



# The importance of the Eastern Chukchi Sea for King Eiders on migration

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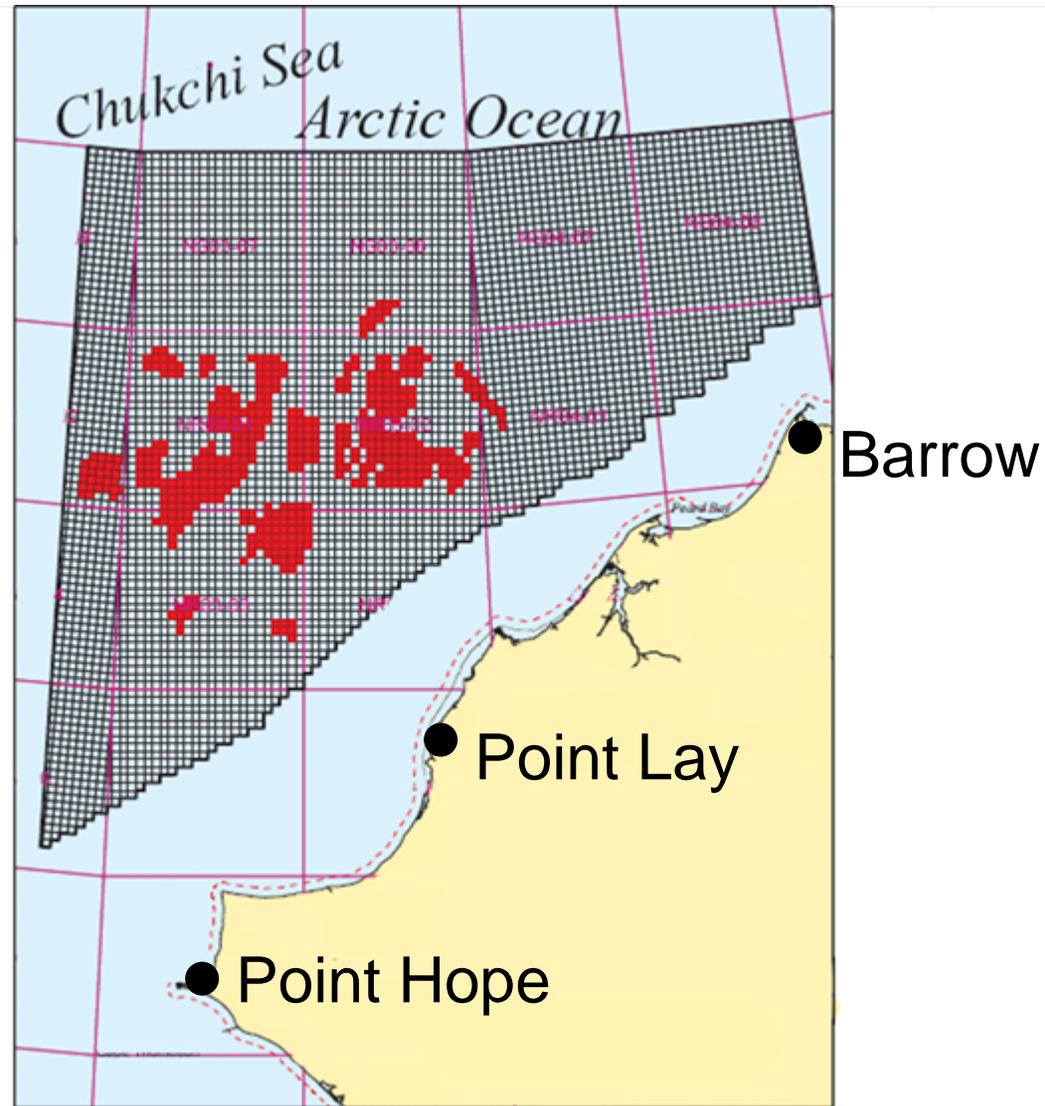


# Chukchi Sea

**Estimated Oil Resources:**  
1-14 billion barrels

Leases sold for  
**US\$ 2,700,000,000**  
(6 February 2008)

Insufficient data from  
most bird species



Source: [www.mms.gov/alaska](http://www.mms.gov/alaska)



