Report of the Massachusetts Forestry Program Review Board

On Seeing the Light of Day

This appraisal of forestry programs in Massachusetts was completed twenty months ago but never printed. As this is written, the General Court is considering some of the major legislative proposals. With luck they may become law. However, we think that all our recommendations should be seriously considered because the rapidly rising tempo of forest activity makes a consistent body of laws, regulations and programs ever more important to the future of our working rural landscapes.

The Board Members believe that our ideas are as fresh and relevant today as they were when we first argued them out and set them down. A working consensus still exists and we have chipped in enough to cover the costs of printing the report and getting it into the hands of those who are interested and can help us bring these recommendations to life.

Petersham, Massachusetts
February 1979

Ernest M. Gould, Jr.

Table of Contents

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June 15, 1977

Dr. Evelyn F. Murphy
Secretary of Environmental Affairs
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

Dear Secretary Murphy:

It is a pleasure to give you the final report of the Massachusetts Forestry Program Review Board. At the Board's first meeting on February 24, 1977 you asked us to examine Massachusetts Forests and their present management and recommend how the state can best help guide the use and development of these resources in the future. After long deliberation the Board has concluded that we are generally well equipped with a progressive set of laws and administrative arrangements. But we really need to make much better use of our present facilities. Toward this end we have found 47 administrative adjustments plus 25 changes in existing laws which we believe will greatly improve the future use of our forest lands for environmental services and for products.

I want to take this opportunity to thank the members of the Board for so generously giving their time and best thought to this review. Without the help of so many with such diverse interests this study could not have covered the whole field so thoroughly. There are, of course, some subjects that require much more study before final action. But we believe enough has been done in all cases to start action in the right direction.

Special thanks are due to the Chairmen of the four committees who served as a steering committee during the writing stage. Ralph Rogers, of your office, was tremendously helpful at every step throughout the whole process. Without his help and encouragement the job would have gone much slower. Gary Kronrad, a graduate student at the University of Massachusetts, was a useful consultant and acted as secretary to the public lands committee. His travel expenses were kindly contributed by the Massachusetts Tree Farm Committee.

One word of caution is in order. Each member of the Board had ample opportunity to shape the contents of this report. Although there is a working consensus among us, I am sure that individuals reserve their right to disagree with specific suggestions. However, no one has seen fit to write a minority statement.

Sincerely yours,

E. M. Gould, Jr.

Ernest M. Gould, Jr.
Forest Economist

HIGHLIGHTS OF THE REPORT

All of our lives are touched by trees. In Boston they shade the Common, the sidewalk and the vacant lot. They also clean the air, renew its oxygen, muffle sound and soothe the eye. While out on the land three out of five acres are wooded so that next to the soil itself, forest land is our most extensive natural resource. The quality of our water, wildlife, outdoor recreation, environmental amenity and several thousand jobs all depend on how wisely we use our renewable forest lands. This is a study of that problem.

Putting a Floor Under Management

Because it is so important to maintain the productive capacity of all forest land in the Commonwealth, the Board recommends that the State Forestry Committee be reactivated and the minimum cutting practice regulations be modernized. The planning role of the landowner should also be increased together with the responsibility of the licensed harvester. (For further details see Pages 6 - 11)

Increasing the Quality of Private Management

In order to increase the quality of private forest land use the Board proposes that present service forester, cost sharing and extension education programs be supported and in some cases expanded. In addition, the special property tax treatment for forest land should continue with appropriate changes to insure uniform treatment under Chapters 61 and 61A. (Pages 11 - 13)

Increasing the Quality of Public Management

A new continuous planning process is proposed to insure that the full array of public objectives is achieved through quality management of the state's forest land. This process should also foster a greater degree of coordination among federal, state and municipal land managing agencies. To fully implement this process more emphasis on research will be needed, especially to insure a balanced development of all land uses from solitude to environmental education to timber production. New management foresters will also be needed and a recodification of Chapters 132 and 132A of the General Laws would be helpful. (Pages 14 -17)

Enhancing Forest Services

If the management quality of forest lands is increased, the full array of forest uses will be made available at a higher level than before. Special steps are needed in two areas. The need for a much higher quality of environmental education is apparent enough to justify the full time of a coordinator. There are also a number of forest land use design and development problems that are best solved by an ad hoc interstate planning effort. (Page 18)

Expanding Forest Products

There is an ample material base for an expansion of wood-using industries in the state. The steps outlined above should go far toward assuring owners that timber can be marketed in an environmentally sound way compatible with the forest services they enjoy. The development of a vigorous Forest Utilization and Marketing Program is another major key to upgrading existing businesses and attracting new enterprises capable of sophisticated logging and forest management. The use of wood for many new products and for energy can also be increased in such a balanced way that the quality of rural life can be considerably improved. (Pages 19 - 23)

INTRODUCTION

Because the following facts will have such a profound effect on the future of Massachusetts forests they are included here as a common base for further discussion.

How much land do we have?

We have nearly 1 acre of land for each of our more than 5½ million people. Three million acres of this is forested, providing about a ½ acre of woodland per person. However, there is evidence that forest land area is slowly decreasing.

How do we use forest land?

People realize a great many different benefits from forest land and some sort of positive management effort is generally needed to obtain each.

* Almost 220,000 acres are devoted to public water supply.

  This potable water supports Metropolitan Massachusetts, other large cities and many of the larger towns. Protection and careful cutting are needed to keep a forested watershed healthy and well balanced enough to produce high quality water.

* About 200,000 acres are made especially available for hunting.

* All 3 million acres are wildlife habitat, but 30% are posted against hunting.

* About 75 million recreation days are spent in forested areas.

  This outdoor recreation and the attractiveness of our wooded landscapes form an important part of the environmental base for our $2 billion tourist business with it 90,000 travel-related jobs. Managers must design their forest to have a variety of habitats for wildlife as well as the roads, trails, vistas and the other improvements and maintenance work needed for various kinds of recreation and landscape beauty.

* About 130 million cubic feet of wood grow in the state each year.

* About 31 million cubic feet of wood are removed from the forest each year.

* About 19 million cubic feet of wood are used for products each year.

  This harvest is the base for about 1,500 jobs in logging and in the 147 sawmills and other primary wood processing establishments in the state. Another 34,000 people work in about 700 wood-based manufacturing businesses, but much of their raw material is imported.

* 62 cubic feet per person is the annual wood consumption in the United States.

* 23 cubic feet per person is the yearly amount grown in Massachusetts.

* 5.5 cubic feet per person is the yearly amount removed in the state.

* 3.4 cubic feet per person of local wood is used for products in the state each year.

If we could use all the wood that is currently cut but then wasted, we could increase yearly utilization by more than half. But forseeably, only one third of this waste can be used economically. If we could fully use all that grows each year and is not now cut at all, we could increase products over 6 times. Realistically, only one half of the growth is likely to be put up for sale. Even a fully sustained yield for timber would meet only about one third of our needs, so heavy imports must continue.

Who owns our forest land?

Commercial forest land in the state (that which is capable of producing crops of industrial wood and not officially withdrawn for other use) is 87 percent privately owned and 13 percent publicly. Only 1 percent is owned by forest industries, 9 percent by farmers, 8 percent by firms and 69 percent by individuals, most of whom do not make their living from the land.

* About 390,000 acres belong to the state Division of Forests and Parks, Department of Fisheries and Wildlife and to the Metropolitan District Commission.

* About 115,000 acres are owned by towns and counties as conservation and water land.

* Over 104,000 public and private acres are withdrawn from timber production.

* About 2,400,000 acres are privately owned.

* About 1,300,000 acres of the private land is owned by about 13,000 people in lots of 50 acres or larger.

The future of Massachusetts will be determined primarily by what the private landowners from all walks of life who own it want to do with it. No significant public action aimed at forest land use can succeed without these people.

What do private owners expect from their forests?

Most private landowners hold their land for a variety of reasons. Growing products generally rank low, while over half have it for living space and recreation. The importance of non-market values is shown by the fact that our forest land is probably worth about $1 billion while the trees on it would bring only about a fifth of that if sold for products and the capitalized value of the sawtimber growth would be even less.

* About 50% live on their land at least part of the year.

* In the next 5 years 59% expect to enjoy recreation and esthetics.

* In the same time 35% expect land value increases and "other" benefits.

* During the next 5 years 6% expect to sell timber.

* About 4% hold 10% of the land primarily for timber production.

All indicators show that forest management for many uses will best suit the modern needs of Massachusetts citizens, provided the conflicts between various uses can be resolved. Insensitive logging practices that destroy other forest values are probably the chief factor inhibiting greater use for products.

Will this situation change?

Yes, land use is seldom stable. Until the early 19th century our land was used mostly for farm and forest products. Cheap transportation changed this pattern. As we imported more and more things from places that produced them better and cheaper, the product value of land declined. But then people began to value forests more for the production of wildlife, water, recreation and other services and this took up the slack. Today Massachusetts woodlands are high priced primarily for amenity and only incidentally for products.

No one knows the future but -

* Land values are rising as more people reach for a country place.

* Gasoline conservation makes nearby land more desirable for urban folks.

* Holding costs will rise as assessments move toward 100% evaluation.

* Rising energy costs give renewable wood products a long-term advantage over other non-renewable construction materials.

* Rising freight costs give local products a larger advantage over imports.

* Stumpage prices are also trending upward.

* Using the solar energy captured by trees will be more desirable as fossil fuels run out.

* Interest in a more comfortable and healthier environment will continue to rise.

