APPENDIX R

Adirondack Landscape Scale Management

- “Environmental Impacts of Winter Road Management at the Cascade Lakes and Chapel Pond”-Summary of Conclusions, Recommendations and Additional Research Needs
- Lake George MOU
Cascade Lakes Research Project


At the Annual NYSDOT/NYSDEC/APA Director’s Meeting in November 2001, NYSDEC requested that NYSDOT review winter snow and ice operations on Route 73 in the vicinity of Cascade Lakes to determine potential effects on roadside vegetation (birch trees) and aquatic life (round whitefish). In 2002, NYSDOT prepared a research project proposal and secured State Planning and Research funding to initiate a research project to assess the situation. NYSDOT assembled an interagency Technical Working Group (TWG) comprised of staff from NYSDOT, NYSDEC and APA to further develop the project, prepare a Project RFP, review proposals, select a proposal, develop a detailed work plan with budget, schedule and scope and guide the research project through to completion. The project cost and duration were $150,000 over 3 years with the final report submitted by Clarkson University in June 2006.
**Project Title** – “Environmental Impacts of Winter Road Management at the Cascade Lakes and Chapel Pond”

**Research Team** – Clarkson Center for the Environment, Dr. Thomas Langen, Principal Researcher

**Project Cost and Duration** - $150,000 over 30 Months

**Summary of Conclusions:**

Chloride concentrations in Upper and Lower Cascade Lakes have increased by 20 – 40 percent beginning in the 1930’s and accelerating in the 1980’s. A much lower increase has been observed at Chapel Pond during the same period. Although the chloride levels are still considered low and do not threaten aquatic species – including the endangered Round Whitefish - if trends continue, natural mixing of lake waters could be affected. In addition to these changes in water chemistry, the sedimentation rate in the lakes has increased, sediment composition has changed and chloride tolerant diatom species have increased slightly.

Also, in the last 20 years, or so, decline and die-off has been observed of white birch trees located on the narrow strip of land between Route 73 and Upper and Lower Cascade Lakes. This is attributed to several factors including the natural senescence of this early successional species, compounded by poor seedling recruitment due to sand accumulation, rock slides, decreasing soil fertility and aerial deposition of salt brine.

To address this situation, the research team provides 3 recommendations and 7 suggestions for additional research, as follows:

**Recommendations:**

1. Continue twice per year water monitoring at Upper and Lower Cascade Lakes;
2. Re-vegetate the highway embankment between Route 73 and the Lakes with a combination of native shrubs and grasses; and,
3. Place educational signage regarding the Department’s Snow and Ice Control Program within the corridor.

**Additional Research Needs:**

1. Investigate methods to reduce wind deposition of snow in the highway;
2. Investigate methods to improve highway drainage;
3. Investigate the feasibility of installing a Remote Weather Information System (RWIS);
4. Investigate the feasibility of reduced speed limit;
5. Monitored application of “new generation” alternative deicing and anti icing products;
6. As part of the planning and design process of any future highway reconstruction, evaluate the potential of anti-icing pavement overlay and conductive concrete; and,
7. Conduct re-survey of Adirondack Lakes similar to the 1980’s survey of over 1,400 Adirondack Lakes by the Adirondack Lake Survey Corporation.
MEMORANDUM OF UNDERSTANDING
Between
NEW YORK STATE DEPARTMENT OF TRANSPORTATION
and
The LAKE GEORGE PARK COMMISSION

This Memorandum of Understanding (MOU) is entered into on the 21st day of April 1997 between the Lake George Park Commission (LGPC), PO Box 749, Fort George Road, Lake George, New York 12845 and the New York State Department of Transportation (NYSDOT), Region One, 84 Holland Drive, Albany, New York 12208.

WHEREAS, Chapter 617 of the Laws of 1987, which became effective on January 1, 1988, amended Article 43 of the Environmental Conservation Law (ECL) and directed the LGPC specifically in ECL §43-0112 to promulgate rules and regulations relating to Stormwater Management within the Lake George watershed for the purpose of protecting the people, resources and water quality of the Lake George Park, and

WHEREAS, Stormwater Management regulations of the LGPC were promulgated on September 19, 1992 as Subpart 646-4 of Title 6 New York Compilation of Rules and Regulations (NYCRR). The regulations prescribe standards for the design of stormwater control measures which are to be part of development or projects within the Lake George Park, and

