Career Opportunities with a Degree in Ecology

There are many careers available to individuals with a background in Ecology. Ecologists trained in the life and natural sciences (including geology, chemistry, physics) have the scientific background to apply their skills to a variety of jobs. Knowledge of mathematics, statistics, and computers enhance a skill set to design investigations, to analyze and interpret their data, and to understand and build mathematical models of ecological concepts and processes. In addition to the science training, ecologists communicate ideas to those around them. Experience in writing and making oral presentations is another skill that is broadly applicable to many jobs.

Career Choices For Ecology Majors

Some of the following careers may require additional training at the master's level

Natural Resources Specialist
A natural resources specialist works at the state level in Departments of Natural Resources (e.g. Texas, Georgia, etc.) The work involves conducting natural resources surveys, investigative research, studies, and inspections, and analyzing and evaluating the results with regard to the impact on state-owned natural resources.

Environmental Educator
Environmental educators teach children and adults how to learn about and investigate their environment, and to make intelligent, informed decisions about how they can take care of it. Environmental educators may work in traditional classrooms, in communities, and in locations such as nature centers, museums, parks, and zoos. Environmental educators need a broad skill set—earth science, biology, chemistry, social studies, even math and language arts—in order to convey environmental issues to a diverse audience.

Interpretive Naturalist
Interpretive naturalists plan, develop, and implement a wide variety of interpretive programs to audiences of varying ages and abilities to increase the enjoyment and understanding of the cultural and natural resources of regional ecosystems, promote environmental awareness, and foster responsible stewardship. They often work in state and national parks, or educational centers. They can identify and provide natural history information about a wide range of species in the area where they work.

Preserve Manager
The duties of a nature preserve manager will vary but can include include: planning and implementation of preserve management plan objectives such as exotic species control, prescribed fire, wetland restoration, construction of trails and fire breaks, vegetation management, and rare species monitoring; preparing grant applications to support work in the preserve; making presentations to school and civic groups; developing interpretive trails and brochures, species lists, etc. and leading interpretive hikes; recruiting volunteers to augment regional stewardship efforts.

Environmental Planner
Planners work in communities ranging from major cites to small towns. They estimate how the number of households may grow over future years and the services they will need, such as housing, transportation, and water supply. They examine business proposals to develop industrial plant, agriculture, mining, or other commercial developments, and their impact on the environment. The majority of planning careers are with municipal, state, or federal agencies.

Science Teacher
Some people with a degree in Ecology choose to become science teachers at the pre-college level. A teaching certificate is not required for private school employment, but is necessary to teach at public schools. School districts allow these teachers to take courses and become certified over a period of years while working.
Hydrologist
Hydrologists apply scientific knowledge and mathematical principles to solve water-related problems in society: problems of quantity, quality and availability. They measure water properties, such as volume and stream flow and collect water and soil samples for testing. Hydrologists work to improve water conservation and preservation and apply research findings to minimize the environmental impacts of pollution and erosion. They use computer models to forecast future water supplies, the spread of pollution, and evaluate the feasibility of water-related projects, such as hydroelectric power plants, irrigation systems, and waste treatment facilities.

Laboratory Researcher
With an advanced degree, laboratory researchers plan, design and implement laboratory and field experiments. They disseminate the results of their work through publication and public presentations.

Environmental Scientist / Environmental Consulting
Consulting firms often provide services for site analysis. These services can include: conducting wetlands delineations, conducting biological field studies (including GPS and data collection), conducting stream morphological surveys, field monitoring to assess stream restoration performance. Environmental consultants write reports and applications related to permit applications, biological field survey reports, biological assessments, environmental assessments and other environmental documents.

Geographic Information Systems (GIS) Specialist
GIS professionals visualize, analyze, and model regions at scales from local to global to help organizations make informed decisions. They can work at non-profit organizations (national and international), government agencies, and universities.

Ecotourism Coordinator
As interest in ecology and the natural environment grows, there is increasing demand for travel to national parks and other natural areas. Ecotourism is a growing industry, especially in the developing world. Language skills can be very important in this career.

Biological Science Technician
Biological science technicians perform a variety of tasks, depending upon the employer. Here are two examples:

- U.S. Department of Agriculture, Soil Conservation Service: Technician produces and maintains native plant materials. Activities include planting seed or seedlings, maintaining plantings through cultivation, irrigation, pruning, harvesting, weeding, watering.
- U.S. Department of Agriculture, Forest Service: Technician plans and conducts field studies of sensitive wildlife species to determine numbers, environmental conditions, and the condition of the species and its habitat, and factor affecting the health of the species and its habitat. Data collected include habitat conditions, age of habitat, location of species, nesting status, and the condition of the species. Evaluate data and make recommendations for improvement of habitat or species.

County Extension Agent
Cooperative Extension agents provide a link between the University and the public. In Georgia, extension agents oversee the Georgia 4-H program that provides youth education and leadership training in agriculture and the environment. Responsibilities may include providing educational programs in homeowner/urban agriculture, landscape, livestock (horse, dairy, and beef cattle), pesticide, poultry, forestry, row crops, and wildlife.

Wildlife Refuge Specialist
These specialists work as part of the National Refuge System which is in the Department of the Interior- US Fish & Wildlife Service. They deal with wildlife and endangered species management, wildlife habitat management and restoration, wildland recreation management and visitor safety, and visitor services.

Park Ranger
Many park rangers work for the US Department of Interior (National Park Service) or state or regional parks. Their primary duties include patrolling backcountry areas by foot and 4x4 vehicle, contacting park visitors, monitoring natural cultural resources, and performing preservation and impact mitigation activities.