

Glashaboy Estuary



Sampling Fish for the Water Framework Directive - Transitional Waters 2008



The Central and Regional
Fisheries Boards

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INTRODUCTION

A fish stock survey was carried out at sites on the Glashaboy Estuary, as part of the programme of monitoring for the Water Framework Directive (WFD), between the 16th to the 17th of October 2008 by staff from the Central Fisheries Board (CFB) and the South Western Regional Fisheries Board (SWRFB).

The Glashaboy Estuary is located approximately five kilometres east of Cork city on Ireland's south coast and is part of the greater Cork Harbour (Fig. 1). The east side of the estuary is heavily wooded while the west side is bordered by the Glanmire Road (R-639). The predominant bed type in the estuary is a thin layer of mud which covers a mix of gravel and stones. The estuary covers an area of 0.12km² and is influenced mainly by the river environment. Glashaboy Estuary provides important for over wintering waterfowl. The estuary is long, narrow and has a riverine characteristic to it (Plate 1).

The estuary receives the water of the Glashaboy River which runs south through the town of Glanmire and into the estuary (Fig. 1). The river is noted as having good stocks of sea trout with good numbers of specimen sized fish (2.7kg.). The river is used for domestic drinking water operated by the Glashaboy Water Works.

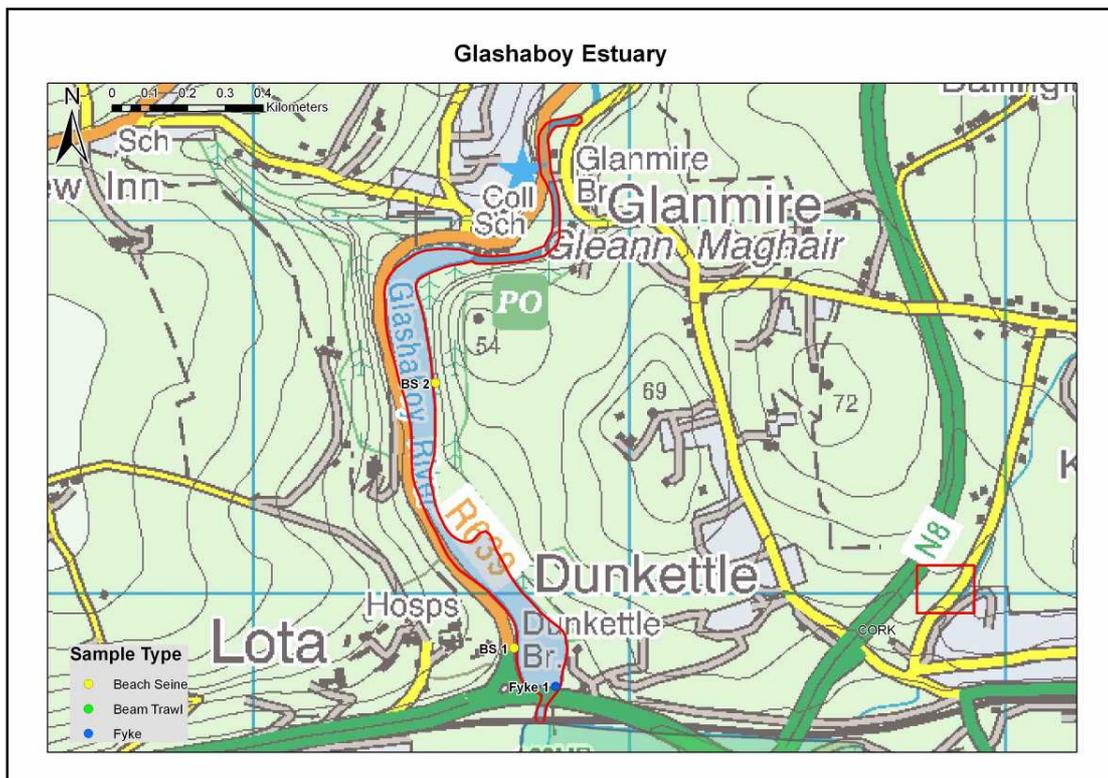


Fig. 1: Location map of Glashaboy Estuary indicating sampling sites, October 2008



Plate 1: Beach seining the Glashaboy Estuary, October 2008

METHODS

Current work in the UK indicates the need for a multi-method netting approach (seine nets, fyke nets and beam trawls) to sampling for fish in estuaries and these procedures are now the standard CFB methodology for fish stock surveys in transitional waters for the WFD monitoring programme. Two sampling methods were used during the Glashaboy Estuary survey (i.e. beach seines and fyke nets). Beam trawling was not attempted due to the rocky and shallow nature of most of the estuary. Portable GPS instruments were used to mark the precise location of each sampling site (Fig. 1).

RESULTS

Two beach seine sites were selected during the survey (Fig. 1). All beach seine sites were chosen to encompass the majority of geographical and, where possible, habitat ranges of the estuary. The shallow nature of the estuary prevented sampling of the upper portion of the estuary. Three fish species were captured, the most frequently occurring and abundant species was common goby which was captured in both beach seines (Table 1).

Only one fyke net site was selected in the lower portion of the estuary as it was the only site accessible by boat. Eels were the most abundant fish species captured in the fyke nets (Table 1).

Overall only four fish species were captured in the survey. Flounder was captured by both sampling methods. The shallow nature and small size of the estuary limited the places available to sample presumably impacted on catch results.

Salinity values taken at beach seine sites ranged from 1.20ppt to 3.0ppt.

Table 1: List of fish species and abundances of each species by net type in Glashaboy Estuary, October 2008

| Scientific name | Common Name | Glashaboy | |
|-------------------------------|--------------------------|-----------------|--------------|
| | | Beach seine (2) | Fyke net (1) |
| <i>Chelon labrosus</i> | Thick Lipped Grey Mullet | 8 | - |
| <i>Platichthys flesus</i> | Flounder | 3 | - |
| <i>Pomatoschistus microps</i> | Common Goby | 52 | - |
| <i>Anguilla anguilla</i> | Eel | - | 3 |

DISCUSSION

An essential step in the WFD monitoring process is the classification of the status of transitional waters, which in turn will assist in identifying the objectives that must be set in the individual River Basin Management Plans.

The EPA have assigned the Glashaboy Estuary an interim draft classification of “Moderate” status, i.e. must be improved to “Good” status by 2015, based on general physico-chemical elements, phytoplankton and macroalgal growths (SWRBD 2008).

A new WFD fish classification tool, Transitional Fish Classification Index or TFCI, has been developed for the island of Ireland (Ecoregion 1) using NIEA and CFB data. This is a multi-metric tool based on similar tools developed in South Africa and the UK (Harrison and Whitfield, 2004; Coates *et al.*, 2007). The Glashaboy Estuary has been classed as “Poor” status (EQR-0.275) using the fish classification tool.

A final overall classification will be assigned to the estuary in December 2009 after the RBD consultation and review period has been completed.

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