



Assawompset Pond Complex Meeting

July 20, 2010

Tasks:

- To update the Standard Operational Procedures (SOPs) for the dams at the Nemasket River headwaters at Assawompset Pond and the Wareham Street dam in Middleborough.
- To evaluate the flow in the Nemasket River and seek funding opportunities for its enhancement.

Formation of Two Working Subcommittees:

- Pond Level and Dam Management
- Nemasket River Flow & Analysis

Pond Level & Dam Committee Members:

- James Ricci & Charles Kennedy, New Bedford Water Department
- Cathal O'Brien & William Schwartz – Taunton Water Department
- Andrew Bagas & Ruth Geoffroy, Town of Middleborough
- Nancy Yeatts & Richard Turner, Town of Lakeville
- Fred Underhill, Town of Rochester
- Steve Hurley, Mass Department of Fish & Game
- Dr Neil Fennessey, UMASS-Dartmouth
- David Cavanaugh, Middleborough-Lakeville Herring Commission
- Paul Bourgeois & Lisa Pacheco, Town of Freetown
- David Johnston, Jonathan Hobill, Pamela Truesdale, Mass-DEP

Nemasket River Subcommittee Members:

- Patricia Cassaday, Town of Middleborough
- Andrew Bagas, Town of Middleborough
- Laurell Farinon, Town of Rochester
- Nancy Yeatts, Town of Lakeville
- Linda Grubb, Town of Lakeville
- Christopher Peck, Town of Lakeville
- David Cavanaugh, Middleborough-Lakeville Herring Commission
- Pamela Truesdale, Jonathan Hobill, MassDEP

Meetings to Date:

- March 5, 2010 -Initial Meeting on pond flooding issue at MassDEP. Two subcommittees formed.
- March 23 – Representative Canessa’s public forum.
- April 15th – First meeting of Pond level & Dam management subcommittee.
- May 3rd - Work Group Meeting with MassDEP, Taunton & New Bedford to begin long term trend analysis.
- June 29th – First meeting of the Nemasket River subcommittee.
- July 9th – Work Group meeting with MassDEP, Taunton & New Bedford to discuss the trend analysis data
- July 12th – 2nd meeting of the full Pond level/Dam Management subcommittee to discuss the preliminary analysis.

Nemasket River Subcommittee work

- Call for existing information on the river.
- How much water can safely be conveyed downstream without causing flooding?
- What we know; what we don't.
- Need more qualitative information on the current state of the river.
- Seeking assistance from other agencies for improvements to the river & funding.

Pond Level and Dam Management Subcommittee Work

- Work underway on long term trend analysis data of pond levels
- It's a lot of data!! $1985-2009 = 24 \text{ years} \times 365 \text{ days} \times 2 = 17,520$ data points to analyze.
- Use existing data to develop interim dam SOPs and recommended maximum pond elevations.
- Seek funding for long-term hydrologic model of the APC & Nemasket River.

APC is a Valuable Regional Resource

It's the Water Supply for:

- ❖ New Bedford, 94,000 people
- ❖ Acushnet (partial) 7,000 people
- ❖ Freetown (partial) 500 people
- ❖ Dartmouth (as needed) 9,000 people
- ❖ Fairhaven (emergency) 6,500 people
- ❖ Taunton, 56,000 people
- ❖ Lakeville (through Taunton), 2,000 people
- ❖ Berkley (through Taunton) 1,000 people
- ❖ North Dighton (through Taunton) 1,500 people (also emergency)
- ❖ Bridgewater (through Taunton) 4,000 people
- ❖ Raynham (through Taunton) 200 people (also emergency)
- ❖ Norton (through Taunton) 200 people
- ❖ Middleborough (through Taunton) 100 people

- APC is the largest natural pond system in Massachusetts
- APC provides recharge to some of Middleborough water supply wells
- Provides drinking water for over 200,000 people in 13 communities
- It's our Southeast region's Quabbin Reservoir; only MWRA provides more public drinking water.

