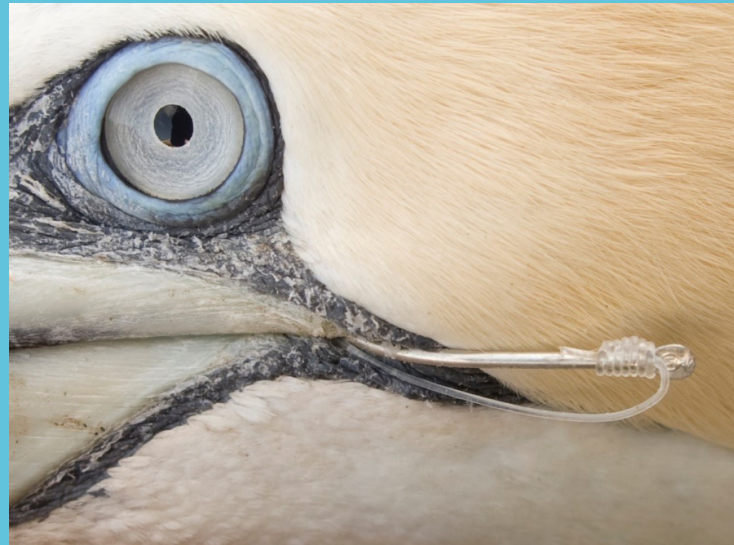


No way home

Migration and mortality in a resilient seabird,
the northern gannet



www.cnrs.fr



David Grémillet

La Rochelle
Université

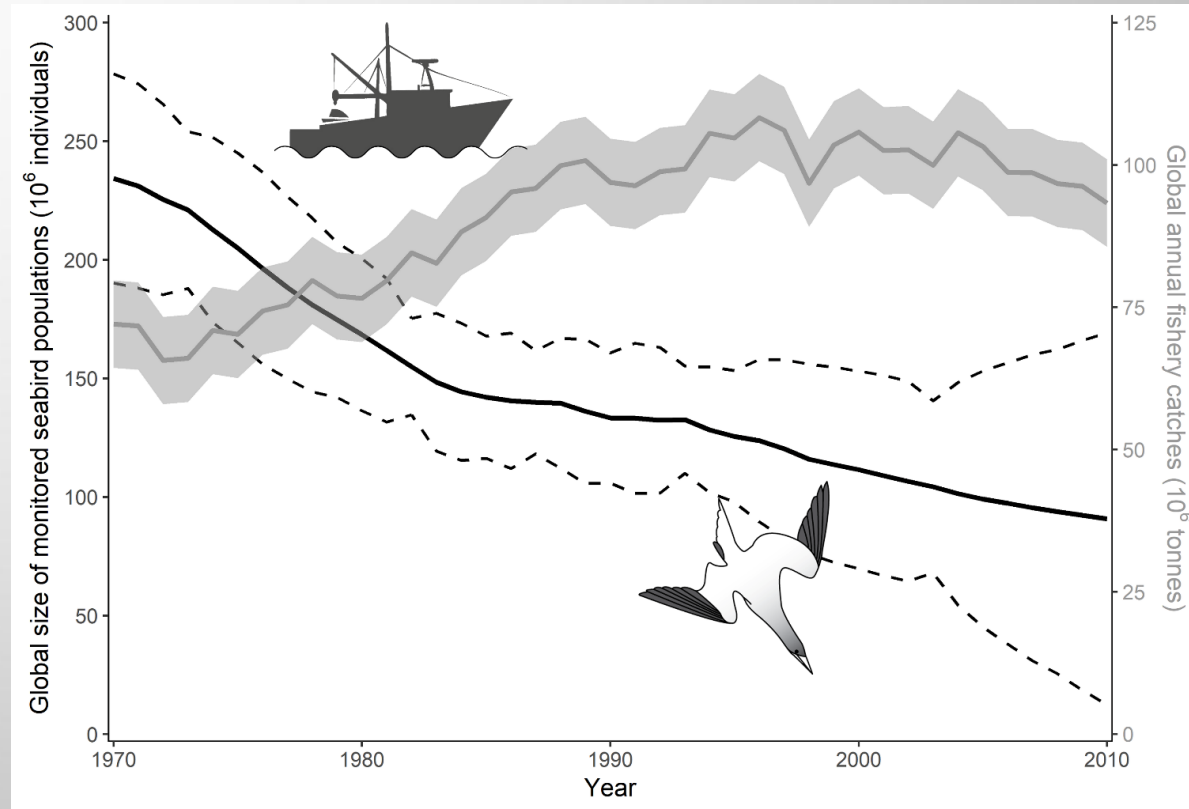


Centre d'études
biologiques de
Chizé



RÉGION
Nouvelle-
Aquitaine

A vanishing world seabird community



Grémillet et al. Curr. Biol. 2018

Some seabirds are more resilient than others



“It takes a lot to starve a gannet”



