

Next Generation Workforce: Jobs and the Common Agenda for Wildlife



COLLIN O'MARA
PRESIDENT AND CEO

**HALF OF THE WORLD'S WILDLIFE HAVE
VANISHED SINCE 1970.**

**THAT NUMBER COULD INCREASE TO
TWO-THIRDS BY 2021.**





LAND USE CHANGES

200,000,000+

Hundreds of millions of acres of **INDUSTRIAL FARMS** have replaced small, family farms.



Nearly **4 MILLION** miles of **HIGHWAYS**

ALTERATION OF RIVERS AND WATERWAYS



75%

of America's rivers and streams have been altered in ways detrimental to wildlife habitat.

WHY WILDLIFE ARE DECLINING:

LARGE-SCALE AND RAPID CHANGE

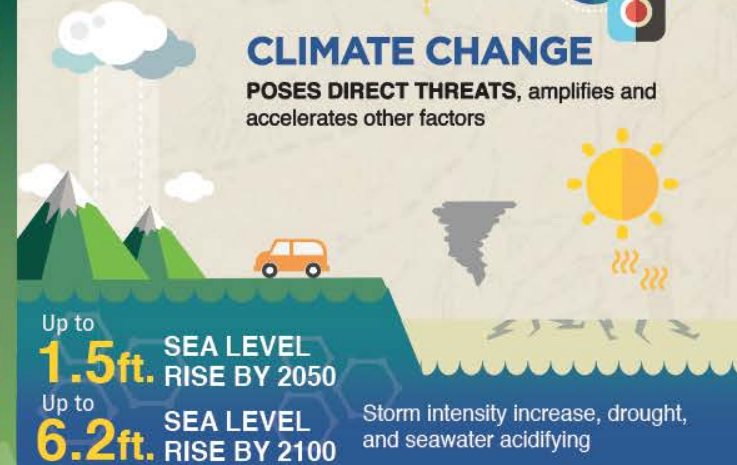


POPULATION GROWTH



CLIMATE CHANGE

POSES DIRECT THREATS, amplifies and accelerates other factors



INVASIVE SPECIES

HARMFUL INVADERS are degrading natural habitats across the country.



WILDLIFE DISEASES

NEW AND EMERGING DISEASES are an increasing problem for many species.

CHRONIC WASTING DISEASE ravaging deer/cervids brains.



ONE-THIRD of the nation's rivers and streams do not meet basic water quality standards

Chytrid Fungus (Bd) decimating amphibian populations worldwide.



WHY PROTECT WILDLIFE?

Wildlife = Biodiversity

Biodiversity = Ecosystem Services

= Living Earth

(.... air, food, fiber, water, shelter for all life....)

Suggested Reading:

***Biodiversity: Connecting
with the Tapestry of Life:***

**Smithsonian Institution Monitoring &
Assessment of Biodiversity Program**

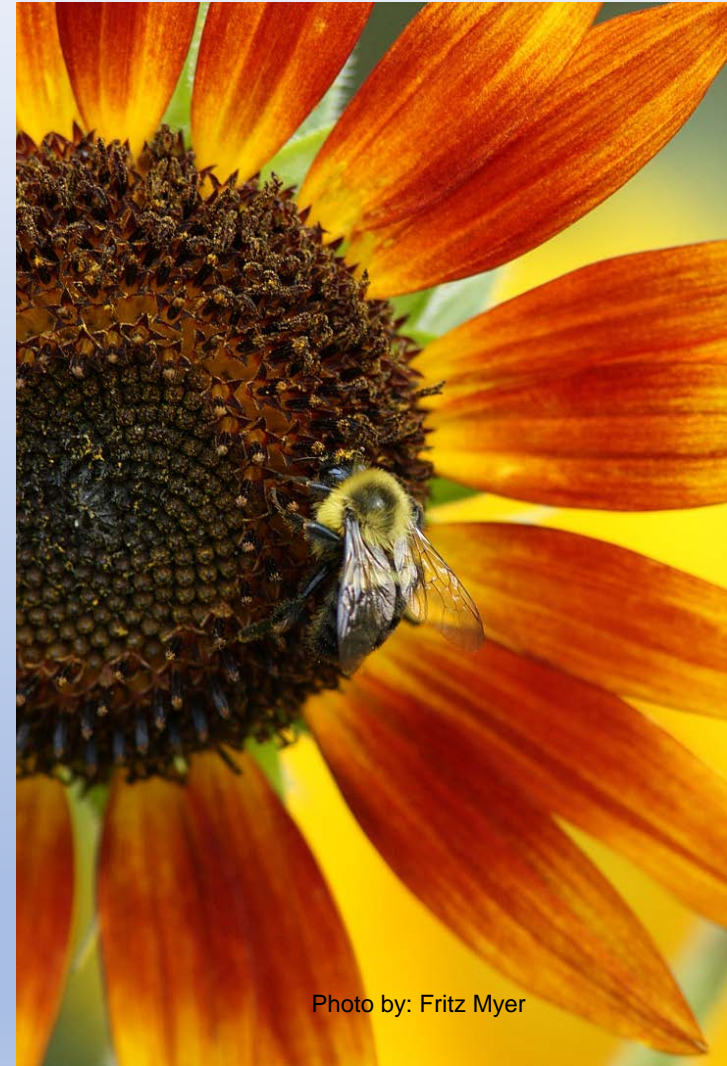


Photo by: Fritz Myer

Common Agenda for Wildlife

PROTECT, RESTORE, CONNECT WILDLIFE HABITAT

- Protected Habitat
- Working Lands
- Waters
- Coasts
- Communities



TRANSFORM WILDLIFE CONSERVATION

- 21st Century Wildlife Management
- Climate Change
- Public Interests in Public Resources
- Systemic Threats to Wildlife



