Briefing on Joint Meeting of TWG-Stakeholders

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Technical Working Group (TWG)

A joint partnership of the N.C. Wildlife Resources Commission and U.S. Fish and Wildlife Service. They work together to identify, prioritize and conduct monitoring and research at the Mattamuskeet National Wildlife Refuge to inform management actions that can be implemented to improve water quality and restore submerged aquatic vegetation (SAV) in Lake Mattamuskeet.

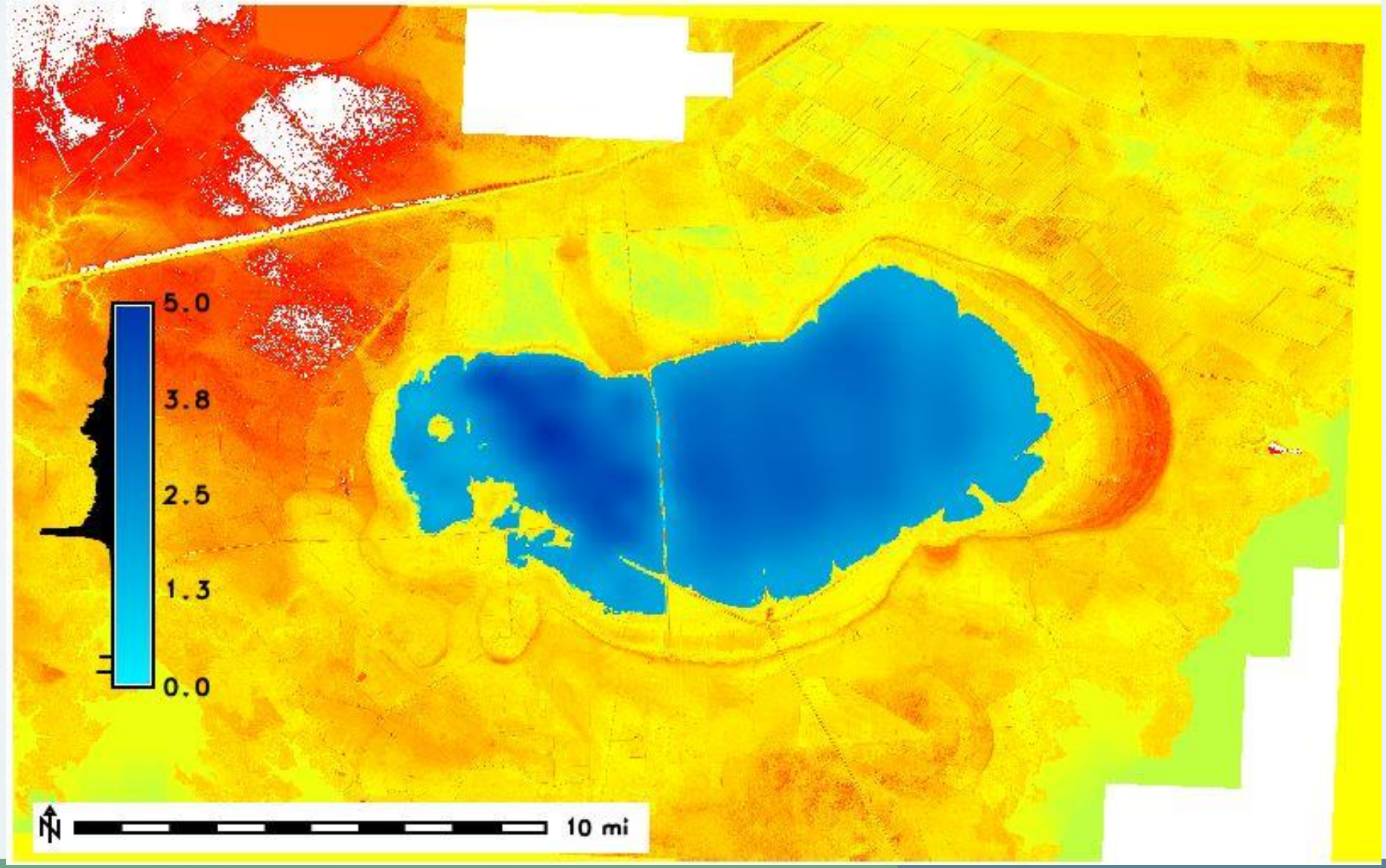
Hydrology

The lake is no longer a "natural" lake due to the hydrologic modifications that have happened in the watershed.

