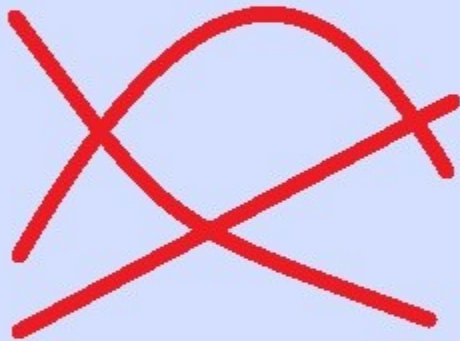


Early breeding gives best production: responses to climate change **may** explain different population trends of two sympatric gull species

on Finnish lakes

Risto Juvaste



Herring Gull (HG)



Western subspecies



Lesser Black-backed Gulls (LBBG)



Baltic (Nominate subspecies)



HG + LBBGs are interesting species !

Some different trends..



GB

NL

FIN

LBBGg (*L.f.graellsii*)
HG (*L.a.argenteus*)

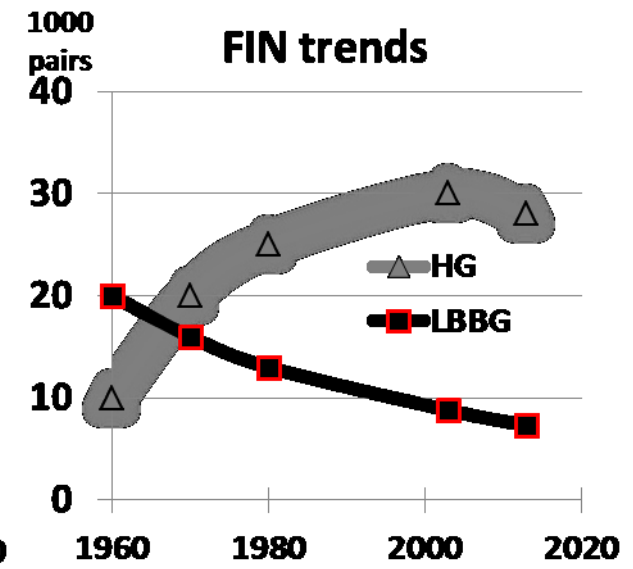
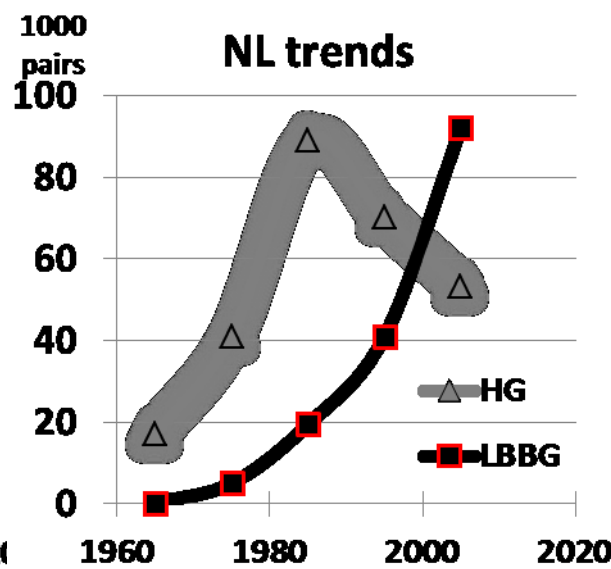
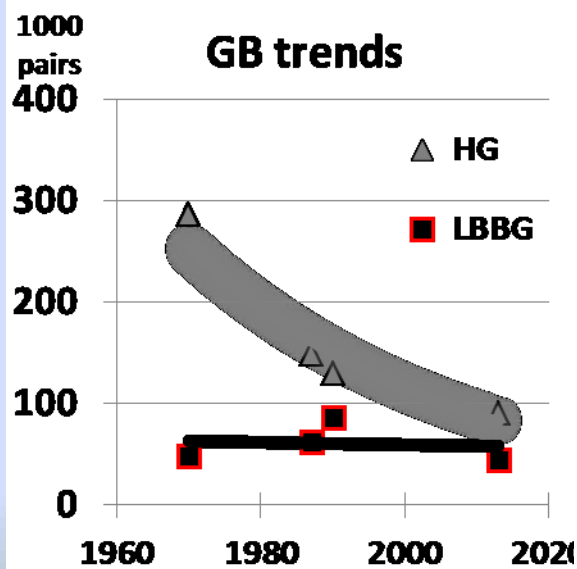
LBBGi (*L.f.intermedius*)
HG (*L.a.argenteus*)

LBBGff (*L.f.fuscus*)
HG (*L.a.argentatus*)

HG a **Red Book** species in GB !

Look at > Camphuysen C.J.
PhD-thesis 2013 !

LBBG a **Red Book** species
in FIN, SWE, NOR and RUS !



Due to toxins, HG, people, etc.

DIFFERENT MIGRATION FROM FINLAND

Yellow placemarks:
HG reads
in Jan-Feb

Red placemarks:
LBBG reads
in Jan-Feb
Red lines:
LBBG tag data



In this talk I concentrate to lakes, and results from ringing..

* My 2cy LBBG June 2013?

Why LBBG decreases in Finland? 1 / 3



HARIO, M several papers: One of the main reasons to decrease of are env. toxins from migration (DDT and its metabolities etc.)

