

Stakeholder Advisory Group Vision and Concerns
for June 23 Joint Meeting
Technical Steering Committee and Stakeholder Advisory Group

The attached materials have been prepared by various members of the DCR Forest Futures Advisory Group of Stakeholders (AGS) to brief the Technical Steering Committee (TSC). The intent is to highlight motivations for participating in this Vision Process, issues, concerns and areas where the AGS believes the TSC should concentrate its efforts. In preparing the briefing materials, members from various interest groups contributed thoughts and ideas; however, these materials are not consensus documents on behalf of the group as a whole.

1. **Values of DCR Managed Land – page 2:** Based on a brainstorming session of the AGS on June 9, 2009. Edited by Heidi Ricci, Mass Audubon, from facilitator's meeting notes. The AGS discussion focused primarily on the role of the public (i.e. DCR lands).
2. **Biodiversity, Forest Fragmentation, Recreational Values – page 4:** Presented by Heidi Ricci, Mass Audubon, includes briefing on the Massachusetts Endangered Species Act (MGL Ch. 131A) Regulations at 321 CMR 10 which have a special section on Responsibilities of State Agencies.
3. **Laws Pertaining to Massachusetts State Forests and Parks – page 6:** prepared by David J. Gafney, Esq., Forest Watch, with input from various stakeholders.
4. **Past Practices and Accountability – page 12:** prepared by Claudia Hurley, Friends of Robinson state Park, and Jane Winn, Berkshire Environmental Action Team, with input from various stakeholders. Citizens have raised forestry issues before the DCR Stewardship Council, before legislators and at public meetings. This document summarizes some of the issues citizens believe have been turned over to the TSC for resolution.
5. **Biomass Briefing – page 17:** prepared by Mary Booth, Massachusetts Environmental Energy Alliance. In light of the Certificate on the Environmental Notification Form for the proposed Pioneer biomass plant in Greenfield, from Secretary Bowles and other proposed biomass energy plants, this memo addresses the role of biomass within the Vision Process, the types and potential volumes of biomass, and implications for Massachusetts forests.
6. **Protection Strategies—Reserves – page 22:** prepared by Michael Kellett, Director Restore the North Woods, and Mike Ryan, Friends of the Fells. Setting out a vision to establish a system of wildland reserves and preserves encompassing from 250,000 acres (50 percent) to 500,000 acres (80 percent) of the total 570,000 acres of state public lands.

Public Values of DCR Lands

Summary for June 23, 2009 joint meeting of the Technical Steering Committee (TSC) and Advisory Group of Stakeholders (AGS). Presented by Heidi Ricci, Mass Audubon, edited from facilitator's meeting notes. Based on a brainstorming session of the AGS on June 9, 2009. The AGS discussion focused primarily on the role of the public (i.e. DCR lands). While there was some discussion of the relative roles of public and private lands, the main focus was on the role of the public lands. Numbers in parenthesis are based on # of stickers placed on brainstorm lists at the June 9 meeting.

VALUES

Wilderness, wildlife and healthy ecosystems (and aesthetics)

- (11) Wilderness, wildlife and healthy ecosystems (and aesthetics)
- (1) Biodiversity and healthy ecosystems

Public Forests and Resource Protection

- (6) Protection of public forests from overcutting, particularly biomass
- (2) Water resources and critical habitat
- (1) Keeping forest lands as forests
- (1) Preservation and improvement of resource
- No economic imperative to log state forest lands
- Smaller state parks in Eastern MA and larger un-fragmented blocks in Western MA

Climate Change (subset of Resource Protection)

- (4) Climate change – role of state land for adaptation, to sequester carbon and with large blocks of land

Recreation, Tourism and Public Use/Appreciation

- (3) Recreational
- (3) Quiet enjoyment and non-intrusive recreational experience (Art. 97 of Mass. Constitution)
- (2) Public access
- (2) Use lands for recreation and enjoyment
- (2) Cultural services as opposed to provisioning services
- Use by a public that protects the resources
- Scenic beauty – protection of it, but not at expense of environmental protection
- Facilitate access for use and learning

Economic development based on forest resources

- (4) Economic development based on forest resources whether recreational or wood products
- (2) Economic values
- (2) Sustainable use of forest resources: reality is import a big percentage of forest

products used in state, so there is an economic imperative

- (1) Use of forest products in MA impacts forests all over the world: only 7% of what we use comes from MA
- Role supporting the community
- Derive pleasure from locally produced wood products
- Roles of public vs. private lands
- DCR's mistakes on public lands are negatively affecting private forestry.

Clear communication accountability, science based decisions– Note, this is more about process and relationship issues associated with DCR, not the values of the forests per-se.

- (4) Commitment to cut through rhetoric, reality-based approach to climate change and how ecosystems should be managed
- (2) Should focus on DCR policies – what went wrong/what do right?
- (1) Anger re: decisions that have been made – the “mess” – there are Parks that should be reserves and areas that shouldn't have timber management
- Need good working relationships between citizens and DCR
- BMPs should be the low bar, not the high bar

Other Values and Concerns

- (1) Adequate resources for agency to do its job

Facts about DCR Lands

Biodiversity

DCR lands (440,000 acres) are of greater significance to rare species and exemplary natural communities than land held by any other single landowner in the commonwealth, public or private.

Rare Species

- Habitat for 291 state listed rare species occurs on DCR land (out of 435 total listed species – 67%)
- Eight listed species occur only on DCR land and are not known to occur anywhere else in MA.

Natural Communities and Vernal Pools

- DCR lands support 68 natural community types.
- 603 Certified Vernal Pools and 1,976 Potential Vernal Pools.

BioMap and Living Waters

- 238, 610 acres (54%) of DCR lands are BioMap or Living Waters Core Habitat.
- 20% of all Core Habitat is on DCR property.

Priority Habitat of Rare Species

- 24% of DCR lands are Priority Habitat of Rare Species

Source: Natural Heritage and Endangered Species Program

Forest Fragmentation

Based on TNC's data analysis with state partners, of the Commonwealth's 3 million acres of forested land:

- 130,000 acres (or 3.5% of all forests) in unfragmented patches of 3,000 acres or larger.
- 174,000 acres (5.9% of forests) in unfragmented patches of 1,000 – 3,000 acres.
- 129,000 acres (4.3% of forests) in unfragmented patches of 500 -1,000 acres.

Source: The Nature Conservancy, Testimony on SB.1504 and HB.3065
An Act Relative to comprehensive wind energy siting reform, May 20, 2009

Large blocks of forestland unfragmented by paved roads and development are a rare and important feature on the landscape. Many of the remaining large forest blocks are located entirely or in part on state lands.

Recreational Values

Things To Do at DCR Parks

There are facilities for swimming, camping, hiking, walking and bike riding at DCR's Parks — but they also offer fishing, canoeing, horseback riding, sailing, wind surfing, rock climbing, skiing, golfing, and other recreational activities. There are opportunities for picnics, outdoor performances, areas to rent for company or family gatherings, historic sites, skating rinks, playgrounds, athletic fields, interpretive programs and much more.

Source: DCR website

Notes presented by Heidi Ricci, Mass Audubon,
at June 23, 2009 DCR Forest Futures Vision meeting

MESA and State Agencies

The Massachusetts Endangered Species Act (MGL Ch. 131A) Regulations at 321 CMR 10 have a special section on **Responsibilities of State Agencies**.

http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/mesa/mesa_home.htm

321 CMR 10.05(1) All state agencies shall utilize their authorities in furtherance of the purposes of MESA and 321 CMR 10.00: review, evaluate and determine the impact on Endangered, Threatened and Special Concern species or their habitats of all works, projects or activities conducted by them; and **use all practicable means and measures to avoid or minimize damage to such species or their habitats....**

(2) The following types of state actions shall be considered in compliance with MESA and 321 CMR 10.05(1):

...

(c) State actions occurring on state owned land that are in conformance with a management plan which was developed in accordance with the following inventory and planning procedures and management policies:

1. Inventory Procedures. State agencies shall request and the NHESP shall provide information on the location, biology, and habitat requirements of state listed species documented by the NHESP as occurring on said agency's lands. NHESP shall also provide to state agencies such information and recommendations as are necessary to allow said agencies to use all practicable means and measures to avoid or minimize damage to state listed species or their habitats.

2. Planning Procedures. State agencies shall submit to NHESP any draft management plans they prepare for state owned lands on which state listed species are known to occur. NHESP shall review such draft plans and provide comments and recommendations to the state agency concerning the protection, conservation, and restoration of the listed species on the land subject to the plan. Such review and recommendations shall be repeated at least once every five years or every time the land management plan is updated, whichever is sooner.

