



# Aerial Surveys for Marine Mammals in the Beaufort and Chukchi Seas

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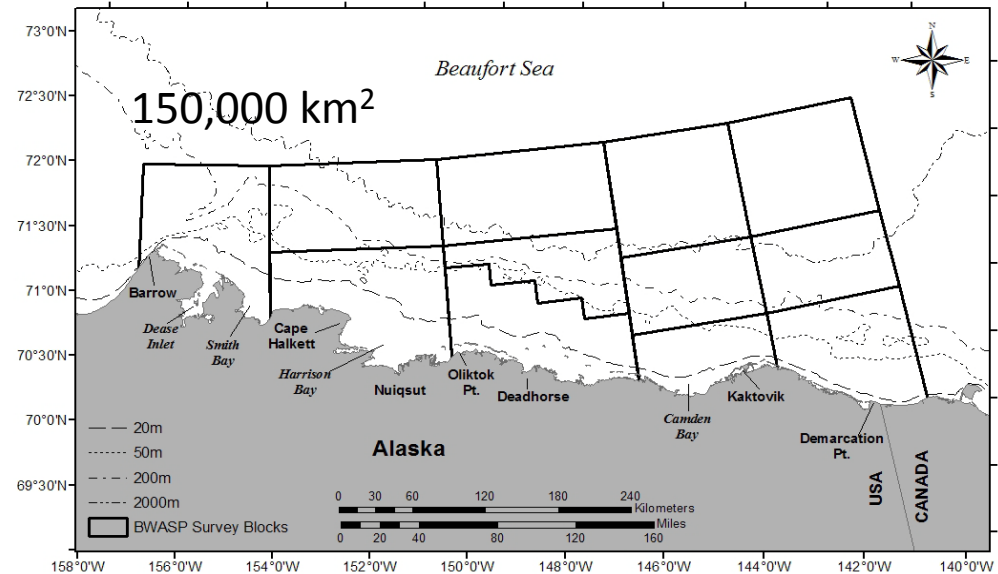
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# Bowhead Whale Aerial Survey Project

## BWASP

- Annually, 1979-2010
- Summer & Autumn
  - Consistently SEP & OCT
- Goals & Objectives
  - Bowhead migration **Plus other species**
    - Spatiotemporal distribution
    - Relative abundance
    - Activity
    - Habitat
  - Effects of oil & gas activity
  - Broad-scale
  - Real-time access to data



## • Annual & Daily Reports

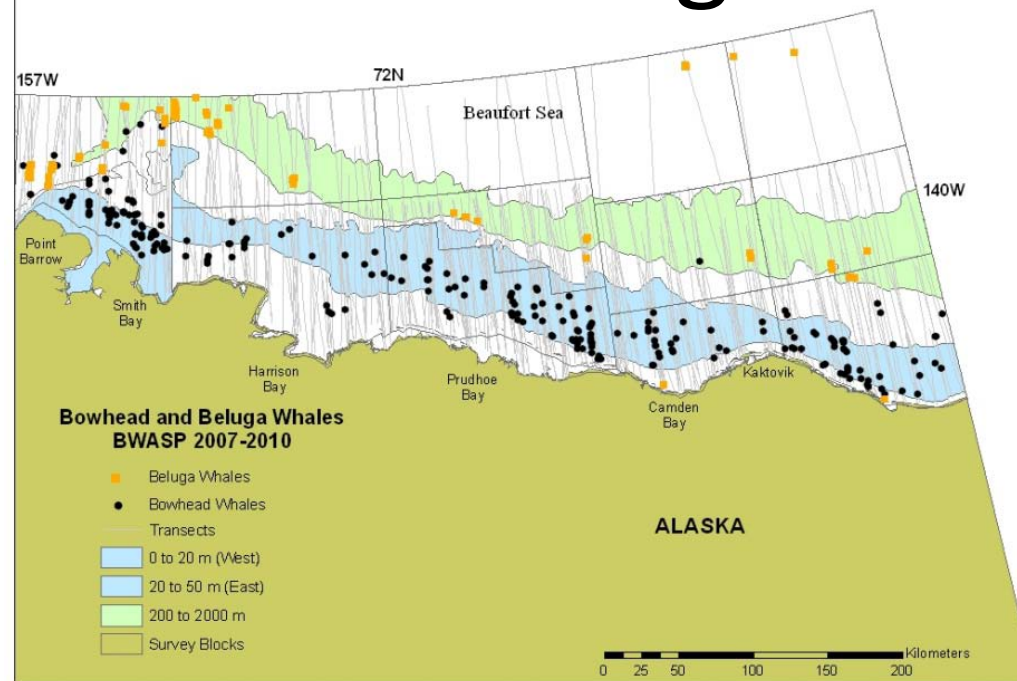
[http://www.afsc.noaa.gov/NMML/cetacean/bwasp/flights\\_BWASP.php](http://www.afsc.noaa.gov/NMML/cetacean/bwasp/flights_BWASP.php)

