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Lake Mattamuskeet Watershed Restoration Plan

August 8, 2017 Public Meeting

Agenda Overview

7:00 p.m.	Welcome
7:05 p.m.	Overview of Progress to Date, Public Meeting Schedule: Bill Rich
7:15 p.m.	Ways to Stay Engaged in the Process: Erin Fleckenstein
7:25 p.m.	Stakeholders and their Roles/Responsibilities: J.W. Spencer
7:30 p.m.	Community Interviews: Linda D'Anna
7:40 p.m.	Community Engagement- Citizen Science: Grant Parkins
7:55 p.m.	Review Draft Maps of lake characteristics: Erin Fleckenstein
8:20 p.m.	Question and Comment Period
8:30 p.m.	Adjourn



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Overview of Progress-to-Date and Meeting Schedule

Major Progress To Date

At the public meeting held on January 31, 2017, it was presented that Hyde County, U.S. Fish and Wildlife Service and N.C. Wildlife Resources Commission were committed to moving forward with a watershed restoration plan to address water quality and flooding concerns.



What is a watershed restoration plan?

A voluntary plan for a specific watershed

Identifies pollutants and causes of impairment

Provides the framework and guidance to
restore the watershed

Recommends management strategies devised
by all stakeholders to restore the watershed

Adaptive plan that can be updated over time

Once approved, it can be used to secure grant
funds for implementation

Major Progress To Date

- The County, U.S. FWS and N.C. WRC signed a Memorandum of Agreement to contract with the Coastal Federation to develop a watershed restoration plan in May 2018.
- Convened a group of stakeholders
- Established the roles and responsibilities of the stakeholders
- Developed a webpage to host information on the plan progress
- Collected publically available background information on the Lake watershed and its characteristics
- Developed a quarterly public meeting schedule



Public Meeting Schedule

MARK YOUR CALENDARS

Public Input Needed for the Lake Mattamuskeet Watershed Restoration Plan



Photo by Sam Bland

The Hyde County community is invited to offer input on a plan for the Lake Mattamuskeet Watershed that will address water quality and flooding issues. Public meetings will be held at the **Hyde County**

Government Complex in Swan Quarter on:

Aug. 8, 2017
Nov. 7, 2017
Feb. 6, 2018
May 8, 2018
July 10, 2018
Sept. 18, 2018

Meetings begin at 7 p.m.

Sign up for our mailing list, leave comments and stay up-to-date on the plan's progress at nccoast.org/lakemattamuskeet.

In the event of bad weather, please check the website or call Erin Fleckenstein with the North Carolina Coastal Federation at 252-473-1607.



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August 8, 2017

November 7, 2017

February 6, 2018

May 8, 2018

July 10, 2018

September 18, 2018

All meetings at 7:00 P.M.



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Ways to Stay Engaged in the Process

Ways to Stay Engaged

Restoring the Lake Mattamuskeet Watershed

Mark your calendar for the public meeting on August 8

▶ EVENT DETAILS



www.nccoast.org/lakemattamuskeet

Information Posted on WebPage
www.nccoast.org/lakemattamuskeet



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Ways to Stay Engaged

Secure | <https://www.nccoast.org/lake-mattamuskeet-watershed-restoration/>

Subscribe to Lake Mattamuskeet updates

Email

First Name

Last Name

County

Please leave a comment for the watershed restoration planning team here. Please understand that the comments will be provided to the stakeholder team for their consideration. Comments received will not necessarily receive a personal response, but all will be taken into consideration in the development of watershed management strategies for the Lake watershed.