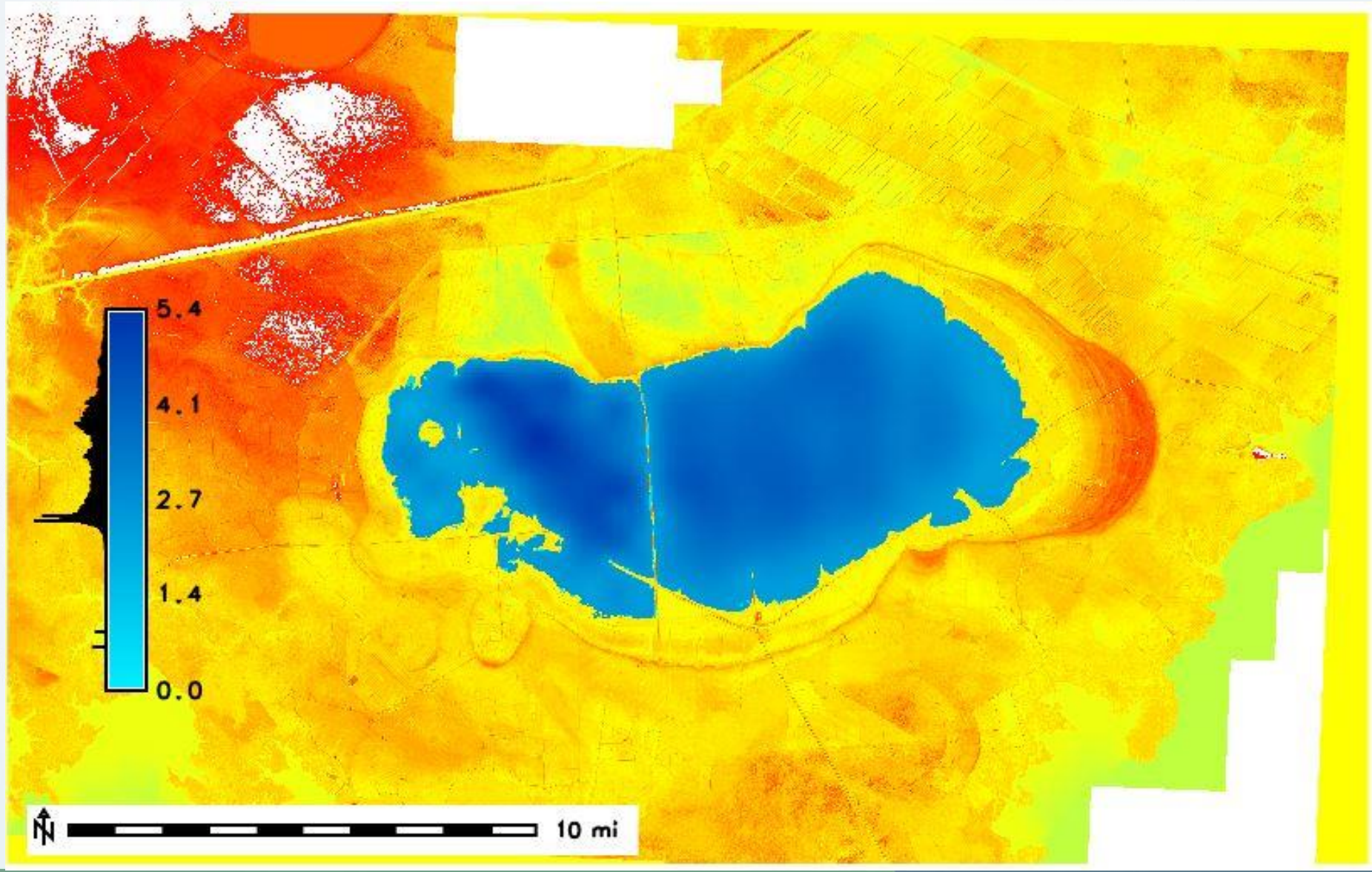
There is more water entering the lake via precipitation than leaving via evaporation- need active management of lake level.

Water management is further complicated with rising sea levels.

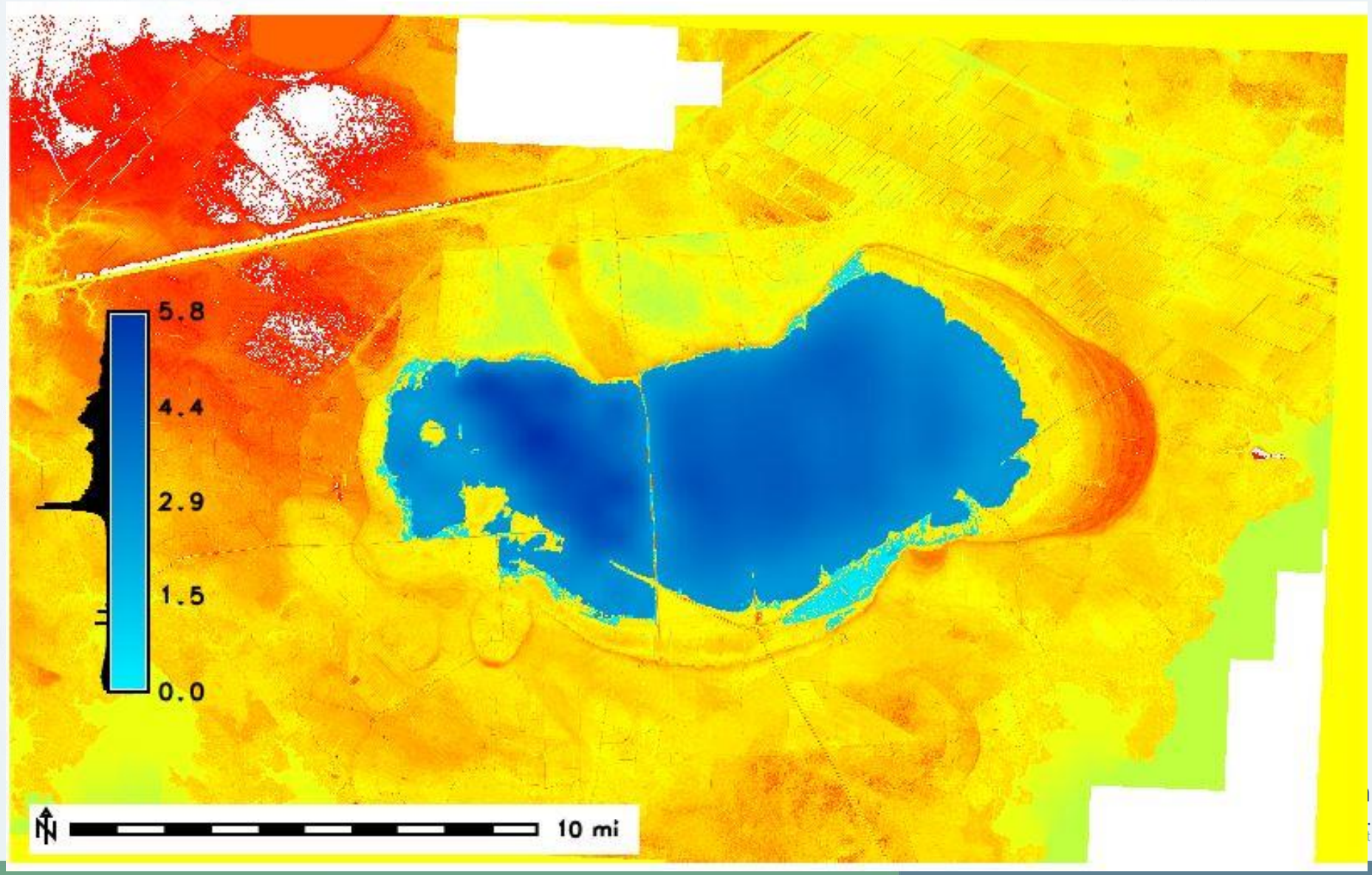
Modeled lake level when water is -0.3 feet



