

Greenwood Lake Water Level Management Plan



A Collaborative Effort by
Greenwood Lake Commission

P.O Box 1110
Greenwood Lake, NY 11025
with

New Jersey Department of Environmental Protection
Division of Parks and Forestry
State Park Service
Ringwood State Park

and
New York Department of Environmental Conservation
2011 – 2031

Project Report No. 3

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I. Introduction

This document is to be used as a Water Level Management Plan that is the source for directing future drawdowns of the waters which lie within Passaic County, New Jersey and Orange County, New York.

The title of ownership to the dam impounding the waters known as Greenwood Lake and the control of the sluice gates controlling the impounded waters belong to the State of New Jersey and are the responsibility of the Department of Environmental Protection and the State Park Service. The property and rights were originally vested in trust to the Morris Canal and Banking Company. The property and rights vested in trust include: Lake Hopatcong, Lake Musconetcong, Cranberry Lake, Bear Pond at Saxton Falls and Greenwood Lake (NJSA Title 13:12-1 through 13:12-29).

Passage of 14 canal acts during the period February 28, 1923 through March 13, 1925 continued the lakes as part of the Morris Canal and Banking Company. Its charter and rights were deeded to the State of New Jersey. The Acts placed the administration and management of the Company and its properties under the Board of Conservation and Economic Development and then to the Department of Environmental Protection and to the State Park Service.

In 2001 the Greenwood Lake Protection Act (N.J.S.A. 32:20A-1 and Laws of New York 2002 Chapter 47) created the Greenwood Lake Commission, a bi-state agency with the goal of protecting the natural, recreation, and scenic resources of Greenwood Lake and its watershed. The Greenwood Lake Commission is responsible for initiating lake drawdowns because one of its duties is to, “coordinate environmental clean up, maintenance, and protection efforts undertaken, for the benefit of Greenwood Lake and its watershed”.

Because Greenwood Lake is an important recreational resource that is dependent upon a stable water level and because the lake also supplies water flow to the Wanaque River, Monksville Reservoir and the Wanaque Reservoir, this plan addresses protection of aquatic biota, potable water distribution, and public recreation including the trout stocked waters located downstream.

II. Goal and Objective

Goal: To maximize recreational opportunities at Greenwood Lake, and provide opportunity from improvements and repairs to shoreline structure through a scheduled Water Level Management Plan while providing for the protection of the aquatic resources located with and downstream of the lake, while maintaining minimum passing flow requirements and potable water uses.

Objective: To establish a set of management and operational guidelines for manipulation of the lake’s water level to meet the established goal.

III. Facts

The following analysis of considerations, procedures, and facts is based on historic lake controls, local economic factors, environmental conditions, law, policy and procedures and recommendations both private and public.

A. Considerations

1. The waters of Greenwood Lake are used for recreational purposes to include power boating, sailing, fishing and bathing in the summer months and ice boating and ice fishing in the winter months along with other recreational activities associated with a large inland lake.
2. The economic base for several businesses that are situated on the lake or in the vicinity of the lake is highly dependent upon lake water quality, fisheries habitat and lake water levels.
3. Greenwood Lake is situated on the New York/New Jersey state border and lies within both states, two counties, and several local government jurisdictions. The lake also falls within the jurisdiction of the federal government through the US Army Corps of Engineers and the US Coast Guard. This multi-jurisdictional factor compounds lake management by increasing approvals required and permit/agreements needed.
4. The waters located below the Greenwood Lake dam are identified as trout stocked waters, and trout fishing is a popular sporting activity that remains important to the local and state economy.
5. Greenwood Lake is situated on the Wanaque River, and the river supplies water to the Monksville and Wanaque Reservoirs. Any impact upon the waters of Greenwood Lake in turn impacts upon each reservoir. The reservoirs provide water for both public recreation and consumption.
6. Three (3) MGD (million gallons per day) must be released downstream when natural stream flow ebbs. The 3 MGD is measured at a weir located below the dam and equates to 5.1 CFS.

B. Procedures

1. One sluice gate at the Greenwood Lake dam is kept in a year round fixed position allowing for the required three (3) million gallon per day downstream flow. (except during an actual drawdown)

2. The trout stream fisheries below the Greenwood Lake dam have historically been dependent upon natural spillway discharge and not on controlled water release but the habitat would be dependent upon the 3 MGD controlled water release especially in periods of reduced stream flow due to drought, etc.