Notes


Submit

Additional Resources

- Study Shows New Flap Gates at Lake
- Mattamuskeet Bring Minimal Water Flow Change — N.C. Wildlife Resources Commission
- Mattamuskeet National Wildlife Refuge Website — U.S. Fish and Wildlife Service
- Updates on current and historic status of the lake's ecosystem and wildlife — U.S. Fish and Wildlife Service
- Continuous Water-Quality Monitoring at Lake Mattamuskeet, North Carolina — U.S. Geological Survey
- Mattamuskeet Foundation

What's New

 Lake Mattamuskeet public meeting set for Aug. 8
July 24, 2017



Sign-up for emails and press releases;
Submit Comments



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Ways to Stay Engaged



Attend Public Meetings

MARK YOUR CALENDARS

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Ways to Stay Engaged



Contact Me:
Erin Fleckenstein
252 473-1607
erinf@ncccoast.org

Ways to Stay Engaged



Contact a Stakeholder Team Member

Stakeholders:

Team Members
Roles and Responsibilities



By J.W. Spencer



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Stakeholder Charge

Responsible for directing the development of the watershed restoration plan for the Lake and its surrounding watershed and representing the various viewpoints, uses and goals of the Lake watershed's many stakeholders. They will serve as a sounding board and advisory committee for the duration of the plan development and prioritize key action items for inclusion in the final plan.

