

A large flock of white geese flying in a blue sky. The geese are densely packed, filling most of the frame. They are in various stages of flight, with wings spread, creating a sense of movement and scale.

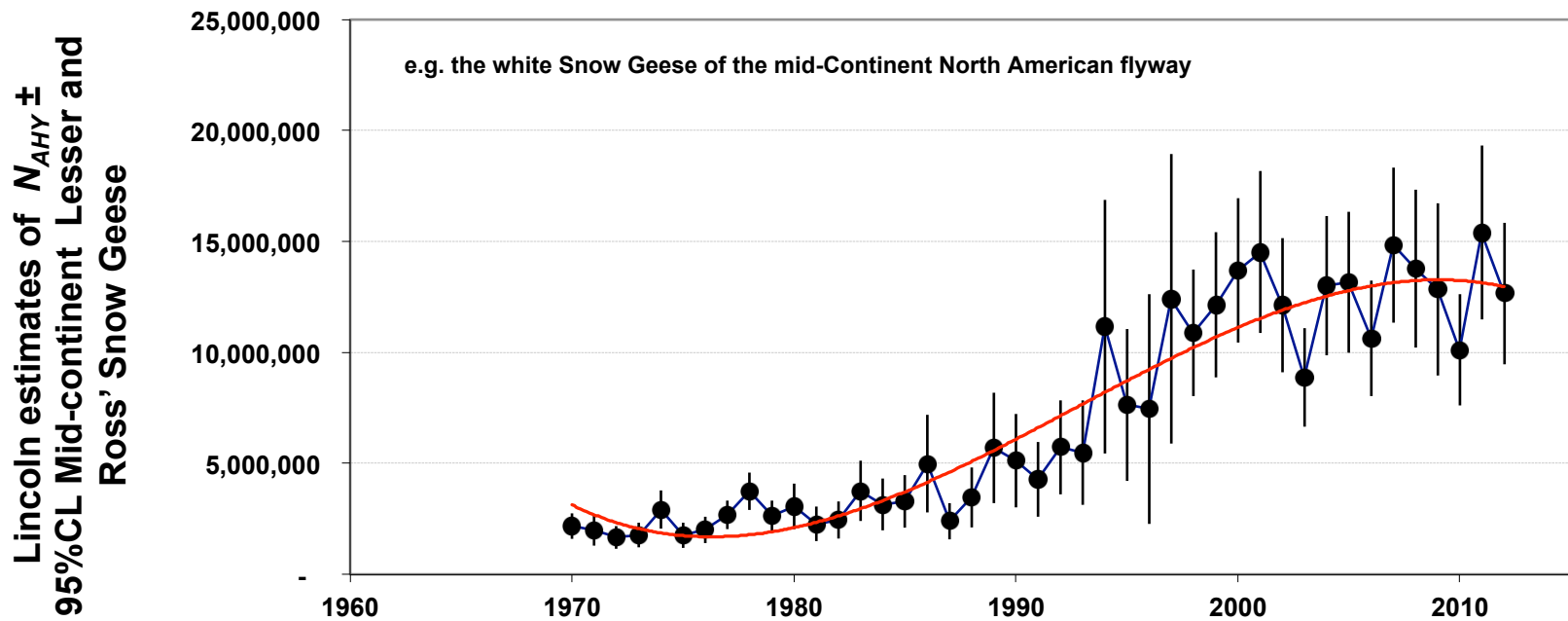
Current estimates of goose population sizes in the northern hemisphere: a gap analysis and an assessment of trends

Tony Fox and Jesper Madsen (presenter) on behalf of a flock of THOUSANDS!

