Lesson 8.4

CLEARCUTTING: SUSTAINABLE FORESTRY?

This lesson is based on a lesson by Carolyn Hardman, Middle School Social Studies, Rockland Middle School.

Objective: Students will analyze Maine's clearcutting regulations and criticism of those regulations, and will judge whether or not current practice qualifies as sustainable forestry.

Materials:
- **Sheet 8.4A**: Copies of What Is Silviculture? fact sheet
- **Sheet 8.4B**: Copies of Making Sense of the Clearcutting Standards, student worksheet
- **Sheet 8.4C**: Copies of Stop the Clearcutting! student worksheet
- **Sheet 8.4D**: Copies of the Clearcutting: Sustainable Forestry? Rubric
- **Sheet 8.4E**: Copies of Rules for Classroom Debate (same as **Sheet 4.4**)
- **Doc 8.4A**: Copies of the "Highlights of Forest Regeneration & Clearcutting Standards," Maine Forest Service, 1999
- **Doc 8.4B**: Copies of "Stop the Clearcutting," Maine Greens, 1995.
- **Doc 8.4C**: For the teacher's information: "Comparison of current FPA rule (adopted 1/1/91) and revised FPA rule (adopted by 119th Legislature, 4/28/99), effective date 10/1/99."

Timing: 5-8 class periods

Background Information:
The management of Maine's forests remains a controversial and challenging issue, and will undoubtedly remain so well into the future. It illustrates particularly well the conflict that arises between our industrial economy and the conservation of the environment. While the State of Maine has attempted to write laws that minimize the use of clearcutting in forest management, many groups are dissatisfied. Some would like to see stricter regulations, and some would like to see clearcutting banned altogether. The Maine Greens is only one of these groups, though much of their criticism is voiced by other dissenting groups.

Please note: the rules summarized in "Highlights of Forest Regeneration & Clearcutting Standards" are out of date. A 1999 revision of the rules reassigns the categories as follows: Category I: 5 to 20 acres, Category II: 21 to 75 acres, Category III: 76 to 250 acres. (For a comparison of the earlier and updated rules, please see "Comparison of current FPA rule and revised FPA rule, effective date 10/1/99," Doc. 8.4C) The Maine Greens pamphlet, however, responds to the 1996 version of the rules, so in order to see both in dialogue, we must use the out of date "Highlights" publication. Though the rules students will be working with are not current, the activity should give them a basic understanding of the clearcutting controversy.

Procedure:

1. Remind students of the theme of Unit 3: Economy or Environment: Which Comes First? Ask students to offer opinions about how this question affects Maine on a day-to-day basis. Offer the management of Maine's forests as a good example of an issue that raises this question frequently.

2. Pass out the What is Silviculture? fact sheet to students. Read the fact sheet together as a class. Discuss the different methods of regeneration cutting, and what disadvantages and advantages they offer.

3. Pass out the Highlights of Forest Regeneration and Clearcutting Standards, with attached exhibits. Have students analyze these, either individually or in pairs, using the Making Sense of the Clearcutting Standards student worksheets. When they have finished, discuss their answers together as a class. Collect worksheets.

4. Now, have students read "Stop the Clearcutting," the pamphlet by the Maine Greens. (Alternatively, you may wish to present these arguments as both a lecture and a handout.) Again, ask students to read the pamphlet individually or in pairs. Have them answer the questions on the Stop the Clearcutting! student worksheets. Again, discuss their answers as a class. Ask students if their opinions have changed about the clearcutting standards after reading the criticism of them by the Maine Greens. Collect the worksheets.

5. Divide the class into two groups, pro and con. The issue to be debated is: Resolved: All clearcutting of the Maine woods should be abolished. Give the class at least a full class period to prepare for the debate. See the Rules for Debate sheet for detailed information on how to run a debate.

6. On the day of the debate, set the classroom up with a speaking podium (a desk or spot on the floor will do fine) and eight chairs at the front of the room. Debate teams should sit at the front of the room and address the audience when they speak, rather than the opposing team.

7. After the debate is over and the winner has been announced (see Rules for Classroom Debate for how to identify the winning team) allow students to cast individual votes in a secret ballot for or against the clearcutting standards. Count the votes and discuss the results with the students, asking questions like the following:

- Were there arguments for either side that did not come up in the debate?
- Is there any other solution to the problem of how to harvest Maine's forests other than clearcutting?
- Is it always better to make a compromise when two sides will not agree?
- In the case of Maine's forest harvesting practices, which should come first: the economy or the environment?
- Should one always come before the other? Should we try to achieve a balance between the two?

8. **Homework**: Have students write a 250-word opinion essay on clearcutting, explaining how they voted in the secret ballot and why they voted that way.

Evaluation: Have students evaluate themselves according to the Clearcutting: Sustainable Forestry? Rubric. Evaluate them yourself, using the same rubric, and considering student self-evaluations in your assessment. Students may include their opinion piece in their Unit Three Portfolio, if they choose.

Follow up Activity:

- Portfolio Option: Have students research another current topic that brings Maine's economy and the environment in conflict with each other. What are the sides of the issue? What is their opinion on the issue? Why?
- Invite a forester or an ecologist to come speak to the class about the clearcutting standards after students have done their own research on the topic.

Alignment with Learning Results:

Grade Level: **6th-8th**
Content Area: Social Studies: **HISTORY**
Standard: **Historical Knowledge, Concepts, Themes, and Patterns**
Students understand major eras, majoring enduring themes, and historic influences in the history of Maine, the United States, and various regions of the world.

Descriptor **E1b:** Analyze and critique major historical eras, major enduring themes, turning points, events, consequences, and people in the history of the United States and world and the implications for the present and the future.

Grade Level: **9th-dipl.**
Content Area: Science and Technology: **UNIFYING THEMES**
Standard: **Systems, Constancy and Change, and Scale**

Performance Indicators **A1, 3, and 4**: Students apply an understanding of systems to explain and analyze man-made and natural phenomena; students identify and analyze examples of constancy and change that result from varying types and rates of change in physical, biological, and technological systems with and without counterbalances; and students apply an understanding of scale to explain phenomena in physical, biological, and technological systems.

Grade Level: **9th-dipl.**
Content Area: English Language Arts: **WRITING**
Standard: **Narrative**

Performance Indicator **B2:** Students embed narrative writing in a written text when appropriate to the audience and purpose.

Grade Level: **9th-dipl.**
Content Area: English Language Arts: **WRITING**
Standard: **Argument/Analysis**
Performance Indicator **B3:** Students write academic essays that state a clear position, supporting the position with relevant evidence.

Grade Level: **9th-dipl.**
Content Area: Science and Technology: **THE SCIENTIFIC AND TECHNOLOGICAL ENTERPRISE**
Standard: **Science, Technology, and Society**
Performance Indicator **C3:** Students describe the role of science and technology in creating and solving contemporary issues and challenges.

Grade Level: **6th-8th**
Content Area: English Language Arts: **WRITING**
Standard: **Persuasive**
Performance Indicator **B4:** Students write persuasive essays addressed to a specific audience for a particular purpose.

Sheet 8.4A

Name: _____ Date: _____

WHAT IS SILVICULTURE?
FACT SHEET

Based on the USDA publication "Silviculture is growing trees," Bulletin No. 398, 1976

Silviculture is another word for forest management. Professional foresters, timber companies, wood lot owners, and other Maine citizens practice silviculture when they make decisions about how to grow their forests. Like gardeners, they choose which trees to plant, which to cut, and which to leave to help more trees to grow.

There are many different methods of managing a forest. Depending on the goal a forester has in mind, he or she may choose to use one or several of these different methods. The basic methods are listed below:

- Foresters usually are working toward one of two goals:
  (1) To improve the composition of the existing forest, or
  (2) To help regenerate the forest: growing new trees in place of ones that have been harvested

- In order to accomplish the first goal, foresters practice **intermediate cutting**. This involves cutting down or clearing out certain trees, while encouraging others to grow.