Pic > "Malarion" poisoned waste-waterplant in Tel Aviv 1998



Why LBBG decreases in Finland? 2 / 3
HG and LBBG compete for good territories
HG predated LBBG chicks



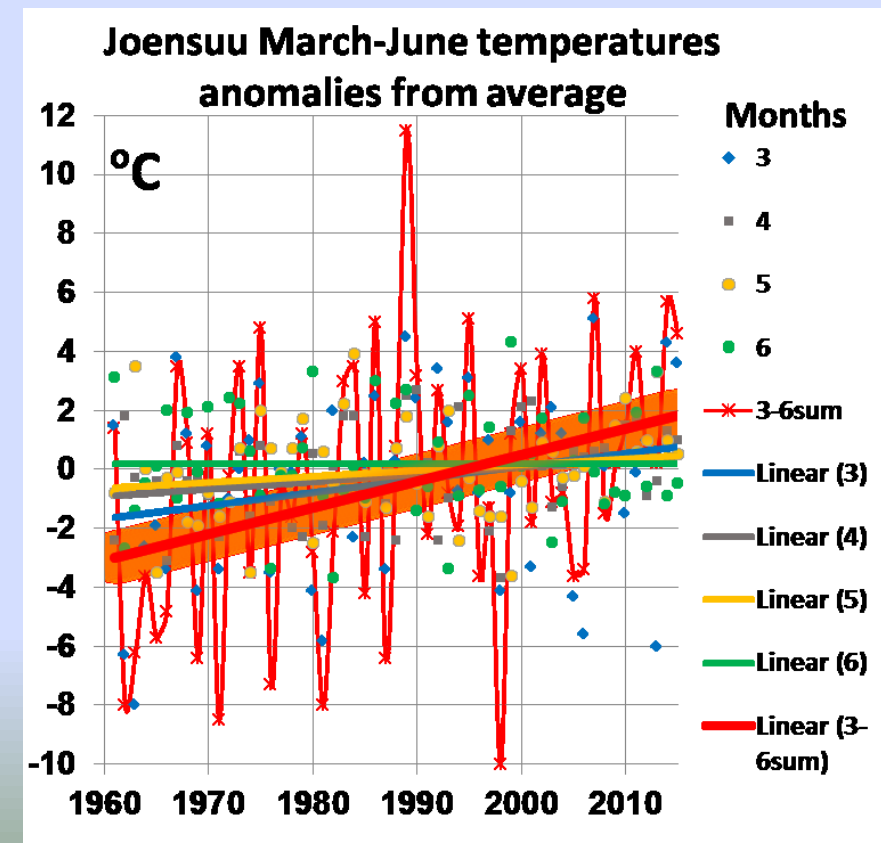
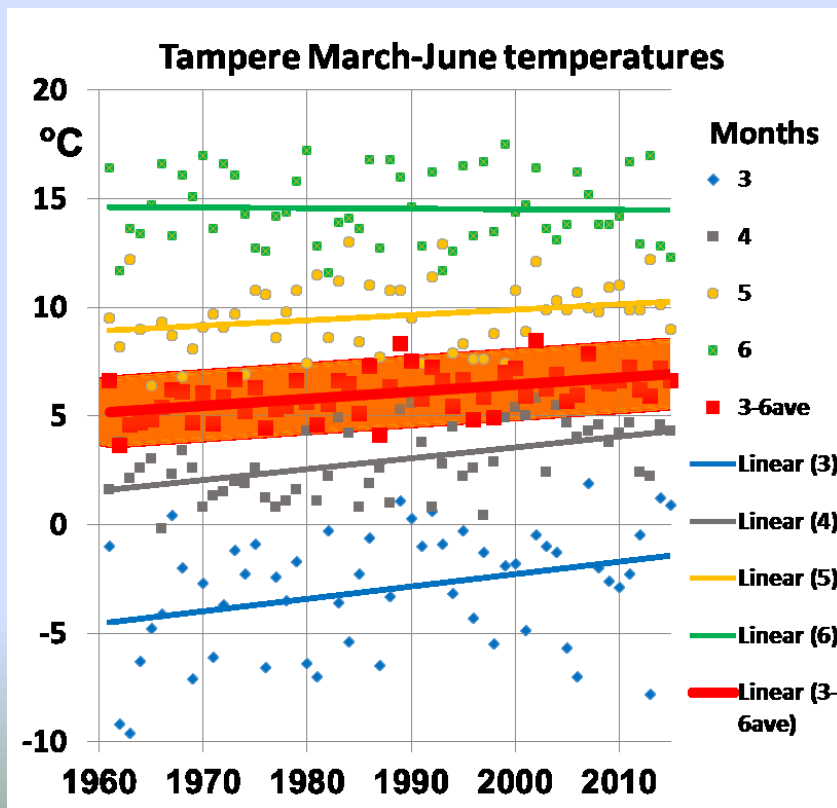
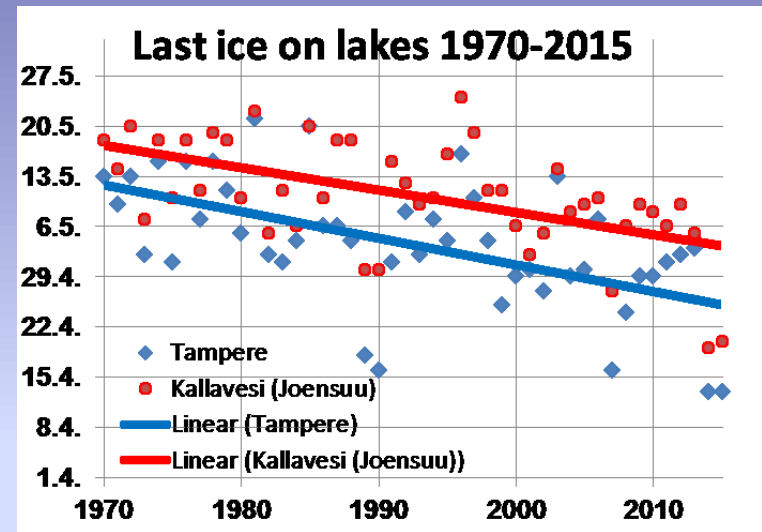
✿ Pictures: Martti Hario in Söderskär, Gulf of Finland

Why LBBG decreases in Finland? 3 / 3

- Disturbance of people on lakes increases considerably in June (boating, fishing etc.), so early breeding is an advantage.
- Shooting as HGs
- Late broods are a easy prey for many predators, which can destroy whole colonies (Crows, Goshawks, Eagle Owls, Minks etc)



GW in Finland >> Springs are advancing and getting warmer!