Department of Bioscience, Aarhus University, Kalø, Denmark

Arctic Biodiversity Congress
Circumpolar Biodiversity Monitoring Programme Terrestrial Biodiversity Monitoring Plan
Trondheim, 4th December 2014

Numbers of many goose species increased dramatically late last century, as they adapted to new sources of (agricultural) winter foods



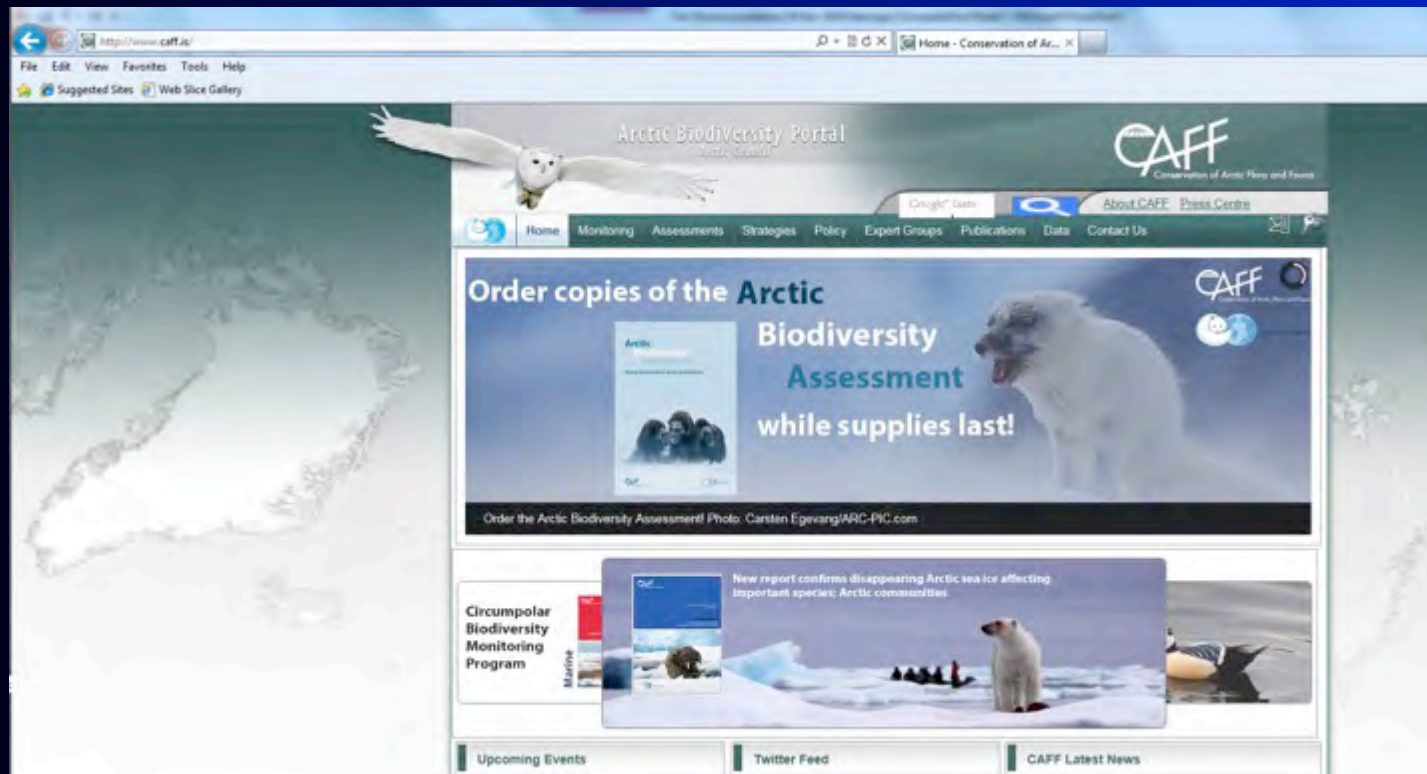
Monitoring the abundance of Arctic geese is important for many reasons:

1. The recent superabundance of many species affects sensitive tundra ecosystems and other species...
2. Creates agricultural conflict on the winter quarters
3. Affects amenity interests on the winter quarters
4. Affect other species on wintering areas
5. Can create bird strike problems
6. On the other hand, declining populations give rise to conservation problems...
7. As well as challenges to managing sustainable use of a renewable resource
8. But not least as a vital component of arctic terrestrial biodiversity and ecosystem function



