

# **CAREER GUIDE FOR WILDLIFE BIOLOGIST**

SOC Code: 19-1023

Pay Band(s): 4 and 5            ([Salary Structure](#))

**Standard Occupational Description:** Study the origins, behavior, diseases, genetics, and life processes of animals and wildlife. May specialize in wildlife research and management, including the collection and analysis of biological data to determine the environmental effects of present and potential use of land and water areas.

**Wildlife Biologist positions in the Commonwealth are assigned to the following Roles in the [Life and Physical Science Career Group](#):**

[Scientist I](#)

[Scientist II](#)

While Wildlife Biologist within the Commonwealth are all located within the Life and Physical Science Career Group, individuals may want to pursue other opportunities within the Commonwealth depending upon individual training, education, knowledge, skills, abilities, and interests.

Other Career Group(s) that may be of interest are:

[Natural Resources](#)

[Agricultural Services](#)

[General Administration](#)

[Veterinary Science](#)

[Laboratory and Research Technician and Specialists](#)

## **SKILLS, KNOWLEDGE, ABILITIES AND TASKS**

(Technical and Functional Expertise)

### **Skills**

**Note:** *The technical and functional skills listed below are based on general occupational qualifications for Wildlife Biologists commonly recognized by most employers. Typically, you will not be required to have all of the skills listed to be a successful performer. Recruitment and selection standards for an individual state job must be based on the specific knowledge, skills, and abilities for that job as indicated in the job announcement and job description in the Employee Work Profile.*

1. Using scientific rules and methods to solve problems.
2. Understanding written sentences and paragraphs in work related documents.
3. Understanding the implications of new information for both current and future problem solving and decision-making.
4. Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
5. Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.
6. Communicating effectively in writing as appropriate for the needs of the audience.
7. Using mathematics to solve problems.
8. Determining the kind of tools and equipment needed to do a job.

## **Knowledge**

**Note:** The technical and functional knowledge statements listed below are based on general occupational qualifications for Wildlife Biologists commonly recognized by most employers. Typically, you will not be required to have all of the knowledge listed to be a successful performer. Recruitment and selection standards for an individual state job must be based on the specific knowledge, skills, and abilities for that job as indicated in the job announcement and job description in the Employee Work Profile.

The **Knowledge** of:

1. Plant and animal organisms, their tissues, cells, functions, interdependencies, and interactions with each other and the environment.
2. Arithmetic, algebra, geometry, calculus, statistics, and their applications

## **Abilities**

**Note:** The technical and functional abilities listed below are based on general occupational qualifications for Wildlife Biologists commonly recognized by most employers. Typically, you will not be required to have all of the abilities listed to be a successful performer. Recruitment and selection standards for an individual state job must be based on the specific knowledge, skills, and abilities for that job as indicated in the job announcement and job description in the Employee Work Profile.

The **Ability** to:

1. Apply general rules to specific problems to produce answers that make sense.
2. Combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).
3. Generate or use different sets of rules for combining or grouping things in different ways.
4. See details at close range (within a few feet of the observer).
5. Read and understand information and ideas presented in writing.
6. Tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
7. Arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).

## **Tasks**

**Note:** The following is a list of sample tasks typically performed by Wildlife Biologists. Employees in this occupation will not necessarily perform all of the tasks listed.

1. Analyze characteristics of animals to identify and classify them.
2. Collect and dissect animal specimens and examine specimens under microscope.
3. Inventory or estimate plant and wildlife populations.
4. Organize and conduct experimental studies with live animals in controlled or natural surroundings.
5. Prepare collections of preserved specimens or microscopic slides for species identification and study of development or disease.
6. Study animals in their natural habitats, assessing effects of environment and industry on animals, interpreting findings and recommending alternative operating conditions for industry.
7. Study characteristics of animals such as origin, interrelationships, classification, life histories and diseases, development, genetics, and distribution.

8. Disseminate information by writing reports and scientific papers or journal articles, and by making presentations and giving talks for schools, clubs, interest groups and park interpretive programs.
9. Make recommendations on management systems and planning for wildlife populations and habitat, consulting with stakeholders and the public at large to explore options.
10. Raise specimens for study and observation or for use in experiments.

## **INTERESTED?**

Like people, occupations have traits or characteristics. These characteristics give important clues about the nature of the work and work environment, and give you an opportunity to match your own personal interests to a specific occupation. When you choose a job in an occupation that matches your own interests you have taken an important step in planning a successful and rewarding career.

The occupation of Wildlife Biologist has **Investigative** and **Realistic** characteristics as described below:

**Investigative** — Investigative occupations frequently involve working with ideas, and require an extensive amount of thinking. These occupations can involve searching for facts and figuring out problems mentally.

**Realistic** — Realistic occupations frequently involve work activities that include practical, hands-on problems and solutions. They often deal with plants, animals, and real-world materials like wood, tools, and machinery. Many of the occupations require working outside, and do not involve a lot of paperwork or working closely with others.

## **LICENSURE, REGISTRATION, OR CERTIFICATION REQUIREMENTS**

Generally this is not required for Wildlife Biologist positions in state government.