- In order to accomplish the second goal, foresters practice **regeneration cutting**. There are four important systems of regeneration cutting that foresters use:
  (1) **Selection system**
  (2) **Shelterwood system**
  (3) **Seed-tree system**
  (4) **Clearcutting**

- Foresters decide which system or combination of systems to use based on many factors, including what kind of forest they are working with. Forests can be uneven-aged, with a variety of ages and sizes of trees, or even-aged, which include generally trees of about the same age, give or take twenty years.

- Tree species are called "tolerant" or "intolerant," based on how well they grow in the shade of other trees. Those trees that grow well in shade are more tolerant than those that need lots of sunlight. Uneven-aged forests tend to have more tolerant trees than even-aged forests.

- In a **selection system**, a forester chooses individual trees or groups of trees to harvest. The trees the forester chooses might be large, older trees, which would be sold for lumber and other wood products, or smaller, younger trees, which might be removed to help stimulate the growth of other trees in the forest. A selection system leaves an

uneven-aged forest and works best with tolerant tree species. A forest managed by the selection system is constantly regenerating itself, as new trees grow in place of the old. It does not show much dramatic change.

- In a **shelterwood system**, young trees grow in the shade of older trees. First, a forester makes a cut to stir up the ground, let in some sunlight, and stimulate seed production by the mature trees that are left. Young saplings then begin to grow under the shelter of the mature trees. Then, after many years, the forester harvests the mature trees, letting the younger trees take over the forest. Using a shelterwood system results in an even-aged forest.

- In a **seed-tree system**, a few mature trees are left to provide seed for new growth. A forester will harvest most of the trees in the forest, leaving a few trees scattered throughout to drop seed in the soil. As the new trees begin to grow, a forester will usually remove the seed trees. This method works well with trees that are firmly rooted in the ground, and do not need the protection of older trees. Intolerant species grow well in this system, because they get lots of sunlight. The forest looks dramatically different after the first cut, which is a disadvantage for people who are concerned with preserving the beauty of a forest. A seed-tree system produces an even-aged forest.

- In a **clearcutting system**, an area of forest is completely cut over, leaving a bare patch of land to be reseeded. Like the seed-tree system, clearcutting drastically changes the appearance of a forest. Intolerant tree species regenerate best in this system, however, because there is no shade from mature trees to hamper their growth. Clear-cutting results in an even-aged forest.

Sheet 8.4B

Name: _____ Date: _____

MAKING SENSE OF THE CLEARCUTTING STANDARDS
STUDENT WORKSHEET

You are a forester who has recently moved to the state of Maine. You have been asked to review Maine's clearcutting standards. Study the "Highlights of Forest Regeneration and Clearcutting Standards," put out by the Maine Forest Service. Then, use these questions to guide your review of the standards.

1. What are seven ways Maine law restricts clearcuts, depending on their size?

_____

_____

_____

2. Explain three of these restrictions in detail.

_____

_____

_____

_____

_____

3. Why do you think most recent clearcuts in the last few years have been 20 acres or smaller (35 acres or smaller before 1999)?

_____

_____

_____

4. In your opinion, are Maine's clearcutting standards too strict, not strict enough, or a good system? Explain your choice.

_____

_____

_____

Sheet 8.4C

Name: _____ Date: _____

STOP THE CLEARCUTTING!
STUDENT WORKSHEET

Study the Stop the Clearcutting! pamphlet, distributed by the Maine Greens, a political party. Then, answer the questions below. Below are ten controversial statements. Give the Maine Greens' argument against each statement. Use a separate sheet of paper.

1. After clearcutting, the forest grows back.

2. If we stop clearcutting, loggers will lose jobs.

3. It is best to use large machines to cut the forest.

4. People in coastal Maine (downstream from the forests) are not affected by clearcuts.

5. What happens in Maine forests has nothing to do with the rest of the planet.

6. It is OK to use a lot of paper because it can be recycled. It is good to remove all the slash (small tree limbs) for pulpwood.

7. The corporations that own Maine's forests know what is best for Maine.

8. Some people think the forest is only a playground, not a working forest.

9. The best use for Maine's forests is to turn them into spruce-fir plantations to supply paper mills.

10. Only the people who work and live in the forests deserve to decide rules for forestry practices.

Sheet 8.4D

Name: _____ Date: _____

CLEARCUTTING: SUSTAINABLE FORESTRY?
RUBRIC

Use the following rubric to evaluate your performance.

Task	Points Available	Points Alotted
1. I answered the Making Sense of the Clearcutting Standards worksheet thoroughly.	10	
2. I answered the Stop the Clearcutting! worksheet thoroughly.	10	
Debaters:		
3. I helped my team prepare for the debate by writing an opening argument, researching, or anticipating counter arguments.	5	
4. I participated in the debate respectfully, and did my best to rebut the opposing team's arguments.	5	
Evaluators:		
5. I listened to the debate teams carefully, and evaluated their arguments to the best of my ability.	10	
6. My opinion paper is at least 250 words, is well written, and was turned in on time.	10	
7. I thoroughly explain my point of view on the clearcutting standards in my opinion paper by presenting my opinion, and offering examples to support it.	10	
8. My opinion paper represents my best work.	10	

Sheet 8.4E

Rules for Classroom Debate

This format is modeled for classroom use from traditional Lincoln-Douglass Debate.

DEBATE ROLES:

1. **Opening Statement Presenter**: One student gathers the main arguments into an introductory statement. Does not give specific information, merely says, "this is true because of reasons A, B, and C."
2. **Topic Presenters**: Three, (or more), students present the main arguments for the team. Each presenter gives specific details that prove his/her argument.
3. **Rebuttal Presenters**: Two, (or more), students answer the arguments of the other team. These students must take notes as the other team presents, and then respond to the opposing arguments by using specific information to disprove each one.
4. **Closing Statement Presenter**: One student presents the closing argument of the team. Briefly summarizes each argument and finishes with a powerful closing remark.
5. **Moderator**: The teacher should control the speaking order, speaking time, and overall score of the debate. Use the scoring rubric below to calculate the winner.

STRUCTURE:

- **Opening Statements**: 3 minutes each
- **Topic Presentations**: 3 minutes each
- **Rebuttal Conference**: 3 minutes
- **Rebuttal Presentations**: 2 minutes each
- **Closing Statements**: 4 minutes each

RULES:
No put-downs.
Teams lose one point for interruptions
Teams lose one point for whispering while someone is presenting.

ALTERNATIVE DEBATE METHODS: *These methods provide a venue for every student to participate in the debate. They are less formal, and more interactive.*

• **Three-Card Debate Strategy**: The teacher provides each student with two or three cards, on which is written either "comment" or "question." When a student wants to make a point to add to the debate discussion, he/she raises a card to either make or add to an argument, or question the argument of the opposing side. Students turn in their cards once they have been used, and the cards cannot be redistributed until all they have been turned in. With this strategy, the more vocal students will reserve their cards for their strongest arguments, and the quieter students will be encouraged to participate.

• **Participation Countdown Debate Strategy**: In this strategy, students raise their hand each time they have something to say— question or comment. The second time a

student adds to the debate, he/she raises a hand with one finger pointing, (indicating that he/she has already spoken once), and the third time, he/she raises a hand with two fingers pointing, (indicating that he/she has already spoken twice). After a student has contributed three times to the debate, he/she is out and cannot add anything else to the discussion.

- **Tag-Team Debate Strategy**: In this debate, each team has a set amount of time in which to present their main arguments, (for example, five minutes). When it's time for a team to state its points, one speaker takes the floor. The speaker can occupy the debate for no more that 30 seconds, before he/she needs to tag another team member to stand and pick-up the argument from where the first person left off. Team members who are eager to be tagged can put out their hands to let the speaker know. This way, someone who is unprepared won't be put on the spot. No member of a team can be tagged twice before all members have been tagged once.