3. Management Policies. Unless specifically required otherwise by statute, localities on **state owned lands that provide habitat for state listed species shall be managed for the benefit of such listed species**. Said agencies shall give **management priority** to the protection, conservation, and restoration of Endangered, Threatened, and Special Concern species occurring on state owned lands. **All practicable means and measures shall be taken to resolve conflicts between the protection, conservation, and restoration of state listed species on state owned lands and other uses of such lands in favor of the listed species.**

Excerpts from the regulations, prepared by Heidi Ricci 06/19/09

Laws Pertaining to Massachusetts State Forests and Parks

- **Article VII of the Declaration of Rights** of the Constitution of the Commonwealth states: “Government is instituted for the common good; for the protection, safety, prosperity and happiness of the people; **and not for the profit, honor, or private interest of any one man, family, or class of men**: Therefore the people alone have an incontestable, unalienable, and indefeasible right to institute government; and to reform, alter, or totally change the same, when their protection, safety, prosperity and happiness require it.” (emphasis added)
- **Article XLIX (1972)**: The people shall have the right to clean air and water, freedom from excessive and unnecessary noise, **and the natural, scenic, historic, and esthetic qualities of their environment**; and the protection of the people in their right to the conservation, development and utilization of the agricultural, mineral, forest, water, air and other natural resources is hereby declared to be a public purpose. (emphasis added)
- **G.L.c. 21, Section 2F (2004)** - Management guidelines for sustainable forestry practices on public and private forest lands. “The commissioner of conservation and recreation **shall submit management plans to the stewardship council for the council's adoption with respect to all reservations, parks, and forests ... The commissioner shall seek and consider public input in the development of management plans, and shall make draft plans available for a public review and comment period through notice in the Environmental Monitor.**
- **G.L.c. 132A, Section 2B (1958)** states: “**Nature of use of acquired lands. It is hereby declared to be the policy of the Commonwealth that all such sites acquired or developed by the commissioner shall in so far as practicable be preserved in their natural state; and they shall be in so far as possible collectively self-supporting; and that no commercial activities except those essential to the quiet enjoyment of the facilities by the people shall be permitted**” (emphasis added). Sec. 2D discusses that it may be necessary to charge fees to cover the cost of recreational facilities and therefore infers that the above reference to these lands being, so far as possible, “self-supporting” concerns recreational fees and not receipts from timber harvests.
- **G.L.c. 132, Sec. 40 (1943)** states that **the public welfare requires the rehabilitation, maintenance, and production of forest lands for the purpose of conserving water, preventing floods and soil erosion, improving the conditions of wildlife and recreation, protecting and improving air and water quality, and providing for a continuing and increasing supply of forest products for public consumption, farm use, and for the wood using industries of the Commonwealth.**” (emphasis added)

DCR often cites the “increasing supply” language of G.L.c. 132, Sec. 40 to support its clear-cutting and industrial scale logging policies that have been implemented in recent

years. However, in recent publications and presentations, agency leaders often fail to mention other (and often more recent) constitutional and statutory provisions, or the provisions of 304 CMR 11.00 et. seq., that may conflict with or limit industrial scale logging practices (see below). Nor do they point out that G.L.c. 132, Section 40 addresses the general forest resource of the state, not the publicly owned lands specifically. Conveniently left out is such statutory language as that found within G.L.c. 132A, Section 2B, highlighted above, which requires that our state lands be so far as practicable preserved in their natural state and that no commercial activities except those essential to the quiet enjoyment of the facilities by the people shall be permitted.

- **304 CMR 11.05(1)2** governs DCR lands and states: “clear-cutting, coppice cuts, or any regeneration cut leaving less mature trees than those required for seed tree (excepting the removal cut of shelterwood, seed tree or similar systems where, in the judgment of the director's agent, the advance regeneration is a suitable size in stock and for release) shall meet the following standards: **a. the maximum size of the opening created shall be ten acres unless the source of the regeneration is seeding from surrounding stands, in which case the maximum size shall be five acres. Clear-cuts larger than these limits shall require a specific reason to be given and approved in the forest cutting plan showing that environmental impact is less, or that environmental benefits would be enhanced, by a larger cut. In these cases, the forest cutting plan must also state the silvicultural justification for larger area and list the provisions necessary to ensure adequate regeneration and mitigation of environmental impacts.**” (emphasis added)

A review of the forest cutting plans for a number of clear-cuts in Savoy, Windsor, Beartown, October Mountain and other state forests show that many of these clear-cuts greatly exceed ten acres in size. In nearly all cases the required “specific reason ... showing that environmental impact is less, or that environmental benefits would be enhanced” is missing. In most cases, DCR calls what are obvious clear-cuts “shelterwood” cuts - and as with DFW below, they apparently do this to skirt this regulatory requirement. .

- **304 CMR 11.02(4)** regards how forest cutting practices should be viewed in light of the state’s Wetlands Protection Act, **G.L.c. 131, Sections 40-46**. It states that the Act requires that a Notice of Intent be filed with the local town conservation commission but allows for an exemption if the landowner meets certain requirements. These include: (1) wetland resource areas are properly identified in the forest cutting plan; (2) the forest cutting plan is approved by the Director or the Director's agent; (3) the forest cutting plan is filed with the local conservation commission as required under 304 CMR 11.04(2) allowing for an opportunity for comment; (4) the Director or the Director's agent sends the approved forest cutting plan to the appropriate DEP regional office; and (5) the landowner faithfully executes the forest cutting plan.

In Chester-Blandford State Forest there is a clear-cut to the edge of a beaver pond. In Savoy State Forest, Wendell State Forest and elsewhere there have also been clear-cuts

over streams. A Memorandum of Understanding between DCR and the Department of Environmental Protection should not excuse violations of G.L.c. 131, Section 40-46 nor does it excuse violations of 304 CMR 11.02(4). The requirements for exemption listed in the above regulation have not been met. As one example, members of a citizens group, Massachusetts Forest Watch, were informed by DEP that they did not have a copy of the FCP for the pond clear-cut when they tried to acquire one from them. The most recent FCP for the clear-cut bordering the pond does not identify the wetland resource in violation of subsection (1). After heavy rains the beaver pond damn blew-out sending a large quantity of mud and debris downstream and into the Westfield River. It is not a stretch to say that this clear-cut with no pond or wetland buffers in all likelihood caused this blow-out.

- **304 CMR 11.05** governs Standards for Forest Cutting Practices. **304 CMR 11.05(1)(a)2c** states that: “**clear-cutting cannot occur within filter and buffer strips, on slopes of 60% or more, or within wetlands.**” (emphasis added)
- **304 CMR 11.05(1)(d)** states: “**filter strips shall be left along the edges of all water bodies and certified vernal pools. No more than 50% of the basal area shall be cut at any one time and a waiting period of five years must elapse before another cut is made. The residual stand shall be composed of healthy grown trees well distributed over the area.** Exceptions to this standard may be granted by the Director or the Director's agent if it is shown in the forest cutting plan that a heavier cut is necessary to protect the stream, the bank or water supply. Equipment restrictions within filter strips are listed under 304 CMR 11.05(2). The filter strip shall extend 50 feet back from the bank, except in the following cases (all distances shall be measured along the slope). **304 CMR 11.05(1)(d)1** states: “**where slopes within the filter strip are 30% or greater, the filter strip shall extend 100 feet back from the bank, or to the point between 50 and 100 feet from the bank, where a break in the topography reduces the slope to less than 30%.**” (emphasis added)

The clear-cut slope leading up from a beaver pond in Chester-Blandford State Forest is greater than 30%. The clear-cut to the edge of this pond clearly violates a number of DCR regulations. Additionally, an adequate riparian buffer area was not designated at Robinson State Park along the eroding banks of the Westfield River. Large trees along the bluff were marked for harvest. In fact, much of this small urban park was marked for a heavy and inappropriate timber harvest and contracts were signed without a management plan or public input. Because a citizens group, Friends of Robinson State Park, quickly organized and showed that there were legal violations suitable for an injunction, the project was delayed and then canceled. This forced the state to breach a contract with New England Forest Products. In too many state parks and forests, DCR has moved forward with industrial scale logging operations without site-specific management plans, without consideration of social values, and - despite a new public input policy - without sufficient effort to respect and incorporate public input, and without adherence to its own regulations.

