Movements of King Eider (*Somateria spectabilis*) during the non-breeding period in the Bering Sea

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Background

- King Eider is a circum-arctic breeding sea-duck
- population decline in North America ~50% in 25 years
- migration and wintering strategies poorly known

Questions

- Is there a tight link between breeding areas in North Alaska and specific wintering areas?
- How do King Eiders migrate to wintering areas?
- Are there movements between wintering areas?

Methods

- 80 birds fitted with satellite transmitter in June 2002-2005
- one location every 2-7 days for 12-15 months
- individual movement rate to define seasons
- calculated travel distances with GIS

Results: molt and fall migration

- both sexes molt along the Chukotka Peninsula
- fall migration highly variable
- 44.8% did not have distinct fall migration
- arrival on wintering grounds between July and January

Results: wintering areas

= male locations

= female locations

Capture site

Russia

Chukotka

Alaska

Kamchatka

Bering Sea

0 400 800 1,200 Kilometers

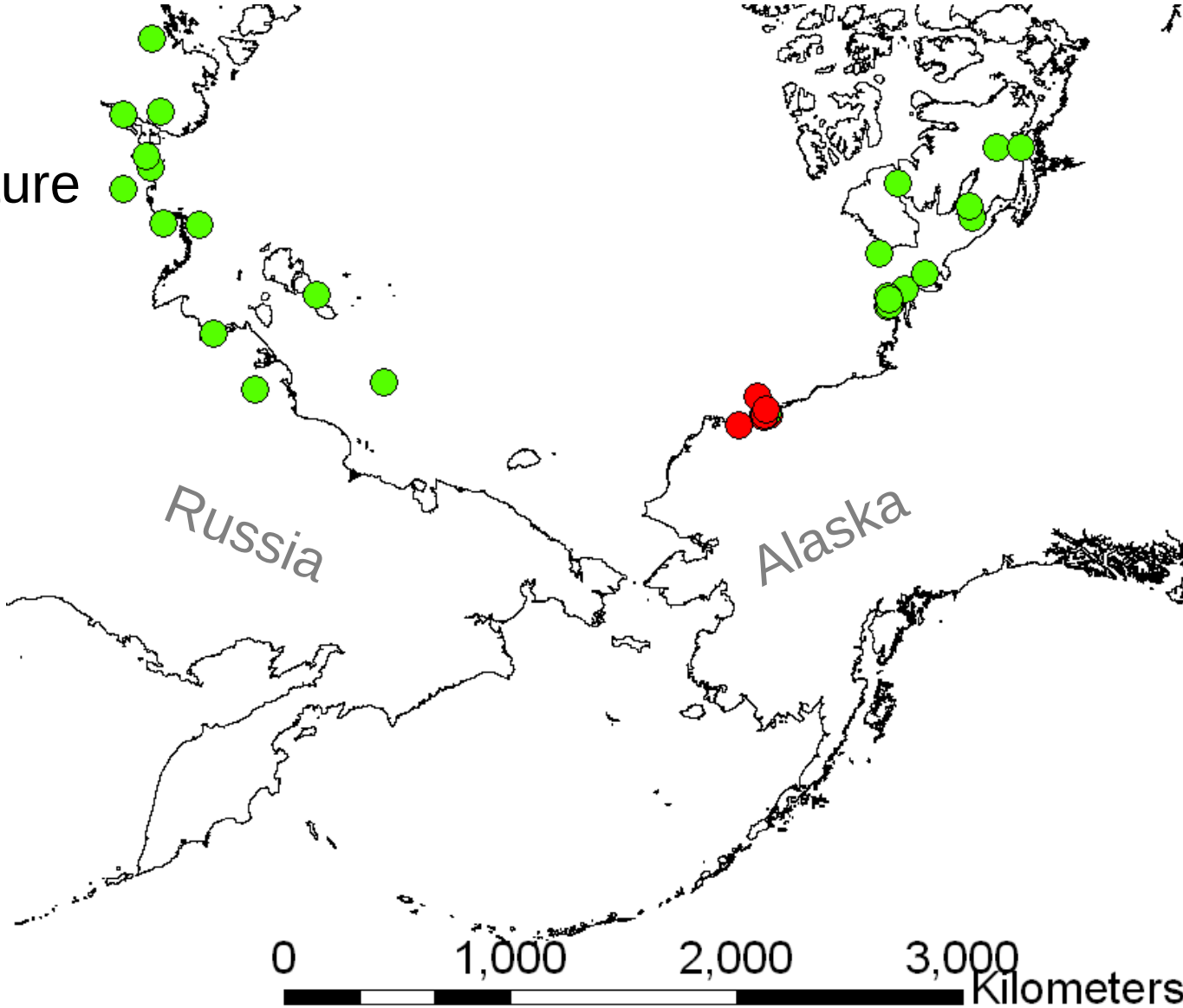
Results: winter movements

- 59.1% of tracked birds used >1 wintering site
- mean distance traveled in winter 658 km (± 440 km SD)
- variation not explained by latitude or sex

Results: spring migration

Breeding locations
one year after capture

- = male
- = female



Discussion

- wintering very dynamic and flexible
- weak connectivity enables population mixing

King Eiders may be able to rapidly adapt to changing environments

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Results: migration distances (mean ± s.d. [km])

	Male	Female
Molt mig.	1805 ± 708	1663 ± 808
Fall mig.	856 ± 695	616 ± 717
Winter	692 ± 484	584 ± 412
Spring mig.	3369 ± 1351	2077 ± 763
Total:	6548 ± 2043	5004 ± 1227