DEBATE GRADING RUBRIC:

Debate Criteria:	**1 Point**	**2 Points**	**3 Points**	**4 Points**
Organization and Clarity: Viewpoints and responses are clear and well ordered.	Unclear	Clear in few points	Clear in most points	Entirely clear
Effective use of Argument or Rebuttal: Strength of pro/con argument or rebuttal.	No relevant arguments	Few relevant arguments	Mostly relevant	Entirely relevant
Use of Examples and Facts: Examples and facts are given to support arguments or rebuttals.	No facts	Few facts	Many Facts	Entirely factual
Presentation Style: Tone of voice, use of gestures, and level of enthusiasm engage the audience.	Not convincing	Some style features used	Most style features used	Entirely convincing
TOTAL SCORE:				

Doc 8.4A

MFS Rules - Chapter 20

Forest Regeneration & Clearcutting Standards

MAINE DEPARTMENT OF CONSERVATION
MAINE FOREST SERVICE
April 28, 1999

This major and substantive revision to the Maine Forest Service Rules - Chapter 20 was approved by the 119th Legislature of the State of Maine. Pending review by the Secretary of State, the revised rule takes effect on October 1, 1999.

Summary: This rule establishes the procedures for notifying the Department of Conservation, Bureau of Forestry, of proposed commercial timber harvesting activities, and sets the standards for clearcutting and for forest regeneration following timber harvesting. In general, landowners are required to notify the Bureau of Forestry, in writing, before timber is cut or removed, when the primary purpose of the harvest is to sell or use the timber as forest products. If the harvesting activities result in a clearcut larger than five acres,there must be a separation zone between clearcuts and regeneration standards must be met. No clearcut can be greater than 250 acres.

Section 1. Scope and Applicability

A. Scope:
This rule governs all forest lands within Maine, including those owned by state and local governmental units, nonprofit organizations, and private forest lands. It does not govern federal forest lands, or research forests exempted by the Department of Conservation under Section 1.C. of this rule.

B. Applicability:
Unless specifically exempted in these rules, this rule applies to any timber harvesting when the primary purpose is to sell the timber or the timber is processed into forest products for sale.

1. The clearcutting standards of this rule apply to clearcuts larger than five acres in size.
2. All timber harvesting activities must comply with other applicable laws, rules, and standards, including but not limited to: The Natural Resource Protection Act [38 MRSA § 480 A to 480 Z], the Shoreland Zoning Act [38 MRSA § 435 to 449], and Maine Land Use Regulation Commission Law [12 MRSA § 681 et seq] and Standards, Chapter 10

C. Research Forests:
Owners or managers of research forests may make application for exemption to the Bureau of Forestry.

1. Applications shall contain a description of the property; a map showing the location or locations of the research area to be exempted; a demonstration of Right, Title or Interest in the property; and a statement certifying the purposes, uses and restriction to research of the property.
2. The Bureau of Forestry shall make a recommendation, including recommended terms and conditions, to the Commissioner concerning the conformance of the proposed research with generally accepted research practices and the standards of these rules.
3. The exemption shall remain in effect for the term stated in the exemption, or until such time as there is a change in use of the property that is inconsistent with the terms and conditions of the exemption, whichever is sooner; at such time the normal rules shall apply.
4. Failure to comply with the terms and conditions of the written exemption shall render it null and void; at which time all normal rules shall apply.

D. Municipal Ordinances:

Municipalities regulating timber harvesting must adopt definitions that are consistent with those contained in these rules.

SECTION 2. DEFINITIONS

A. For the purpose of 12 MRSA, Chapter 805, sub-chapter III-A and for these rules, the following terms have the following meanings unless the context otherwise requires:

1. **Acceptable growing stock** means live trees of commercially valuable species that are not culls, are capable of developing into trees suitable for producing merchantable products, and which:

A. Have survived at least two full growing seasons (April 1 through October 1);
B. Do not lean more than 30 degrees from vertical;
C. Do not have a broken, dead, or missing main stem;
D. For trees 8 inches DBH or larger, have not suffered scrapes from timber harvesting that penetrate the cambium on more than one half of the stem circumference at any point on the tree;
E. For trees less than 8 inches DBH, have not suffered scrapes from timber harvesting that penetrate the cambium on more than one third of the stem circumference at any point on the tree; and
F. Have not suffered visible severing, mutilation, or exposure from timber harvesting of more than one third of the root spread.

2. **Basal area** means the area of cross-section of a tree stem at Diameter Breast Height (4.5 feet above the ground) and includes bark.
3. **Bureau** means the Bureau of Forestry, Department of Conservation.
4. **Change Of Land Use** means that following timber harvesting the subsequent use for a particular area does not include growing forest products. Change of land use may include, but is not limited to, conversion to farm pasture, site for growing agricultural crops, residential dwelling unit, development site, or gravel pit. The division of forest land into smaller units does not by itself automatically constitute a change of land use.
5. **Clearcut** means any timber harvesting on a forested site greater than 5 acres in size that results in a residual basal area of acceptable growing stock trees over 4.5 inches DBH of less than 30 square feet per acre unless the following condition exists: after harvesting, the site has a well-distributed stand of acceptable growing stock as defined in these rules of at least 3 feet in height for softwood trees and 5 feet in height for hardwood trees.

6. **Commercially Valuable Species** means any tree species capable of growing as a tree in Maine, and which is not listed below:

Acer pensylvanicum	striped maple, moosewood
Acer spicatum	mountain maple
Salix spp.	willow
Cornus floridaflowering	dogwood
Betula populifolia	grey birch
Prunus pensylvanica	pin cherry, fire cherry

7. **Coniferous (Softwood) Type** means a forest type of which pine, spruce, fir, hemlock, cedar, larch and other softwood species, singularly or in combination, comprise 75% or more of the stocking.
8. **Cord** means a unit of measure of wood products 4 feet wide, 4 feet high and 8 feet long, or its equivalent, containing 128 cubic feet when the wood is ranked and well stacked. Any voids that will accommodate a stick, log or bolt of average dimensions to those in that pile shall be deducted from the measured volume.
9. **Cull** means a tree where 50% or more by volume fails to meet pulpwood grades.
10. **Development Site** means the ground area where any significant earth moving, grading, dredging, filling, building, construction, mining operation, or deposition of refuse, solid or liquid waste other than agricultural waste will occur. It does not include forest land areas where bioash or sludge are spread as a soil additive or fertilizer.
11. **Designated Agent** means a person, company or other entity who is authorized by the landowner to act on the landowner's behalf for timber harvesting on the landowner's property.
12. **Diameter Breast Height (DBH)** means the diameter of a standing tree measured 4.5 feet from ground level.
13. **Essential Wildlife Habitat** means areas identified by the Commissioner, Maine Department of Inland Fisheries and Wildlife in accordance with the provisions of 12 MRSA, § 7754 (2,3) and/or § 7755-A (1,2,3).
14. **Forest Land** means land used primarily to grow trees to be harvested for commercial use, but does not include marsh, open swamp, bog, water and similar areas, which are unsuitable for growing a forest product or for harvesting for commercial use even though these areas may exist within forest lands.
15. **Forest Management Activities** include cruising and other forest resource evaluation activities, pesticide or fertilizer application, timber stand improvement, pruning, timber harvesting and other forest harvesting, regeneration of forest stands, and other similar or associated activities, but not the construction, creation, or maintenance of land management roads.
16. **Forest Plantation**: See "Plantation".
17. **Forest Management Plan**: See "Harvest Plan".
18. **Forest Products** means logs, pulpwood, veneer, boltwood, wood chips, stud wood, poles, pilings, biomass fuel wood, fuel wood or other products commonly known as forest products. It does not include Christmas trees, maple syrup, nursery products used for ornamental purposes, wreaths, bough material, cones or other seed crops.
19. **Forest Stand** means a community of trees possessing sufficient uniformity as regards composition, construction, age, spatial arrangement, or condition, to be distinguishable from adjacent communities, so forming a silvicultural or management entity.
20. **Forest Type** means a stand of trees characterized by the predominance of one or more groups of key species which make up 75 percent or more of the sawlog volume of sawlog stands, or cordwood in pole timber stands, or of the number of trees in seedling and sapling stands.

