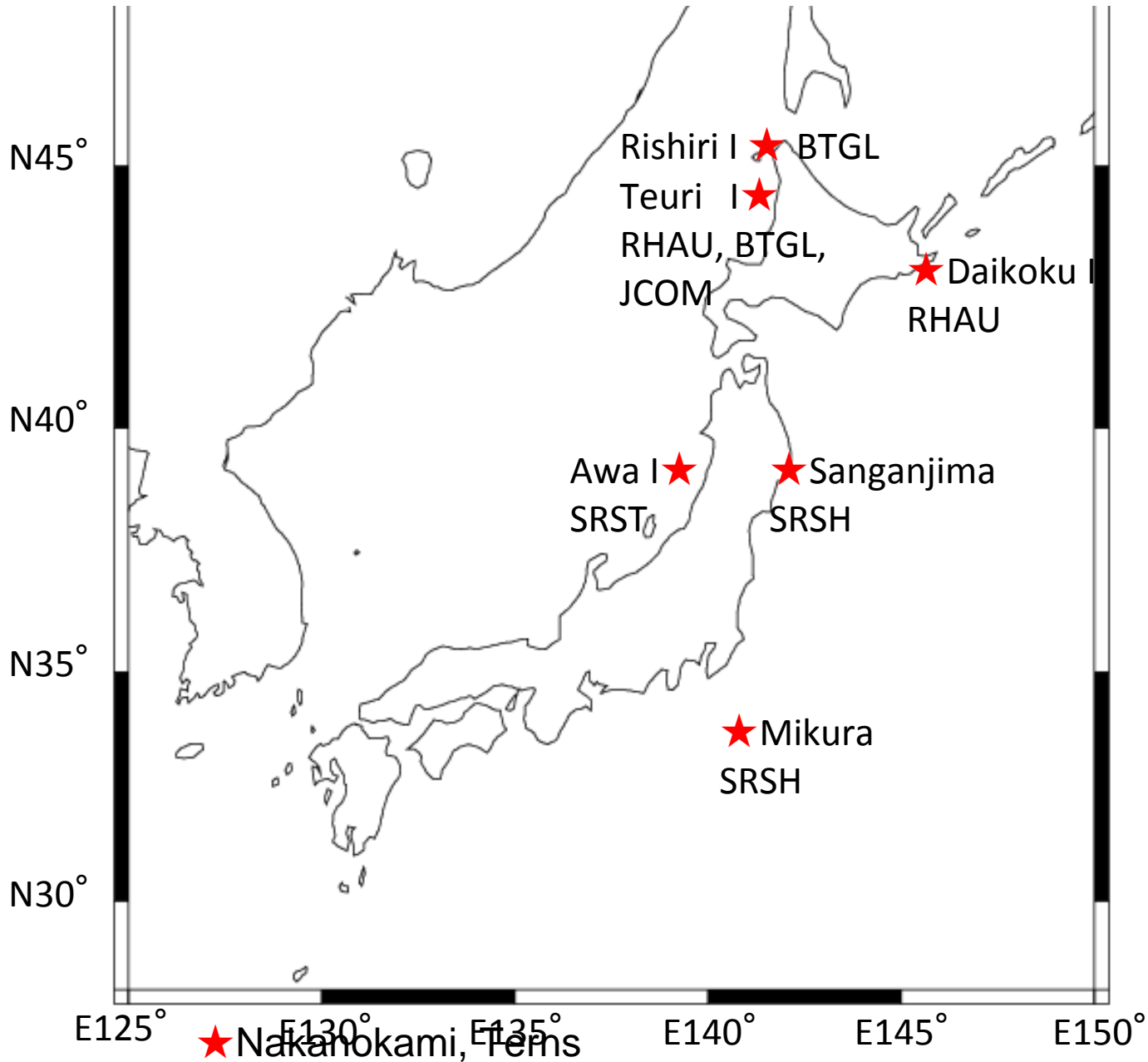


Seabird diet and population data collected in Japan

Yutaka Watanuki (Hokkaido Univ)