So: MANY good reasons for monitoring the size of goose populations and for understanding the demographic drivers that shape their trends

Enter CAFF: Conservation of Arctic Flora and Fauna



One of the major cornerstones of CAFF biodiversity monitoring is the Circumpolar Biodiversity Monitoring Programme (CBMP)

Arctic Biodiversity Portal
Monitoring

CAFF
Conservation of Arctic Flora and Fauna

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Monitoring: The Circumpolar Biodiversity Monitoring Programme (CBMP)

The Circumpolar Biodiversity Monitoring Program (CBMP) is an international network of scientists, governments, Indigenous organizations and conservation groups working to harmonize and integrate efforts to monitor the Arctic's living resources.

Our goal is to facilitate more rapid detection, communication, and response to the significant biodiversity-related trends and pressures affecting the circumpolar world.


The CBMP organizes its efforts around the major ecosystems of the Arctic. It coordinates [marine](#), [freshwater](#), [terrestrial](#) and [coastal](#) monitoring activities while establishing [international linkages](#) to global biodiversity initiatives. The CBMP emphasizes [data management](#), [capacity building](#), [reporting](#), [coordination and integration of Arctic monitoring](#), and [communications, education and outreach](#).

The CBMP has been endorsed by the Arctic Council and the UN Convention on Biological Diversity and the official Arctic Biodiversity Observation Network of the [Group on Earth Observations Biodiversity Observation Network \(GEO BON\)](#).

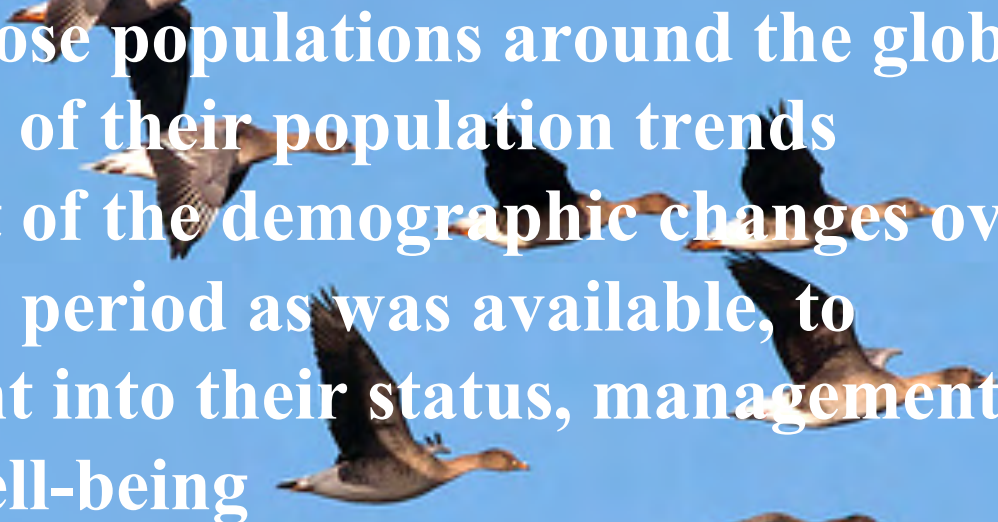
On the go?
Sign up for the CBMP Newsletter!

GEO GROUP ON EARTH OBSERVATIONS | GEO BON

**And as an initial product under this programme,
it was agreed to undertake a review of all
circumpolar goose populations**



With the simple aim of compiling:

- (i) an audit of goose populations around the globe,**
 - (ii) an assessment of their population trends**
 - (iii) an assessment of the demographic changes over
as long a time period as was available, to**
 - (iv) provide insight into their status, management
and future well-being**
- 

Progress to date

1. 59 flyway accounts to be prepared
2. 27 flyway accounts have been completed
3. 18 more have been commissioned with experts
4. ...which leaves 14 to be written or delegated!

