



Institute of Ecology and Environmental Management

ECOLOGIST PROFILE

JOB DESCRIPTION AND ACTIVITIES

Job Description

Ecologists are concerned with the relationships between organisms and their environment and carry out a wide range of tasks depending on their specialist knowledge (e.g. freshwater, marine, terrestrial, fauna, flora, etc.) When starting out, ecologists often design and conduct surveys, identifying, recording and monitoring habitats and species. They analyse, interpret data and samples and turn ecological data into information to help assess and understand the state of the environment. Work becomes more wide-ranging, depending on how careers progress, with senior ecologists being generally more involved in policy, appraisal and interpretation work. In some sectors, ecology involves important experiments, sometimes over large areas and long time periods. Through much of its scope, ecology is used widely in seeking solutions to environmental problems.

The work supports compliance with European and UK environmental legislation and the [UK Biodiversity Action Plan](#), so ecologists must be aware of environmental policies and legislation, which they also have an influence on shaping.

The numbers of professionals carrying out ecological work is not easily estimated, but is large. IEEM alone has around 4000 members active in this sector.

Typical Work Activities

The work of an ecologist depends on the nature of the employer and the purpose of the work. For example, environmental impact assessments are required by law for planning permission; the [UK Biodiversity Action Plan](#) at national and local level has given rise to comprehensive lists of species that need to be monitored and protected; there is an increasing demand for the collection and management of biological information for national databases (see, for example, the [National Biodiversity Network \(NBN\)](#)); and climate change is monitored by mapping the movement of key species and changes in their abundance.

Typical work activities may include some of the following to a greater or lesser degree:

- liaising with site managers, engineers, planners and others associated with a survey;
- applying sampling strategies and employing a range of habitat survey techniques, such as: Geographic Information Systems (GIS), Global Positioning Systems (GPS), aerial photography, records and maps;
- carrying out environmental impact assessments;
- taxonomy - classifying organisms and understanding their relationships;
- analysing and interpreting data, using specialist software programs;
- habitat management and creation;
- writing reports and issuing recommendations;
- data analysis and reporting;
- advising engineering firms, road planners, construction firms and other stakeholders;
- carrying out research and development and applied science;
- undertaking teaching in schools, field centres, academic institutes etc;
- keeping abreast of new environmental policies and legislation; and
- developing changes to policy and/or legislation, based on ecological findings.

Salary and Conditions

- Starting salaries vary considerably from about £13,000 to £19,000 depending on the employer and your own skills and experience (salary data collected March 07).
- Expected salaries with 10-15 years' experience: £35,000 - £45,000. Higher salaries could be commanded with relevant postgraduate qualifications or specialist expertise (salary data collected March 07).
- Working hours and conditions tend to vary according to your position and seniority. More senior positions, as with most jobs, tend to mean more office-based management work.
- Environmental consultancy working hours vary depending on impending deadlines, which create busier periods.
- Job opportunities occur across the country in both urban and rural areas.
- Sites include a huge range of different species and habitats, from woodland to freshwater and marine and intertidal environments.
- Conservation sites include: Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) (birds), Sites of Special Scientific Interest (SSSI); Ramsar sites (see [Ramsar Convention on Wetlands](#)); property of [The Wildlife Trusts](#); land owned by the [National Trust](#);
- Summer months are usually busier as work is often seasonal (and may be conducted on a short-term contract basis).
- Up to 90% of the time can be spent outdoors in the summer.
- Administrative work, results analysis and report writing are more concentrated in the winter months.
- Men and women are fairly evenly represented.
- Surveys are generally conducted by a small team, usually two people, although you may have to work alone. Ecologists are also likely to be part of a larger multidisciplinary team including conservation officers, engineers, rangers and administrative staff.
- A driving licence is required for most jobs to travel to survey sites. Some positions, particularly consultancy work, require extensive travel in the UK, and occasionally overseas.
- The more specialised and qualified you are, the more you will find opportunities to get paid work abroad. Organisations such as the [World Wide Fund for Nature \(WWF\)](#), [Greenpeace UK](#) and [Frontier](#), as well as environmental consultancies, offer opportunities, and non-governmental organisations (NGOs) offer voluntary work too.
- If you have a PhD, there are research positions in many universities around the world.

Entry Requirements

A good honours degree in a biological/ecological science, with elements of taxonomy, is generally required. In particular, the following degree subjects are recommended:

- ecology;
- environmental biology;
- environmental management;
- conservation biology;
- applied life sciences;
- botany/plant science; or
- marine biology.

Entry with no qualifications and/or a Foundation degree or other qualifications is possible as long as it is accompanied by a good set of skills and experience, especially practical survey and identification skills. Practical tests may form part of job interviews.

A postgraduate qualification in a relevant subject can be an advantage if you have a more general first degree.

Larger environmental consultancies are beginning to offer graduate recruitment programmes and may offer work experience for graduates, mainly in the summer months, when they are at their busiest with surveys.

Candidates will need to show evidence of the following:

- confidence using identification keys, e.g. the National Vegetation Classification (NVC);
- survey techniques e.g. NVC and Phase 1 Habitat Survey;
- identification and interpretation knowledge appropriate to the species and habitats relevant to the particular post;
- knowledge of key environmental legislation;
- competence in understanding and using statistics;
- the ability to use computer software for recording, analysing and presenting data and reports;
- and good written communication and presentation skills.

Regardless of your qualifications, pre-entry experience, either paid or voluntary, is absolutely essential. Volunteering is invaluable and will give you the opportunity to network and make contacts. It is crucial that you do some kind of voluntary or paid work during your degree course in order to secure your first job.