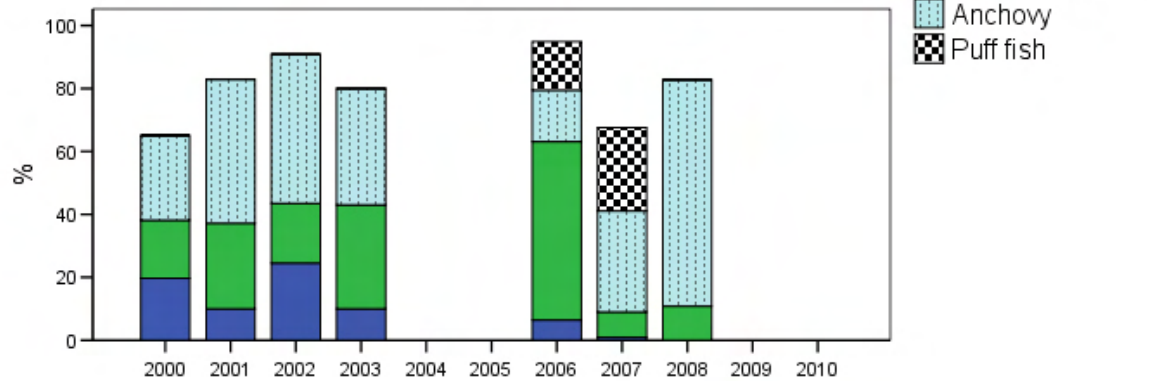
Diet (stomach contents, bill-loads, SI,
DNA, Fatty acids) and
population count