These and other unforseen changes will shape the future.

What is a likely scenario?

There is little doubt that to make Massachusetts a good place to live, more people will want more resources, more jobs and better outdoor surroundings. We have large amounts of rather lightly used forest land that could produce more services and more products. However, land is not as scarce as the imagination and wit to use it properly to meet present and future needs as they unfold.

How can the State help?

A state can use its resources to set up laws and programs that will interact with market and cultural forces to promote desirable forest land use decisions. As a first step toward improving the state's role in forest land use, Dr. Evelyn Murphy, the Secretary of Environmental Affairs, gathered fifty people with broad interests in forests to study the present situation in Massachusetts and propose any legislative and administrative changes that may be needed. This representative group had its first meeting on February 24, 1977. The Forestry Program Review Board then split into four committees to study private lands, public lands, forest services and forest products. Each held a number of meetings and made its report to the whole Board on May 5th and 12th. After lengthy discussion to achieve a working consensus within the group, a steering committee wrote a preliminary report which was given to the whole Board for review before this final report was completed.

MANAGEMENT GUIDELINES FOR ALL FOREST LANDS

The Commonwealth has for some years had a forest policy statement written into Section 40 of Chapter 132 of the General Laws. This policy applies to all forest land in the state. Although it was not enacted until 1943 (Ch. 539), it provides a framework that ties together earlier and later forest laws.

> *"It is hereby declared that the public welfare requires the rehabilitation and protection of forest lands for the purpose of conserving water, preventing floods and soil erosion, improving the conditions of wildlife and recreation, and providing a continuing and increasing supply of forest products for farm use and for the wood-using industries of the Commonwealth. Therefore, it is hereby declared to be the policy of the Commonwealth that all lands devoted to forest growth shall be kept in such condition as shall not jeopardize the public interests, and that the policy of the Commonwealth shall further be one of cooperation with the land owners and other agencies interested in forestry practices for the profitable management of all forest lands in the interest of the owner, the public and the users of forest products."*

The first sentence of Section 40 says clearly that the people of the state want to realize a number of benefits from their lands, not just one. This view is in line with the present needs and desires of our residents and it would be hard to improve upon it as a basis for action.

The first policy to achieve this objective states that the Commonwealth will take steps to see that all forests are managed in a way that does not damage their capacity to produce these several values ("jeopardize the public interests"). This has taken the form of putting a floor under management by establishing a set of minimum cutting practices.

In addition to safeguarding the capacity of land to produce, the second policy of the Commonwealth is to cooperate with anyone who will manage their forest land to the profit of themselves and the public. This suggests that those owners who wish to make their lands produce more of these several values than the minimum practices provide, will receive extra consideration. Two special tax laws (G.L., Ch. 61 and 61A) and several aid programs have been developed to accomplish this.

MINIMUM FOREST CUTTING PRACTICES

Perhaps the most important and far reaching state program is that which sets the minimum cutting practices which shall be used on public and private forest lands in the Commonwealth. If these practices can successfully reconcile the desires of recreationists, loggers, environmentalists, landowners and others, they can go a long way toward making our forests more generally useful. The procedure for setting up these practices and enforcing them is included in Sections 41 through 46 of Chapter 132, immediately following the policy statements of Section 40.

Section 41

This creates a four member unpaid State Forestry Committee, directs it to develop a set of forest cutting practices and specifies a public procedure for adopting these rules. The committee is rather narrow in its representation of forest interests, has not met for some years and the present cutting practices seem too narrowly aimed at timber production to suit present needs and stated policy.

Recommendations:

1. The Secretary reactivate the State Forestry Committee as soon as possible and have it design a set of practices that will implement all the objectives set out in Section 40.

2. The Legislature should:

   a) Increase the membership of the State Forestry Committee to nine members with appropriately staggered terms. To insure a broad spectrum of interests, a member should be selected to represent each of the following points of view: forest landowners, licensed timber harvesters, primary wood-using industries, consulting foresters, environmental organizations, water supply agencies fisheries and wildlife. Two members should represent the interests of the general public.

   b) Change the seventh sentence of Section 41 to read; "Said Committee shall prepare tentative forest cutting practices and guidelines designed to achieve all of the objectives set out in Section 40".

   c) Change the ninth sentence which reads, "Before adopting and promulgating any forest practices..." to read, "Before recommending any forest practices...".

   d) Make changes needed in the slash disposal law (Ch. 48, Sec. 16) to coordinate it with the cutting practice regulations.

   e) Provide that an approved cutting plan will satisfy the requirements of the Wetlands Protection Act (G.L. 131, Sec. 40).

The Review Board believes that the following proposals suggest the scope for such minimum cutting practices and can serve as a springboard for consideration by the State Forestry Committee. Some of these practices, such as buffers, should be strictly defined while others, such as road design, should take the form of guidelines. All should be enforceable and consideration should be given to making these rules compatible with those of neighboring states so that loggers and the public will not be confused.

a) Buffer Strips: Visual amenity adjacent to roads should be promoted by removing no more than 50% of the basal area within 100' of the outer edge of accepted public ways or highways. Similar strips 25' wide adjacent to water bodies such as streams and ponds will not only improve appearance but will also help control water temperature and provide a filter strip to intercept sediment.

b) Clearcuts: Should be allowed only when salvage is necessary or when a) regeneration is assured, b) the size and shape of the opening is designed to be fully utilized by wildlife and to minimize adverse visual impact on the landscape, and c) slopes will remain stable. Customary buffer strips would still be required together with a workable sized stand to separate adjacent clearcut areas.

c) Slash and Damaged Trees: All slash, as currently defined, within 25 ' of a water body or stream bed or within 50' of a property boundary or the outer edge of an accepted public way or highway (not including logging roads on public or private lands) shall be treated by chipping or lopping to 18" above the ground or removed, if necessary, to reduce the fire hazard to an acceptable level. All other slash shall be treated to lie no more than 4' above the ground. Trees and saplings that are bent, broken or hung up enough to pre-empt needed growing space or be unsightly shall be cut and treated like other slash.

d) Design of Roads, Skidways and Yards: These facilities should be designed and constructed to minimize erosion and impacts on wetland. The harvester should repair any excessive erosion and stabilize all roads and bare areas when the operation is completed. (Appropriate design standards can be found in technical forestry literature.) Yards should be screened behind roadside buffer strips and the harvester should clear them of trash and debris and stabilize bare areas when the operation is completed.

There are several public planning and regulatory programs that may affect forest operations: the Environmental Protection Agency's planning to control non-point water pollution under Section 208, the Corps of Engineers' regulation of activity affecting inland waters and the state's Wetland Protection Act. In order to keep the demands on forest landowners within reasonable bounds, the proposed cutting regulations should be designed to meet all these requirements. The Secretary should try to make arrangements so that the cutting plan filed by a landowner will satisfy the needs of these several agencies.

Section 42

This section tells the landowner to notify the Director of the Division of Forests and Parks of his intention to cut, and the Director to then have his agent visit the site, make a cutting plan for the owner, inspect the work during and after the operation and report the operation to the State Forestry Committee. This puts the full burden for planning and enforcement on state employees who have always been too overworked to follow the letter of the law. The situation has made the law largely ineffective and the Review Board believes the owner should be responsible for preparing a plan to meet the regulations, getting help wherever he can, while the public foresters should approve and enforce it. This will help reduce the workload to a point where the regulations can have a real impact on performance in the woods.

Recommendations:

The Secretary should:

a) Require the landowner to submit his intention to cut and a copy of his cutting plan to the Director of Forests and Parks at the appropriate regional office at least 14 days prior to the commencement of work, and also to the clerk of the town in which the land lies for the information of town officials.

b) Direct that the owner notify abutting owners whose land is within 50' of the cutting area at least 14 days prior to the operation.

c) Prepare guidelines and forms that will simplify the preparation of a cutting plan to implement the forest cutting practices.

d) State in the planning guidelines that no work may commence until 14 days after filing the plan and then only if no notice has been received from the Director rejecting the plan.

e) Direct the licensed harvester to have a copy of the plan on the site whenever work is done, ready for inspection by the Director's agent. The agent shall give final approval or disapproval to the plan and the way it is carried out only during or after an inspection on the site.

If changes in the law are needed to implement these recommendations the Secretary should ask the Legislature for appropriate action.

Section 43

This sets a fine of $25 per acre for an owner who fails to notify the Director of his cutting intentions or an owner or operator who fails to follow the plan or operates without a plan. The Review Board believes the fine is too low and that other changes are needed to bring this section into line with their proposals elsewhere.

Recommendations:

The Legislature should increase the fine for failure to comply with established regulations to $100 per acre. The statement about giving notice should be expanded to read "notice and a written plan". The present reference to a plan "prepared by the Director" should read, "approved by the Director". The Director or his agent should also be authorized to issue a "stop order" to immediately shut down an operation that fails to meet the law or regulations until the deficiency is made good or the Director holds a hearing to revoke the harvester's license.

Section 44

Cuttings exempt from Sections 42 and 43 include those for home use, or small sales, or clearing forest land for a new use. A check should be kept on such exempt operations to see that they are indeed bona fide land use changes and not used as a means of avoiding the regulations. In the past about half the state's cutting has been for land use changes and most of the wood was wasted. Such operations have probably declined since the last estimate in 1972 and the clean air laws coupled with sanitary landfill regulations have reduced waste so the situation is improving. However, the Review Board believes that the Secretary should see that Massachusetts Environmental Protection Act reports on projects that cover land clearing include a plan for wood utilization and erosion control.