<http://alaska.boemre.gov/ref/AKPUBS.HTM>

# Beaufort : Bowheads & Belugas

**2007-2010**

- Consistent separation of habitat between early and later survey periods

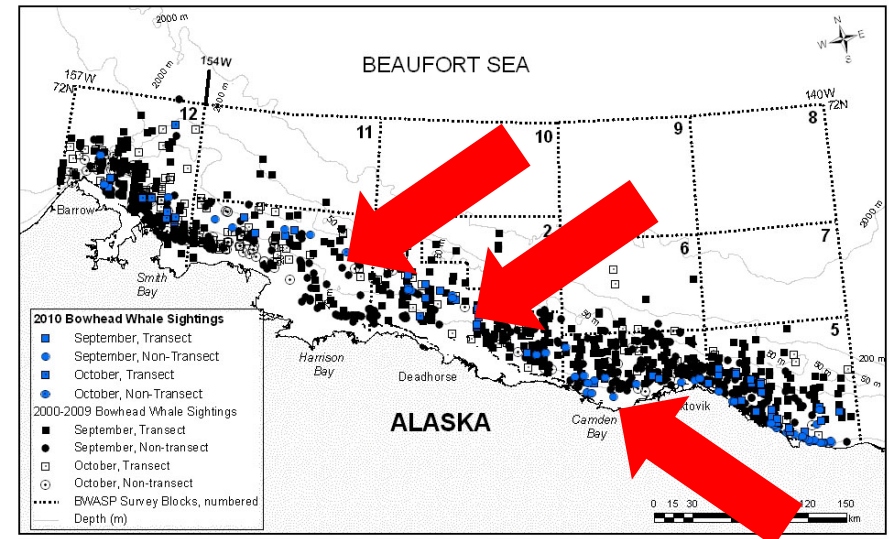
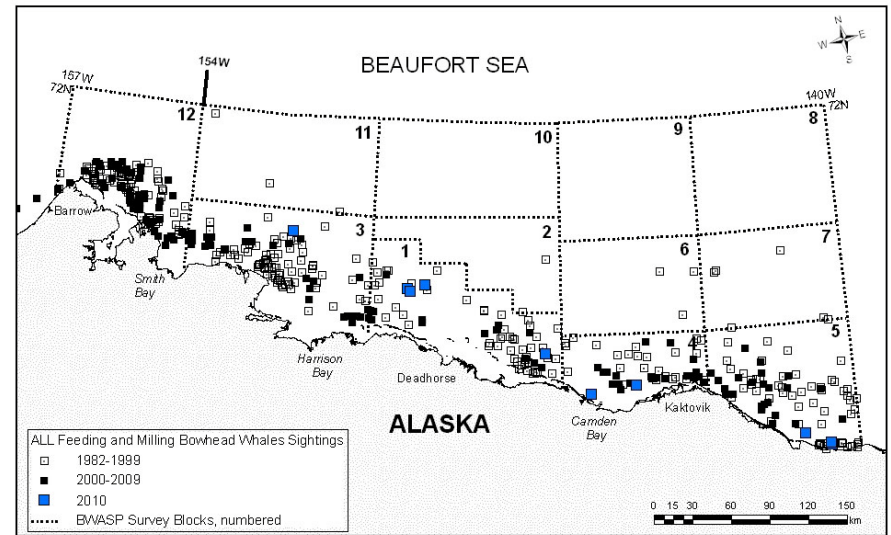