How to measure HG and LBBG responses to GW ?

1) Arrival

- First migrants seen by birders
- **Ring-reads**, counts at dumps (first, median)

2) Breeding

- Breeding counts, hatching dates
- **Ringling data**, wing length/date

3) Production

- Counts, **ringling data**



LBBG and HG read-ringing in Finland 1993-2014

Total LBBGff population 20 000 bp

Finnish populations

- LBBG (*L.f.fuscus*) 7 000 bp
(on lakes 2 000 bp)
- HG (*L. argentatus*) 30 000 bp

Read-ringed:

- LBBG 19 000 gulls
- HG 17 000 gulls

Fur farms > HG+ /LBBG=

Joensuu

Egg collecting !

Dump !

Tampere

Dump !

Suomi
Finland

S Savo

Sverige
Sweden

Norge
Norway

Helsinki
Helsingfors

Санкт-Петербург
St Petersburg

Tallinn

Eesti
Estonia

Stockholm

Oslo

Baltic Sea

Нижний
Новгород

Ижевск
Izhevsk

Sightings (reads):

- LBBG all 100 000
- HG all 130 000
- LBBG Tampere 70 000
- LBBG Joensuu 10 000
- HG Tampere 30 000
- HG Joensuu 70 000

Seabirds on 1000s Lakes!

Typical breeding colonies on lakes are:

- LBBG 1 – 10 pairs, "big" ones 20 pairs
- HG 1 – 20 pairs, "big" ones 50 pairs

On these lakes breed about 400 LBBG and 1000 HG pairs

Joensuu

Image Landsat

Google

30 km



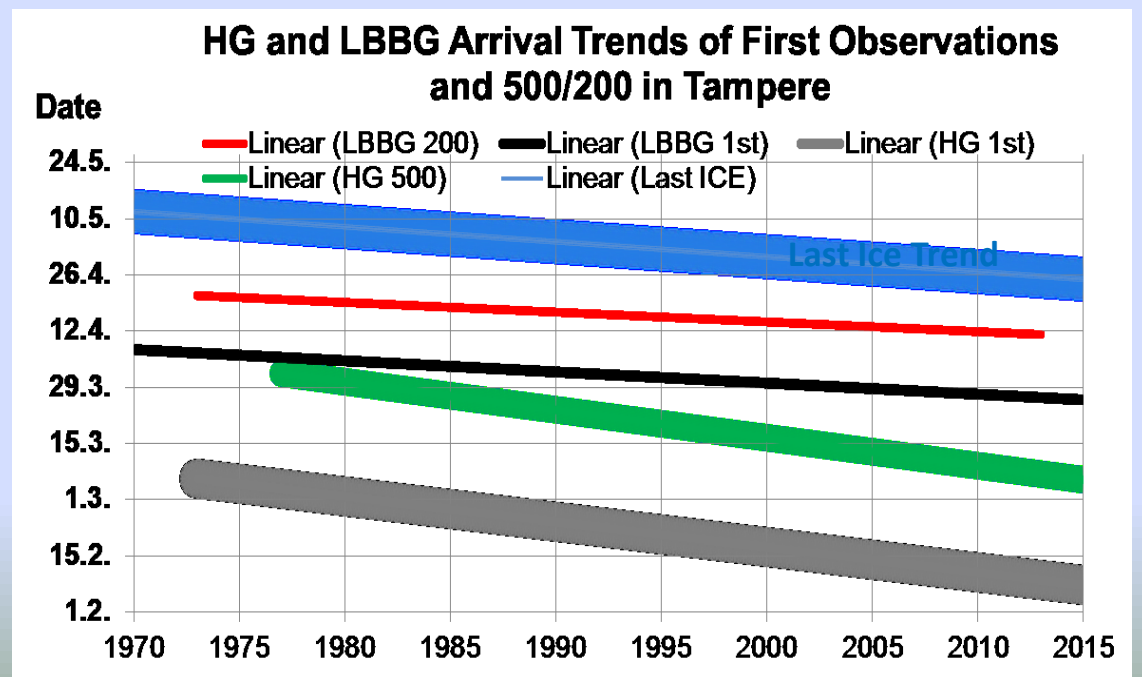
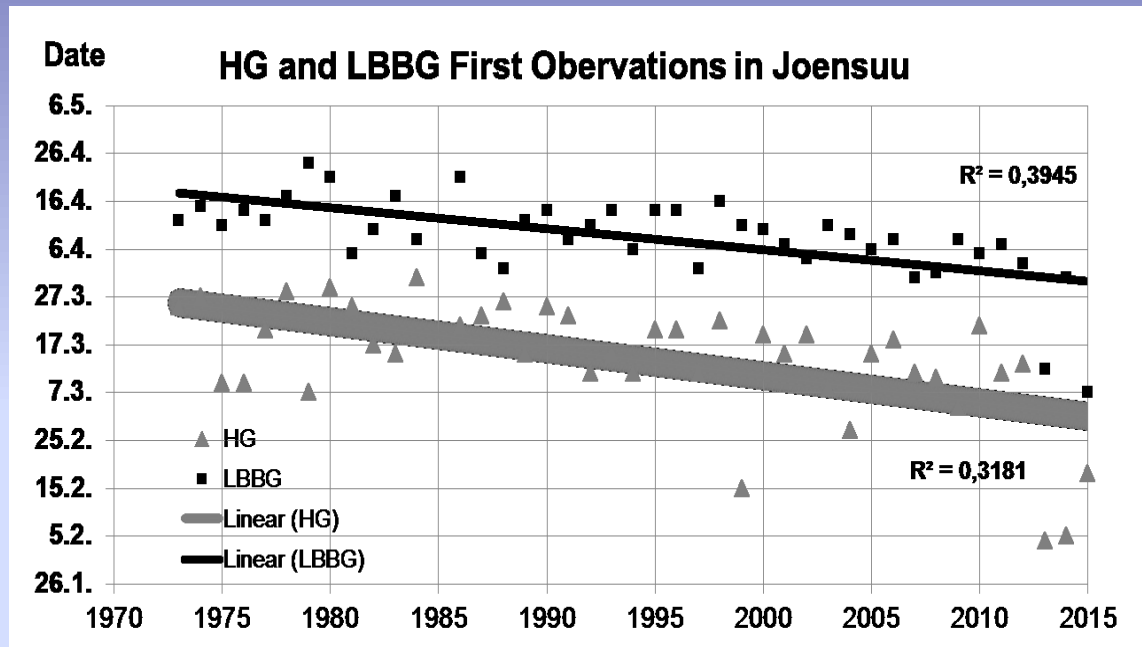
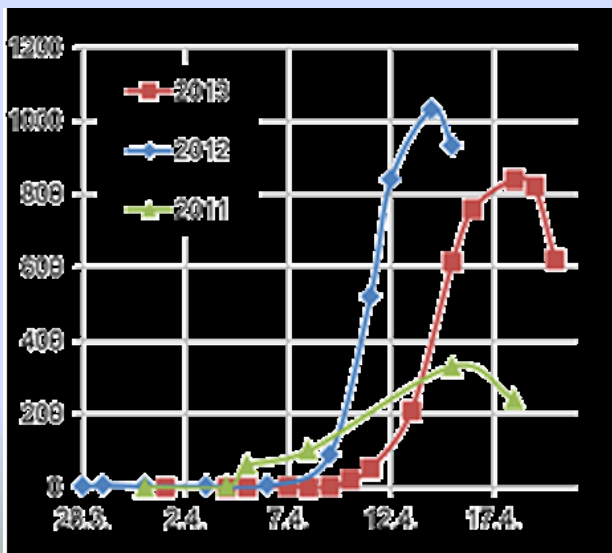
ARRIVAL 1

