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Wildlife Impacts *Birds & Insects*

DRAFT GUIDELINES FOR DEVELOPMENT OF CONSERVATION ALTERNATIVE MOWING PLANS FOR INTERSTATE, EXPRESSWAY AND PARKWAY ROADSIDES

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Abstract: A primary responsibility of the New York State Department of Transportation (NYSDOT) is to maintain a highway right of way that is safe for the traveling public. Most often, this requires removal of trees, shrubs, and other fixed objects that may stand in the way of drivers leaving the highway. For many years, the department has fulfilled this responsibility by large scale clearing and mowing of a clear zone. Roadside management practices that maintain the right of way as parkland certainly make the road safe and visually pleasing, but provide little in the way of useful habitat for wildlife. The clear zone, occupying approximately 1 percent of the state's land area, is a landscape that has much potential for providing nesting and foraging habitat for grassland bird species. Protection of the environment being another responsibility of the department, the NYSDOT needs to advance practices that promote wildlife use of habitats along the highway, while maintaining a safe and aesthetic roadside for the travelers.

Project Objective

The project objective is to maintain a safe, visually pleasing, and manageable roadside environment for the traveling public, while developing habitat management practices for roadside landscapes that promote protection and sustainability of grassland bird species, endangered species and other wildlife.

Funding Source and Total Budget

Funding for advancement of management practices will be from the general department operating budget.

Methodology

Over the past three years, some department regions have shifted their roadside clearing and mowing practices to more fully address wildlife issues within the right of way. Efforts are underway to incorporate any practices already underway throughout the state into a statewide roadside management program, which will be manifested in the form of an updated statewide mowing manual. Habitat management methods employed by other state DOT's are being investigated for incorporation into NYSDOT's mowing and roadside habitat management program. Independent research will be conducted by local universities on grassland bird species to investigate habitat needs and characteristics of roadside habitats.

Summary

This presentation will discuss mowing practices currently employed by the department and recent efforts made to do things differently along NYSDOT roadsides. With an enhanced environmental awareness and increased biological staff throughout the department, work on managing roadsides for wildlife has increased dramatically. Examples of innovative stewardship activities and endeavors to promote grassland habitats and typical bird species found in these environs will be presented. The process of revising the statewide mowing manual to incorporate habitat management will be reviewed. Implications of the Migratory Bird Treaty Act on roadside and bridge projects will be briefly discussed.

Future Research and Policy Development

Roadside habitat management is a topic with many unknown aspects for a transportation department. Many opportunities exist for research on how best to manage the landscape for wildlife while still providing a safe and pleasing roadside. As the department moves forward in an ever-expanding role of stewardship of the natural environment, development of roadside management policies will be crucial.

Introduction

Maintenance mowing along interstate, expressway and parkway roadsides is essential to motorist safety, corridor aesthetics, maintenance of structures/facilities and worker and public satisfaction. General NYSDOT mowing guidelines are outlined in the department's "Mowing Manual," "Highway Maintenance Subdivision Operational Guidelines" and "Environmental Handbook for Transportation Operations." The following material provides a suggested approach to developing Conservation Alternative Mowing Plans (CAMPs) that will not compromise existing standards for safety, aesthetics and routine maintenance, and may:

- Conserve staff hours spent mowing
- Conserve fuel usage and costs
- Conserve air quality through reduced spent fuel emissions
- Conserve habitat for protected and declining populations of ground nesting birds including Eastern Meadowlark, Bobolink, Savanna Sparrow, Song Sparrow, Grasshopper Sparrow, Henslow's Sparrow and Upland Sandpiper
- Conserve required equipment maintenance
- Conserve habitats through reduced fragmentation

Conservation alternative mowing plans have been successfully developed and implemented on interstates, expressways and parkways in NYSDOT Region 5 through a multi-disciplinary team approach (and to varying degrees in other regions as well).

Four (4) zones are recommended for interstates, expressways and parkways. The names of these zones vary from those indicated in the Mowing Limits Manual. The new names better describe to the operators what management is expected in the different zones. The name of the zone, as described in the Mowing Limits Manual, is in parentheses.