WHEREAS, NYSDOT and LGPC have a common interest in protecting the people, resources and water quality of the Lake George Park while recognizing the importance of providing the public with adequate, safe, efficient and balanced transportation at a reasonable cost to the people of the State of New York. The NYSDOT's administration of the State highways within the Lake George Park provides a unique opportunity to improve Stormwater Management consistent with the purposes of Chapter 617 of the Laws of 1987, and
WHEREAS NYSDOT regularly employs stormwater management control practices in its projects in the Lake George Park by implementation of existing NYSDOT statewide standards and specifications for stormwater management and erosion control, and

WHEREAS, the NYSDOT and LGPC desire to enter into an agreement for the efficient fulfillment of their respective missions within the Lake George Park with the best possible coordination and minimum duplication.

NOW THEREFORE IN CONSIDERATION OF THE FOREGOING IT IS AGREED by NYSDOT and LGPC as follows:

1. Stormwater Management provisions associated with the construction and development of new State highways and realignment of existing State highways within the Lake George Park shall be designed by NYSDOT in accordance with the design standards for new construction contained in 6 NYCRR Subpart 646-4 or amendments thereof, with due allowance for variation as may be necessary for good cause;

2. NYSDOT and LGPC shall within three months of this MOU establish a working group to develop generic “Stormwater Management Guidelines” for NYSDOT activities undertaken within the Lake George watershed. The “Stormwater Management Guidelines” shall be developed within twelve months of this MOU. The LGPC shall review existing NYSDOT statewide standards and specifications for stormwater management and erosion control to determine if these generic standards and specifications are satisfactory. Any changes, improvements or suggestions shall be provided by LGPC to NYSDOT for review, comment and incorporation into the “Stormwater Management Guidelines” as appropriate.

3. LGPC shall provide NYSDOT with a copy of all Local Stormwater Management Plans approved pursuant to 6 NYCRR Subpart 646-4. Prior to undertaking transportation projects that could effect stormwater
distribution on State highways within the Lake George Park. NYSDOT agrees to review the applicable Local Stormwater Management Plan with the goal of incorporating any specific stormwater control measures identified in the plan into such projects to the degree it is reasonable and cost effective to do so and subject to availability of funds for such purposes. It is acknowledged that design standards for new construction contained in 6 NYCRR Subpart 646-4 or any amendments thereto are not applicable to repaving and resurfacing projects;

4. Maintenance and repair activities such as ditch cleaning, culvert replacement, drainage improvements, etc. within the Lake George Park will be guided by “NYS Department of Transportation Guidelines for the Adirondack Park.”

5. This Memorandum of Understanding is in satisfaction of any permit required pursuant to 6 NYCRR Subpart 646 for any project undertaken by NYSDOT and no further process is required except that NYSDOT shall give reasonable notice of projects involving construction and development of new State highways and realignment of existing State highways to LGPC. LGPC shall acknowledge receipt of such notices and will identify any specific stormwater management concerns within 30 days of receipt. Any identified conflicts with regard to LGPC requirements and other jurisdictional requirements shall be resolved by NYSDOT in consultation with the involved agencies. LGPC shall be actively involved in providing assistance in reaching a consensus among involved agencies.

6. NYSDOT will design, construct, and maintain highway projects in keeping with the intent of this MOU. However, strict conformance may not always be possible due to unique limitations placed on NYSDOT by narrow rights-of-way, existing adjacent development, and other manmade or natural constraints. Where conformance is unattainable, NYSDOT Regional design staff will provide an explanation to LGPC and document the reasons for non-conformance in the project files.
7. Emergency projects undertaken by NYSDOT to respond to an imminent threat to health and safety of humans or animals, or to respond to substantial imminent threat of property shall generally be exempt from conformance with the provisions herein. Nevertheless, to the extent possible, NYSDOT will attempt to incorporate the intent of the "Stormwater Management Guidelines" into the construction of all emergency projects.

8. This MOU cannot be modified except by a written agreement signed by the parties hereto.

9. This Memorandum of Understanding can be canceled by either party upon sixty (60) days written notice.

IN WITNESS WHEREOF, the parties hereto have executed this Memorandum of Understanding the date above written

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

By: 
Bonny J. Cawley
Regional Director

Date: 4/25/97

LAKE GEORGE PARK COMMISSION

By: 
Carl R. De Santis, Sr.
Chairman

Date: 

W: