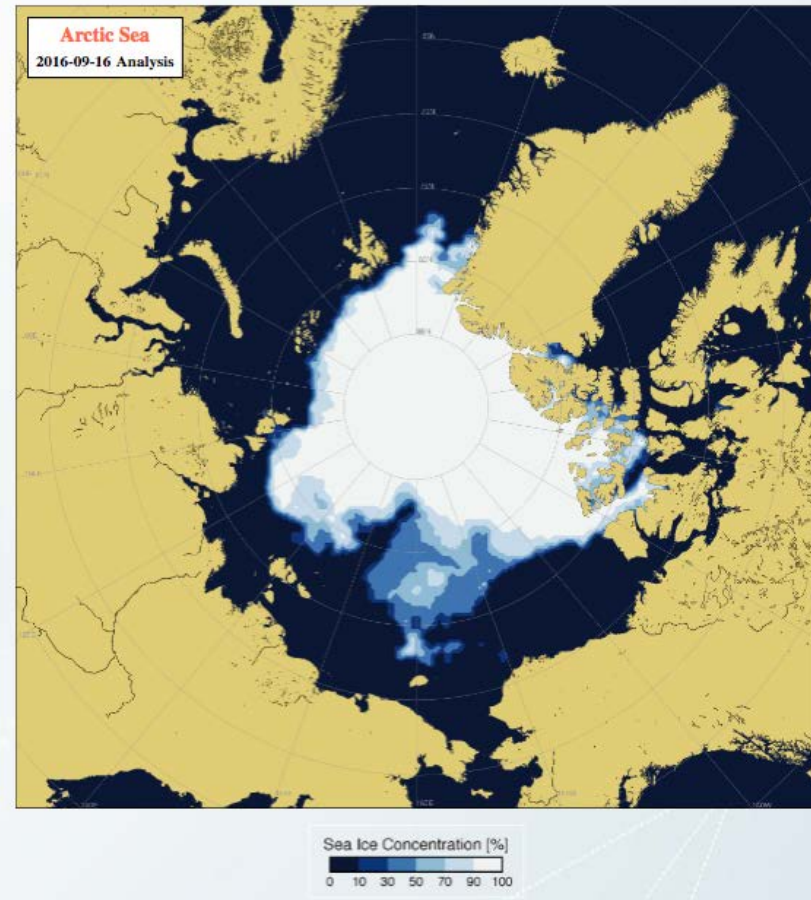
ADAK INTERNATIONAL CONTAINER TERMINAL



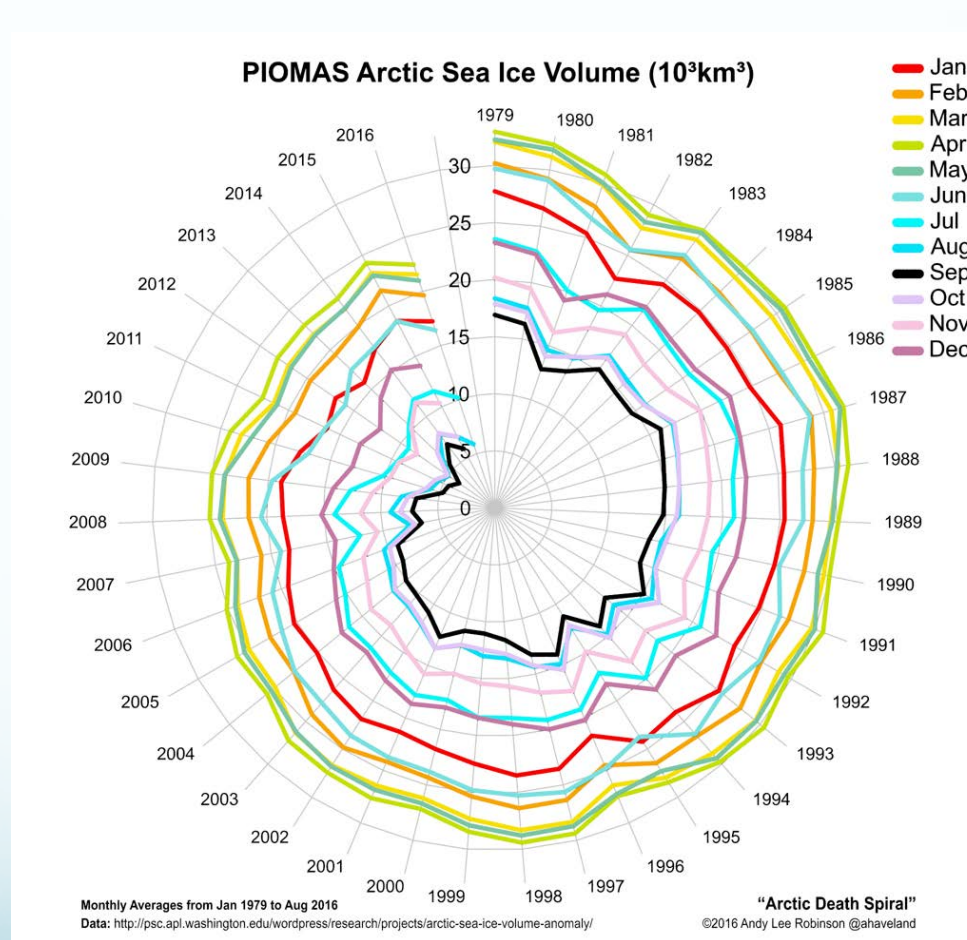
Basis of NSR Container Trades

- Use standard vessels in open waters.
- Use icebreaking container vessels in Arctic waters.
- Vessels assisted by Russian icebreaking escorts.
- Operate 6 months per year.
- Connect Asian, North American and European ports through Transshipment port at Adak Alaska.

2016 SEA ICE EXTENT



LOSS OF ICE VOLUME



Multi year and 1 year ice



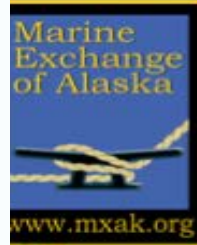
Prevention Measures

- **Prevention measure in Alaskan waters:**
- Ships must be tracked and monitored via AIS
- Ships must sail at least 50 miles offshore
- Ships must notify loss of power or steering
- Nearby rescue vessels are identified
- Ship towing and arrest packages are prepositioned
- Ports cooperate in emergency response
- Need international agreements to extend prevention