Important Pond Elevations:

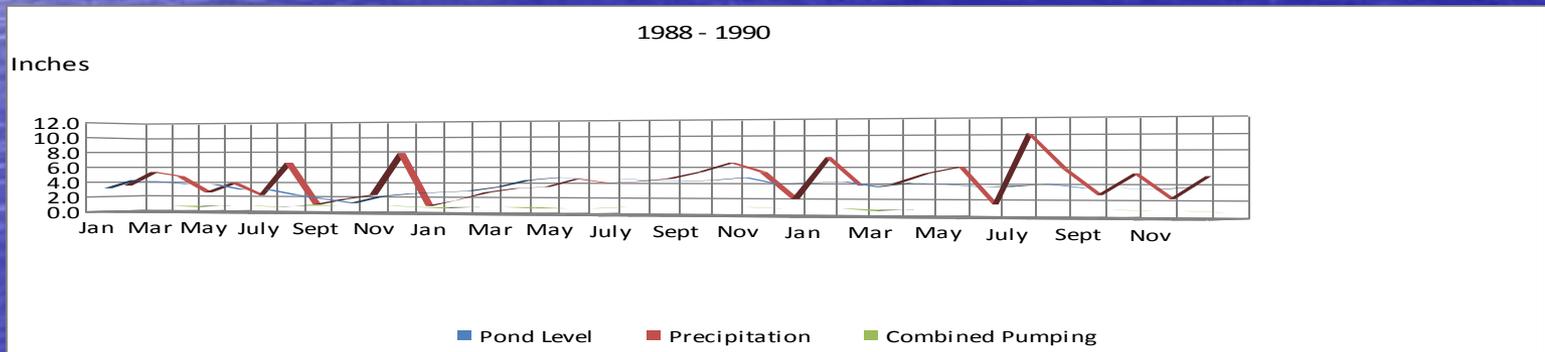
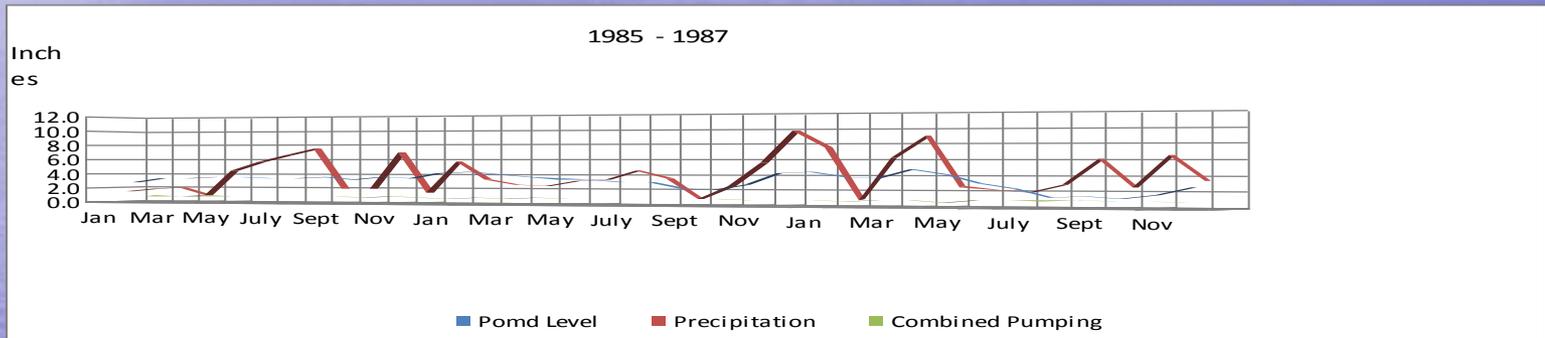
- July, 2009: **54.66-55.11** (NGVD 29)
- Building Code Base Flood Elevation: **55.0** (NGVD 29)
- April, 2010 Peak Flood Elevation: **57.3** (NGVD 29)
- July, 2010 – current: **53.3** (NGVD 29)

Methodology

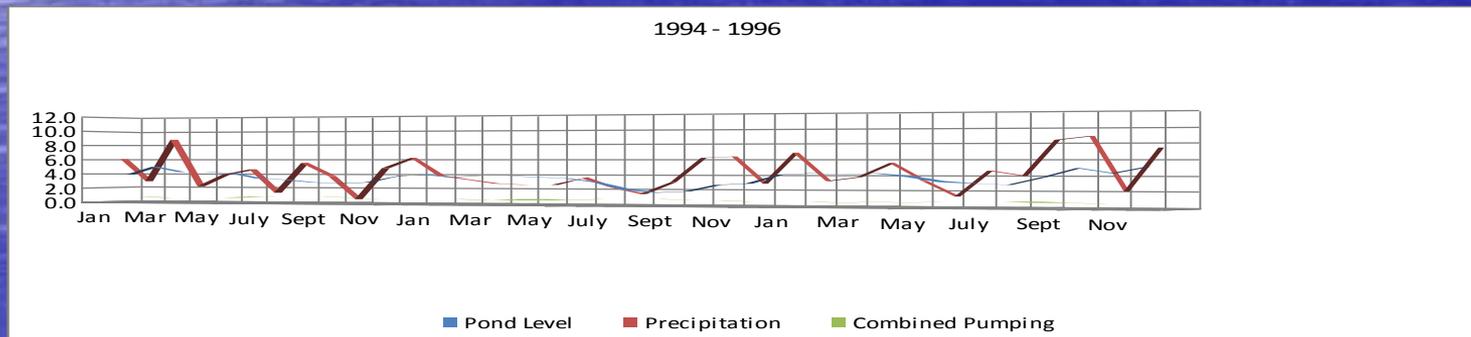
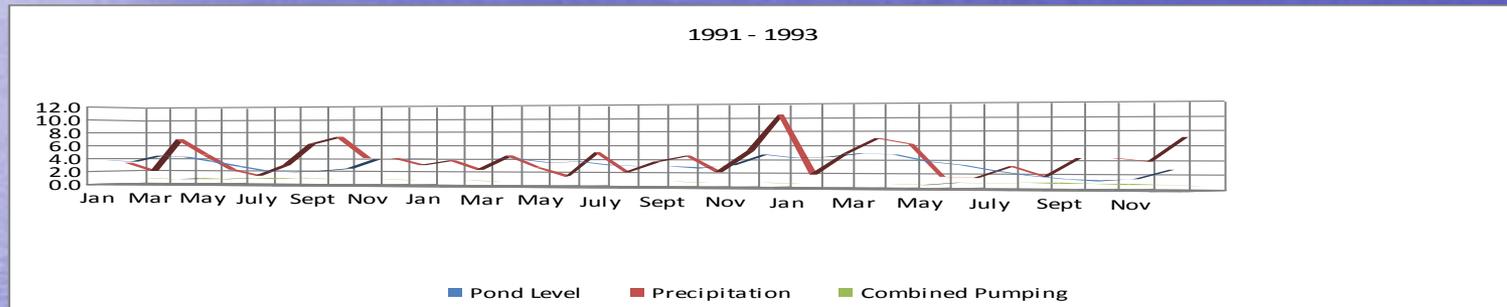
To recommend interim monthly maximum pond elevations, the following data will be used:

- Daily pond elevation readings from 1985 to present;
- Precipitation Records for same time period;
- Pumping withdrawal records during the same time period for both Cities