21. **Forested Wetland** means a freshwater wetland dominated by woody vegetation that is at least 20 feet tall.
22. **Freshwater Wetland** means freshwater swamps, marshes, bogs and similar areas that are:

A. Inundated or saturated by surface or groundwater at a frequency and for a duration sufficient to support, and which under normal circumstances do support, a prevalence of wetland vegetation typically adapted for life in saturated soils; andB. Not considered part of a great pond, coastal wetland, river, stream or brook.

23. **Great Pond** means any inland bodies of water which in a natural state have a surface area in excess of 10 acres, and any inland bodies of water artificially formed or increased which have a surface area in excess of 30 acres.
24. **Hardwood Type** means a forest type in which maple, birch, beech, oak, elm, basswood, poplar, ash or other broadleaf species of trees, singularly or in combination, comprise 75% or more of the stocking.
25. **Harvest Area** means an area of forest land where timber harvesting has occurred or is occurring.
26. **Harvester** means a person, company, or other entity who harvests, or contracts to harvest, a forest product.
27. **Harvest Plan** means a site specific document signed by a Licensed Professional Forester outlining proposed activities to ensure compliance with performance standards and regeneration requirements of 12 MRSA c. 805, sub-c III-A and this rule.
28. **Landing**: See "Yard".
29. **Landowner** means a person, company, or other entity which holds title to land, including joint ownership or tenants in common. Where the ownership of the timber located on a parcel is different than the fee ownership of the land, the owners of the timber are deemed to be a landowner and are jointly and severally responsible with the fee landowner to comply with this rule. Where a corporate landowner is a wholly owned subsidiary of another corporation, both parent and subsidiary are deemed to be the same landowner.
30. **Land Management Road** means a route or track consisting of a bed of exposed mineral soil, gravel, or other surfacing materials constructed for, or created by, the passage of motorized vehicles and used primarily for forest management activities, including associated log yards, but not including skid trails or skid roads.
31. **Licensed Professional Forester** means a forester licensed under 32 MRSA c. 75.
32. **Management Plan**: see "Harvest Plan".
33. **Mixedwood Type** means a forest type in which neither hardwoods nor softwood comprise 75% or more of the stocking.
34. **Overstory Removal** means a timber harvest that is not a clearcut, that removes the overstory component of a stand, leaving a stand of advanced regeneration that is stocked with at least 450 trees per acre, well distributed on the harvest area, that meet theacceptable growing stock standards, as defined in these rules, and which are at least 3 feet in height for softwood trees and 5 feet in height for hardwood trees.
35. **Parcel** means a contiguous tract or plot of forest land owned by a landowner. Multiple contiguous tracts, plots or parcels of forest land owned by the same landowner are considered a single parcel. Contiguous tracts completely separated by a public road or roadway are considered to be separate parcels under these rules. Tracts of land joined only at a single point are not contiguous.
36. **Pesticide** means any substance or mixture of substances intended for preventing, destroying, repelling or mitigating any pests, and any substance or mixture of substances intended for use as a plant regulator, defoliant or desiccant.

37. **Plantation** means a stand of commercially valuable tree species predominately artificially seeded or planted. It does not include supplemental or "fill" plantings within an otherwise natural stand unless the artificially established trees total 50% or more of the stand.
38. **Poletimber** means a live tree of commercially valuable species meeting regional specifications of soundness and form and at least 4.5 inches DBH, but smaller than a sawtimber tree.
39. **Precommercial Silvicultural Activities** means chemical or mechanical thinning treatments, planting, stand conversion or timber stand improvement activities provided that no forest products are removed.
40. **Public Road or Roadway** means any roadway that is owned or leased by a governmental unit or public entity.
41. **Regeneration** means the renewal of a tree crop of acceptable growing stock, whether by natural or artificial means.
42. **Residential Dwelling Unit** means a room or group of rooms designed and equipped exclusively to use as permanent, seasonal, or temporary living quarters for one or more families. It includes mobile homes, but not recreational vehicles.
43. **Residual Basal Area** means the average of the basal area of trees remaining on a harvested area.
44. **Residual Stand** means a stand of trees remaining in the forest following timber harvesting.
45. **Sapling** means a live tree of commercially valuable species between 1.0 and 4.4 inches DBH.
46. **Sawtimber** means a live tree of commercially valuable species, suitable in size and quality for yielding sawlogs under current mill specifications.
47. **Seedling** means a live tree of commercially valuable species less than 1.0 inch DBH and at least 6 inches tall.
48. **Separation Zone** means an area that immediately surrounds a clearcut and separates it from any other clearcut. A separation zone must consist of forest land, and must meet the standards and requirements of this rule. The separation zone may include forested wetlands, and skid roads or skid trails, provided these skid roads or skid trails are not immediately adjacent to a clearcut. A separation zone does not include other non-forest areas such as non-forested wetlands, public and private roads, land management roads, winter haul roads, driveways, utility lines, development sites, pipelines or railroad rights-of-way.
49. **Significant wildlife habitat** is defined by Title 38 Ch. 3 Article 5-A.
50. **Skid Road or Skid Trail** means a route used by forwarding machinery or animal to haul or drag forest products from the stump to the yard or landing.
51. **Softwood Type** means a forest type in which pine, spruce, fir, hemlock, cedar and larch, singly or in combination, comprise 75% or more of the stocking.
52. **Stand:** see "Forest Stand".
53. **Timber Harvest** means the cutting or removing of timber for the primary purpose of selling or processing forest products.
54. **Winter Haul Road** means a route or track across frozen ground or compacted snow and ice used primarily for access to a yard or landing. It does not include a road with a gravel surface.
55. **Wood** means the severed but unprocessed fibrous derivative of trees, or the chipped fibrous derivative of trees, regardless of quality or grade.
56. **Yard, Log Yard, Landing** means the area where forest products are hauled by forwarding machinery or animals for deposition or storage before transfer to trucks or other means of conveyance.

SECTION 3. NOTIFICATION PROCESS FOR LANDOWNERS INTENDING TO HARVEST FOREST PRODUCTS

A. NOTIFICATION FORM AND PROCESS: Prior to conducting a timber harvest a landowner or designated agent must notify the Bureau in writing. The landowner or designated agent must submit a "Forest Operations Notification" on a form specified by the Bureau.

1. Signature required: All parties named by a landowner or designated agent on a notification (landowner, designated agent, forester, and harvester) must sign the notification. A notification submitted without one or more signatures of named parties will be considered incomplete.

Exception: A landowner with a licensed professional forester in its employ is exempt from the requirement for landowner signature, provided the landowner maintains with the Bureau a list of licensed professional foresters authorized to sign for the landowner.

2. Designated Agent requirement: Unless exempted under Sec. 3. A.1, a notification that names a designated agent must include a clause, signed by the designated agent and landowner, stating that the designated agent has the authority to act on behalf of the landowner to harvest forest products on the landowner's property.