- **High Management Zone** (*High Management Zone, Mowing Limits Manual, MLM*) - intensely managed area immediately adjacent to shoulder or curb
- **Frequently Mowed Zone** (*Moderate Management Zone, MLM*) - High maintenance area, mowed frequently (x times/ year)
- **Annually Mowed Zone** (Not addressed in MLM) - transition between Frequently Mowed Zone and No-Mow Zone (or left to regenerate naturally)
- **No-Mow Zone** (*Minimal Management Zone, MLM*) - zone where area left in natural state or left to regenerate naturally

Generally, the Frequently Mowed Zone will be 30 feet in width or will be set at the back side of the drainage ditch. The limits of this zone may be reduced or extend further depending on actual site conditions.

The limits of the Frequently Mowed Zone may require adjustment to preclude the development of annually mowed areas that are too narrow (less than 60 feet wide), too small (less than ½ acre), or too linear. Annually Mowed Zones will not be mowed until after August 1st. Annually mowed zones should be mowed no more than once per year; however, to further increase the conservation benefits, these areas may be mowed less frequently, but with due consideration of the desire to limit establishment of woody plants within periodically mowed zones.

The decision to include an annually mowed zone should consider many factors including, the adjacent land use and the width and length of the area. Since the annually mowed zone is important for ground nesting birds, these areas should be at least 60 feet in width and greater than one-half acre in size to reduce nest predation and allow a large enough nesting territory. Annually mowed areas will be most effective when located adjacent to or in close proximity to existing grassy fields and in these situations should extend to the limits of the R.O.W. When the adjacent land use is mature forest, the annually mowed zone should not be included or should be combined with a no-mow zone, as appropriate.

For consistency, Mowing Limit Markers should only be placed at the transition between the Annually Mowed Zone and the No-Mow Zone (the markers can be placed to create a natural appearing, meandering boundary.) Markers should be standard wooden or fiberglass stakes. Over time, the need for these markers should diminish as the demarcation of the zones becomes well established. These zones should also be captured electronically using GPS.

The Mowing Limit Markers shall be installed pursuant to guidance in the MLM and shall also be placed with due consideration of sight distance. This is especially important at entrance/exit ramps. The No-Mow Zone shall not encroach into the sight distance cone and restrict visibility.

The No-Mow Zone can be left to regenerate naturally. This process is termed succession. The final stage of succession is a self-perpetuating, sustainable, and interdependent community of plant and animal life. The establishment of No-Mow zones is intended, in part, to permanently reduce the amount of mowed area and to reduce the negative environmental effects of habitat fragmentation.

On narrow medians (less than 120 feet between the High Management Zones), new No-Mow zones may be established between the 30-foot minimum Frequently Mowed Zones with due consideration for maintenance structures, such as drainage ditches, deer reflectors, living snowfences, etc.

New woody plantings can be included to the No-Mow Zone. The purpose of these plantings should be to increase diversity of the plant community.

Careful consideration shall be given to any new planting of trees and/or shrubs in the Annually Mowed Zone. Decisions to plant trees should reflect the clear zone and clear area guidance found in the *Highway Design Manual* Chapter 10, Section 10.2.1. In addition, new plantings should be grouped in such a manner as to preclude the necessity of maintenance personnel to mow around individual plants. Supplemental (new) plantings can be included to correct existing conditions by “filling in” the spaces between the existing plants where mowing is difficult or not possible. Living snowfences, wildflowers or “deer reflectors” may also be included in this zone. All new planting in this zone shall be carefully coordinated with NYSDOT Maintenance to insure that it can be maintained without undue effort. Any exceptions to this rule must be agreed to by NYSDOT Maintenance.

Any dead and/or dying trees should be carefully reviewed for potential hazards. If it is determined that the tree would not cause a hazard if it falls, consideration should be made to leave the tree standing. Dead trees provide cover, nesting cavities and perches for birds and small animals.

Vegetation management practices may be modified depending on the characteristics of the land use adjacent to the corridor (urban, suburban, and rural). Urban corridors may be expected to have a greater proportion of High Management and Frequently Mowed vs. Annually and No-Mow Zones. Additionally, parkways and expressways may require different management due to the nature of the different roads.

Biographical Sketch: Kurt Weiskotten is an environmental specialist, with NYSDOT, Environmental Analysis Bureau, in Albany. He received his B.S. and M.S. in environmental science from SUNY College of Environmental Science and Forestry, Syracuse. At NYSDOT Kurt is responsible for wetland and wildlife-related issues statewide, such as endangered species protection guidance development and processes; statewide wetland permitting, wetland preservation, delineation, and mitigation guidance and policy development, wildlife related topics; primarily birds and habitat connectivity; overall ecology topics, plant issues such as invasive species community ecology; and right-of-way habitat management and policy development.