

Are you thinking about getting a master's degree in science?

**The following talk was presented to graduate students in the
Vredenburg Lab
at San Francisco State University, but is relevant to anyone
considering a future in the field of ecology**

**By Tina Cheng, PhD
(Edited by Vance Vredenburg, PhD)**

What is Professional Development?

**a.k.a. jobs
a.k.a. careers
a.k.a. the future
a.k.a. \$\$\$**

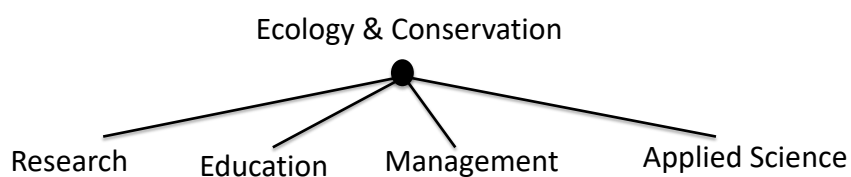
What do ecologists do?

“ Ecologists work 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 – for you will be helping society make sound decisions and contribute to our understanding of how nature works.”

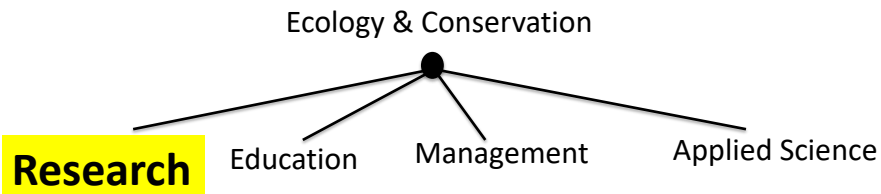
-Ecological Society of America (ESA)

www.esa.org

What do ecologists do?

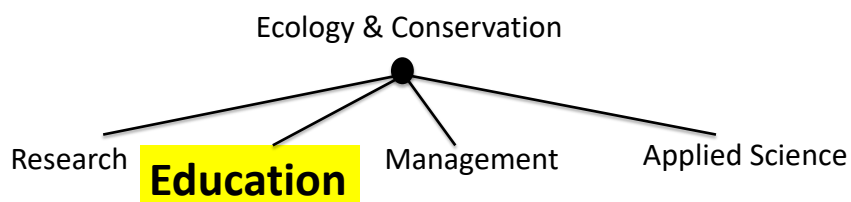


What do ecologists do?



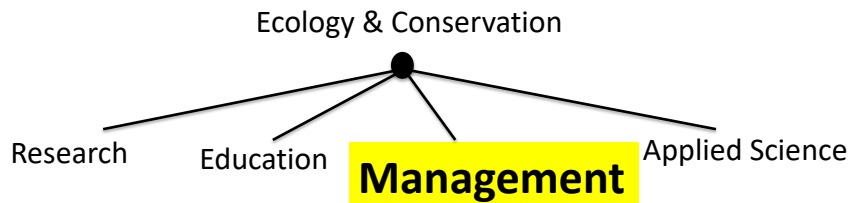
conduct research outdoors & the lab;
ask **theoretical and practical Q's**
investigated using scientific techniques

What do ecologists do?



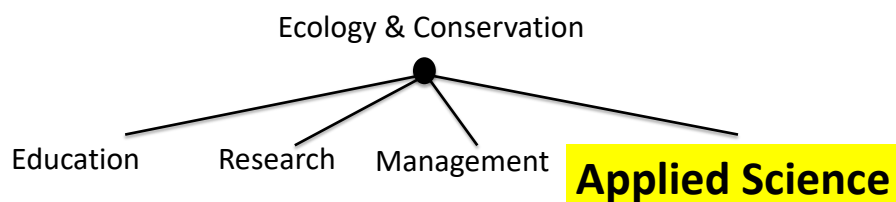
teach students &
interpret science to the general public;
educate students @ many levels,
communicate science as a science
writer, illustrator, film-maker

What do ecologists do?



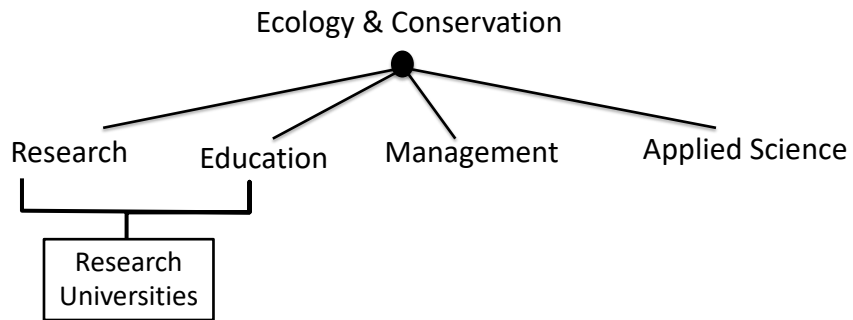
manage natural resources;
monitoring, managing, restoring
 populations & ecosystems, enforcing
 environmental laws & regulations

What do ecologists do?

