

Careers in Ecology

If you like being outdoors investigating the world around you, are curious about how the environment works, enjoy solving problems, and want to make important contributions to society, you should consider the many careers in ecology!

ECOLOGY: from Greek *oikos* = house (place we live) *logos*= (study of)

- the scientific study of organisms and their environment, addressing:
 - the distribution and abundance of organisms
 - how living things interact with each other and their environment
 - the fluxes of matter and energy through the living world
- the full set of relationships between organisms and their environment, for example:
 - the ecology of the tropical rainforest
 - the ecology of the malaria mosquito
- a disciplinary field, a profession, a community of scientists of which you can be a part!



WHAT DO ECOLOGISTS DO?

Ecologists contribute significantly to our understanding and preservation of the natural world. They provide knowledge to assess ecological issues in a wide range of environments, to solve problems in meeting the food, shelter, and health needs of species and ecosystems, and to enrich the lives of people everywhere through a greater insight into the mysteries of the biosphere.

Ecologists...

- **conduct research outdoors and in the laboratory** - by asking both theoretical and practical questions that can be investigated using scientific techniques in unique places or close to home.
- **teach students and the general public** - at universities or colleges as well as at high schools, museums, and nature centers.
- **apply ecological knowledge to solve environmental problems** - by investigating ecological issues, interacting with affected communities, writing environmental impact statements, and designing sustainable practices.
- **help manage natural resources** - by monitoring, managing, or restoring populations and ecosystems.
- **advise students and local, state and federal policy makers** - by recommending course work and research, working on committees, and providing the best available scientific information to politicians.
- **communicate with co-workers, students, and the public** - by writing articles and research papers, giving lectures and presentations, participating in discussions, and conducting outreach in local communities.



WHAT IS THE JOB OUTLOOK LIKE?

There is a growing need to understand and manage the natural world and our impact on it. This need has resulted in a growth in job opportunities for individuals with ecological backgrounds to conduct ecological research, to determine environmental impacts, to develop management plans to avoid environmental problems and restore ecosystems, to educate the general public, and to develop and manage sustainable communities.

Job opportunities in the ecological and environmental fields are predicted to grow enormously over the next several years - especially in private companies, non-government organizations, and in pre-college schools more than at universities and federal agencies.