Regarding public input, DCR received a large number of public comments regarding three recently approved regional management plans. These comments were overwhelmingly critical. The agency's 160-point response simply glossed over or dismissed nearly all of this criticism. Rather than relying on science, DCR's responses relied on the powerful prejudice in favor of industrial scale logging that seems to presently permeate the highest levels of this state's natural resource bureaucracy. By seeking public input and then ignoring or dismissing it, DCR's efforts become just a show where appearance is what really matters. Rather than public participation, what DCR has relied upon in the past is public manipulation - and this violates the intent and spirit of **G.L.c. 21, Section 2F** which requires that **"The commissioner shall seek and consider public input in the development of management plans."**

- **CMR 11.05(1)(a)5** states: "for any intermediate cut, the **residual stand must contain sufficient numbers of healthy, undamaged trees greater than 5 inches D.B.H.** to constitute a stock level at or above "C-level" on the appropriate stocking chart. (emphasis added)

On a 50-acre cut in October Mountain State Forest, DCR claims that what is obviously a clear-cut is a second-stage shelterwood cut. Most of the "regeneration" is blackberry bushes and what trees exist are seedlings none of which are greater than 5 inches D.B.H. Other clear-cuts being called "shelterwood" harvests and having no regeneration of "undamaged trees greater than 5 inches D.B.H" can be found at Savoy, Windsor, Monroe, Chester-Blandford, Beartown and other state parks and forests.

- **304 CMR 11.05(1)(d)** states: "**Filter strips shall be left along the edges of all water bodies and Certified Vernal Pools. No more than 50% of the basal area shall be cut at any one time** and a waiting period of five years must elapse before another cut is made." (emphasis added)

No such filter strips have been established for harvests or proposed harvests that are proximate to vernal pools in Robinson State Park, Chester-Blandford State Forest and other DCR lands. In Windsor State Forest a vernal pool is now located within a recent clear-cut. It is possible that no biological surveys for vernal pools have been ordered.

- Other DCR regulations state: "Bordering Vegetated Wetlands required close attention to ensure that they continue to perform their special water quality functions. **No more than 50% of the basal area shall be cut any one time as single trees or in small patches ... 304 CMR 11.05(1)(b)(e); Roads, skid roads and skid trails are to be laid out, constructed, maintained and stabilized according to the principles set forth in the BMP manual ... 304 CMR 11.05(2)(a); wetland resource areas and certified vernal pools shall have special attention ... every reasonable effort shall be made, including trying to obtain a right-of-way over abutting ownerships, to avoid or minimize access through wetland resource areas.** (emphasis added)

In Robinson State Park a skid trail was marked out in what should have been a vernal pool filter strip, while at a second vernal pool, trees within the pool itself were marked

for harvest. Additionally, a skid trail was marked adjacent to what DCR claimed was an intermittent stream. Local residents have observed this stream over the course of decades and can testify that it flows year-round. At Chester-Blandford State Forest there is a large vernal pool identified on the forest cutting plan where more than half of the basal area has been removed from much of what should have been a filter strip/buffer zone. Area residents report that this pool now dries prematurely negating its ability to act as habitat.

Additionally, licensed foresters are required to follow Best Management Practices regarding wetlands, streams and vernal pools. The violations listed above show that BMP's are being ignored in violation of 304 CMR 11.05(2)(a).

- **G.L.c. 131, Section 4(16)** governs the Division of Fish and Wildlife and allows the Director to enter into contracts for cutting and sale of timber on lands managed by the division ... **provided, however, that it shall be a condition of each contract for cutting and sale of timber that clear-cutting timber on lands managed by the division is specifically prohibited.** (emphasis added).

The emphasized language above is clear and unambiguous, simply stating that clear-cutting is prohibited on DFW lands. Its relevance to DCR is that it demonstrates that the legislature, at the very least, has significant concerns regarding this type of harvesting. (On their Forest Cutting Plans DFW calls what are obvious clear-cuts "aggregate retention harvests" - apparently believing that calling them something other than "clear-cuts" allows DFW to skirt the mandates of this statute).

- **G.L.c. 131, Sections 10A** allows for the establishment of nature preserves and states: "A nature preserve established in accordance with the provisions of this section **shall be monitored and maintained as nearly as possible in its natural condition**, and shall be used in a manner and under limitations consistent with its status as a nature preserve, without impairment or artificial development for the public purposes of present or future scientific research and education, and of providing a habitat for plant and animal species, communities and other natural objects and for preservation of areas representative of the significant habitats and ecosystems of the commonwealth." (emphasis added)

DCR has promulgated regulations for the establishment of "Massachusetts Wildlands": 304 CMR 7.00 Management Plans and Massachusetts Wildlands:

- **304 CMR 7.01: Authority and Purpose** (1) ... pursuant to M.G.L. c. 21, §§ 1 and 2F, M.G.L. c. 21, § 4A; and M.G.L. c. 132A, § 7. (2) The purpose of [304 CMR 7.00](#) is to establish procedures for the Board of Environmental Management and the Commissioner to prepare, adopt and revise official management plans for state reservations, parks and forests and to designate Massachusetts Wildlands.
- **304 CMR 7.02: Management Plans: For each state reservation, park, and forest**, DEM shall follow a management planning process which shall produce the following components: (a) a description of the land's unique resources; (b) a discussion of the land's potential use; (c) land stewardship zoning analysis; and

- (d) action recommendations. Each Management Plan shall have public participation in its development. (emphasis added)
- **304 CMR 7.03: Massachusetts Wildlands:** (1) Massachusetts Wildlands means portions of DEM properties which are designated as either Representative Natural Areas or Backcountry. (2) Representative Natural Area (RNA) means a natural area defined by noticeable boundaries which exemplify a native or naturalized species or community with a high level of integrity and minimal disturbance. RNA's may be nominated from lands which are under DEM Conservation Restrictions. (3) Backcountry Area means a natural area located in the more remote portions of DEM properties which provide existing opportunities for hiking and canoeing in a wild area ...
 - **304 CMR 7.04: Management of Massachusetts Wildlands:** (1) DEM shall prepare an Area Management Summary to manage an R.N.A. or Backcountry. (2) The following activities are not permitted within Massachusetts Wildlands: open fires; motorized trail use; destruction or collection of vegetation; geological materials; or wildlife species; and/or aquatic organisms. Mountain bikes are not permitted in RNA's or in the backcountry areas: the Hooper, Range Ridgetops, Alander Mtn. Such restrictions shall not be interpreted to include prohibition of hunting, fishing and trapping at DEM properties where those activities are lawfully permitted ...

Constitutional and statutory provisions are fragmented and sometimes contradictory but nonetheless, the values set forth in Article VII, Article XLIX, G.L.c. 132A, Section 2B and G.L.c. 21, Section 2F emphasize the public's right to their lands being preserved as much as possible in a natural state. Post-World War II constitutional, statutory and regulatory provisions certainly imply that where logging does occur it should be done in such a way as to not infringe or impact harshly on such other values as conserving wildlife and recreation, aesthetics, and protecting and improving air and water quality. A statute calling for nature preserves and regulations encouraging undisturbed backcountry areas being managed as "Massachusetts Wildlands" further emphasize that the ideals of wild land preservation should have an important place in the planning and management of our state's public lands. Management planning should be far more specific to individual parks and forests if DCR's recently admitted mistakes are to be avoided in the future and if there is going to be a real opportunity for public input and comment and a meaningful consideration of that public input.

Prepared by David J. Gafney, Esq.
Date: June 17, 2009

Presentation to TSC **Past Practices and Accountability**

from: Stakeholders: Claudia Hurley, Jane Winn

Citizens have raised forestry issues before the DCR Stewardship Council, before legislators and at public meetings. In all cases, the resolution of these issues has been turned over to the hands of the TSC. In too many instances, the state has sought to excuse and avoid addressing mistakes and ill-advised practices. The citizens feel that proper protection of our state lands is at stake in this process.

Issues have occurred under the current set of laws, regulations, best management practices, memorandums of understanding for oversight, generally accepted forestry policy of the state and green certification. Clearly, because the issues persist under all of these guidelines, we need CHANGE.

The stakeholders reject entirely that the issues are the result of poor communication. They are a result of inadequacies of the current status quo. In the words of Henry Lee of the DCR Stewardship Council: "What is the optimal use of the forested land owned by the state?...Under the present policy,...advocates of non-commercial uses must make the case that alternative activities may be preferable in certain areas and under certain circumstances."

