April 21, 2010

Richard K. Sullivan Jr.
Commissioner
Massachusetts Department of Conservation and Recreation
251 Causeway Street, Suite 600
Boston, MA 02114-2104

RE: Forest Futures Visioning Process Recommendations

Dear Commissioner Sullivan,

We, the members of the Technical Steering Committee (TSC) of the Forest Futures Visioning Process (FFVP), respectfully submit our final report and recommendations.

In the Spring of 2009, you initiated the FFVP and appointed the eleven-member TSC to develop recommendations for a renewed vision for stewardship and management of DCR forest lands. In an effort to fully understand the broad range of issues surrounding the stewardship and management of DCR forest lands, the TSC met several times over the past year and sought advice and input from many outside experts as well as the 23-member Advisory Group of Stakeholders. Also, we feel very fortunate to have received feedback and input from hundreds of private citizens from across the Commonwealth through our public forums, online surveys and through a dedicated website. The visioning process revealed just how deeply Massachusetts citizens care about their state forests and parks and how eager they are to engage issues surrounding their stewardship and management

Although many key on-the-ground details remain to be worked out, it is our hope that the TSC recommendations, particularly the land use zoning system, provide DCR with a broad vision and framework for balancing the public's demand for the full array of ecosystem services from the state forests and parks. We believe that implementation of the TSC's package of land use and organizational recommendations, in parallel with a strong and on-going DCR commitment to public process, will greatly enhance the Department's fundamental stewardship mission and help to guarantee the future availability of a sustainable stream of public benefits. For this to occur, DCR will undoubtedly require additional financial and human resources. Consequently, the TSC strongly encourages you and Secretary Bowles to work closely with the legislature to ensure that DCR's budgets are adequate to implement the recommendations and accomplish the Department's stewardship mission.

We wish to express our appreciation for the leadership that you have provided throughout this process. We would also like to recognize the hard work of the AGS, the staff of EEA and DCR and others who provided ongoing support for this process. Although this report is the most obvious product of our efforts, we believe this intensive

process of collaboration, outreach and engagement with the public and subject matter experts will yield benefits both now and well into the future.

Thank you for initiating and supporting the Forest Futures process.

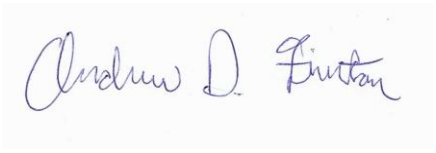
Sincerely,

Lisa Vernegaard, Chairwoman
Forest Futures Visioning Process
Technical Steering Committee

Matt Burne

Heather Clish

Kathleen E. Connolly



Andrew D. Finton

William Moomaw

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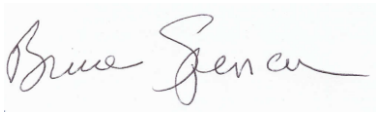
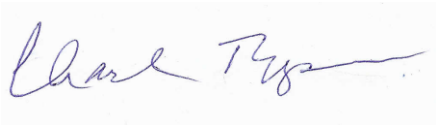
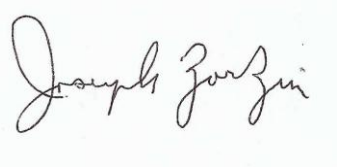


Bruce Spencer

Thomas Stevens



Charles Thompson



Joseph Zorzin

Massachusetts Department of
Conservation and Recreation

Forest Futures Visioning Process Recommendations of the Technical Steering Committee

April 21, 2010

Final Report

FOREST FUTURES VISIONING PROCESS
TECHNICAL STEERING COMMITTEE RECOMMENDATIONS

TABLE OF CONTENTS

LIST OF ANNEXES

LIST OF ACRONYMS

AGS	-	Advisory Group of Stakeholders
ATV	-	All-Terrain Vehicle
BMP	-	Best Management Practice
CFI	-	Continuous Forest Inventory
DAR	-	Department of Agricultural Resources
DCR	-	Department of Conservation & Recreation
DEM	-	Department of Environmental Management
DEP	-	Department of Environmental Protection
DFW	-	Division of Fisheries & Wildlife
DSPR	-	Division of State Parks & Recreation
DUPR	-	Division of Urban Parks & Recreation
DWSP	-	Division of Water Supply Protection
EEA	-	Energy & Environmental Affairs (Executive Office of)
ELU	-	Ecological Land Unit
EOEA	-	Executive Office of Environmental Affairs (Replaced by EEA)
FAC	-	Farmland Advisory Committee
FCPA	-	Forest Cutting Practices Act
FFVP	-	Forest Futures Visioning Process
FIA	-	Forest Inventory & Analysis
FSC	-	Forest Stewardship Council
GIS	-	Geographic Information System
LTEM	-	Long-Term Ecological Monitoring
MACC	-	MA Association of Conservation Commissions
MESA	-	MA Endangered Species Act
MODR	-	MA Office of Dispute Resolution & Public Collaboration
NEON	-	National Ecological Observatory Network
NHESP	-	Natural Heritage Endangered Species Program
NSF	-	National Science Foundation
OHV	-	Off-Highway Vehicle
ORV	-	Off-Road Vehicle
QSTAC	-	Quabbin Science & Technical Advisory Committee
RNA	-	Representative Natural Area
TNC	-	The Nature Conservancy
TSC	-	Technical Steering Committee
TTOR	-	The Trustees of Reservations
WPA	-	Wetlands Protection Act

I. Executive Summary

The Massachusetts Department of Conservation and Recreation (DCR) initiated the Forest Futures Visioning Process in the spring of 2009 to develop a long-term strategy for managing the 308,000 acres of lands in the State and Urban Parks system, taking into account the attributes of these forests and their place in the overall context of the state's three million acres of public and private forests. An eleven member Technical Steering Committee developed the recommendations in this report. The recommendations were informed by input from an Advisory Group of Stakeholders (AGS) and by an extensive public comment process that included five public forums that collectively attracted over 500 participants, approximately 450 written submissions, and over 250 responses to an on-line survey.

Members of the Technical Steering Committee (TSC) were selected by representatives of the stakeholder community for their technical expertise in a wide array of disciplines relevant to managing Massachusetts forests -- climate change, forest conservation, forest ecology, invasive species, landscape ecology, natural resource economics, natural resource law, recreation, silviculture, social policy, visual/aesthetics, watershed management, and wildlife habitat. In this regard, the expert views of the TSC are as members in their individual capacity rather than as representatives of any organization or entity. On the other hand, the AGS was explicitly selected to be a representative body, composed of members from the citizen stewardship, economic development, environmental, forestry, government/municipal, landowner, recreational, and wildlife/habitat stakeholder interest group communities. The role of the AGS was to surface and discuss the issues, develop ideas and suggestions for the TSC, and provide feedback on draft recommendations.

This Executive Summary provides an overview of the vision and ten supporting recommendations from the TSC report. The recommendations focus on near-term changes that DCR can implement and should be viewed as laying out a plan for the next five to ten years, informed by a long-term vision that is grounded in a scientifically rigorous adaptive management approach that anticipates careful on-the-ground monitoring to ensure modification of management approaches when ecosystem service objectives are not met. The full TSC report includes many insights that are beyond the scope of this executive summary; the reader is strongly encouraged to read the recommendations in their entirety for further detail and clarification. In a limited number of instances the TSC did not achieve consensus on elements of a certain recommendation. These differing viewpoints are highlighted in the main body of the report.

