

Gwinnett County Department of Water Resources

Operations Technical Support – Scientist IV, Job Description - Limnologist

GENERAL PURPOSE:

This position provides technical support for the County's drinking water and water reclamation facilities for both operations and engineering. The work involves assisting operations staff with assessments, studies, planning, optimization of treatment processes and forecasting of water quality in Lake Sydney Lanier and associated ecosystems that impact the raw water. This work will entail pilot studies, analysis of water quality data collected by consulting engineers, university research partners and County operations and engineering staff. This role requires excellent data analysis skills, communication skills and water quality modeling.

DISTINGUISHING CHARACTERISTICS:

Limnologist is responsible for planning, conducting, monitoring and reporting on the results of water quality monitoring, limnological research and inflows to Lake Lanier in order to maximize the benefits for water resource management and natural resource management of Gwinnett County's water supply. Limnologist is also responsible for execution of the Lake Lanier Model for routine forecasting and continued enhancement and improvement of the model. The role includes working with outside experts to execute more complex forecasting. Work requires recognized expertise in the field of limnology and water quality modeling. The incumbent is expected to publish peer-reviewed scientific articles and give presentations on results of research studies and investigations.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

The duties listed below are intended only as illustrations of the various types of work that may be performed. The omission of specific statements of duties does not exclude them from the position if the work is similar, related or a logical assignment to an adjacent class.

- Participates in routine limnological research and investigations involving the management and water quality of Lake Lanier and its inflows.
- Conducts and oversees modeling related to Lake Lanier Water Quality in cooperation with other agencies and outside firms.
- Updates limnological data to assure the quality of data in data archives. This includes employing quality assurance and control procedures related to existing and new data.

Commented [WR1]: The Class selected was IV for this draft, we can adjust accordingly. For a post-doc im thinking a class III or IV?

Commented [WR2]: How much and is there a specific model we require? I noticed in the SNWA website the use of several specific models. Further down in this description, I list a few but im probably not the definitive souce on these models.

Commented [WR3]: Do we have an existing model?

Commented [WR4]: WEF, WE&RF and AWWA were mentioned in your email but are there other specific conferences unique to limnology we should mention?

- Assists in interpreting the significance of findings, developing technical reports and summaries of research and investigative findings for distribution to County management and various interagency groups.
- Represents Gwinnett County at interagency meetings, professional associations and regional conferences regarding limnological matters affecting lakes and reservoirs that are sources of domestic water supply.

ADDITIONAL DUTIES:

- Writes peer-reviewed scientific journal articles on research results and uses of such information in managing sources of domestic water supply.
- Makes presentations on limnological and modeling findings including the impact of events such as abnormal floods, drought and changes in autochthonous and allochthonous features on water resource management within the watershed.

DESIRED MINIMUM QUALIFICATIONS:

Principles, theories, practices and methods of limnology and applied aquatic ecology and their interrelationships with environmental chemistry and physics; principles, theories, practices and methods of limnology and applied aquatic ecology and their interrelationships with environmental chemistry and physics; knowledge and experience developing and executing water quality models using ELCOM and CAEDYM; additional experience with CEQUAL-W2, other Lake Modeling software and MATLAB preferred; principles and practices of project management applicable to overseeing modeling enhancements or activities by outside agencies and consultants; experience with software to facilitate the management and visualization of large quantities of data produced during modeling and routine monitoring; statistical analysis methods and techniques for physical, chemical, and biological characteristics of water quality derived from either modeling or routine sampling; presentation methods and techniques used to convey the results from large data sets to scientific and non-scientific audiences; sources of scientific literature applicable to the limnology and modeling of lakes and reservoirs; methods of reporting limnological data in peer-reviewed scientific journals; and professional presentations.

WORK ENVIRONMENT:

The work environment described here is representative of those an employee encounters while performing the essential functions of this class. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

The employee typically works under office conditions where the noise level is quiet. The employee will also work in outside conditions, exposed to hot, cold and/or wet conditions and to biological hazards.

Commented [WR5]: Do we have an accamic requirement here, ie Masters or Phd? Or is that annotated in the Class description?