The definition of commercial is vague and different with every individual; we will take it to mean "extracting and selling timber" Citizens request that the TSC be very alert when the state says that the management it does is not commercial. Management of timber inventories under green certification is "oriented towards yielding high-valued timber products" (EOEEA fact sheet, May 18, 2004)

WHERE TO EXTRACT TIMBER:

Controversy exists over the arbitrary decision to designate 20% of our lands as reserves and 80% as suitable for active management; there is controversy over the size and shape of large reserves, over methods used to choose small reserves and over the fact that reserves and High Conservation Value lands are not legally defined or protected under MA laws.

Concerns exist that available data on important historical, cultural and archaeological sites is woefully inadequate by the state's own admission.

Controversies persist over proposals to extract timber from socially important properties, neglect of aesthetic and scenic qualities and complaints about implementation of timber harvests in such recreational areas abound. Here are a few:

Mount Holyoke Range State Park, Robinson State Park, Harold Parker State Park, Chicopee Memorial State Park, Georgetown Rowley State Forest, Boxford State Forest, Mt. Grace, Windsor Jamb's State Park, The slopes around Buckley Dunton Lake in October Mt., The Four Corners "heart" of October Mountain, Savoy State Forest, Chester Blandford State Forest, Rutland State Park, Beartown State Forest.

Environmental groups have consistently requested that socially important lands be exempt from timber extraction. The forests of the Division of Urban Parks and Recreation are traditionally and historically never considered as eligible for timber extraction and were not included in the "scope" of green certification. The Eastern portion of the state, as displayed on maps and described at the Harvard Forest Forum, contains very little publicly owned forested land to serve the increasingly dense

populations there. They should be preserved in their natural state. Key locations along County Road in October Mountain, the route to the Jambs in Windsor State Forest, the route to Tannery Falls in Savoy State Forest have been hard hit by aggressive harvesting when they should have been recognized as important tourist attractions with substantial economic significance to the tourist industry in the Berkshires.

A request before the DCR Stewardship Council in May 2007, that parks be removed from consideration for active forest management under green certification, was met with an unacceptable response: "Action to be taken: Chief Forester will continue dialog with public on forest management issues"

The four approved District Forestry Plans do not provide for the preservation of these and other socially significant areas. Nor do they attempt to provide for recreation in their districts. The environmental groups recommended the approval of these district plans with the understanding that they would be changed in response to recommendations by the Forest Vision Process. There is no mention of this understanding in the plans. They were a desperate attempt to keep green certification.

HOW WE EXTRACT TIMBER:

Natural Heritage is wonderful, but its data base of our natural resources is known to have gaps. The state does not require adequate pre-harvest studies to protect these resources. Comprehensive resource management plans by the planning department are required by law but are virtually non-existent. Serious issues exist over whether in fact we can rely on foresters and loggers to identify, note and protect important natural resources.

Best management practices and Forest Cutting regulations were meant to protect the lands, but either are not thorough enough, or are not properly enforced, probably both. We have numerous examples of violations of buffer areas around ponds, vernal pools, along eroding river banks, of inadequate protections and crossings of running streams. The Department of Environmental protection has a memorandum of understanding that oversight of management forestry practices will be performed by the service forestry. The adequacy of this "self policing" needs to be thoroughly studied. There have been unsatisfactory resolutions to complaints from the Berkshire Environmental Team with respect to violations reported to both DCR and DEP. No final resolution has yet resulted from the report in late summer 2008 of sedimentation reported in the Westfield River resulting from either harvesting or a beaver dam breach in the area of a state timber harvest that left no buffer in Chester Blandford State Forest. Many local conservation commissions have expressed concern about adequate protections in current laws, regulations and oversight provisions for wetlands. Encroachment into harvest areas of invasive plant species is a very serious problem.

Much has been made of large areas of cutting where essentially the forest that was there before is "gone". We won't argue over the word clearcut. We will say when the forest that was there is no longer recognizable because most (if not all) of the trees are gone, we as stakeholders representing the public simply do not accept this method of land management. The intent of state law is clearly to prevent or minimize such aggressive harvesting. We stress that it is essential for the TSC to personally visit some of the areas where the forest as it was known is now gone.

Controversies continue over the lack of scientific justification for these large cuts; lack of evidence of the true health of the stands, the use of timber industry rhetoric to justify harvests such as for: forest health, biodiversity, wildlife habitat. David Foster tells us we never need to manage a forest

for its health. We manage it for timber and the state should say so.

There are controversies over the wholesale removal of red pine when kinder and gentler methods are available. More serious controversies focus on the wholesale removal of Norway Spruce. There are multiple opinions that Norway Spruce should be retained when possible to perform the habitat services otherwise provided by Hemlocks. They also provide exceptional beauty to the landscape.

It is disturbing to see that scattered trees retained in otherwise aggressively harvested areas are often blown over, snapped in half by wind, or damaged and destroyed by the harvest procedures, soil disturbance of the harvest and overall exposure. Many logging sites lack the desired regeneration, or any regeneration at all. It is not enough to say: “as long as it isn't paved over, it will grow back”

Controversies exist over such aggressive cutting, not only on DCR state forests and parks, but also on DFW lands and Watershed lands. Highly “progressive” forestry practices at the Quabbin for example are not universally accepted as appropriate. It looks like a checker board.

The four approved management plans do not require thorough biological studies to protect the natural resources of the areas they cover. Some Natural Heritage studies have been arranged but are limited in scope. The four plans call for a substantial amount of various forms of “even aged management” resulting in the appearance of a clearcut, even if that “sensitive” word is not used.

To see photographs of unacceptably aggressive cutting on state owned lands, please see: www.maforests.org

Also please see: **Preemptive and Salvage Harvesting of New England Forests: When Doing Nothing Is a Viable Alternative**

DAVID R. FOSTER AND DAVID A. ORWIG

http://harvardforest.fas.harvard.edu/publications/pdfs/Foster_ConservationBio_2006.pdf

HOW MUCH TIMBER DO WE EXTRACT NOW, AND HOW MUCH TIMBER IS EXPECTED TO BE EXTRACTED?

The four approved management plans call for a sizable increase in the amount of timber to be extracted from forests in their districts. Furthermore, the goals of green certification are to increase the amount of timber extracted from all public lands.

http://www.scscertified.com/nrc/certificates/forest_mass.pdf

2008 audit summary, page 295

“ Harvest levels on BOF and DFW lands are far too low to ensure that the long-term goals are met. Although priorities for treatment have been established, long-term implications of treating a significant portion of the stands less-frequently than desired have not been factored into written plans.”

The fact that EOEEA documents suggest that most public lands are available to be harvested and the excess biomass will be available for large biomass plants is of GRAVE CONCERN to citizens. We adamantly oppose the slippery slope of cutting our public lands to provide fuel for biomass plants.

The four approved district plans address some climate change concerns, but base their plans on “available science”. Deforestation and frequency of harvesting are two very serious issues related to how much timber should be extracted in the face of serious global warming threats. Citizens are concerned that harvesting should not proceed without a full understanding of the latest and best information on the ecosystem services including carbon sequestration that our forests provide.

Conclusions: What is wrong, and how might we fix it?

The stakeholders do not accept without examination the excuses that there is inadequate funding for comprehensive resource management plans. We urge the TSC to order a full scale examination of the allocation of funds available to DCR for its various mandates. Resource management plans should be detailed and thorough. Forest management plans should be a subset of Resource management plans if and only if the RMP's determine that timber extraction is appropriate in certain locations. The four district forestry plans do not meet MA legal or green certification requirements, nor do they address public concerns. At a time when DCR has to close public swimming pools and campgrounds, can not restore a much loved picnic area to Mt. Grace and can not afford staff for our parks, should we be directing scarce funds to facilitate logging on public lands?

The role of the Chief Forester in determining the stewardship of our public lands: Citizens feel that there was an extreme imbalance over the last five years, and that timber harvesting was the dominant focus. We need institutional balance so that equally powerful leaders have a voice in protecting the social and ecological values of the lands, and the economic ecosystem values that they provide exclusive of timber products. Management foresters used to report to Regional Managers. In recent years, they were put under the direction of the Chief Forester. This power structure needs examination. We also need to ask about the “marching orders” for the Chief Forester from EOEEA.

The Conflict that exists by having the Executive Office of Environmental Affairs also be in charge of “energy” is serious. Energy was recently added to the EOEA. Citizens are outraged about a number of recent decisions made by the leadership of EOEEA in favor of energy plans, businesses and industry to the detriment of the environment. Legal challenges to these decisions have erupted.