Key Elements of the Vision for Massachusetts Forests in 2110

In order to define the role of DCR lands and make near-term recommendations, the TSC needed to consider the role these lands might play within the broader forested landscape of the state -- this is the reason for including a long-term vision for all Massachusetts forests. The vision for the year 2110 contemplates more than half the land area of the Commonwealth will remain in forests, with large blocks of reserves surrounded by parks and woodlands actively managed for a diverse set of ecosystem services. These forests provide numerous economic and social benefits to local communities, the state and nation -- clean air and water, biodiversity, recreation, tourism, climate change adaptation and mitigation, wood products, and a high quality of life for Massachusetts citizens. The protection of these areas will have been accomplished by reducing stresses on the

forests such as: conversion to other uses, ecological and ownership fragmentation, high grading harvest practices, invasive insects and diseases, climate change and atmospheric deposition. State forests will be embedded in a landscape of privately owned forests that will be sustainably managed, and for which many acres will be protected through conservation restrictions. State policies will promote innovative and sustainable management on all forested lands, which will produce a wide array of ecosystem services.

Publicly-owned forests will promote ecosystem services that private landowners are unable or less likely to provide consistently or in sufficient amounts – public recreation, large and small forest reserves, aesthetically pleasing landscapes, and demonstrations of innovative state-of-the-art forest management -- particularly management designed to promote uneven-aged, complex and resilient forests that support the full breadth of biodiversity and natural processes, while maximizing the contribution of our forests to climate change mitigation and adaptation.

Shifting the Forest Management Paradigm

The TSC's recommendations are intended to encourage a land management paradigm shift at DCR -- a process that actually began before the creation of the Forest Futures process with the development of district-level forest resource management plans -- moving the Department's forest management towards a vision based on a more comprehensive suite of ecosystem services and implementation of a more balanced portfolio of management approaches. This reflects the TSC's view that the natural and social sciences underlying several key land management debates continue to evolve with the development of new information and knowledge and consequently the public interest is best served by policies that keep open a range of management options.

A key element of the TSC management paradigm is the concept of ecosystem services that forests provide, including maintenance of important natural processes as well as provision of additional economic and cultural services. Forest ecosystem services include carbon sequestration; soil, air and water quality; biological and ecosystem diversity; nutrient cycling; culture, history and spiritual values; public recreation; and forest products. Forest products are just one among many ecosystem services, and must not dominate or diminish the others. The long-term public ownership of state forests and parks allow these lands to reflect priorities for ecosystem services that are not expected to be provided sufficiently by private lands.

The TSC recommends three land use zones for DCR forests: forest reserves, parklands, and woodlands. This allows a clear articulation and prioritization of the ecosystem service goals for each zone and specification of appropriate management strategies for realizing these goals. The recommendations call for large increases in land set-aside from commercial timber management, either as forest reserves or parklands. Woodlands will serve as examples of sustainable practices, designed to demonstrate sustainable timber production along with other ecosystem services and become models for good stewardship on private forests.

Large permanently protected forest reserves of 15,000 acres or more in the state's major ecological settings will be a prominent feature of the DCR forests. These reserves will ensure long-term ecological integrity and biodiversity values and will be places where natural processes dominate to provide important ecological, educational and cultural services. Large reserves will be supplemented by smaller 'patch' reserves for ecologically and culturally significant areas. The remainder of DCR state forests and parks will be devoted to parklands and woodlands. A primary

goal of the parklands is to deliver high quality and diverse public recreational opportunities that benefit from some active recreation and landscape management, and to provide additional ecosystem services in a manner that is insulated from more intensive silvicultural manipulations and timber harvesting. Managed woodlands will also be a valuable source of ecological services, through the application of silvicultural approaches that emphasize carbon sequestration, wood production, clean water, creation of early successional habitat, and restoration of late successional habitat. The recommendations put forth a range for allocation of acres to each of these types of uses.

The implementation of these recommendations will require changes within DCR to reshape goals and planning processes and ensure implementation of improved forest stewardship, planning from a broad based perspective, and better communication and partnerships with friends groups and the non-profit sector.