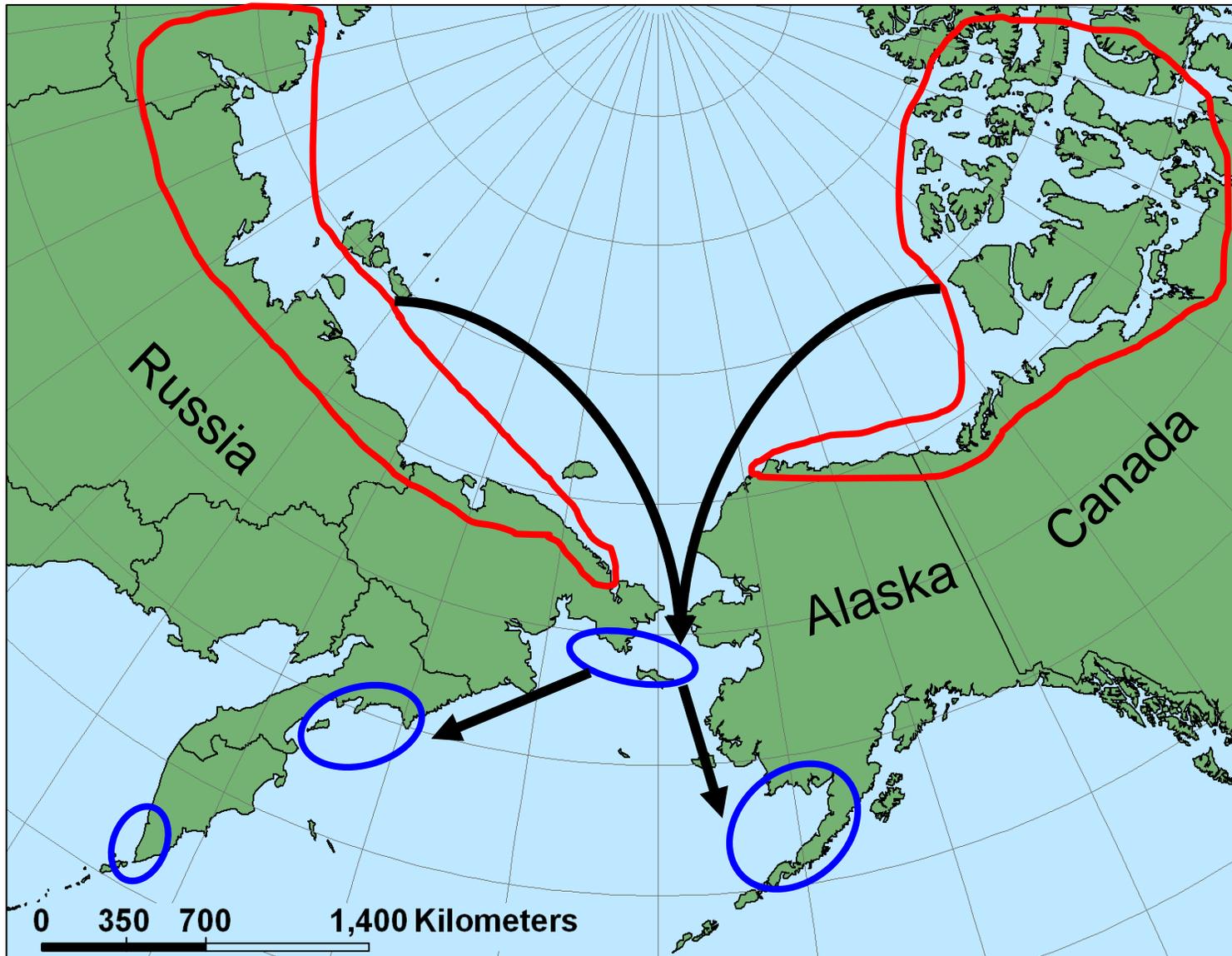
## Background



- King Eiders are large sea ducks
- spend >10 months per year at sea
- forage on benthic prey by diving to sea floor



# Background



**breeding  
range**

**wintering  
regions**



## Questions

- When are King Eiders in the Eastern Chukchi Sea?
- What proportion of the population stages there?
- Where do individuals occur and concentrate?



## Methods

- 190 birds caught in 1997-2007 in AK and CAN
- birds fitted with satellite transmitter
- calculated arrival and departure dates in Chukchi





## Results: southward migration

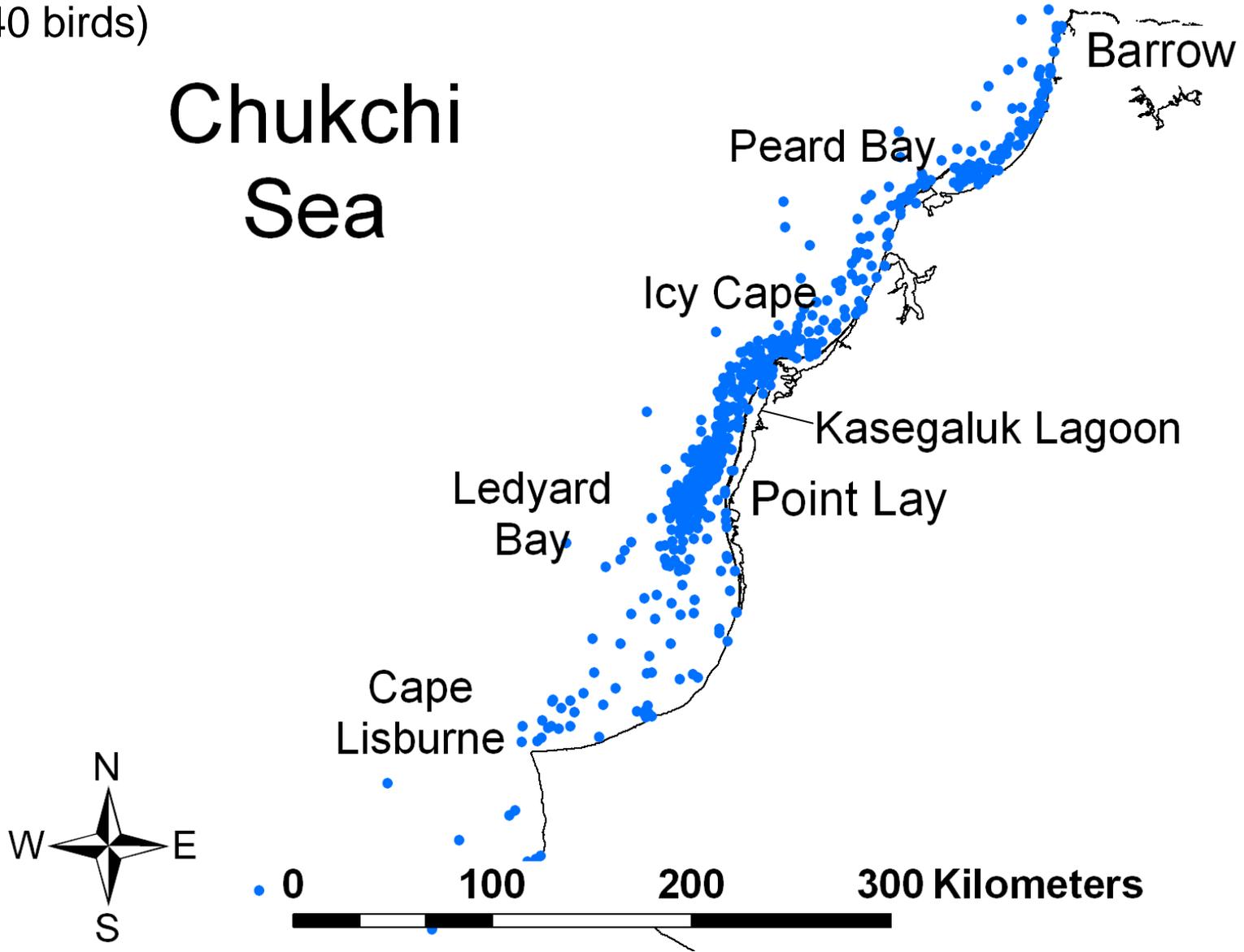
- mid June through early November
- staging pattern different between age/sex classes
- mean staging time 13 days (range: 2 - 68 days)
- 74% of tracked birds use Eastern Chukchi Sea



# Results: southward migration

( $n = 140$  birds)

## Chukchi Sea





## Results: spring migration

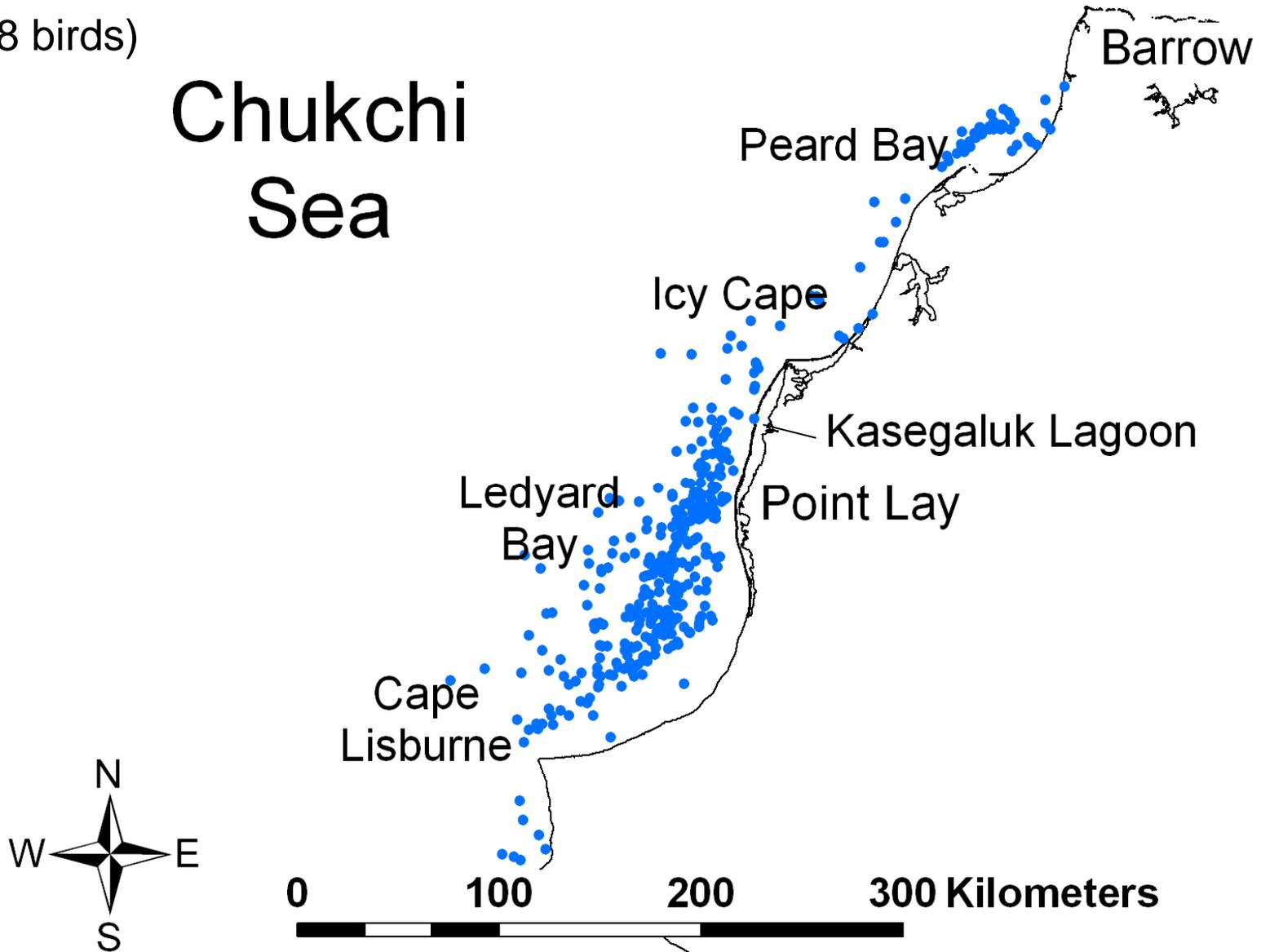
- spring staging mid-April – early June
- mean staging time 21 days (range: 8 - 45 days)
- 100% of North American breeders use the area
- 55% of Siberian breeders use the area ( $n = 11$ )



# Results: spring migration

( $n = 78$  birds)

## Chukchi Sea





## Conclusions

- Eastern Chukchi Sea is crucial staging area
- both American and Russian birds use it

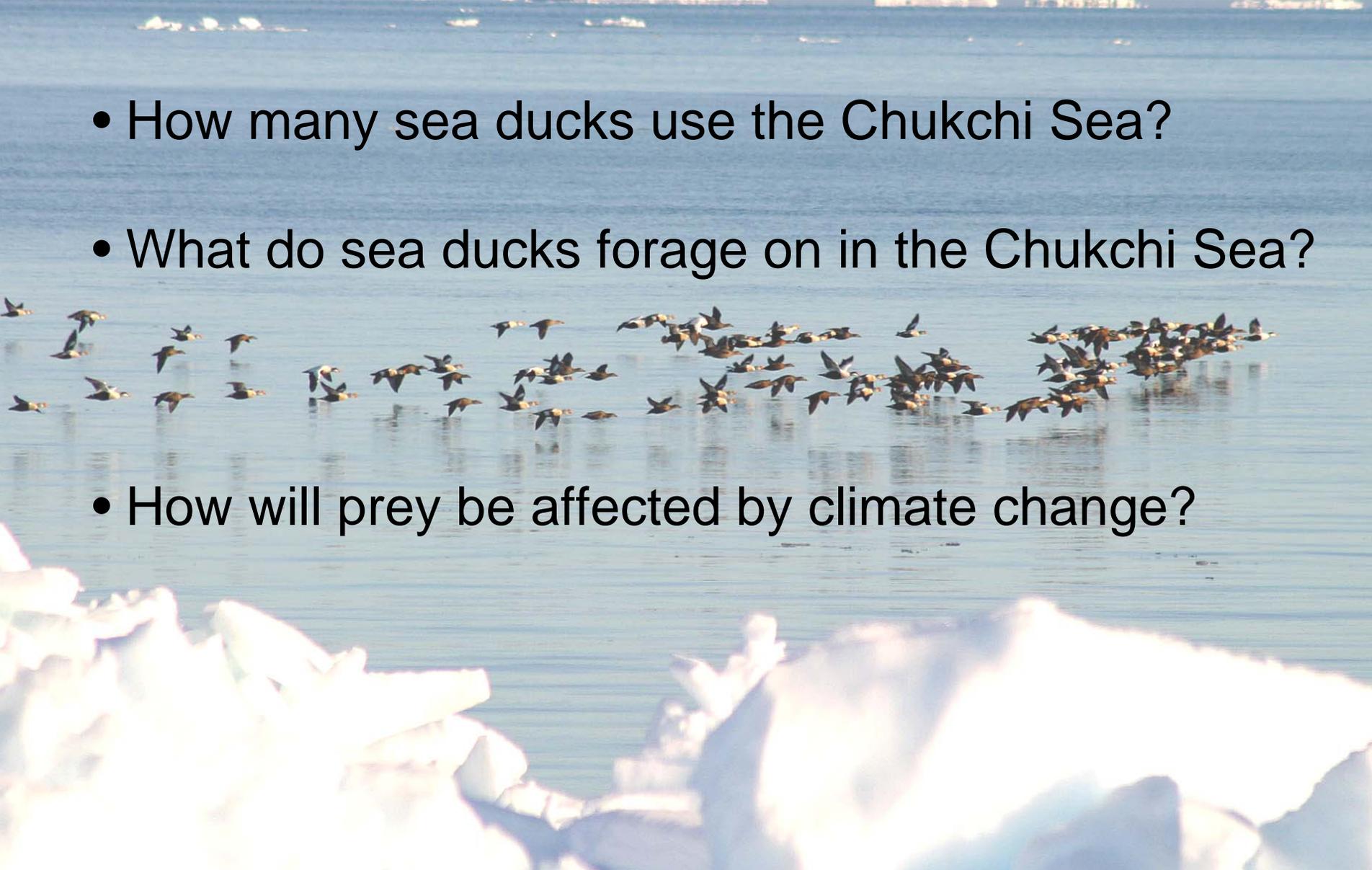


- largest concentrations within 50 km of coast



## Future directions

- How many sea ducks use the Chukchi Sea?
- What do sea ducks forage on in the Chukchi Sea?
- How will prey be affected by climate change?





# Acknowledgments

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...and a large number of  
field assistants...



Questions?



<http://mercury.bio.uaf.edu/kingeider>



*pictures © Kim Hanisch, Ray Fellner, and Keith Brady*