3. Additional notification requirement for Category 3 clearcuts (clearcuts larger than 75 acres).

a. Prior to conducting a timber harvest that creates a Category 3 clearcut (larger than 75 acres), the landowner or designated agent must submit to the Bureau a Forest Operations Notification at least 60 days prior to commencing the timber harvest.

b. Every Forest Operations Notification that results in a Category 3 clearcut must also include a harvest plan. The harvest plan must include the information specified in Sec.5.C.1 (Harvest Plans for Category 2 and Category 3 clearcuts).

c. The Bureau will review each notification and harvest plan submitted under this provision for completeness. Either shall be deemed incomplete if the Bureau finds that the required information is missing, inadequate, or inaccurate.

d. A Bureau Forester and the landowner or the landowner's representative must have a meeting at the proposed harvest site to review the harvest plan. This meeting must take place during normal working hours and within the 60 day notification period, unless extended by agreement of the parties.

Following this meeting, a Bureau Forester will have 10 working days to make a written determination whether the notification and harvest plan comply with requirements of this rule. If a Bureau Forester finds that the harvest plan does not comply, the Bureau Forester shall identify in writing any inadequacies in the harvest plan or Notification and/or, as appropriate, request more information.

A landowner must provide the information requested or address any inadequacies and receive written confirmation from the Bureau that the Notification and harvest plan are in compliance prior to commencing the harvest.

4. Completed Notification: The Bureau will acknowledge receipt of a complete notification by returning a copy of the notification in a format suitable for posting.
EXEMPTION FROM NOTIFICATION REQUIREMENT: The following types of timber harvests are exempt from the notification requirements of this section, even if the forest products harvested are sold commercially:

1) Removal of single trees or small groups of trees from residential yards, roadsides, and similar urban or suburban settings where the tree removal occurs on an area two acres in size or less, and is conducted for the purposes of hazard tree removal, right of way and driveway clearance, and lot clearance for the construction of residential dwelling units. This exemption applies only to land on which a person resides, or for lot clearing operations for a landowner who possesses a building permit, or where such lot clearance does not exceed the necessary construction footprint.

2) Timber harvests where the forest products harvested or processed are for personal use by the landowner.
B. LANDOWNER/AGENT REQUIREMENTS AFTER NOTIFICATION IS ACKNOWLEDGED: The landowner or designated agent is responsible for complying with the following notification standards:

1. The returned notification, a copy of the original notification, or the notification number shall be posted and maintained in a conspicuous location at or near the principal landing or yard associated with the timber harvest.

2. Where a parcel is accessed by a private road system, a single notification may be posted in a conspicuous location at the parcel boundary on the principal access road leading into the parcel.

3. Notifications shall remain posted at the timber harvest site until the harvest is completed, at which time the notification may be removed.

4. The Bureau will provide replacement forms upon written request stating the need and reason for needing a replacement.

SECTION 4. REGENERATION STANDARDS

A. Overstory Removal Standards:
To qualify as an overstory removal, a harvest area must be stocked with at least 450 trees per acre, well distributed on the harvest area, of acceptable growing stock trees that are at least 3 feet in height for softwood trees and 5 feet in height for hardwood trees. The Bureau may verify that the harvest area qualifies as an overstory removal through a a field procedure that uses sample plots that are randomly or systematically located to provide a fair representation of the entire harvest area.

B. Clearcut Regeneration Standards:
Within five years of completing a timber harvest that creates a clearcut, the harvest area must be stocked with at least 450 trees per acre of acceptable growing stock trees. The harvest area may not contain any contiguous area greater than 5 acres that does not meet this condition.

C. Certification of Regeneration:

For Category 2 and Category 3 clearcuts, attainment of this general standard must be certified by a Licensed ProfessionalForester. (See Section 5.C.3. Reporting Requirements.) A field procedure shall be used to certify regeneration that uses sample plots that are randomly or systematically located to provide a fair representation of the entire harvest area.

EXEMPTION FROM CERTIFICATION OF REGENERATION: Landowners who own 100 acres or less, total ownership statewide, are exempt from Section 4.C. Certification of Regeneration.

D. EXEMPTIONS FROM REGENERATION STANDARDS:

1. Natural Disaster: Regeneration standards do not apply to a harvested area if the regeneration is destroyed by fire, disease, insect infestation or other natural disaster provided the landowner promptly thereafter notifies the Bureau in writing of the location, size, approximate date, and cause of the disaster. The regeneration requirement does not apply to the area affected by the disaster. Vegetative cover sufficient to prevent accelerated erosion must be established on the affected area as soon as possible.

2. Change of Land Use: Regeneration standards do not apply to the portion of a harvested area where there is a change of land use, provided:

a. The change of land use must be completed by the end of the second full calendar year following the year of the timber harvest.

b. The intent to change land use must be stated on the "Forest Operations Notification" form submitted to the Bureau of Forestry or other format approved by the Bureau.

c. If the change of land use is to residential dwelling units, the exemption from regeneration standards is limited to the actual size of the residential lot or five acres, which ever is smaller.

E. MITIGATION FOR INADEQUATE REGENERATION:

1. CERTIFIED PLAN: In the event of a failure to meet regeneration standards, in addition to being potentially liable for civil penalties and other remedial action, the landowner shall, within 30 days of notification by the Bureau, submit to the Bureau a mitigation plan certified by a Licensed Professional Forester that will enable the landowner to attain compliance with the regeneration standards as soon thereafter as possible. At a minimum, the mitigation plan shall include:

a. Specification of commercial tree species to be planted or regenerated;

b. Consideration of the site physiographic conditions;

c. Specific procedures to insure satisfactory growth and survival of specified commercial tree species; and

d. An action plan outlining all necessary actions and an expeditious timetable to complete the mitigation measures.

2. LANDOWNER RESPONSIBILITY: Following approval of the mitigation plan by the Bureau, the land owner shall ensure that the mitigation plan and its actions are implemented.

3. CERTIFICATION BY LANDOWNER: When the plan has been implemented the land owner shall submit to the Bureau certification by a Licensed Professional Forester that the plan has been completed and that the regeneration standards have been met.

SECTION 5. CLEARCUT STANDARDS

If a landowner's timber harvesting activities on a parcel result in a clearcut, the following standards apply.

A. MAXIMUM SIZE OF CLEARCUT: No clearcut shall be larger than 250 acres in size.

B. CATEGORY 1 CLEARCUT: A Category 1 clearcut is any clearcut that is greater than 5 acres and less than or equal to 20 acres.

1. Separation Zone STANDARDS - Category 1 Clearcuts

a. A Category 1 clearcut must have a separation zone of at least 250 feet from any other clearcut (separation zones may be shared).

Exception: A Category 1 clearcut may be created adjacent to a property line between two or more different landowners. The landowner must comply with all other requirements for a Category 1 clearcut.

b. A separation zone for a Category 1 clearcut must meet one of the following requirements:

(1). The separation zone shall contain an average basal area greater than 30 square feet per acre of acceptable growing stock, well distributed on the separation zone;

OR,

(2). The separation zone shall contain at least 450 trees per acre of acceptable growing stock, well distributed on the separation zone; softwood trees must be at least 3 feet in height and hardwood trees must be at least 5 feet in height.

c. Separation zones must be maintained to meet the standards of Sec.5.B.1.a and Sec.5.B.1.b until one of the following conditions is met:

(1). The regenerated clearcut contains a minimum of 300 trees per acre of acceptable growing stock trees, well distributed on the harvest area; softwood trees must be at least 10 feet in height and hardwood trees must be at least 20 feet in height;

OR

(2). At least 10 years have elapsed from the date the clearcut was completed.

C. CATEGORY 2 AND CATEGORY 3 CLEARCUTS:

A Category 2 clearcut is any clearcut greater than 20 acres but less than or equal to 75 acres in size.
A Category 3 clearcut is any clearcut greater than 75 acres but less than or equal to 250 acre.