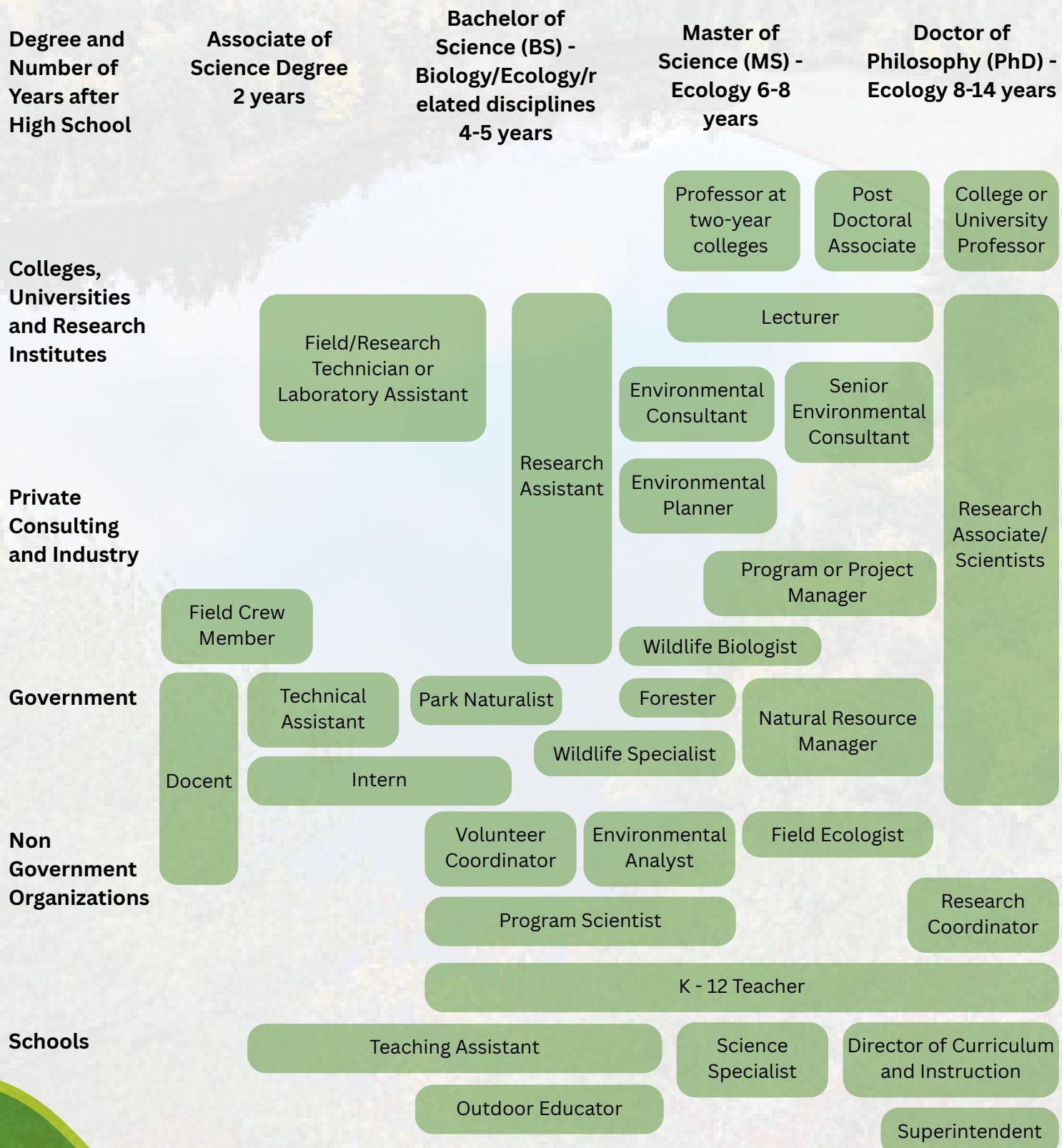
A wide variety of job positions requiring the application of ecological principles are available, though the title might not include "ecologist." Some of these job titles include: consultant, planner, analyst, program manager, education coordinator, computer programmer, lobbyist, and lawyer.

Remember, personal experiences may help to define new job descriptions and with every experience comes more responsibility, financial compensation, and opportunities.



WHAT KINDS OF JOBS ARE THERE IN ECOLOGY?

Careers in ecology exist for all experience levels and abilities - job descriptions are equally diverse. In most cases, salaries, levels of responsibility, and levels of autonomy all increase with increased training and experience. Here are some examples of the types of jobs available according to education level and type of employment organization.



WHAT COURSE SHOULD I TAKE?

Regardless of the specific focus of their degrees, all ecologists need a broad background in the life and natural sciences. An understanding of the physical sciences, including geology, chemistry, physics, and engineering also is helpful. Ecologists need to communicate ideas to those around them, so it is extremely important to gain experience writing and public speaking. They need a working knowledge of mathematics, statistics, and computers to design sound investigations, to analyze and interpret their data, and to understand and build mathematical models of ecological concepts and processes.

Because environmental challenges require working with people and ideas from disciplines beyond the natural sciences, it also is useful for ecologists to know something about the social sciences, such as economics and geography.

If you would like to be an ecologist, but already have an undergraduate degree in a field other than the biological sciences, it's not too late! You may have to make up a few classes along the way, but you still can complete an advanced degree in ecology.



HOW CAN I GAIN EXPERIENCE IN COLLEGE?

Gaining hands-on experiences is a great way to learn specific skills, help get a feel for the day-to-day work of ecologists, and establish contacts for future jobs.

During the school year or over summer breaks:

- Work for a professor doing lab, library, or field-work.
- Seek out [Research Experiences for Undergraduates \(REU\)](#) through the National Science Foundation. Many institutions and field stations offer these.
- Work as a teaching or lab assistant for a biology or ecology course.
- Spend a summer at a field station. The [Organization of Biological Field Stations](#) is a good place to search for opportunities.
- Get a summer or part-time job with a park, government agency, or nature center.
- Get an internship. [The Environmental Careers Center](#) acts as a clearinghouse for a wide variety of internship opportunities.
- Volunteer. [The Student Conservation Association](#) matches students with paid and volunteer opportunities with government and private agencies.
- Get a work/study experience with any one of a number of federal natural resource agencies (Forest Service, Bureau of Land Management, Fish and Wildlife Service, National Park Service).

