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Report to the 121st Legislature

Evaluation of the point system
used by DEP and LURC
in clearing standards for development

Submitted by:

Department of Environmental Protection
Bureau of Land & Water Quality
Division of Land Resource Regulation

And

Department of Conservation
Land Use Regulation Commission

April 30, 2003



JOHN E. BALDACCI
GOVERNOR

BROOKE E. BARNES
ACTING COMMISSIONER

January 24, 2003

Senator John Martin, Senate Chair
Representative Theodore Koffman, House Chair
Joint Standing Committee on Natural Resources
State House, Room 437
Augusta, ME 04333-003

Re: Evaluation of the point system used by DEP and LURC in clearing standards for development

Dear Senator Martin, Representative Koffman and Members of the Natural Resources Committee:

Chapter 97 of Public Laws 2002 approved substantive amendments to Department rules relating to the cutting and removal of vegetation adjacent to protected natural resources. As part of that approval, the Legislature requested that the Department of Environmental Protection and the Land Use Regulation Commission evaluate the point system used by the agencies to define what constitutes a well-distributed stand of trees between development and a regulated water body. The agencies were to invite the participation of the regulated community in this evaluation and report the results to your committee by January 15, 2003.

As directed, LURC and DEP have established a work group that includes several members of the regulated community. Several meetings have been held, forest stand data has been analyzed and a revised point system has been tentatively established. However, the work group feels strongly that any revisions to the point system should be analyzed in the field, which has not taken place at this time. The work group is interested in field testing the modified point system at a minimum of 2 different locations with different forest types involved.

It is anticipated that the field testing can be done over the course of the next month or so and that a report to your committee can be made by April 30, 2003. A copy of Chapter 97 of Public Laws 2002 is attached for your reference. Please call either of us directly if there are any questions or if the proposed reporting date of April 30, 2003 is unacceptable.

Sincerely,

David A. Van Wie, Director
Bureau of Land & Water Quality

Catherine M. Carroll, Acting Director
Land Use Regulation Commission

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Background

In 2001, the Legislature originally directed the Board of Environmental Protection and LURC to develop rules regulating the cutting and removal of vegetation adjacent to protected natural resources (see Legislative Resolve Chapter 116: Public Laws of 1999, 2nd Regular Session of the 119th Legislature). The rules were deemed major substantive and were to be submitted to the Legislature for review by January 2, 2002.

In January 2002, the DEP and LURC submitted provisionally adopted rules to the Joint Standing Committee on Natural Resources. During the course of analyzing and discussing the proposed rules, it appeared that additional analysis of the point system used to define a “well-distributed stand of trees” would be beneficial. In Resolve Chapter 97, the Legislature approved the rules developed by DEP and LURC but requested that both agencies, in conjunction with the regulated community, further evaluate the point system adopted and report back to the Committee by January 15, 2003. The report was to include recommendations on any changes to the points assigned to trees of specific diameters, the reasons for any recommended changes, and the effect of those changes on the buffer over time. Resolve Chapter 97 is attached as Appendix A.

A work group was established that included both DEP and LURC staff as well as those members of the public that gave input during the rule-making process. Additionally, a municipal codes enforcement officer was invited to share his perspective in applying the current point system and a forester with the Maine Forest Service, with extensive knowledge of forest resources and the ability to graphically represent that data, was also recruited as a member.

Evaluation Issues

The group spent considerable time early in the process discussing whether the current point system properly weighted the value of various sized trees relative to actual data from the Maine forests. Information was prepared for the group that took actual field data from forest plots and broke down the distribution of tree sizes, based on their diameter at breast height. From this data, the group was able to see what an average distribution of trees could be expected across a wide variety of forest types.

Using this information, the group proposed various modified point systems which were then applied to the data. Then the data was grouped according to the tree

diameter classes proposed. In this way, the group could analyze whether the proposed points being assigned in the modified system over- or under-weighted any given tree size class.

Concerned that the current system does not give any points to smaller trees (less than 2.0 inches dbh), some of which are necessary for eventual replacement of larger trees, a number of proposals assigned points to trees as small as 1.0 inches dbh and even to trees just over 3 feet high.

Two field sites along great ponds were selected, a grid laid out, and vegetation was measured and mapped. The sites clearly had been unmanaged and contained numerous large trees, mostly hemlock. Both sites showed a typical pattern of denser tree and undergrowth within the first 25 feet off the lake. One site contained a great deal of undergrowth tree species more than 50 feet away from the lake.

