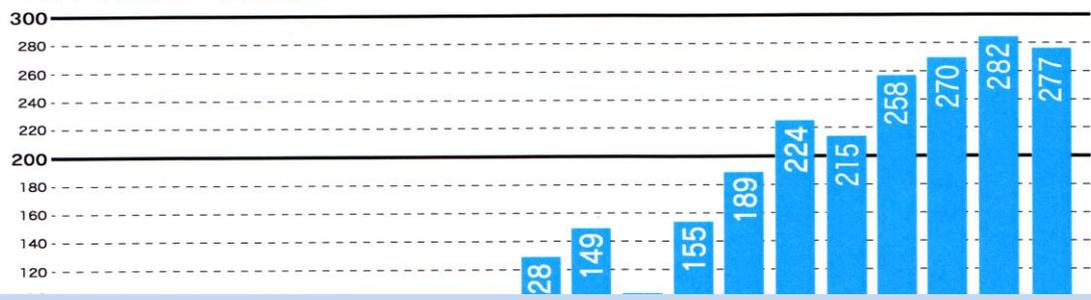


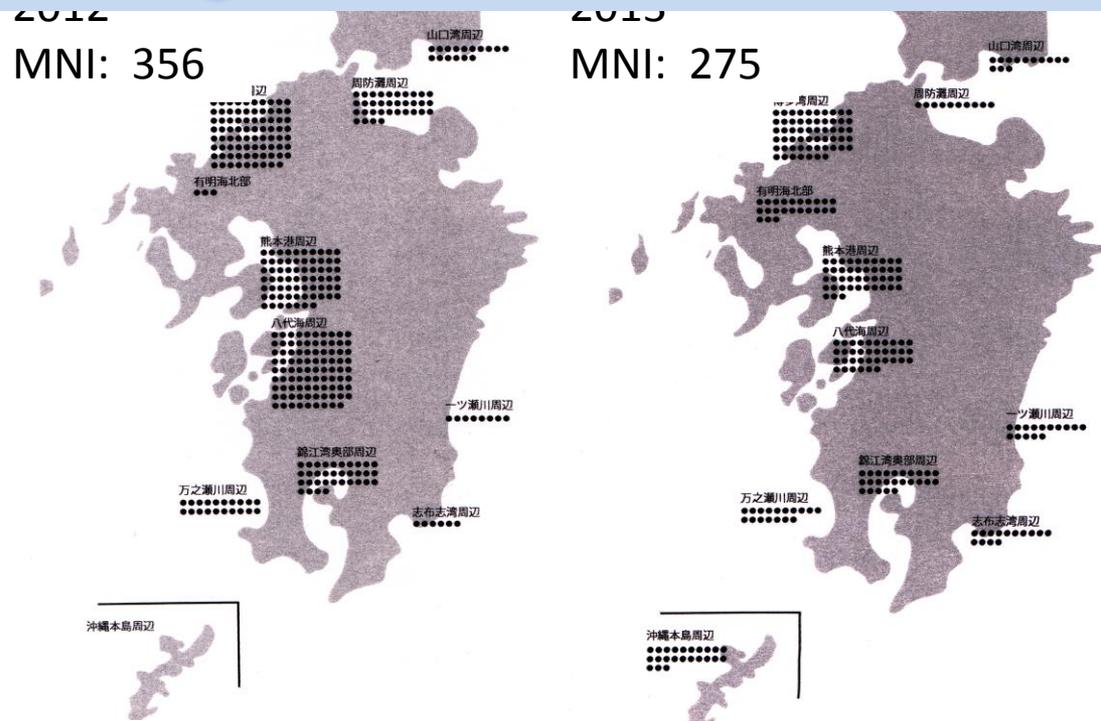
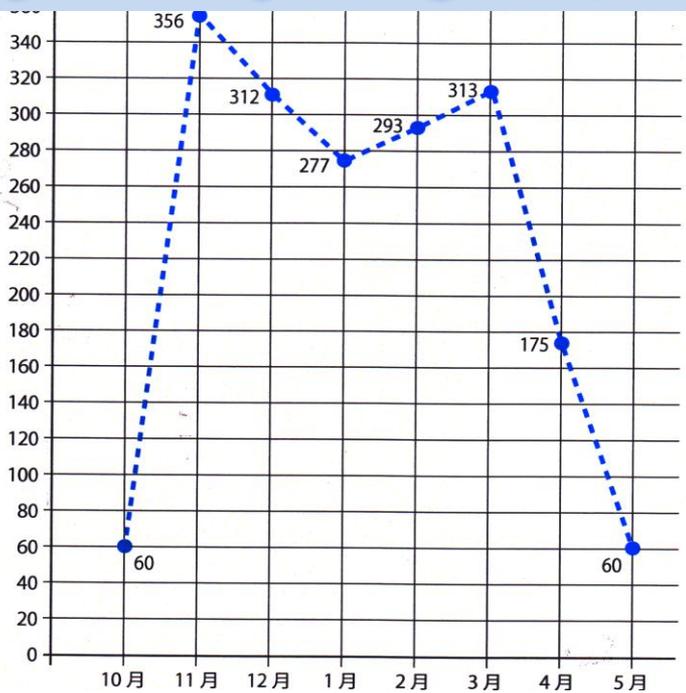
# Population survey by Japan BFS Network

▼日本の総羽数の変化(香港バードウォッチングソサエティの資料より)



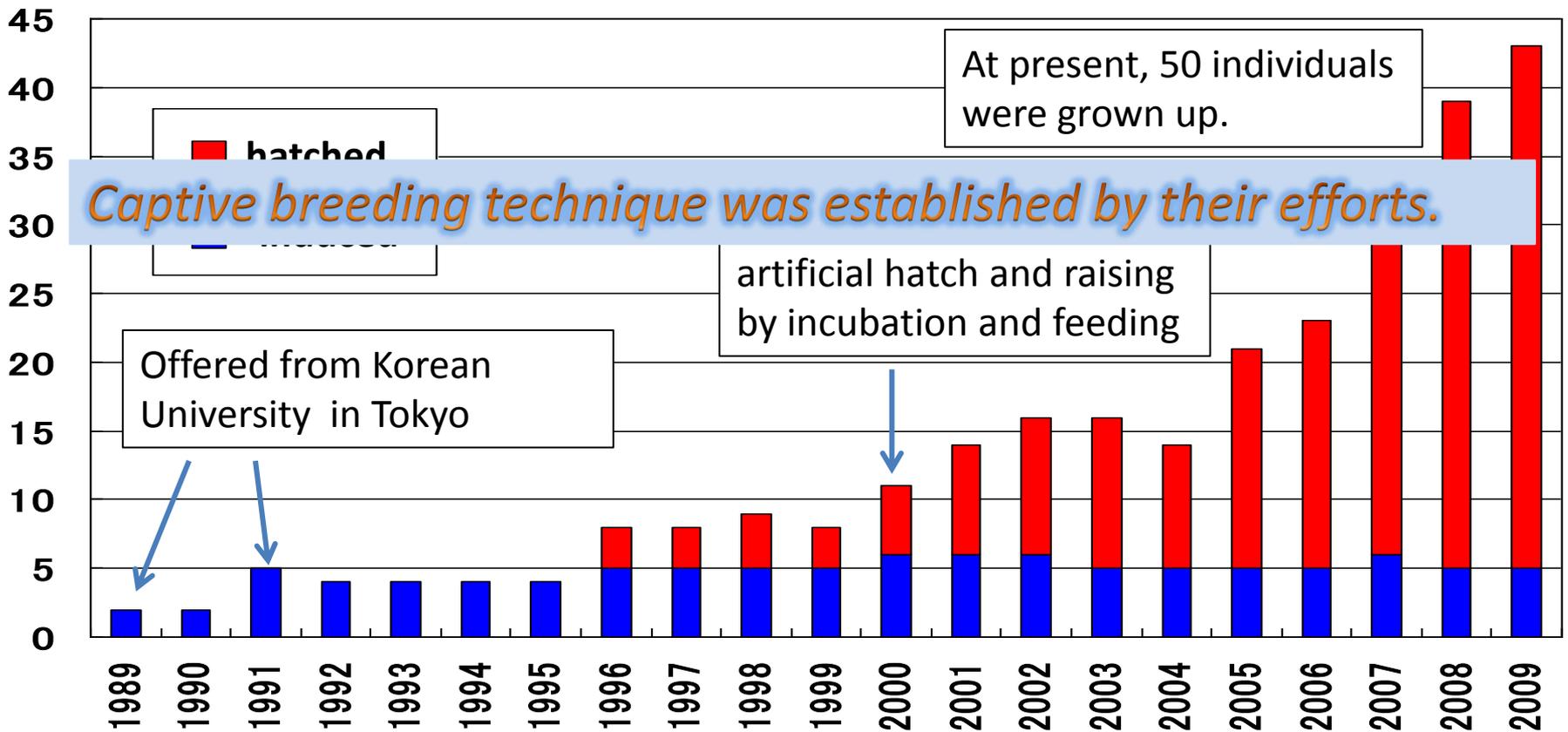
More than 200 bird-watchers join to the BFS monitoring survey.