HOW DO I LEARN MORE ABOUT CAREERS IN ECOLOGY?

ASK AN ECOLOGIST - The best source of information and advice about pursuing a career in ecology is a working ecologist. Ask a professor at school with an ecology background or contact someone at another school nearby or working locally in government or industry. The career center at your school should also have information about graduate schools, job search strategies, and career planning.

JOIN A PROFESSIONAL SOCIETY - A great way to learn more is by becoming a member of a professional association such as the Ecological Society of America (ESA). By joining ESA you will be a part of a professional non-profit membership organization of ecologists. Through ESA you will be able to: learn about annual meetings, receive the newsletter and ESA Bulletin, subscribe to publications, join in discussions, and view job postings. Visit www.esa.org to learn more about what we offer and how to become a member.

READ RELATED PUBLICATIONS - Check your local college or libraries for books on ecological topics to find specific examples of the issues that ecologists study. Reading these publications might also help you determine your interests. Publications such as *American Scientist*, *BioScience*, *Natural History*, *National Geographic*, *Science News*, *Scientific American*, and *Smithsonian* have ecology articles of general interest. Browse professional journals including *Conservation Biology*, *Ecology*, *Ecological Applications*, *Environmental Management*, *Journal of Forestry*, *Journal of Wildlife Management*, *Limnology and Oceanography*, *Natural Areas Journal*, *Trends in Ecology and Evolution*, and *Wildlife Society Bulletin*.

You will find ecology to be an exciting and rewarding career. Working in interesting places, both near and afar, questioning, investigating, finding answers. The knowledge you help build will be valued by other scientists, teachers, policy makers, citizens, and managers - you will be helping society make sound decisions and contributing to our understanding of how nature works.



I WANT TO BE AN ECOLOGIST!

Now that you know you are interested in pursuing a career in ecology, you need to decide whether to go on to graduate school or find a job. Remember, you can always go to graduate school after gaining work experience.

If you'd like to secure a job, there are many resources to help you search. Timing and networking are important factors in finding the right job. Talk to family, friends, peers, professors, and advisors in your college or university career planning office to build upon your network. Get involved with a professional society. Most importantly, ask questions and make contacts. Contacts lead to contacts - and networking is invaluable in finding a job.

Check next page for resources on searching for a job.

RESOURCES:

ESA Opportunities:

- **ESA Membership** – **New for 2026! Undergraduate Students \$25** – ESA is a community of 9,000 scientists, researchers, decision-makers, policy managers, and educators who are dedicated to understanding life on earth. Benefits include: career development, research and publication access, community, advocacy and more!
- **Certifications** – get a professional credential in ecology with just a Bachelor's degree, and upgrade with just a year's experience. Ecologist in Training (EiT) is **free** to ESA members.
- **Exploring Career Opportunities in Ecology** series – monthly webinars hearing stories (and getting advice) from professionals across career fields. **Free**.
- **Professional Development events** – specialized courses and workshops in applied ecological skills and research methods
- **ESA Career Center** – search for opportunities and set up your own job seeker profile. **Free**.
- **ECOLOG-L** – find internship, scholarship, grad program, postdoc and job listings. **Free**.

Internship Opportunities:

- U.S. National Science Foundation Research Experiences for Undergraduates (NSF REU) <https://www.nsf.gov/funding/initiatives/reu>
- National Park Service Jobs & Internships www.nps.gov/subjects/youthprograms/jobs-and-internships
- Student Conservation Association <https://www.thesc.org/>
- MobilizeGreen <https://www.mobilizegreen.org/>
- Greening Youth Foundation <https://www.gyfoundation.org/>

Job Listings:

- Green Jobs Board <https://www.greenjobsboard.us/>
- Conservation Job Board <https://www.conservationjobboard.com/>
- Texas A&M Natural Resources Job Board <https://jobs.rwfm.tamu.edu/search/>
- Climate Change Jobs <https://climatechangejobs.com/>

Your journey in ecology starts here...

Contact us: www.esa.org/seeds or seeds@esa.org

The Ecological Society of America

Washington, DC