|                    | Belugas    |              |               | Bowhead Whales |              |               |
|--------------------|------------|--------------|---------------|----------------|--------------|---------------|
|                    | n          | km           | n/km          | n              | km           | n/km          |
| 0 to 20 m East     | 8          | 5456         | 0.0015        | 48             | 5456         | 0.0088        |
| 0 to 20 m West     | 0          | 1253         | 0.0000        | 163            | 1253         | 0.1301        |
| 21 to 50 m East    | 0          | 11487        | 0.0000        | 284            | 11487        | 0.0247        |
| 21 to 50 m West    | 7          | 975          | 0.0072        | 36             | 975          | 0.0369        |
| 51 to 200 m East   | 27         | 5127         | 0.0053        | 8              | 5127         | 0.0016        |
| 51 to 200 m West   | 266        | 1854         | 0.1435        | 14             | 1854         | 0.0076        |
| 201 to 2000 m East | 93         | 5119         | 0.0182        | 6              | 5119         | 0.0012        |
| 201 to 2000 m West | 136        | 426          | 0.3195        | 2              | 426          | 0.0047        |
| > 2000 m East      | 16         | 2525         | 0.0063        | 0              | 2525         | 0.0000        |
| <b>TOTAL</b>       | <b>553</b> | <b>34221</b> | <b>0.0162</b> | <b>561</b>     | <b>34221</b> | <b>0.0164</b> |

# BWASP Highlights 2007-2010

## Consistent with Previous Years

- **Feeding bowhead whales** were identified every year: 1) north and east of Barrow; 2) scattered across the Alaskan Beaufort Sea
- Flights were conducted in the **far northern survey blocks** for the first time since the 1980s
- Clusters of **bowhead whale calf sightings** in 2010 between Prudhoe Bay and Camden Bay, close to areas of oil and gas interests
- **Notable absence of bowheads:**
  - North of Prudhoe Bay
  - Shallow waters of Camden Bay
  - Shallow waters off Harrison Bay



# BWASP Highlights 2007-2010

## Different from Previous Years

- **Coastal polar bear sightings**, which augmented information collected directly by USGS and USFWS

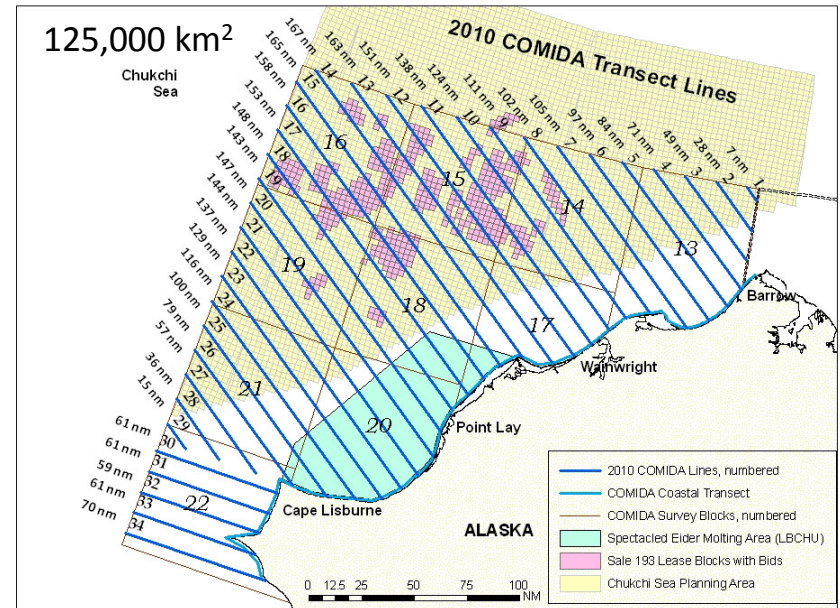


Photo by Laura Morse

# Chukchi Offshore Monitoring in Drilling Area

## COMIDA

- 1979-91; 2008-10
- Summer & Autumn
- Goals & Objectives
  - Marine mammals in the Chukchi Sea Planning Area
    - Spatiotemporal distribution
    - Relative abundance
    - Habitat
    - Activity
  - Broad-scale
  - Real-time access to data



## •Daily Reports

[http://www.afsc.noaa.gov/NMML/cetacean/bwasp/flights\\_COMIDA.php](http://www.afsc.noaa.gov/NMML/cetacean/bwasp/flights_COMIDA.php)