C. Facts

1. The Greenwood Lake Commission is a bi-state agency and historically acts as the unit requesting a lake drawdown. The Commission can accept or disperse public funds from the State of New Jersey, the County of Passaic, the Township of West Milford, and any other government or private agency.
2. The lake community of Awosting operates a sewage treatment plant on the Wanaque River below the Greenwood Lake dam.
3. The rate of water that normally discharges from Greenwood Lake is determined by the natural stream flow coming into the lake and thereafter running over the spillway. Several springs are known to feed the lake and contribute to the overall water supply available.
4. During the drawdown, the lake bed will freeze, and this action will kill the roots of nuisance aquatic vegetation. The drawdown is also an opportunity for lake front property owners to make repairs on their docks and perform moderate cleaning of their properties.

IV. Drawdown Schedule 20 year Plan

1. A drawdown of five feet (60 inches) should begin the year that this plan becomes effective and continue every four (4) years thereafter, but not to conflict with the drawdown of Lake Hopatcong unless directed by the Commissioner of the Department of Environmental Protection during a declared drought warning or emergency.

Example: 2011/2012 Winter start
 A drawdown of a maximum of 5 feet
 Repeat process thereafter every (4) years
 Drawdown to begin the 2nd Tuesday of October and the refill
 February 15th or whenever ice is loose from the shoreline.

V. Overview of Procedures for Drawdown

1. By June 1st of each year prior to a scheduled drawdown, the Greenwood Lake Commission will request that a drawdown be conducted. The request will be submitted in writing to the Director, New Jersey Division of Parks and Forestry, CN 404, Trenton, New Jersey 08625. The request will be accompanied by letters of support and/or by permit from the parties listed in Section VII.
2. New Jersey Division Parks and Forestry will submit a Water Lowering Application to the New Jersey Division of Fish and Wildlife by July 1st.
3. The Commission will request that the New York Department of Environmental Conservation issue a blanket stream encroachment permit for lake maintenance operations.
4. The actual Water Lowering permit will be transferred to the New Jersey Division of Parks and Forestry, which will hold the permit and provide a copy to the Greenwood Lake Commission once it has been approved and the drawdown will commence on the second Tuesday of October for a 5 foot drawdown. Stable water levels at the reduced elevation will be maintained to the extent feasible for the duration of the drawdown. A slow refill may be required to avoid dock damage due to heavy ice formations on the lake surface.
5. A drawdown approval will always be dependent upon water supply conditions. The New Jersey Division of Parks and Forestry will consult with the New Jersey Department of Environmental Protection's Division of Water Supply and the North Jersey District Water Supply Commission for guidance on water supply conditions. If a drought warning is declared by the Commissioner of the New Jersey Department of Environmental Protection, or if the Governor declares a water releases emergency, the New Jersey Division of Water Supply will provide guidance for the required water releases transfer and any necessary alterations to the drawdown schedule.
6. In the event of a drought warning or if a drought emergency is declared by the State of New Jersey, the North Jersey District Water Supply Commission and New Jersey Department of Environmental Protections's Division of Water Allocation will provide policy and guidance on water transfer requirements to the Commission.
7. The following will be the procedures for the 5 foot drawdown:
 - a) The maximum depth of the drawdown is set at five (5) feet below the spillway elevation.

b) A gradual drawdown is proposed for the first ten (10) days. The actual rate of outflow will be dependent upon weather conditions during this period. All boats and docks should be removed at this time.

c) The outflow at the dam will increase on the eleventh (11th) day, and will go to 150 MGD (million gallons/day) as soon as permissible thereafter in order to effectively drawdown the lake.

d) An effort will be made to maintain the five (5) foot lake level reduction when it has been reached, in order to allow for maximum weed exposure during periods of freezing.

e) The lake refilling process will begin in late February, depending on conditions.

f) NJDEP will be notified of any major date changes or highly altered procedures if they occur.

g) Partners need to provide evidence of approval in support of this effort for documentation to NJDEP, New Jersey Division of Parks and Forestry, and/or other division. Since the plan is established as a twenty (20) year plan, partner may grant approval (or re-approval) for the entire period.

h) This plan will be a permanent, four-year interval plan, as part of lake management.

i) To facilitate gaining permission for the drawdown, no response within 35 days will be considered as approval from the partners.

VI. Primary Partners and Roles

The partners shall be:

State of New Jersey
New Jersey Division of Parks and Forestry

A. The Role of the State of New Jersey

1. The allocation of funds to support a drawdown is the responsibility of the Greenwood Lake Commission (the Commission). Funding must be present to support each drawdown proposed.
2. Storm Island lies within the jurisdictional boundaries of West Milford Township. Questions on access during the drawdown should be directed to the Township.