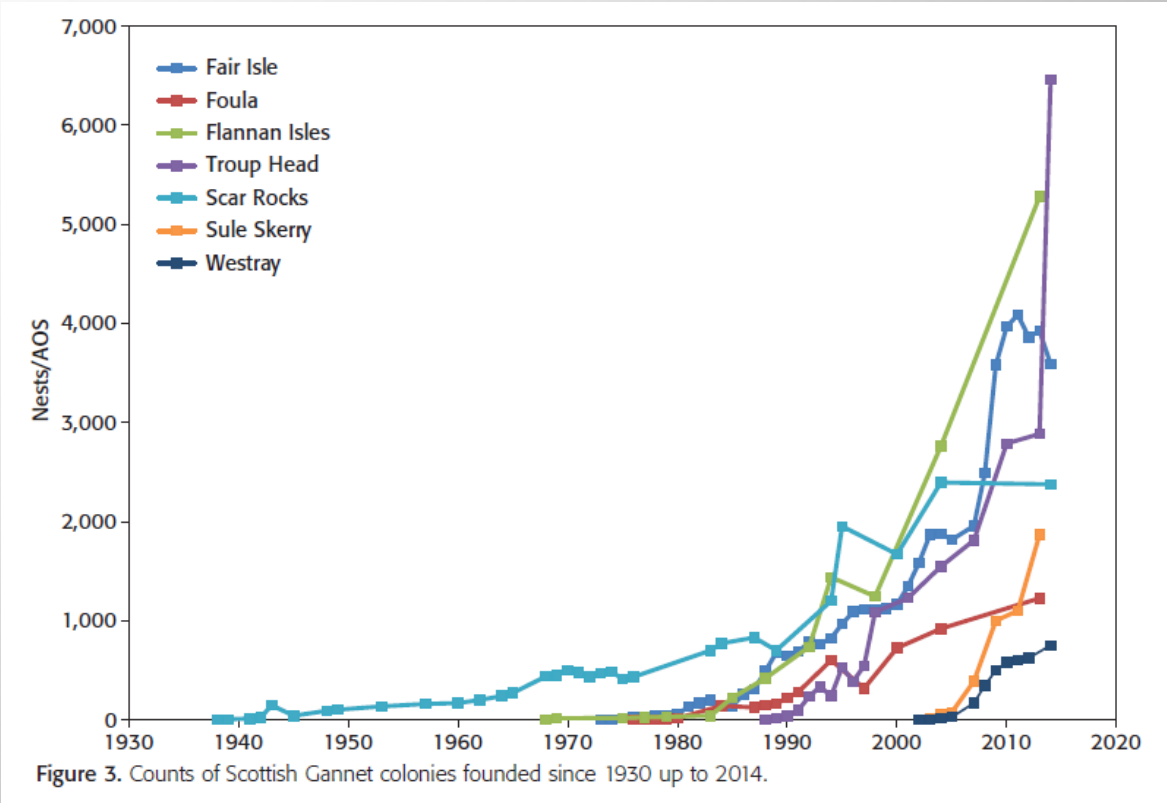
BBC4

Historical seabird hunting



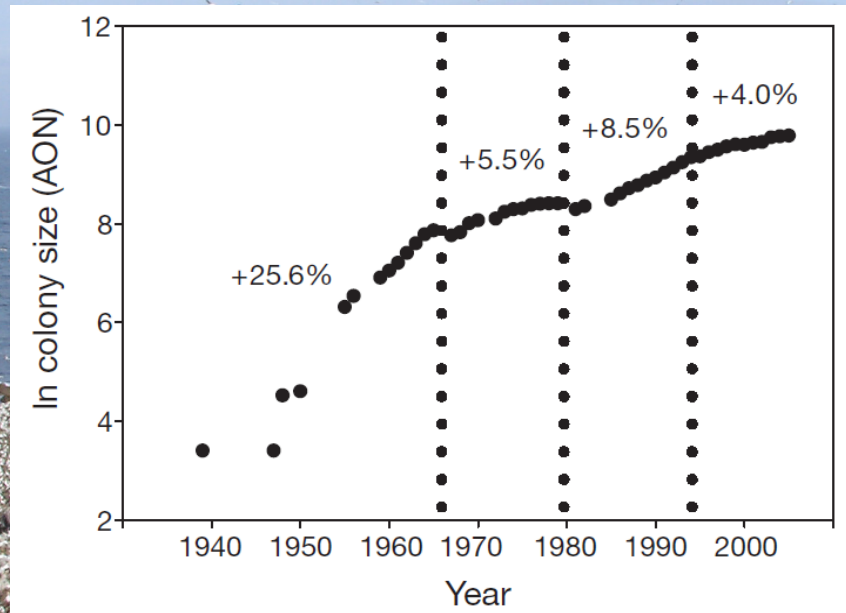
Grandgeorge et al. Aquatic Biol. 2008

Healthy recovery: 4% annual growth rate for UK colonies

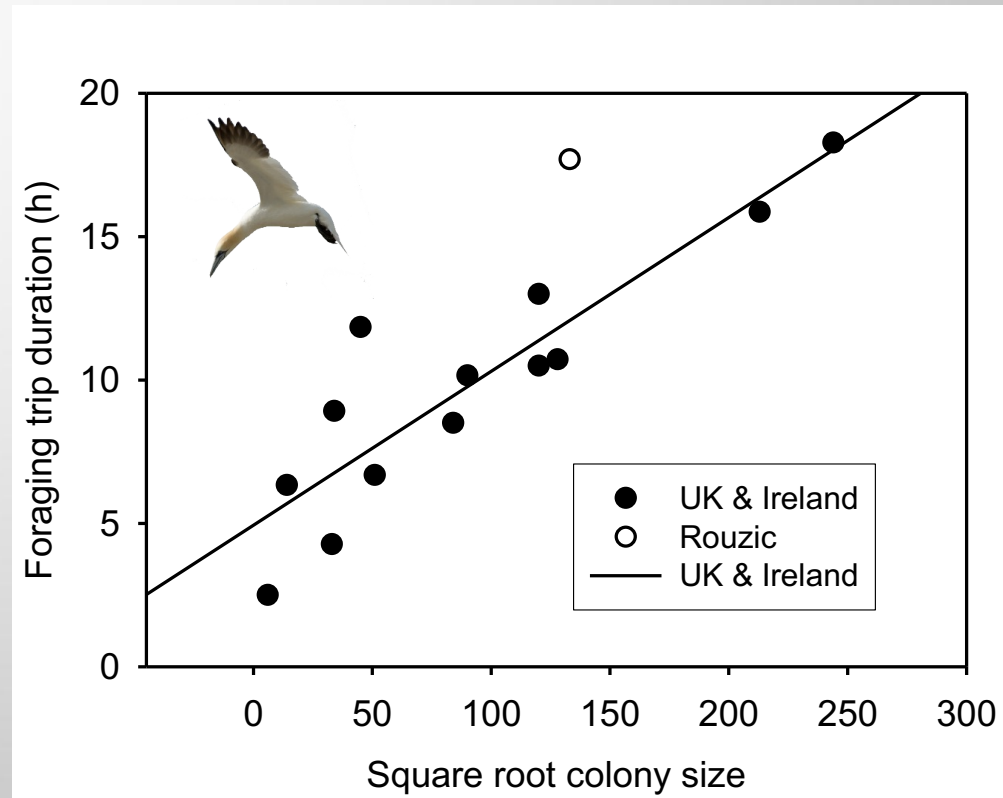


Murray et al. Scottish Birds 2015

Rouzic – Sept Iles Archipelago - Brittany



First warning signals



Grémillet et al. MEPS 2006

Gannets love Mackerel



Richard Shucksmith

Can they switch to fishery waste?



James Boardman

Starving gannets?



Contents lists available at [ScienceDirect](#)

Biological Conservation

journal homepage: www.elsevier.com/locate/biocon



Fishery discards do not compensate natural prey shortage in Northern gannets from the English Channel