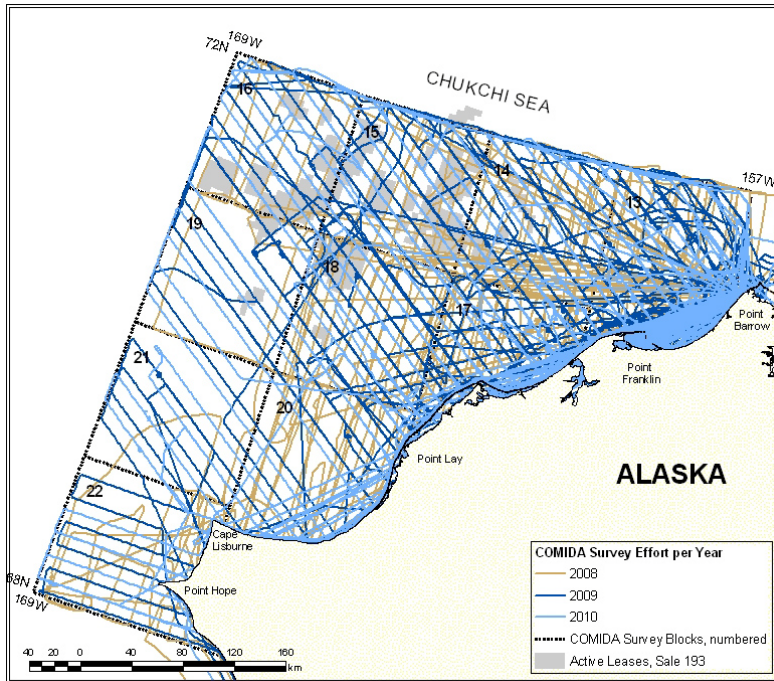
## •Annual Reports

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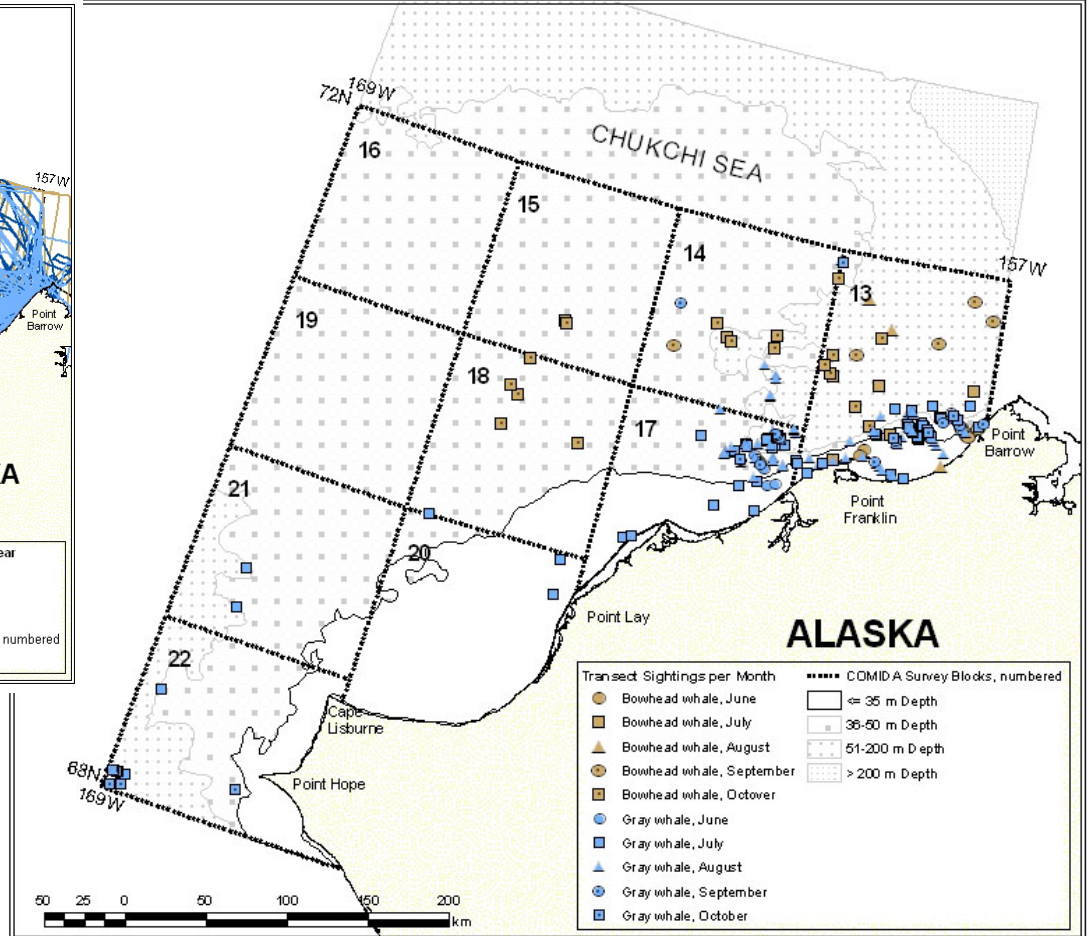
Janet.Clarke@saic.com

