

Basis Statement
MFS Rule - Chapter 21
Statewide Standards for Timber
Harvesting and Related Activities in
Shoreland Areas

DEPARTMENT OF CONSERVATION
MAINE FOREST SERVICE

15 June 2005

Introduction

The overarching purpose of this rule is to streamline the regulation of timber harvesting and related activities in shoreland areas by resolving inconsistencies in existing regulatory standards and consolidating those regulatory standards and enforcement responsibilities under the authority of the Department of Conservation's Maine Forest Service (MFS) to the extent possible. The statutory authority for this rule is 12 MRSA section 8867-B, enacted by the 119th Maine Legislature as Public Law 1999, Chapter 695 and amended by the 120th Maine Legislature as Public Law 2001, Chapter 566 and the 121st Maine Legislature as Public Law 2003, Chapter 335. The law required the Commissioner of Conservation "to establish performance standards for timber harvesting activities in areas adjacent to rivers, streams, ponds, wetlands and tidal waters." The 121st Legislature authorized a rule that implemented the recommendations submitted in a report from MFS dated February 18, 2003 and presented to the Joint Standing Committee on Agriculture, Conservation and Forestry on February 24, 2003.¹

The rule establishes statewide standards for timber harvesting and related activities in shoreland areas. In general, timber harvesting activities in shoreland areas must protect shoreline integrity and not expose mineral soil that can be washed into water bodies, including nonforested freshwater and coastal wetlands and tidal waters. Timber harvesting and related activities in shoreland areas below the 300 acre drainage point must leave windfirm stands of trees that provide adequate shade. Roads used primarily for timber harvesting and related activities must be constructed and maintained to standards designed to minimize the chance of exposed soil washing into water bodies, including wetlands. Stream crossings must not disrupt the natural flow of water and must not allow sediment into water bodies. Maine Forest Service will enforce the rule.

Statement of economic impact

5 MRSA, section 8057-A, subsection 1. D requires agencies to conduct "[a]n analysis of the rule, including a description of how the agency considers whether the rule would impose an economic burden on small business as described in section 8052, subsection 5-A. That section requires the agency to "seek to reduce any economic burdens through flexible or simplified reporting requirements and may seek to reduce burdens through flexible or simplified timetables that take into account the resources available to the affected small businesses. The agency may consider clarification, consolidation, or simplification of compliance or reporting requirements. For the purposes of this subsection, "small business" means businesses that have 20 or fewer employees and gross annual sales not exceeding \$2,500,000.

This rule combines existing rules of the Land Use Regulation Commission (LURC) and the Department of Environmental Protection (DEP). Below the 50 square mile drainage point, the rule, and the costs of compliance by the regulated community, are essentially

¹ The report is available at the MFS website, www.maineforestservice.org (search the publications section).

the same and will remain essentially the same. Above the 50 square mile drainage point, the existing rules, and the costs of compliance, are different under the two jurisdictions. The fiscal impact of the rule above the 50 square mile drainage point is very difficult to quantify, because the rule offers a number of compliance options for the regulated community. Individual landowners may incur added benefits or costs, depending on the current condition of their forested estates and their short and long term objectives. Landowners may modify their harvesting practices to realize roughly equivalent value while remaining in compliance with the rule.

The rule restricts the amount of timber harvesting that may take place within a certain portion of a property at any given time and it restricts how and where roads and skid trails may be constructed and maintained where such roads and skid trails occur in close proximity to water bodies. However, landowners are not precluded from making reasonable economic use of their land, and a variance procedure is identified for those rare cases where the rule may create undue hardship.

Given that the rule largely consolidates existing rules administered by multiple agencies and municipalities, MFS does not believe that compliance with the rule will have a significant economic impact on the private sector.

Statement of fiscal impact

5 MRSA, section 8057-A, subsection 1. C requires agencies to provide “[a]n estimate of the fiscal impact of the rule.”

State government: MFS will enforce this rule using existing resources. DEP and LURC may incur minor additional costs to revise those agencies’ rules. In the 2003 report, MFS stated, “MFS staff currently assist in enforcement of water quality regulations under memoranda of agreement with DEP and LURC. MFS involvement focuses on resolving minor problems on site; larger problems are referred to LURC or DEP. Although there are likely to be unforeseen costs and demands on resources, a shift of sole responsibility to MFS can be accommodated, as some efficiencies likely will be gained by enforcement of a single, statewide standard. However, if MFS must reduce or reallocate staff to address current state budget constraints, MFS would be very concerned about its resource capabilities and would need to revisit this issue.”

Municipal government: This rule will have no fiscal impact on municipalities.

Scientific basis for the rule

This rule is based on a consensus report of stakeholders which MFS presented to the Legislature in February 2003. The scientific basis of standards for protecting water bodies and riparian forests is synthesized in the basis statement prepared for an earlier version of this rule in February 2002.

Comments on the Rule and MFS Responses

General Comments

Comment: 1. The standards greatly increase protections for small streams from the effects of timber harvest.

- Currently, there are no requirements to leave vegetated buffer strips (trees along side of streams) on small streams in the organized territories and only limited and poorly defined requirements to do so in the unorganized territories. Buffer strips have great value for habitat and shade. Shade is necessary on small streams to keep temperatures cool for creatures such as brook trout and amphibians.
- The rules will prevent sedimentation of small streams that LURC standards currently allow. Preventing sedimentation is key to stream health.

2. Small, cool streams are very valuable resources.

- They provide and support some of the best fisheries in the state, particularly brook trout fisheries.
- A recent university of Maine study showed that the "total economic output from fishing inland waters in Maine during 1996 is estimated at \$292.7 million" . In addition this study showed that "inland anglers supported 5,230 full and part-time jobs in Maine."
- Salmon are adapted to spawn in streams, and high quality stream habitat is necessary for the proper development of juvenile salmon, which spend the first several years of their life in streams before descending to the sea.
- Small streams are an important source of organic matter for the larger water bodies they flow into, and are thus essential components of riverine ecological systems. Recent studies have also shown that small streams are critical in removing nitrogen from runoff, thus protecting downstream water quality.

3. The standards are good government at work.

- They were agreed upon by a diverse group of stakeholders including the Natural Resources Council of Maine, the Maine Forest Products Council, Maine Audubon, the Maine Forest Service, and Maine Municipal Association.
- They simplify life for timber harvesters by making all riparian areas of the state subject to only one set of regulations. Currently, regulations vary greatly by municipality.
- The rules will save towns money by allowing them to turn over enforcement to the Forest Service, which has far more experience with oversight of timber harvesting than most municipal code enforcement officers. (1)

Comment: The biggest most positive change is bringing protection to the headwater streams, the small fetal streams that are really kind of the capillaries for the whole water network there. So on that basis we're supporting the rule. (2)

Comment: We are pleased that statewide standards are finally being proposed for timber harvesting in shoreland areas. We are supportive of the proposed standards since there are currently no requirements to leave vegetated buffer strips on small streams in the organized towns and very limited requirements in the unorganized towns. The standards are a good start, but they could be greatly improved and strengthened, particularly with respect to protection of smaller streams and tributaries. (3)

Comment: The rule, in general, is a logical, workable set of standards that achieves the objective of standardizing timber harvesting standards in shoreland areas. (5)

Comment: The Maine Master Logger Certification Program (MLC) and The Trust to Conserve Northeast Forestland represents more than 80 logging contractor companies operating throughout the state of Maine and thus will play a major role in the implementation of the MFS Chapter 21 Rule. We are generally supportive of the new rule and have already broadly incorporated an earlier draft into the Master Logger Certification Performance Standards. MFS should make every effort to achieve harmonization of this rule across both organized towns and the LURC jurisdiction. (9)

Comment: I'd like to thank you and others who have worked on this for your efforts in bringing greater consistency the state's rules on these issues. In most sections, I think this document represents a step forward in bringing consistency and reasonableness to the Water Quality Rules for LURC and organized town/DEP jurisdictions. (10)

Comment: The Department of Environmental Protection administers 2 laws that will be affected by these rules, Mandatory Shoreland Zoning Act (SLZ) and the Natural Resources Protection Act (NRPA).