Summary of Recommendations

Recommendation 1: Adoption of an Ecosystem Services Model to Guide Forest Protection and Management *-- The fundamental guiding principle for all forest protection and management policies in the Commonwealth should be to ensure the sustainable provision of a comprehensive suite of forest ecosystem services. Moreover, DCR should adopt a planning framework for the state parks and forests that focuses on the provision of key ecosystem services not expected to be provided, or not provided in adequate amounts, from private lands in the Commonwealth.*

The adoption and prioritization of ecosystem services is intended, in part, to address conflicts inherent in competing demands on our forests. *Essential ecosystem services* represent primary management goals for DCR lands. These include biodiversity protection, clean water, carbon sequestration, soil formation and nutrient cycling, and public recreation including wilderness/old growth/spiritual experiences. In addition to these services, some DCR lands will serve to demonstrate how forests can be managed to provide sustainably grown wood products, and others will emphasize quality outdoor recreation experiences.

Recommendation 2: Elevated Role for Massachusetts Forests in the Commonwealth Environmental Decision-making Processes *-- In implementing its environmental priorities, the Commonwealth should focus increased attention on the protection and stewardship of the state's public and private forests through a reorganization that elevates the state's chief forest stewardship official to a more prominent decision-making role.*

Given the enormous importance of public and private forests in providing these critical environmental services to the public, the TSC recommends that the DCR Commissioner consider converting the existing Chief Forester position into a Director of Forest Stewardship, and elevate this position in the DCR organizational structure to be on a par with the Director of State Parks and Recreation. The Director of Forest Stewardship would have primary responsibility for the long term protection of the state's forest resources through implementation of programs to (1) oversee the management of the 308,000 acres currently in the DCR State Park and Forest system, and (2) promote sustainable forestry practices on private lands through DCR's Service Forestry Program and through oversight under the Chapter 132 Forest Cutting Practices Act and other forest regulatory programs.

Recommendation 3: New DCR Landscape Planning Model *-- As an overarching template for organizing its land management activities, DCR should adopt a management structure that sub-divides its State and Urban Park lands into three zones: (1) Forest Reserves, (2) Parklands and (3) Woodlands.*

The three zones are intended to enhance the provision of ecosystem services by segregating incompatible activities and allowing for prioritization of goals.

Forest Reserves are areas of 15,000 acres or more, representative of the Commonwealth's diverse forest settings, where the dominant ecosystem service objectives are biodiversity maintenance and the underlying supporting services of nutrient cycling and soil formation, watershed protection, and long-term carbon sequestration; important secondary services include provision of wilderness/spiritual values and recreation. Initial designations of reserves may include areas smaller than 15,000 acres depending upon available land, but it is anticipated that these will be added to at a later time. Large reserves are recommended to receive some form of permanent protection to allow development and perpetuation of late successional forest ('old growth'). Within one or two reserves an area might receive a designation as wilderness. Additional patch reserves based on ecological, social and cultural criteria will also be designated in the two other zones.

Parklands are areas where the primary ecosystem service objectives are provision of public recreational opportunities that depend on natural areas, preservation of ecologically significant areas and 'special places,' and promotion of cultural values (aesthetic, historical, educational and tribal). These goals are also compatible with the maintenance of a wide range of additional important ecosystem services. Parkland management approaches are expected to range from areas where natural processes dominate to highly modified environments where use is intensively managed. Parklands are identified based on density of officially designated trails, campsites and level of recreation use/visitation, unique natural features and surrounding population density.

Woodlands would emphasize the provision of ecosystem services that require management prescriptions with intensities that are less compatible with the activities in the parklands or forest reserves. One role for woodlands would be demonstrating, to private and municipal landowners and the general public, the practice of sustainable forestry. This would be done through active forest management targeting sustainable production of timber for local markets, protection of water supplies through active watershed manipulation, management to promote early successional habitat, and carbon sequestration through options that focus on active forest management and lifecycle carbon impacts. Woodlands forest management also has a role to play in the ecological restoration of areas that have been dramatically altered by previous management (*e.g.*, plantations of non-native species) or to restore unproductive woodlands damaged by natural disturbance.