3. The Role of the New Jersey Division of Parks and Forestry

Contact: New Jersey Division of Parks and Forestry
New Jersey Department of Environmental Protection
P.O. Box 402
Trenton, NJ 08625-0402

- a. Ringwood State Park phone number is (973) 962-2031.
- b. To provide a liaison between the Department of Environmental Protection and the Commission.
- c. To provide procedural guidance to the Commission.
- d. Division of Parks and Forestry will submit a water lowering application to the NJ Division of Fish and Wildlife by July 1, of each year of a scheduled drawdown.
- e. Operate sluice gate in accordance with minimum passing flow requirements and the Greenwood Lake's Water Level Management Plan.
- f. Produce a brief summary of each drawdown activity for distribution to interested parties.
- g. Attend the Commission drawdown meetings scheduled.

4. The Role of the New Jersey Division of Fish and Wildlife, Bureau of Freshwater Fisheries

Contact: Division of Fish and Wildlife
Bureau of Freshwater Fisheries
P.O. Box 394
Lebanon, NJ 08833

- a. Review water lower applications submitted by the NJ Division of Parks and Forestry and issue permit in accordance with the New Jersey Administrative Code and the Greenwood Lake Commission's Water Level Management Plan.
- b. Attend the Commission drawdown meetings as scheduled.
- c. Review fisheries management plans with the Commission and their lakes management consultant.
- d. Work with the Division of Parks and Forestry by providing technical expertise on drawdown results, processes and procedures.

5. The Role of the NJDEP Freshwater Wetlands

Wetland permits are not required as part of the lowering procedures.

B. The Role of the Greenwood Lake Commission

1. The Greenwood Lake Commission (the Commission) is a bi-state government commission formed to advance the maintenance and restoration of Greenwood Lake. In the matter of a drawdown, the

Commission will act as the requester. The Commission will be responsible to provide written documentation of support of all drawdowns from the federal, state, county and local government agencies having jurisdiction over the lands and waters involved along with like documentation from the public entities that are listed in the drawdown plan (see attachment #2). Updated letters of support must be submitted for each successive drawdown unless the submitting party desires to cover the entire twenty (20) year plan period when making its initial submission. That option will be left open to the submitting party or entity.

2. The Commission will be responsible for all operational functions associated with any requested drawdown with the exception of the operation of the sluice gate control mechanism which will be the responsibility of assigned State Park Service personnel from Ringwood State Park.
3. The Commission will provide an update of its administrative roster for NYDEC and the New Jersey Division of Parks and Forestry for emergency contact purposes. The roster is to include name, title, phone number(s) – including cell phones, fax number (if available), and complete address.
4. The Commission will be responsible for arranging all meetings associated with a drawdown to include public hearings. A minimum of two (2) meetings are to be held between January 1st and June 30th the year of a scheduled drawdown; one meeting must be in New York and one meeting must be in New Jersey. All parties identified on the following Parties list in Section VII are to be invited in order to discuss their concerns or bring forth new issues. Absence will be taken as non-concern unless written submissions are received before the meeting is held. The Executive Director of the Commission, or the New Jersey or New York Chair, or his/her appointed designee, will chair the meetings.
5. Minutes of the meetings will be the responsibility of the Commission and copies of the minutes are to be distributed to all participating parties within twenty (20) days.
6. The Commission will submit a report evaluating the effect of each drawdown to the New Jersey Division of Parks and Forestry within (thirty) 30 months of the approved drawdown date. The report should include the following:
 - a. The extent and type of vegetation control achieved.
 - b. The percentage of vegetation remaining in the littoral zone.
 - c. The changes in species composition noted.

- d. The effects on the density and species composition of macroinvertebrates in the dewatered and littoral area thereby providing information on the ecological health of the benthics.
- e. Any other factors that may support the need for continued drawdowns.

VII. Other Parties Involved

The following list contains the known public and private entities that are involved in varying fashion during a drawdown and that require notification.

A. Role of the New York State Department of Environmental Conservation

Contact: New York State Department of Environmental Conservation
Region 3 Program
21 South Putt Corners Road
New Paltz, NY 12561-1696

- 1. Process the Environmental Quality Package submitted by the Commission. Package includes Freshwater Wetlands permit applicable to New York State.
- 2. Provide copies of permits to the Commission and consultant that support each drawdown activity.
- 3. In the event that a future drawdown interferes with a previously known and identified shallow well at the lake, the State will be responsible for allocating and funding the required potable water sources throughout the drawdown period or for finding alternative solutions.
- 4. Attend the Commission drawdown meetings whenever applicable.