Shoreland zoning: The Department has an oversight role in how the towns administer shoreland zoning. We have developed, and revise as needed, a model ordinance that provides minimum standards by which activities are regulated in the shoreland areas, and the towns are expected to adopt and administer these guidelines at a minimum. We have reviewed the proposed standards and find that with perhaps certain clarifications these rules essentially meet the minimum standards. In fact, the proposed rule goes further by applying to timber harvesting in other areas not required to be zoned under SLZ, for example 1st order streams.

Natural Resources Protection Act: The Department regulates most activities in and adjacent to protected natural resources under this law. There is an exemption for forestry activities in forested freshwater wetlands and adjacent to other natural resources. Stream crossings typically require a permit and our Permit by Rule process is often available for timber harvesters. For the most part, these rules are as strong as the permit by rule standards for crossings and setbacks from natural resources so we generally support the proposed rule. We feel there are a few clarifications or changes needed to ensure no unreasonable impact on natural resources. (11)

Comment: We applaud MFS for preparing revisions to timber harvesting standards. The shoreland area is of incalculable value to both terrestrial and aquatic life. Its functions to protect the soils and the proper management of vegetation in this zone are critical to maintaining ecosystem health, water quality, stream bank and bed integrity, aesthetics, and the quality of our recreational experiences. Maine is fortunate to have an abundance of streams in good to excellent condition thanks to forest management which has kept the land in forest cover as compared to development.

It is critical to maintain these standards as simple mistakes in harvest related activities, miscalculations in planning or operations, equipment failures, or lack of knowledge of the sensitivity of the resource can easily lead to pulses of sediment, toxins, heated water, and potentially chronic erosion of soils into water bodies. The importance of this resource for high quality drinking water, fisheries production, wildlife habitat, recreation, and other ecosystem services, makes it critical that we have comprehensive rules to protect streams in harvest areas throughout the state.

We support many aspects of the proposed standards designed to maintain and enhance aquatic and riparian ecosystem health in this particularly significant area. We applaud the increased protection that these rules will provide to some of the smaller streams and the uniformity that the rules provide for timber work statewide. (14)

Comment: The rule appears to meet the stated goal of reducing two sets of standards, more or less into one. There are still different buffer widths applied to different stretches of stream in different parts of the state, which may be appropriate because of the *likelihood* of land not under the jurisdiction of LURC to have more development or at least the pressure of future development. We are concerned, however, that the rule is not adequate to protect the water quality, stream banks, stream bed, aquatic ecology, recreational quality, aesthetic quality, and wildlife habitat in these most sensitive and important forests. (14)

Comment: We are concerned with all aspects of water quality in the state from the rivulets in the headwaters of our streams and rivers to the estuaries and oceans where the water ends up after passing through all the lands between. We are particularly concerned with the native flora and fauna which live in our waters, from caddis flies and crawfish, to minnows and trout, to alewives and Atlantic salmon. And all of those creatures need clean and healthy waters in which to survive and thrive. They all need to have headwater streams which don't get too warm in the summer because they're shaded by the forest canopy, which have good gravel bottoms because they're protected from siltation as the result of erosion, and which contain the large and small woody debris to which invertebrates and vertebrates which inhabit those waters are adapted through aeons of evolution. We support the adoption of uniform standards for retention of vegetated buffer strips in the riparian zone of small streams in both the organized and unorganized territories for all persons engaged in forestry related activities. The proposed rule represents the combined efforts of many interests who have worked out a set of rules which can be understood by all, which are statewide in application, which are uniform, and which give promise to improve habitat for wild creatures and at the same time make life simpler for those engaged in forestry activities. (15)

Comment: We wish to express appreciation of the job done by Donald Mansius in trying to apply a professional and thorough process to a complicated issue. In the current draft, remedies are proposed that have been responsive to several of our concerns. However some concerns still remain and there are also some new concepts added to the rule that have not been discussed by stakeholders at any time. (17)

Comment: You did a great job at meeting the legislative intent of reducing the inconsistencies between two complicated sets of rules. (18)

Response: MFS appreciates the support. MFS responds to specific concerns raised in the following text.

Implementation of the rule

Although not specifically directed to the rule, MFS received a few comments regarding implementation of the rule. The comments and MFS response follow.

Comment: We believe it is important to discuss the implementation timeline for these rules. The following quote from the February 18, 2003 report (to the Legislature) is informative on this issue:

“MFS recommends that the standards not take effect until 6 months after a critical mass of towns adopts them. The same timeline would apply to the LURC jurisdiction. MFS would like to discuss the implementation timeline with the committee to resolve key issues such as what constitutes a “critical mass.” If a critical mass of municipalities does not adopt the recommended standards it makes little sense to impose them on the LURC jurisdiction, as landowners with holding in multiple jurisdictions will continue to face different regulatory standards. Further, landowners in the LURC jurisdiction will be justified in their perception that they have subjected themselves to additional regulation without any promise of consistency or stability.”

“As noted above, the timing of adoption of statewide timber harvesting standards is significantly affected by the issues surrounding municipal adoption. ... MFS believes that the Legislature should provide ample time for a significant number of towns to opt into the new system before any changes at the local level, LURC or state levels take effect.”

We agree with the issues described by the MFS in the 2003 report and believe they are critical for the future implementation of this rule.

Stakeholders and the MFS agreed that organized towns would have three options to choose from which included keeping their current shoreland zoning standards for timber harvesting. We remain unequivocally committed to this implementation strategy. We are not aware of any environmental issues that would compel the MFS to suggest statewide standards be made mandatory for organized towns.

We offer the additional following reasons for our position:

1. Mandating the standards will be fatal to the use of consensus processes in the future;
2. Faith in the direction of forest policy will be diminished and
3. Training of forest practitioners must take place before the statewide standards are adopted to avoid confusion and frustration rather than compliance.

To maintain the spirit of the stakeholder agreement, towns must be given the opportunity to choose one of the three options granted them in the report before the statewide standards are adopted in the LURC jurisdiction.

At this time, we believe the legislature should strongly consider having the introduction of statewide standards to organized towns be facilitated and regulated through the DEP. The DEP is now initiating a rule making process for shoreland zoning. DEP has the informational and training capability to apprise the organized towns of their various options defined in LD 245 and the 2003 MFS report to the Legislature.

At some time in the future perhaps the MFS would be able to take over the administration of the DEP's function for timber harvesting in shoreland areas. At this time, it appears the MFS has too many priorities for its available resources.