The group visited each site and applied 4 different point systems to the areas, one being the current system. From this effort, several observations were made:

1. The current point system would result in a well-treed site. However, it may encourage retaining all the trees in the largest diameter class and discourage keeping smaller trees or allowing them to grow.
2. Assigning more points to larger trees would not necessarily result in fewer trees or a thinner buffer, but it would allow for more options in those buffers where some cutting is allowed. Assigning more points can also lead to a situation where all the trees in the buffer are in the largest diameter class, as is the case with the current point system. However, it can also provide for a more diverse distribution of size classes, which is important for the long term health of the buffer.
3. It appeared that there is no real effect on the buffer whether the point system has 4 or 6 classes of tree size: however, the establishment of 4 size classes are better than 3 classes. Where cutting can occur, it may encourage landowners to keep some smaller trees in exchange for taking out a larger one.
4. Assigning more points to a larger set of tree size classes can allow for some larger trees to be removed in the buffer. Removal of a larger tree will allow new trees to become established and/or promote growth of smaller trees. However, maintaining the prohibition against creating cleared openings in the canopy greater than 250 square feet further ensures that some large trees will remain throughout the buffer, along with younger trees that will eventually replace them.

5. Assigning points to trees less than 2.0 inches dbh, even if only 0.25 or 0.5 points per tree, could result in a buffer comprised only of smaller trees. The group discussed adding a requirement that the buffer contain a percentage of points within each of the various size classes. Such a requirement, however, would not be easily understood by the average landowner and might lead to unintentional violations of standards. Therefore, a prohibition on aggressively eliminating all tree species between 3 feet in height and less than 2.0 inches dbh should be added to the standards.

Findings

A number of conclusions were reached during the evaluation that form the basis for the group's recommendations.

1. The near-shore buffers are important for a number of reasons. In developed areas, buffers are important to protect water quality and reduce the visual impact from development. The current clearing standards and point system are adequate to ensure that these functions are maintained but provide few options or little incentive to maintain or improve the buffer's capabilities over the long term.
2. The near-shore buffers need to be maintained in perpetuity for the benefit of current and future generations. As such, there needs to be room in the point system to allow for, and ensure, perpetuation of the buffer. The current point system gives too few points to too few size classes of trees to reflect natural forest conditions, to promote a healthier stand of trees with greater size variety, and to allow reasonable management.
3. The most effective buffers consist of several size classes of trees as well as a good cover of ground vegetation. As noted in #2 above, the current point system does not assign the appropriate amount of value (or weight) to a wide enough variety of tree size classes.

Recommendations

Based on the group's findings, the DEP and LURC recommend changes to the existing point system that should result in a broader age distribution of trees within the buffer. This should better preserve its function and value into the future. The recommendations are:

1. Establish another diameter class of trees and increase the points allotted for larger trees;
2. Allow a larger grid, 25 feet by 50 feet, to be used when planning any cutting or determining compliance. The proposal to assign more points for more diameter classes of trees applies itself better in a larger grid. The restriction on canopy openings still ensures a well distributed stand of trees will remain. The minimum points to be maintained in the buffer must be doubled to accommodate the larger grid: 24 points along great ponds, 16 points along other protected natural resources; and
3. To maintain buffers into the future, new tree growth should be encouraged. Assigning points to smaller diameter trees could result in an undesirable buffer in areas with vigorous undergrowth. It is proposed to add language prohibiting the elimination of all young trees in the range of 3 feet high to 2.0 inches dbh.

Implementation

If the Legislature agrees to these recommendations, there are 3 different processes needing to occur before the changes are implemented state-wide.

1. The point system as used in Shoreland Zoning Ordinances is found in DEP rules: Chapter 1000 State of Maine Guidelines for Municipal Shoreland Zoning Ordinances. The DEP is proposing additional amendments to this chapter in 2003. The point system recommendations could be included as part of this effort, thereby taking effect in late 2003.
2. The point system as used in the unorganized townships is found in LURC rules: Chapter 10 Land Use Districts and Standards. LURC is proposing amendments of this chapter this year and the recommendations could be included as part of that effort, thereby also taking effect in late 2003.
3. The point system as used in the organized towns, outside the areas regulated under municipal shoreland zoning, is found in law: The Natural Resources Protection Act (NRPA), 38 MRSA §480-Q(23). A statutory amendment of NRPA would be required, but it need not be emergency legislation since the effective date of amendments made in the rule chapters detailed above will not be effective until late 2003. The statutory amendments would, however, provide a sound basis for both the rule making efforts described above if made effective immediately.

Appendix A

RESOLVES OF MAINE
Second Regular Session of the 120th

CHAPTER 97
H.P. 1571 - L.D. 2076

**Resolve, Regarding Legislative Review of Amendments to Chapter 305,
Permit by Rule Standard and Chapter 310, Wetland Protection Regarding
Cutting and Removal of Vegetation, Major Substantive Rules of the
Department of Environmental Protection**

Sec. 1. Adoption. Resolved: That final adoption of amendments to Chapter 305, Permit by Rule Standard and Chapter 310, Wetland Protection Regarding Cutting and Removal of Vegetation, provisionally adopted major substantive rules of the Department of Environmental Protection, that have been submitted to the Legislature for review pursuant to the Maine Revised Statutes, Title 5, chapter 375, subchapter II-A is authorized only if Chapter 305 is amended as follows:

1. Section 2, paragraph C, subparagraph (1) of the proposed amendment to Chapter 305 must be amended to strike the sentence proposed in that subparagraph that states: "Division of a parcel of land that occurs after September 1, 2002, and that results in circumvention of the setback requirement may be considered by the department and may be the basis for a denial under this subsection"; and
2. Section 2, paragraph C, subparagraph (3) of the proposed amendment to Chapter 305 must be amended by striking everything in that subparagraph after the word "minimized."