Stakeholder Team

J.W. Spencer- Soil and Water Board

Daniel Brinn- Hyde Drainage

Bill Rich- Hyde County

Art Keeney- Residential Community

Ben Simmons- Farming Community

Joey Ben Williams- Impoundments

Pat Simmons- Hospitality Industry

Pete Campbell- U.S. Fish and Wildlife Service

Doug Howell- N.C. Wildlife Resources Commission

Lake Level Monitoring Program



Grant Parkins
UNC- Chapel Hill Institute for the Environment
parkins@unc.edu

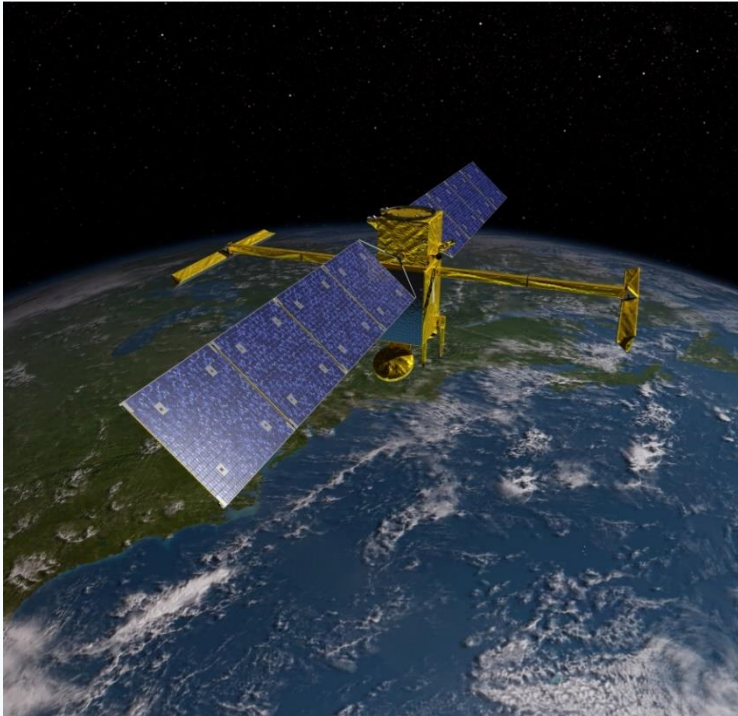


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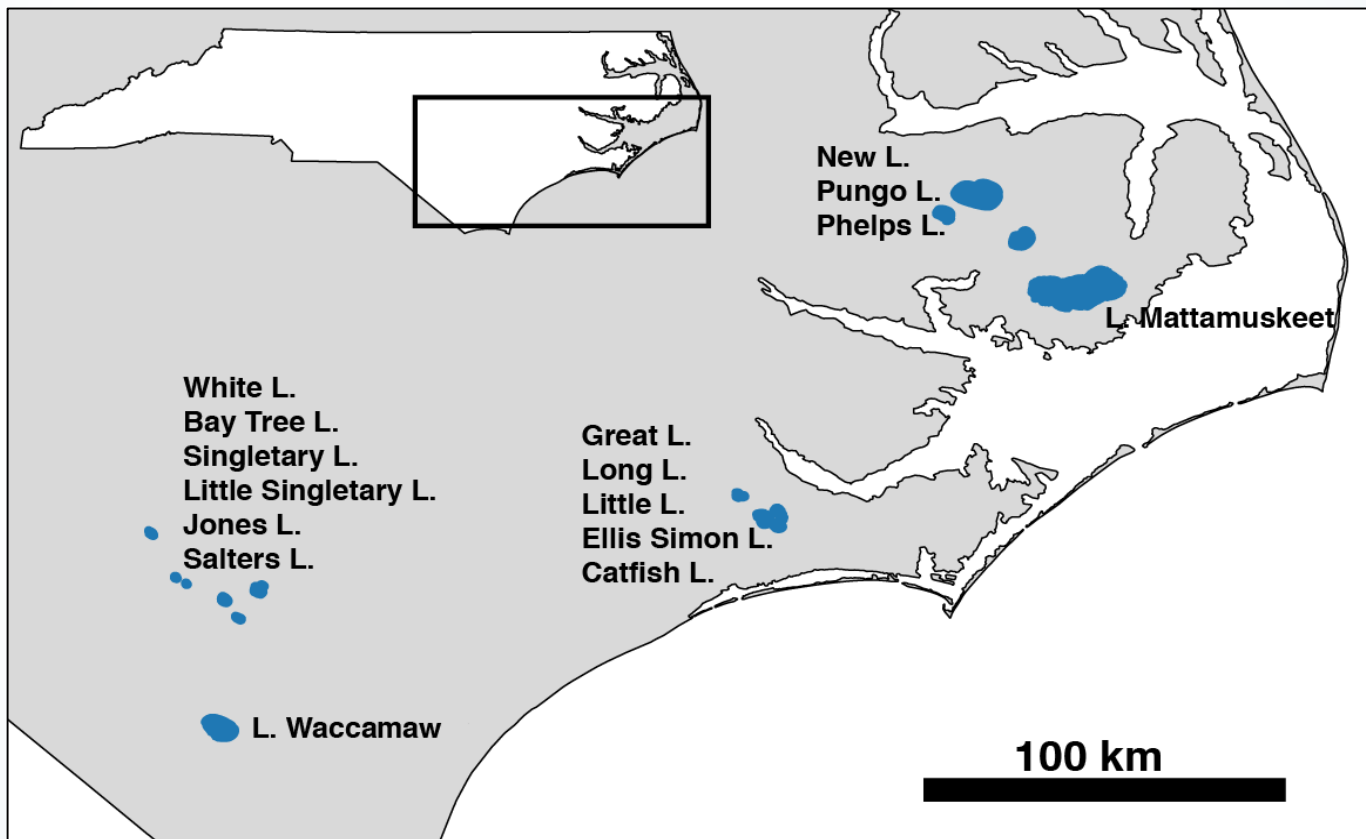
Satellite and Citizen Science Data



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Study Sites: Year 1



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Monitoring Changes in Lake Level

