



TANAGH

Outdoor Education & Training Centre

The Study of a Freshwater Ecosystem



One Day Programmes Leaving Certificate Biology Freshwater Ecology

Freshwater ecology is a subject of growing importance. Ireland has international commitments under the EU Water Framework Directive to improve the quality and status of rivers, lakes and groundwater. At Tanagh OETC we will explore a freshwater ecosystem, its flora, fauna and abiotic factors. We will determine what makes a healthy or polluted ecosystem using key indicator species. We will cover the key areas of the Leaving Certificate Biology syllabus. Most of the day is spent outdoors so **dress warmly, bring hat, gloves, extra fleece, wellington's and rainjacket**. Some members of the team will be required to wear wetsuits, so it would be a good idea to bring towel, toiletries, swimsuits etc.

9.30am Arrival at Tanagh OETC Fieldstudies Classroom

- **Quick Introduction to Freshwater Ecology**, divide into teams, each team is given necessary ecological survey equipment, collection jars etc. Teams are provided with buoyancy aids and wetsuits. We can now canoe upstream to study location.
- **Ecosystem Map at location**, a plan is drawn of the area under study and a profile showing its three dimensional structure
- **Survey Fauna**; A kick sampling net is used to take samples along the bottom, in the water column, and at the water surface. A plankton net is used to survey smaller freshwater creatures, a beating tray is used to survey shrubs, trees and large macrophytes for invertebrate fauna.
- **Survey Flora**; a sample is taken of each flowering plant species found from the high water mark to deep water, a leaf from each tree species, fungi, algae and submerged plants are also sampled. **(Flora and Fauna is identified at Location using Keys Provided)**

1.00pm Lunch (out on the river bank)

1.30pm Restart session, recap of mornings work. Introduction to afternoon session.

- **Line transect**; Linking abiotic factors to the distribution of different flora in the transition zone between the high water mark and deep water.
- **Percentage frequency and (or) percentage cover** of different flora species.

2.45 - 3.15pm Return to Classroom, evaluate results, depart Tanagh OETC



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Bord Oideachais agus Oiliúna
an Chabháin agus Mhuineacháin
Cavan and Monaghan
Education and Training Board

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