# COMIDA 2008-2010

Survey Effort



Bowhead and Gray Whale Sightings (on-effort)

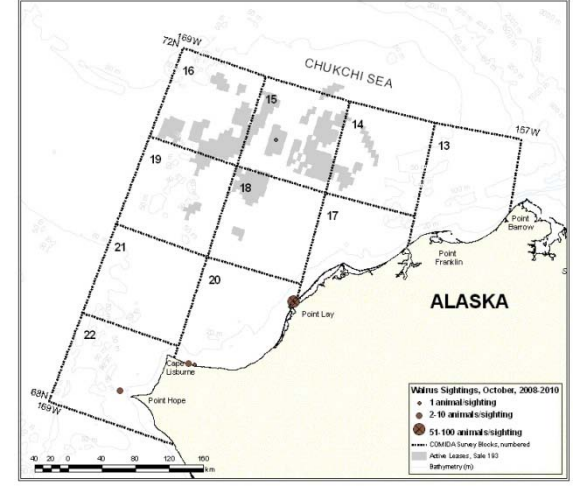
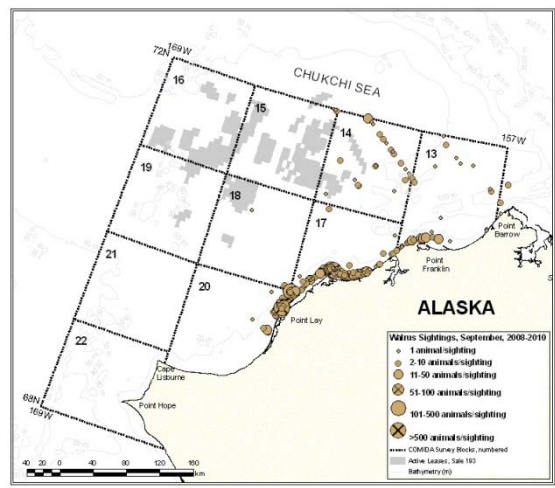