Lake Gauges

Cheap, Easy to Use, Little
Training

Rangers, Volunteers,
Passersby

Measurements Every 7-10
Days



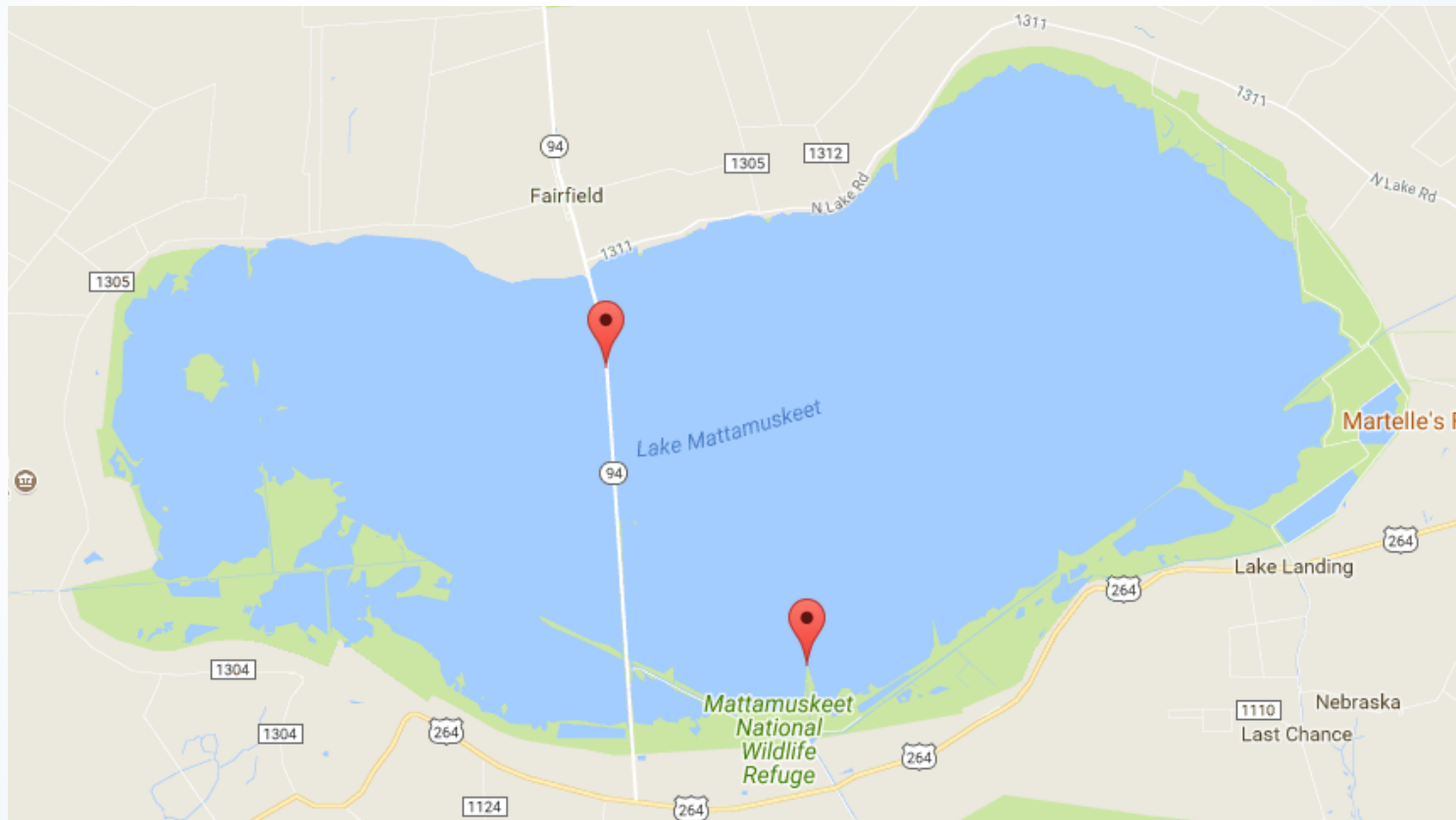