Historical Trends: 1985-1990

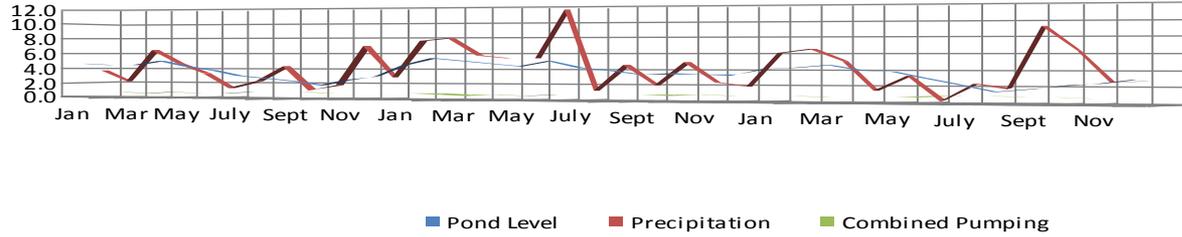


Historical Trends: 1991-1996

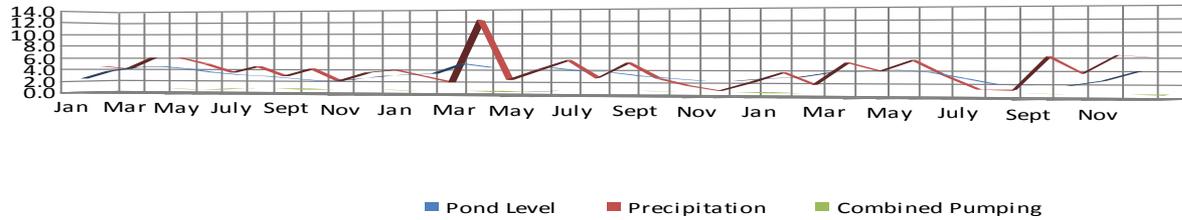


1998-2005

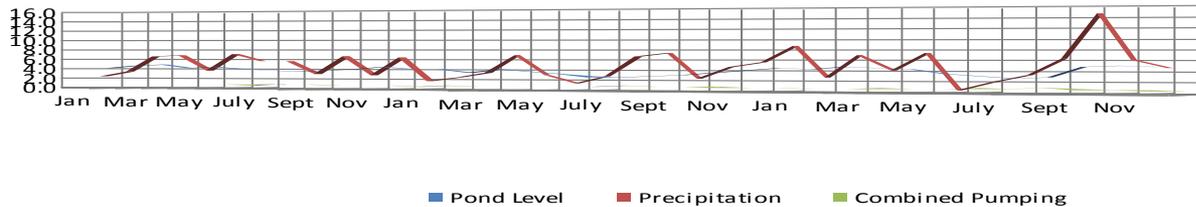
1998 - 2000



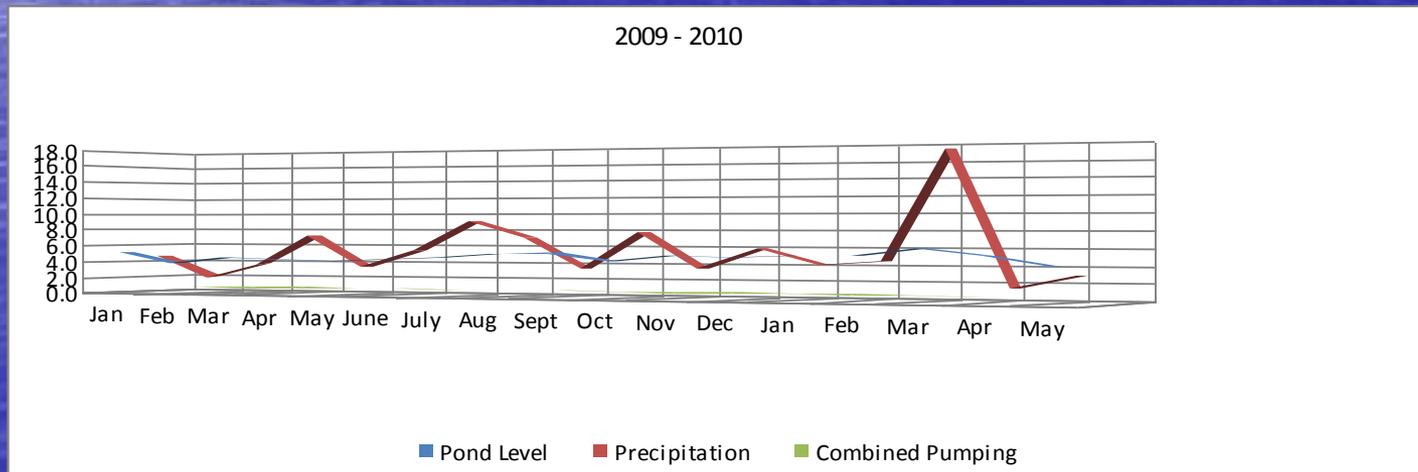
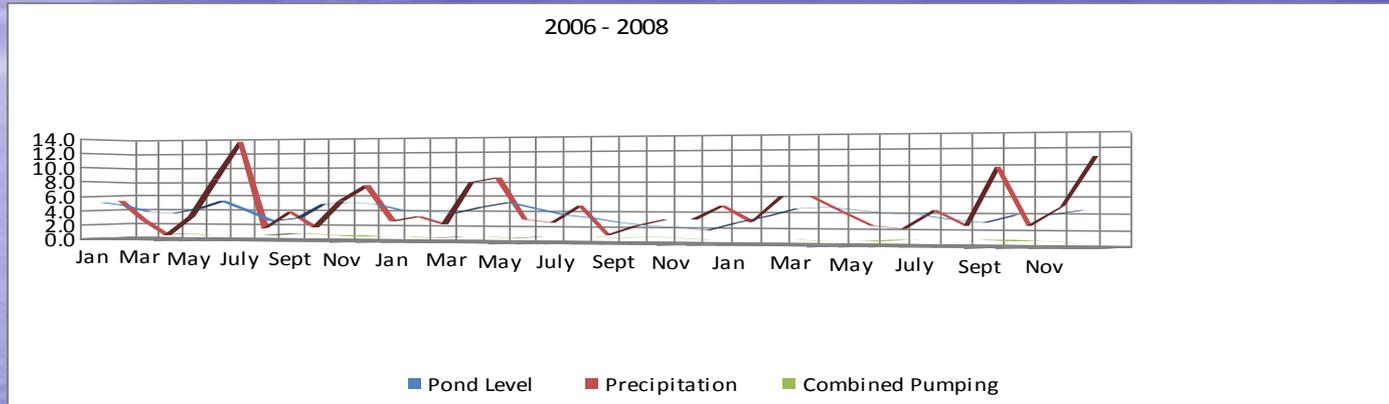
2000 - 2002