1. HARVEST PLANS FOR CATEGORY 2 AND CATEGORY 3 CLEARCUTS:

a. For all Category 2 and Category 3 clearcuts, the landowner shall develop, prior to harvest, a site specific harvest plan signed by a Licensed Professional Forester that demonstrates compliance with the standards of Section 4 (Regeneration Standards) and Section 5 (Clearcut Standards) of this rule.
b. MINIMUM ELEMENTS OF HARVEST PLAN: The following minimum elements are required in the harvest plan for each Category 2 and Category 3 clearcut:

(1). Landowner's name, address, and telephone number.

(2). If applicable, designated agent's name, address and telephone number.

(3). Signature of Licensed Professional Forester preparing the plan.

(4). Date and Intent to Harvest Notification Number.

(5). Anticipated dates of harvest(s).

(6). A certification signed by a Licensed Professional Forester or, if required under this section, a certified wildlife professional, attesting that the clearcutting is needed to improve the health, productivity or wildlife habitat of the forest.

(7). An explanation of how the standards of Section 4 (Regeneration Standards) and Section 5 (Clearcut Standards) of this rule will be met.

(8). The reason for the creation of the clearcut, which must be one of the following four reasons:

(a). Removal of poor quality, intolerant, understocked, short lived or mature overstories where the retention of the residual overstory trees is not justified for further increase in value, as a source of seed, or for protection of the new stand;

(b). Ecologically appropriate improvement or creation of wildlife habitat, with accompanying prescription and justification from a certified wildlife professional;

(c). Removal of timber stands that, if partially harvested according to accepted silvicultural practice, are at high risk for windthrow due to factors such as soils, rooting depth, crown ratio or stem quality; or,

(d). Harvesting of an existing plantation or other forest stands established by or previously treated with precommercial silvicultural activities.
(9). An assessment of the soil erosion potential of the harvest area, and any actions that will be taken to protect riparian zones and minimize erosion into water bodies.

(10). An assessment of the windfirmness of the separation zone associated with the clearcut and the steps that will be taken so that the standards for separation zones will be maintained.

(11). A certification, from the Licensed Professional Forester or certified wildlife professional preparing the plan, that the proposed harvest does not occur within significant or essential wildlife habitats, or if the harvest does occur within such areas, a certification that all appropriate approvals, permits or variances have been obtained.

(12). A map showing the location of the clearcut and the separation zone associated with the clearcut. The map should be on the current edition of the United State Geological Survey topographic map (U.S.G.S.) or other format as approved by the Bureau. The landowner shall promptly update the map as needed.

(13). Certification by a Licensed Professional Forester that the landowner has a plan to manage the regeneration consistent with the regeneration standards of this rule. The plan shall indicate what measures the landowner will take and a time frame for carrying out those measures in order to meet the stocking and other regeneration standards.

(14). **ADDITIONAL REQUIREMENT FOR CATEGORY 3 CLEARCUT HARVEST PLAN:** For all Category 3 clearcuts, the harvest plan must include a summary of how the proposed clearcut and other adjacent harvest activities collectively provide for water quality protection and wildlife habitat needs.

c. CATEGORY 2 CLEARCUTS - HARVEST PLAN KEPT ON FILE:
For all Category 2 clearcuts, the harvest plan must be kept on file by the landowner and be made available for on-site inspection by the Bureau until regeneration standards are achieved.

d. CATEGORY 3 CLEARCUTS - HARVEST PLAN FILED WITH BUREAU AND ON-SITE HARVEST
PLAN REVIEW:

For all Category 3 clearcuts, the harvest plan must be submitted to the Bureau with the Forest Operations Notification at least 60 days prior to commencing the timber harvest, as specified in Sec.3.A.3 (Notification Process for Landowners Intending to Harvest Forest Products).

A Bureau Forester and the landowner or the landowner's representative must have a meeting at the proposed harvest site to review the harvest plan. This meeting must take place during normal working hours and within the 60 day notification period, unless extended by agreement of the parties.

Following this meeting, a Bureau Forester will have 10 working days to make a written determination whether the notification and harvest plan comply with requirements of this rule. If a Bureau Forester finds that the harvest plan does notcomply, the Bureau Forester shall identify in writing any inadequacies in the harvest plan or Notification and/or, as appropriate, request more information.

A landowner must provide the information requested or address any inadequacies and receive written confirmation from the Bureau that the Notification and harvest plan are in compliance prior to commencing the harvest.

e. LANDOWNER RESPONSIBILITY: The landowner is responsible for ensuring that the harvest plan and its recommended actions are implemented.
2. SEPARATION ZONE STANDARDS - Category 2 and Category 3 Clearcuts

a. A Category 2 or Category 3 clearcut must have a separation zone of at least 250 feet from any other clearcut (separation zones may be shared).

Exception: A Category 2 or Category 3 clearcut may be created adjacent to a property line between two or more different landowners. The landowner must comply with all other requirements for Category 2 and Category 3 clearcuts, including but not limited to the requirement that the area of the separation zone be at least equal to the area of the clearcut [Section 5.C.2.b].

b. The area of the separation zone must be equal to or greater than the area of the clearcut.

c. The separation zone must meet one of the following requirements:

(1). Contain at least 60 square feet basal area per acre of trees 1.0 inches DBH or larger, well distributed on the separation zone. A minimum of 40 square feet basal area per acre must be comprised of acceptable growing stock trees, and a minimum of 40 square feet basal area per acre must be comprised of trees 4.5 inches DBH or larger;

Exception: Areas not capable of growing at least 60 square feet basal area per acre due to poor soils or other site conditions may be used as part or all of a separation zone, provided this condition is documented and mapped by a Licensed Professional Forester in a harvest plan available for inspection by agents of the Bureau.

OR,

(2). Contain at least 300 trees per acre of acceptable growing stock trees, well distributed on the separation zone; softwood trees must be at least 10 feet in height and hardwood trees must be at least 20 feet in height.

Exception: A clearcut that was created between January 1, 199 and the effective date of this rule, that meets the regenerationstandard of this rule (Section 4) and that does not meet the requirement of Sec.5.C.2.c.(2) above may be used as all or part of a separation zone, provided that 10 years have elapsed since the completion of the clearcut.

d. Separation zones must be maintained to meet the standards of Sec.5.C.2.a through Sec.5.C.2.c
until one of the following conditions is met:

(1). The regenerated clearcut contains a minimum of 300 trees per acre of acceptable growing stock trees, well distributed on the harvest area; softwood trees must be at least 10 feet in height and hardwood trees must be at least 20 feet in height;

OR,

(2). At least 10 years have elapsed from the date the clearcut was completed.

3. REPORTING REQUIREMENTS

a. For all Category 2 and Category 3 clearcuts, the landowner must file with the Bureau, in a format specified by the Bureau, a certification that the regeneration standards of Section 4 of

this rule have been met. The certification must be filed prior to 30 days following the end of the regeneration period specified in Section 4, and be certified by a Licensed Professional Forester.

b. For all Category 2 and Category 3 clearcuts, the landowner must file with the Bureau, no later than September 30, in a format specified by the Bureau, the following information for each Category 2 and Category 3 clearcut created during the preceding calendar year:

(1). The clearcut location, drawn on the most recent edition of United States Geological Survey topographic map or equivalent, or other format approved by the Bureau; or the longitude and latitude of the approximate center of the clearcut.

(2). The size of the clearcut.

(3). The name of the city, town, plantation or township, and county in which the clearcut occurs.

(4). The reason for the creation of the clearcut, which must be one of the four reasons specified in Sec.5.C.1 of this rule (Harvest Plan for Category 2 and Category 3 clearcuts).

D. EXEMPTION FROM CLEARCUT STANDARDS:

1. Landowners who own 100 acres or less, total ownership statewide, are exempt from the clearcut standards Sec.5.A through Sec.5.C.

2. Change of Land Use: Clearcut standards do not apply to the portion of a harvested area where there is a change of land use, provided:

a. The change of land use must be completed by the end of the second full calendar year following the year of the timber harvest.

b. The intent to change land use must be properly indicated on the "Forest Operations Notification" form submitted to the Bureau of Forestry or other format approved by the Bureau.

c. If the change of land use is to residential dwelling units, the exemption from clearcut standards is limited to the actual size of the lot or five acres, which ever is smaller.