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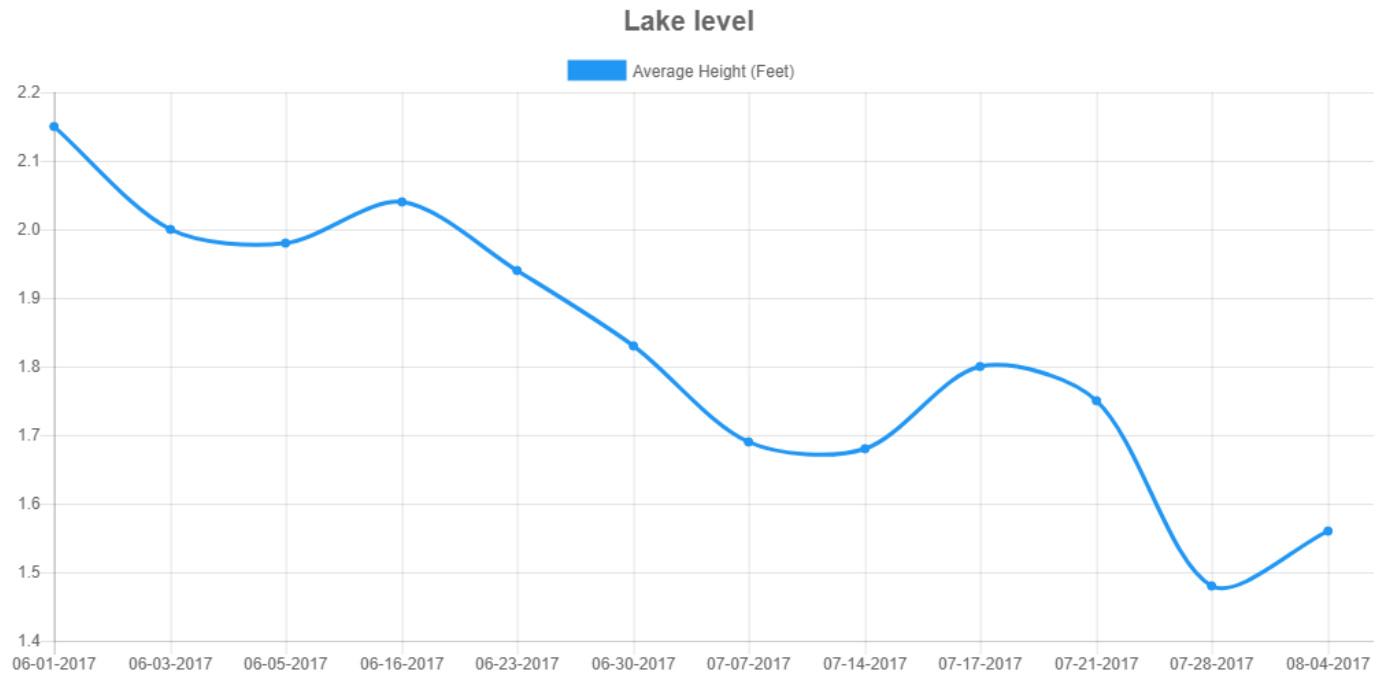
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Citizen Scientists: Lake Height