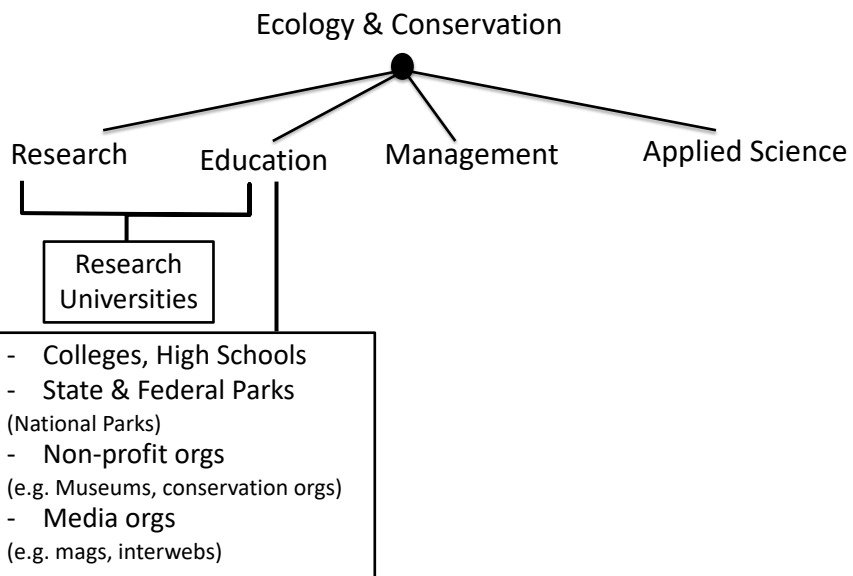


apply scientific skills to solve environmental
 problems & answer other practical Q's;
 investigate ecological issues, write envtl. impact
 statements, design sustainable practices, apply
 scientific skills to answer Q's outside science

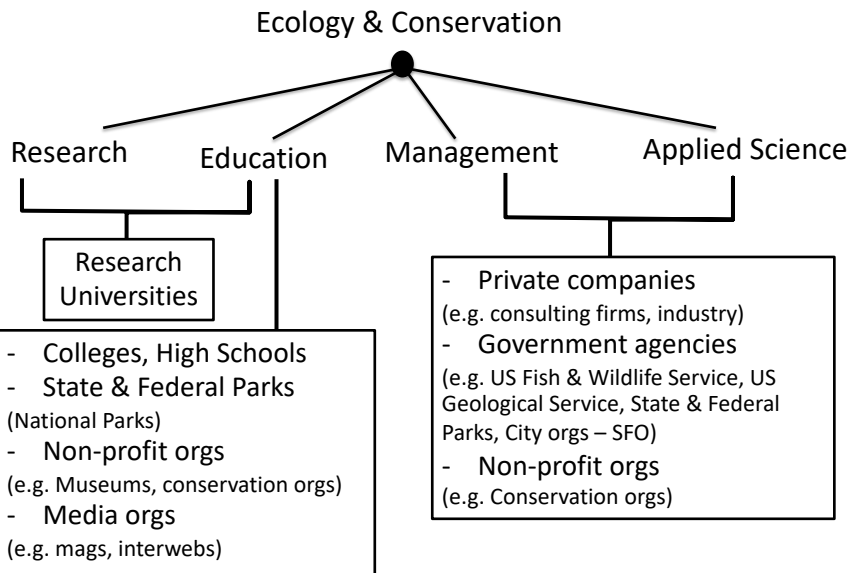
Where do ecologists work?



Where do ecologists work?



Where do ecologists work?



Ecological Society of America

WHAT KINDS OF JOBS ARE THERE?

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.