SECTION 6. VARIANCE

A. PETITION: Any forest landowner may petition the Commissioner of the Department of Conservation for permission to operate in a manner inconsistent with these rules.

B. BURDEN OF PROOF: The burden of proof is on the petitioner to demonstrate that:

1. Strict compliance with the regulations or standards would, because of unique conditions of topography, access, location, shape, size, or other physical features of the site or forest condition, cause unusual hardship or extraordinary difficulties;

2. The unusual hardship or extraordinary difficulties claimed as a ground for variance have not been created by the owner or a predecessor in title;

3. The proposed use meets the purpose and intent of 12MRSA c. 805 (the Forest Practices Act); and

4. The public interest is otherwise served.

C. PUBLIC INPUT ON VARIANCE REQUESTS:

1. The Bureau maintains a list of persons interested in being notified of variance petitions (Forest Practices Variance List). Persons interested in being notified of variance petitions must request such notification from the Bureau in writing.
2. When the Department receives a petition for variance the Bureau will notify all persons on the Forest Practices Variance List and all landowners within 1,000 feet of the parcel or parcels for which the variance is being requested, as shown on municipal or state tax maps. The notice will include the name of the petitioner, the location of the proposed harvest area, and the section(s) of this rule for which the petitioner requests a variance. Such notice generally will be sent by regular mail within five working days from the date the Department receives the petition for variance.
3. The petition for variance, including all supporting information supplied by the petitioner, will be available for examination by appointment during regular business hours at the offices of the Bureau in Augusta. Copies of the full variance petition and supporting documents will be made available upon request at a cost as determined by Bureau policy in effect at the time of the request.
4. Any person may submit written comments regarding the variance petition to the Bureau. Unless otherwise indicated by the Bureau, in order to be considered written comments must be received no later than 15 calendar days after the Bureau mails the notification of petition for variance.

D. BUREAU RECOMMENDATIONS: The Bureau shall make a recommendation to the Commissioner indicating such facts, findings, terms and/or conditions as may be appropriate.

E. COMMISSIONER'S FINDINGS: The Commissioner may issue a variance only after making written findings of fact and conclusions supporting the determination that the petitioner has met the burden of proof. The variance may be issued upon such terms and conditions as the Commissioner deems appropriate and the landowner shall comply with the terms and conditions. If the variance is not issued as requested, the Commissioner shall provide the petitioner with written notice of the reasons for denial. The variance or denial shall be issued in a timely fashion.

SECTION 7. [Reserved: Silvicultural Best Management Practices].

SECTION 8. EFFECTIVE DATE

A. EFFECTIVE DATE: The effective date of these rules shall be **October 1, 1999.**
Timber harvests for which notification has been filed and timber harvesting has begun prior to the effective date are not subject to these rules.

Doc 8.4B

STOP THE CLEARCUTTING

by Tom Roberts (Jun-96)

Clear-cutting is not forest management. Clear-cutting is forest removal.

Besides just trees, clear-cutting radically and irreparably damages the entire forest ecosystem, which includes birds and animals, other plants and microbes of the living soil. All of these together have produced a system in balance; one that is highly resistant to disease, drought and predation. A damaged forest ecosystem does not allow trees to grow back as quickly or as robustly as they would in a healthy forest ecosystem. Clear-cutting changes the tree species that grow back to a different selection of varieties, which means fewer kinds of uses for the wood in a forest. This results in greater dependence on fewer wood buyers, and fewer choices for those cutting and hauling wood.

Replanting (when it is done) of large scale clear-cutting results in vast even-aged stands of few varieties. The resulting lack of genetic diversity is a set-up for invasion by insects and disease and the resulting reliance on toxic chemicals used to combat them.

NO FORESTS = NO LOGGERS

You can't cut trees that aren't there. Clear-cutting is not a management technique. It is a mistaken idea that clearcutting is more economical. In reality, cutting all the trees means that it will take much longer for the forest area affected to once again be productive than it would if only some trees were taken every few years.

There are numerous examples of good forestry, on both state-owned and privately owned lands in Maine. On large scale woodlots that have been well managed for decades, the amount and value of wood removed over the years can be equal to that removed from a clear-cut. All the while, in a well managed stand a larger and increasingly better quality stand remains in place. This is achieved through techniques such as selective cutting and removing the poor quality and low value trees to allow the best in the stand to prosper.

COMPACTION AND EROSION RUIN THE FOREST FLOOR

Removing too many trees from a forest stand exposes the forest floor to erosion. Rain and snow melt wash away the soil in muddy runoff water. Heavy equipment compacts the spongy forest floor, which means less snow melt and rain water soak in and more runs off. Compaction results in dessication (drying out) of the soil, lower soil oxygen, reduced beneficial soil fungi, and soil loss due to erosion.

The effect of all this is to leave the forest soil poorer, with fewer places for new tree seedlings to gain a start in life.

CLEAR-CUTTING HURTS MORE THAN JUST THE FOREST

Erosion and compaction hurt more than the forests where they occur. Erosion causes siltation (build-up of washed-away forest soil) in streams and rivers, resulting in poorer fishing and more pollution of our rivers. The snow layer that used to last long into the spring under a forest canopy, now melts quickly in the direct spring sun, causing flooding along the banks of our streams and rivers.

Additionally, large industrial clear-cuts in the unorganized territories of northern Maine are often sprayed with herbicides to influence the tree species that are able to re-grow. This spraying of extremely dangerous toxic chemicals which have the potential to cause tumors, cancer and birth defects is going on in areas with poor water retention and excessive runoff because of the exposed, compacted and eroded soil, and results in further pollution both in the forests and downstream.

FORESTS: THE LUNGS OF OUR PLANET

The balance of oxygen to carbon dioxide is critical to all higher forms of life on our planet. People and animals breathe in oxygen and breathe out carbon dioxide. Burning of coal and oil and gas also produce large amounts of carbon dioxide. Too much carbon dioxide in the earth's atmosphere acts like a greenhouse, where more of the sun's heat is retained by the atmosphere, and has resulted in global temperature increases.

Trees and all green plants capture carbon dioxide and release oxygen as they grow (photosynthesis), and the large leaf area of trees makes them one of nature's best converters. It is the continuing back-and-forth exchange of these vital gasses that makes it possible for almost all forms of life to exist on Earth.

CLEAR-CUTTING IS BOTH A GLOBAL AND A LOCAL PROBLEM

Unfortunately, in the world's tropic regions the forests are being clear-cut with fierce intensity. In temperate (summer-winter) regions like Maine, our forests are also being clear-cut with increasing ferocity as the demand for pulp to make paper has steadily increased. Fortunately, the recycling of paper is helping, but it will never put a complete stop to the cutting of trees for virgin pulp. Yet for many products, virgin pulp is used today not because it is the best raw material for the job but simply because it is cheaper than recycled pulp.

In recent years, the chipping of whole trees in the forest has removed even the slash that used to be left to rot and return nutrients to the forest soil for future generations of trees. The global demand for wood fiber is putting an even greater strain on Maine's forests as the export of our trees in the form of chips makes boondoggles such as the Sears Island "Wood Chip" Port seem like a good idea to some short-sighted state officials and private profiteers.

Meanwhile, we have seen the increasing mechanization of wood removal from the forest, which has meant the steady loss of good woodcutting and secondary wood products jobs. While the number of jobs in woods industries, though smaller than in the past, is still

large, the number of jobs in the future will continue to decline as the forests are gradually removed and are replaced with mechanized wood-fiber plantations.

THE GREENS' VISION OF THE FORESTS OF MAINE'S FUTURE

Greens envision a sustainable forest economy.