Colonies where diet information is available

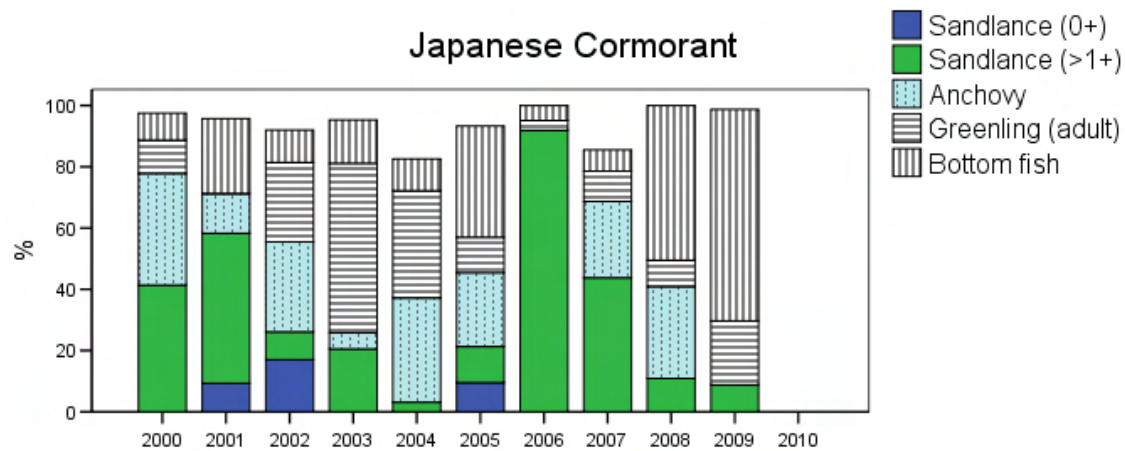


Chick diet at Teuri
Watanuki and Ito 2012

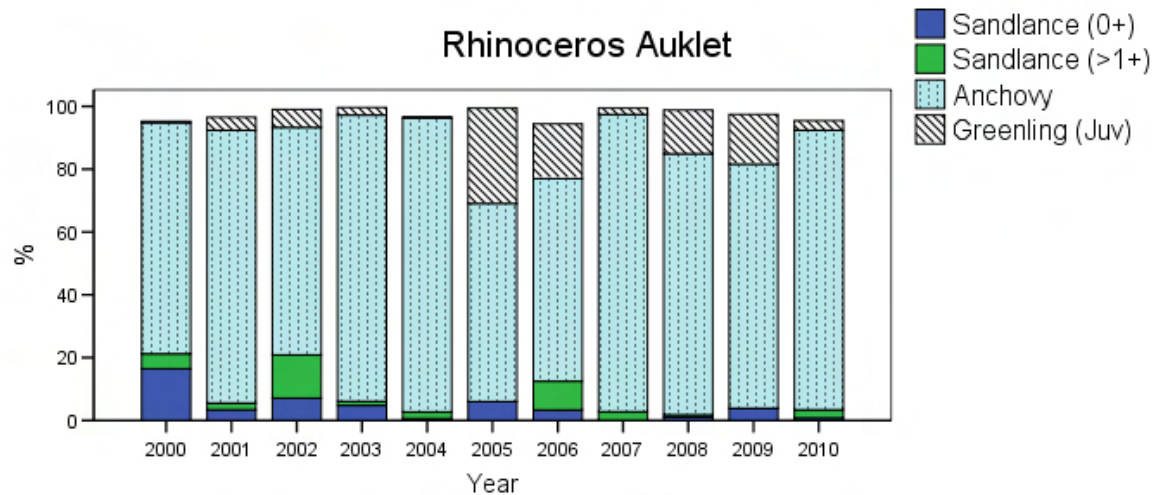
Black-tailed Gull



Japanese Cormorant



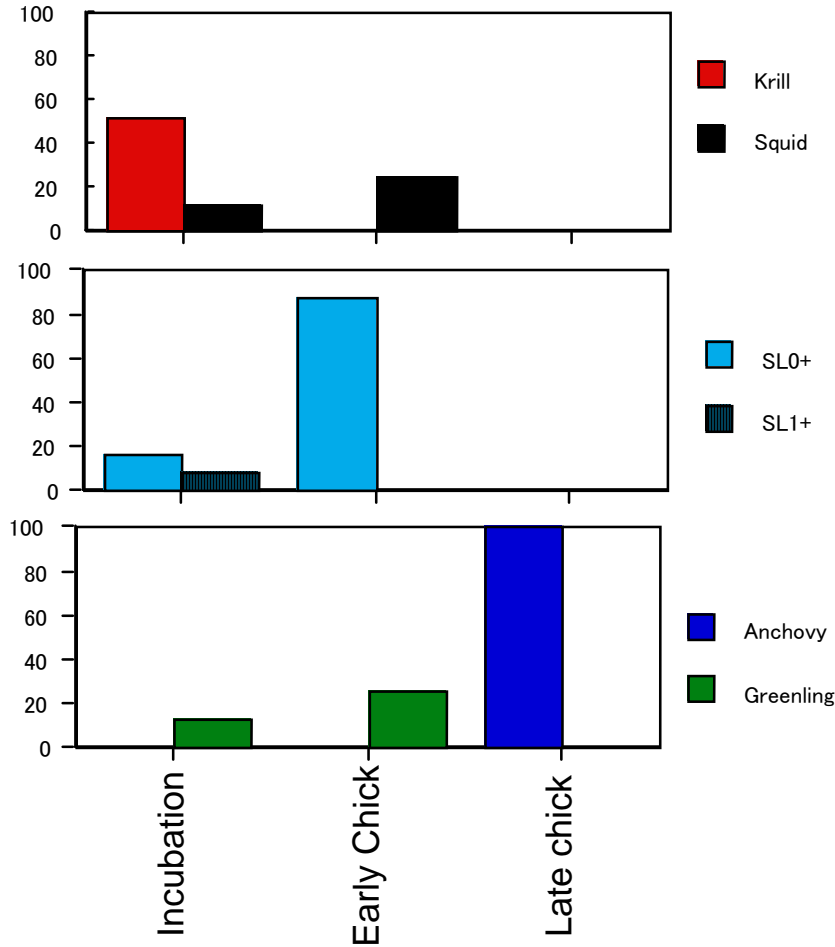
Rhinoceros Auklet



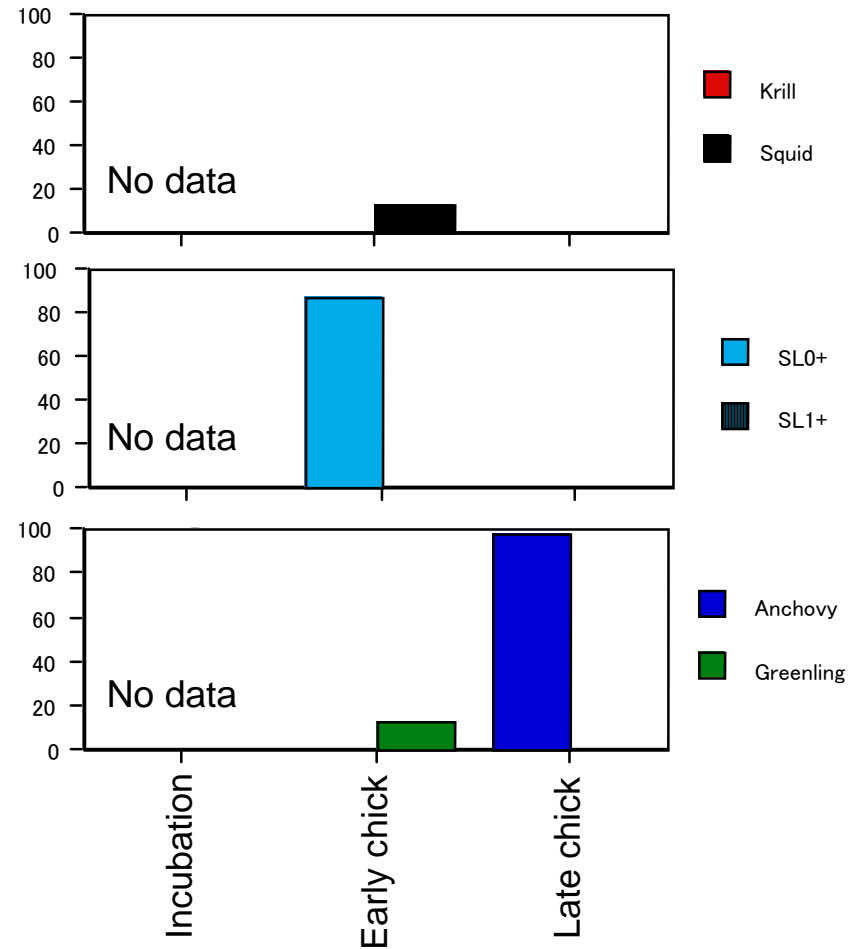
Seasonal changes in the diet of Rhinoceros Auklets at Teuri Island

Using stomach contents of adults and bill-loads for chicks (Ito et al. 2009)

Stomach contents (n=85)



Bill-loads (n=60)



Percentage of prey composition during egg-formation estimated by SAIR mixing model for species at Teuri Island basing on egg yolk SI (Ito et al. In press)

	Krill	0+SL	1+SL	0+GR	1+GR	Sculp	Rock	Flat
RHAU	62.0	9.9	6.9	15.7				
BTGL	5.3	15.5	36.9	12.6				
SBGL			16.7	27.1	13.5	7.6	8.1	11.1
JCOM			14.8	21.8	18.2	10.7	10.8	12.5

Prey in stomach contents (%mass) of Streaked Shearwaters determined using DNA and Fatty acid analyses Matsumoto et al. 2011, Kurasawa et al. 2012

	Mikura Short trip Stomach (Item+DNA)	Mikura Long trip Stomach (Item+DNA)	Awa Long trip Stomach oil (Fatty acids)
Anchovy	48	24	77
Pacific Saury	0	13	24
Flying fish	22	3	
Chub Mackerel	0	9	
Common squid	15	0	
Oil	0	48	