Advancing by observations:

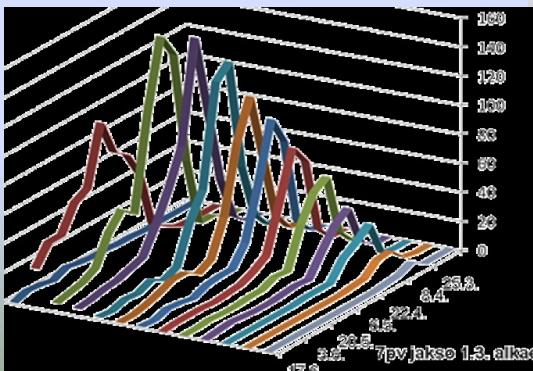
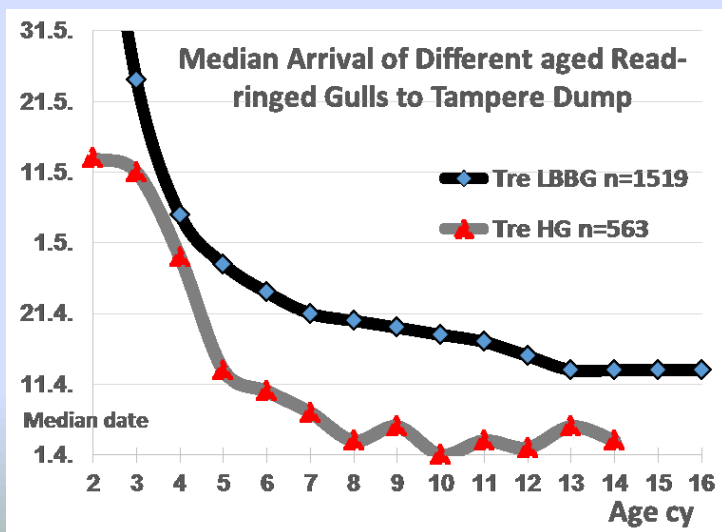
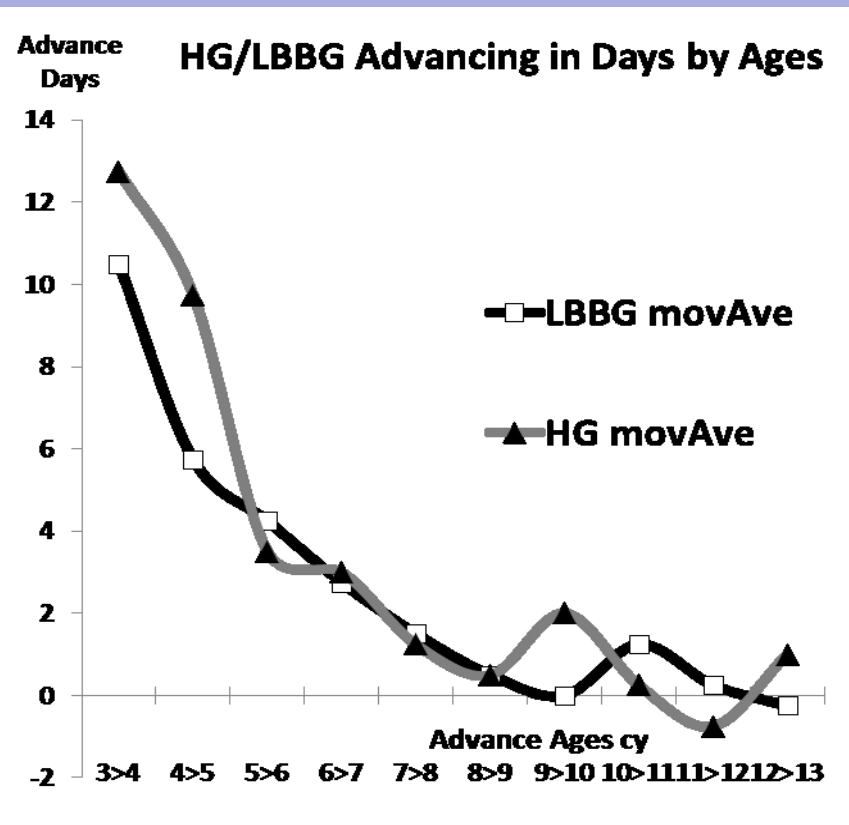
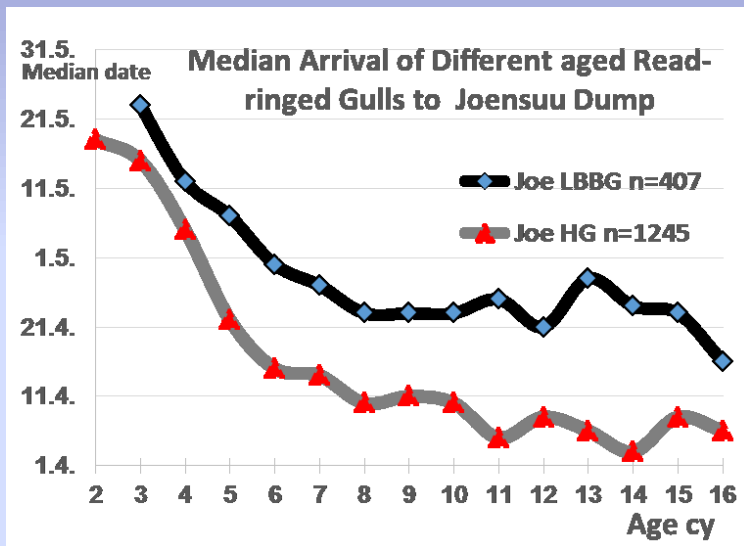
- LBBG about 10 days
- HG almost a month