Tangi Le Bot^{a,*}, Amélie Lescroël^b, Jérôme Fort^c, Clara Péron^d, Olivier Gimenez^a, Pascal Provost^e, David Grémillet^{a,f}

- **12-year study period (2005–2017)**
- **Discard consumption = increased gannet foraging effort**
- **Discard consumption = reduced adult body condition**
- **Reduced reproductive success**
- **Reduced growth of breeding population**

Climate change and overfishing hit mackerel populations



ICES 2018; Hughes et al. Mar. Biol. 2014; Bruge et al. Front. Mar Sci. 2016

But what happens outside of the breeding season?

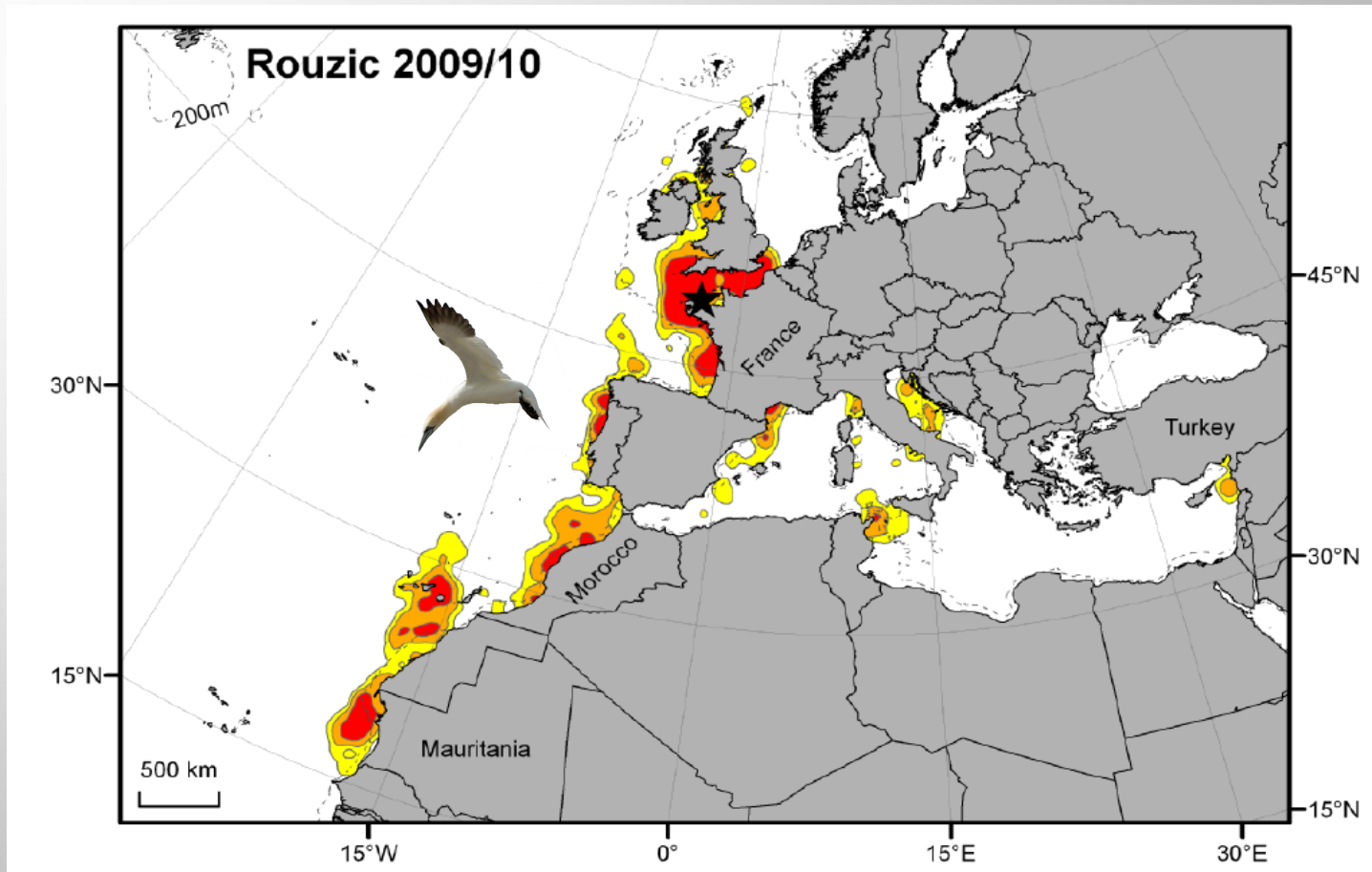
But what happens outside of the breeding season?