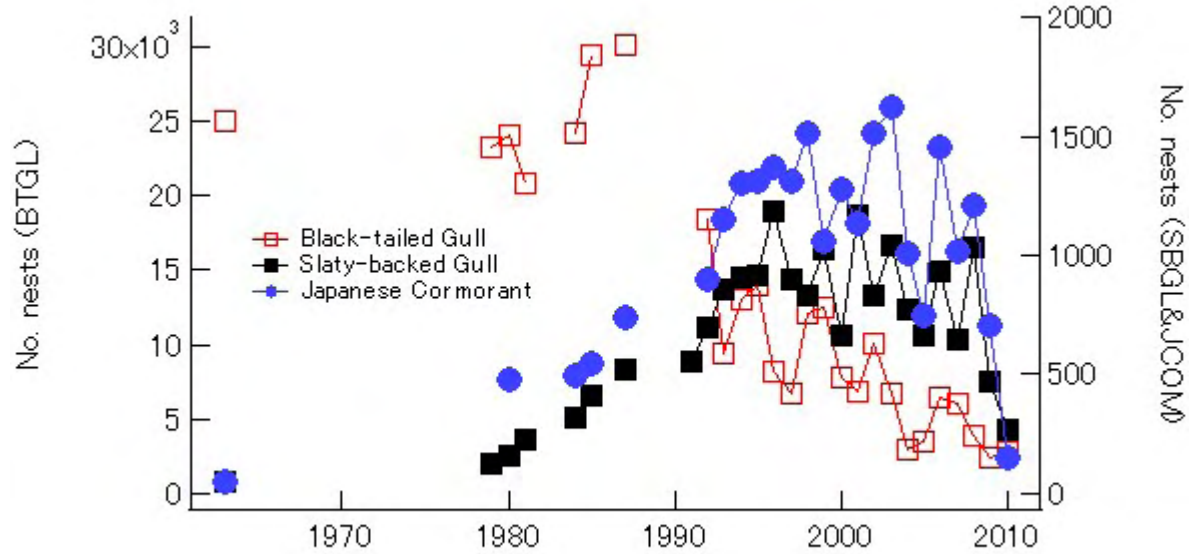
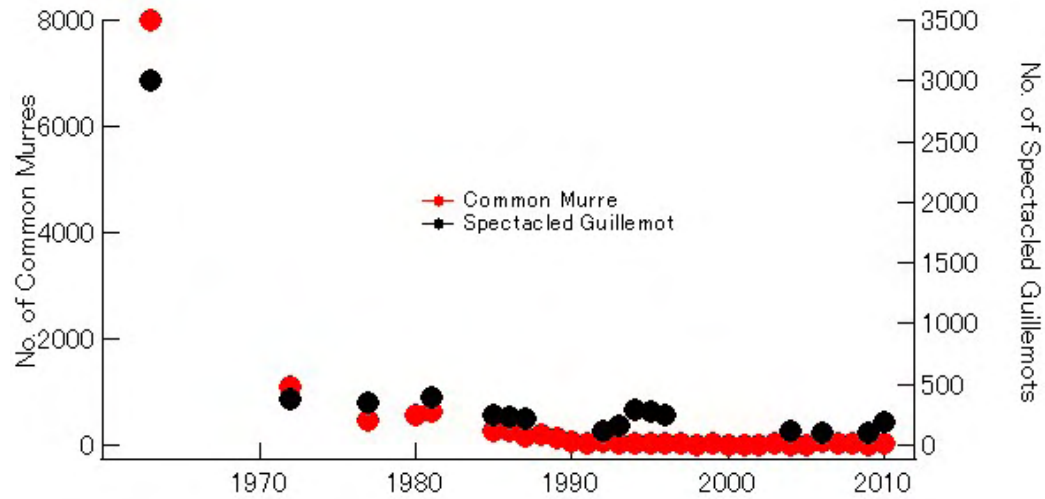
Other information

- Lysan and Black-footed (by-catch) in western North Pacific (see Nakatsuka et al).
- Sooty Tern, Brown Noddy, Bridle Tern, Roseate Tern breeding at Nakanokamijima, East China Sea (Kishimoto & Kohno 1988, Kohno & Kishimoto 1991. more than 200 samples are under investigation)

Diet of breeding seabirds in Japan: data gap

- Species: Shearwaters, Storm-petrels
- Location: Izu, Ogasawara, central and southern Honshu.
- Season: Spring diet information

Population Count at Teuri island



Seabird colony data base in Japan (Ministry of Environment, Japan Seabird Group)

- >5000 data
- >35 breeding species
- Variable quality
- Mostly published data + Up date (including unpublished)
- Will be available in 2014

Information of breeding seabirds in Japan

- New diet data available
- New techniques for diet analyses can be useful.
- Colony data base will be available.
- A little information in subtropical are available

At sea survey (bird density and diet)

- A little information on seabird density from at sea survey in coastal area
- New seabird density information from western North Pacific by Fisheries Agency (Minami, Nakatsuka, Ochi et al.)
- A little information of diet of seabirds in central Bering sea (by-catch via salmon research gill-net, 2000-2009, Toge et al. 2011, Watanuki unpublished)