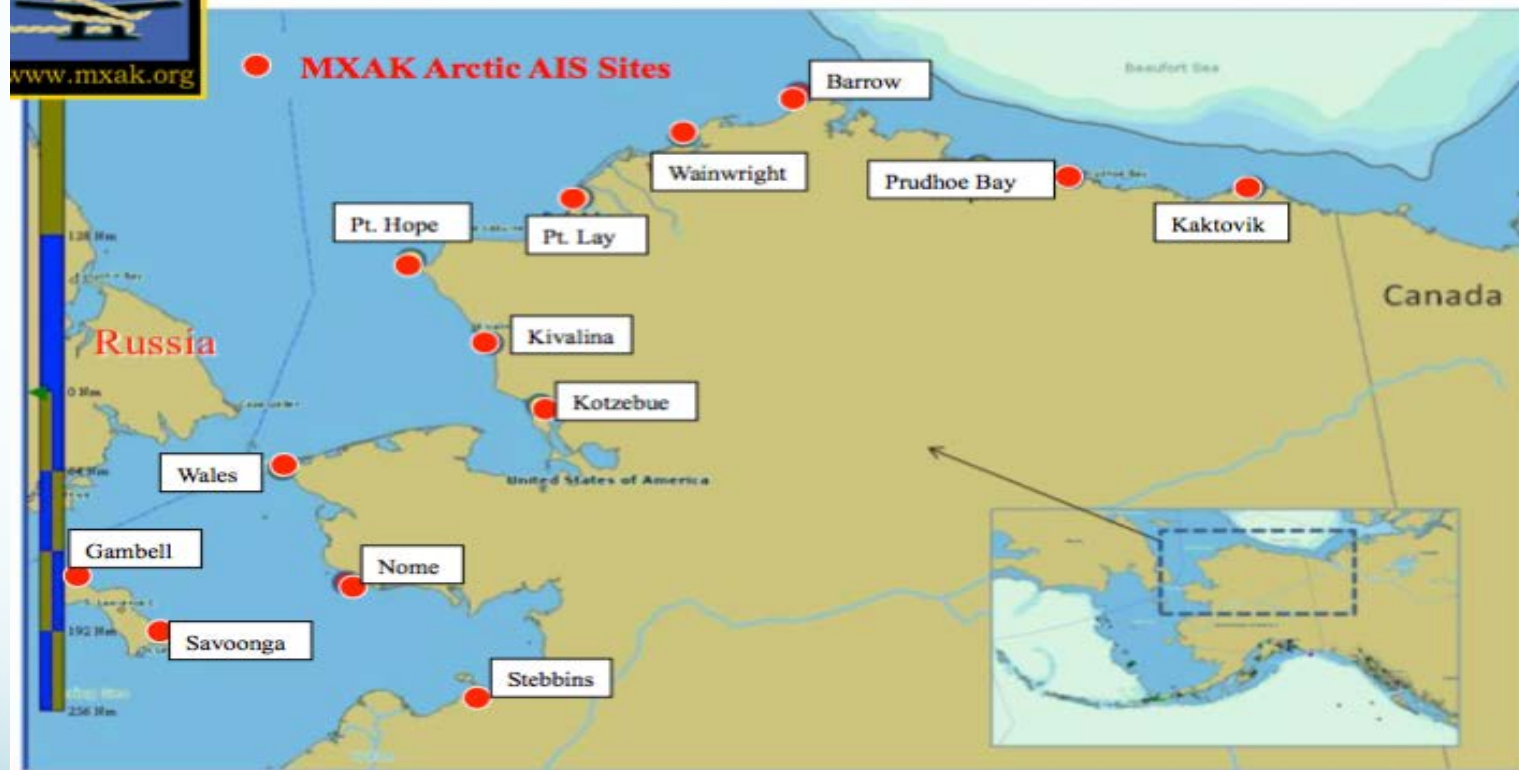
BERING STRAIT



Arctic AIS Receiving Sites



Marine Exchange Arctic AIS (Automatic Identification System) Receiving Sites



Network Vessel Coverage



Network Coverage Area



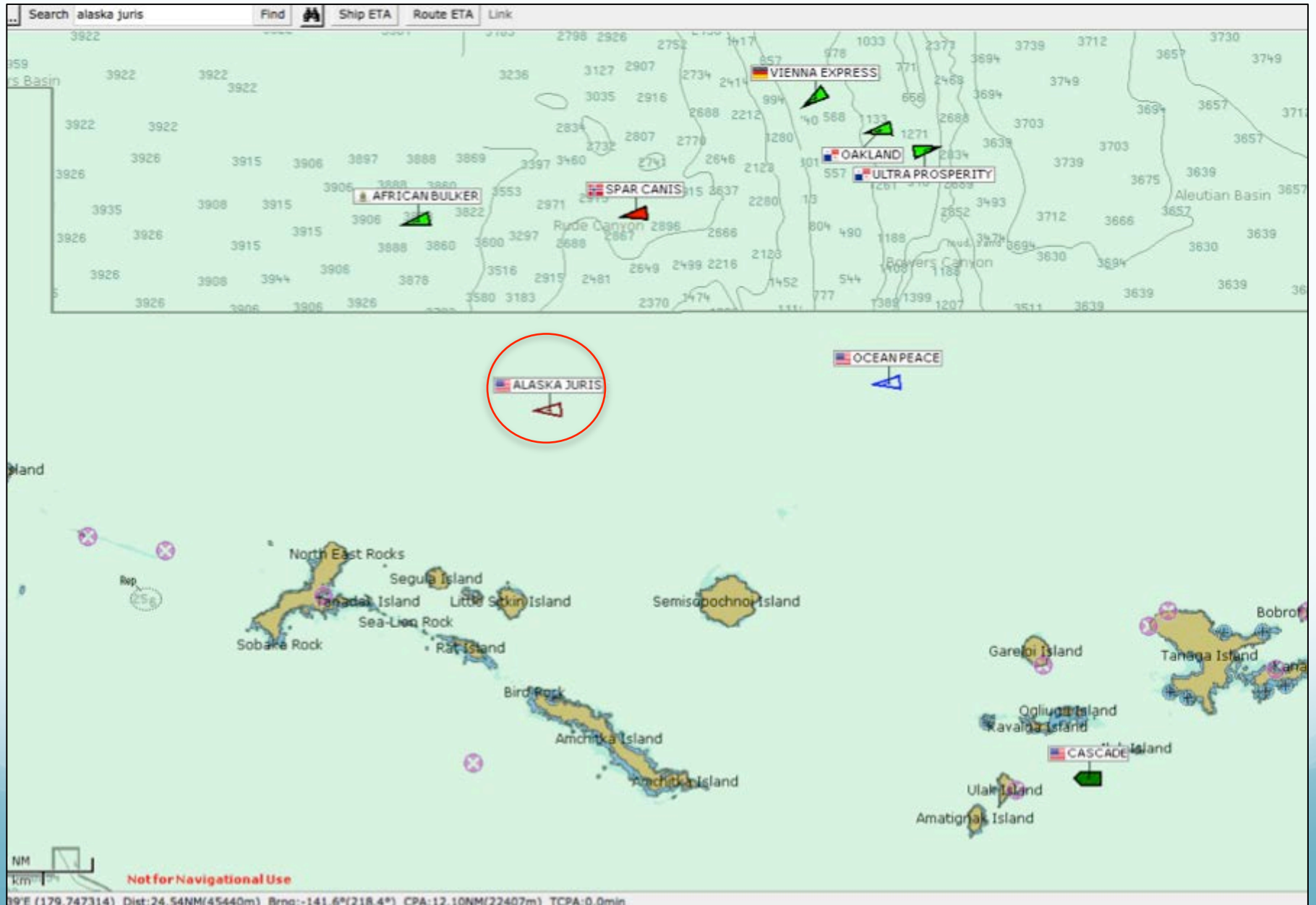
2015 Milestones

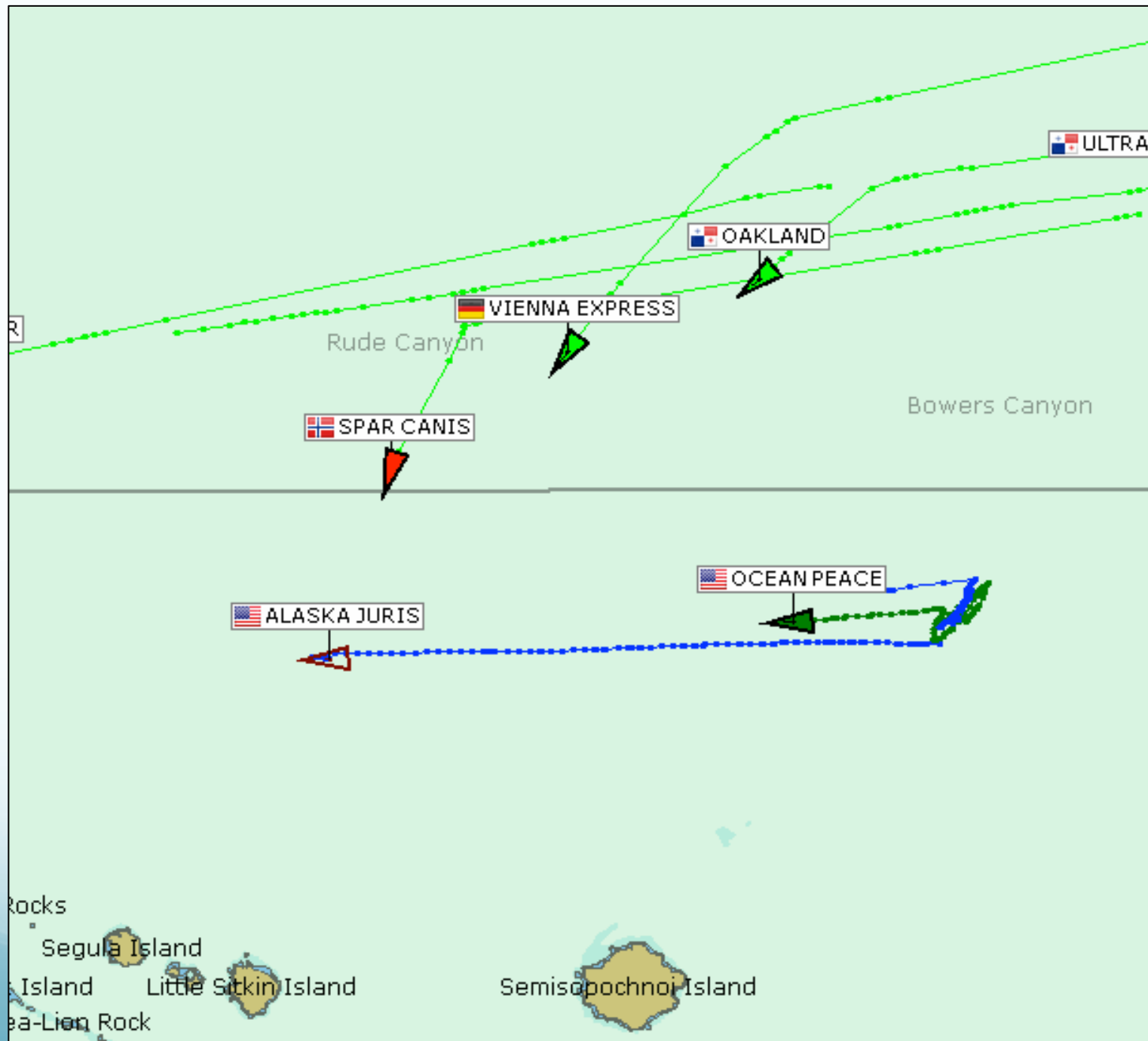