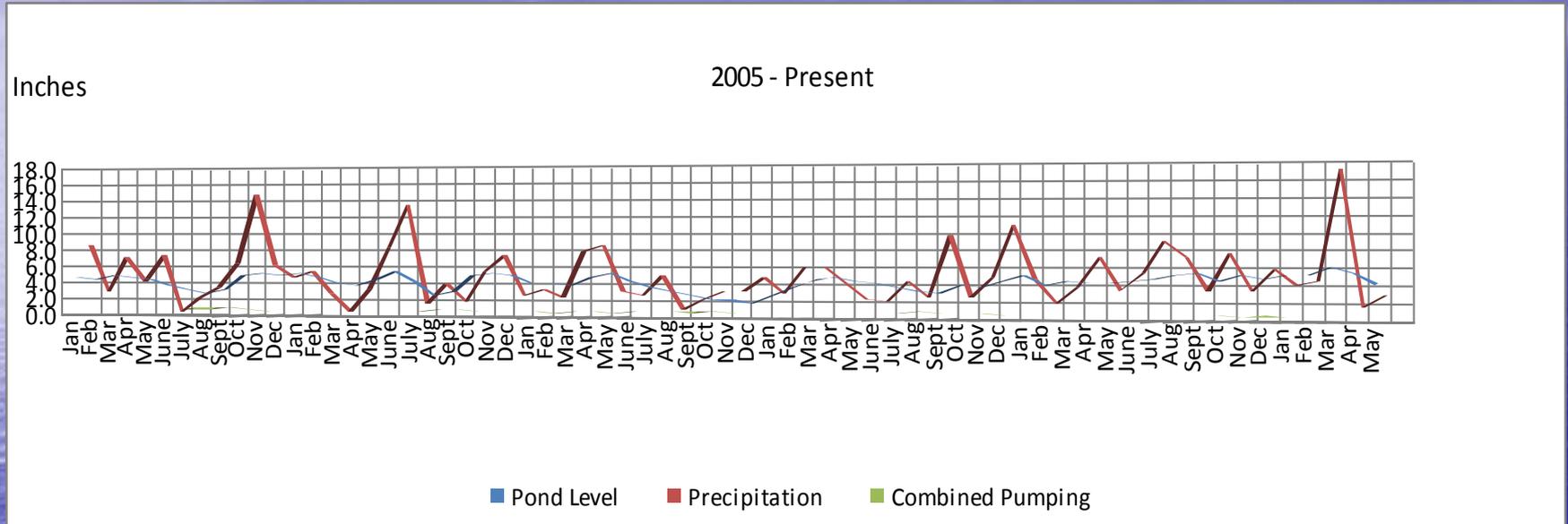
2003 - 2005



Recent Years: 2006 to Present



Trends from 2005-Present



Limitations of Interim Approach

- Based on basic statistical methods
- Does not include all of the varied hydrological impacts on an extremely complex system
- A long term, scientifically-based hydrologic study is what is needed for future management decisions

The Water Cycle