Tampere ice roosts are good in some years.

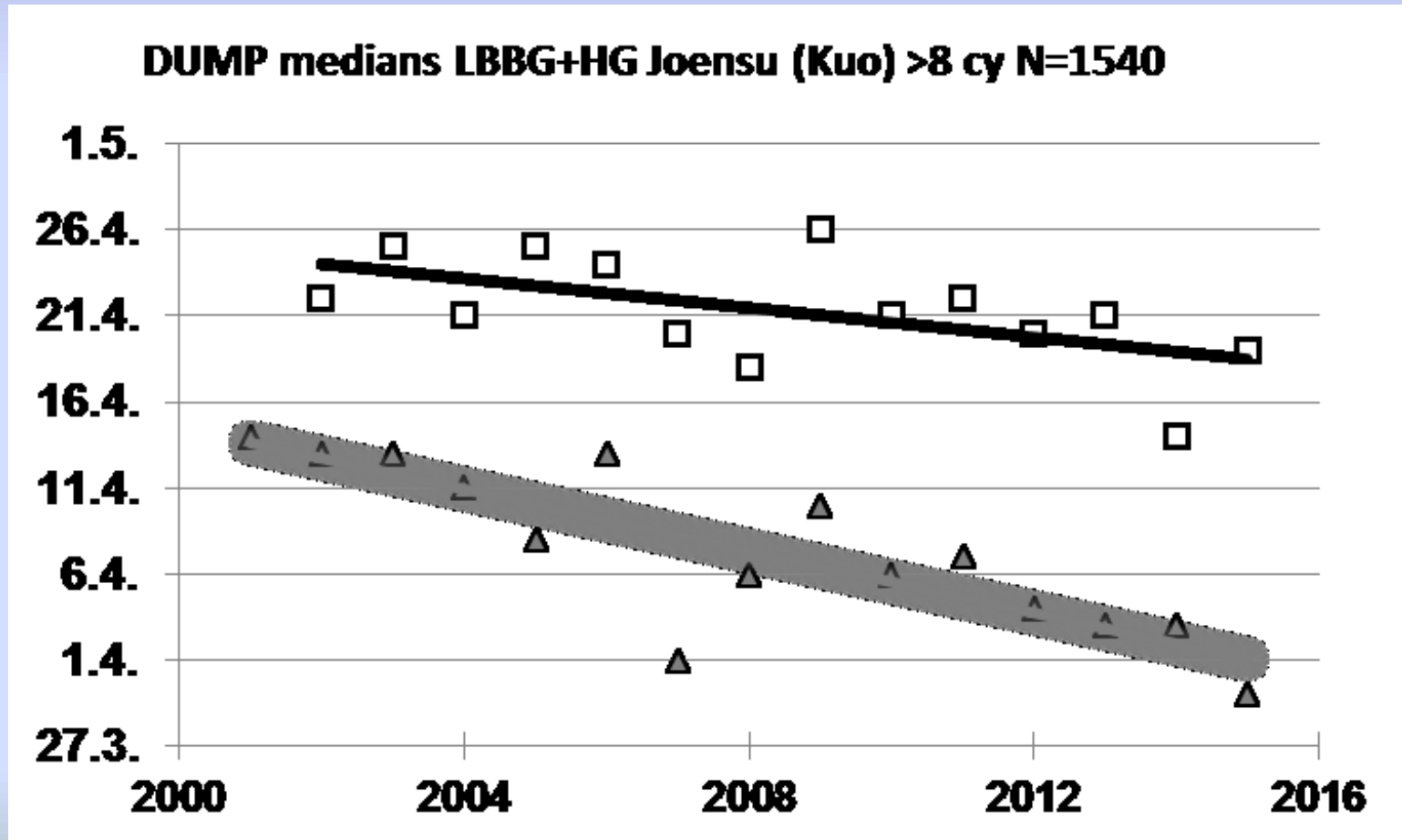
No ice in 2014-2015



ARRIVAL 2 Read-Rings Give Individual Data and Ages ...