DEGREE AND NUMBER OF YEARS AFTER HIGH SCHOOL	ASSOCIATE OF SCIENCE DEGREE 2 years	BACHELOR OF SCIENCE (BS) - Biology, Ecology, related disciplines 4 - 5 years	MASTER OF SCIENCE (MS) - Ecology 6 - 8 years	DOCTOR OF PHILOSOPHY (PhD) - Ecology 8 - 14 years
COLLEGES, UNIVERSITIES AND RESEARCH INSTITUTES	Field/Research Technician or Laboratory Assistant	Field/Research Technician or Laboratory Assistant Research Assistant	Professor at some two year colleges Research Assistant	Post Doctoral Associate College or University Professor Lecturer Research Associate/Scientist Research Administrator
PRIVATE CONSULTING AND INDUSTRY	Field/Research Technician or Laboratory Assistant	Field/Research Technician or Laboratory Assistant Research Assistant	Research Assistant Environmental Consultant Environmental Planner Program Manager	Senior Environmental Consultant Research Associate/Scientist Research Administrator
GOVERNMENT	Intern Docent Field Crew Member	Intern Park Naturalist Wildlife Specialist Research Assistant	Program Manager Wildlife Biologist Forester Natural Resource Manager	Research Associate/Scientist Research Administrator Natural Resource Manager
NON-GOVERNMENT ORGANIZATIONS	Intern Docent	Intern Volunteer Coordinator Program Scientist	Program Scientist Environmental Analyst Field Ecologist	Field Ecologist Research Coordinator Research Administrator

Going down your career path

Step one: Find your passion.

Look at job descriptions and gauge your excitement level.

Where?

(1) Job boards

Conservation Job Board
EcoEmploy.com
Ecological Society of America (ESA) Job Board
EnvironmentalCareer.com
Orion Magazine Grassroots Jobsourc
Internships.com (you need to do a relevant search)

(2) List serves – [Ecolog-L \(ESA\)](https://www.esa.org/membership/ecolog/) <https://www.esa.org/membership/ecolog/>



This listerv might be the best place to find out about paid and volunteer positons

(3) Talk to people

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Step one: Find your passion.

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Step two: Explore & Get Experience.

Volunteer, do internships; train, build, hone your skills/qualifications.

How?

(1) Apply for positions

- Inside your university
- Outside university

(1) Make your own position

- Research professors – what do they work on?
Email them and/or their grad students

(3) Networking

(4) Continue your education (get a master's degree or a Phd)

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Get more education.

How to get into grad school

- (1) Get experience
- (2) Make yourself a competitive candidate
 - Apply for grants
 - [Undergrad scholarships](#)
 - NSF Graduate Student Research Fellowship, ESA STAR, National Geo. Young Explorers Program
 - Do research & be intellectually engaged (lab meetings, contribute to papers)
- (3) Network (go to conferences/meetings)

Consider joining a scientific society, you can get help deciding what to do in your career

THE WILDLIFE SOCIETY SAN FRANCISCO BAY AREA CHAPTER

Workshop/Professional Development Scholarship Application

Up to \$1000 reimbursement for a student or early career professional to attend The Wildlife Society Western Section's annual conference
Santa Rosa, CA, February 6-9, 2018

INSTRUCTIONS: To qualify for a TWS S.F. Bay Area chapter workshop/professional development scholarship, please complete the following application in full.

Completed applications should be submitted to **Natalie Reeder** (ReederN@gmail.com), with the subject line "**Western Section 2018 Conference Application**", on or before the advertised submittal date: **December 15, 2017**.

Please include your proof of enrollment/graduation date as attachments, along with the application. Submissions that are late, or do not follow this format, will not be considered.

To be eligible, applicants must be undergraduate or graduate students willing to show proof of enrollment (scanned student ID); or early career professionals willing to show proof of graduation date (scanned diploma or transcripts). Applicants do not need to be members of the San Francisco Bay Area Chapter at the time of the application, but must be members of the Western Section of The Wildlife Society at the time of registering for the conference, to take advantage of the member's registration.

Membership can be obtained here: http://tws-west.org/?page_id=101#join

Or consider attending attending a scientific meeting:

Ecological Society of America
American Society of Ichthyology and Herpetology
EcoHealth
Society for Conservation Biology
The Wildlife Society



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Going down your career path

How to get into grad school

Notes:

- GRE's are not that important (many programs no longer require).
- Grades are not that important (they still count of course!).
- Experience & recommendations will get you everywhere.

1. Apply for positions

- (1) Look for profs and labs you are interested in & write to them.
- (2) Look up postings for grad positions (e.g. Ecolog-L) and apply for them.

2. Apply for grants

NSF Graduate Student Research Fellowship, ESA STAR, National Geo.
Young Explorers Program, Ford Foundation, Fulbright Scholarships

3. Try and try again

Don't be afraid of failure.

Imposter syndrome – fake it 'til you make it.