Join your local Wildlife Trust (see [The Wildlife Trusts](#)) and/or become a member of a relevant professional body, e.g. the [Institute of Ecology and Environmental Management \(IEEM\)](#), which have substantially reduced membership and conference rates for students.

Contact organisations to find out what volunteering or work experience opportunities are on offer. Many organisations such as the [Botanical Society of the British Isles \(BSBI\)](#) also recruit volunteers to work on a range of projects in the field. A web search will reveal many other voluntary organisations and groups, including some in your own area.

You could also investigate conservation expeditions organised by companies such as Coral Cay, Trekforce Worldwide or Greenforce. These usually require you to raise funds to pay for the trip. When considering any volunteering, make sure it gives you training and experience in your chosen field of ecology (e.g. don't limit your experience to identifying tropical species if you are intending to find work in the UK; if you want to be a marine ecologist make sure you get some experience of identifying marine species).

Training

Most entrants will be expected to have basic survey and identification skills and a good understanding of a range of habitats. More specialist knowledge can be picked up on the job or through some of the courses on offer in specific identification and recording skills. It can be helpful to your career development to gain expertise in particular species work, such as identifying mosses or grasses, or surveying bats or badgers.

A number of agencies, such as [Conservation Volunteers Northern Ireland](#) and the [Countryside Management Association \(CMA\)](#), offer practical skills training. The [Institute of Ecology and Environmental Management \(IEEM\)](#) has a professional development programme for its members which comprises 50 - 70 courses per year. It also runs two conferences per year on particular topical issues. Members of the [British Ecological Society](#) can obtain funding to attend courses and conferences.

The University of Birmingham, in collaboration with the [Field Studies Council](#) and the [Botanical Society of the British Isles \(BSBI\)](#), offers a wide range of programmes, training participants in biological recording skills. The University of Leicester offers a similar modular course, leading to a Certificate of Higher Education in Plant Studies and Field Botany.

Identification qualifications are offered by the [Natural History Museum](#) and the [Field Studies Council](#) hosts over 50 accredited courses from bird ringing to crayfish monitoring.

Career Development

Salaries in ecology are equivalent to other more long-standing professions.

There are more structured opportunities for promotion in larger organisations, but otherwise ecologists should expect to change locations and/or employers to progress. Competition for positions is fierce throughout the sector. More senior positions usually mean more office-based work, although it is still possible to be involved in field work. Continuing professional development (CPD) will be needed throughout your career as ecology is a rapidly developing field.

There are opportunities for experienced ecologists to set up their own consultancies, working either on their own as freelance consultants offering specialist expertise, or together with other ecologists offering a broader-based consultancy. Good financial and management skills are required if you are to make a success of a business and the courses run by the [Institute of Ecology and Environmental Management \(IEEM\)](#) can assist with this.

TYPICAL EMPLOYERS/VACANCY SOURCES

Typical Employers

Employers include government and statutory bodies; non-governmental organisations (NGOs); environmental consultancies; business and industry; the media and public relations; educational and scientific institutions; voluntary organisations and pressure groups. Examples are:

Governmental and statutory bodies:

- The statutory nature conservation agencies: [Natural England](#); [Scottish Natural Heritage](#); the [Countryside Council for Wales \(CCW\)](#) and the [Northern Ireland Environment Agency](#); [National Parks and Wildlife Service](#); [Heritage Council](#)
- Government departments, e.g. [Department for Environment, Food and Rural Affairs \(DEFRA\)](#), [Welsh Assembly Government](#), [The Scottish Government](#), [Department of Environment, Heritage and Local Government](#);
- [Environment Agency \(EA\)](#) and the [Scottish Environment Protection Agency \(SEPA\)](#);
- The [Forestry Commission](#) and [The Irish Forestry Board](#);
- local government, national park authorities and water authorities.

Scientific bodies:

- The [Natural Environment Research Council \(NERC\)](#) and its research centres, including the Centre for Ecology and Hydrology, the British Antarctic Survey, and the Proudman Oceanographic Laboratory;
- [The Marine Biological Association \(MBA\)](#);
- [Freshwater Biological Association](#).

Conservation and ecology NGOs and voluntary organisations, including:

- [British Trust for Conservation Volunteers \(BTCV\)](#);
- [British Waterways](#);
- [The Wildlife Trusts](#);
- The [Wildfowl and Wetlands Trust](#);
- The [Royal Society for the Protection of Birds \(RSPB\)](#);
- The National Trust
- [Plantlife](#) (the wild plant conservation charity);

- [Friends of the Earth](#) and [Greenpeace UK](#).

Ecological survey work is also carried out by consultancies working for any of the organisations above or for commercial concerns, such as construction firms, including highway construction and landfill companies. Environmental consultancies are listed in the [ENDS Environmental Consultancy Directory](#) and individual consultants who are IEEM members can register on the [IEEM website directory](#).

Sources of Vacancies

- [Environment Job](#);
- [Ecological Recruitment](#);
- [Countryside Jobs Service \(CJS\)](#);
- [The Green Directory](#);
- [ENDS Environmental Job Search](#);
- [Institute of Ecology and Environmental Management \(IEEM\)](#);
- [Green Pages: Global Directory for Environmental Technology](#) .

You can also write speculatively to organisations to enquire about both jobs and voluntary work.

*** *This job profile has been adapted from the one originally found on the www.prospects.ac.uk website. Several changes have been made to the text to make this job profile more relevant and up to date.*