As for implementation in the LURC jurisdiction, it is important that the spirit of the stakeholder agreement is maintained. As a minimum, organized towns should choose one of the three options available to them before the statewide standards are adopted in LURC. (7, 17, 19)

Comment: We urge the effective date be delayed until a majority of towns indicate their intention to adopt the rule. MFS should develop an implementation plan to assist the regulated community. (12)

Comment: It is important to go ahead with the new standards. Shoreland Zoning is the key law for protecting Maine's waters. Where there are conflicts, Shoreland Zoning rules should take precedence. Asking landowners to read all the rules to find the most restrictive is expecting too much. Administration of the rules should be dealt with separately. (18)

Response: Since this rulemaking took place, the Legislature enacted LD 188, An Act to Promote the Uniform Implementation of the Statewide Standards for Timber Harvesting and Related Activities in Shoreland Areas. The bill (Public Law 2005, Chapter 226) establishes a procedure for determining when a critical mass of towns has been achieved for the rule to go into effect statewide (except in towns choosing to maintain their existing Shoreland Zoning ordinances). MFS will adhere to the legislative guidance provided in this bill. Specifically, the newly-enacted law provides that, "The effective date of this rule is the first day of January of the second year following the year in which the Commissioner of Conservation determines that at least 252 of the 336 municipalities identified by the Commissioner of Conservation as the municipalities with the highest acreage of timber harvesting activity on an annual basis for the period 1999-2003 have either accepted the statewide standards in accordance with 38 MRSA §438-B, sub-§2 or have adopted an ordinance identical to the statewide standards in accordance with 38 MRSA §438-B, sub-§3. Within 30 days of making the determination that the 251-municipality threshold has been met, the Commissioner of Conservation shall notify the Secretary of State in writing and advise the secretary of the effective date for the statewide standards."

Comments Related to Specific Sections of the Rule

Section 3. Scope and Applicability

Comment: The rule needs to further define or clarify in the scope statement: that the rule governs activities in, over, or near [how near?] standing or flowing waters including rivers, streams, and brooks, [as well as] ponds, freshwater and coastal wetlands...(otherwise it could be interpreted as applying only to flowing water systems be they rivers or ponds or wetlands) (14)

Response: MFS believes the scope and applicability section is sufficiently clear.

Comment: Exception: A forested wetland that extends into the shoreland area from outside of it would be just as likely to introduce sediment into the stream under flood conditions....(so, does this apply to forested wetlands that under normal high water would flood from or drain into a shoreland area?) (14)

Response: If a forested wetland lies within a shoreland area, timber harvesting and related activities are governed by the rule. Activities outside the shoreland area that result in a discharge of sediment into a water body regulated by the rule constitute a violation of state law (discharges of sediment and other pollutants without a permit are prohibited).

Section 4. Definitions

Comment: Coastal Wetland – We suggest that the text of the definition be added to the rule, if possible. Most persons reading the rule will not have direct access to the definition of coastal wetland in NRPA. There may be a way to preserve the statutory citation then add “...which at the time of adoption reads as follows:” (11)

Response: When confronted with this issue in the past, our legal counsel have advised that we keep the reference to statute and not include the current definition, as definitions often change. The definition will remain as written.

Comment: Forested Wetlands: freshwater wetlands dominated by woody vegetation that is [or would be under normal, unmanaged circumstances] at least 20 feet tall. (This should apply to DEP rules as well - even though it's in the applicant's favor to have the wetland be called forested rather than open.) (14)

Response: Changing the definition of “forested wetland” is not consistent with the 2003 report and legislative guidance.

Comment: re “normal high water line” - the last sentence should be deleted since the limit or edge of a coastal wetland is included in the definition of “coastal wetland” under both NRPA and SLZ. (11)

Response: The definition has been modified as recommended.

Comment: re “shoreland area” – Subsection 1(c) should read “Great ponds and non-forested freshwater wetlands 10 acres or larger;” I believe omitting “great” is simply an oversight. However, the definition of “freshwater wetland” in this rule does not exclude

forested wetlands. SLZ mandates zoning only around non-forested wetlands 10 or more acres in size, as I believe LURC does also. (11)

Response: The definition has been modified as recommended.

Comment: (re definition of "shoreland area") Starting the 75 foot Shoreland Zone at the 300 acre watershed size is a good change. The second order stream starting point was too variable. For example, second order watersheds range from 80 to 800 acres just on the Cumberland Center quad. The 300 acre starting point is more consistent with the protection of aquatic life as required by the water quality standards.

Response: MFS concurs with the comment and the rationale for the change.

Comment: The expansion of the definition of Shoreland Area to include streams above the 300 acre drainage point represents a positive move toward the protection of higher order streams. However, the requirements in this zone (i.e., maintaining shoreline integrity) are difficult to determine without combing through the document. Explicit treatment of this element, as is done for the 250 and 75 foot zones, would also facilitate implementation. (9)

Response: This issue is treated explicitly in Section 5 of the rule, which states clearly that the shoreline integrity standard applies to "all timber harvesting and related activities conducted in all shoreland areas as defined in this rule."

Comment: Re "shoreline" – Whereas the shoreline pertains to both inland and coastal waters, I recommend that you rephrase the definition to state: See "Normal High Water Line" and "Coastal Wetland." (11)

Response: The definition has been modified as recommended.

Comment: Re "stream" – I recommend defining stream to be a stream channel upgradient of the point at which it becomes a river. The reason is discussed in our comments on Section 11. (11)

Response: The definition has been modified as recommended.

Comment: Re "windfirm," there is a not which clarifies how MFS might determine if a windfirm condition exists. I am familiar with the use of live crown ratio in this context, but am not familiar with the height/diameter ratio. If I interpret the latter correctly, wouldn't it depend on the tree species? A 6" DBH sugar maple that is 40 feet tall is likely to be windfirm even though its height/diameter ratio exceeds the acceptable cutoff. Granted, a fir of the same size may not be windfirm. What is the basis for this particular ratio, and how do you anticipate using it? (7)

Response: Height/diameter ratios are indicative of a tree's ability to withstand wind and snow and ice loading. Height/diameter ratio is measured by dividing the tree height by the stem diameter at breast height with height and diameter in the same units (e.g. inches). This ratio changes with the degree of competition over time. At a given height, trees that have been crowded will not have as large a diameter as trees that have not been crowded. Crowded trees will therefore have a higher

height/diameter ratio. Different sources indicate that trees become vulnerable to tipping and/or breakage when height/diameter ratios exceed 80-100, for example:

- Oliver, C. and B. Larson. 1996. Forest Stand Dynamics (Update Edition). John Wiley & Sons: New York. 521 pp.
- Wonn, H. and K. O'Hara. Height:Diameter Ratios and Stability Relationships for Four Northern Rocky Mountain Tree Species. Western Journal of Applied Forestry, 16 (2): 87-94.
- BC Ministry of Forestry, www.for.gov.bc.ca/tasb/legsregs/fpc/fpcguide/space/space-3.htm, last accessed 31 March 2005

The bureau modified the guidance slightly to reflect additional research into the matter.