To find new feeding sites, collaborating with local Wildbird members

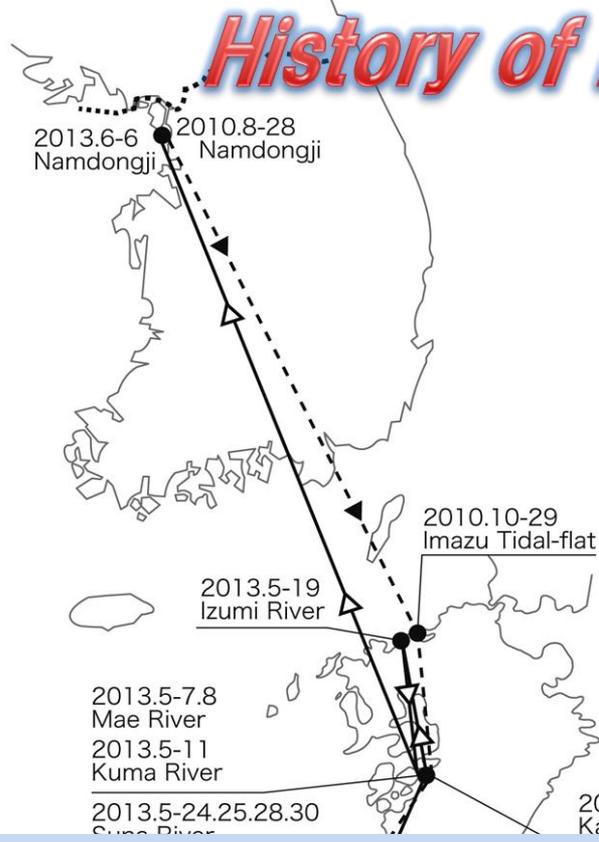




## *Captive Breeding at Tama Zoo, Tokyo*



# History of K96

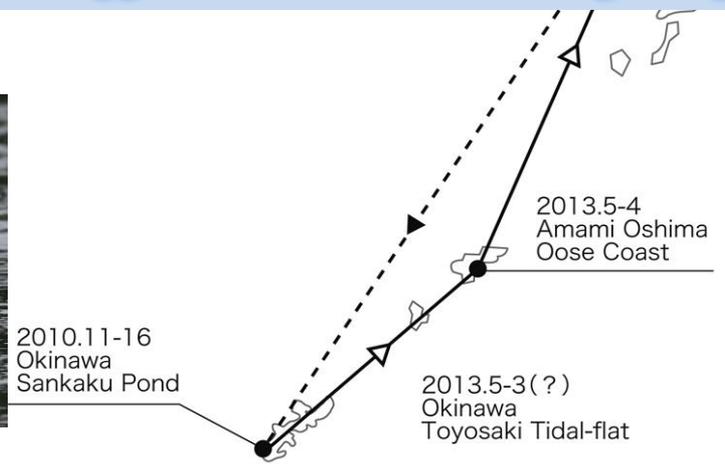


**Rescue efforts save the life of K96 at Okinawa.**

2010 Okinawa



2010 Okinawa

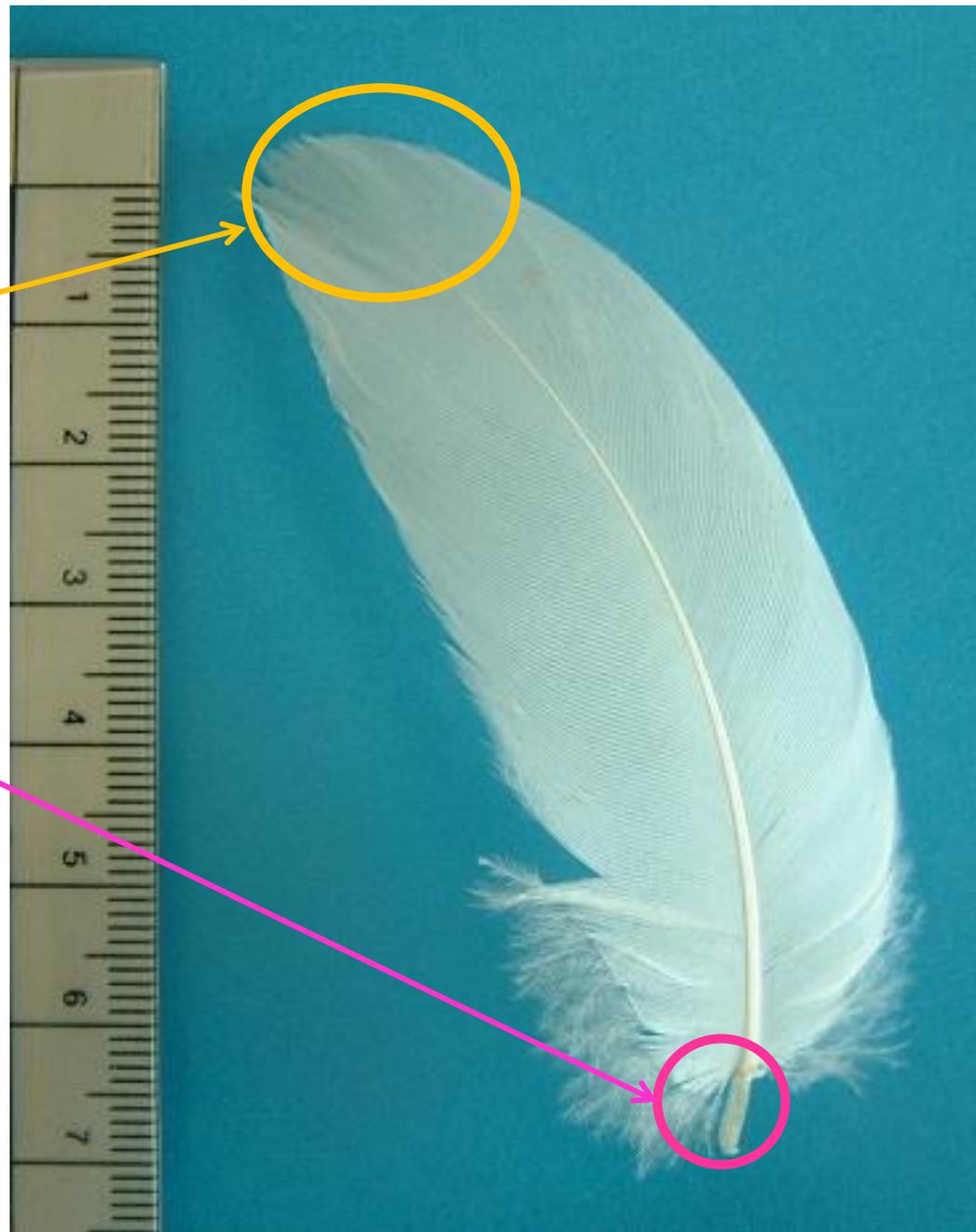


2013 Namdongi

*Using fallen  
feathers,*

*Stable Isotope  
Analysis*

*Mitochondrial DNA  
Analysis*



# Species identification by mitochondrial cyt- b region

BFS

07kh42 ACCACCTATTGCTTAACCCATATACTCTCCTCCAAACCCTCCCACACCAAGCCCACACT  
 08kh01 .....A.....