Species accounts

estimates of adult survival appear to be similar to (or higher than) available corresponding the late 1950s through mid-1970s.



H4 Atlantic Brant *Branta bernicla hrota*
 Kevin W. Dufour, Canadian Wildlife
 Dickson, Canadian Wildlife Service,
 Service, New Jersey, James O.
 Manitoba

Breeding area
 This population of the sub-
 Foxe Basin, important of
 Spicer Islands (Reed)

Wintering area
 Atlantic Brant
 United States
 New Jersey
 Florida



Figure H4.2. Band recovery distribution of Atlantic Brant banded in the eastern Arctic of Canada



Figure H4.3. Winter counts of Atlantic Brant on the east coast of the United States, 1955-2012 (USFWS 2015b; https://imgbirdpop.fws.gov/mdbic/databases/imu/mwr_doc_index.asp)

Age rat.
 in productv.
 population, pos.
 1986, 1992, 1999, 20.

Survival - A recent analysis b.
 2001-2011 yielded adult annual s.
 over all years (K. Dufour, unpublishe
 also varied among years, ranging between
 period. Although historic estimates of juvenile s.
 reported a mean adult annual survival rate of 0.78s

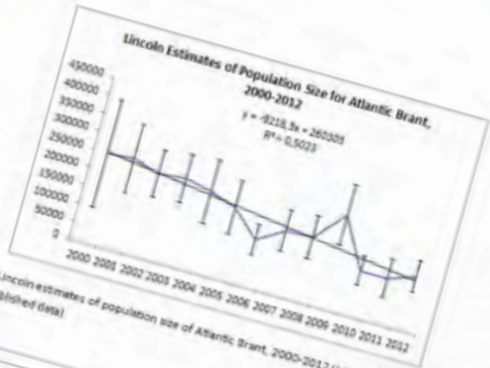


Figure H4.4. Lincoln estimates of population size of Atlantic Brant, 2000-2012 (J. Leafloor, Environment Canada, unpublished data)

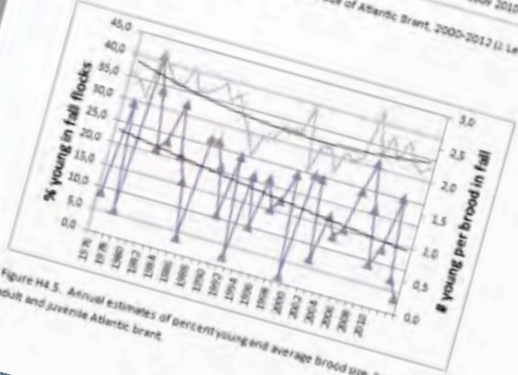


Figure H4.5. Annual estimates of percent young and average brood size, based on fall/winter counts of adult and juvenile Atlantic brant.