Routing Measures Work

24 x 7 Monitoring Creates Results
– Reduces Risks



Alaska Juris







SPAR CANIS

162.209.115.217/VTS/Details.aspx?mmsi=257807000

SPAR CANIS

EICS Details

SPAR CANIS

MMSI: 257807000

IMO: 9299290

Call Sign: LAFQ6

Ship Type: Bulk Carrier

GT: 32,474

DWT: 53,565

Length: 595.7ft (181.57m)

Breadth: 104.9ft (31.96m)

Draught: 41.3ft (12.6m)

Ship Details

Year: 2006

AIS Details

Type and Cargo: Cargo ship



Close

Ship Details

EICS Details

Company

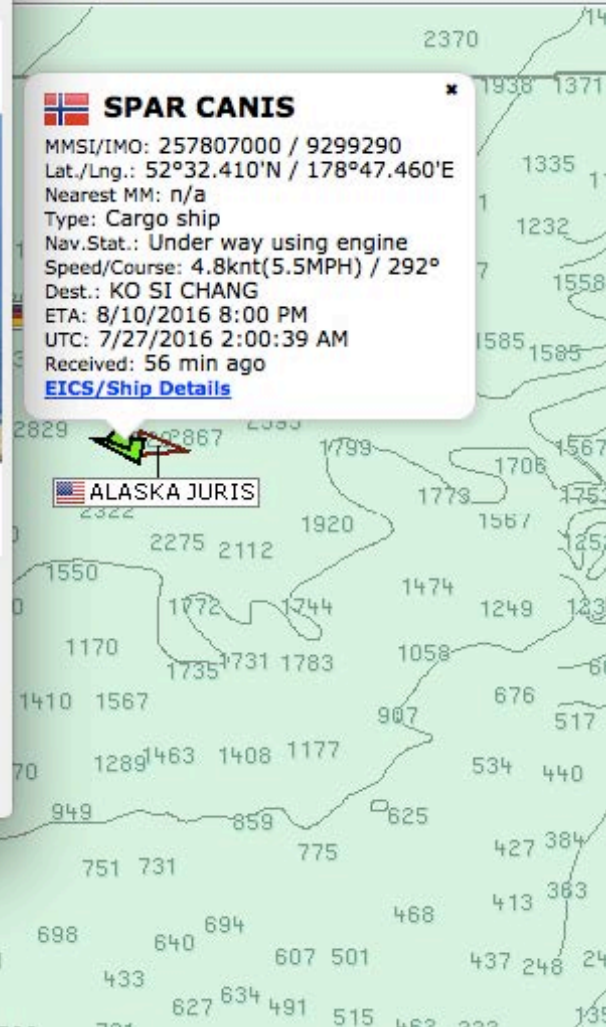
Photos


Report




r-Coded Types]

ETA Link



 **SPAR CANIS**

MMSI/IMO: 257807000 / 9299290
 Lat./Lng.: 52°32.410'N / 178°47.460'E
 Nearest MM: n/a
 Type: Cargo ship
 Nav.Stat.: Under way using engine
 Speed/Course: 4.8knt(5.5MPH) / 292°
 Dest.: KO SI CHANG
 ETA: 8/10/2016 8:00 PM
 UTC: 7/27/2016 2:00:39 AM
 Received: 56 min ago
[EICS/Ship Details](#)

 ALASKA JURIS



162.209.115.217/VTS/Details.aspx?mmsi=218355000

VIENNA EXPRESS

[EICS Details](#)