Public participation in the decision making processes: pressure from the public has forced the state to accept public comments. Concern: often these comments are dismissed or rebuffed, and rarely incorporated into serious decisions. Public comments submitted in February 2009 have not even been acknowledged. The public should have easy access to all public records, including cutting plans. Transparency has been a huge issue, information has been inaccessible.

Forest Stewardship Council Certification: Inappropriate

Many stakeholders do not believe that FSC forest certification is appropriate for publicly held multiple purpose lands. Twenty three major environmental groups have written a letter to the U.S. Forest Service to argue that the Federal Government should not seek certification of its public forests. Many of the arguments made in that letter apply to state owned lands.

We believe forest certification is ill-suited to our nation's federal forest lands. National forests (and similar lands managed by the Bureau of Land Management) belong to all Americans and are held in trust by the federal government for the benefit of the public. We believe these lands should be managed

first to provide for those values and resources not adequately secured in the private market place and on the rest of the forest landscape.

Clean and plentiful drinking water, habitat for wildlife and fish, and a haven for world class recreation opportunities should take precedence over commodity extraction opportunities. Our national forests are not simply ours to exploit: they are a legacy for generations to come. Because of the scale of development these lands have experienced to date, with more than half already open to extractive industries, it is essential that conservation of their residual natural values be considered first priority so that future generations of Americans can enjoy their benefits.

Forest certification, however, reverses this priority, limiting conservation values to what is commercially viable. Certification is, by the Pinchot Institute for Forest Conservation's definition, a "market-based, non-regulatory forest management tool designed to recognize and promote environmentally-responsible forestry and sustainability of forest resources."¹ Additionally, "the certification process involves an evaluation of management planning and forestry practices by a third-party according to an agreed-upon set of standards." This would make federal land managers answerable to certifiers, who are guided by the standards, but who also have a financial interest in certification.

The result would be promotion of commercial logging on national forests, with direct and indirect influences restricting the precedence given to conservation considerations.

Certification is a system that promotes conservation on lands, private and state owned, which are already primarily dedicated to logging and whose managers have chosen to participate in certification. Applying certification to federal forests though would tend to cap or undermine conservation efforts on those public forests where no such commercial imperative exists, to the detriment of efforts to give greater preference to biological diversity, ecological restoration, and recreation.

Copies of the complete letter can be made available to the TSC.

FSC certification unable to provide promised guarantees

Citizens have documented lack of compliance with the FSC Principles and Criteria of the New England Standard (by which FSC clients are judged). The Network of Friends Groups initiated a formal complaint about lack of compliance. They requested a meeting with DCR and EOEEA in Mid February. The network maintains a list of non compliance issues that have been reported across the state. The related concerns are twofold: That the state is unable or unwilling to comply with the principles and criteria, and that the auditing procedures of Scientific Certification Systems are unable or unwilling to insist on compliance. Throughout the five year certification period, April 11, 2004 – April 11, 2009, the auditing company found the state to be in "overall compliance" despite documented violations. Audits praised progress and promises rather than actual performance.

However, that certificate expired on April 11, 2009 and the state of MA is currently NOT certified by the Forest Stewardship Council. We are expecting a full report on the recertification assessment at any time. We suggest that regardless of the outcome of the report, the state should disassociate itself from FSC certification as inappropriate, ineffective, expensive, and an unnecessary additional level of bureaucracy. We believe that any desirable principles of the New England Standard could/should be incorporated into MA laws and should be accompanied by strict enforcement mechanisms to assure that any forestry that does occur is of the highest possible standards.

Biomass Briefing.

The following briefing was prepared for the stakeholder group and technical steering committee of the Forest Futures Visioning Process, June 17, 2009.

Why should the Forest Futures Visioning Process address biomass on state lands?

In his Certificate on the Environmental Notification Form for the proposed Pioneer biomass plant in Greenfield, Secretary Bowles charged the Forest Futures Visioning process with determining the future role of the state's forested lands in providing biomass for fuel:

As outlined in the Environmental Notification Form (ENF), the Pioneer Renewable Energy project is a 47-megawatt (MW) biomass energy plant that has been designed to use clean wood fuel comprised of forest management residue generated from within a 50-mile radius of the proposed facility. In response to this project proposal I have received numerous thoughtful and detailed comment letters expressing significant concerns about the capacity of local and regional clean biomass wood fuel supplies to meet this potential addition to demand. These comments include references to the number of recently proposed biomass wood fuel projects in Massachusetts and neighboring states. Whereas the economic and price aspects of such supply and demand dynamics for feedstock are an economic consideration for the proponent, commenters have raised questions about whether this project and others of its type, and the additional demand for proximate forestry resources that they will represent, will create a set of cumulative environmental impacts that are not properly addressed by the Commonwealth's forest cutting regulations, wetlands protections regulations and other environmental laws. Many commenters have therefore requested that I require the preparation of an EIR to provide an opportunity for evaluation of these potential cumulative impacts as well as the long-term sustainability of biomass energy projects in the Commonwealth.

While MEPA requires that a proponent assess the cumulative and indirect impacts of a proposed project, there is a clear distinction between that obligation and a requirement that the review of a single private project serve as the vehicle for long-range regional sustainability planning. Because I am satisfied that the ENF has adequately analyzed alternatives, described the project's potential environmental impacts and provided the permitting agencies with sufficient information on which to base their permit decisions and their Section 61 Findings, I am declining to require the preparation of an EIR for this project. The project does not exceed any thresholds for a mandatory EIR, and I find that the permitting agencies possess sufficient authority to ensure that the project avoids, minimizes and mitigates its environmental impacts to the maximum extent feasible, as required by the MEPA statute.

However, I share the view that forestry and associated sustainable management issues are of importance to the Commonwealth and its citizens -- as are issues concerning the supply and availability of alternative and renewable energy sources such as biomass to provide electricity and reduce greenhouse gas emissions created by fossil fuel power plants. The mandate created under the Global Warming Solutions Act (GWSA) to curb such emissions will necessarily create new environmental considerations that, in the instance of biomass power plants, warrant evaluation by the Commonwealth's regulatory and permitting agencies, both environmental and energy. These considerations extend to the stewardship of state-owned forests by the Department of Conservation and Recreation (DCR), who must ensure that these valuable state resources are maintained for future generations. However, if approached in an integrated manner, I am confident that the Commonwealth's sustainable management of public forestry resources together with the state's renewable energy credit requirements can ensure the responsible use of biomass resources while achieving greenhouse gas reductions.

With regard to sustainable forest management regulation, DCR has already begun a long range process, including the formation of an advisory group of stakeholders and a Technical Steering Committee, to address sustainable stewardship and management of state forest lands. In this process, OCR will seek substantial public input and will consider many of the issues and concerns voiced in comment letters on this and other biomass projects. I understand that the initial public meeting will be held within the next month. Once that process is complete, OCR will also report its conclusions and recommendations to the Department of Environmental Protection (MassDEP) and the Department of Energy Resources (DOER) so that these agencies can collectively consider additional recommendations to address the role of biomass in meeting the GWSA and renewable energy mandates. In light of that report and other inputs, DOER will evaluate the range of options to enhance sustainable management of forest resources through requirements for renewable energy credits available to biomass facilities.

Through OCR's review and subsequent interagency efforts, I expect that currently proposed and future biomass facilities in Massachusetts that seek to draw upon forest resources in the Commonwealth will be operated in a

manner that furthers sustainable forest management practices and avoids potential cumulative impacts that have been envisioned by many commenters on this project. I therefore find that no further MEPA review is required for the Pioneer Renewable Energy Project and that the project may proceed to state permitting subject to the below findings and conditions.

How much biomass energy generation is planned for the state?

The state report on biomass availability¹ states that about 165 megawatts (MW) of generation are planned for Massachusetts. This would constitute about 1.2% of the state’s total energy generation capacity of 13,557 MW in 2007.²

A larger amount of biomass generation is currently in the planning stages, however. The following list includes large biomass-to-energy plants that currently exist (Pinetree Power in Westminister), are in the permitting stage (Russell, Greenfield, and Springfield) or have been given news coverage as having a good probability of being built (Pittsfield and two plants in Fitchburg). The list does not include other proposals that have been discussed, and it does not include existing small plants like the combined heat and power plant at Mount Wachusett Community College or the biomass boiler used to heat the administration building at Quabbin.