Section 45

This section covers cooperation with other agencies and passage through or over private property to administer other sections. No change is needed.

Section 46

This section covers the licensing of harvesters by the Director and needs some change to bring it into line with present needs.

Recommendations:

1. The Secretary, when preparing the forest cutting practices and guidelines, should also include pertinent sections of the various laws affecting forest land use in the state. Furthermore, an applicant should be required to demonstrate familiarity with these laws and regulations before obtaining a license to harvest timber in the state.

   The Secretary is not empowered to revoke or withhold a license for failure to comply with the laws and regulations. A schedule revoking a harvester's license for, say, one month for a first offense, two months for a second, and one year for a third should be established. Whatever the revocation periods are, they should be well known.

2. The Legislature should increase the fine for failure to comply with Sections 42 to 26 from $25 to not more than $1,000 per violation.

PRIVATE LANDS

The second arm of present state policy expressed in Section 40 is that the state will cooperate with those forest landowners who wish to practice more profitable management than the minimum required by the cutting practices. The state and federal governments have for many years given landowners technical assistance, extension education and have shared the cost of such non-commercial management practices as planting, pruning, weeding, roadside improvement and the like. The Review Board believes that such efforts should continue and be expanded to support all of the forest values outlined in Section 40.

SERVICE FORESTERS

This small cadre of professionals is the main public source of technical help to private landowners. Although the federal government helps defray the costs of such assistance, the service foresters use much of their effort on other projects. Because they are professionals their time has too often been diverted to data gathering, planning, supervising works, land acquisition and the other inevitable state tasks for which they have the best talent available.

Recommendations:

The Secretary should use the Service Foresters primarily for technical assistance and supervision over private forest planning and practices. The availability of the technical skills and sound judgement of these men and women is essential to any improvement and broadening of private forest land use.

COOPERATIVE EXTENSION SERVICE

The Extension Forester has worked out of the University of Massachusetts and, on occasion, has had help in the county extension offices. Much more information and demonstration is needed by landowners and the public about how the many uses of our forest land can be coordinated and made generally available in this urbanized state.

Recommendations:

The Secretary and Legislature should support the work of the Cooperative Extension Service to bring information about all forest uses and problems before as broad a spectrum of interested persons as possible.

FEDERAL COST SHARING

Over the years there have been several programs whereby the federal government paid part of a landowner's cost for selected non-commercial forest practices or investments. These programs have been very useful and should continue, especially as a means of inducing owners to try new activities and invest more of their own resources than they otherwise would.

Recommendations:

The Congressional delegation should be asked to support such programs that encourage the long-term use of the forest.

REGISTRATION OF FORESTERS

As the proper use of forest lands is increasingly important it is desirable to insure that citizens have access to qualified advice and assistance.

Recommendations:

The Legislature should pass a law providing for the registration of foresters qualified to plan and direct the management of the natural resources associated with lands.

SPECIAL PROPERTY TAX TREATMENT

1. The Secretary should:

   a) Insure that the management plans required under either tax law fully implement the state policy of Section 40 by providing for all the uses inherent in forest land, not simply timber production.

   b) Work with the Department of Corporations and Taxation to develop uniform procedures designed to simplify the assessors' work in administering Chapter 61 and 61A.

c) As part of a continuous review process, study open space taxation laws that are more comprehensive than Chapter 61 and 61A. The New Hampshire law seems especially well suited to New England conditions and an assessment of the problems and opportunities for a similar law in Massachusetts should be made.

2. The Legislature should:

a) Remove the present $400 per acre value limit on lands eligible for Chapter 61.

b) Have all woodlands under 61 and 61A assessed at the same low value per acre reflecting the fact that a products tax is paid at harvest time. This value should be revised periodically by the Farmland Evaluation Advisory Committee.

c) Expand this committee to include the Chief Forester.

d) Make all woodlands under either act subject to the 8% harvesting tax whenever roundwood products are sold (excluding maple syrup and Christmas trees).

e) Make the penalties for withdrawing land from either act identical and expensive enough to discourage speculation.

f) Have owners pay the recording cost of liens under either act.

g) Coordinate procedures for administering both acts. A five-year multiple use management plan should be required for forest land under either act. Certification should be good for the period of the plan, subject to any necessary review.

h) Give municipalities the same first refusal option under Chapter 61 that they now have under 61A.

PUBLIC LANDS

PLANNING PROCESS

There are about 500,000 acres of publicly owned forest land in the Commonwealth. The state owns about 400,000 acres and of this the Division of Forests and Parks and the Metropolitan District Commission water lands make up 340,000 acres. Town forests cover about 40,000 acres and municipal watersheds include another large area of forest land. The federal government holds about 40,000 acres, mostly in parks and flood control areas.