[Amy Cuddy – Ted Talk](#) (body language matters, look it up)



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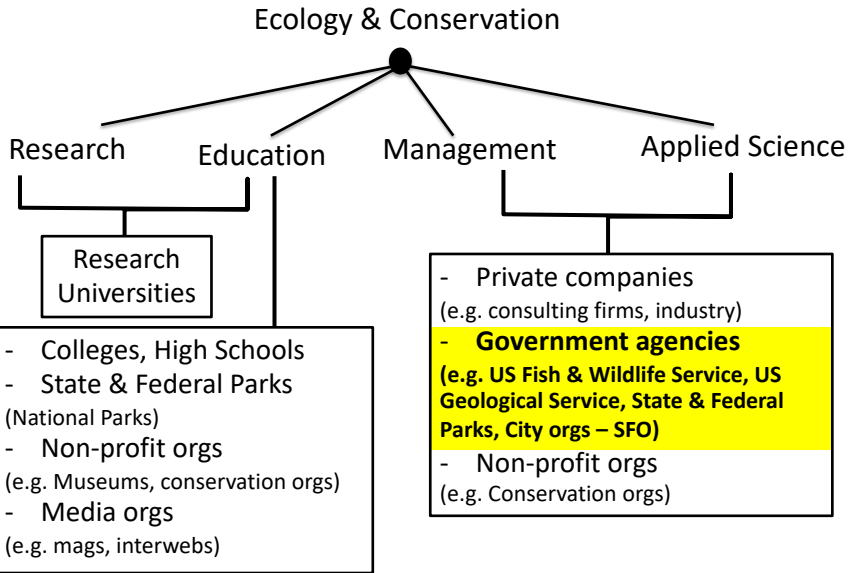
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Depending on what path you choose, there are different steps to get to where you'd like to go.

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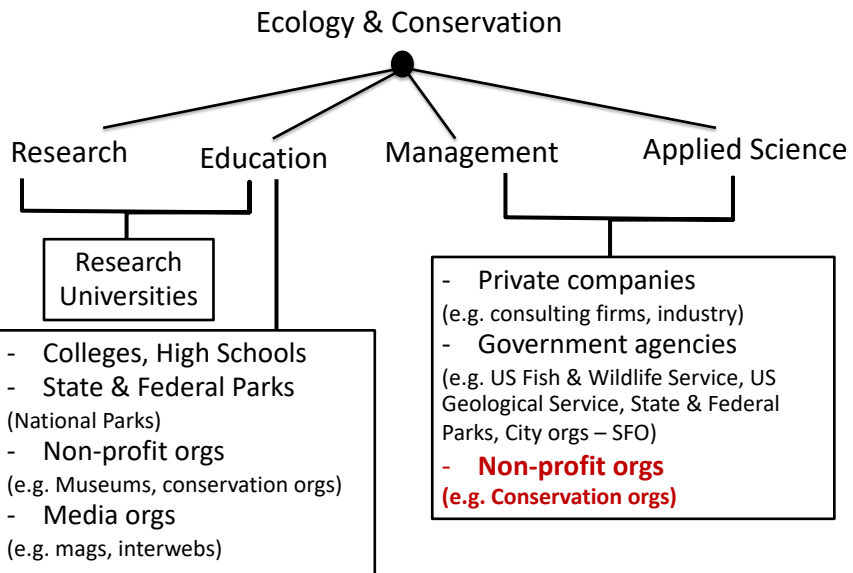


US Fish & Wildlife Service

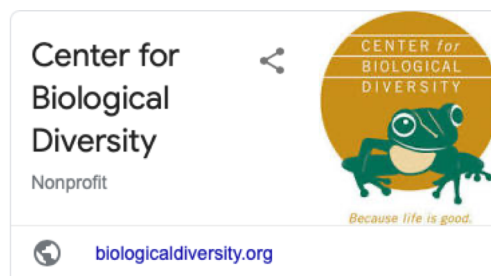
<https://www.fws.gov/refuges/about/employment.html>

The screenshot shows the website for the US Fish & Wildlife Service, specifically the 'National Wildlife Refuge System' page. The page title is 'How Can I Get a Job Working for the U.S. Fish and Wildlife Service?'. The page is divided into several sections: 'Entry Level Positions', 'Internship and Seasonal Employment Opportunities', 'Vacancy Announcements', and 'Career Information'. The 'Entry Level Positions' section explains that these positions are filled through the Office of Personnel Management (OPM) and provides information on how to apply. The 'Internship and Seasonal Employment Opportunities' section mentions that these opportunities occur throughout the country and are not centrally listed. The 'Vacancy Announcements' section directs users to USA Jobs for available federal jobs. The 'Career Information' section discusses the educational requirements for biologists and managers, stating that a bachelor's degree in biology or a related field is required, along with specific semester hours in wildlife and zoological subjects.

Going down your career path



Non-profits! There are many



Check out: A guide for Environmental non-profits (Mother Jones magazine article)

<https://www.motherjones.com/environment/2006/03/guide-environmental-non-profits/>

Do you like analyzing data?
Have you considered becoming a data scientist?