Section 5. Shoreline Integrity and Sedimentation

Comment: We are concerned that the collective work of the forest industry and the Maine Forest Service on implementing training and education sessions on BMP's and their promotion as a voluntary action will be undone by codifying BMP's in law. As stated in the recently published MFS BMP manual:

" BMP's are not the same as regulations. ...Regulations described required, minimally acceptable practices. ...Some BMP's may be mandatory in some situations; others may be voluntary, depending on local and state laws."

We understand that that the MFS understands this position and that the proposed notes in the draft regulations are an attempt to not codify these voluntary guidelines, but our legal counsel believes this mechanism does not insulate BMP's from achieving regulatory status. The Department of Environmental Protection also includes a note in their permit by rule that could be paraphrased in the SWS to read: "For guidance on reasonable measures MFS & DEP will consult ..." However, the best solution is to not include a note in the rule and rely on reasonable measures as determined by the MFS. (4, 6, 7, 8, 10, 12, 13, 17, 19)²

Response: MFS has modified the "note" language to respond to the concerns. The revised language reflects commenters' recommendations.

Comment: The requirements to control stream sedimentation should be more consistent. They range from total avoidance to reasonable avoidance. The requirements should be stated in terms of pollution control. Total avoidance is not necessary for pollution control. (18)

Response: The rule's requirements focus on the use of reasonable measures to avoid the disruption of shoreline integrity as agreed by the stakeholders in the February 2003 report. Discharges of pollutants, including sediment, into water bodies without a permit is a violation of state law. Changing this standard is beyond the scope of this rule.

Section 6. Slash treatment

Comment: Slash treatment as described in Part B extends beyond the intended restriction within the 50 and 250 foot of the normal high water line of a water body. We object to slash regulations that are imposed on the entire forested landscape,

² Similar comments were also made regarding the same or similar language in Sections 9, 10, and 11. The MFS response is the same.

although we assume this is not the intent of the new language. We suggest moving Section 6.B to and under the current Section 6.C as a bullet #3 and amending it to say. Except slash used to protect soil from disturbance by equipment or to stabilize exposed soil may be left in place."

The use of slash to protect soil from disturbance or to stabilize exposed soil is a recognized beneficial practice that needs to be encouraged. We think the MFS BMP manual correctly states this case when it is recommended "the more brush, the better" in consideration of good land stewardship. Consideration also needs to be made for one of the key goals established by the resolve – make the regulations less prescriptive. (4, 5, 6, 7, 9, 12, 13, 17)

Response: This was a technical error. The rule has been amended to be consistent with the recommendation of the February 2003 report.

Comment: In Section 6.C pertaining to slash, on page 6 of the draft rule slash is regulated adjacent to wetlands larger than 10 acres in municipalities not subject to the jurisdiction of the Land Use Regulation Commission, but not in areas under the jurisdiction of the Land Use Regulation Commission. Slash should be regulated uniformly in all areas. We also suggest adding "non-forested" before the term "wetlands larger than 10 acres." (11)

Response: The rule has been modified as recommended.

Comment: Sect. 6 D. - Remove the requirement that between 50 and 250 feet of the normal high water mark all slash larger than 3 inch diameter must be disposed of in such a manner that no part is more than 4 feet above the ground. This article does not pertain to water quality issues if indeed the slash is in the 50 to 250 foot area. (4)

Response: The requirement is consistent with the 2003 report. As noted in the purpose statement, the rule's purpose is much broader than water quality protection and includes the conservation of natural beauty, open space, and public recreational values, all of which can be impacted by excessive slash accumulations.

Section 7. Standards for Timber Harvesting and Related Activities in Shoreland Areas Requiring a 250-Foot Zone

Comment: We are concerned about some of the language on the shading and tree retention standards. In Sections 7 and 8, it's really more of a tree retention standard than a shading standard. Depending on the orientation of the streams, the size of the trees, tree species and architecture, etc., you may or may not get great shading with the standards. So I might even just get the word shade out of there, it might be a little more accurate.

With the various options, there's potential to lower the amount of vegetative cover near the streams at this point. The 40 percent removal option generally works fairly well. But if you have a stream that already has low shading, you could get it even completely substandard at that point. On the other side of the coin with the high basal area stands, essentially over 100 square feet, the 60-square-foot rule results in less

protection than the current rule. So that could be applied and perhaps have more harvesting in some of these areas. And [the standards] are really sort of less than what is being recommended, for example, by the Atlantic salmon people or people that are experts in brook trout. (2, 9)

Comment: On a positive side, the tree retention requirements now apply to first-order streams in the organized towns, a big plus, especially from where shoreland zoning cuts off up to the 300-acre drainage point. So we would like to see that tree retention standard be applied above the 300-acre point in watersheds as well.³ (2)

Smaller order streams are extremely important in the lifecycle of Atlantic salmon. These streams typically have the highest quality Atlantic salmon spawning and rearing habitat. Adult salmon are adapted to spawn in flowing, cold-water rivers and streams. High quality stream habitat is also necessary for the proper development of juvenile salmon, which spend the first several years of their life in streams before migrating out to sea.

During the hot summer months, when stream flows are at their lowest, cold-water streams serve as important refugia for juvenile salmon. The smallest streams, even those that do not have physical salmon habitat, play an important role in protecting juvenile salmon by providing a source of cold water that flows into those streams where juvenile salmon do occur and to those pools where adult salmon hold-up.

These smaller streams are also the most sensitive to disturbances in the shoreland zone and most negatively impacted by erosion and sedimentation, increases in temperature, extremes of water flow, and even acidification, which is influenced by forest practices and land-use. The proposed standards will prevent significant cutting right down to the edge of small streams, which should help prevent sedimentation and help to maintain habitat structure and some degree of shade. Protecting these sensitive areas and allowing for the formation and maintenance of natural buffer zones that provide adequate shade, detritus and organic matter, large woody-debris, and bank stabilization to prevent erosion and sedimentation, is crucial to the ecological and biological health of our streams.

ASF would like to see consideration given to “no-cut” or “no-harvest” zones in the area of the riparian zones immediately adjacent to rivers and streams. It is unfortunate that such a standard is not proposed in the rule.

Option 1

Allowing 40% volume removal in 10-year period essentially means that close to 80% of tree volume can be removed from the shoreland zone over an 11-year period. ASF believes that such a broad standard will not adequately protect aquatic habitat or water quality, particularly in smaller order streams and tributaries. To ensure protection of these streams and their important ecological value and functions, we propose that MFS give careful analysis to a wider range of options that involve some combination of less volume removed and increased duration between harvests.

³ The same comment applies to Section 8. Neither the comment nor the response is repeated.

Option 2

ASF also has concerns that Option 2 of the Shade and Tree Retention Standards (60 square foot basal area retention) will not provide ample protection of smaller streams and tributaries. Even with the requirement that 40 square feet of the 60 square feet of basal area come from trees at least 4.5 inches DBH, it is unclear whether sufficient crown cover will be maintained to provide adequate shading of streams. The Maine Council on Sustainable Forest Management's recommendation of continuous canopy closure of at least 65-70% is likely a better minimal standard for the MFS to consider in lieu of the proposed 60 square foot basal area retention.⁴

ASF recommends that the MFS review the 1999 report by Kleinschmidt Associates (KA) entitled "Method to Determine Optimal Riparian Buffer Width for Atlantic Salmon Habitat Protection" for alternative recommendations on minimum standards for harvesting in shoreland areas. For the report, KA reviewed a range of scientific literature describing the relationship between buffer characteristics and buffer effectiveness and then developed appropriate buffer widths for Maine's salmon rivers based on a number of primary and secondary attributes that influence buffer effectiveness (e.g., slope, soil type, vegetative cover, stream order), and thus influence the optimal width of the buffer zone.⁵ Although done for Atlantic salmon rivers, the general principles and methodology applied by KA are applicable to all of Maine's rivers.