At the moment there is no process for coordinating the land use plans made by all of these various agencies. In fact, there is no central planning procedure or policy making body for the state lands that make up such a large core of the public forest holdings. Existing policy guidelines have generally originated with legislative mandates. This lack of an organized planning process is not only inefficient but it is making it difficult for the agencies to meet their responsibilities under the Massachusetts Environmental Protection Act.

Recommendations:

The Secretary should:

a) Design and initiate a continuous planning process to develop policy and plans for the forest lands under the Secretariat. This should make adequate provision for public involvement to insure that the Commonwealth's lands meet as many citizen needs as possible.

   This process can be divided into several phases:

   Phase I would develop a policy guideline to cover Secretariat lands similar to the United States Forest Service's "Guide for Managing the National Forests in New England".

   Phase II would include the development by each agency under the Secretariat of its own policy guidelines which would state how the agencies' particular goals can be met within the Secretariat's Policy Guidelines.

   Phase III would cover the development by each agency of specific plans to implement the general policy guidelines on each of its land management units.

   This whole planning process should insure that the actual management of each parcel of land fits into the general policy of the Secretariat and meets Massachusetts Environmental Protection Act requirements.

b) Plan the use of state lands to provide those essential services which forests alone can furnish, such as solitude and quiet in a natural setting. The Secretary should insure that, as part of a multiple use plan for state lands, appropriate areas are reserved for non-motorized use and primitive recreation. In addition, those natural areas that have significant scientific and educational value should be identified and given special protection.

c) Review the use of small isolated parcels of forest land that have accumulated over the years. Full advantage should be taken of the information developed in the legislative study during 1973. If, in the process of rationalizing management, any land is transferred to a local agency, it should have a conservation restriction laid on it to insure appropriate use.

d) In a similar vein, review the leases between the Commonwealth and federal agencies. The Corps of Engineers, for instance, has some leases that allows the lessee to generate income from the land and use it to improve the quality of management.

COORDINATION WITH OTHER AGENCIES

The planning process proposed above should go a long way toward coordinating forest land use among the agencies of the Secretariat. There are, however, other agencies with forest holdings and the public could benefit from a similar correlation of plans.

Recommendations:

The Secretary should foster greater coordination of forest land use plans with state agencies outside the Secretariat. The forest management skills in the Department of Environmental Management might be very useful to other agencies with forest lands, such as the Department of Public Works.

Similarly, the Secretary could make more technical forest management and planning aid available to municipalities. This could lead to a strengthening of mutual efforts to attain common goals.

EDUCATIONAL USE OF FORESTS

There is a rising demand for information about our natural environment and responsible citizens need to be better informed in order to make wise decisions about environmental trade-offs. Each year thousands of people visit the Commonwealth's forests and parks and many would enjoy learning something about their surroundings. Several steps would further the cause of environmental education.

Recommendations:

The Secretary should be sure that in planning the use of forests and parks adequate provision is made for:

a) Interpretive facilities at key natural areas in the state. These resources are in great demand and can be constructed and maintained with minimum expenditure. Most do not have to be staffed and, in many cases, help can be obtained from interested private agencies.

b) Using the public lands as much as possible to promote field experience for students of all ages.

c) Obtaining volunteer help from the many private agencies interested in the use of forest land. Many groups are willing to furnish construction or maintenance help to create the facilities they need for their special pursuits. Particular emphasis should be placed on educational interests.

RESEARCH NEEDS

The state agencies administering forest lands have no capability for doing research, yet they have many problems that need careful research to find new and more satisfactory answers. Some of these problems will become more acute as a new planning process gets underway. Several areas of concern immediately come to mind:

a) A procedure will be needed to develop a flow of the kinds of data needed to define options and devise land use plans. A satisfactory data gathering program should include such projects as the "Continuous Forest Inventory" and others designed to facilitate long-term planning.

b) A study is needed to find satisfactory ways to assess the costs and benefits of various forest uses. This is especially important because so many of the benefits realized cannot be measured by market prices. A new calculus is needed to help administrators strike a balance between the measures of effort needed to make each forest use available and the figures of merit realized.

c) Some estimate of the contribution made by each forest product and service to the economy of the state is also badly needed to guide the use of state lands.

Recommendations:

In order to give the administrative agencies formal access to research capabilities, the Secretary should facilitate cooperative agreements as needed with such agencies as: the Department of Forestry and Wildlife Management, the Institute of Man and Environment and the Massachusetts Agricultural Experiment Station at the University of Massachusetts, Forest Industries or Associations, and appropriate federal agencies.

PERSONNEL SHORTAGES

The management and planning of the 224,000 acres of state forests and parks is presently done by three professional management foresters, each of whom has an assistant. It will not be possible for these people to adequately manage such large acreage, gather the data needed for rational plans and develop these plans on a satisfactory time schedule.