The forests of Maine are one of our most valuable resources. That have been badly managed and wasted for many years. Today out-of-state corporate boardrooms make decisions to liquidate our forests to meet national and global demand for wood fiber with little concern for the forests themselves or the people who live and work in and around them. As with any resource-rich area, outside control of a resource usually results in excess resource extraction for short-term profit of the companies and long-term impoverishment of the region's people. Maine's remaining forests must be kept intact for Maine's people and for future generations of Maine workers.

Our forests should be managed for long-term multiple use.

This includes, of course, the recreational activities of hunting, canoeing, fishing, hiking, sightseeing, which result in jobs for so many Mainers. But of even greater significance is the ecological value of intact and healthy forests to the health of the people of the state and, yes, to the entire planet. There is also tremendous opportunity to produce value-added wood products only available from a diversified forest. Just as small and micro businesses result in more and better employment in other sectors, so it is also true of the forest industry sector.

Those who see the future of Maine's forests as wood fiber plantations of spruce-fir monocultures are attempting to turn Maine into a third world economy. Theirs is a low wage, high waste future where Maine ships out its natural resources to have the value added elsewhere. We believe this is a prescription for the expansion of poverty and dependence in Maine, when what we're seeking is more prosperity and independence.

The Maine Greens see Maine's forests as producers of raw materials to supply a wide variety of home-grown, value-added industries.

The lumber yard, the makers of architectural woodwork, barrel cooperage, baskets, landscaping materials, buckets, bins, pallets & skids, boats, canoes, ships, boxes & cases, buckets, cabinets, prefab buildings, carvings, Christmas trees, clothes pins, swing sets, skis, doors and windows, dowels, bird houses and feeders, fencing, picture frames, flooring, furniture, toys, crafts, handles, log and post and beam housing, ladders, lattice and trellising, millwork, lobster traps, paddles and oars, paneling, posts and poles, rulers and yardsticks, shakes and shingles, shavings, siding, signs, stairs, particle board, plywood, veneer all produced in our shops and mills. To supply these secondary wood producers we need to value the white ash, brown ash, basswood, beech, white birch, yellow birch, popple, white cedar, cherry, fir, elm, hemlock, sugar maple, red maple, white maple, red oak, red pine, white pine, spruce and tamarack.

Yet, we also shouldn't "fail to see the forest for the trees". As valuable as the selective harvesting of trees can be, the recreational, scientific, medical and nutritional uses of the lakes, rivers, mountains and woodlands of our state are also increased by keeping the forest ecosystem healthy. Recreational freshwater fishermen and commercial marine fishermen, hunters, clammers, shore-land property owners, herbalists, outfitters, guides, and the thousands of small and large businesses that rely on the biological and economic prosperity of the region all have a stake in the health of Maine's forest ecosystem.

The forests are upstream from us all.

Doc 8.4C

	Original FPA Rule **1/1/91**	Revised FPA Rule **10/1/99**

Clearcut Size		
Category 1	5-35 acres	5-20 acres
Category 2	36-125 acres	21-75 acres
Category 2E	126-250 acres	NA
Category 3	NA	76-250 acres
Clearcut - definition	A timber harvest on a site greater than 5 acres in size which over a 10 year period results in an average residual basal area of trees >6" DBH of less than 30 ft^2 per acre. Two exceptions are provided, harvest is not a clearcut if: 1. 1. Average residual basal area of trees >1" DBH is >30 ft^2 and average residual basal area of trees >6" DBH is at least 10 ft^2 per acre; or 2. 2. After harvesting the site has a well distributed stand of trees 5 feet in height or more (Overstory Removal).	A timber harvest on a site greater than 5 acres that results in a residual basal area of acceptable growing stock trees >4.5" DBH of less than 30 ft^2 per acre, unless after harvesting the site has a well-distributed stand of acceptable growing stock 3 ft tall for softwoods and 5 ft tall for hardwoods (Overstory Removal).
Overstory Removal	Implied from clearcut definition: After harvesting, the site has a well distributed stand of trees at least 5 feet in height, that meets the regeneration standards (300 trees per acre).	By definition: A timber harvest that is not a clearcut, that removes the overstory component of a stand, leaving a stand of advanced regeneration that is stocked with at least 450 trees per acre, well distributed on the harvest site, that meet the acceptable growing stock standards; softwood 3 feet tall, hardwood 5 feet tall.
Regeneration Standards	After timber harvest: 1. 1. Residual basal area of acceptable growing stock >1" DBH must be at least 30 ft2 per acre; or 2. 2. By the 5th year after harvest at least 300 trees per acre of acceptable growing stock.	By 5th year after harvest, site must be stocked with at least 450 trees per acre of acceptable growing stock.

	Original FPA Rule 1/1/91	**Revised FPA Rule 10/1/99**

Harvest Plan Requirements		
Category 1 clearcuts	Not required	Not required
Category 2 clearcuts	Not required for clearcuts 36-49 acres. Required for clearcuts >50 acres. Landowner keeps on file.	Required for all clearcuts >20 acres. For clearcuts 21-75 acres landowner keeps on file.
Category 3 clearcuts	NA	Clearcuts >75 acres require 60 day notification to MFS and on-site review of harvest plan.
Silvicultural Justification for Clearcuts?	Not required	Required for Category 2 & 3 clearcuts (>20 acres).
Maintenance of Separation Zones	**All Clearcuts:** A clearcut no longer exists on the <u>later of two dates</u>: 1. 1. 10 years have elapsed since year of harvest; <u>AND</u>; 2. 2. Regeneration standards are met with (300 trees per acre) with softwoods at least 5' tall and hardwoods at least 10' tall.	All Clearcuts: Separation zones must be maintained <u>until one of the following conditions is met</u>: 1. 1. The regenerated clearcut has at least 300 trees per acre of acceptable growing stock trees, well distributed on the site; softwoods at least 10' tall and hardwoods at least 20' tall; **OR** 2. 2. 10 years have elapsed from date the clearcut was completed.

Clearcut Standards Separation Zone Standards	Original FPA Rule 1/1/91	Revised FPA Rule 10/1/99
Category 1 Separation Zone: Width Separation Zone: Area Separation Zone: Stocking	250 ft No area requirement Non clearcut (>30 ft^2 BA)	250 ft No area requirement Non-clearcut (>30 ft2 BA) **OR** At least 450 trees per acre of acceptable growing stock; softwoods 3' tall, hardwoods 5' tall (Overstory removal condition).
Category 2 Separation Zone: Width Separation Zone: Area Separation Zone: Stocking	500 ft 1.5X size of clearcut 50 ft^2 BA **AND** Not more than 40% harvest	250 ft Same size as clearcut 60 ft^2 BA (40 ft^2 BA must be acceptable growing stock AND 40 ft^2 BA must be trees > 4.5" DBH) **OR** 300 trees per acre of acceptable growing stock; softwoods 10' tall, hardwoods 20' tall. Exceptions: 1. Licensed professional forester documents site conditions that prevent the area from growing 60 ft^2 BA per acre; or 2. A clearcut created under existing FPA rule, that meets regeneration standards, but does not meet separation zone if 10 years have elapsed since creation of the clearcut.
Category 2E Separation Zone: Width Separation Zone: Area Separation Zone: Stocking	1,000ft 2X size of clearcut 50 ft^2 BA AND not more than 40% harvest	
Category 3	NA	same as Category 2
Exemption from rules	NA	Anyone who owns 100 acres or less is exempt from the Clearcut Standards (including all separation zone standards, harvest plan requirements for clearcuts >20 acres, and 60-day pre-harvest notification and plan review for clearcuts >75 acres) and Certification of Regeneration.

Comparison of original FPA rule (adopted 1/1/91) and revised FPA rule (adopted by 119th Legislature, 4/28/99), effective date 10/1/99

Maine Forest Service – June 23, 1999