Samples

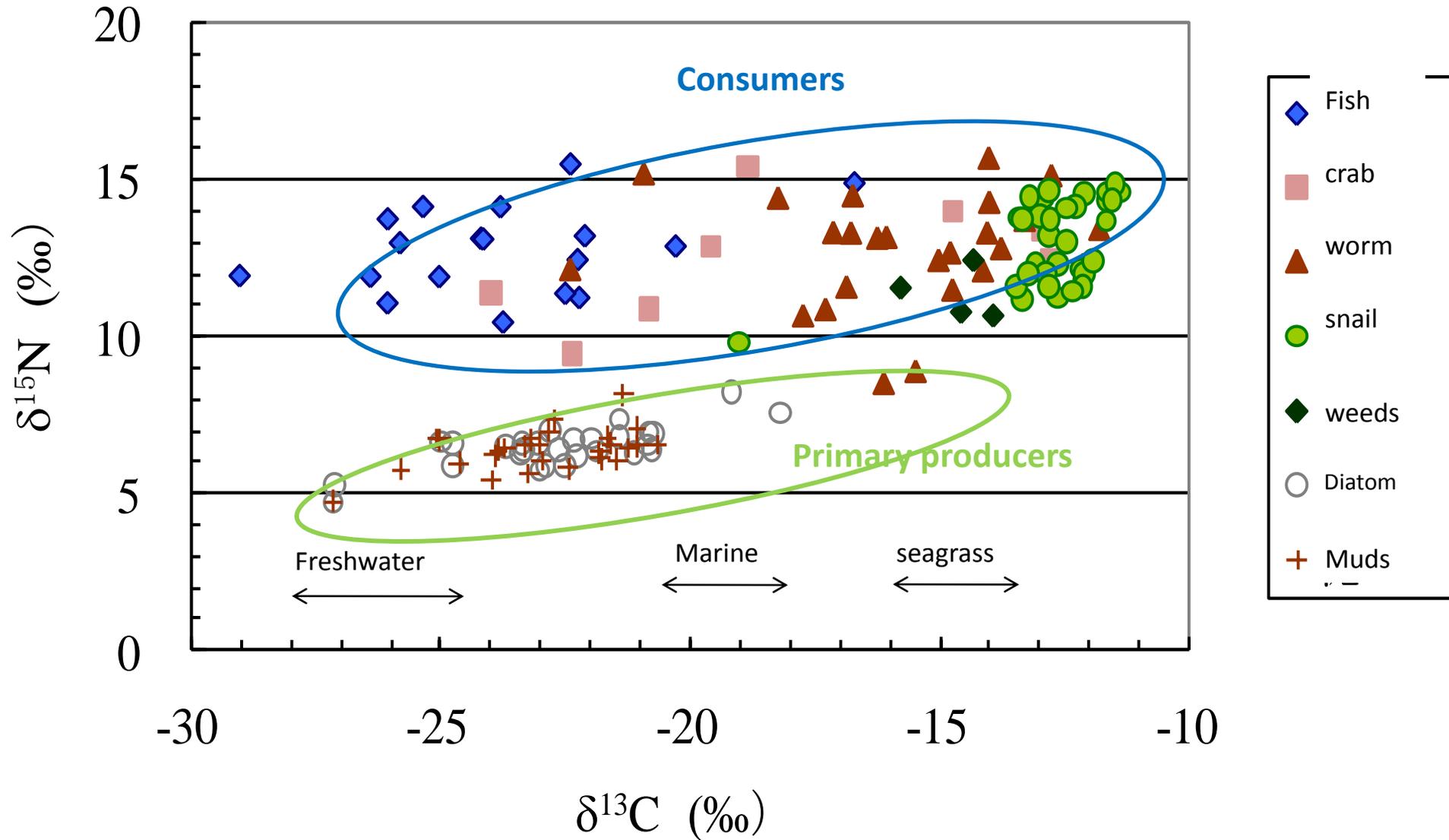
07kh08 .....  
 07kh09 .....  
 07kh12 .....  
 07kh13 .....  
 07kh15 .....A.....  
 07kh16 .....  
 07kh17 .....A.....  
 07kh18 .....  
 07kh19 .....A.....  
 07kh21 **Egret** ...C.TC.CA...CT.T...CT...C..C.TCTC...CA.G....C.....CA.  
 07kh22 .....A.....  
 07kh25 .....A.....  
 07kh28 **Anas platyrhynchos** CAACA.C.CCATCCC...CCC.C...C..CG...CT..C..G.T.TT...A.AG.TT.  
 07kh29 .....A.....

References

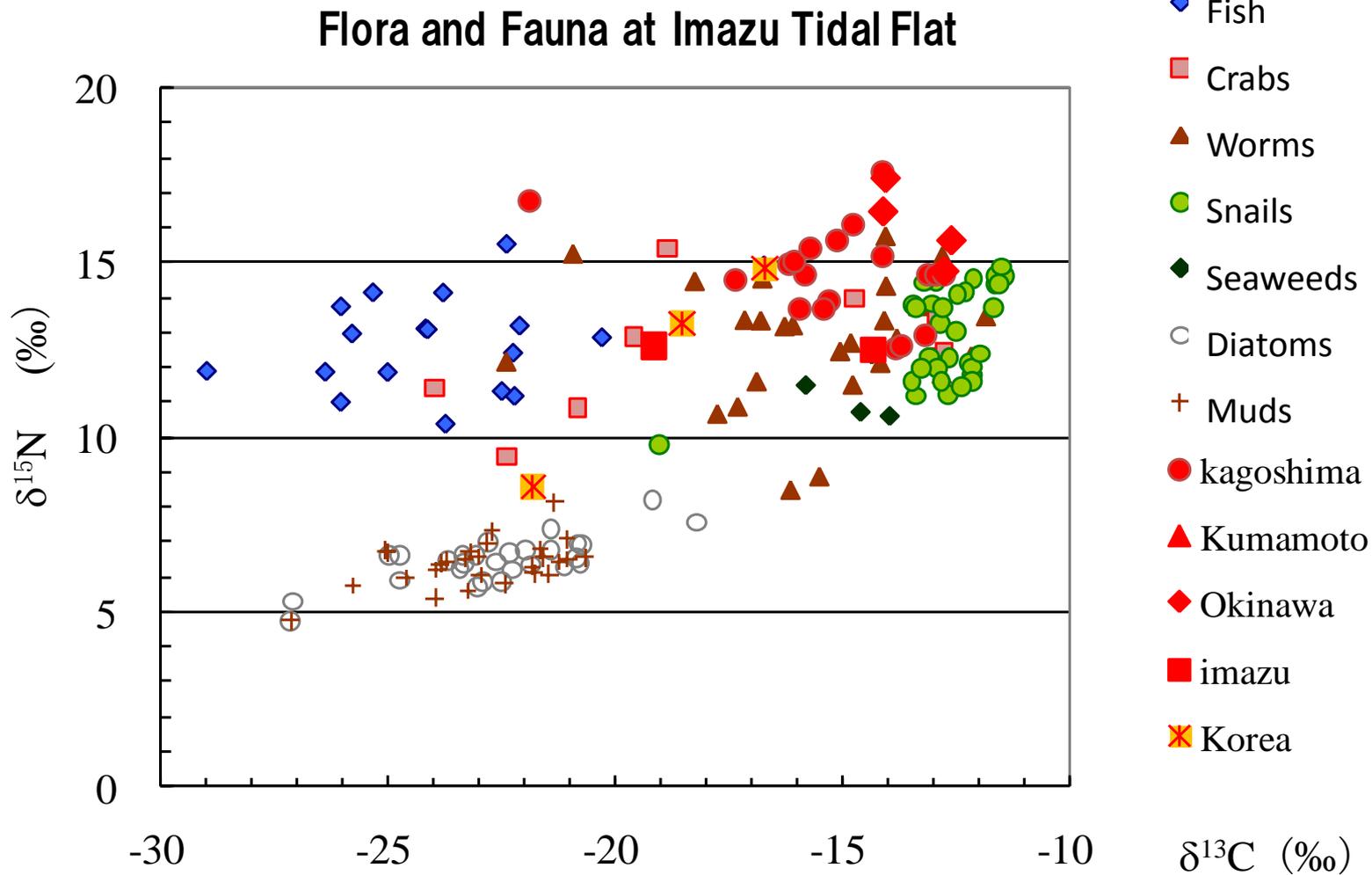
Platalea\_leucorodia .....C.....C.....C.....T.....A.....  
 Threskiornis\_spinicollis ...C..C.CCAT.C...TT.....TT....C.T..TT.....AT.T...A  
 Egretta\_eulophotes (DDBJ) ...C.TC.CA...CT.T..G..CT...C..C.TCCT...CA.A....C.....CA.  
 Ardea\_cinerea (DDBJ) ...C..C.CC..CC.C...CTCTTC.C.TC..CC...TC.G.T.....T.G.TCAC  
 Ciconia\_boyciana (DDBJ) ...T..CGCA..CCC.T...C.C...C..CTT..CT.....A.....T..C.C.C  
 Anas\_crecca (DDBJ) CAATA.C.CCA.CCC...CCC.C...C..CG...CT..C..G.TG.T.G.A.AG.TTC