Land Allocation to the Zones. The TSC recommends ranges for the allocation of existing DCR State and Urban Park land to the three zones. DCR currently has approximately 40,000 acres designated as large forest reserves; the TSC recommends increasing this to a total of between 90,000 and 120,000 acres; for parklands, the recommended allocation is 70,000 to 90,000 acres; and for woodlands the TSC finds that 100,000 to 150,000 acres would be appropriate. The TSC is not recommending specific properties for these categories. Instead, DCR should implement a detailed planning process to identify feasible on-the-ground configurations for reserves, parklands

and woodlands, and solicit expert and broad public input before finalizing the designations. Moreover, the TSC finds that in the future an additional 90,000 to 130,000 acres must be added to the forest reserves because current DCR acreage is insufficient for creating an ecologically functional system of representative large reserves. Additional acquisitions of parklands and woodlands are also anticipated to meet increasing public demands for ecosystem services from these zones. A means of ensuring that communities in which DCR lands are located receive appropriate revenues from the State in lieu of taxes must be a high priority.

The TSC recommends that DCR immediately implement a process to finalize the allocation of land to each of the zones. Determining these final allocations will require (1) a spatial analysis using objective criteria for large forest reserves, parklands, and woodlands to guide the layout of the zones across the full set of existing DCR properties; (2) comprehensive delineation of each zone, including optimizing each zone, making difficult decisions for properties identified as important for two or more zones, and ground-truthing characteristics before designating areas; and (3) implementation of a robust public process to vet and finalize the allocations, including discussions with towns where DCR forests account for a large portion of the town's area. Overall, the zoning process should give adequate consideration to economic analyses of potential impacts in those communities that are most dependent on the local forest economy.

The TSC recommends that the current suspension of new timber sales be continued until the zoning process, including public review, is complete. This will be followed by a period when DCR develops revised Forest Resource Management plans including guidelines for each of the zones. During this period, timber sales could be reinstated, but until such time as the guidance and management plans are complete, all timber sales should focus on less controversial silvicultural prescriptions (*e.g.*, uneven-aged management for late successional characteristics).

Recommendation 4: Management Approaches for Large Forest Reserves -- *Management of large forest reserves should allow ecological processes to determine the long-term structure, composition, function, and dynamics of the forest to the maximum extent possible. However, the areas that have been considered for large reserves range widely in their natural and historical disturbance regimes. In this context, flexible yet thoroughly vetted reserve management will support ecological functions in the varied forest ecosystems of the Commonwealth and under the ecological and climatic uncertainties of the future.*

Ecosystem Management in Reserves: The TSC recommends forest reserve management with the least amount of human intervention. The goal should be to maintain and enhance a full suite of ecosystem services including biodiversity maintenance and the underlying supporting services of nutrient cycling and soil formation, watershed protection, and long-term carbon sequestration; important secondary services include provision of wilderness/spiritual values and recreation. When in doubt, or where there is disagreement among qualified ecologists and foresters, the default management prescription should be to do nothing. The TSC recommends that no sales of wood should occur on forest reserves beyond revenue collected **incidentally** from restoration and management activities directly within the restored or managed area. Some specific situations may call for ecological restoration and vegetation management in reserves. Each reserve will have an operational plan established with opportunities for public input and to determine in advance how managers will coordinate with local officials in response to events. The TSC also recommends that a 'Science Advisory Board' be established to inform, review, and approve all major restoration and management activities in reserves.

Recreation and Infrastructure Management: State land in forest reserves should be accessible and useable by people in keeping with both the original intent of state lands and certain important ecosystem service values associated with them *(i.e*., aesthetic, recreational, historic and spiritual). Human activities, however, should be managed to minimize their impact on the other intended values of forest reserves (*i.e*., biodiversity, wildlife, acoustic and visual aesthetics, etc.).