VIENNA EXPRESS

MMSI: 218355000
 IMO: 9450416
 Call Sign: DGWF2
 Ship Type: Fully Cellular Containership
 Length: 1099.1ft (335m)
 Breadth: 137.8ft (42m)
 Draught: 43ft (13.1m)
 APC: Yes



[Ship Details](#)

GT: 93,750
 DWT: 103,648
 Propellers: 1
 Year: 2010
 Length: 1099.3ft (335.08m)
 Breadth: 141.1ft (43m)
 Draught: 47.9ft (14.61m)

[AIS Details](#)

Type and Cargo: Cargo ship
 Draught: 37.7ft (11.5m)

Close

Ship Details

EICS Details

Company

Photos

Report

Route ETA Link



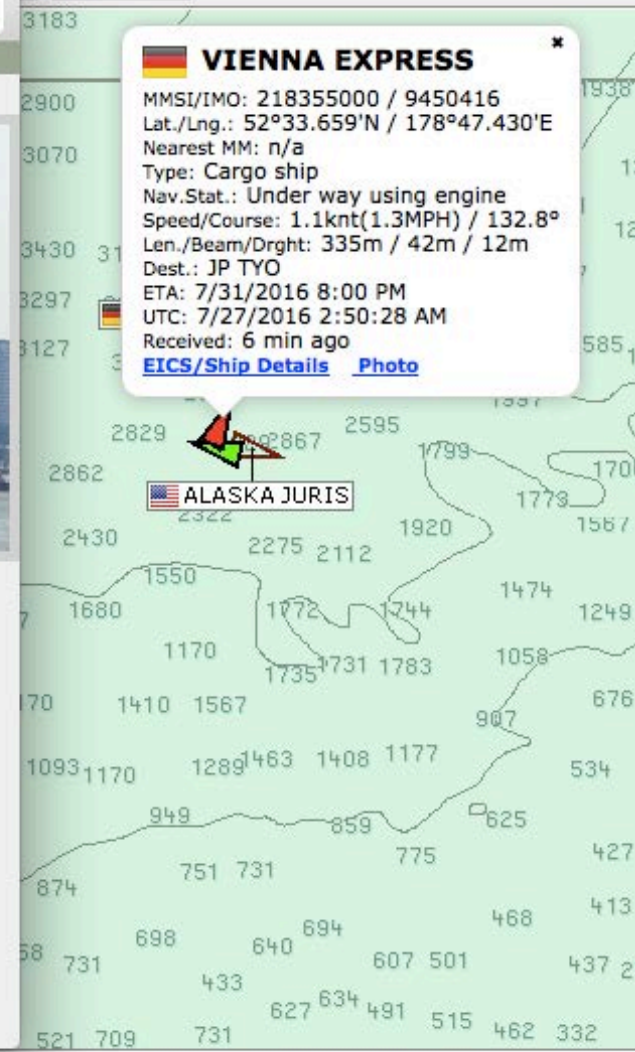
VIENNA EXPRESS

MMSI/IMO: 218355000 / 9450416
 Lat./Lng.: 52°33.659'N / 178°47.430'E
 Nearest MM: n/a
 Type: Cargo ship
 Nav.Stat.: Under way using engine
 Speed/Course: 1.1knt(1.3MPH) / 132.8°
 Len./Beam/Drght: 335m / 42m / 12m
 Dest.: JP TYO
 ETA: 7/31/2016 8:00 PM
 UTC: 7/27/2016 2:50:28 AM
 Received: 6 min ago

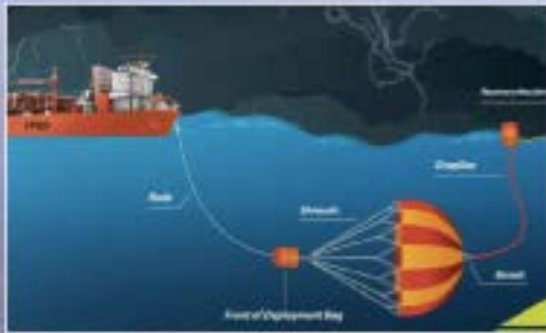
[EICS/Ship Details](#) [Photo](#)



