

Ecology as a Career

The job of an ecologist is to record and monitor species in their natural habitat and to become involved in protecting and taking care of the environment they live in

Education needed

- A degree in biological science or a degree in an environmental subject such as ecology, biology, botany, marine biology, or zoology



- ❑ An ecologist is a profession that generally studies the interaction of all or certain organisms with each other and/or their environments and the effects these relationships have.
- ❑ Ecologists study the behaviors, life processes and adaptations of various organisms.
- ❑ They may conduct experiments over extended periods of time to catalog an abundance of data, to create observations, and draw inferences to make conclusions.
- ❑ They also come up with solutions to environmental problems that can benefit ecosystems and lead to a healthier environment for the biotic factors occupying it.
- ❑ Several majors can lead to a career in ecology. Only a few include biology, environmental science, soil sciences, forestry etc.
- ❑ Say you were to venture down the path of majoring in environmental sciences, one very common to become an ecologist. You would need to take general science classes with many hands-on labs and field work, economics, and calculus. After this, more specific classes include environmental ethics and political influences in the environment. The goal is at least an
 - undergraduate degree in the field of environmental science.



A Conservation Career!

❖ **Job-Preserve Ranger**

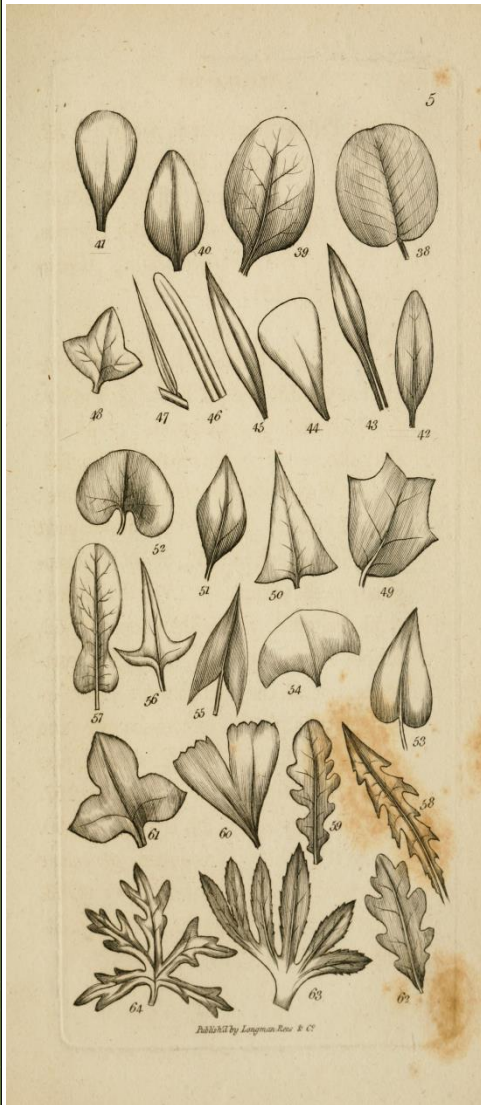
- ❖ The job of a preserve ranger is to perform maintenance, and habitat restoration.
- ❖ The rangers could also maintain and help improve structures, such picnic areas, and walking trails.
- ❖ Promoting safety awareness among the public and staff is another big factor that comes with being a preserve ranger.
- ❖ Also, they establish and maintain positive professional relationships with local residents.

❑ **Requirements**

- ❑ To become a preserve ranger, you will need a graduate degree in a field that could help prepare for environmental science studies.

BOTANY

- Botany is the scientific study of plant life.
- There are many sub-categories in this field such as nutrition, medicine, evolution, and genetics.
- The average salary for a botanist in the United States is about \$62,220 annually.
- To become a botanist you would need at least an undergraduate degree.



Environmental Toxicologist

- **Description:** Environmental toxicology is a branch of environmental science that studies the effects that toxic chemicals have on the health of individuals or our environment.
- **Salary/Wage:** \$40k-\$50k for entry level positions. With average experience the salary starts at \$60k. Cooperative jobs that occupy executive positions can earn more than 200k annually.