Status	Plant	Location	Capacity (megawatts)
<i>Existing</i>	Pinetree Power	Westminister	17
<i>In review</i>			
	Russell Biomass	Russell	50
	Palmer Renewable Energy	Springfield	38
	Pioneer Renewable Energy	Greenfield	47
<i>Proposed</i>			
	Tamarack Energy	Pittsfield	30 - 50
	"Munksjo Paper"	Fitchburg	15
	CCI plant at F'burg airport	Fitchburg	15
		Total	212 to 232 MW

What kinds of wood are used for biomass power generation?

When biomass developers talk about using “clean wood”, they are usually not only referring to forest biomass, but also to pallets. In some cases, “clean wood” includes that portion of construction and demolition debris (CDD) that has been visually inspected so that painted and arsenic-treated wood as well as plastics and metals are excluded. Even after sorting, CDD is considered to be chemically contaminated and requires special air pollution controls to be installed to reduce toxic emissions when it is burned. As a chemically contaminated fuel, it requires a “beneficial use determination” to allow it to change classifications from “waste” to “fuel”. At present, of the biomass plants proposed in Massachusetts, only the Palmer plant would burn CDD (the balance of fuels would be about 80% CDD and 20% forest biomass).

¹ Innovative Natural Resource Solutions, 2007. Biomass availability analysis – five counties of Western Massachusetts. Report prepared for the Massachusetts Division of Energy Resources and the Massachusetts Department of Conservation and Recreation.

² Summertime electricity generation capacity for the state from Energy Information Administration data. The last year for which capacity information data is available is 2007. To the extent that generation capacity has increased since 2007, the percent of total generation to be provided by biomass diminishes.

Biomass is often thought of as consisting of “forestry residues” – that is, the tops and branches that are left after merchantable timber is removed. The DOER report on biomass availability assumes that for every green ton of biomass in the stem of merchantable trees, another 0.29 green tons is available in the tops and branches.³ “Forest residues” are also often defined to include whole trees that are removed in thinning operations, however.

How much wood would be required by biomass energy generation?

Most of the biomass plants in the planning stage plan to burn “clean wood”. The exception is the Palmer plant in Springfield, where approximately 30 of the 38 MW to be generated would come from burning construction and demolition debris (CDD). Therefore, for the purposes of this briefing, the total amount of biomass energy generation planned for the state at this time ranges between 135 MW (the 165 MW in the state report, minus 30 from CDD) and 202 MW (232 minus 30).

According to the states’s biomass availability report, it requires 13,000 tons of green biomass to generate one megawatt of biomass energy, assuming a 90% capacity factor.⁴ Therefore, the amount of forest biomass wood required per year to fuel between 135 MW and 202 MW ranges from 1,755,000 to 2,626,000 tons of green biomass per year.

The existing Pinetree plant burns forest biomass, “paper cubes”, and landfill gas, so it is left out of these calculations, although news reports state that it is currently utilizing about 180,000 tons of wood a year.⁵

Where would forest biomass fuel come from?

The DOER/DCR biomass availability report has been widely cited by biomass developers, DCR, and DOER as containing the best estimates of fuel availability for Massachusetts and its surroundings. The report presents two sets of numbers: the biomass available in the five “core” counties of Western Mass (Berkshire, Franklin, Hampden, Hampshire, and Worcester) and availability in 14 “buffer” counties, which include Middlesex and Norfolk Counties in Massachusetts, and are otherwise located in Connecticut, Vermont, New Hampshire, Rhode Island, and New York. It is important to note that other states are planning significant biomass development of their own, so assuming that out-of-state fuel will be available to Massachusetts biomass plants is risky. Due to high transportation costs, biomass developers prefer to source fuel within 50 miles of a plant, though significant exceptions exist (for instance, a logging job in Wendell State Forest this spring provided biomass fuel to the Portsmouth, NH plant as well as the Pinetree plant). The 50-mile radii “sourcing circles” overlap for all the proposed plants, as well as overlapping those of existing and proposed plants in other states.

Categories of biomass in the state report include forest residues from current cutting, secondary wood products residues, urban wood residues (which are defined as consisting largely of pallets and CDD), agricultural residues, wood from land clearing, and sawmill waste, which however the report considers to be largely “spoken for” already due to its extensive use as animal bedding and mulch.

The report provides information on the average moisture content of various materials, allowing conversion to dry tons and then to the equivalent of green woody biomass, which is considered to have a moisture content of 45%.

³ Page 13 of DOER/DCR biomass availability report

⁴ Page 11 of biomass availability report. The figure of 13,000 tons of green biomass per MW lines up almost exactly with the fuel requirement for the Palmer plant in Springfield when its CDD fuel requirement is converted to green-ton equivalents. However, the Russell Plant, which at 50-MW would require 650,000 tons by the DOER report’s fuel estimate, states that it will require only 510,000 tons of fuel per year. The reason for this discrepancy is not known.

⁵ George Barnes, January 24, 2009. New purpose for felled trees. Worcester Telegram.

Some numbers of note in the report:

- Forest harvest residues from existing harvesting activity in the five core counties are estimated at 110,000 tons per year, an amount equivalent to 61% of the 180,000 tons of wood per year currently burned by the Pinetree Power Plant in Westminster.
- Of the total biomass available in the “core” western Massachusetts counties, 34% is in the “urban wood residues” category, which consists largely of pallets and CDD
- Despite stating that 750,000 “green tons” are available in the core counties in the executive summary (page 5), the total from the body of the report (page 31) states that the actual amount is 690,000 tons. The number reported in the executive summary may possibly be larger due to the inclusion of “paper cubes” in the total, which are comprised of waste and are not considered the equivalent of “clean wood”.
- The total biomass in the core counties is actually 626,147 tons,⁶ somewhat less than the 650,000 tons estimated by the report as required to fuel a single 50-MW plant.

County totals from the DOER/DCR biomass availability report

State	County	forest residues	secondary wd prod res	urban wood res	agric res	land clearing	sawmill waste	dry equivalent	converted to green forest residue equivalent	percent of total from urban residues
MA	Berkshire	26,357	2,469	16,172		17,374	36,108	50,511	91,839	26%
MA	Franklin	21,016	1,931	8,813		13,697	15,692	36,000	65,454	20%
MA	Hampden	11,905	6,067	54,557		10,659	27,788	77,831	141,510	56%
MA	Hampshire	19,423	862	18,106		9,890	32,330	39,541	71,892	37%
MA	Worcester	30,668	9,219	88,822		25,590	39,357	140,498	255,452	51%
CT	Hartford	5,113	7,872	103,207		11,644	5,868	125,535	228,246	66%
CT	Litchfield	28,035	1,787	22,094		16,560	18,405	55,860	101,564	32%
CT	Tolland	17,669	579	16,487		6,178	10,105	32,962	59,931	40%
CT	Windham	22,588	1,926	13,609		7,146	31,154	35,104	63,826	31%
MA	Middlesex	10,460	12,206	174,346		12,845	12,044	205,150	373,000	68%
MA	Norfolk	3,111	6,440	76,485		6,605		91,241	165,893	67%
NH	Cheshire	648,000	1,410	8,280		17,282	360,405	383,372	697,040	2%
NH	Hillsborough	125,004	7,958	41,952		15,983	165,650	134,645	244,809	25%
NY	Columbia	24,745	301	7,521	6,563	8,121	8,300	36,116	65,665	17%
NY	Dutchess	23,547	1,711	33,249	4,777	9,969	31,187	62,657	113,922	42%
NY	Rensselaer	25,112	296	18,040	7,191	8,212	19,624	47,551	86,456	30%
RI	Providence	5,856	3,117	71,424		5,184	24,399	82,946	150,811	69%
VT	Bennington	9,402	292	4,196		10,504	2,957	20,163	36,660	17%
VT	Windham	51,391	862	5,476		15,664	15,808	50,267	91,395	9%
Total - Core Counties		109,369	20,548	186,470		77,210	151,276	344,381	626,147	43%
Total - Buffer Counties		1,000,033	46,756	596,364	18,531	151,896	705,906	1,363,565	2,479,209	35%
Total - All Counties		1,109,402	67,304	782,834	18,531	229,106	857,182	1,707,946	3,105,357	37%

Identifying the shortfall in existing supplies, the report discusses the amount of fuel that can be derived from new logging, stating in the executive summary “The forests of western Massachusetts and the counties that buffer them have forest growth that exceeds current harvest and mortality levels, and some of this growth is potentially available for biomass energy production. Assuming that half of net growth is available for biomass energy production, the five counties of Western Massachusetts have up to an additional 960,000 green tons of biomass available, or enough fuel for about 70 MW of biomass electricity generation.”