# *A Model of Isotope Analysis*

## *Fauna and Flora at the Imazu Tidal Flats*



# *BFS feathers*

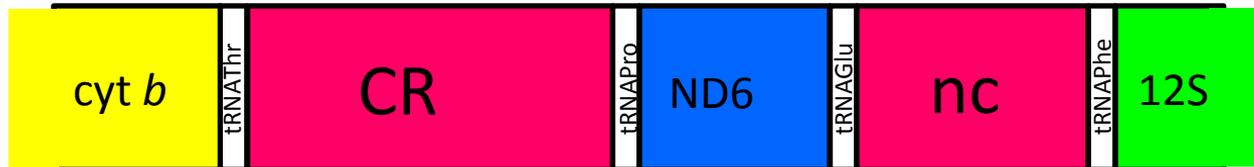


# Structure Analysis of mitochondrial DNA

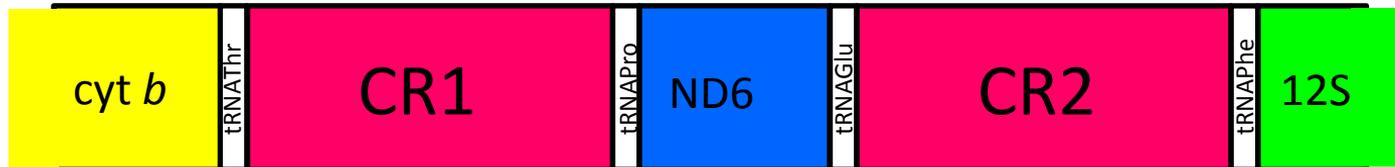
revealed tandem repeats

between cytochrome b and control regions

Eagle (Mindell *et al.* 1998)



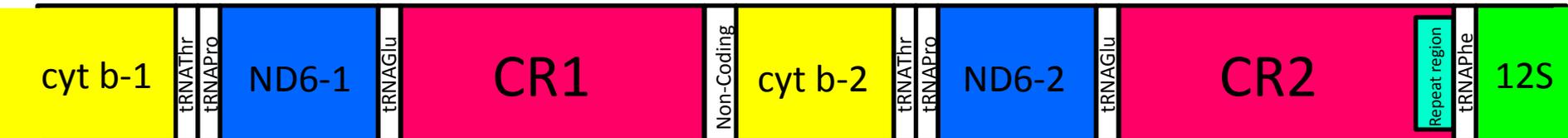
Amazona (Eberhard *et al.* 2001)



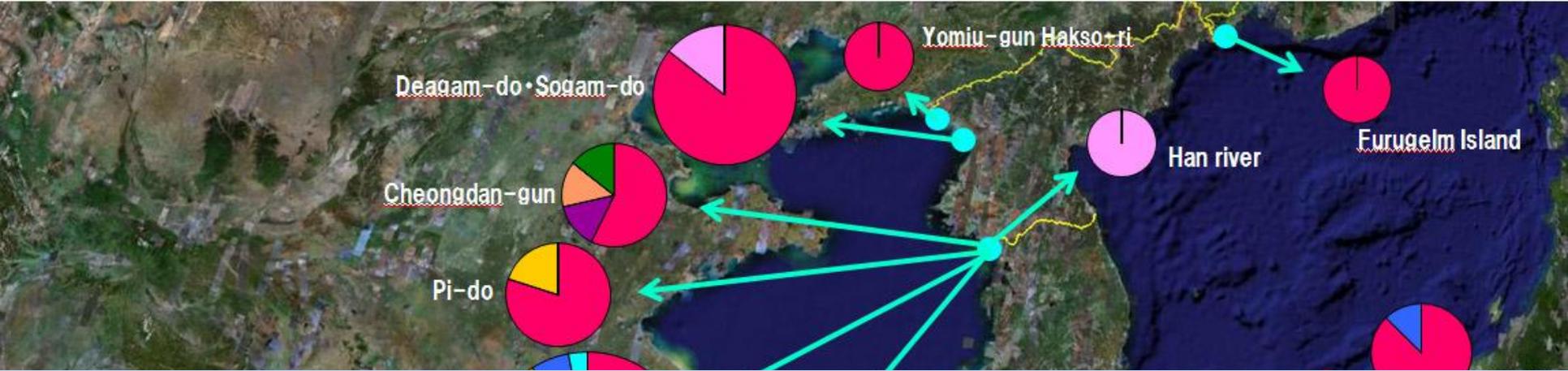
Thalassarche (Abbott *et al.* 2005)



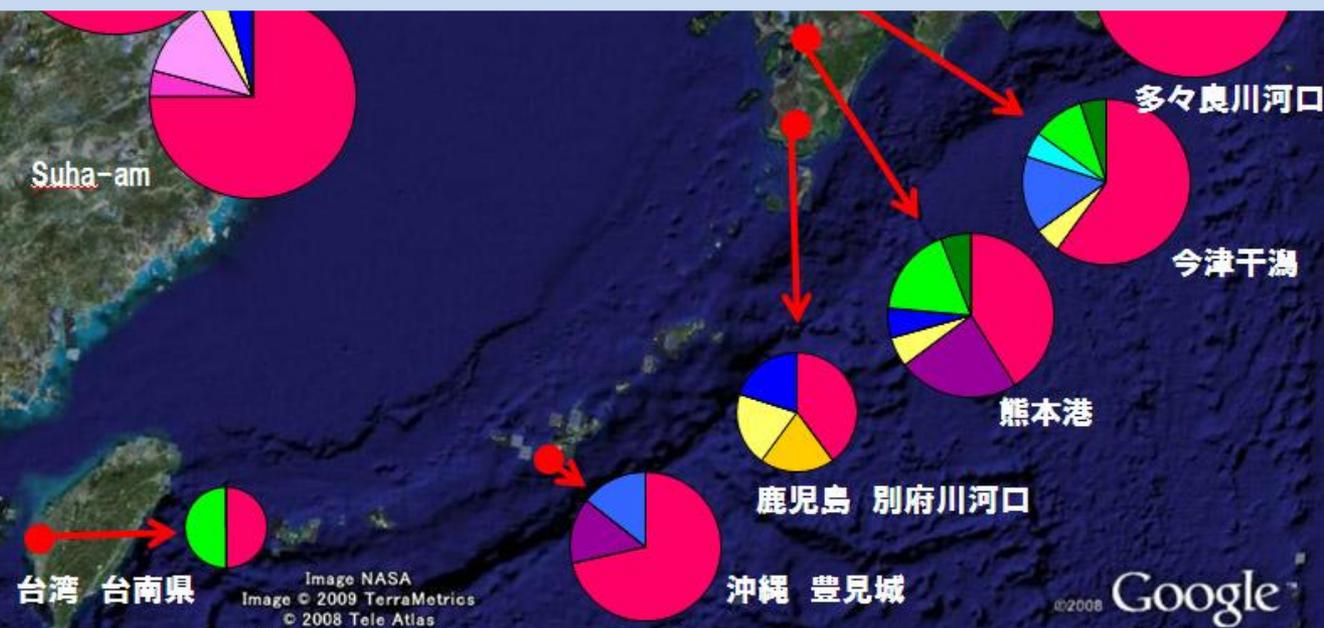
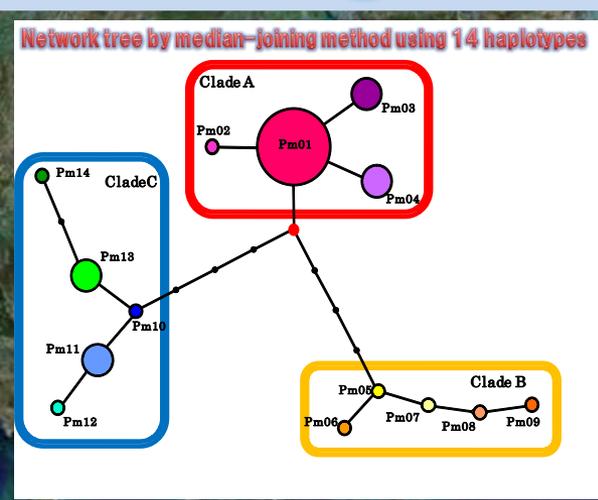
Black-faced Spoonbill (Cho *et al.* 2010)