Required Education:

- **Advanced courses in physics, chemistry, and calculus**
- **A bachelors degree in toxicology, biology, or chemistry**
- **Research experience or internships in organic and inorganic chemistry**



Pharmaceutical Scientist

- These scientists work in labs everyday developing new medication from plants and other products. They find out how these medications also interact inside the human body, to see if they can become a commercial drug.
- A good background in botany (study of plants) is great to have!
- Education: 4-6 years of post-secondary school.
- A 4 year bachelors degree or an additional 2 year master degree is acceptable.
- The job outlook for this job is looking extremely good because there is an expanding need for new medication.



Biochemist



JOB DESCRIPTION:

- Studies chemical mechanisms and processes of living structures, insects, viruses, microorganisms, plants, and mammals
- work with formation, compositions, and chemical responses of substances in living things.
- involves the sciences of immunochemistry, neurochemistry, molecular biology and bioorganic, bioinorganic and biophysical chemistry.

Education:

- Doctoral degree or higher to be a researcher in biochemistry

Conservation Scientists

- Conservation scientists study, manage, and protect natural resources, such as soil; forests; and water, to ensure they are used responsibly and remain healthy.
- This is a very high-wage career. It pays well above the statewide median wage. It pays \$29.08 / hour.
- Nationally, this career typically requires:
 - Bachelor's degree for entry.
 - No related work experience for entry.
 - Little or no on-the-job training to become competent.
- Some helpful classes that would help you prepare for this career are accounting, algebra I and II, biology, business english, chemistry, entrepreneurship, environmental science, mechanics, trigonometry, wildlife management.



Farmer

Person in agriculture and wants to raise living organisms for food or raw materials.


A farmer's average salary is 60 thousand dollars a year. It may vary depending on the weather.

Most farmers receive their training on the job by often by being raised on a farm. Now they are getting a 2-year associate degree or a 4-year bachelor's degree at a college of agriculture.



- Studies water resources
 - Monitor, manage, and protect water and water resources in a variety of different techniques and ways. Part of their job is to ensure proper flow through channels and pipes.
- Master's degree is needed/6 years in college
- Some states require Licensure or Certification
- Median Salary: \$79,000





Marine Biologist

What do marine biologists do?

Marine biologists study the ocean and the living things within it. They also see how humans impact the ocean ecosystems and what pharmaceutical products the sea provides us with.

How much do they get paid?

A typical marine biologist salary ranges from 45,000-65,000 per year.