Timetable

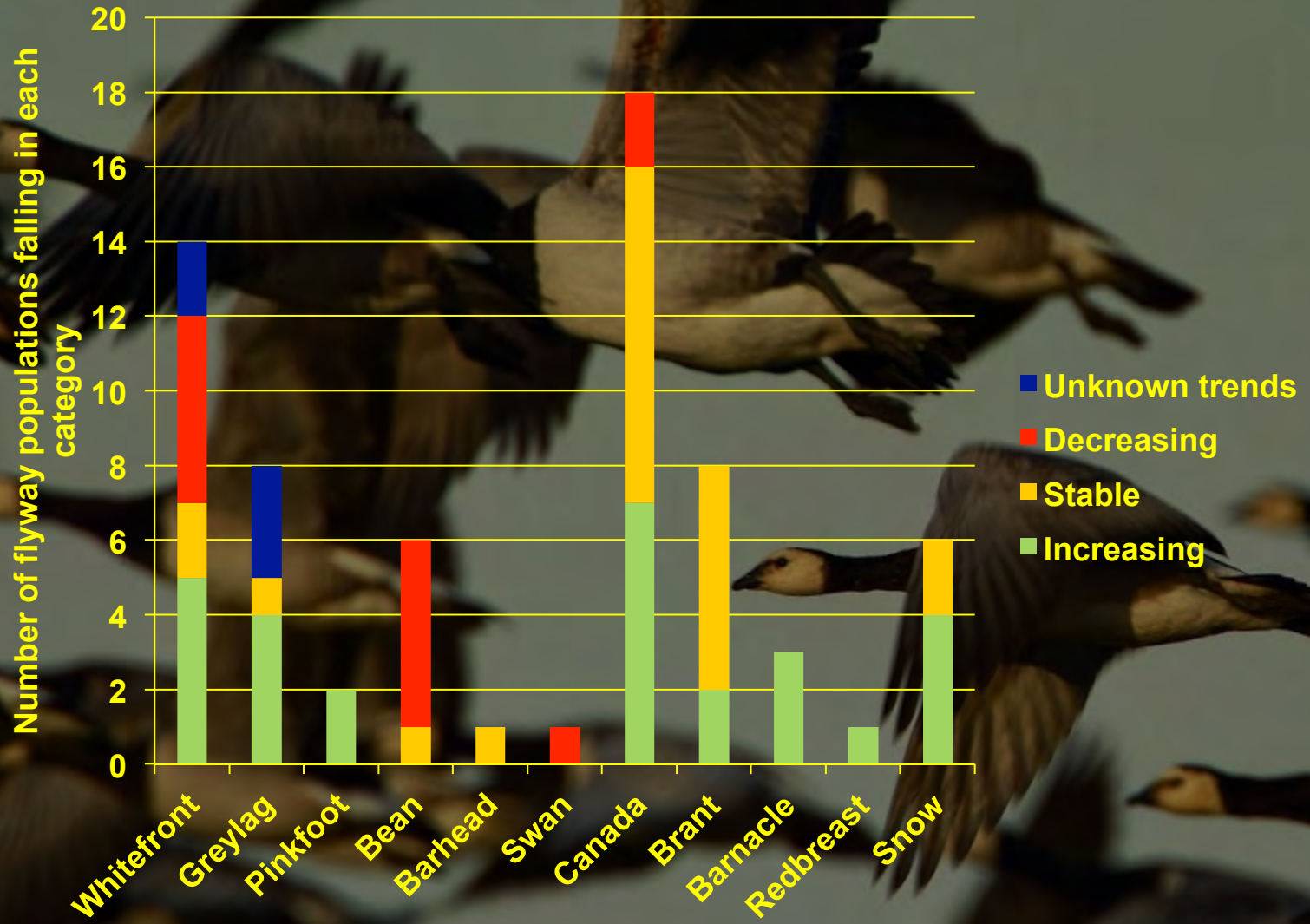
A flock of geese is flying across a hazy, overcast sky. The geese are in various stages of flight, with some wings fully extended and others tucked. The background shows a blurred landscape with green fields and distant hills under a grey sky.

- 1. Report to this conference**
- 2. Report to NAAGC in Winnipeg April 2015**
- 3. Completion and delivery mid-2015**
- 4. Long-term aim of establishing an annually updated portal as a source for such data**