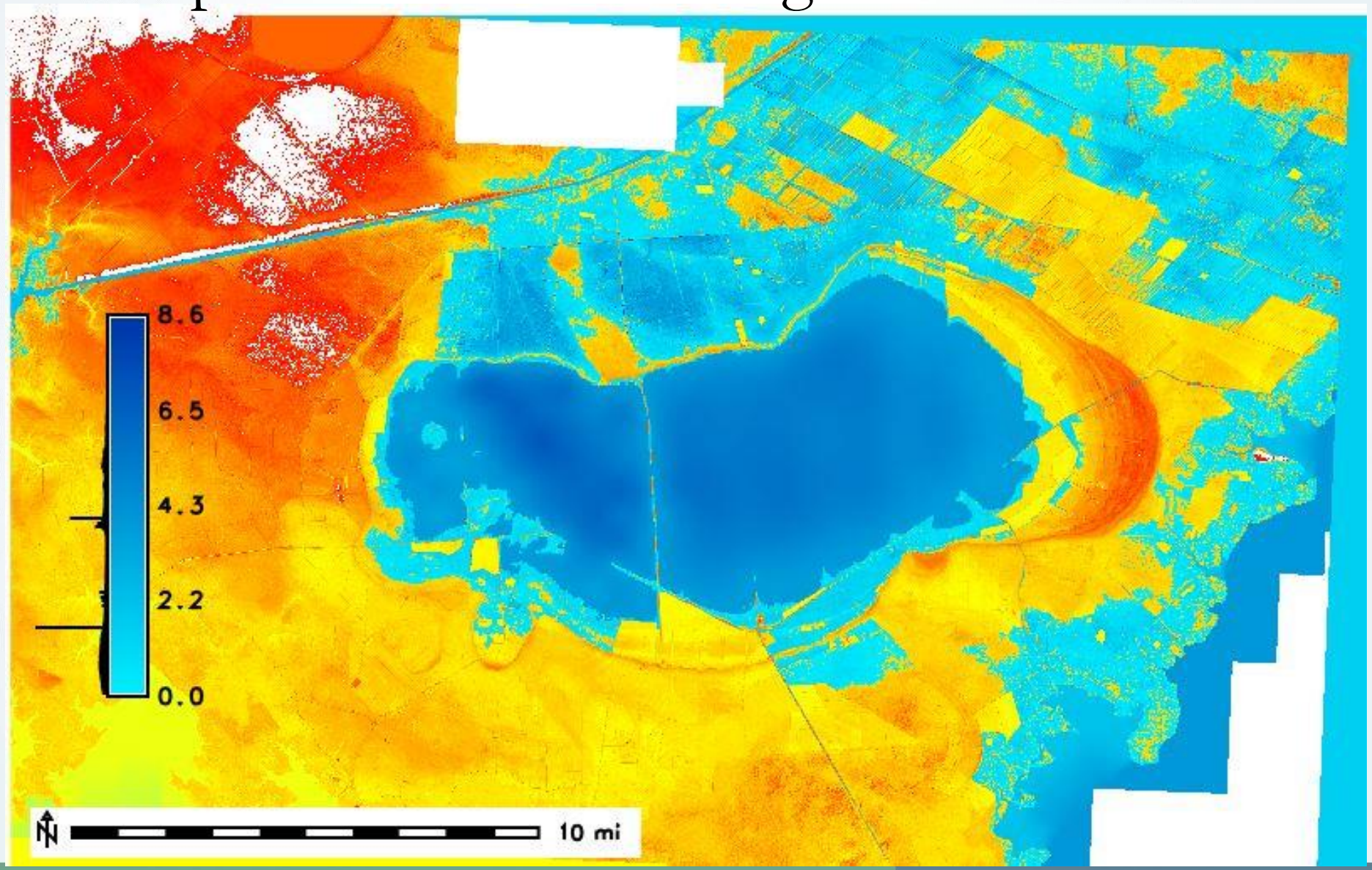
Modeled lake level when water is +0.1 feet



Modeled lake level when water is +0.5 feet



Widespread chronic flooding when water is +1.5



Water Quality

Lake has **poor water quality** for pH, chlorophyll a and cyanotoxins

There are eutrophied waters- waters with high nutrients but still healthy, and then there are **hyper-eutrophied** waters- waters that have high nutrients and are no longer healthy. Lake Mattamuskeet falls in this second category.

There are many **sources** of these nutrients in the watershed and it is difficult to assess how much each of them contribute to the water quality problems.

Poor water quality is also causing **harmful algae blooms**

There is **no SAV** in the lake any more because of the poor water quality- additional causes of the decline are still being researched

On Going Research and Management

Moist Soil Management for Waterfowl Impoundments- Joe Fuller, WRC

SAV Restoration and in-lake Nutrient Research – Dr. Mike Phieler

Carp Removal Research- Dr. Jesse Fisher

Nutrient Inputs from Waterfowl Impoundments and Canal Maintenance Feasibility- Dr. Randall Etheridge

Role of Herbicides in Lake Health- Dr. Greg Cope

Conclusions from the Meeting

We will never know everything about the lake. We must move forward with the best information available at this time. Ongoing research will help us inform our management actions moving forward.

Active water management of the lake is needed.

We need to identify areas where we can work to improve water quality within the watershed.

A carp management plan may be helpful for improving water clarity and restoring SAV.

Canal maintenance may be helpful for improving water flows from the lake, but need to consider rising sound water levels.