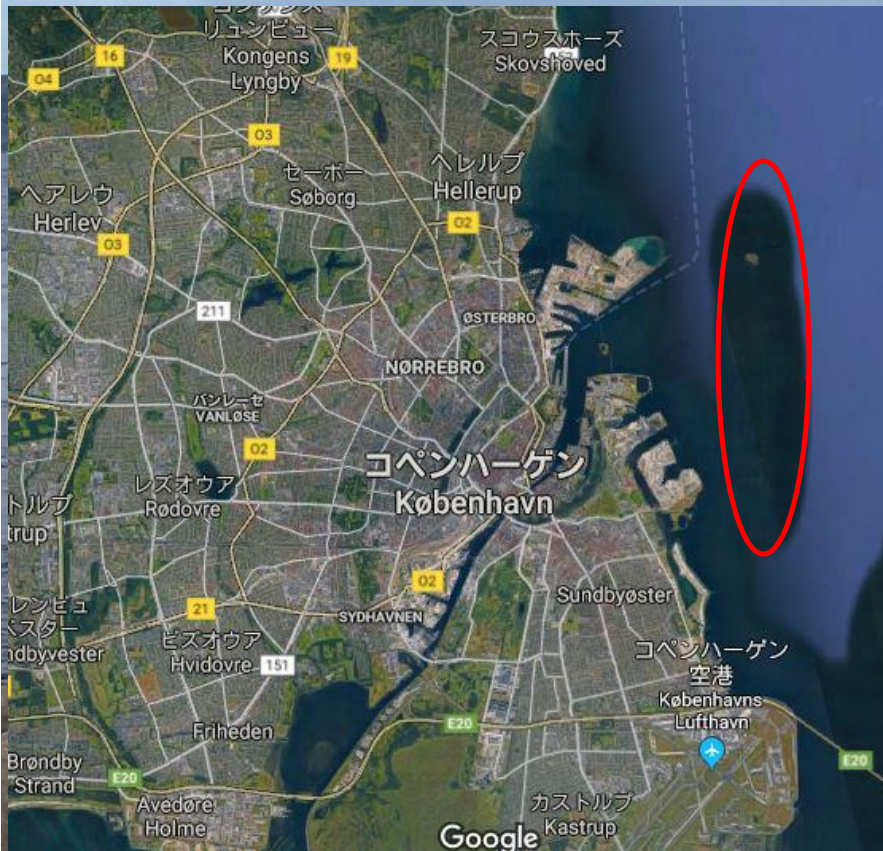


# Middelgrundten offshore wind farm





# Scroby sands offshore wind farm







Restricted parking ZONE  
No loading  
At any time  
Except in signed bays

TRUMPINGTON STREET  
KINGS PARADE

# ケンブリッジ大学

## Collision of seabirds

- ❖ Evidence of collision of seabirds such as terns and gulls at coastal (e.g. Zeebrugge tern colony) or even inland sites
- ❖ May be significant e.g. at Zeebrugge red shaded area shows >1% of regional breeding population for different species
- ❖ Scant information relating to the collision of seabirds *at sea* (Sue King Chapter 9)
- ❖ ORJIP study at Thanet (Skov *et al.* 2018) recently reported with 6 collisions (1 Black-legged Kittiwake, 1 Lesser or Great Black-backed Gull, 2 large gulls and 2 unidentified gulls)



Year	Little Tern <i>Sternula albigifrons</i>	Sandwich Tern <i>Thalasseus sandvicensis</i>	Common Tern <i>Sterna hirundo</i>
2004	5	54	109
2005	2	30	129
2006	4	9	156
2007	12	7	114
2008	2	0	32
2009	0	0	0
2010	0	0	5
2011	2	0	34
2012	0	0	5
2013	0	0	3
2014	0	0	0

After Everaert & Stienen in King Chapter 9

CLEVERTOUCH





# Lynn offshore wind farm









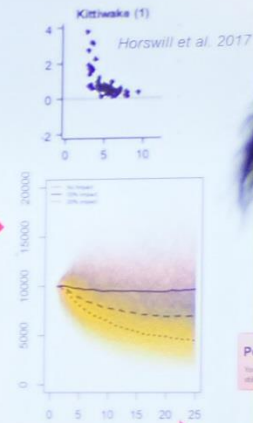
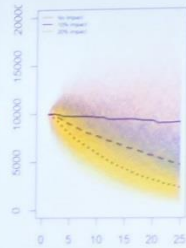
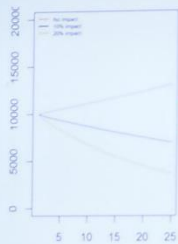
 **BTO**  
British Trust for  
Ornithology

# Population Viability Analysis

Deterministic

Stochastic

Density Dependent



Biological Realism



CTOUCH

People

You're here

and you're

not here



ランド

Titchwell marsh

Google

# Lincs offshore wind farm





イギリス

マン島

Middlesbrough

Google

# Teesside offshore wind farm















NU

Spirit of Dundee

Loganair

NU

TRONAR



Thurso

イギリス

マン島

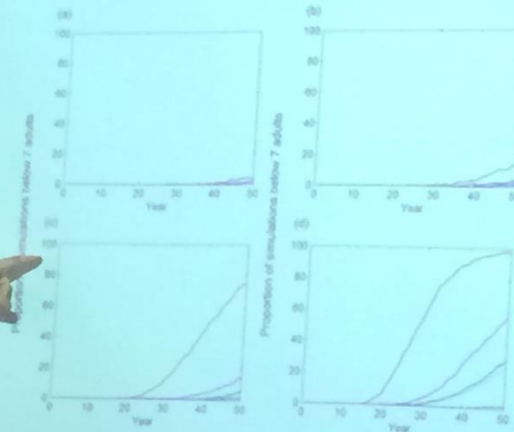
Google

ランド



# Individual Based Models

Simulations below 10% starting population



Within 2km

Outside 2 km

Not in rough grass

Outside 2km and not in rough grass

Control (7 turbines installed and proposed)



**RSPB** a million voices for nature

# Dunnet Head: birds in flight

Dunnet Head attracts many thousands of breeding seabirds. At this viewpoint, you can see many of them flying to and from their nesting ledges and burrows. These include puffins, gullies, razorbills, kittiwakes and fulmars, all of which breed on the cliffs in large numbers.

Dunnet Head also attracts a range of other birds during and after the breeding season. You may see gannets, shags, ravens, skuas or even a peregrine falcon!

Fulmar  
Puffin  
Great skua  
Guillemot  
Arctic skua  
Razorbill  
Shag  
Kittiwake  
Raven  
Gannet  
Peregrine

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DUNNET HEAD

MOST  
NORTHERLY  
POINT  
OF  
MAINLAND  
BRITAIN

WELCOME

