



Aigas Field Centre

Biology Programme Guide

Welcome to Aigas Field Centre

Naturedays at Aigas is the project title for the work of the Aigas Trust for Environmental Education at Aigas Field Centre. For over 30 years we have been delivering environmental education to school children and adults throughout the Highlands.

On the following pages you will find descriptions of the programmes we can offer Biology students studying their Nationals up to Advanced higher. We endeavour to cater to your needs and therefore the programmes are very flexible.

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Naturedays at Aigas

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Programme Summaries

Programme	Content
1 Freshwater Ecology	Study one of the many freshwater habitats we have on site. Investigation titles include: <i>An investigation into the effects of water velocity on freshwater invertebrate communities</i> <i>An investigation into the effects of substrate type on freshwater invertebrate communities</i>
2 Grassland Ecology	We have a number of improved and non-improved grasslands on site. Our most popular studies include: <i>An investigation into the effects of grazing on grassland communities</i> <i>An investigation into the effects of fertiliser on grassland communities</i>
3 Woodland Ecology	We have native deciduous woodlands and plantation woodlands on site. Study subjects include: <i>The differences in woodland fauna/flora diversity in coniferous and deciduous woodlands</i> <i>The effects of invasive species on fauna/flora diversity</i>
4 Moorland Ecology	We have extensive moorland on site which is not only historically important, but also important ecologically. Example studies include: <i>The effects of heather burning on moorland fauna/flora diversity</i> <i>The differences in fauna/flora diversity in managed and unmanaged moorland</i>
Optional Extras Elusive Species and Wildlife Conservation	As part of your field studies course you can also use one of our wildlife hides to conduct ethograms, or see how we conserve and monitor local populations of pine martens, badgers and owls.



Freshwater Ecology

The Aigas estate is home to a whole host of freshwater habitats. We have the Aigas Loch which is currently home to a population of beavers, and a number of streams on site which allows us to offer a variety of field studies relating to velocity and substrate type.

We take a number of biotic and abiotic measurements in the loch and the stream which allows a comparison to be made between the two habitats. We also look at the adaptations of the organisms in those habitats and let the students identify the organisms using dichotomous keys.

Learning Outcomes:

- 1) Understand the process of conducting an investigation
- 2) Collect primary data using appropriate sampling techniques
- 3) Learn how to identify invertebrates using dichotomous keys
- 4) Learn about the adaptations of freshwater organisms

Techniques Covered:

- 1) Kick sampling
- 2) Abiotic measurements
- 3) Systematic, random and stratified sampling
- 4) Data presentation and analysis
- 5) Species diversity indices
- 6) Biotic indices – Trent, Chandler, and BMWP scoring
- 7) Statistics: T-test, Chi-squared, Spearman's rank



Grassland Ecology

We have a number of managed and unmanaged grassland habitats on site. Some are managed through mowing, others are grazed and some areas are natural and unmanaged. Our grassland studies compare two areas in order to see the effects management has on the diversity of grassland plants.

We also focus on how to identify different plants using key identification features.

Learning Outcomes:

- 1) Understand the process of conducting an investigation
- 2) Collect primary data using appropriate sampling techniques
- 3) Learn how to identify plants using identification keys
- 4) Learn about the adaptations of grassland flora

Techniques Covered:

- 1) Quadrats
- 2) Abiotic measurements
- 3) Random sampling
- 4) Data presentation and analysis
- 5) Species diversity indices
- 6) Soil sampling – pH, texture and moisture content
- 7) Statistics: T-test, Chi-squared, Spearman's rank, Mann-Whitney U



Woodland Ecology

We have deciduous and coniferous woodland habitats on site. Some of which are natural, and others have been planted. Having a number of woodland habitats allows us to study the differences in flora and fauna diversity in the woodland habitats, along with looking into the history of forestry and woodland management throughout Scotland.

Learning Outcomes:

- 1) Understand the process of conducting an investigation
- 2) Collect primary data using appropriate sampling techniques
- 3) Learn how to identify plants and animals using identification keys
- 4) Learn about the adaptations of woodland flora and fauna

Techniques Covered:

- 1) Quadrats
- 2) Abiotic measurements
- 3) Random, systematic, and stratified sampling
- 4) Data presentation and analysis
- 5) Pitfall traps
- 6) Species diversity indices
- 7) Statistics: T-test, Chi-squared, Spearman's rank, Mann-Whitney U



Moorland Ecology

We have extensive areas of moorland at Aigas; this allows us to study the flora and fauna which inhabit it. Our moorland has been inhabited by human beings since the Bronze Age and therefore we can also teach the students about the importance of moorland habitats from 4000 years ago to the present day.

Learning outcomes:

- 1) Understand the process of conducting an investigation
- 2) Collect primary data using appropriate sampling techniques
- 3) Learn how to identify plants and animals using identification keys
- 4) Learn about the adaptations of moorland flora and fauna

Techniques Covered:

- 1) Quadrats
- 2) Abiotic measurements
- 3) Random, systematic, and stratified sampling
- 4) Data presentation and analysis
- 5) Species diversity indices
- 6) Statistics: T-test, Chi-squared, Spearman's rank, Mann-Whitney U



Elusive Species and Wildlife Conservation

We are part of a wildcat breeding programme here at Aigas. Although it is not possible for the students to see the cats, we can teach the techniques we use to monitor local populations of mammals. We mainly do this through camera trapping and tracking.

We have three hides on site which are visited by an array of garden and woodland birds in the day and pine martens, badgers, and owls in the evening. We have wild otters which regularly visit our loch, along with a captive population of beavers. The students can see the beaver lodge and the other signs that they have left behind.

Techniques Covered:

- 1) Camera trapping
- 2) Mammal trapping
- 3) Tracks and signs workshops
- 4) Scat identification
- 5) Owl pellet dissection

To book your visit, please contact our education team on:

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Or email:

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