Algal Indicators in Streams: A Review of their Application in Water Quality Management of Nutrient Pollution

On June 27th, US EPA published a summary paper that describes the use of algal indicators to develop water quality diagnostics for nutrient pollution in the United States and reviews scientific developments in the application of algal indicators across the world. Water quality managers can use this paper to better understand when and how to utilize algae as indicators of nutrient pollution in stream ecosystems.

Mesocosms Laboratory Experiments to Tackle China’s “Green Monster” Toxic Cyanobacterial Blooms

Four out of five of China’s largest lakes as well as vast number of its smaller lakes and reservoirs are under siege of rapidly proliferating toxic cyanobacterial blooms (Picture 1); largely attributable to nitrogen and phosphorus over-enrichment resulting from its accelerating urban, agricultural and industrial expansion. Researchers from the Universities of NC-Chapel Hill, Texas, Northeastern, Wright, and Tennessee, Knoxville, are working with Chinese collaborators at the Nanjing Institute of Geography and Limnology Chinese Academy of Science, employing outdoor mesocosms (Picture 2) in which nutrient manipulations (additions and reductions) are conducted to determine which nutrients are controlling or “limiting” blooms and to establish specific nutrient-bloom thresholds as a guideline for setting nutrient reduction targets. They are also investigating cyanobacterial and associated microbial community functional and compositional responses to these manipulations, and the roles of sediments as “internal” stores of nutrients. This work is supported by the US and Chinese National Science Foundations and the Chinese Ministry of Science and Technology. For more information, please contact Dr. Hans Paerl at hans_pael@unc.edu.

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**Euglenophycin is produced in at least six species of euglenoid algae and six of seven strains of *Euglena sanguinea***

**Identification of a new-to-science cyanobacterium, *Toxifilum mysidicida* gen. nov. & sp. nov. (Cyanobacteria, Cyanophyceae)**

**Changes on cylindrospermopsin concentration and characterization of decomposition products in fish muscle (Oreochromis niloticus) by boiling and steaming**

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