‘Gannet migration is not clearly separable from dispersal...’

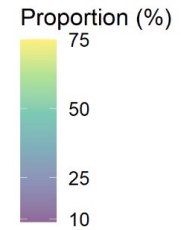
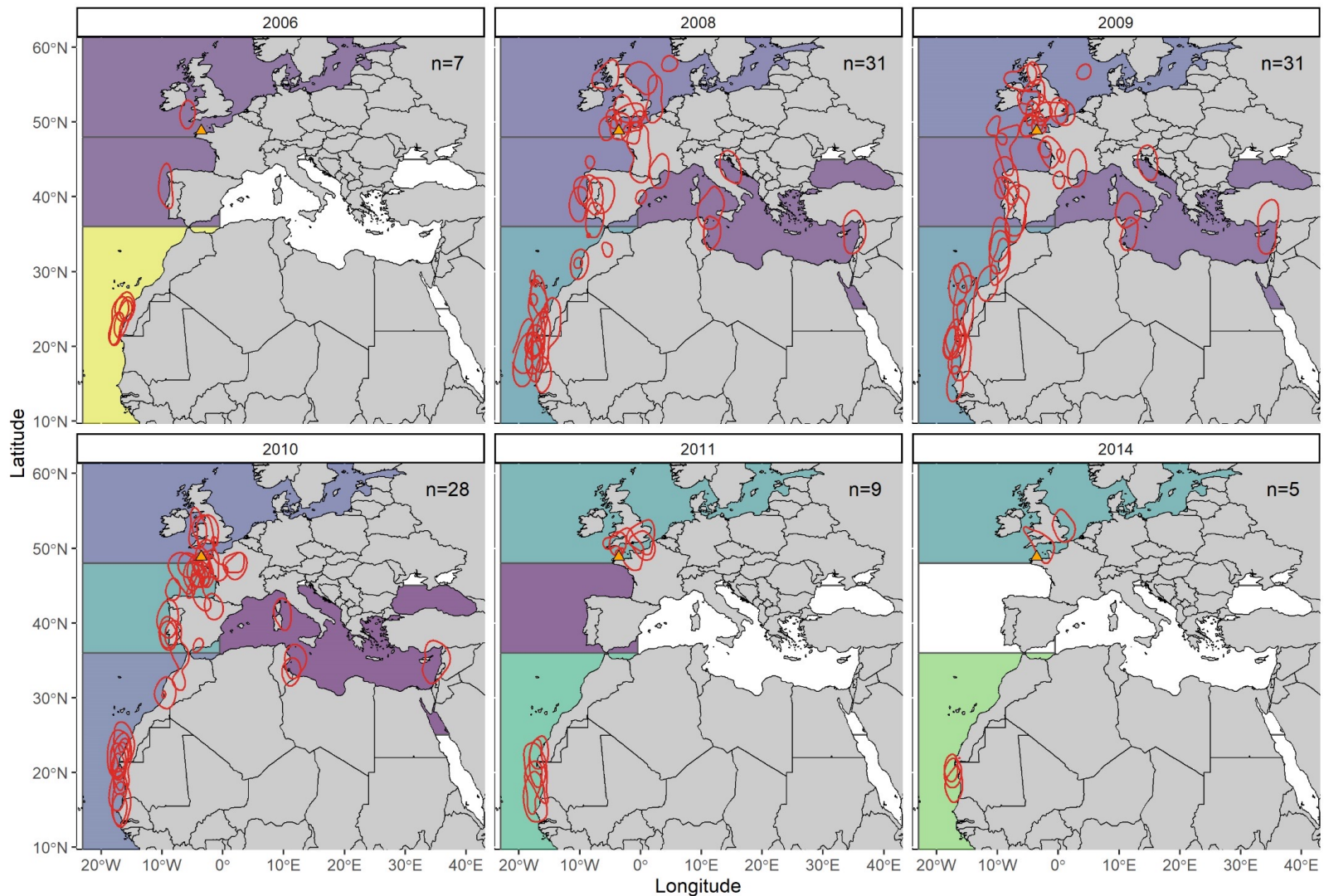
Bryan Nelson 1978