KA recommends establishing two distinct buffer zones. Zone 1, closest to the stream, is a no-disturbance zone (no-harvest) with a fixed-width of 35' in which no land-use that involves disturbance to soils or vegetation should take place. As mentioned previously, ASF believes there is great merit to establishing small no-harvest zones along our streams and rivers in order to help protect the wide array of ecological values and functions associated with a healthy riparian forest.

The second zone recommended by KA (Zone 2) is of variable width and extends from 35' to the landward edge of the calculated optimal buffer width.⁶ KA makes some key recommendations for Zone 2 that ASF would like to highlight. First, KA recommends that no more than 40% of the volume over six inches in DBH should be removed in any 10-year period from Zone 2.⁷ They also recommend the following stocking levels for trees greater than six inches in DBH as an "absolute minimum" for residual stands:

- Softwood stands (>66% softwood volume), 80 square feet per acre;
- Mixed wood stands (34%-66% softwood volume), 70 square feet per acre;

⁴ "Sustaining Maine's Forests: Criteria, Goals, and Benchmarks for Sustainable Forest Management," 1996, Maine Council on Sustainable Forest Management, p. 11.

⁵ "Method to Determine Optimal Riparian Buffer Width for Atlantic Salmon Habitat Protection," 1999, Report to the Maine State Planning Office, Augusta, Maine, by Kleinschmidt Associates, Pittsfield, Maine, p. 3.

⁶ Although ASF believes that under some conditions the "recommended" optimal riparian buffer width derived from the KA methodology may not be adequate enough to fully protect stream habitat, their recommendations do provide greater protection than the statewide standards currently being proposed.

⁷ Ibid, 21.

- Hardwood stands (<34% softwood volume), 50 square feet per acre.

Finally, they also recommend that a 35' "no-harvest" strip be maintained adjacent to all perennial surface water features in Zone 2 that are directly connected by surface flow to the in-stream resource being protected.⁸ (3)

Comment: We recommend the implementation of a higher degree of protection by implementing the minimum of shade requirements for the smallest streams and standards that can provide for the presence of large-diameter (>15 "dbh) and large crown trees, as well as large diameter snags, and logs in this highly sensitive area. The current rules allow harvesting in 10-year increments that could perpetually degrade the stands to lower volumes, smaller diameter trees, soil compaction, and damage to regeneration in the most significant part of our forests and most important area for protection of healthy waters.⁹ (14, 16)

Comment: Option 1 should be removed altogether. Option 2 may not provide the necessary shade. I propose requiring a certain percentage of canopy closure at all times or extending the 10-year time period (in Option 1) to 20-25 years to allow canopy closure to recover. (16)

Response: The shade and tree retention standards are as agreed to during the stakeholder process and as recommended in the 2003 report. MFS reviewed the KA report during previous stakeholder efforts on the rule. Neither increasing the standard to cover watersheds above the 300-acre drainage point nor creating no-harvest zones were agreed to by the stakeholders.

Comment: In Section 7(A) (3), insert "non-forested" before freshwater wetlands for the same reason explained [in comment re Section 6]. (11)

Response: The rule has been modified as recommended.

Comment: Option 1 (40% removal) this is the most workable option as several harvests in a Shoreland zone over 10 year intervals will not keep the basal area in the 60 BA range Option 2. Diseased hardwood stands often will not support 60 BA. Recommendation: Remove Option 2. (4)

Response: Option 2 is consistent with the January 2003 report and will be retained.¹⁰

Comment: It is generally a positive and welcome idea to allow options for compliance as has been done in Sections 7B and 8B Shade and Tree Retention Standards, but as it is constructed, it is doubtful that Option 3 will be put to use primarily because it requires that it "provide equal or better protection of the shoreland area." Limited situations where a 3rd option may be needed would likely be where tree conditions or stand conditions require salvage, presalvage or a heavier harvest due to lack of windfirmness. In these cases, it is hard to see how the alternative could meet the "equal or better" criteria – it is the wrong criteria. Also, it does not make sense to

⁸ The same comment applies to Section 8. Neither the comment nor the response is repeated.

⁹ Scientific justification submitted with comments is included as an appendix at the end of this basis statement.

¹⁰ The same comment applies to Section 8. Neither the comment nor the response is repeated.

require the declaration of which of the 2 standard options are being used ahead of time in the notification – just allow either 1 or 2 to be used and then require prior approval of a 3rd flexible option. (10)

Response: Option 3 is offered to provide landowners the opportunity to develop more outcome-based approaches to managing shoreland areas. Situations where tree conditions or stand conditions require salvage, presalvage or a heavier harvest due to lack of windfirmness are accommodated in the variance section. Not requiring a declaration of which option is to be used creates significant inefficiencies in enforcement. Without requiring an option to be specified, MFS would need to cruise both stumps and residual stand; whereas, with one option specified, MFS needs only to cruise one or the other.

Section 10. Land management road construction and maintenance standards

Comment: Reference to “Significant River Segments” refers to those identified in Title 38 (DEP law). To include LURC jurisdiction, reference should also be made to the Governor’s Executive Order on Maine Rivers Policy, issued 06 July 1982.¹¹ (8)

Response: The rule has been modified in applicable sections to include reference to Recreation Protection Subdistricts (P-RR) as identified by the Land Use Regulation Commission.

Comment: In Section 10.C.1, the term “Great Pond” is listed twice as an area that requires a 100 foot setback. The second reference to great pond should be deleted. Again, insert “non-forested” in sub paragraphs 1 and 3. (11)

Response: The rule has been modified as recommended.

Section 11. Crossings of Standing or Flowing Waters

Comment: This section as written is more applicable for permanent culvert and/or bridge crossings. A rewrite applicable to temporary crossings and skidder crossings could be stated as follows: “Crossings of fish bearing streams must not impede fish passage during spawning seasons, must not impound water, and must not unreasonably impede normal stream flows.” This wording is a paraphrase of Section 11, subsection C, 1. c. (6)

Comment: It would be unacceptable to us if MFS adopted a standard of whether a stream were “fishbearing” to determine if the standards apply. Many streams may have fish present at some times of the year and not at others. The definition of what constitutes a fishbearing stream would be a nightmare to determine and enforce. In addition, we do not support the concept that crossings of dry streams should not have to meet the standards in this proposed rule. Dry streams must not have their stream integrity altered, just as wet streams must not, and the standards should also apply to their crossing in order to protect aquatic life that may be dormant in stream channel sediments. (1)

¹¹ The same comment applies to Section 11. Neither the comment nor the response is repeated.

Response: The bureau believes that the rule as modified addresses the concerns expressed by commenter (6) without referring to fish-bearing streams.