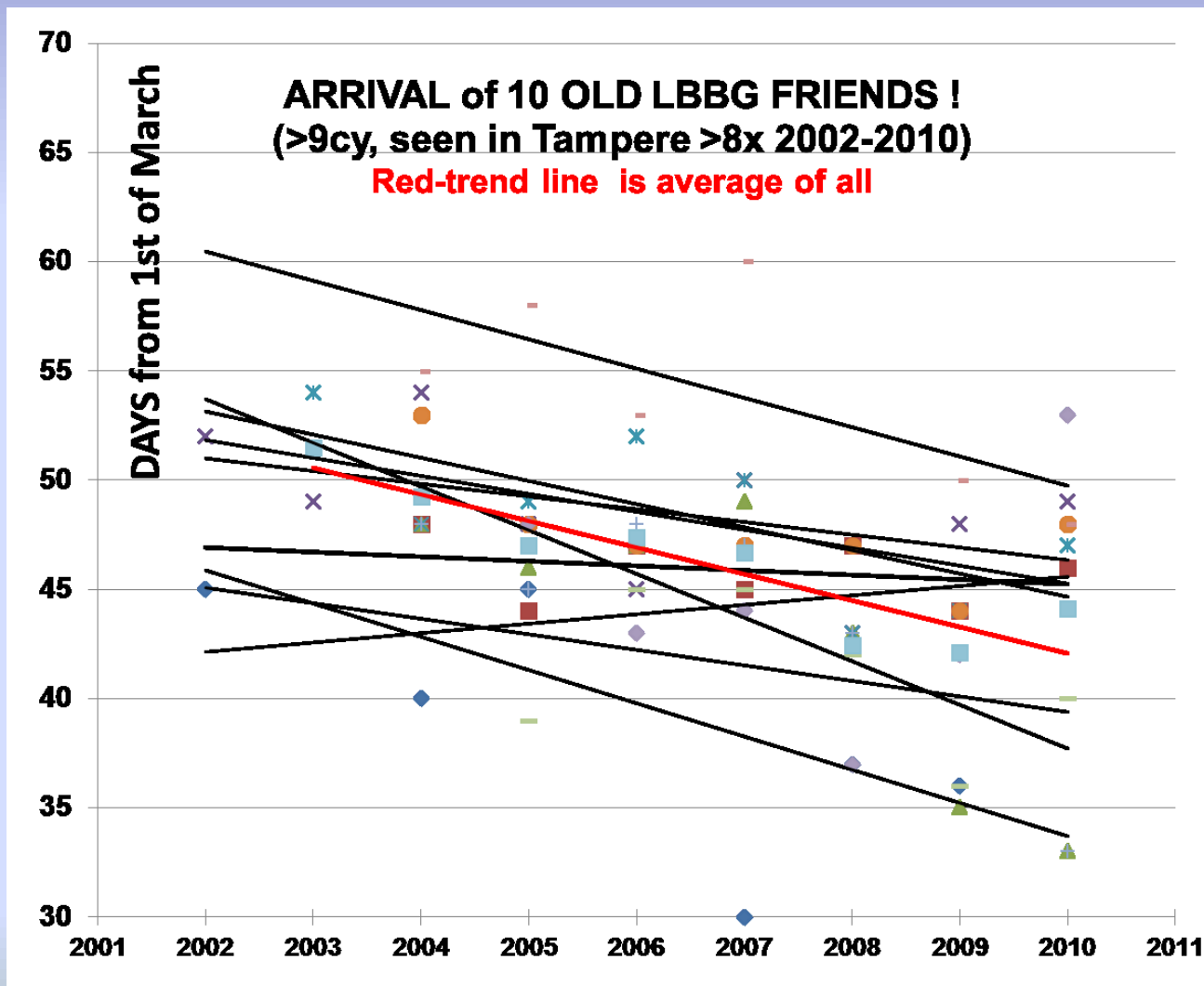


ARRIVAL 3 Median Arrival of Read-Ringed >8cy HG and LBBG to Joensuu-Kuopio Dumps



ARRIVAL 4 Also old individuals are advancing

This W CA67 is one of the old friends.
I ringed in S-SAVO 1993
and then we have seen it
every year 1998-2010 at
Tampere dump
(197 day reads)



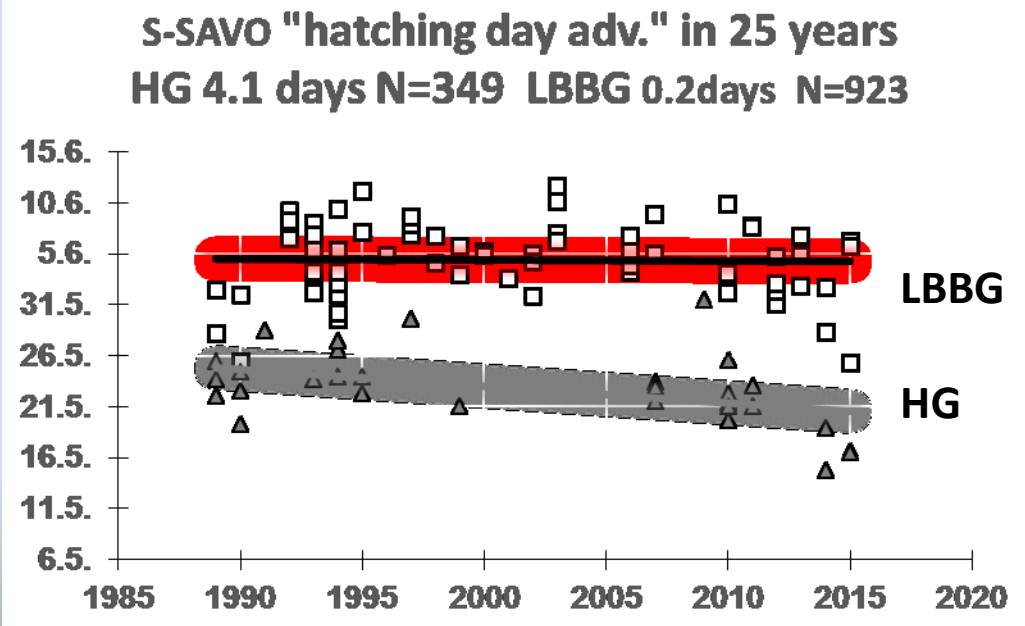
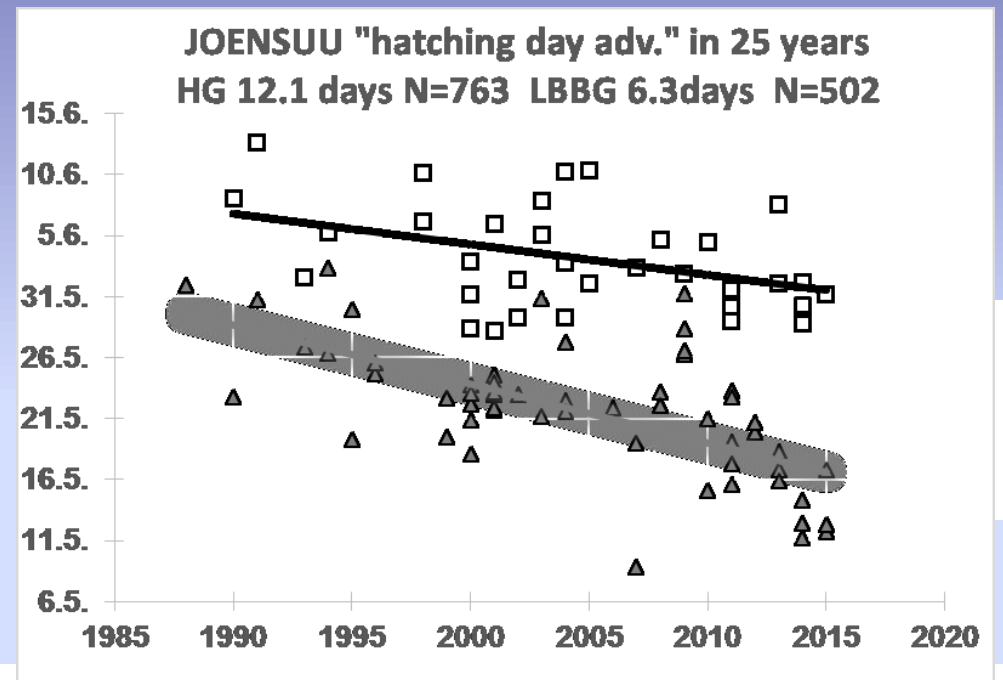
BREEDING