A separate chapter of the Sustainable Biomass Initiative report, entitled “Silvicultural and ecological considerations of forest biomass harvesting in Massachusetts”⁷ sums the acres of public and private lands

⁶ The totals presented here are slightly lower than those in the report, an unexplainable discrepancy due to the numbers in the report not amounting to the sums that are reported in the totals cells.

⁷ Kelty, M.J., D’Amato, A.W., and Barten, P.K. 2007. Silvicultural and ecological considerations of forest biomass harvesting in Massachusetts. Prepared for the Massachusetts Division of Energy Resources and the Massachusetts Department of Conservation and Recreation.

that would potentially be available for biomass harvest. Steep and wet areas (7% of the total of private and public lands) and the 50,203 acres of reserves on state lands were removed from consideration, although the report states that “The remaining public land area includes some parks and other recreational areas that are not off-limit to harvesting, but will likely not receive heavy harvesting; these acreages were not available, so were not removed from the total.”⁸ The estimate of available privately held land was adjusted downward by 30% to reflect the belief that 70% of landowners would consider timber harvesting on their land. In sum, the report concludes that 465,000 acres of public lands are available for biomass harvest, and 379,000 acres of privately held land are available if parcels larger than 100 acres are considered, and 1,072,000 acres of privately held land are available if parcels greater than 10 acres are considered. The report considers it unlikely that much land in the smaller parcel category would actually be available, and treats the 465,000 public acres plus 379,000 private acres, summing to 844,000 acres, as the most realistic estimate. The report estimates that public and private lands have 71 and 69 dry tons per acre standing biomass, respectively, which translates to about 133 green tons per acre at a moisture content of 47%. The report states that “The requirement for harvest sustainability (i.e., sustained yield) is that the total harvest per year does not exceed the total net growth per year on the land base of interest. Therefore, determination of sustainability for the state requires estimates of 1) mean forest growth rate per acre across state forestlands, and 2) the total land area in the state that is likely to be managed for forest products; in this case, it would include all land that may be managed for a range of objectives, but with harvesting forest products being included as one of those potential objectives.”⁹

How much new cutting would be required to supply biomass fuel?

Dividing the amount of wood needed as fuel by the average amount of wood to be cut per acre gives a crude estimate of the number of acres that would be required to supply biomass fuel for the 135 to 202 MW of biomass energy to be fueled by forest biomass. A typical cutting rate for Massachusetts forests is 20 tons/acre, although the Silvicultural/Ecological chapter of the DOER report states that biomass harvest rates of 27 and 23 dry tons per acre, or 51 and 44 green tons per acre on public and private lands, respectively, are sustainable.¹⁰ The report also states that on average, about 36% of the lumber cut is of sawlog quality and would not be expected to be sold as biomass fuel, thus numbers should be down-adjusted to reflect this fact. In the interests of keeping calculations as simple as possible, the following table shows the number of acres that would need to be cut each year to supply biomass at two different cutting rates – the 20 tons/acre now typical of forestry in Massachusetts, and 50 tons/acre. The values are calculated as if *all* wood harvested goes to biomass, and *none* to sawlogs or firewood. The table shows the number of years it would take until all 844,000 acres identified by the report had been cut one time.

MW	total tons	tons cut per acre	acres cut per year	years to cut 844,000 acres
135	1,755,000	20	87,750	10
202	2,626,000	20	131,300	6
135	1,755,000	50	35,100	24
202	2,626,000	50	52,520	16

For comparison, current cutting rates in Massachusetts averaged 1,417 acres on state lands, and 27,561 acres on private lands from 2001 - 2005, for a total of 28,978 acres cut per year.¹¹

⁸ Kelty et al, p.20

⁹ Kelty et al, p. 19

¹⁰ This treatment consists of a combination of crown thinning, where all non-merchantable large trees are removed, and a low thinning, where small trees are removed.

¹¹ Numbers from DCR’s 2005 Stakeholder Report, the most recent report available from DCR’s website.

**PRESENTATION TO FOREST FUTURES TECHNICAL STEERING COMMITTEE
ISSUES, CONCERNS, AND VALUES – JULY 23, 2009**

Michael Kellett and Mike Ryan

PROTECTION STRATEGIES: RESERVES

The Problem

“The greatest revelation – and the greatest shock – of landscape ecology is that even relatively large nature preserves lose many of their most distinctive species if the surrounding landscape is completely transformed. Island-like preserves often lose species rapidly.”

“Part of the solution is to establish preserves that are close to other protected areas. Increasingly, different conservation organizations and government agencies are working to cluster their preserves, link them with corridors, and coordinate their management.”

—*Restoring North America’s Birds - Lessons from Landscape Ecology*, Robert A. Askins

“The primary purpose of [forest] reserves is to support the biological and genetic diversity of our forests and allow natural processes to play out in supporting species that would otherwise be deprived of critical habitat – species often classifiable as herbs, fungi, noncommercial tree and shrub species, and non-game animal species.”

—Bob Leverett

QUESTIONS

Why has the EOEEA set a desired size for “large reserves” that is inconsistent with established conservation biology principles? Under state law EOEEA is required to give “management priority to the protection, conservation, and restoration of Endangered, Threatened, and Special Concern species occurring on state owned lands”; why has the agency failed to evaluate the need for large forest blocks to carry out this mandate? How is the EOEEA measuring the effectiveness of its reserve system in protecting and sustaining the ecological and social values outlined by the Harvard Forest and The Nature Conservancy (see below)? Why are plans lacking for expanding reserves necessary to ensure the ecological health of these areas? Toward this end, why are there no plans to curtail logging, wind power development, and other industrial activities in potential new reserve and reserve expansion areas? How does EOEEA justify its goal for the state reserve system of the designation that is only one-half the *minimum* size recommended by the Harvard Forest? Why is there no plan to create additional reserves that encompass larger areas on the scale recommended by other respected scientists and institutions?

VISION

Establish a system of wildland reserves and preserves encompassing from 250,000 acres (50 percent) to 500,000 acres (80 percent) of the total 570,000 acres of state public lands. Wildland reserves would be large, “unmanaged” tracts of land containing 5,000 to 50,000 acres.

Wildlands would be selected to accomplish five objectives:

- To promote natural landscape-level processes, ecological patterns and biodiversity across the region’s range of forest and environmental conditions;
- To protect water supplies;
- To protect, connect, and enhance existing old-growth forests;

- To provide opportunities for scientific study of natural processes and reference for the changes occurring in actively managed forests; and
- To afford special educational, recreational, aesthetic and spiritual experiences.

(see Foster, et al, 2005) *Wildlands and Woodlands: A Vision for the Forests of Massachusetts*, Harvard Forest, Harvard University, Petersham, Massachusetts. p.5

http://harvardforest.fas.harvard.edu/wandw/HF_wandw.pdf

ISSUE 1: Size of Reserve System Needed to Protect Natural Features and Processes

About 90 percent of Massachusetts land is in private ownership, which provides ample opportunities for forestry, wind power development, and other industrial activities. Only 10 percent of Massachusetts lands are owned by the people of Massachusetts. These public lands have important public values that private lands cannot or will not provide, such as wilderness, old growth forests, large blocks for protection of biodiversity and wildlife habitat, public recreation, and permanent protection from development. These values can best be maintained and enhanced by designating most of our irreplaceable public lands as reserves or other protective categories that are off-limits to resource extraction and development.

The *Wildlands and Woodlands* report, written by a respected group of scientists and published by the Harvard Forest, calls for a Massachusetts wildland reserve system of at least 250,000 acres, predominantly on existing public land. (Foster, et al. 2005). Moreover, assessments by other organizations, such as The Nature Conservancy, have identified potential reserves on this scale. (See Finton, Andy (2009) *Ensuring the Integrity of Massachusetts*, Forum on the Forests of Massachusetts, May 18, 2009, p. 29

<http://www.mass.gov/dcr/news/publicmeetings/materials/finton.pdf>

Commonwealth fails to protect: The Massachusetts Executive Office of Energy and Environmental Affairs (EOEEA) has a goal of “the identification of ‘forest reserves’ on approximately 20% [of] state land where commercial harvesting will not occur,” which is merely the minimum required as a part of gaining Forest Stewardship Council (FSC) forestry production certification. (see

<http://www.mass.gov/?pageID=eoeesubtopic&L=4&L0=Home&L1=Agriculture%2C+Forestry%2C+Fishing+%26+Hunting&L2=Sustainable+Forest+Management&L3=Forest+Reserves&sid=Eoea>

This reserve system would total only a little more than 100,000 acres, one-half of the minimum amount called for by the Harvard Forest which also leaves out most of the lands that have been identified by The Nature Conservancy as suitable reserves (see Finton, 2009, p. 29

<http://www.mass.gov/dcr/news/publicmeetings/materials/finton.pdf>)

Conclusion: The EOEEA has set a goal for the size of the Massachusetts reserve system — 100,000 acres — that falls far short of the system advocated by respected conservation biologists. Moreover, four years after FSC certification required the designation of a reserve system, the EOEEA has designated areas encompassing less than one-half of its modest goal of 20 percent of state lands. The current reserve system contains only 9 areas totaling 50,000 acres and several small reserves — less than 10 percent of state public lands. This is an unacceptable situation that must be remedied as soon as possible by revisiting the goals of the reserve system and immediately initiating a process for expanding the system to an adequate size. In the meantime, no logging or other industrial activities should occur in potential reserve areas.