Comment: We feel that Section 11 has inadvertently been written to allow for crossings of great ponds and coastal wetlands among other natural resources, while specifically not allowing for crossings of non-forested freshwater wetlands. Further, all of the standards found in this section really relate to stream crossings (e.g. determining flow, fish passage, culvert sizing, etc.). Existing regulatory programs –local, state, and federal- typically exempt or allow under a reduced procedure permit the crossings of streams. However, larger non-forested freshwater wetlands, great ponds and coastal wetlands are considered high value resources and alteration of these areas usually requires a full review process. We don't believe it was the Forest Service's intent to allow crossings of such sensitive resources without some kind of review and we don't believe the Forest Service wants to initiate a permit process under these rules to address crossings of these resources.

We suggest that this section be renamed "Crossings of waterbodies," which is a defined term. Then, certain paragraphs under this section could be reworked to state that crossings of any waterbody other than a stream or a river may require a permit from LURC, DEP or the US Army Corps of Engineers. It is your decision whether to require copies of any required permits to be attached to the "notification prior to harvest."

Add a new subsection B (4) as follows:

"4. Other Agency Permits. Any timber harvesting and related activities involving the design, construction, and maintenance of crossings on waterbodies other than a stream channel or river may require a permit from the Land Use Regulation Commission, the Department of Environmental Protection, or the US Army Corps of Engineers. When a permit is required, the crossing is not required to meet the standards of this section provided it conforms with all applicable permits.

Renumber "Notice to Bureau" as Subsection B(5).

Then amend it at Subsection B(5)(a)(ii): " For any crossing of a waterbody other than a stream or river freshwater wetland that requires a permit from state or federal agencies, a copy of the approved permit or permits." These changes would then allow paragraphs 11(C)(4) and 11(D)(5) to be deleted.

Last, we are concerned that the rule as written would allow crossings of Significant River Segments, Significant Wildlife Habit and Essential Habitat without any review of alternatives or timing limitations to avoid undue impact on these resources. Chapter 21 merely requires the locating of such crossings and 'after' photographs. To better protect these resources and mirror the existing regulatory mechanism for activities in these resources, we suggest that crossings of Significant River Segments and Significant Wildlife Habits continue to need regulatory approval by adding them into the draft paragraph we suggested above, Section 11(B)(4) "Other Agency Permits." As for crossings in Essential Habitats, it seems prudent to require consultation with the

Department of Inland Fisheries and Wildlife and conformance with any requirements that agency may have. (11)

Response: The rule has been modified as recommended.

Section 11.B.4.b. Certification of Performance (on water crossings)

Comment: We interpret the new Certification of Performance as an egregious introduction of an enforcement mechanism that violates the spirit of the original stakeholder process. The concept violates the intent of this process by adding additional regulatory and economic burden to loggers and land managers. This was certainly not a concept discussed in the stakeholder process and further erodes the credibility of the MFS in entering into collaborative processes.

To reiterate, the MFS and the working group were charged in the legislative resolve to respect four key goals:

- Reduce inconsistencies in the regulation
- Make the regulations less prescriptive
- Make the regulations more results oriented; and,
- Ensure balance with existing environment, land use and forest protection laws.

Introducing a certification of performance standard makes the regulation more prescriptive, less results oriented, and out of balance with existing laws. This provision would indicate a shift in the department's focus to enforcement rather than education and outreach.

This certification procedure will be an additional administrative burden for the forest industry with questionable benefits for MFS. Our industry should not be given a greater regulatory burden unless there is compelling reason to do so. We would rather have our foresters and loggers spend their time on productive work and looking after the resources rather than engaged in superfluous paperwork. (4, 5, 6, 9, 10, 12, 13, 17, 18, 19)

Comment: On the current Harvest Notification forms, we already certify to LURC that all crossings will be constructed according to Standard and that necessary permits will be obtained. To say that we must send maps with enough detail to accurately show the location of all temporary skidder crossings of unmapped P-SL2s goes too far in light of the certification we have already signed. (5)

Comment: We believe a notification procedure need not require more than the following: location of harvest; stream crossings by truck roads; and, an indication (yes/no) if there will be skidder crossings of streams or non-forested wetlands. (6)

Comment: We believe MFS is justified in asking for certification that crossings have been properly constructed and put to bed in accordance with the rule. We have commented previously about our concerns that culverts or other structures left in place may become plugged or wash out, thereby damaging stream integrity. We therefore

argued that culverts and other structures should in fact be removed and streams returned to their natural state after end of harvest. If MFS is not going to require this, however, then it certainly seems reasonable that all structures and culverts should be certified as having been properly closed out and that MFS should know where they are so that they can be checked, and, in the event of failure, the responsible party can be contacted to remedy the problem. (1)

Response: The rule has been revised to simplify the notification process requirements and to limit most requirements to permanent crossings.

Section 13. Variance

Comment: In the LURC jurisdiction, there is a very workable permit protocol to address activities not covered by the rule (or standards). We have used the permit process in LURC several times in the past and believe it should be included in this Rule. The variance process almost certainly prohibits many environmentally sound activities that could take place through permitting. About 4 years ago, we received a permit from LURC allowing us to conduct needed stream temperature studies in the P-SL2 zone. We are convinced the variance procedure would have prohibited this research. In an unorganized [sic] town, we made the same request and were turned down as the organized town only had the variance procedure. (6, 13)

Comment: We believe that an oversight was made in not considering a permitting option when the statewide standards can't be met. Many MFPC members have pursued the permit option allowed in LURC for various activities and have found it more appropriate and efficient than a variance procedure. As permitting has always been a part of LURC, we urge that such a long standing, useful process be included in the Statewide Standards. (17, 19)

Comment: We were very concerned by the tone of the discussion of the use of a permit procedure rather than a variance. The strong implication of some of this testimony was that industry preferred the permit approach used by LURC because it was simple for harvesters to obtain a permit if they felt they couldn't meet standards. While we don't object in principle to the use of a permit procedure, we believe that it is critical to ensure that harvesters do everything possible to meet the standards in the rule. We are more confident that a variance procedure will ensure this and believe that if a permitting system is used, MFS must define how it will ensure that all possible measures are taken to comply with the rule and make clear how the public will be made aware and be able to comment in situations where standards may not be met. (1)

Response: Consultation with LURC staff indicate that the permit process requested by some commenters is used very infrequently, and generally for operations in LURC protection zones not associated with water bodies. The bureau believes that the outcome based option allowed for shade and tree retention in Sections 7 and 8, plus the exceptions allowed in section 10.C.4.a., 10.C.5, and 10.F. provide adequate flexibility to landowners. To implement a permit process as an intermediate step between operations conforming to the rule and operations requiring a variance would

Basis Statement

MFS Rule Chapter 21

Statewide Standards for Timber Harvesting and Related Activities in Shoreland Areas

necessitate the development of a permit administration process for which MFS was not allocated resources. Further, the stakeholder group did not discuss a permit process. MFS believes that the rule's requirements are adequate to cover nearly all situations that a timber harvesting operation may encounter, and that a variance process is appropriate for operations that need to exceed the standards beyond the flexibility already provided.