From ringing data the estimate for the hatching dates were calculated by simple formula >

Hatching date = ringing date -
(0.9*winglength (cm) +7)

HG has advanced on the lakes, but
LBBG not in S-SAVO

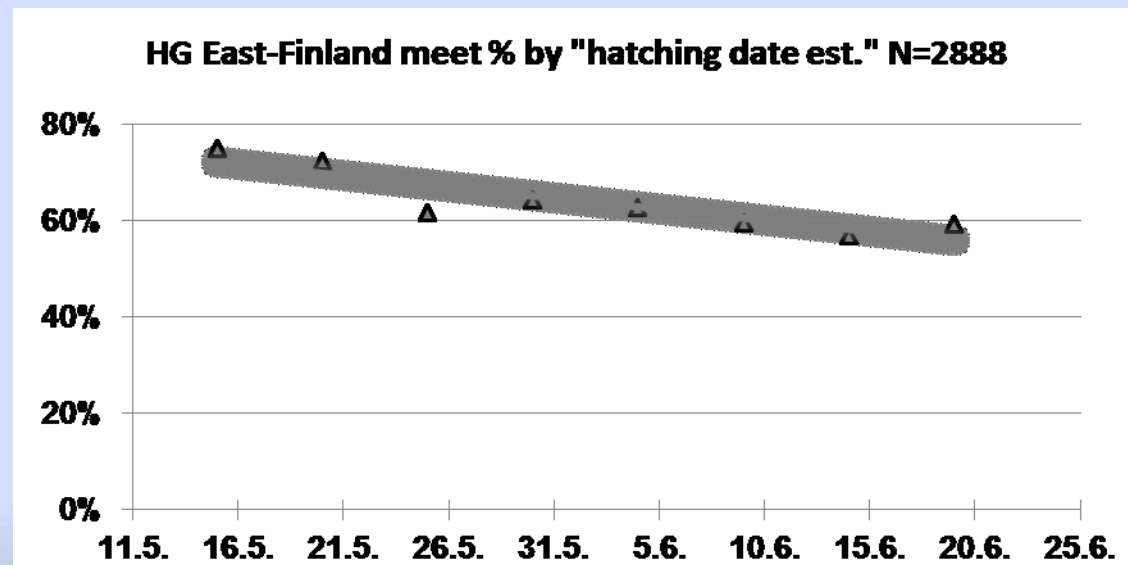
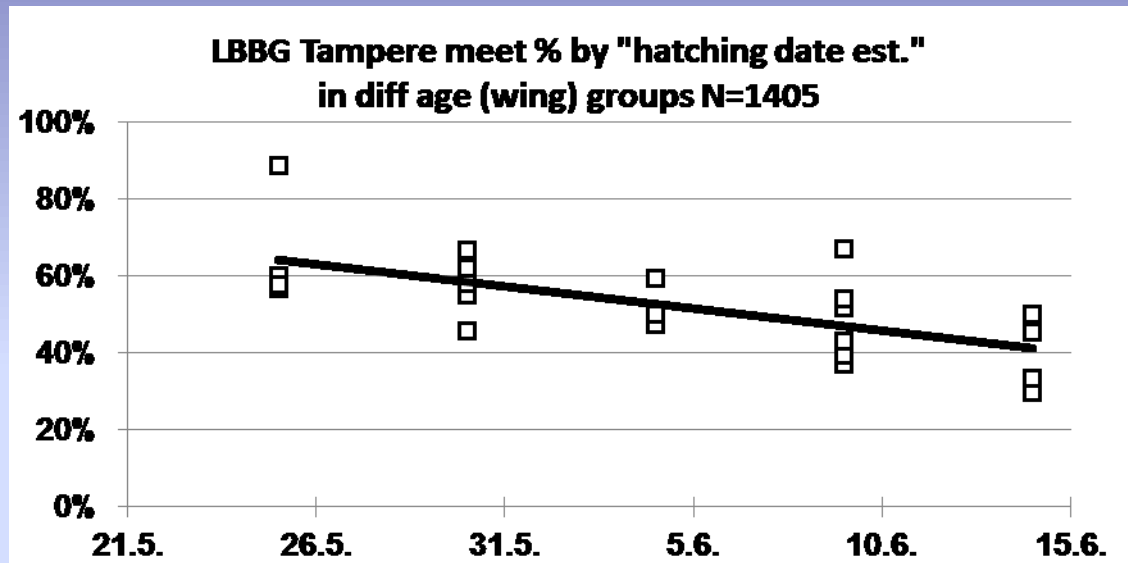
Note Hatching dates fro graphs were calculated as averages on each ringing place, if least 4 birds were ringed.



Production 1

**Early breeding is
productive !**

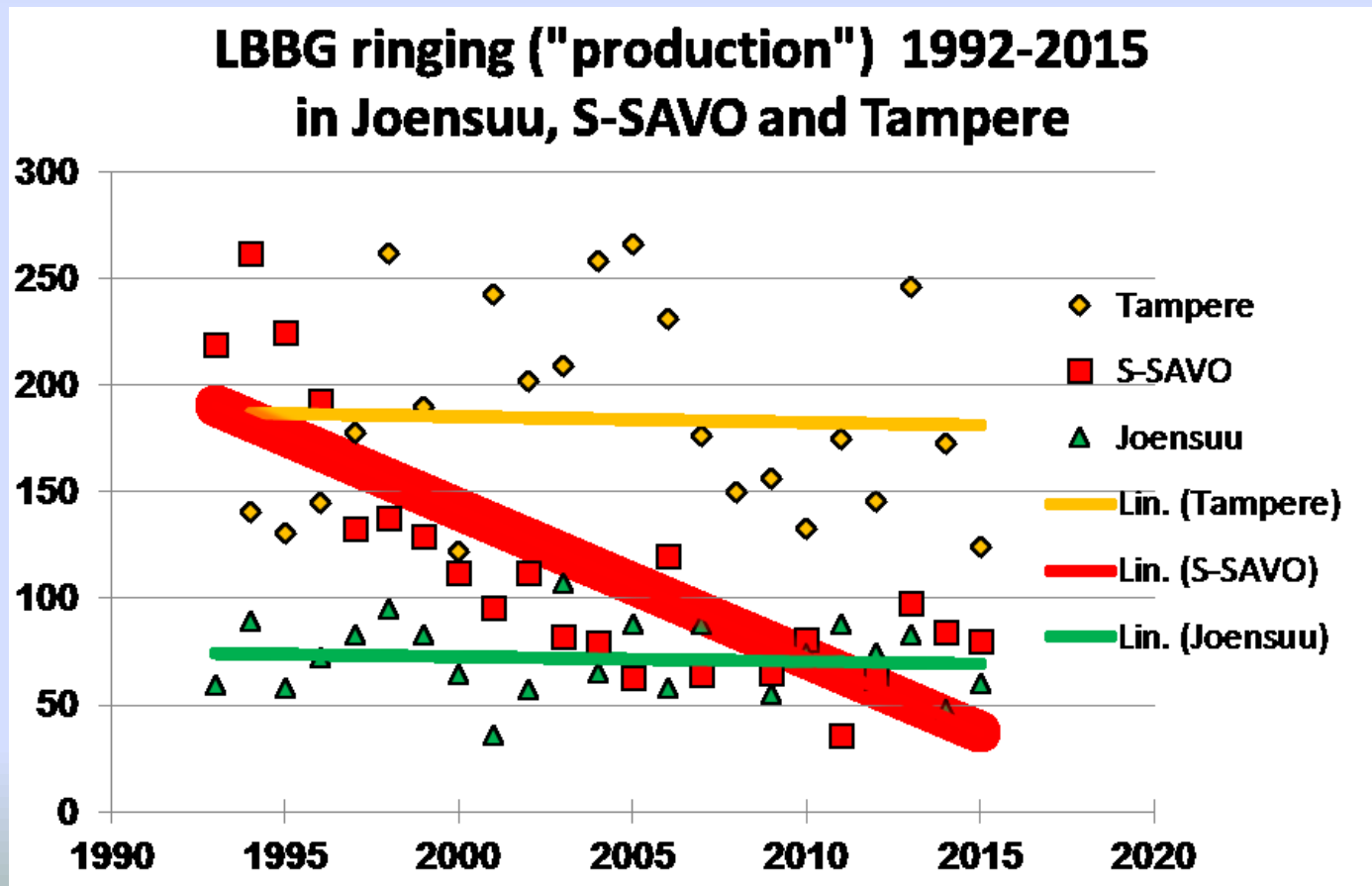
Early hatched
chicks are live
longer!



Production 2

Stationary ringing shows exceptional decrease in S-SAVO, where are no "fast-food" (dumps or fur-farms) !

Production collapses, when HG enters pure LBBG colonies!



FINAL COMMENTS

GW seems to favour HGs :

- HG can as a short distant migrant HG can advance breeding more than LBBG
- HGs need not to recover so much from migration than LBBGs (though dumps and fur-farms help a lot)
- Best territories occupied by early HGs
- Increasing difference between HG and LBBG breeding/hatching dates increases LBBG chick predation

Discussion

- This was a quick glance to the conservation problems of "least concern" red-book species.
- It seems clear by GW that gulls are advancing breeding and it helps more HGs
- There are many reasons for the decrease of LBBG, but HG is one, can we do something?
- Dumps are closing, HGs get hungry, what happens?
- During last 25 years about 200 000 HGs have been culled on Finnish south coast in order to decrease HG population and to help LBBGs!
- Should we try to start a project on HG egg/culling in mixed colonies on the lakes?

Thank you for attention
and "suurkiitos hyvästä
yhteistyöstä" to Finnish
Ringers, Ring-Readers
and Ringing Centre



**Read a read-ring and make bird histories!
Read this, my poster and about read-ringing
> www.juvaste.fi (risto@juvaste.fi)**