The Department of Environmental Protection is not required to hold hearings or conduct other formal proceedings on this rule prior to finally adopting this rule in accordance with this resolve; and be it further

Sec. 2. Report. Resolved: That the Department of Environmental Protection and the Maine Land Use Regulation Commission shall evaluate the point system used by those agencies to define what constitutes a well-distributed stand of trees within a vegetative buffer between development and a regulated water body and shall jointly report the results of that evaluation to the joint standing committee of the Legislature having jurisdiction over protected natural resources no later than January 15, 2003. The department and the commission shall invite the participation of the regulated community when conducting its evaluation under this section. The report must include, but is not limited to, recommendations on any changes to the specific points given to trees of

specific diameters, the reasons for those recommendations and the effect of those changes over time on the distribution of trees and other vegetation in those buffer strips.

Effective July 25, 2002, unless otherwise indicated.

Appendix B

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Appendix C

Recommended amendments to Natural Resources Protection Act, 38 MRSA §480-Q(23):

23. Cutting or clearing subject to mandatory shoreland zoning laws.

- A. The cutting or clearing is subject to the jurisdiction of a municipality pursuant to chapter 3, subchapter I, article 2-B; or [2001, c. 618, §5 (new).]
- B. If the cutting or clearing is not subject to the jurisdiction of a municipality pursuant to chapter 3, subchapter I, article 2-B, vegetation within the adjacent area is maintained as follows:

(1) There is no cleared opening greater than 250 square feet in the forest canopy as measured from the outer limits of the tree crown, except that a footpath may be constructed for the purpose of access to water if it does not exceed 6 feet in width as measured between tree trunks and has at least one bend in its path to divert channelized runoff;

(2) Any selective cutting of trees within the buffer strip leaves a well-distributed stand of trees and other natural vegetation.

(a) For the purposes of this subparagraph, a "well-distributed stand of trees ~~and other natural vegetation~~" is defined as maintaining a rating score of ~~8-16~~ or more points in a 25-foot by ~~50~~25-foot ~~square rectangular~~ area as determined by the following rating system.

- (i) A tree with a diameter at 4 1/2 feet above ground level (dbh) of ~~2.0~~ to ~~less than 4.0~~ inches has a point value of one.
- (ii) A tree with a diameter at 4 1/2 feet above ground level (dbh) of ~~more than 4.0~~ inches ~~to less than 8.0~~ ~~and up to and including 12~~ inches has a point value of 2.
- (iii) A tree with a diameter at 4 1/2 feet above ground level (dbh) of ~~more than 8.0~~ ~~12~~ inches ~~to less than 12.0~~ inches has a point value of 4.
- (iv) A tree with a diameter at 4 1/2 feet above ground level (dbh) of 12.0 or more inches has a point value of 8.

The landowner/lessee shall not prohibit the growth and recruitment of young trees into the 2.0 inch dbh class of trees by aggressively eliminating all woody vegetation after they exceed 3 feet in height.

(b) In applying this point system:

(i) The 25-foot by ~~50~~25-foot ~~square-rectangular~~ plots must be established where the landowner or lessee proposes clearing within the required buffer;

(ii) Each successive plot must be adjacent to, but may not overlap, a previous plot;

(iii) Any plot not containing the required points may have no vegetation removed except as otherwise allowed by this subsection; and

(iv) Any plot containing the required points may have vegetation removed down to the minimum points required or as otherwise allowed by this subsection;

(3) In addition to the requirements of subparagraph (2), no more than 40% of the total volume of trees 4 inches or more in diameter, measured 4 1/2 feet above ground level, is selectively cut in any 10-year period;

(4) In order to protect water quality and wildlife habitat, existing vegetation under 3 feet in height and other ground cover is not removed except for construction establishment of a footpath as provided in subparagraph (1);

(5) Tree branches are not pruned except on the bottom 1/3 of the tree as long as tree vitality will not be adversely affected; and

(6) In order to maintain a buffer strip of vegetation, when the removal of storm-damaged, diseased, unsafe or dead trees results in the creation of cleared openings in excess of 250 square feet, these openings are replanted with native tree species unless there is existing new tree growth.

Cleared openings legally in existence on September 1, 2002 may be maintained but may not be enlarged.

[2001, c. 618, §5 (new).]

This subsection applies to an area with vegetation composed primarily of shrubs, trees or other woody vegetation without regard to whether the area was previously cut or cleared;

[2001, c. 618, §5 (new).]