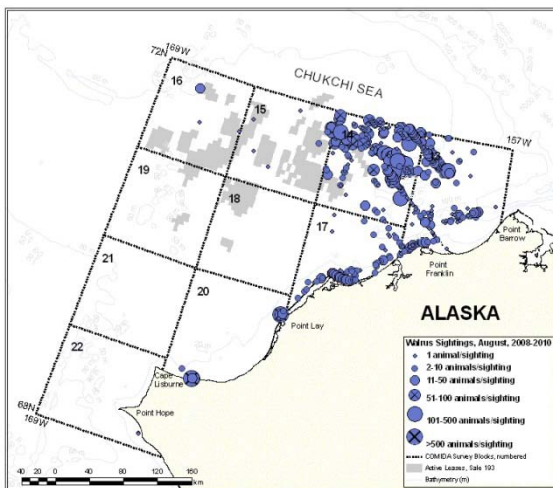
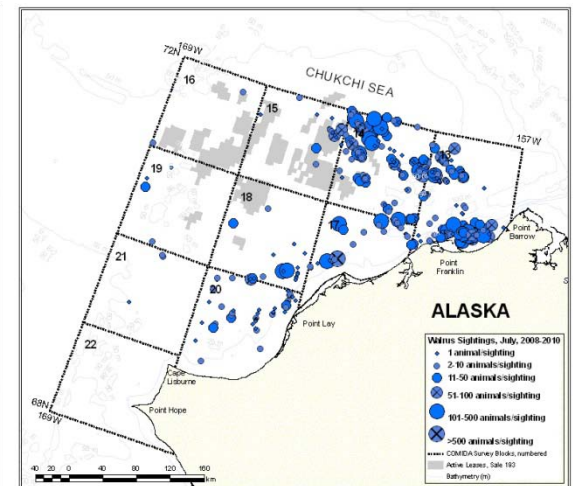
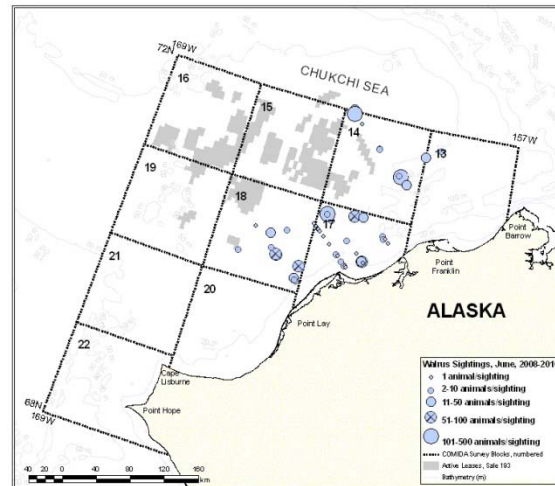
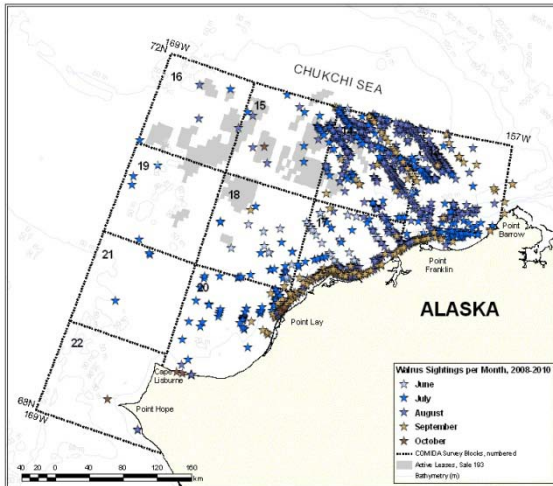






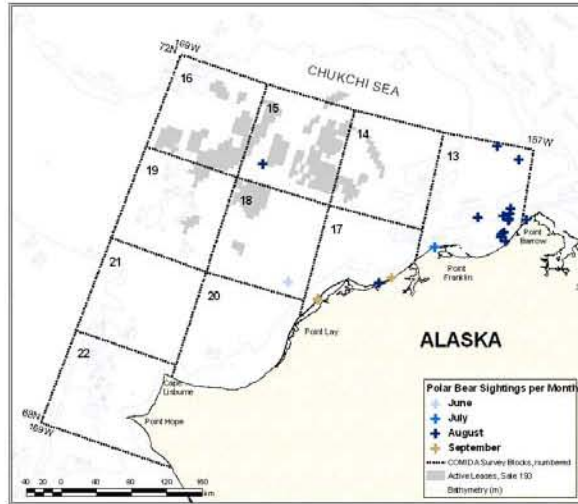
# COMIDA 2008-2010

## Walrus Sightings (on- and off-effort)

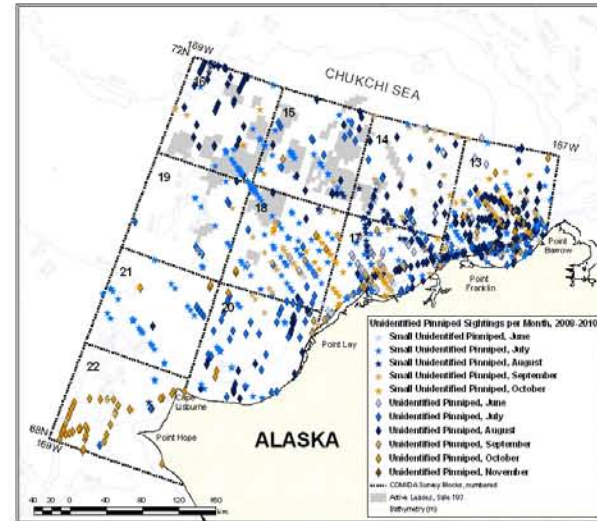


# COMIDA 2008-2010

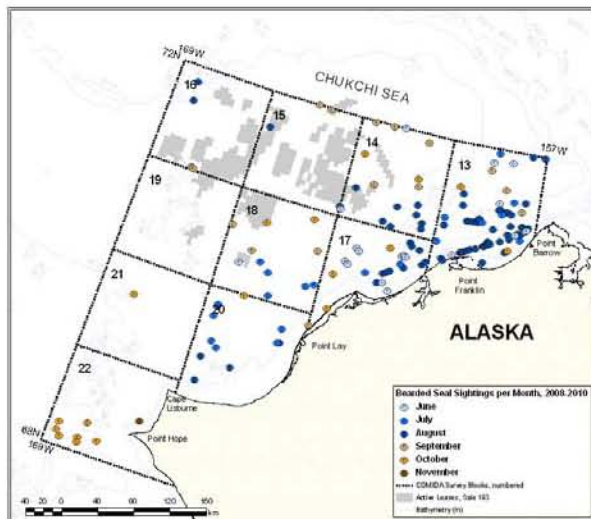
Polar Bears  
(on- and off-  
effort)



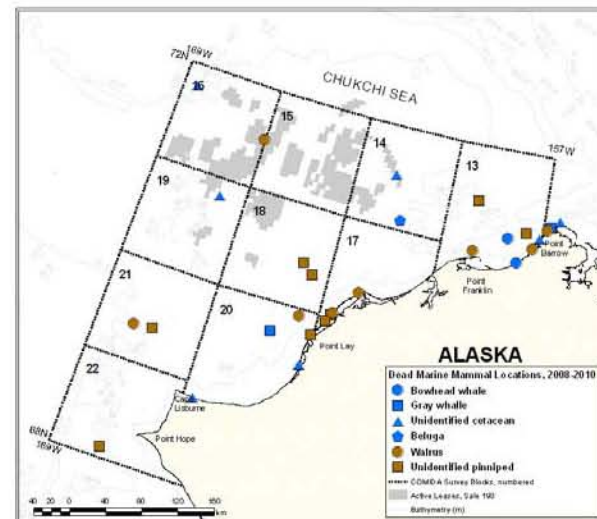
Unidentified  
Pinnipeds  
(on- and off-  
effort)



Bearded  
Seals (on- and off-  
effort)



Dead Marine  
Mammals  
(on- and off-  
effort)



# COMIDA Highlights 2008-2010

## Consistent with Previous Years

- **Bowhead & gray whales** sighted every month but NOV
- **Beluga whales** sighted every month but SEP
- **Bearded seals** were identified during good weather conditions, with the highest number observed in August
- **Carcasses:** 13 cetacean, 8 walrus, and 9 unidentified pinniped