# mtDNA analysis using fallen feathers



*Because of the dominant haplotype, genetic diversity of BFS is not so high as cranes.*



**Cho et al. 2009**  
563 マイル

Image NASA  
Image © 2009 TerraMetrics  
© 2008 Tele Atlas  
© 2008 Europa Technologies

©2008 Google

# Solar-GPS satellite tracking



GCOEアジア保全生態学 九州大学・東京大学  
Education, Research & Conservation

<https://sites.google.com/a/conservationecology.asia/main/coreProjects/tracking/bfsb2011>

## •Satellite tracking for Black-faced Spoonbill project 2009-2013



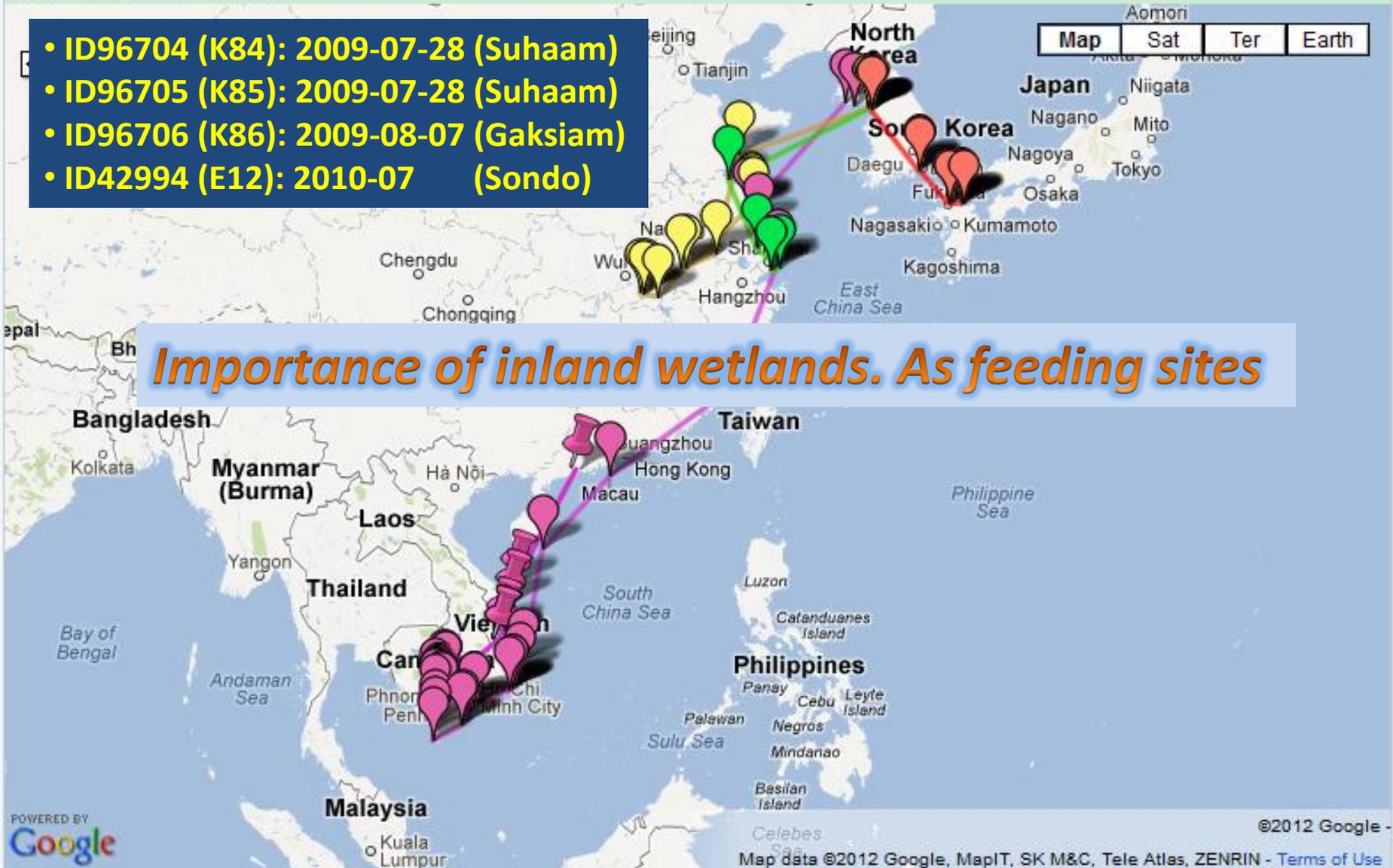
Copyright: T. Okabe  
(Nishinippon Shinbun)