Recommendation 5: Management Approaches for Parklands -- *DCR should develop and implement management guidelines for Parklands that focus on enhancing recreation, while continuing to provide additional ecosystem services, including those identified for reserves as well as the aesthetic and cultural values of the property.*

The parkland zones should be managed in a manner that is similar to what currently occurs at DCR's forested urban park properties so as to optimize quality outdoor recreation and maintain other important ecosystem services. Tree work should be conducted only as needed to support the recreational, aesthetic and cultural uses and values of the property. All recreational use decisions should be made on a property-by-property basis. Production of wood for wood products or energy should not be a management objective on parklands. Management planning and implementation should be coordinated with trail stewards and public 'friends groups.'

Recommendation 6: Management Approaches for Woodlands -- *DCR should develop and implement management guidelines for Woodlands that demonstrate excellent forest management practices for sustainable production of wood, restoration of late successional habitat, active management of drinking water quantity and quality, creation of early successional habitat, and promotion of carbon sequestration and any other ecosystem services that benefit from relatively active manipulation of the forest. Over time, these guidelines should promote a greater emphasis on uneven-aged forests across the DCR system. At the same time, woodlands management should include guidelines to protect rare species habitat and other natural resources, as well as the integrity and scenic quality of trails and scenic roads in the woodlands zone.*

The goal is for DCR to have 'model forests' to demonstrate ecologically and economically sustainable practices to private landowners and the public. The recommendations for woodlands management encourage a shift towards greater reliance on uneven-aged silviculture. As a first step, DCR will need to assemble additional information on the origin, age, and condition of the forest stands into three classifications to help in determining how they are managed. **Primary** forests are those areas that have always been in forest growth and never pastured or cleared. **Secondary** forests are those areas that were in agricultural use but have grown back to forest, been harvested once, and have re-grown. **Tertiary** forests are the first stands to grow after agricultural abandonment.

The TSC recommends DCR develop long-term management approaches that are based on silviculture that has as its goal the replication of natural disturbance patterns designed to ensure the regeneration of an age and species diverse forested landscape in Massachusetts. Under such an approach, DCR foresters would implement harvests across the landscape in patterns that are representative of the size and frequency of canopy openings occurring as a result of (non-catastrophic) natural disturbance.

The TSC recognizes the potential for controversy and public distrust when larger openings are created. To reconcile these issues, the TSC recommends that DCR adopt silvicultural guidelines, based on three alternative levels of woodlands management that require a high degree of public consultation and acceptance for harvests that would create larger openings. **Level 1 management** is designed for protecting ecologically sensitive or culturally significant patch reserves. It allows for ecological restoration including control of invasive plants, insects, and herbivores. Hazardous trees along trails and roads could be cut and trees could be removed to maintain rare habitats. Timber management for production of wood and wood products would not be a management objective in these areas. **Level 2 management** applies uneven-aged silvicultural prescriptions – including single-tree and group-patch selection methods – in high productivity primary and secondary forests in order to promote multi-aged and late successional stands (up to 150 to 200 years of age). Harvested patches should not exceed 1/3 of an acre. **Level 3** management is recommended for use in lower productivity and damaged primary, secondary and tertiary stands where a variety of uneven- and even-aged silvicultural prescriptions might be employed. Uneven-aged methods, both those which seek a complete distribution of age and size classes and those that may be more irregular, would be used to harvest single trees, groups of trees and patches up to 1/3 acre in both primary and secondary stands. Irregular shelterwood systems would also be available to restore the structure, composition and function of these lower productivity primary, secondary and tertiary stands. The use of even-aged shelterwood methods would be limited to low productivity and damaged tertiary stands with opening sizes not to exceed five acres, unless after consultation with the interested public (see Recommendation 8), DCR concludes that there is a need to expand this size limit for ecological reasons at a specific site. All Level 2 and 3 harvests would leave tops and branches in the forest, an appropriately conservative approach for ensuring the continued ability of harvested state lands to provide a full suite of ecosystem services.

