

DELTA MOSQUITO AND VECTOR CONTROL DISTRICT

JOB DESCRIPTION

Job Title: **Biologist**

Revised: November 2021

Definition: Under the general direction of the Scientific Program Manager, the Biologist assists with a variety of routine and standard field, biological, microbiological, chemical, and other laboratory procedures to support the District's vector and vector-borne surveillance, control and prevention programs, and related entomological research projects; and performs related laboratory and field work as required.

Illustrative tasks include but are not limited to:

- Field duties
 - Conducts surveillance and control efforts for mosquitoes, and other vectors such as ticks, kissing bugs, fleas, etc.
 - Prepares, maintains, collects and analyzes vector control surveillance traps.
 - Sorts, identifies and prepares vector specimens and other related biological materials for laboratory diagnosis and/or shipment for further analysis and classification.
- Laboratory duties
 - Tests mosquitoes, vertebrates, and other biological materials for the presence of arboviruses and/or other vector-borne pathogens using prescribed molecular and biochemical protocols such as PCR/RT-PCR or new technologies.
 - Testing and evaluating new technology in vector-borne disease surveillance and prevention.
 - Ensures the District fishery is healthy, stocked, and maintained.
 - Conducts research projects in relation to the field of vector control, potential collaborations with universities, other vector control districts, industry partners, government institutes such as CDC, etc.
- Laboratory Care and Records
 - Uses, maintains, and cares for laboratory equipment, instruments, tools and facilities used in connection with work;
 - Keeps records of laboratory supplies and materials.
 - May arrange facilities for educational and public meetings.
 - Maintains detailed and accurate records of surveillance activities, testing, experimental and scientific results;
 - Compiles data for reports, scientific publications and district use;
 - Uses a computer for data input and analysis.
 - Publishes one manuscript every other year in a scientific peer-reviewed publication.
- Professional, Public Relations, Outreach
 - Aids and supports other district laboratories and vector control personnel.
 - Communicates with laboratory and field technicians to conduct surveillance and other District goals.
 - Active participation in professional associations (i.e., committees, publications, posters, presentations, etc.).
 - Actively works on publications for the District.
 - Remains up to date on vector control issues, research, technology, and techniques.
 - Responsible for correspondence between local and state government agencies, universities and any research collaborations.
 - Participates in public outreach events to increase public awareness of vector-borne diseases and the District's public health mission. Gives talks to schools, agencies or community organizations as requested.

CERTIFICATION

Possession of, or ability to achieve within one (1) year of employment, Vector Control Technician Certification issued by the California Department of Public Health in the areas of core, mosquito control, mosquito biology, vertebrate control, and terrestrial invertebrate control. This certification shall be maintained throughout employment.

PROBATIONARY PERIOD

Twelve-month probationary period is required.

MINIMUM QUALIFICATIONS:

Education/Training/Experience: Any combination equivalent to experience and education that could likely provide the desired knowledge and abilities, including:

- Master of Science degree, preferred degree in entomology, ecology, public health, biology, microbiology, environmental science, parasitology, epidemiology or other closely related fields; or
- Bachelor of Science 4-year college degree in entomology, ecology, biology, microbiology, environmental sciences, public health, epidemiology or other closely related scientific fields and two years' experience in vector control.

Candidates with previous vector control related field, laboratory, or research experience preferred.

Knowledge of: Basic principles and practices of vector and vector-borne disease surveillance and control; methods of sampling and data collection, rearing, processing field and laboratory specimens; medical entomology, ecology, parasitology, epidemiology and mathematics/statistics; general principles and methodologies involved in scientific investigations; laboratory hazards; proper safety precautions and procedures; safe use and handling of pesticides and other job-related chemicals; use and care of laboratory equipment; quality assurance and quality control procedures; record keeping.

Ability to: Plan and perform the required tasks with minimal supervision and maintain detailed and accurate records; conduct field and laboratory tests; operate and maintain field and laboratory equipment; follow oral and written instructions; perform mathematical calculations and formulations to set and compile results in vector surveillance projects, laboratory and field studies; establish and maintain effective working relationships; communicate effectively both orally and written.

Driver's License

Valid California Class C Driver's License.

Must be insurable under the guidelines set by the District's insurance carrier.

Physical Requirements/ Essential Functions:

- A portion of the work is performed in an indoor laboratory setting. However, this position includes outdoor work in varying temperatures and within, and around, various types of aquatic habitats, including polluted water sources.
- Hazards may include insect bites, chemicals, fumes, dust, hazardous materials, venomous insects, vectors and vector-borne diseases, rough terrain, inclement weather conditions, vicious animals, and poisonous plants and animals.
- Ability to pass a pre-employment physical, including drug screening.
- Ability to periodically lift up to, and including, 50 pounds.

- Sighted in both eyes with the ability to demonstrate depth perception and color vision and possess a minimum of single ear aided hearing.
- Visual acuity sufficient for microscopy and other tasks.
- Ability to be vaccinated for various diseases to which employees may be exposed in the course of duties. The following vaccinations may be required within one year of employment: COVID-19, Rabies, Hepatitis A, and Tetanus.
- Ability to periodically perform repetitive motion associated with computer usage.
- Ability to bend, twist, crawl, balance, lift, push, perform simple grasping, power grip, squat/crouch, kneel, reach, climb, pull, and smell.
- Ability to coordinate movement of eye/hand/foot; use fine manipulation by hand of tools, instruments and other objects.
- Ability to periodically traverse rough, sloping or uneven ground such as fields, dirt banks, stream beds, and shallow ponds.
- Ability to swim.
- Ability to tolerate insect bites, bee stings etc.