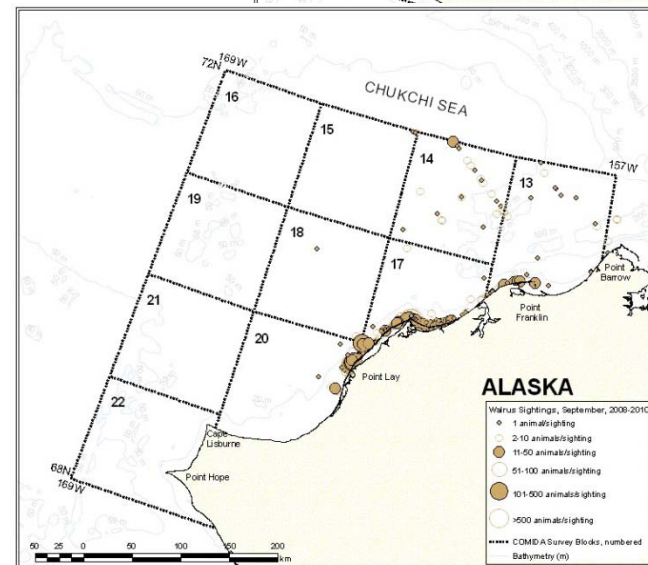
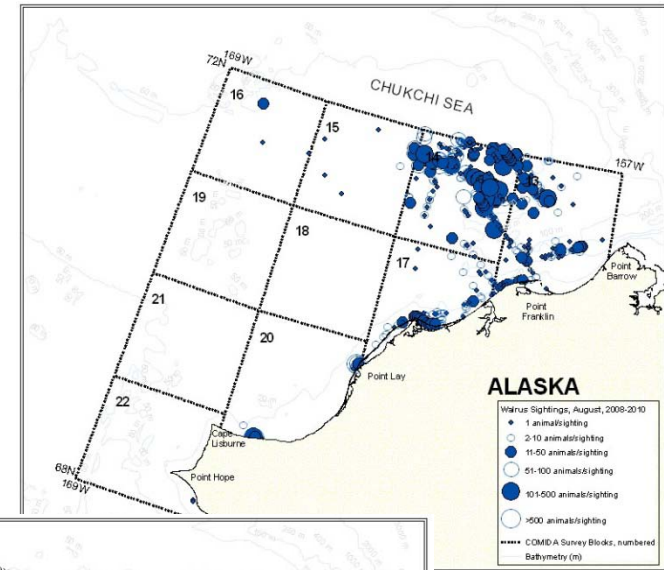


Photo by Cynthia Christman

# COMIDA Highlights 2008-2010

## Different from Previous Years

- **Feeding bowheads** sighted nearshore between Pt. Franklin and Barrow in JUN, JUL, and SEP of 2009
- Sightings of 1 **fin whale** (JUL 2008) and 1 **humpback whale** (JUL 2009)
- **Walrus** sightings in every month except NOV; large haul outs onshore autumn 2009 and 2010
- **Polar bears** were sighted in all years, with the largest number observed in AUG 2008



# Collaborations

- Walrus : ADFG, USFWS, USGS
- Polar bears : USFWS, USGS
- Sea ice : NOAA National Sea Ice Desk
- Strandings : Alaska Regional Office of NOAA; North Slope Borough

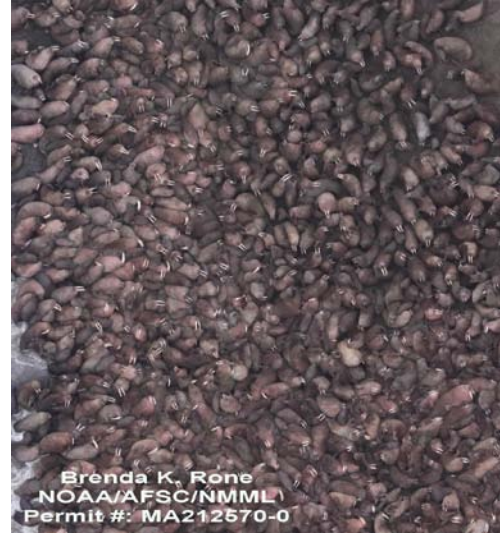
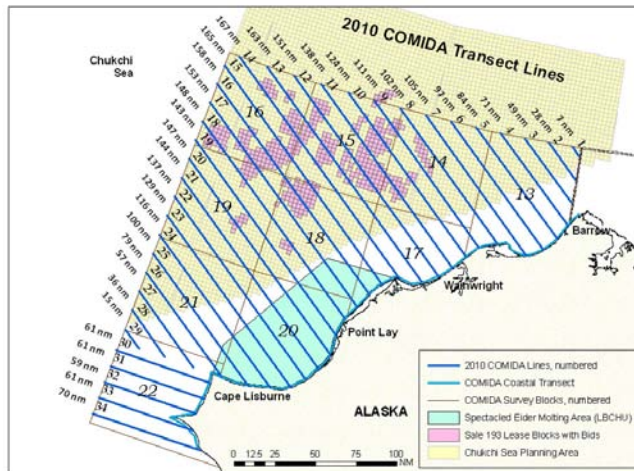


Photo by Amy Kennedy

# 2011 Plans

## COMIDA

- June 15 to mid-October
- Same study area as 2010
- Same survey design as 2010, but with new set of transects



## BWASP

- August 1 to mid-October
- Same study area as 2010
- Same survey design as 2010

