



Aquaculture vs. other anthropogenic disturbances: The effects on water birds on Carlingford Lough

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Introduction

- Carlingford Lough is a significant area for aquaculture in Northern Ireland, with Pacific Oysters, *Crassostrea gigas*, being cultivated in trestles, and Blue Mussels, *Mytilus edulis*, being cultured by bottom cultivation. It is the only area on the East Coast of Ireland that farms mussel and oysters.
- Surveys of water birds were carried out monthly at high tide and low tide at 11 sites around Carlingford Lough (North and South) from January to August. Sites were designated into one of three categories: aquaculture- trestle, aquaculture-dredge or recreational.
- Surveys included identifying and counting all the water birds present with their behaviour (roosting or feeding) and position on the shore (terrestrial to subtidal), and also any disturbances, the duration, and which species of birds were disturbed.

Determining interactions between aquaculture and water bird populations on Carlingford Lough to aid management



Results

- A total of 41 species of water birds were observed on Carlingford Lough from January to August.
- The highest number of species were observed at site N2, an aquaculture-trestle site on the North Shore, the least number of species were observed at site S4, a recreational site on the South Shore.
- The total number of water birds observed declined from January to May, and steadily increased from June to August.
- The North shore has a higher number of species than the South shore, which is likely to be due to the shallower tidal range on the North shore.

Summary

- Carlingford Lough is important in terms of oyster aquaculture, mussel dredging, and also water bird populations.
- Aquaculture promotes water bird activity on Carlingford Lough, therefore aiding in their conservation.
- Quantifying seasonal patterns of interactions between shellfish exploitation/production and utilisation of intertidal habitat in Carlingford Lough ensures a good understanding of potential impacts on intertidal bird populations necessary to meet obligations under the birds' directive.



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