CONNECT AMERICANS WITH WILDLIFE

- Conservation Stewardship Ethic
- Next Generation of Conservationists
- Broaden the Wildlife Constituency
- Build Power for Wildlife



EXAMPLE: JOBS FOR WATER Conservation, Quality, Quantity

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From NWF's Campus Career Center*

Water resource related jobs exist in every U.S. sector, including agriculture (which uses 70% of the nation's water), industry and the residential sector.⁴

Recent listings (as of August 2017) showed Jobs had 107,000+ openings in water sectors, Monster Jobs listed 1000+, and LinkedIn Jobs had over 114,000+ in the US alone!⁶

***For registered NWF EcoLeader and campus partners**

OCCUPATIONS for WATER Conservation, Quality, And Quantity

- Director of Sustainable Water Projects
- Hydrologists
- Water Purification and Overall Construction
- Business Analysts
- Appliance Technicians and Installers
- Plumbers, Pipefitters, and Steamfitters
- Conservation Scientist
- Chemists
- Water/waste Water Project Manager
- Surface Water Quality Scientists/Engineers
- Wastewater Certified Principals
- Water Damage Specialists



Campus Projects = New Jobs and Businesses

Example: Campus Water Projects

- **Penn State University – Pennsylvania** team of students developed demonstration “living machines” that use plants and natural organisms to naturally treat water (at the building, campus or community scale)
- **Northhampton Community College – Pennsylvania** uses biofiltration to clean the runoff from parking lots, resulting in a potable filtrate that can be used to water the on-campus community garden.
- **Point Loma Nazarene University – California** installs 42 waterless urinals from Falcon Waterfree Technologies, through a program run by the San Diego Water Authority.
- **University of California – San Diego** AQUAholics Anonymous is a coalition between students, staff and faculty designed to combat UC San Diego’s water use addiction.


Example: Natural Resource Jobs: for Land, Parks, Forests and Wildlife



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The third largest sector of the clean economy is conservation (defined as management of public natural resources such as land, parks, forests, and wildlife), which employed nearly 315,000 workers in the U.S., according to the Brookings Institution.

A large buck with impressive antlers stands in a field of tall grass. The buck is facing left, and its antlers are a light tan color with several points. The background is a soft-focus field of golden-brown grass.

Careers in wildlife and habitat preservation can be categorized by job duties (e.g. project management, research scientist, technician, etc.) and by field of work (e.g. aquatic environments, forestry, green buildings, etc.).

- Wildlife Center Coordinator
- Reforestation Forester
- Wildlife Rehabilitator
- Wetland & Stream Ecologist
- Chief Conservation Officer

- Wetland/Regulatory Specialist
- Ecological Restoration Project Manager
- Land Conservation Specialist
- Biodiversity Program Manager
- Park Ranger
- Fish and Wildlife Biologist
- Zoo Curator
- Naturalist



EXAMPLE: JOBS IN ENERGY SECTORS

Wind and solar jobs are growing 20% annually - 12 times faster than the overall economy! Examples by energy sector:

Bioenergy (429,000)

- Solar (208,000)

- Wind (88,000)

- Geothermal (35,000)

- Data Analysis (8,000)³

Now Hiring: The growth of America's clean energy and sustainability jobs.

EXAMPLE: EDUCATION AND AWARENESS JOBS



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Tens of thousands of educators are classified as “environmental” educators, and many more of the 5+ million K-12 and postsecondary educators incorporate environmental education into their curricula. By 2022, 300 million Americans will actively use environmental knowledge to ensure the wellbeing of earth and its people (**NEEF, in the NWF Career Center for EcoLeaders**).

ECOLEADERS: TAKING KEY STEPS FOR WILDLIFE

1. Declare and share a personal mission for ecological justice
2. Advance a wildlife or sustainability team project
3. Support others
4. Earn certification (for project-based leadership)
5. Create a career plan

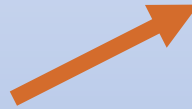


Britt Bollenbach, One of the first of NWF's certified EcoLeaders

NWF Career Resources: for NWF Campus Partners and Registered EcoLeaders

Offerings

1. Updated Job Links
2. Career Planning Tool
3. Interviews with EcoProfessionals
4. Career Outlooks:
 - a) Salaries
 - b) Required Education and Certifications
 - c) Job Demand
 - d) Project Examples
 - e) Resources



Job Categories

- ✓ Buildings
- ✓ Climate Adaptation and Mitigation
- ✓ Energy
- ✓ Environmental and Community Justice
- ✓ Business and purchasing
- ✓ Consumption and waste
- ✓ Education and Awareness
- ✓ Food and Agriculture
- ✓ Habitat and Wildlife
- ✓ Governance and Policy
- ✓ Outdoor Recreation
- ✓ Transportation
- ✓ Water

EcoProfessionals Featured in NWF's Career Center for Campus Partners and Registered EcoLeaders

A Professional's Perspective



Matt Voorhees

Niagara Conservation

"We helped one client recently curb water use by 40 billion gallons over 6 months. That's the kind of difference graduates can make in water conservation and related fields. You feel good at the end of the day, you've helped your customers save money, and you've helped the environment."



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JOIN NWF AND PARTNERS (AASHE, SECOND NATURE, USGBC)

20 Million Global Sustainability Citizens
by 2025, engaged as EcoLeaders and
Tracking courses using the STARS
Rating system.



STARS[®]
SUSTAINABILITY TRACKING
ASSESSMENT & RATING SYSTEM