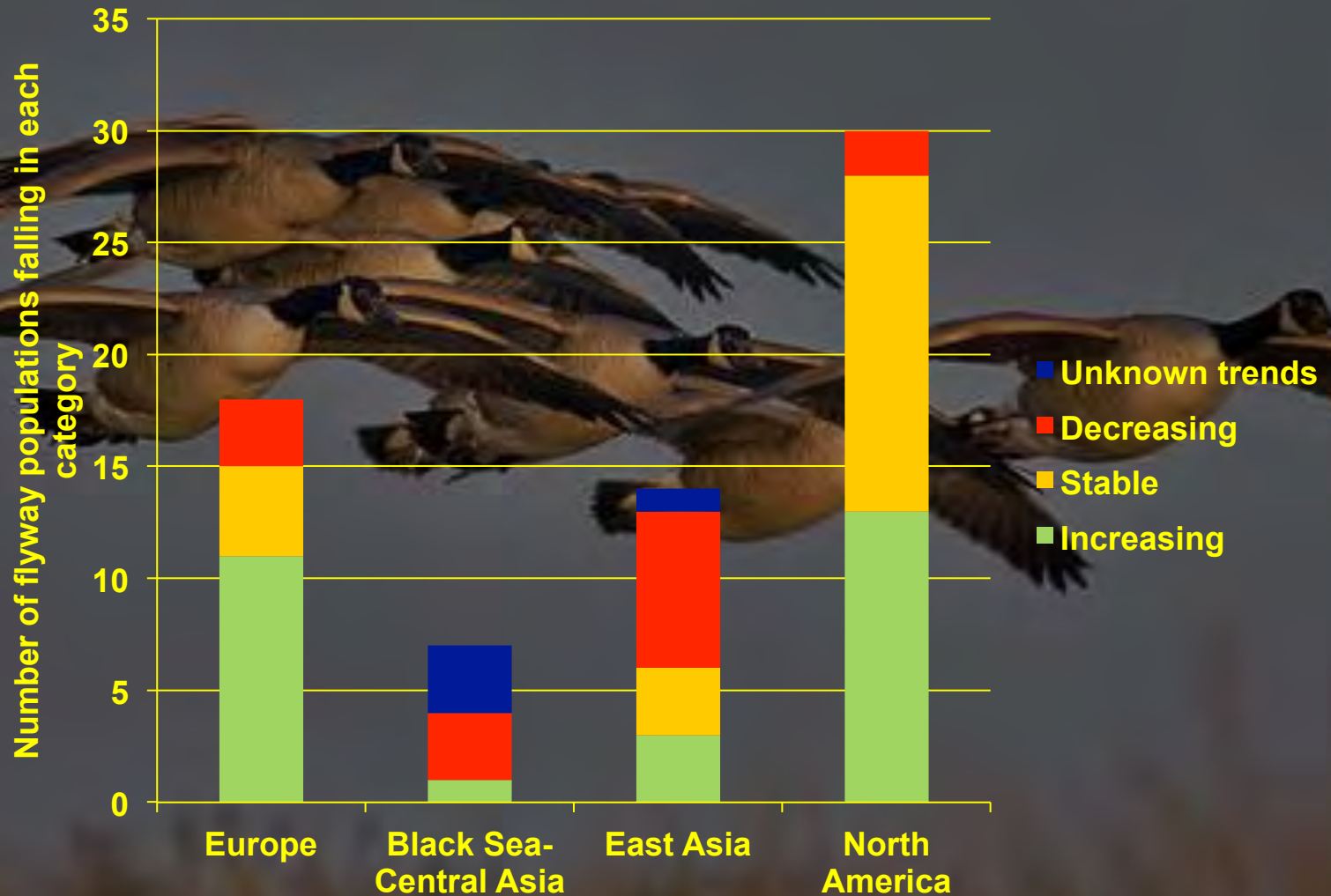
A flock of Canada geese is captured in flight over a grassy field. The geese are shown in various stages of their wing strokes, with some wings fully extended and others tucked. The background is a soft, out-of-focus green field. The text is overlaid in the center of the image.

**But first:
a sneak preview
of some results!**

How are Northern Hemisphere geese faring?



Are there regional patterns in trends?



Some take home messages!

1. Northern hemisphere geese are doing far better than most wetland bird species, especially the *Branta* and *Chen* genera
2. Knowledge gaps and declining flyway populations are more common in central and eastern Asia than in Europe and North America
3. Watch this space!

**Thank you to all of
you who have
provided input to
this process and
thanks very much
indeed for listening!**