B. Role of the New Jersey Highlands Council

Contact: New Jersey Highlands Council
100 North Road
Chester, NJ 07930

- 1. Provide letter of support for each drawdown activity and waive the necessity of their approval of any permits from the mean high water level into the lake bed. Letter to be submitted upon request to the Commission for inclusion in their drawdown request package to the New Jersey Division of Parks and Forestry.
- 2. Attend the Commission drawdown meetings whenever applicable.

C. Role of the New York District, Corps of Engineers

Contact: U.S. Army Corps of Engineers
Jacob K. Javits Federal Building
26 Federal Plaza, Room 2109
New York, NY 10278-0090

1. Review lake management consultant's plans for major lake restoration projects when applicable.
2. Provide letter of support for each drawdown activity. This letter is to be submitted upon request to the Commission for inclusion in their drawdown request package to the New Jersey Division of Parks and Forestry.

D. Role of the North Jersey District Water Supply Commission

Contact: North Jersey District Water Supply Commission
1 Orechio Drive
Wanaque, NJ 07465

1. Provide a letter of support for each drawdown activity. The letter is to be submitted upon request to the Commission for inclusion in their drawdown request package to the Division of Parks and Forestry.
2. Enter into a Memorandum of Agreement with the Commission to do the following:
 - a. Monitor stream flow activities during the drawdown and refill process during normal working hours. Saturdays, Sundays and holidays excluded.
 - b. Notify Ringwood State Park at (201) 962-7031 or 962-7047 of any changes required in stream flow that negatively impact upon the downstream reservoirs.
 - c. Work with the New Jersey Division of Parks and Forestry liaison throughout the drawdown process. Provide technical support on reservoir supply needs/issues.
 - d. Work with the DEP Water Supply Element on all drawdown requests to insure that water supply needs are known and that increased water flows due to drawdown may be absorbed at the reservoirs.
3. Attend the Commission drawdown meetings whenever applicable.

E. Roles of Passaic County, New Jersey and Orange County, New York

Contact: Passaic County
Passaic County Administration Building
Freeholder's Office
401 Grand Street
Paterson, NJ 07505

Orange County
Orange County Government Center
255 Main Street
Goshen, NY 10924

1. Provide letter of support for each drawdown activity. Letter to be submitted upon request to the Commission for inclusion in their drawdown request package to the New Jersey Division of Parks and Forestry.
2. Provide support to lakeside communities throughout each drawdown process if required.

F. Roles of the Township of West Milford, New Jersey; the Village of Greenwood Lake, New York; and the Town of Warwick, New York

1. Provide a letter of support for each drawdown activity. Letter to be submitted upon request to the Commission for their inclusion in the drawdown request package to be submitted to the New Jersey Division of Parks and Forestry.
2. Provide in-kind services if requested by the Commission. This will be done only at the request of the Commission and only with approval of municipal officials.
3. Work with local citizens and their organizations and with local businesses and inform them of the municipality's support and involvement in the drawdown process.

G. The United States Geological Survey

Notification of a drawdown must be given to the U.S. Geological Survey as this organization monitors the gauging station at The Greenwood Lake dam.

Contact: U.S. Geological Survey
810 Bear Tavern Road
Suite 206
West Trenton, NJ 08628

H. The United States Coast Guard

Notification of a drawdown must be given to the U.S. Coast Guard, whose responsibility it is to patrol this bi-state lake.

Contact: First Coast Guard District
U.S. Coast Guard
408 Atlantic Avenue
Boston, MA 02110

VIII. Drawdown Package Contents

1. A written request from the Executive Director, or the New Jersey or New York Chair, or appointed designee, of the Greenwood Lake Commission to the Director, New Jersey Division of Parks and Forestry requesting that a drawdown be conducted according to the Water Level Management Plan.
2. Supporting letters approving the proposed drawdown by the following:
 - a.) New York District, Corps of Engineers
 - b.) North Jersey District Water Supply Commission
 - c.) Passaic County, New Jersey
 - d.) Orange County, New York
 - e.) The Township of West Milford, New Jersey
 - f.) The Village of Greenwood Lake, New York
 - g.) The Town of Warwick, New York
 - h.) The New Jersey Highlands Council
 - i.) U.S. Geological Survey
 - j.) U.S. Coast Guard
3. Approvals given by permits issued or accompanying letters received from the following:
 - a.) New York State, Department of Environmental Conservation

NOTE: Failure to provide any of the above documentation may delay the permitting process. Missing documentation must be accounted for in written form with proper explanations made.