

Procedures and Schedules for Controlling the Water Level in Lake Massapoag Amended April 2000

(As Approved by the Sharon Conservation Commission DEP # SE-280-254)

Authority

The authority of this procedure and schedule derives from the Lake Level Policy adopted in September 1991 (as amended).

Management Policy

The policy of this procedure and schedule for controlling the water level of Lake Massapoag is;

- 1) to maintain the water level of the lake at or as close to a staff gauge reading between 10.5 beginning May 15th and lasting through the months of July, August and September, and
- 2) beginning on the first day of October to gradually adjust the lake level to a staff gauge reading between 9.5 and 9.8 by November 1 and maintain that range whenever possible through the last day of February, and
- 3) beginning on the first day of March and lasting through April 15th, gradually raise the lake level to a staff gauge reading between 10.0 and 10.2, and
- 4) beginning April 16th gradually raise the lake level to a maximum staff gauge reading of 10.5 by May 15th.

The staff gauge is located at the flume house at the intersection of Pond and East Streets. This is the only controllable surface water outlet for Lake Massapoag.

Definitions

Lake level. The level of the water as read on the staff gauge below the flume house at the outlet to Massapoag Brook. A measurement of 11.0 on the staff gauge equals 252.56 Mean Sea Level (MSL).

Discharge Rate. The amount of water released from the Lake into Massapoag Brook measured in cubic feet per second (cfs). Actual Discharge Rates are measured on the staff gauge installed by the U.S.G.S. at the Quincy Street sluiceway. Discharge ratings are contained in the July 22, 1998 report from U.S.G.S.

Minimum Discharge. The lowest permitted discharge rate at each given time. This rate is derived from U.S. Fish and Wildlife Guidelines for New England Waters. The minimum discharge rate should be 1.5 cubic feet per second whenever possible. During the months of November through April a discharge rate of at least 3.0 cfs to 4.5 cfs is desirable. These discharge rates are recommended to maintain the biological integrity of the downstream streams and ponds. In no case shall the Discharge Rate be less than 1.0 cfs without explicit permission from the Conservation Commission.

NE Aquatic Baseflow - minimum summer flow value that represents most severe naturally occurring condition that a stream community would experience - based on survey of minimum reported reference streams and rivers in N.E.

Maximum Discharge. The highest permitted discharge rate at each given time. The Maximum Discharge Rate for any month during the year is 20 cubic feet per second.

Maximum Level. The Lake Level which should not be exceeded under any circumstances at each given time. The maximum water level beginning May 15th and lasting through the end of the month of September is a reading of 10.5 on the staff gauge. The maximum water level for the month of October is 10.0. From the first day of November through February the maximum lake level is a reading of 9.8 on the staff gauge. The maximum water level from March 1 to April 15 is a reading of 10.2 and from April 16th the maximum level will increase linearly from 10.2 to a maximum level of 10.5 on May 15.

General Technique

The basic goal is: Always maintain the Minimum Discharge and never exceed the Maximum Level while avoiding sudden changes in the level of the Lake. It shall be the responsibility of the Conservation Administrator of the Town of Sharon to manage and adjust the gate within the flume house. The Conservation Administrator has discretion within the parameters of this management schedule to consider precipitation, lake water temperature, ambient air temperatures and down stream water flows in determining the appropriate discharge rates.

Many situations may occur throughout the year that may require close monitoring by the Conservation Administrator. These situations are impossible to predict but may include, but are not limited to, the following:

- 1) The lake water level is close to the maximum level and two days of heavy rain are forecasted. The Administrator may elect to lower the gate to prevent the lake level from exceeding the maximum level for that month.
- 2) The lake water level is well below the maximum level for that month. Heavy rain is forecasted. The Administrator may elect to raise the gate and cut flow in order to catch and hold the predicted rain.
- 3) The ambient air temperature is above 90 degrees Fahrenheit and no rain is forecast within the next 3 to 5 days. The Administrator may elect to reduce flows overnight and increase flows during daylight hours.
- 4) The flume house channel and/or beachfront have become clogged with debris. The Administrator may elect to lower the gate in order to clear the debris by increased water flow action.

The gate structure shall be adjusted such that no less than the Minimum Discharge at each given time is maintained, whenever possible.

There are many other conditions or combinations of conditions. The above situations are just some examples. In the case of any abnormal or unique event, the Conservation Administrator shall notify the following committees/persons:

- The Department of Public Works Superintendent
- The Conservation Commission
- The Town Administrator/Board of Selectmen
- The Lake Management Committee

The Conservation Administrator is authorized to request and receive any information or concurrence he or she deems necessary to fulfill the Lake Level Policy or this Management Schedule.