Appendix 1. List of Commenters¹²

- 1 - Nick Bennett
Natural Resources Council of Maine
3 Wade Street
Augusta, ME 04330
(testimony plus written comments)
- 2 - Robert Bryan, LF
Maine Audubon Society
20 Gilsland Farm Road
Falmouth, ME 04105
(testimony)
- 3 - John Burrows
Atlantic Salmon Federation
Fort Andross, Suite 308
14 Maine Street
Brunswick, ME 04011
- 4 - Howard Charles, LF
SAPPI
98 North Avenue, Suite 30
Skowhegan, ME 04976
- 5 - Mike Dann, LF
Seven Islands Land Company
mdann@sevenislands.com
- 6 - Douglas Denico, LF
Plum Creek Timber Company
Fairfield, ME
ddenico@plumcreek.com
(testimony plus written comments)
- 7 - Gordon Gamble, LF
Wagner Forest Management
P.O. Box 1306
Rangeley, ME 04970
- 8 - Sarah Giffen
Land Use Regulation Commission
- 9 - John Gunn
Master Logger Certification
Program/Trust to Conserve Northeast
Forestlands
P.O. Box 400
Fort Kent, ME 04743
- 10 - Marcia McKeague, LF
Katahdin Timberlands LLC
One Katahdin Avenue
Millinocket, ME 04462
- 11 - Mike Mullen
Department of Environmental
Protection
(testimony plus written comments)
- 12 - Josiah Pierce, President
Small Woodland Owners Association of
Maine
P.O. Box 836
Augusta, ME 04332-0836
- 13 - Michelle Rivers
International Paper
michelle.rivers@ipaper.com
- 14 - Joshua L. Royte
Conservation Planner
The Nature Conservancy
14 Maine Street, Suite 401
Brunswick, ME 04011
- 15 - Naomi Schalit
Maine Rivers
(testimony)
- 16 - Donald Sprangers
HCR 69, Box 16
East Machias, ME 04630
- 17 - Patrick Strauch/Patrick Sirois
Maine Forest Products Council
Augusta, ME 04330
pstrauch@maineforest.org
(testimony plus written comments)
- 18 - Gordon Stuart
gwstuart@gpom.com
- 19 - Peter Triandafillou, LF
Huber Resources
PTriandafillou@huber.com

¹² Written comments unless noted otherwise.

Appendix 2. List of Acronyms Used in this Document

BMP:	Best Management Practices
DEP:	Maine Department of Environmental Protection
LURC:	Maine Land Use Regulation Commission
MFS:	Maine Forest Service (aka Bureau of Forestry)
MRSA:	Maine Revised Statutes Annotated
NRPA:	Natural Resources Protection Act (38 MRSA, chapter 3, subchapter 1, Article 5-A)

Appendix 3. Public resources and values protected by the standards

Public trust resources protected by the standards generally

- Fish: protect fish spawning grounds
- Wildlife: protect aquatic life, bird and other wildlife habitat
- Water: protect freshwater and coastal wetlands; prevent and control water pollution

Public values protected by these standards generally

- Outdoor recreation activities, including, but not limited to, hunting, fishing, boating, hiking and camping
- Aesthetics (natural beauty)
- Archaeological and historic resources
- Economic interests: protect commercial recreation-dependent businesses, including, but not limited to sporting camps, whitewater rafting, nature-based tourism, guiding, and recreational equipment retailers

Police powers utilized by these standards generally

- Further the maintenance of safe and healthful conditions
- Protect against wasting of natural resources
- Protect buildings and lands from flooding and accelerated erosion
- Control land uses
- Private activities shall not cause a public harm ("Nuisance Doctrine")

Appendix 4. Statutory Authority for Rule

PUBLIC LAWS OF MAINE First Regular Session of the 121st

CHAPTER 335 H.P. 200 - L.D. 245

An Act To Promote Consistent Protection of the State's Waters

Be it enacted by the People of the State of Maine as follows:

Sec. 1. 12 MRSA §685-A, sub-§12 is enacted to read:

12. Timber harvesting activities in areas adjacent to rivers, streams, ponds, wetlands and tidal waters. Beginning January 1, 2006, rules adopted by the Commissioner of Conservation pursuant to section 8867-B apply in the unorganized and deorganized areas for the purpose of regulating timber harvesting and timber harvesting activities in areas adjacent to rivers, streams, ponds, wetlands and tidal waters. The Director of the Bureau of Forestry shall administer and enforce the regulation of timber harvesting and timber harvesting activities in these areas. For the purposes of this subsection, "timber harvesting" and "timber harvesting activities" have the same meanings as in section 8868, subsections 4 and 5.

Sec. 2. 12 MRSA §8867-B, as amended by PL 2001, c. 566, §1, is further amended to read:

§8867-B. Regulation of timber harvesting activities in areas adjacent to rivers, streams, ponds, wetlands and tidal waters

In accordance with the purposes of chapter 206-A and Title 38, chapter 3 and no later than October 1, 2003, the Commissioner of Conservation ~~may provisionally~~ shall adopt rules in accordance with Title 5, chapter 375 to establish performance standards for timber harvesting activities in areas adjacent to rivers, streams, ponds, wetlands and tidal waters. The rules must provide the maximum opportunity for flexibility that achieves the goal of protecting the public resources while minimizing the impact on private resources. ~~Rules~~ The initial rules adopted pursuant to this section are ~~major substantive~~ routine technical rules as defined in Title 5, chapter 375, subchapter ~~H-A~~ 2-A. Subsequent amendments to those rules are major substantive rules as defined in Title 5, chapter 375, subchapter 2-A.

Sec. 3. 12 MRSA §8869, sub-§8, as amended by PL 1999, c. 263, §1, is further amended by amending the 2nd paragraph to read:

A municipality may not adopt an ordinance that is less stringent than the minimum standards established in this section and in rules adopted by the commissioner to implement this section and section 8867-B. A municipality may not adopt or amend an ordinance that regulates timber harvesting unless the process set out in this subsection is followed in the development and review of the ordinance.

Sec. 4. 38 MRSA §438-A, as amended by PL 1997, c. 726, §2, is further amended by adding a new 2nd paragraph to read:

Notwithstanding other provisions of this article, beginning January 1, 2006 the regulation of timber harvesting and timber harvesting activities in shoreland areas must be in accordance with section 438-B and rules adopted by the Commissioner of Conservation pursuant to Title 12, section 8867-B.

Sec. 5. 38 MRSA §438-B is enacted to read:

§438-B. Timber harvesting and timber harvesting activities in shoreland areas; authority of Director of the Bureau of Forestry in the Department of Conservation

Except as provided in subsection 4, beginning January 1, 2006, rules adopted by the Commissioner of Conservation under Title 12, section 8867-B apply statewide for the purpose of regulating timber harvesting and timber harvesting activities in shoreland areas.

1. Definitions. As used in this section, unless the context otherwise indicates, the following terms have the following meanings.

A. "Director" means the Director of the Bureau of Forestry within the Department of Conservation.

B. "Statewide standards" means the performance standards for timber harvesting activities adopted pursuant to Title 12, section 8867-B.

C. "Timber harvesting" means cutting or removal of timber for the primary purpose of selling or processing forest products.

D. "Timber harvesting activities" means the construction and maintenance of roads used primarily for timber harvesting and other activities conducted to facilitate timber harvesting.