# 4 individuals attached during 2009& 2010

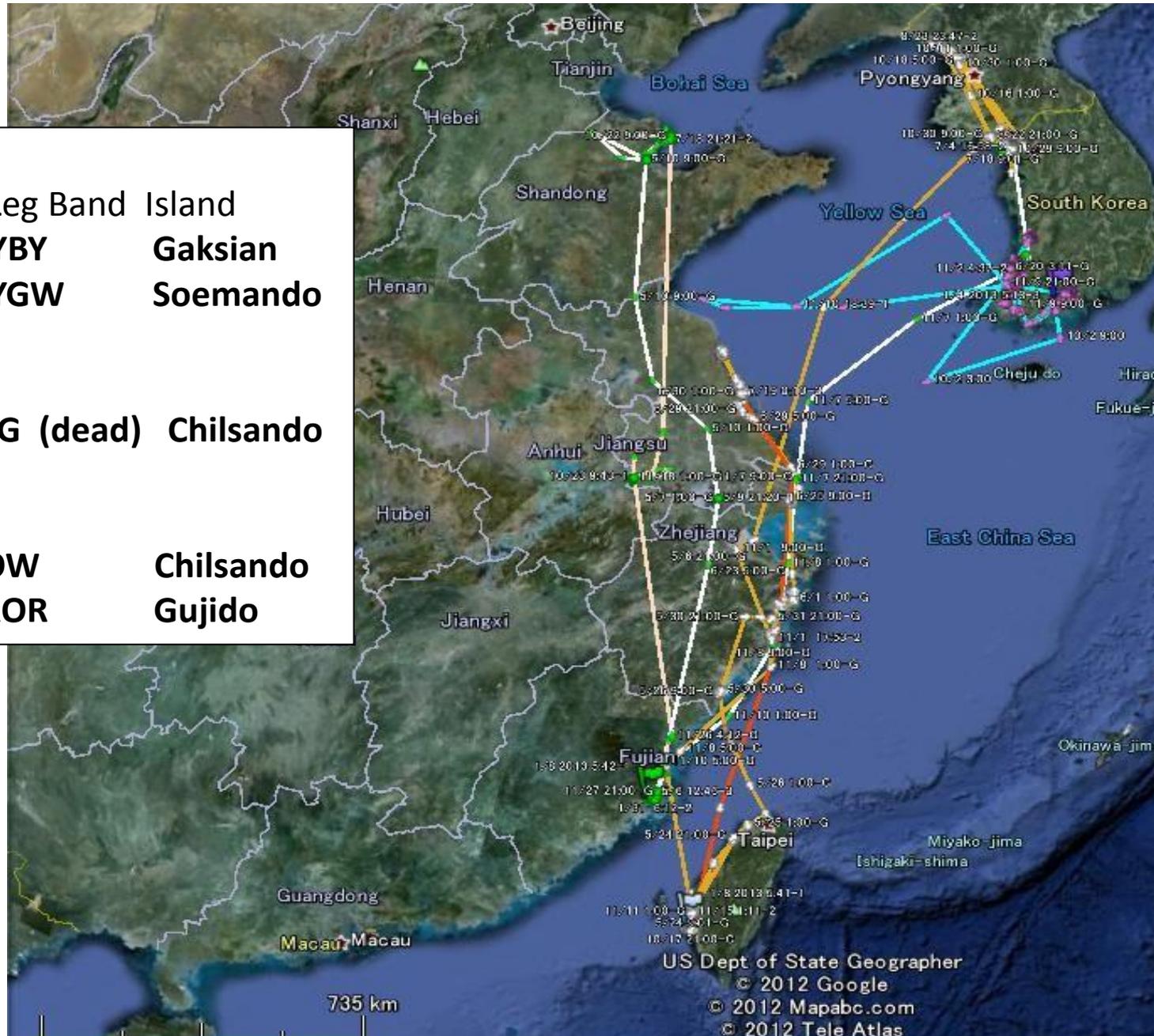
Satellite tracking of BFSB-all

- ID96704 (K84): 2009-07-28 (Suhaam)
- ID96705 (K85): 2009-07-28 (Suhaam)
- ID96706 (K86): 2009-08-07 (Gaksiam)
- ID42994 (E12): 2010-07 (Sondo)

*Importance of inland wetlands. As feeding sites*



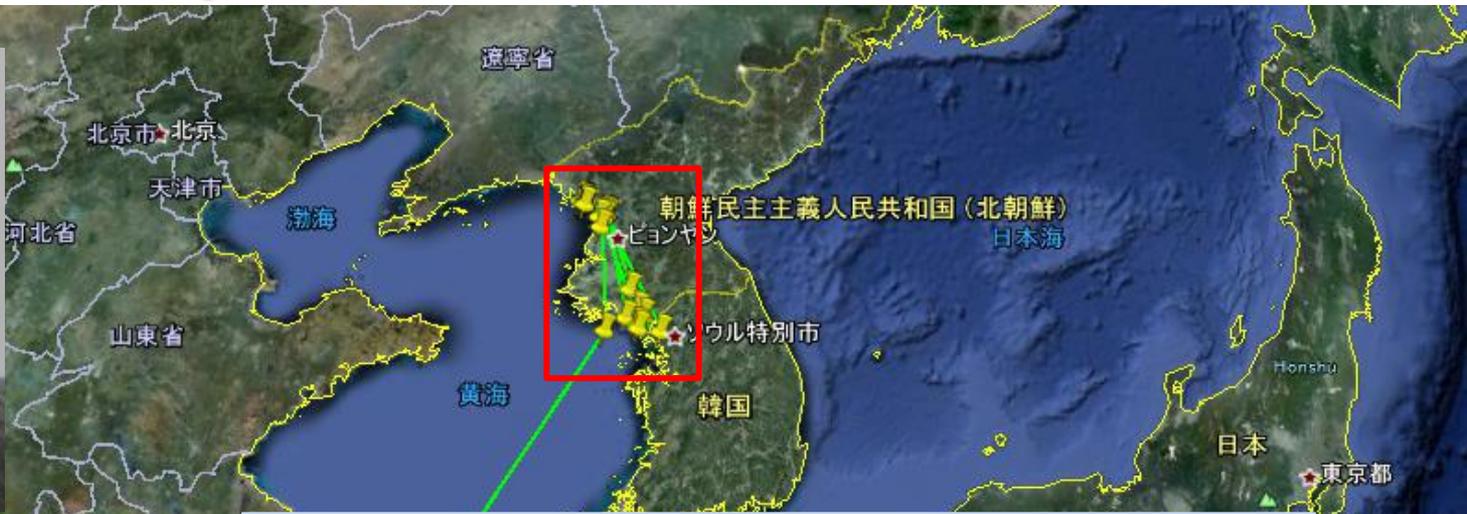
# 5 individuals attached during 20011 & 2013



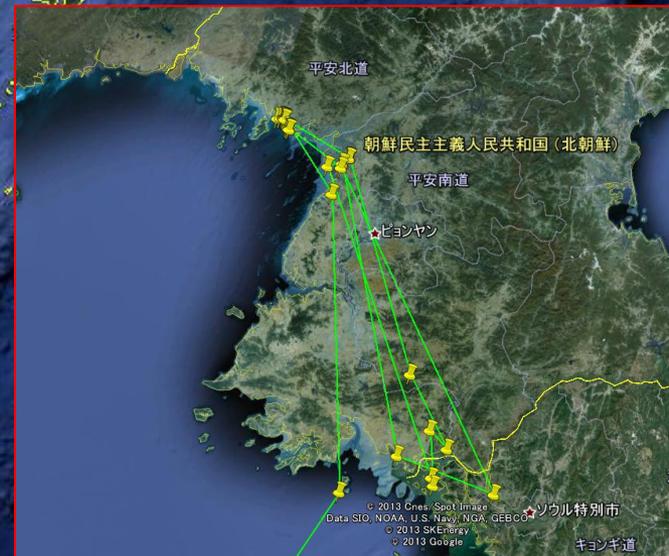
<b>Year 2011</b>			
Argos ID	Indiv. No.	Leg Band	Island
67938	E37	YBY	Gaksian
67939	E48	YGW	Soemando
<b>Year 2012</b>			
114528	E75	GYG (dead)	Chilsando
<b>Year 2013</b>			
114528	S08	OW	Chilsando
130144	S21	ROR	Gujido