Gauge ID: NC1034

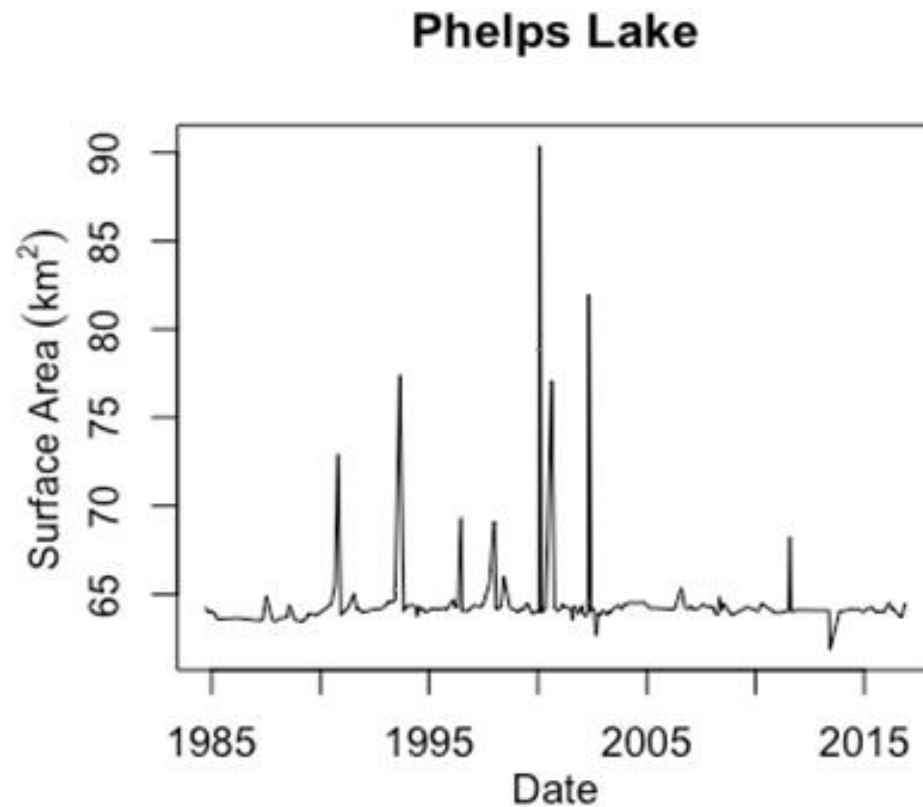
Lake: Lake Mattamuskeet - East



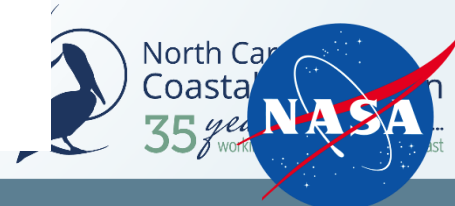
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Satellites: Surface Area



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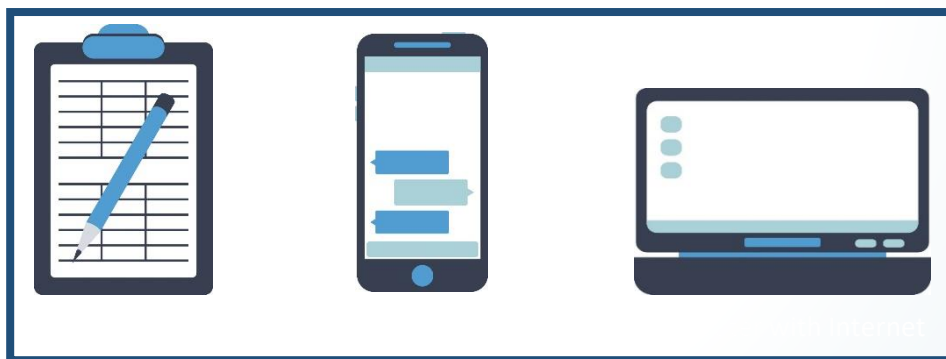
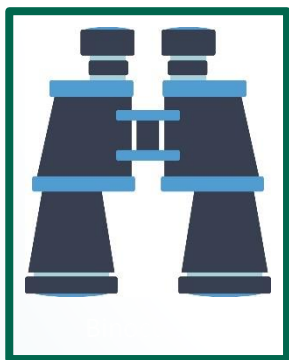
We Need Your Help!

We need volunteers to report lake height

Ideally every week

On days when Landsat8 passes over (every 16 days)

It's Easy and Only Requires a Few Simple Tools



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www.lakelevel.org

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Lake Level Monitoring Project

LATEST NEWS

When should we measure lake levels?

So how much water is in Eastern North Carolina's lakes?

New NASA grant enlists North Carolinians to help measure water stored in NC lakes

About the Project

The Lake Level Monitoring Project is an effort to better understand how the volume of water in lakes is changing over time. This NASA-funded project is a collaboration between the Department of Geological Sciences at UNC-Chapel Hill, the UNC-Chapel Hill Institute for the Environment, and Tennessee Technological University Department of Computer Science.

We are working with a network of citizen scientists who are reporting lake height by reading simple lake gauges. We are also using satellite images to determine the surface area of the lake. By knowing the changes in both lake height and lake surface area, researchers can understand how the volume of water in a given lake is changing over time.

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Draft Maps of Watershed Characteristics

Watershed Restoration Plan Development Process

Assemble Planning Team

Complete Watershed Characterization

Determine Water Quality and Quantity Conditions and
Impairments

Calculate Runoff Reduction or Volume Control Needed

Establish Plan Goals, Objectives and Action Items

Identify Stormwater Reduction or Water Management
Techniques

Develop Management Plan



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Lake Mattamuskeet Watershed Boundary

Pre-European Civilization 1800's & 2017



Historic Watershed Boundary was delineated based on historic topographic maps and geologic conditions, datasets and maps from the following sources: Heath 1975, Lukin & Mauger 1984

