Next Generation Workforce: Jobs and the Common Agenda for Wildlife

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THAT NUMBER COULD INCREASE TO TWO-THIRDS BY 2021.
**Why Wildlife Are Declining:**

**Large-Scale and Rapid Change**

- **Land Use Changes:**
  - 200,000,000+ acres
  - Hundreds of millions of acres of industrial farms have replaced small, family farms.
- **Urban Sprawl:**
  - Energy development fragmenting large areas of wildlife habitat.
- **Alteration of Rivers and Waterways:**
  - Nearly 4 million miles of highways.
  - 75% of America’s rivers and streams have been altered in ways detrimental to wildlife habitat.
  - One-third of the nation’s rivers and streams do not meet basic water quality standards.

**Population Growth**

- 1936: 128 million
- 150% growth
- 2016: 322 million

**Climate Change**

- Poses direct threats, amplifies and accelerates other factors.
- Up to 1.5 ft. sea level rise by 2050.
- Up to 6.2 ft. sea level rise by 2100.
- Storm intensity increase, drought, and seawater acidifying.

**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.

**Now in 22 States**

- 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
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.  

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!  

EXAMPLE: JOBS FOR WATER Conservation, Quality, Quantity

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From NWF’s Campus Career Center*

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*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).

- Northampton 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

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.
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
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

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.”
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.