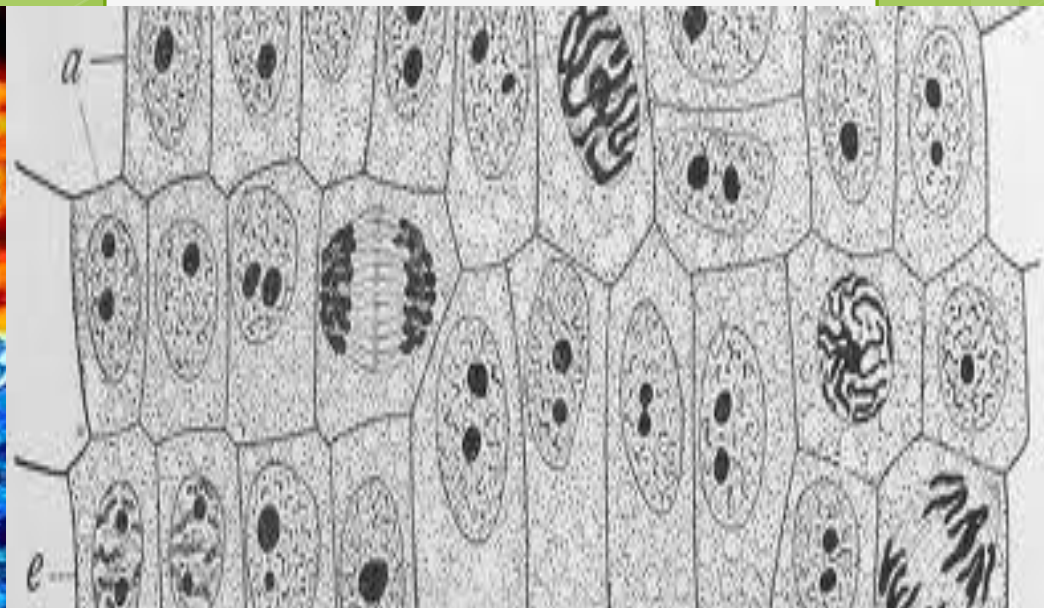
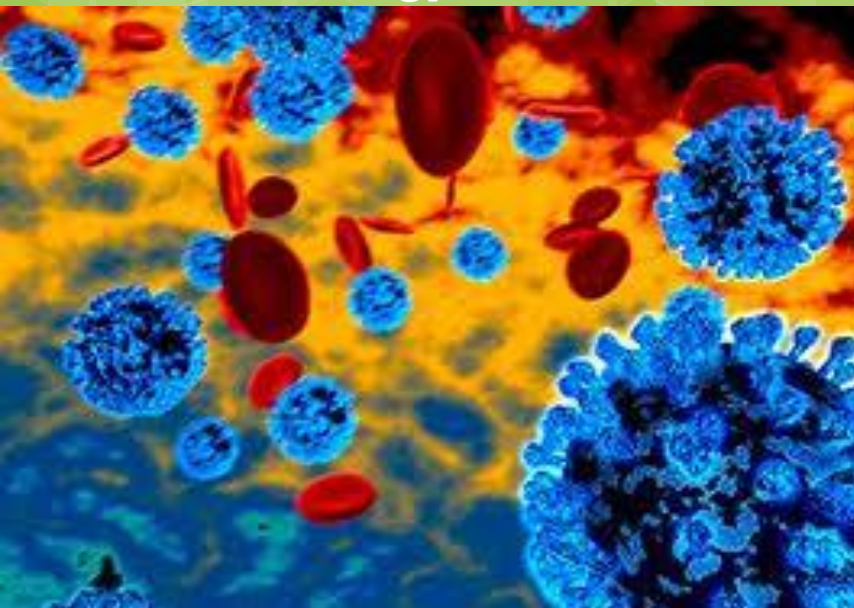
What education do you need to become a marine biologist?

You would need 4 years for your bachelors degree in science and then two years of graduate school for masters in science.

By: Lexi LaRegina and Dominic Yannuzzi

Microbiologist

- Microbiologists study organisms that cause infections, such as viruses, bacteria, archaea, fungi, algae and protozoa.
- To become a microbiologist you will need a Master of Science or Ph.D. in Microbiology or a subfield like bacteriology



Water Resource Engineer

- Around \$32.00/hour
- Salary anywhere from \$51,000 to \$70,000 a year

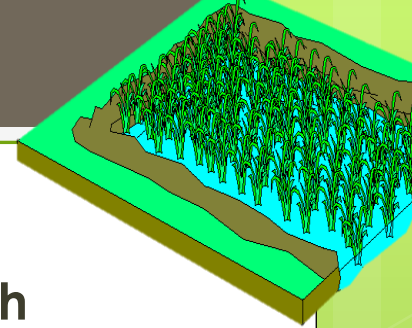
Water resource engineers design and manage systems that treat polluted wastewater, and deliver safe water for homes or businesses.

- •Masters degree in Civil or Environmental Engineering with emphasis in water resources.
- Should have strong mathematics skills, strong analytical skills, and be detail-oriented



Wetlands Scientist

- A wetland scientist's job is to research wetlands such swamps and bayous for their climates, ecosystems, flora, and fauna.
- Your goal is to study their impacts and advantages they leave on the environment.
- As a wetland scientist, it's your job to protect these wetlands! You have to show the public how wetlands are actually very beneficial! You can use wetlands to store clean drinking water, remove carbon dioxide from the atmosphere, prevent floods, and they also give a home to endangered plants, animals, birds, and fish!
- Some pros of being a wetland scientist is an above-average median annual salary of about \$69,000, affecting public policy regarding wetland protection, and furthering the scientific research that is related to wetland environments.
- In order to be a wetland scientist you need a BS in Coastal Environmental Science with minor option in wetland science and management, MS in Coastal Marine and Wetland Studies, MS and PhD in Environmental Technology with a specialization in wetland science





what is a Geologist?

- Geologists are scientists that study matter that makes up the earth.
- People wanting to become a Geologist would need a bachelors degree.
- During the daily life of a Geologist, they collect samples depending on what they study.