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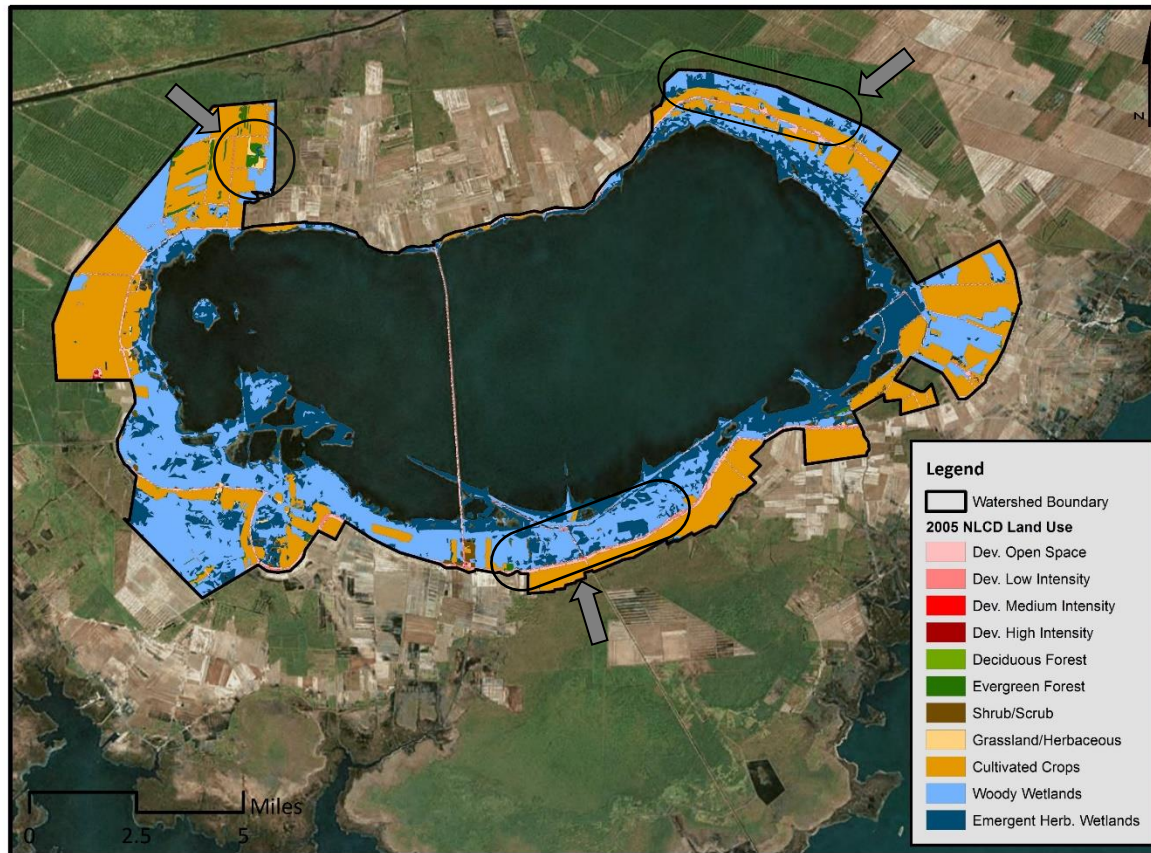
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroX, GeoMapbox, GIS User Community

Tracking Changes in Land Use

Lake Mattamuskeet Watershed Land Use: 2001-2006-2011

NLCD Land Use Class	2001 (Ac)		2006 (Ac)		2011 (Ac)
Developed	1,569		1,569		1,569.8
Forest	279.8	↓	246.4		250.5
Shrubland	222.2		222.2	↓	195.8
Herbaceous	34.2	↑	67.6	↑	89.1
Planted/Cultivated	10,110.0		10,110.8		10,106.1
Wetlands	17,267	↑	17,330	↓	15,010

Lake Mattamuskeet Watershed Land Use: 2011



Top Three Land Uses:

1. Woody Wetlands
2. Cultivated Crops
3. Developed Open Space

Summary: Minor changes in land use over the last 15 years. No significant changes in developed land or agricultural lands

Next Step: Analysis 2016 data set when available; Identify any data for pre-2001 land use.