# E37 (ID 67938)

# Gaksian from 1<sup>st</sup> July, 2011



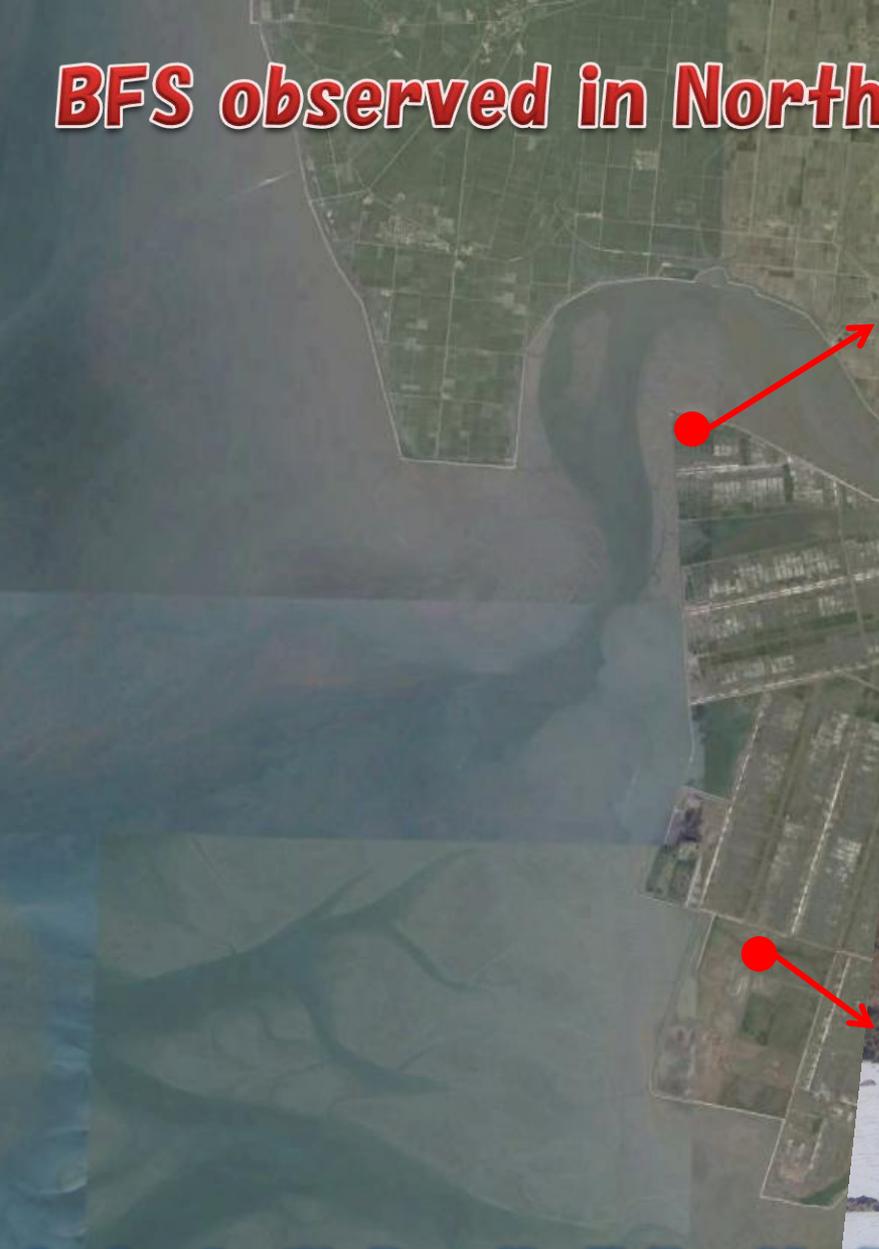
*BFS can cross the border to feed*



© 2013 Tele Atlas  
© 2013 Mapabc.com  
US Dept of State Geographer

© 2013 Cnes, Spot Image, Bata, SIO, NOAA, U.S. Navy, NGA, GEBCO  
© 2013 SKEnergy  
© 2013 Google

# **BFS observed in North Korea**



Center for Biodiversity, National Institute, of Science Academy, D.P.R. Korea,

Image © 2013 Terr

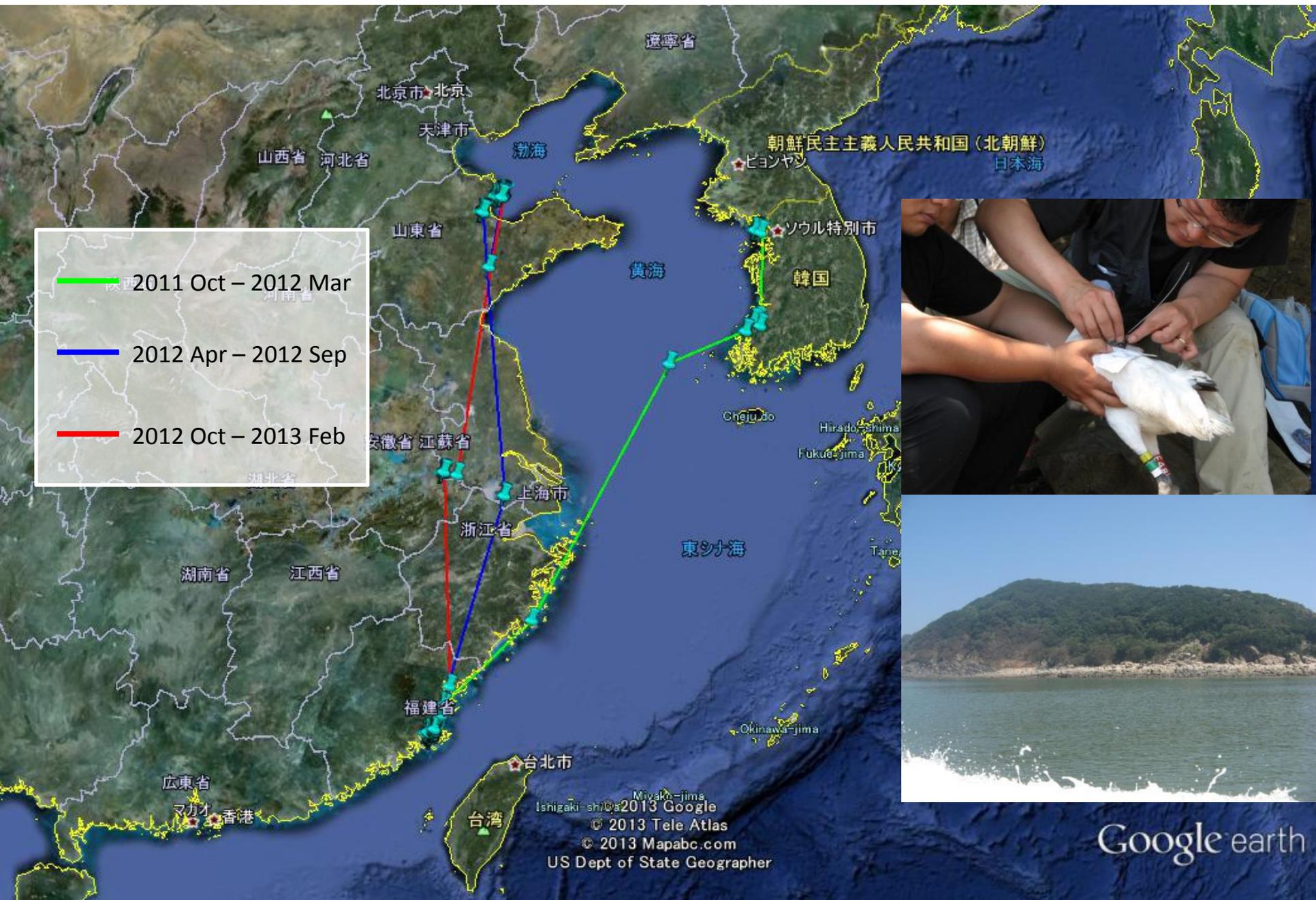
Image © 2013 Digi

© 2013 Cnes/S

Photos by Cho Hyong-Ju, Kyushu University

# E48 📌 stayed at Shandong during the summer.

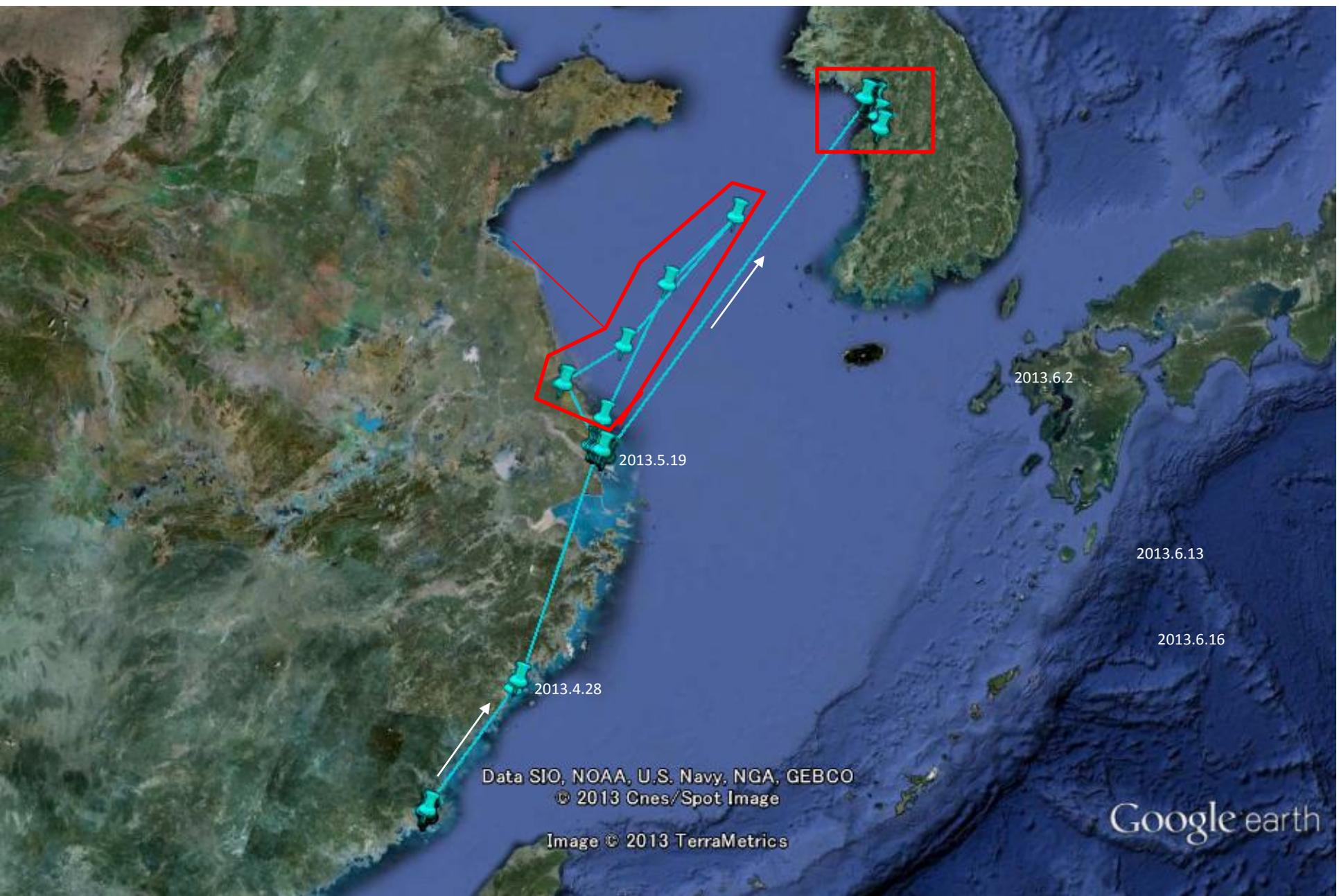
— 2011 Oct – 2012 Mar  
— 2012 Apr – 2012 Sep  
— 2012 Oct – 2013 Feb