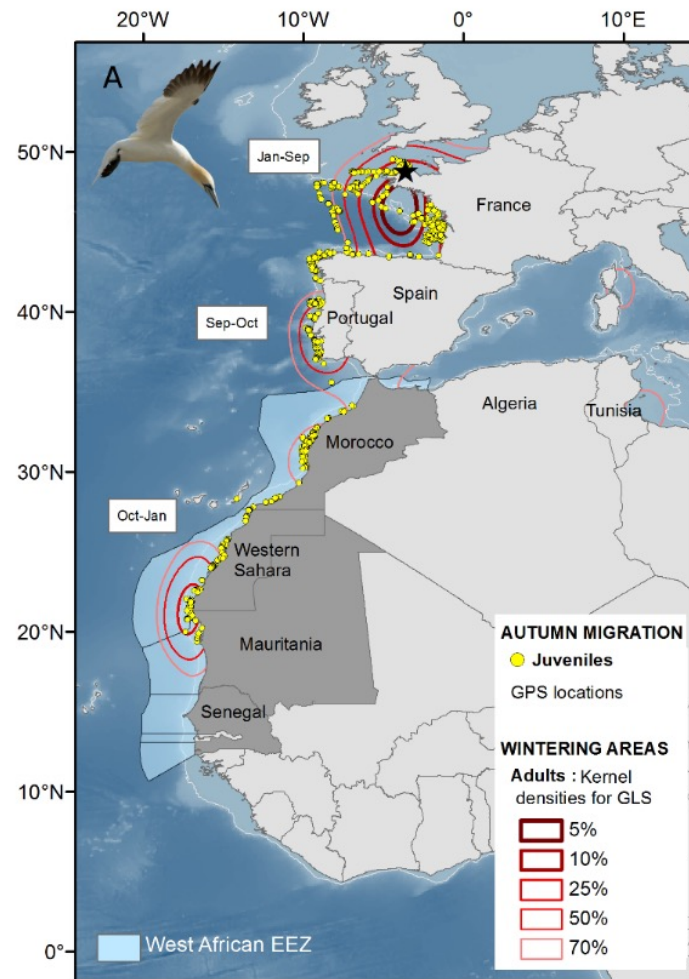
Oriented, repeated migration in gannets



Fort et al. Front Ecol & Env. 2012; Grecian et al. Front. Ecol. Evol. 2019; Grémillet et al. Mar. Biol. 2020

