

## Humpback whales in eastern North Atlantic.

- Undertake seasonal migrations between **tropical breeding** grounds (winter) and **high latitude feeding** grounds (summer).
- Humpback whale numbers were severely depleted by **commercial whaling** in the 20<sup>th</sup> Century but now populations are beginning to recover.
- In recent years there has been an increase in sightings in the North east Atlantic although there is a lack of dedicated data in this area and it is not known what the whales are using the area for.

## What did we want to find out?

- Can we acoustically detect humpback whales in the area?
- If we can, how long and when are they here?
- Can we describe the song?

## What data did we use?

- **Acoustic recordings** from soundtrap devices at Stanton Banks and Tolsta
- Data collected from **November 2017- January 2019**
- Humpback whale song was picked out using a detector with manual validation.

## What could these results mean?

- This area could be a **migratory stop over** on the **northbound migration** to summer feeding grounds. Males may be in the habit of singing from travelling from the breeding grounds.
- Return trip- lack of acoustic detections in autumn is interesting. Whales could take same route back but don't sing or could take a different southbound route.
- A recent study (O'Neil et al. 2019) suggested that the **firth of forth** could be used as a migratory stopover for humpback whales on the **southbound** journey. This study used visual records
- **Year round sightings** in the region- some whales don't undertake a **full migration** each year, possible feeding or resting in the area.

## Humpback whale song

- Only **males** sing and it is strongly associated with the breeding grounds and therefore assumed to have a **reproductive function**.
- Song is **highly predictable** and has a hierarchical structure.
- Song is transmitted by **social learning** and is subject to changes (both slow & progressive and fast & dramatic) over time.
- Song has been recorded throughout the migratory route and also on feeding grounds!

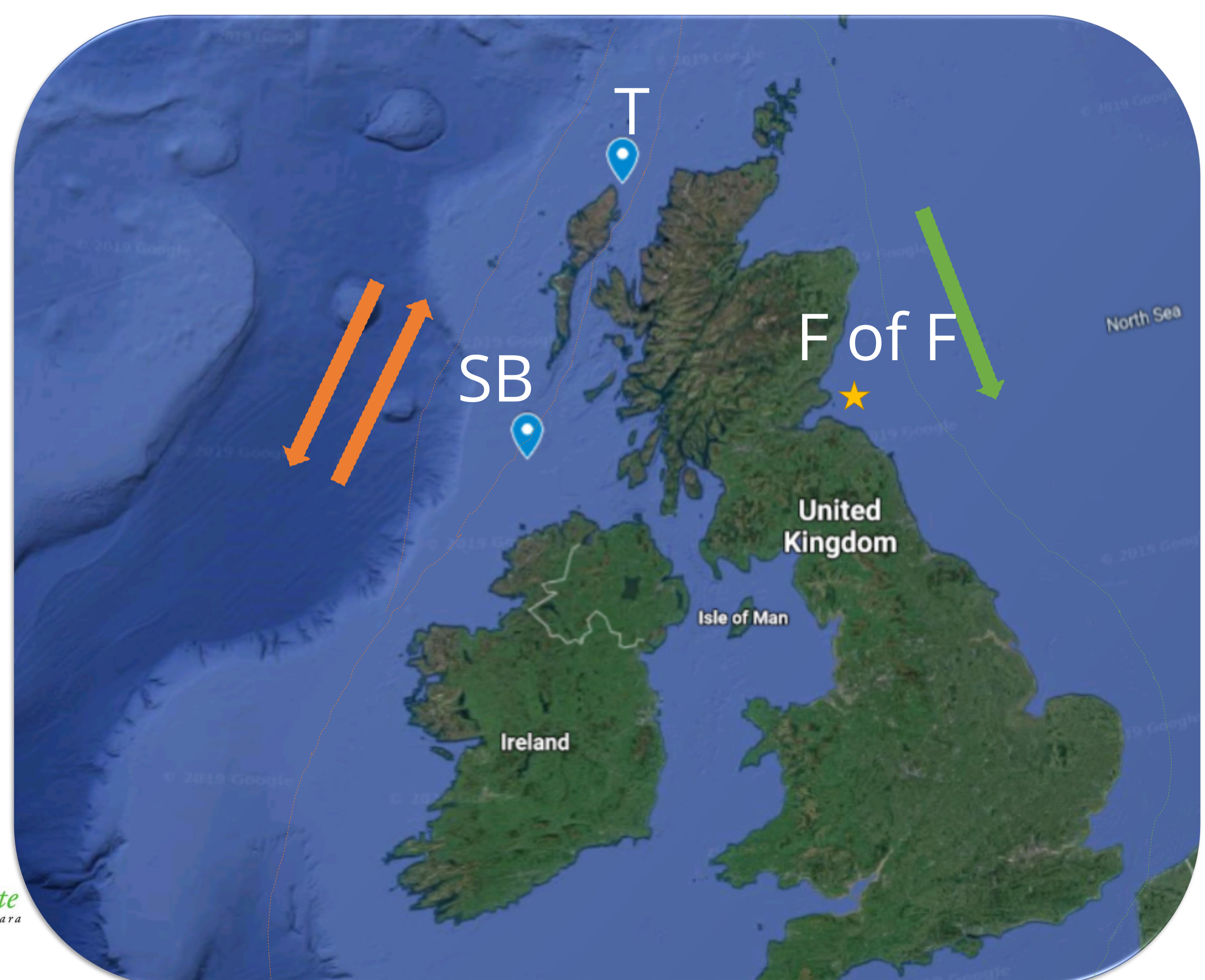
## And why?

Humpback whales are **highly protected** but they still face **numerous threats** such as entanglement and noise pollution. The more we know about them, the more **effectively protected** these whales in our waters. The song description could contribute to **future studies** on humpback whale song transmission and evolution.

## What did we find out?

- Humpback whale song was detected from **March-May**.
- There were no other detections throughout the year
- The song contained **15 distinct units** arranged in **6 themes**.

↑ Summer feeding grounds



↓ Winter breeding grounds