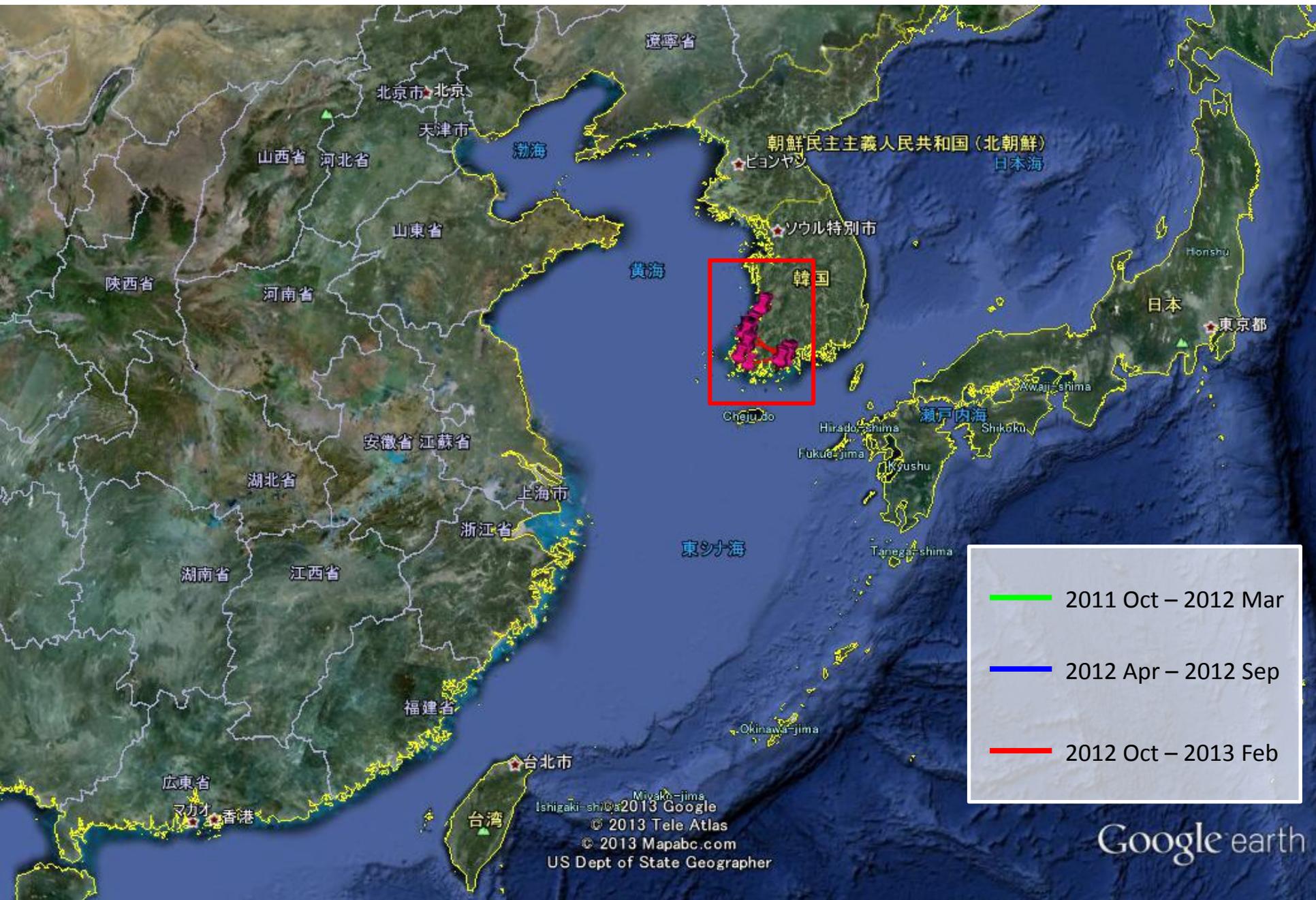
Ishigaki-sh/2013 Google  
© 2013 Tele Atlas  
© 2013 Mapabc.com  
US Dept of State Geographer

Google earth

# E48 📌 returned to his breeding site in 2013



# E75 (ID 67939)



2011 Oct – 2012 Mar

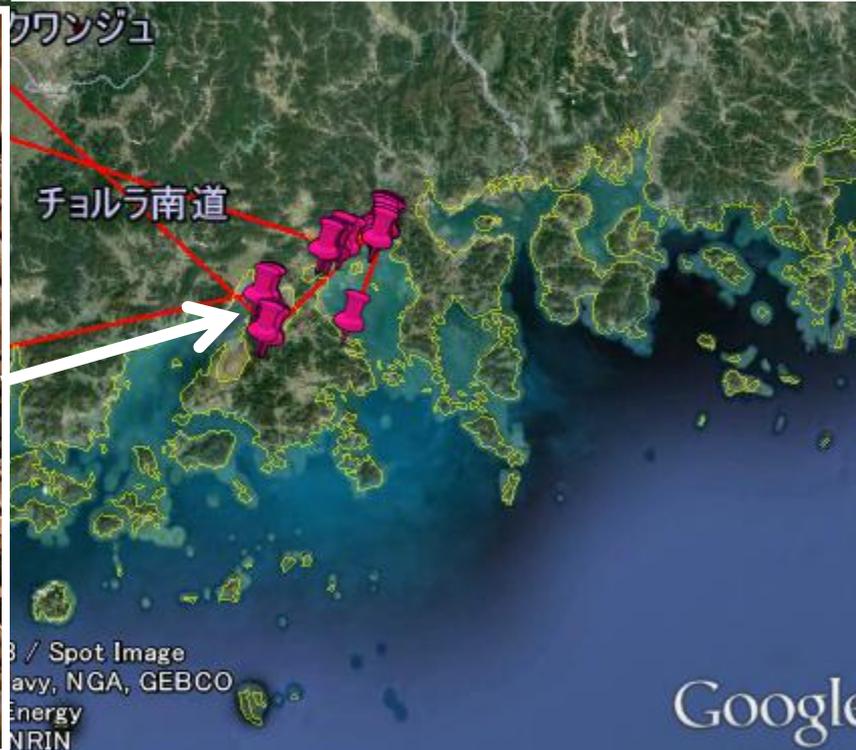
2012 Apr – 2012 Sep

2012 Oct – 2013 Feb

Chilsan island



carcass



# 4 individuals are active



## Year 2011

Argos ID	Indiv. No.	Leg Band	Island
67938	E37	YBY	Gaksian
67939	E48	YGW	Soemando

## Year 2013

114528	S08	OW	Chilsando
130144	S21	ROR	Gujido

**Cheers !  
Bon voyage !**



**S21 attached on July, 2013  
at Gujido, Yeonpyeong do**