## **EDUCATIONAL, TRAINING, AND LEARNING OPPORTUNITIES**

The Department of Labor provides the following information:

Wildlife biologists study animals and wildlife—their origin, behavior, diseases, and life processes. Some experiment with live animals in controlled or natural surroundings, while others dissect dead animals in order to study their structure. They also may collect and analyze biological data to determine the environmental effects of current and potential use of land and water areas.

A master's degree is sufficient for some jobs in basic research, applied research or product development, management, or inspection; it may also qualify one to work as a research technician or as a teacher in an aquarium. The bachelor's degree is adequate for some non-research jobs. A Ph.D. degree usually is necessary for independent research, industrial research, and college teaching, and for advancement to administrative positions.

The State Council of Higher Education (SCHV) lists three Virginia educational institutions offering educational programs in biological sciences/life sciences. They are George Mason University, Lynchburg College and Virginia Tech.

The American Institute of Biological Sciences <http://www.aibs.org/> provides information on education for this career.

## **COMMONWEALTH COMPETENCIES**

Competencies are a set of identified behaviors, knowledge, skills, and abilities that directly and positively impact the success of employees and the organization. Competencies can be observed and measured. When consistently demonstrated, competencies make employees particularly effective in their work. Competencies help lay out a road map to career success. You can use the Commonwealth Competencies to help improve your individual performance by adopting behaviors that make high performing employees successful in their jobs. In this way, you can use the Commonwealth Competencies for your further professional development.

**The Commonwealth Competencies are:**

1. Technical and Functional Expertise
2. Understanding the Business
3. Achieving Results
4. Serving the Customer
5. Teamwork
6. Interpersonal and Communication Skills
7. Leadership and Personal Effectiveness

The above competencies may be applied to employees throughout the Commonwealth of Virginia. They can be rank-ordered by agencies and hiring managers to represent the needs of a specific job. The rank ordering will change depending upon the occupation, an organization's priorities, the actual job requirements, and the supervisor's preferences.

Career success is both about what you do (applying your technical knowledge, skills, and ability) and how you do it (the consistent behaviors you demonstrate and choose to use) while interacting and communicating with others. Hopefully, by studying the Commonwealth competencies, identifying your developmental opportunities, and working to refine your own competence, you can take charge of your career!

For additional information about the **Commonwealth Competencies** go to: [http://jobs.virginia.gov/cd\\_competenciesList.html](http://jobs.virginia.gov/cd_competenciesList.html). For the competencies, we first list the competencies and then define each. Finally, we list competency indicators; to describe what successful performance looks like.

## **COMMONWEALTH CAREER PATH**

Career opportunities in the Commonwealth are not limited to moving “up” to the next highest role and pay band, changing positions, or to becoming a supervisor. That’s because most roles describe a broad group of occupationally related positions that perform a range of work that requires increased knowledge and skills. For that reason, Commonwealth roles describe the career paths within the same or higher-level role for the same or different Career Group. The

broad salary range and the Commonwealth's pay practices provide flexibility in recognizing career development and advancement. (Salary Structure)

For example: **Wildlife Biologist**

PAY BANDS	PRACTITIONER ROLES
4	Scientist I
5	Scientist II

PAY BANDS	Manager Roles
5	Scientist Manager I
6	Scientist Manager II

### Sample Career Path

#### Scientist I

This Scientist I role provides career tracks for Wildlife Biologists that perform work in a laboratory, in the field, and/or for scientific research. Employees' responsibilities range from entry-level performing standardized scientific tests and research functions using established protocols, to performing independent analysis/studies and serving as technical advisors or lead workers. Employees conduct research, field and/or technical investigations and surveys, laboratory and/or statistical analyses and data interpretation.

#### Scientist II

This Scientist II role provides career tracks for Wildlife Biologists that perform a preponderance of advanced work and serve as an expert in a laboratory, in the field, and/or for research; or, for scientist supervisors. The first career track in this role is for employees performing complex scientific research projects or program oversight having a broad scope of responsibility. The second career track is for scientists that continue to deliver scientific services while assuming supervision of professional scientific staff and performing administrative responsibilities.

#### Scientist Manager I

The Scientist Manager I role provides career tracks for managers in a laboratory or scientific research setting. Employees plan, manage and evaluate the work of professional staff working in one or more disciplines; establish program goals; establish and monitor budgets; develop and implement technical methodologies, section objectives, policies and practices; allocate staff and resources; ensure compliance with government regulations, quality control standards and safety procedures; prepare research proposals; prepare technical reports and papers or develop grant contract proposals.

#### Scientist Manager II

The Scientist Manager II role provides career tracks for senior level to director level managers with responsibilities in a laboratory or scientific research setting. Employees have responsibility for an agency-wide laboratory operation; serve as assistant director of a statewide laboratory; or serve as a manager over multiple operations within a statewide laboratory. Some employees direct statewide scientific research operations or multidisciplinary research operations.

### **ADDITIONAL OCCUPATIONAL INFORMATION CAN BE FOUND AT:**

O\*NET (Occupational Information Network)  
<http://online.onetcenter.org/>

Virginia Employment Commission  
<http://www.alex.vec.virginia.gov/>

Career One Stop  
<http://www.careeronestop.org/>

Virginia Career Resource Network  
<http://www.vacrn.net/>