ALASKA JURIS



Research & Development- Ship Arrestor



Large Vessel Arrestor Sea Trials | Puget Sound, WA. June 22, 2015

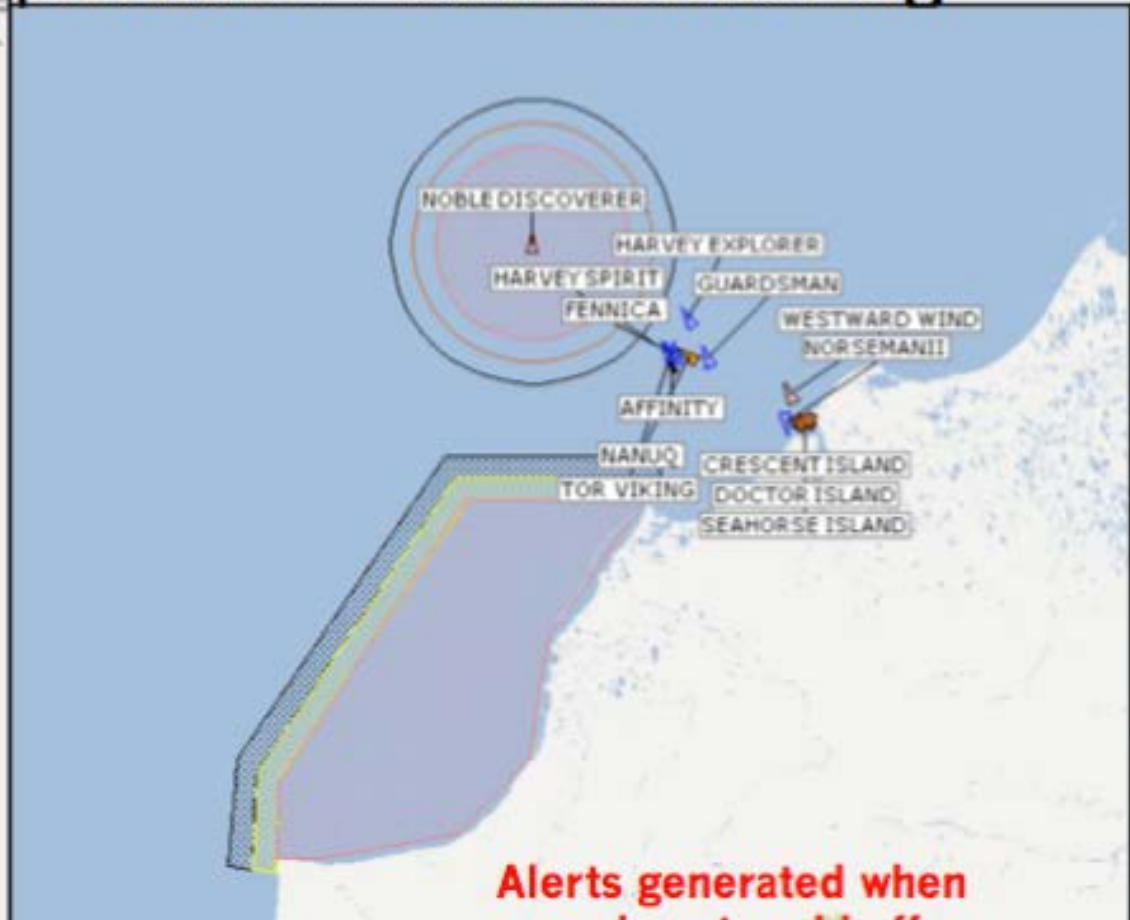


THE
NETWORK

Dynamic Resource Protection

Shell Exploration Fleet Monitoring

AFFINITY
AIVIQ
ARCTIC SEAL
CRESCENT ISLAND
DOCTOR ISLAND
FENNICA
GUARDSMAN
HARVEY EXPLORER
HARVEY SISUAQ
HARVEY SPIRIT
IVER FOSS
KAVIK RIVER
KULLUK
LAUREN FOSS
NANUQ
NOBLE DISCOVERER
NORDICA
NORSEMANII
POINT OLIKTOK
SANDRA FOSS
SEAHORSE ISLAND
SIDNEY FOSS
STACEY FOSS
TAI HARVEST
TOR VIKING
TUUQ
WARRIOR



Shipboard AIS Display



International Cooperation

- Extend prevention measures to regional and international agreements.
- Standardized requirements are easier to follow.
- Due to lack of infrastructure and nature of the Arctic, prevention measures are paramount
- Formation of League of Arctic Ports
- Arctic nations should pledge to cooperate in the Arctic regardless of other disputes elsewhere.



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