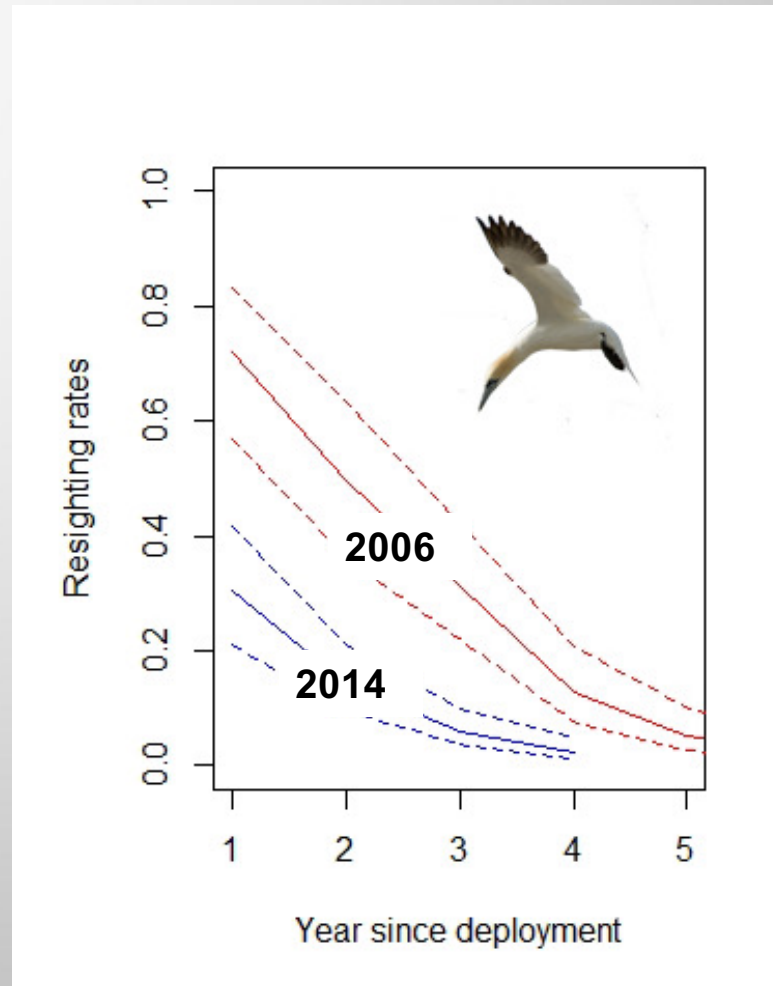


Tracking across life stages



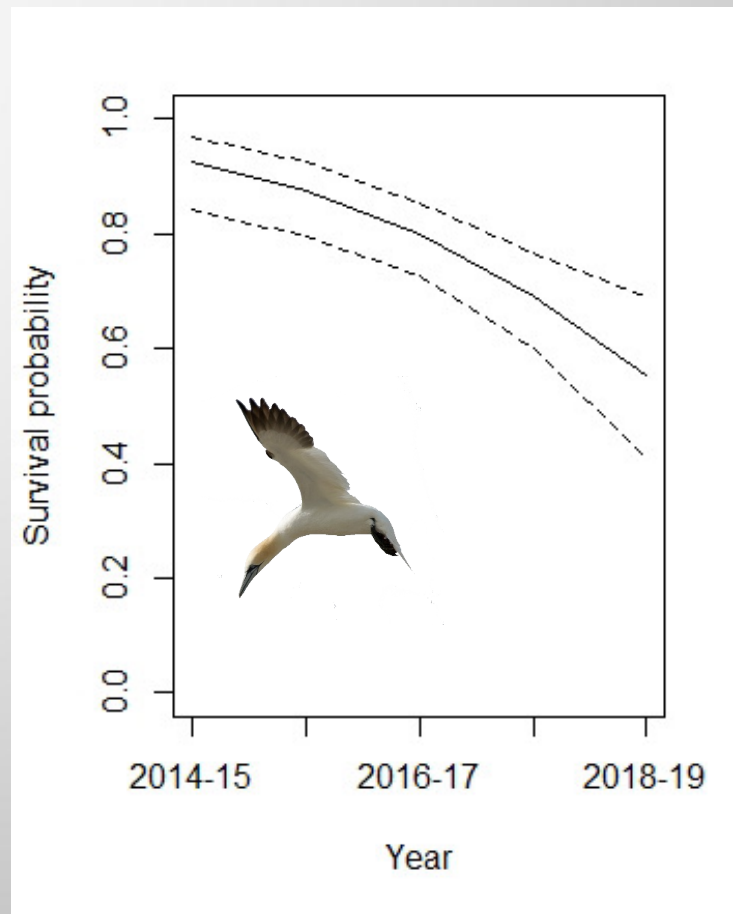
Grémillet et al. *Biol. Cons.* 2015

GLS tracking : Vanishing gannets



Grémillet et al. Mar. Biol. 2020

Mark-recapture study confirms low survival

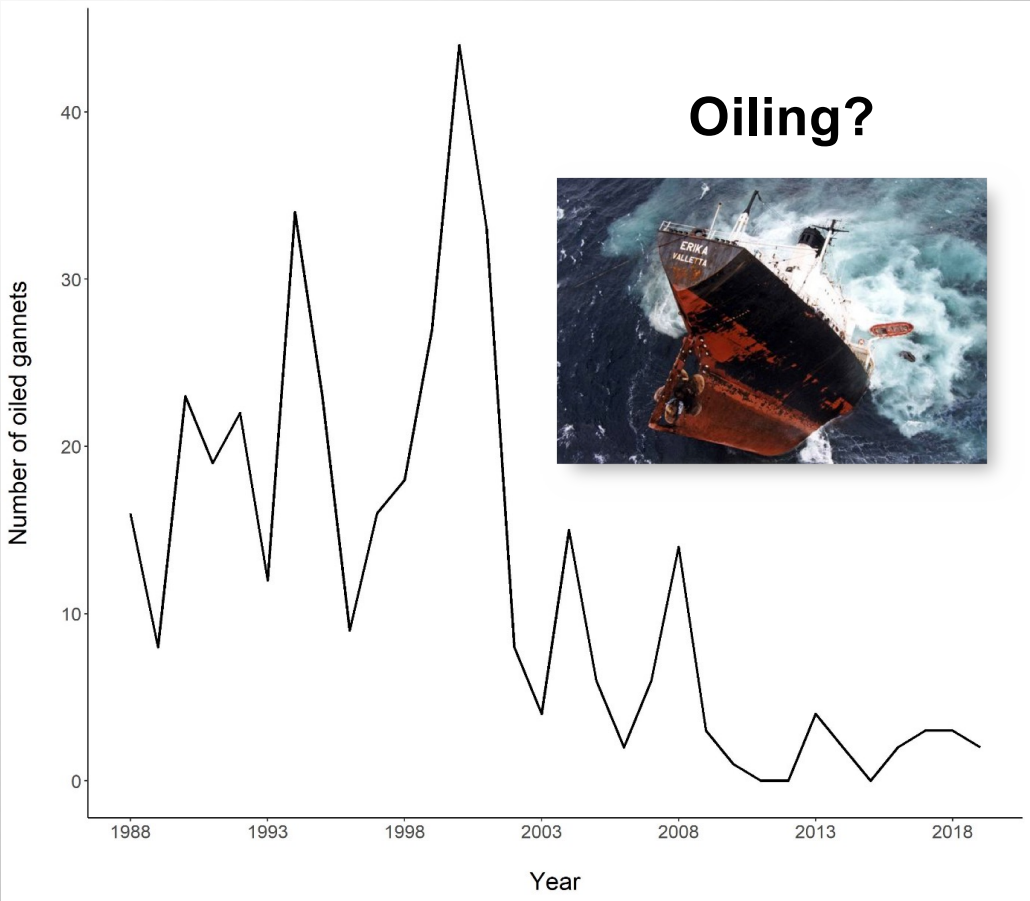


Grémillet et al. Mar. Biol. 2020

What kills Rouzic gannets?