Recommendations:

The Secretary should study the management forester's workload and hire new personnel as needed. The Review Board believes that at least three more professional foresters and their assistants are needed.

In some instances, especially in parks, it may be possible to make greater use of concessionaires to operate facilities such as parking, camping and picnic grounds. The Secretary should facilitate such use whenever it is feasible on all lands of the Secretariat, especially when this will release employees for other more important duties that can only be done by public effort.

LAWS

The Review Board, after studying the laws relative to public lands, believes that there is no present need for revision, However, it would be easier for administrators and the public if all the laws were found in one Chapter.

Recommendations:

The Legislature recodify Chapter 132 and 132A so that their provisions would be consolidated.

FOREST SERVICES

A good deal of what can be done by the state to insure an adequate supply of all the many services provided by forest land has already been touched on in the sections on private and public land management. However, there are some points that need special emphasis or have not been dealt with before.

One of these is the matter of environmental education which was mentioned under interpretive services on public lands. Much more activity is needed within the Commonwealth on all kinds of land used by the public, in the schools and in cooperation with many private agencies. Because so much of the technical knowledge and land resource is within the Secretariat, the Review Board believes the Secretary should provide much of the leadership in environmental education.

Recommendations:

The Secretary should create a position of Environmental Education Coordinator to:

a) Organize and coordinate the Secretariat's existing resources which could be used in an environmental education program.

b) Provide coordination, resources and publicity for such programs being conducted by public and private agencies.

c) Act as a liaison between the Department of Education and such agencies.

In connection with this interest in environmental education, the Review Board strongly supports H 4415 and H 4416 which would establish a position of Environmental Education Specialist in the Department of Education.

INTERSTATE COOPERATION

There are a good many problems in the use of natural resources where the planning area necessary for a rational solution does not conform to present political boundaries. Perhaps the best known instance is the problem of wetland protection and flood control because rivers and wetlands so frequently cross from one jurisdiction to another. There are many other situations which call for joint planning and action: the state park or forest at a state boundary, the building of roads and trails that cross state lines, setting minimum cutting practices where many operators and the public move freely from one state to another. All of these boundary problems need special attention if we are to get the most out of our forest resources.

Recommendations:

The Secretary should instruct agencies that have such "boundary problems" to make every effort to work out solutions cooperatively with their opposite members in the adjoining state or within the region.

FOREST PRODUCTS

EXPANSION OF EXISTING INDUSTRIES

Massachusetts has a large physical surplus of unutilized growth which can become available for products when local industries need it enough to make the kind of offers landowners can't refuse. To achieve this expansion of economic activities two developments are necessary. First, the logging and manufacturing of timber must be made environmentally sound and compatible with the many values our forests produce. Many of the steps recommended earlier are aimed at this improvement. Second, the wood using industries themselves must become healthy economic units capable of employing workers at competitive wages and utilizing the kinds of raw materials grown in abundance in Massachusetts forests.

A number of positive steps can be taken which will lead to steady development of wood using industries well adapted to prospering in the urban forests of southern New England. It appears to the Review Board that the initial effort would be placed on the improvement and growth of our existing wood using industries. We are confident that, as our industries become stronger, their very success will encourage new industries to look more favorably on Massachusetts as a place to locate.

Recommendations:

The Secretary should:

a) Establish a strong program of Forest Products Marketing and Utilization to work with existing industries and help them upgrade their entire operation.

b) Appoint a Forest Industry Advisory Committee made up of financial and technical persons capable of pointing out targets of opportunity and assigning priorities for the marketing and utilization program.

c) Encourage greater cooperation between the marketing and utilization program and the industrial development work in the Department of Commerce and Development. Ideally, the Department of Commerce and Development should have a person who can spend all or most of the time on the problems of wood using industries.

d) Encourage the gathering of data about existing wood using industries into one or more marketing directories clearly showing the kinds of products manufactured and available in the state. We already have a listing of sawmills and loggers but the need is clear for a marketing directory of primary and secondary wood processors. This data collecting, publishing and frequent upgrading of industrial information would be another logical part of the marketing and utilization program.

e) Investigate the feasibility of exporting various finished or semifinished wood products. This would be a logical adjunct of the marketing and utilization program.

NEW INDUSTRY

When transportation costs were low it paid to import most of our wood needs. That situation is rapidly changing. This fact, plus advances in the technology of using wood, suggests that new industries may find Massachusetts' forests are attractively close to market.

Papermaking is already the most important wood-using industry in the state, but all the virgin pulp must now be imported. Although we have wood enough, much of it isn't suited to old processes and many current mills don't make good environmental neighbors. However, research on a new thermomechanical pulping process is well advanced and promises to turn our mixed woods into high quality pulp. Also, the mills can probably operate economically at a small scale and rather easily meet environmental standards. When developed, this process would make local pulp available to strengthen existing paper mills.