ISSUE 2: Size and Connectivity of Individual Reserves

In his presentation to the Forum on the May 18, 2009 Forests of Massachusetts, Andy Finton of The Nature Conservancy presented a map that outlined “forest cores” in western Massachusetts of “≥15,000 acres” to ensure “source habitat” and address “disturbance regimes.” (see Finton, 2009, p. 29 <http://www.mass.gov/dcr/news/publicmeetings/materials/finton.pdf>)

A chart in the report, *Determining the Size of Eastern Forest Reserves*, produced by The Nature Conservancy and Sweet Water Trust, indicates the following regarding reserve size:

"A 28,000 Acre Reserve: A forest reserve is likely to accommodate all the natural disturbances and species to the left of its size indicator [i.e., most natural disturbances and most — but not all — species]."

(The Nature Conservancy (2004) *Determining the Size of Eastern Forest Reserves*, Sweet Water Trust, Boston, Massachusetts. p.3
(http://www.sweetwatertrust.org/ezstatic/data/sweetwatertrust/forestreserves/Eastern_Forest_Reserves.pdf)

The Harvard Forest's *Wildlands and Woodlands* report recommends reserves on this scale or larger:

"Many attempts have been made to determine the *right* size for Wildlands in order to support landscape-level processes, natural disturbance regimes, forest interior animals and wide-ranging wildlife. In one notable example, Anderson (1999) set 25,000 acres as the *minimum* area needed when identifying priority forest blocks to be conserved in the northern Appalachian region, recognizing that even these areas would be unlikely to ensure the viability of wide-ranging species. Here we take a more general approach and suggest that, given the much greater level of fragmentation and more frequent broad-scale disturbances in Massachusetts, Wildland reserves should span a range of sizes and must include large reserves of 50,000 acres or more."

"We suggest that a target figure of 15 to 20 large Wildland reserves represents a reasonable initial goal for Massachusetts."

"Numerous reserves are needed to capture a broad spectrum of environmental conditions, vegetation types and biodiversity; safeguard the system from the impacts of large events (e.g., hurricanes, downbursts, ice storms, pests/pathogens) that might alter any single area; and moderate the recreational pressure on individual areas." (Foster, et al., 2005, p.9
http://harvardforest.fas.harvard.edu/wandw/HF_wandw.pdf)

"The largest reserve in southern New England could be created in central Massachusetts on the Quabbin Reservation. This is the single largest conservation area in the region, and it is currently actively harvested for timber by the Division of Water Supply Protection."
(Foster, et al., 2005, p.10 http://harvardforest.fas.harvard.edu/wandw/HF_wandw.pdf)

Commonwealth reserve vision focused on logging: In contrast to these reserve visions, the goals of the EOEEA for reserves sound like they were written by a forester instead of a conservation biologist.

"The EOEEA agencies have established the following goal, objectives, and benefits for matrix reserves.

"Goal: Capture elements of biological diversity that can be *missing from harvested sites*.

- ▶ Objectives:
 - **Retain wood fiber that is typically extracted** from the forest ecosystem.
 - To the greatest degree possible, allow natural disturbance processes to determine the structure and composition of the forest ecosystem.
 - Facilitate biological monitoring to establish baseline data on the species, natural communities, and ecological processes that occur in forest ecosystems **reserved from commercial timber harvesting.**
- ▶ Benefits:
 - Allow comparison of species, natural communities, and ecological processes **on harvested sites with sites reserved from harvest of wood products.**
 - Provide late-successional forest habitats for wildlife that represent the diversity of forest ecosystems in Massachusetts.
 - **Inform management of harvested sites** with knowledge of structural attributes that develop on reserve sites.
 - Provide unique recreational and aesthetic opportunities in biologically mature forest habitats that will develop over time in reserves.”

(Executive Office of Environmental Affairs; *What Are Forest Reserves?*, p. 2
http://www.mass.gov/Eoeea/docs/eea/lf/whatare_forestreserves.pdf) (Emphasis added.)

Conclusion: Perhaps due to the apparent forestry orientation in setting its goals, the EOEEA envisions a handful of “large” reserves that are not very large at all. In fact, based on published criteria and past practice, the EOEEA apparently has no plans to create any truly “large reserves,” as they would be defined by conservation biologists. The EOEEA needs to 1) review its goals for reserve size and configuration; 2) revise them as needed to provide for “large” reserves that are truly large enough to encompass the “species, natural communities, and ecological processes” of Massachusetts forest ecosystems that it seeks to sustain; and 3) designate a new generation of reserves that meets these newly expanded goals.

ISSUE 3: Models and Legal Mandates for Reserves

There are several federal land categories that are ensured strong, permanent protection under the law. The U.S. Congress has directed that National Parks must be managed;

“to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.” (National Park Service Organic Act of 1916
<http://planning.nps.gov/document/organic%5Fact%2Epdf>)

There is also a detailed congressionally authorized process for studying and recommending the designation of new National Park System units.

Sec. 1a-5. Additional areas for National Park System

-STATUTE- (a) General authority - The Secretary of the Interior is directed to investigate, study, and continually monitor the welfare of areas whose resources exhibit qualities of national significance and which may have potential for inclusion in the National Park System....

(1) At the beginning of each calendar year, along with the annual budget submission, the Secretary shall submit to the Committee of Resources of the House of Representatives and to the Committee on Energy and Natural Resources of the United States Senate a list of areas recommended for study for potential inclusion in the National Park System.

(2) In developing the list to be submitted under this subsection, the Secretary shall consider –

(A) those areas that have the greatest potential to meet the established criteria of national significance, suitability, and feasibility;

(B) themes, sites, and resources not already adequately represented in the National Park System; and

(C) public petition and Congressional resolutions.”

(USC 16, Title16, Section 1a–5. *Additional areas for National Park System*
<http://planning.nps.gov/document/16%20USC%20Sec%2Epdf>)

Federal Wilderness Areas also have a very clear legislative mandate from the Congress. They are designated and managed under the mandate of the Wilderness Act.

“A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this chapter an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions.”

(Wilderness Act, Public Law 88-577 (16 U.S. C. 1131-1136)
http://www.wilderness.net/NWPS/documents/publiclaws/PDF/16_USC_1131-1136.pdf

There is apparently no legislative authorization or mandate from the Massachusetts legislature that governs the study, establishment, or protection of current state “forest reserves.” In fact, legislation governing state lands is ambiguous regarding the degree to which logging is permitted, or can be constrained by this reserve system.

On the other hand, there is provision in state law for the establishment of “nature preserves” which are to be “monitored and maintained as nearly as possible in its natural condition” (G.L.c. 131, Section 10A) and “Massachusetts Wildlands” which do not allow “open fires; motorized trail use; destruction or collection of vegetation; geological materials; or wildlife species; and/or aquatic organisms” (304 CMR 7.00 Management Plans and Massachusetts Wildlands). It seems that one or both of these designations could be used to create a reserve system that ensures strong, permanent legal protection.

Conclusion: As noted above, public lands provide important public values that private lands cannot or will not provide. A well-planned and managed system of state reserves could protect these values for the public benefit. However, the current system allows incompatible uses such as logging, wind power facilities, and roadbuilding, even in reserves. Moreover, reserves could be downsized or eliminated at any time through administrative action. The public has no formal process of comment or appeal to challenge decisions regarding reserves.

It is vital that the current Massachusetts legal, regulatory, and administrative system be reviewed and revised as necessary to allow for identifying reserves, a public process for designation, permanent status for selected units, and protection from incompatible uses. This process should lead to additional state legislation or modification of existing law to provide this mandate.