- **Vanishing prey base: low body condition influences survival**
- **Oiling and winter storms ?**

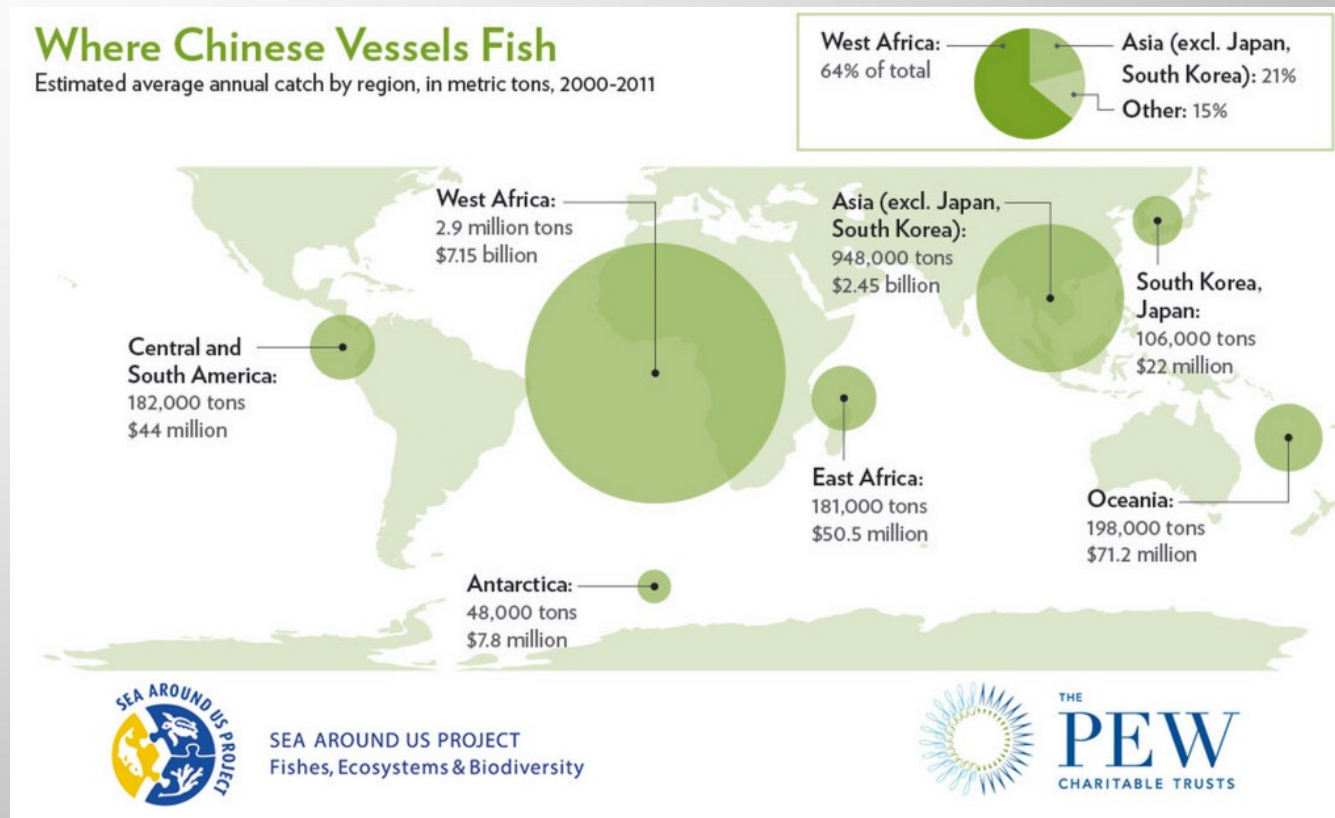
What kills Rouzic gannets?



What kills Rouzic gannets?

- **Vanishing prey base: low body condition influences survival**
- **Oiling and winter storms: no**
- **Pathogens and parasites : Newcastle Disease Virus & Meningoencephalitis ?**
- **Bycatch?**

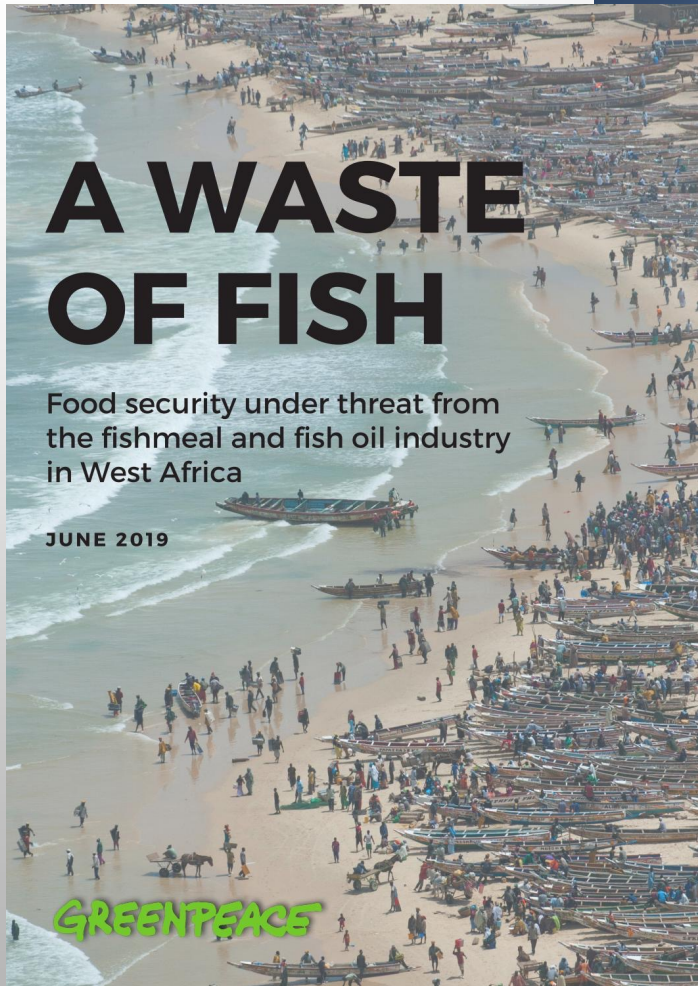
Seabirds at risk from marine plundering off west Africa



