

## Lake Mattamuskeet Proposed Cyanobacteria Treatment

### Background Info

Over the past decade, Lake Mattamuskeet has experienced significant declines in water quality, transitioning from a lake dominated by dense beds of submerged aquatic vegetation (SAV) to one dominated by microscopic blue-green algae, also known as cyanobacteria.

Cyanobacteria blooms occur in water bodies with excess nutrients. The blooms block sunlight and prevent the growth of SAV. SAV is an important food source for wintering waterfowl.

In 2022, the University of North Carolina Institute of Marine Sciences (IMS) informed the U.S. Fish and Wildlife Service (FWS) that Lake Mattamuskeet was being evaluated as a possible study site for a trial treatment of cyanobacteria by IMS and BlueGreen Water Technologies.

FWS staff and members of the Lake Mattamuskeet Technical Working Group participated in several discussions with the project team and others to learn more about the proposed treatment and study.

The initial Special Use Permits FWS issued to BlueGreen Water Technologies and IMS were to conduct monitoring and learn more about cyanobacteria blooms on the lake. An additional Special Use Permit would be required for the proposed treatment.

The FWS prepared a draft Environmental Assessment (EA) for the proposed cyanobacteria treatment on Lake Mattamuskeet and made it available for public comment from September 15 to October 30, 2023.

### Proposed Cyanobacteria Treatment

The FWS continues to focus on larger watershed restoration efforts identified in the Lake Mattamuskeet Watershed Restoration Plan to reduce excess

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nutrients and sediment in the lake. These efforts include carp removal, which will begin in early 2024.

Cyanobacteria blooms and suspended sediments are the two major factors that cloud lake water and limit the amount of light available for SAV growth.

The proposed trial treatment is an opportunity to evaluate the effectiveness of a technique to reduce cyanobacteria and improve conditions for re-establishing SAV in portions of the lake.

Funding for a trial cyanobacteria treatment in NC was allocated by the NC state legislature. No funding intended for other projects identified in the Lake Mattamuskeet Watershed Restoration Plan would be used to support the proposed cyanobacteria treatment.

The proposed treatment would use a product called Lake Guard Oxy. Lake Guard Oxy is a hydrogen peroxide-based granular product. It has been used to effectively reduce cyanobacteria in multiple states and international locations.

The Lake Guard Oxy label includes the statement that it is “toxic to birds”. This warning was used on the original product, which was often applied in terrestrial environments and could be mistaken by birds as food. When applied to water, Lake Guard Oxy dissolves within a matter of hours and is not available for consumption by birds when dissolved.

Applications in other states where large concentrations of waterfowl and other birds are present, have not resulted in any negative impacts to birds.

Personnel would be on site during and after treatments to disperse any birds that could encounter the product.

The proposed treatment area in the lake includes four bays totaling 600 acres. Sediment curtains would be used to isolate each treatment bay from the larger 40,000-acre lake.