2. Municipal acceptance of statewide standards. A municipality may choose to have the statewide standards apply to timber harvesting and timber harvesting activities in that municipality by repealing all provisions within the municipal shoreland zoning ordinance that regulate timber harvesting and timber harvesting activities in shoreland areas and notifying the director of the repeal. When a municipality accepts the statewide standards in accordance with this subsection, the director shall administer and enforce the statewide standards within that municipality.

3. Municipal adoption of ordinance identical to statewide standards. A municipality may adopt an ordinance to regulate timber harvesting and timber harvesting activities that is identical to the statewide standards. A municipality that adopts an ordinance under this subsection may request the director to administer and enforce the ordinance or to participate in joint administration and enforcement of the ordinance with the municipality. When a municipality requests joint responsibilities, the director and the municipality shall enter into an agreement that delineates the administrative and enforcement duties of each. To continue to receive administrative and enforcement assistance from the director under this subsection, a municipality must amend its ordinance as necessary to maintain identical provisions with the statewide standards.

4. Municipal ordinances that are not identical to statewide standards. A municipal ordinance regulating timber harvesting and timber harvesting activities that is in effect and consistent with state laws and rules in effect on December 31, 2005 continues in effect unless action is taken in accordance with subsection 2 or 3. A municipality that retains an ordinance with provisions that differ from the statewide standards shall administer and enforce that ordinance. A municipality may not amend a municipal ordinance regulating timber harvesting and timber harvesting activities unless the process established in Title 12, section 8869, subsection 8 is followed. Beginning on January 1, 2006, a municipality may not amend an ordinance regulating timber harvesting and timber harvesting activities in a manner that results in standards that are less stringent than or otherwise conflict with the statewide standards.

Sec. 6. Adoption of rule; legislation authorized. The Commissioner of Conservation shall proceed with adoption of a rule to establish statewide standards for timber harvesting and timber harvesting activities in shoreland areas. The rule must implement the recommendations submitted in a report dated February 18, 2003 and presented to the Joint Standing Committee on Agriculture, Conservation and Forestry on February 24, 2003. The committee may report out a bill to the Second Regular Session of the 121st Legislature to make statutory revisions necessary to implement a statewide standard for timber harvesting and timber harvesting activities in shoreland areas, to clarify the responsibilities of the Bureau of Forestry in administering and enforcing the standard and to clarify municipal authority to adopt, administer and enforce a standard that is consistent with or more stringent than the statewide standard.

Sec. 7. Review of rules pertaining to timber harvesting in shoreland areas within unorganized and deorganized areas. No later than October 1, 2005, the Maine Land Use Regulation Commission, in consultation with the Director of the Bureau of Forestry within the Department of Conservation, shall review the commission's rules pertaining to timber harvesting and timber harvesting activities in shoreland areas and provide for the repeal or amendment of rules that duplicate or conflict with the rules adopted by the Commissioner of Conservation pursuant to the Maine Revised Statutes, Title 12, section 8867-B. The commission shall ensure that any necessary changes in rule become effective January 1, 2006.

Sec. 8. Review of rules pertaining to timber harvesting in shoreland areas. No later than October 1, 2005, the Commissioner of Environmental Protection, in consultation with the Director of the Bureau of Forestry within the Department of Conservation, shall review rules adopted by the commissioner or the Board of Environmental Protection pertaining to timber harvesting and timber harvesting activities in shoreland areas and provide for the repeal or amendment of rules that duplicate or conflict with the rules adopted by the Commissioner of Conservation pursuant to Maine Revised Statutes, Title 12, section 8867-B. The Commissioner of Environmental Protection and the board shall ensure that any necessary changes become effective January 1, 2006.

Effective September 13, 2003, unless otherwise indicated.

Appendix 5. Additional Scientific Commentary on Need for Stricter Standards (14)

Importance of having large-diameter trees and snags in the shoreland area

Each riparian or shoreland area allows for harvesting of more than 2/3 (40% or potentially worse leaving only 60 sq ft basal area) of trees >4.5 inches every 10 years. A 4.5 inch diameter tree is really just pole-sized and is unlikely to produce a large volume of organic matter and twigs. It will leave only small woody debris and provide poor habitat. Note that this stand is unlikely to even support the pine marten because it would be too short. Most of the tree cores we have observed show less than an inch of growth (<2 inches of diameter) meaning that over 10 years there would be only moderate replacement of the 40% of the large trees that were removed. As a result, the next harvest would mostly cut its 40% from the 60% of trees at >4.5 inches that were left from the previous harvest. Repeated cutting in this area will also lead to increased soil compaction. With tools available to reach timber up to 25 feet from harvester or skidder, it seems that compaction of vegetation, soils, and the organisms that live in it could be minimized in this area without compromising timber values.

With land changing hands more quickly and by smaller tract ownerships, more land is under increasing pressure to produce wood from these sensitive areas. At the same time there are rapidly growing markets for smaller diameter wood and all qualities of trees that may have been left in the past because they were inferior quality or purposefully left as wildlife trees.

Large trees and wildlife values

Without larger trees there is less forest canopy to spread over and shade the stream. As a result, there will be less food from seeds, fewer nutrients from stem flow, and fewer twigs, branches and entire tree stems to fall into the stream and onto stream banks. When streamside trees are allowed to grow large enough birds will roost and nest in overhanging limbs and animals will cross streams using tree limbs. Most critically important for the riparian zone is the development of large tree cavities, snags, and logs that can provide nesting, roosting, denning, and winter shelter for birds and other forest animals. Most of Maine's wildlife depend on the riparian zone for part of or all of their life cycle; the most used part of the forest is the shoreland areas.

Impact on soils

Harvesting within 100 feet of the shoreline compacts these sensitive soils – those that are significant for filtering runoff from upland sites because of accumulated organic matter (which helps trap macro and micro nutrients and sediments) and those soils with well-developed pore space (from flushing and enhanced animal activity such as worms, ants, small rodents, etc.). The shoreline soils are particularly enriched due to their contact with overland and subsurface flow that occurs because of the soils' location near the place where water emerges from the water table. Depending on the local topography the soils potentially benefit from flood water inputs.

These soils and the growth of larger trees is an important part of a structurally diverse forest that provides the important input (known as allochthonous input) of leaves, fine woody material, and dissolved carbon and nutrients to stream ecosystems.

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Impact on exotic invasive species

Repeated harvesting in the shoreland area right up to the stream shore increases the opportunity for the introduction of invasive plant species into the wetland, stream, or pondshore ecosystems. Invasive species are the second largest threat to ecosystem destruction in the world. Maine's forests have only a handful of invasive exotic species, but with growing global economies and development all around Maine's forests we see this as a growing concern and threat to our forests.

Extent of buffers and minimum shade standards

The standards do not provide for shade of small and intermediate streams. While some DEP rules do provide some protection to smaller streams, these regulations do not address the fact that the headwaters to all of our streams are being left without any protection for the bare minimum of our standards to maintain shaded. Small headwater areas, much like the fine-chambers of our lungs, have a disproportionately large influence on the health of the forest system. If the water is heated by direct sunlight or flushed with suspended silts and clays as it emerges from seeps and springs into small streams, than the larger stream stretches they merge into will be damaged. Suspended fine sediments fill pores in the stream bed needed by aquatic insects and plants as well as fish, like young trout, their eggs and juveniles.