In the long run composite board products made from chips and wood fragments have great promise. Such mills could use our mixed bag of less than sawlog quality trees and much of our unused sawmill waste. In Massachusetts this industry would also have a locational advantage near the northeastern market for construction material.

The manufacture of furniture is our second largest wood-using industry. In recent years, many existing plants have been buying finished panel and cut-to-size stock material rather than make it themselves. There is no large scale mill operating in the state which does this work and, although we grow the preferred species, most parts are purchased elsewhere. An existing primary wood producer would be in an advantageous position to expand his business by turning our high quality white pine and oak into glued up panels and cut-to-size stock.

Pallet manufacture is already an important hardwood lumber consumer in the Commonwealth. This business is usually combined with sawmilling because so much low grade material can be used in pallets. As manufacturing of all kinds increases in the state, local pallet producers are advantageously located to satisfy this expanding demand.

Recommendations:

The Secretary should assign the task of monitoring these and other developing wood based business opportunities to the forest products marketing and utilization specialist in the Division of Forests and Parks. As market demand and new processes justify, priority should be given to assisting those new enterprises that reinforce our present wood-using industries or complement and strengthen other local manufactures.

WOOD ENERGY

The rising cost of fossil fuels has created two new significantly different opportunities to use wood as a source of energy. First, practically all of our unused sawmill wastes could be made suitable for high technology burning as industrial fuel. Conversion is especially attractive to wood-burning industries that already generate some waste that must be disposed of. Second, many home owners are using wood stoves for supplementary heat at relatively low cost. Total conversion to central heating systems that burn wood alone or in combination with fossil fuels is more expensive and not so common. The home fuel market provides a great opportunity to sell cordwood from logging waste, thinnings and improvement cuttings, all of which would benefit the forest.

Recommendations:

The Secretary should:

a) Make a special effort to inform industries of wood energy possibilities and explore how incentives such as rapid depreciation or other tax breaks could encourage industry conversion.

b) Inform home owners of wood fuel possibilities and explore the need for minor tax incentives.

c) Promote the extraction of fuel wood from state and private lands as a way of cleaning up logging residues and developing a healthy and productive forest.

d) Be sure that wood is included when legislation is planned to promote solar, wind and other alternative sources of energy.

SPECIAL PRODUCTS

The major special products derived from Massachusetts' woodlands are Christmas trees and maple syrup. The Christmas tree industry deserves special note because of the tremendous potential for expansion. At present, over two thirds of our Christmas trees are imported from Canada and northern New England. Potential to expand maple syrup sales also exists.

Recommendations:

The Secretary should encourage the Division of Forests and Parks, the Department of Agriculture, the Department of Commerce and Development and the trade groups associated with Christmas tree and maple syrup production to develop programs to inform and assist people involved in these secondary forest industries.

FORESTS AND RURAL DEVELOPMENT

Because the rural countryside is largely forested and forest products industries tend to locate near their raw material base to minimize transportation costs, forests can play a special role in upgrading the quality of rural living. Many of the primary and secondary industries can also operate to advantage as rather small installations based on a local labor force.

Recommendations:

The Secretary should support efforts to improve rural economies by a judicious melding of forest development for recreation and for products. Such a balance between seasonal and year round activities is likely to create a desirable outdoor environment coupled with a better employment pattern than a one-sided development for either use alone.

INFORMATION SPECIALIST

Often landowners and the public at large are not aware of the potential benefits that can be derived from forest land. The Division of Forests and Parks needs an information specialist to disseminate forest information on subjects such as tax incentives, forest management techniques designed to enhance all forest values and market information.

Recommendations:

The Secretary should develop, in the Division of Forests and Parks, the position of Forest Information Specialist to provide forest land owners and the news media with pertinent information on the management and sale of forest products. This person should also work closely with the Extension Forester to disseminate existing information brochures about fuel wood, forest land management and the like. The Cooperative Extension Service should also be urged to employ a specialist in the area of marketing and utilization.

INFLUENCE OF STATE RESOURCES

The Commonwealth has a number of resources at its disposal and the way that they are used can indirectly improve the forest products climate in the state. For example, the service forester program of information and assistance to private land owners has always had more work than could be done and the resulting gap in the demand generated by public foresters has, to a large extent, generated the need for consulting foresters. Another case in point is the way the annual cut of timber on state lands is determined. A sustained yield level can be achieved by a constant cut or by one which varies from year to year but averages out at the target level. The present policy of a fixed cut works against the market while a variable cut works to satisfy demand.

Recommendations:

The Secretary should continue to serve as many private owners as possible by limiting the amount of time a service forester can spend with a single individual. This should promote a healthy growth of private consulting businesses.

The cut on state lands should be geared to market demand by selling more when prices rise and less when they are low. In this way the public forests can help insure a satisfactory supply of raw material to industry and, at the same time, make a greater financial return to the state.

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