

**MICHIGAN CIVIL SERVICE COMMISSION
JOB SPECIFICATION**

AQUATIC BIOLOGIST

JOB DESCRIPTION

Employees in this job complete and oversee a variety of professional assignments to measure the effects of water pollution on aquatic life, conduct chemical evaluations and assess the National Pollutant Discharge Elimination System. Work is performed through the application of aquatic appraisal methods, and test data to determine whether a discharge should warrant toxicity reduction evaluation.

There are four classifications in this job.

Position Code Title – Aquatic Biologist-E

Aquatic Biologist 9

This is the entry level. As a trainee, the employee carries out a range of professional aquatic biologist assignments while learning the methods of the work.

Aquatic Biologist 10

This is the intermediate level. The employee performs an expanding range of professional aquatic biologist assignments in a developing capacity.

Aquatic Biologist P11

This is the experienced level. The employee performs a full range of professional aquatic biologist assignments in a full-functioning capacity. Considerable independent judgement is used to make decisions in carrying out assignments that have significant impact on services or programs. Guidelines may be available, but require adaptation or interpretation to determine appropriate courses of action.

Position Code Title – Aquatic Biologist-A

Aquatic Biologist 12

This is the advanced level. The employee may function as a lead worker or senior worker. At this level, employees are responsible for overseeing the work assignments of other professionals or have regular assignments which have been recognized by Civil Service as having significantly greater complexity than those assigned at the experienced level.

NOTE: Employees generally progress through this series to the experienced level based on satisfactory performance and possession of the required experience.

AQUATIC BIOLOGIST

PAGE No. 2

JOB DUTIES

NOTE: The job duties listed are typical examples of the work performed by positions in this job classification. Not all duties assigned to every position are included, nor is it expected that all positions will be assigned every duty.

Reviews National Pollutant Discharge Elimination System (NPDES) permits for toxic substance-related impacts to aquatic life, public health or environment.

Makes water quality recommendations to protect designated uses.

Plans special surveys to measure the influence of pollutants on the aquatic environment and investigate samples to identify the existing populations of aquatic biota in an aquatic environment.

Analyzes water quality by investigating fish macroinvertebrate and/or plankton populations and comparing them with the expected norm.

Compiles, analyzes and interprets field and laboratory biological and chemical data, and reports conclusions.

Addresses industrial, educational, governmental, business and other sectors on matters dealing with water pollution and aquatic biology.

Develops safe levels for specific toxic substances, and provides justification and rationale for water quality standards and water quality based on efficient limitations.

Reviews literature to evaluate the effects of toxicants on aquatic life.

Analyzes the composite bottom fauna community.

Conducts toxicity tests on effluents, sediments, chemicals and other materials to determine effects on aquatic life.

Assists with the field investigation of the Fish Contaminant Monitoring Program.

Operates, calibrates and maintains specialized scientific equipment used in aquatic biology.

Conducts water analyses for information pertaining to the eutrophic conditions present.

Conducts tests to determine the influence of various contaminants on the taste of the flesh of fish.

Establishes and maintains stock cultures of test organisms for use in water quality investigations.

AQUATIC BIOLOGIST

PAGE NO. 3

Investigates non-point source adverse impacts to stream biota and recommends methods to reduce non-point source pollution.

Prepares periodic and/or special technical, scientific reports and articles.

Prepares information necessary for legal action against pollution dischargers and appears in court as an expert witness in water pollution hearings.

Maintains records and prepares reports and correspondence related to the work.

Serves as Site Coordinator for one or more of the Great Lakes Areas of Concern.

Performs related work as assigned.

Additional Job Duties

Aquatic Biologist 12 (Lead Worker)

Oversees the work of professional staff by making and reviewing work assignments, establishing priorities, coordinating activities, and resolving related work problems.

Aquatic Biologist 12 (Senior Worker)

Performs on a regular basis professional aquatic biologist assignments which are recognized by Civil Service as more complex than those assigned at the experienced level.

JOB QUALIFICATIONS

Knowledge, Skills, and Abilities

NOTE: Some knowledge in the area listed is required at the entry level, developing knowledge is required at the intermediate level, considerable knowledge is required at the experienced level, and thorough knowledge is required at the advanced level.

Knowledge of the principles and practices of aquatic biology.

Knowledge of fish and related aquatic organisms.

Knowledge of fish life including the kinds, distribution and importance of various species and their habitats and requirements.

Knowledge of the types and nature of fish disease and parasites.

Knowledge of common sources of literature and current developments in the field of water pollution biology.

Knowledge of the collection and care of aquatic biological specimens.

AQUATIC BIOLOGIST

PAGE No. 4

Knowledge of the procedures and practices followed in the identification and classification of aquatic plants, fish, and invertebrates as pollution indicators.

Knowledge of the operation and maintenance of scientific equipment used in research in aquatic biology.

Knowledge of the application of statistical methods to research data in aquatic biology.

Ability to collect and identify aquatic biota.

Ability to plan and conduct tests, surveys and analyses to determine the effect of pollutants on aquatic life and on the taste of the flesh of fish.

Ability to apply knowledge of the activities and techniques of aquatic biology.

Ability to document information necessary for legal action against pollution dischargers.

Ability to maintain records, prepare reports and conduct correspondence related to the work.

Ability to interpret tests, surveys, and analyses results.

Ability to compile technical, scientific data.

Ability to operate scientific equipment used in conducting investigations and analyses.

Ability to establish and maintain stock cultures of test organisms.

Ability to communicate effectively with others.

Ability to maintain favorable public relations.

Additional Knowledge, Skills and Abilities

Aquatic Biologist 12 Lead Worker)

Ability to organize and coordinate the work of others.

Ability to set priorities and assign work to other professionals.

Working Conditions

Some jobs require an employee to work outdoors as well as in an office or a laboratory.

Some jobs require an employee to wade in heavy streams or rivers, working in waders during hot and/or rainy days.

Some jobs require an employee to have minimal exposure to preservative chemicals, which occurs occasionally.

AQUATIC BIOLOGIST

PAGE No. 5

Physical Requirements

The job duties may require an employee to lift heavy equipment.

Education

Possession of a bachelor's degree in the natural or physical sciences with at least 24 semester (36 term) credits in the areas of aquatic biology, limnology, or water science.

Experience

Aquatic Biologist 9

No specific type or amount is required.

Aquatic Biologist 10

One year of professional experience in assessing the effects of pollution on aquatic life equivalent to an Aquatic Biologist 9.

Aquatic Biologist P11

Two years of professional experience in assessing the effects of pollution on aquatic life equivalent to an Aquatic Biologist, including one year equivalent to an Aquatic Biologist 10.

Aquatic Biologist 12

Three years of professional experience in assessing the effects of pollution on aquatic life equivalent to an Aquatic Biologist, including one year equivalent to an Aquatic Biologist P11.

Special Requirements, Licenses, and Certifications

None.

NOTE: Equivalent combinations of education and experience that provide the required knowledge, skills, and abilities will be evaluated on an individual basis.

JOB CODE, POSITION TITLES AND CODES, AND COMPENSATION INFORMATION

Job Code

AQUABIO

Job Code Description

Aquatic Biologist

Position Title

Aquatic Biologist-E

Aquatic Biologist-A

Position Code

AQUABIOE

AQUABIOA

Pay Schedule

H21-001

H21-009