Ramos & Grémillet *Nature* 2013; Grémillet et al. *Biol. Cons.* 2015



Alejandra Gimeno



Few small pelagic fish left for people and birds

The race for wild flavour

大众畜牧野味

| 品名 | 价格 | 品名 | 价格 | 品名 | 价格 | 品名 | 价格 | 品名 | 价格 | 品名 | 价格 |
|-----|----|-----|----|-----|-----|-----|----|-----|----|-----|----|
| 活孔雀 | 45 | 孔雀肉 | 60 | 活大雁 | 100 | 大雁肉 | 30 | 活火鸡 | 25 | 活斗鸡 | 90 |
| 活野鸡 | 55 | 野鸡 | 70 | 斑竹 | 60 | 藏线 | 60 | 育椴 | 40 | | |

地址：湖北省武汉市汉口火车站华南海鲜市场东区（11街）后附街7-13号
 电话：027-65658441 13647233858 13907129699 网址：www.whdaz.com
 工商银行汉北支行 6222083202014342311 武汉农业新华支行 6228480050741706217
 建设银行支行 6217002870007563156 邮政 6221885200231709074

Grémillet et al. *Biol. Cons.* 2015

David Quammen 'Spillover' 2012

What did we learn?



The gannet showcase points to critical marine ecosystem perturbation

Grémillet et al. Mar. Biol. 2020

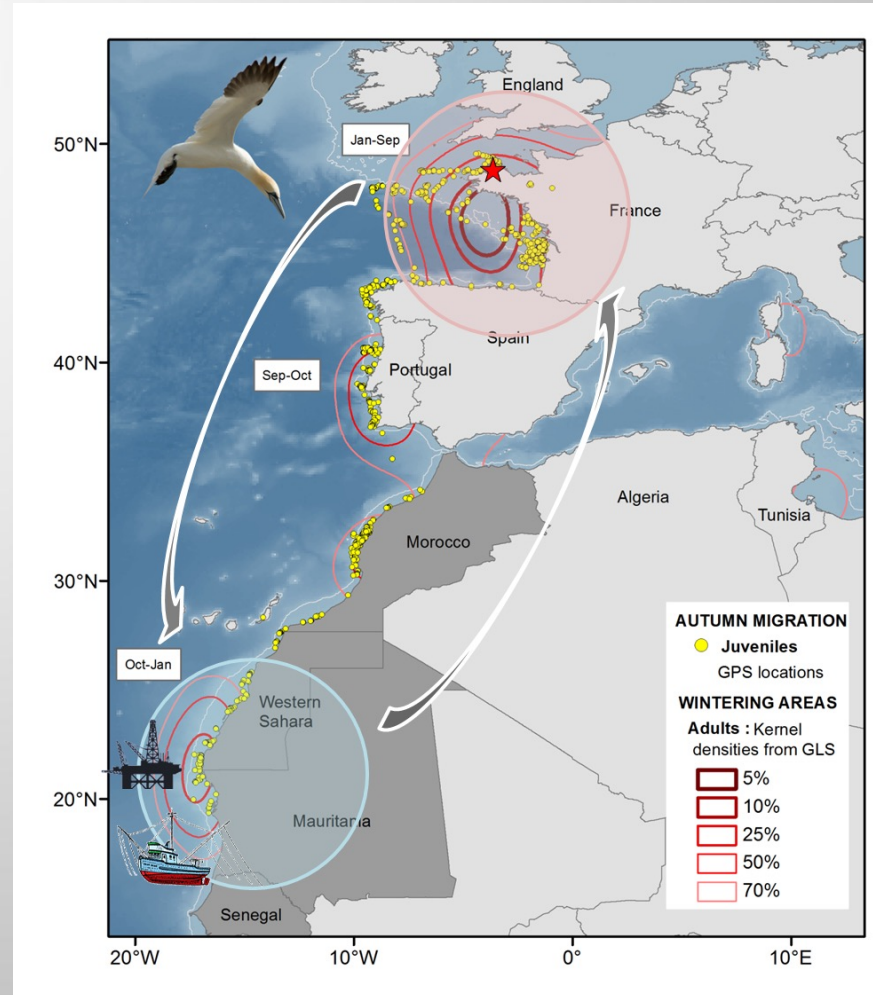
What did we learn?



Emblematic species can be used for research-to-action

Lescroël et al. Marine Policy 2016

Ecological solidarities: seabird and people in a global world



Lescroël et al. Marine Policy 2016

Co-authors



Clara Péron MNHN



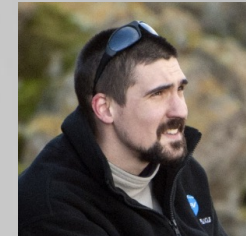
Pascal Provost LPO



*Amélie Lescroël
Point Blue Cons. Sci.*



*Aurélien Besnard
CEFE*



Jérôme Fort LIENSs



Rouzic – Sept Iles Archipelago - Brittany

