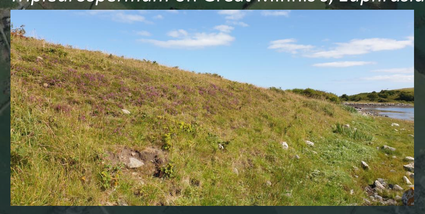
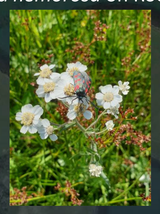
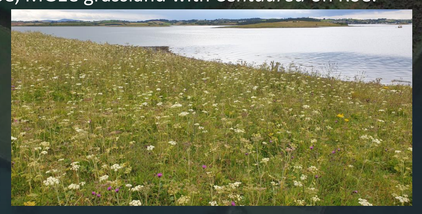
Plants and plant communities of Strangford Lough islands

Jake Dalzell



Tripleurospermum on Great Minnis's, *Euphrasia nemorosa* on Roe, MG1e grassland with *Centaurea* on Roe.

H7b with *Erica cinerea, Zygaena filipendulae* on *Achillea ptarmica*, *Heracleum*-dominated sward on Drummond

Methods

- I visited the islands from 2022 to 2024. Each island was visited at least once between July and September.
- I used 2×2m quadrats following the NVC. These data and satellite imagery were used to classify and map the plant communities on each island.
- The number of plant taxa (species-level and above) present on each island was calculated. Uncertain IDs were excluded. I then made a linear model in R of the relationship between log(species richness) and log(area) of each island.

Fig. 1: log-log graph of island species richness and area

Introduction

- Strangford Lough is a large sea lough in Vice-county H38 (Down), in the North-East of Ireland. Formed by glaciation, it has many iconic drumlin islands.
- These are of conservation importance, especially for their grassland and saltmarsh, and for birds and seals. However, the flora of the islands is poorly studied, if at all.
- Agricultural improvement on the mainland has led to these islands becoming refugia for many grassland species (such as *Linum catharticum, Euphrasia nemorosa*).

Results

- Species richness correlates with the area of the island, with a linear relationship when the values are log-transformed (fig. 1; $R^2 = 0.8441,\ F_{1,10} = 54.16,\ p < 0.0001$). Residual variance is undoubtedly at least partially caused by differences in grazing, although the sample size is too small to test these effects. It would be particularly interesting to see whether Darragh is an outlier for its size, and whether sheep-grazed islands are significantly less diverse.
- On the islands where geese graze and other birds nest, the plant communities can be quite odd, possibly due to high soil nitrogen and selective grazing by geese. The sward here is open and dominated by *Heracleum sphondylium*, *Oenanthe crocata*, and *Centaurea nigra*, with *Arrhenatherum elatius* and *Holcus lanatus* also abundant.

Kayaking

- Accessibility is likely one of the reasons these islands have been under-studied.
- I kayaked out to the islands, which is much cheaper, easier, and lower-impact than using any other kind of boat.
- I brought my notebooks, field guides, camera, food, and other equipment out in a drybag which fits behind the seat.
- This is a great way to do fieldwork - I'd recommend it! Many other islands could be surveyed this way without the need for a larger boat.

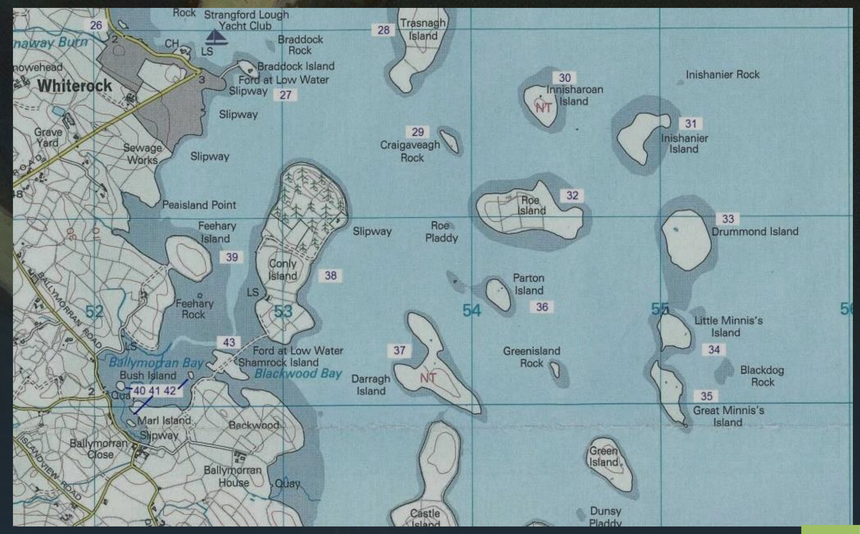


Fig. 2: plant communities of Darragh Island. Scale bar = 100m.

Fig. 3: plant communities of Roe Island. Scale bar = 100m.