The highest standards and enhanced best management practices would apply. These include marking of individual trees for harvest, mapping of wetlands, buffers, and full compliance with the Massachusetts Endangered Species Act, in order to continue delivery of multiple additional ecosystem services along with sustainable production of wood products. Harvesting equipment will be specified to minimize damage to remaining trees and soils. The recommendations address management for recreation in the woodlands through collaborative planning, trail buffers and improved practices where recreation and silvicultural areas intersect.

Early Successional Habitat. The TSC, rather than designating a specific acreage target for early successional habitat, recommends that DCR establish a formal ongoing planning and adaptive management process for addressing these habitat needs. This process should include consideration of background levels of early successional habitat creation due to natural disturbance across all DCR forests and close coordination with the Deparrtment of Fisheries & Wildlife (DFW), academic experts and the public to address habitat creation needs beyond what will occur via natural disturbance and expected harvests on DCR woodlands. The DCR/DFW plans should configure any habitat creation projects to minimize clearing while addressing DFW goals for state lands, to the extent this is compatible with other ecosystem service objectives for DCR woodlands. Cutting in unfragmented forest should be avoided and to the extent possible priority given to management of overgrown fields and expansion of existing open areas. Essentially, under the TSC's proposal DCR's integrated resource management planning process would be the locus for periodically reviewed decisions about the amount of cutting needed to support early successional species; but this would be informed by better data on current and likely

future levels of natural disturbance on DCR lands and should be divorced from decisions relating to timber production in the woodlands zone.

Green Certification. While acknowledging general concern about certification of public lands – a program designed to provide the state with independent, third-party audits and evaluations of its forest management practices -- the TSC finds that FSC certification is a potentially valuable tool for advancing the ecosystem service goals outlined for DCR woodlands in these recommendations. Third-party verification provides additional impetus for public input, has an overlay of additional standards which aid in protection of ecosystem services, provides impetus for planning, helps educate staff on the broader array of approaches, and makes wood products more marketable/valuable. But this will require that DCR's goals for forest management be developed through a robust public process that provides legitimacy for the plans that FSC auditors are asked to review.

Biomass. The TSC finds that the expansion of biomass energy facilities in the state could pose a potentially significant risk to the ecosystem services that are so important to maintain within DCR forests. The woodland zone recommendations reflect a conservative approach for avoiding adverse impacts of biomass removals through a general requirement that tops and branches be left in the woods. In light of the many uncertainties about the potential ecosystem impacts of wood production for biomass fuel, a cautious approach -- requiring that 'forestry residues' be left in place to build soil carbon and protect nutrient stocks and habitat -- is called for to ensure the sustainable delivery of ecosystem services from DCR's woodlands.

Recommendation 7: DCR Organizational Structure, Decision-making, and Planning *-- The DCR Commissioner should establish a fully integrated planning and management structure focused on long-term stewardship and adaptive management for the complex and inter-related set of ecosystem service priorities established for DCR parks and forests.*

The recommendations intend to make clear that long-term stewardship of the forest resource is the fundamental purpose of DCR's land management. Further, based on the observation that DCR forest planning is not adequately integrated across the Department, the TSC recommends creation of a single, unified planning and adaptive management system that addresses the full suite of ecosystem service priorities across the three zones. DCR needs to expand current efforts and formalize methods for incorporating into its planning and land management activities: (1) information collected from forest resource data; (2) advances in scientific knowledge; (3) alternatives analysis; and (4) a means to gauge the success of its activities and make changes based on results of a formal feedback mechanism.

Recommendation 8: Improving Public Process *-- Create a robust process that gives members of the public an opportunity for their concerns and values to be addressed and incorporated throughout the planning and implementation of management of the publicly owned land under DCR's care.*

The TSC recognizes that no management decision will be universally accepted by the public. Broad public acceptance of DCR's management will therefore need to acknowledge and address the full range of public views, and DCR must enlist a broader cross-section of society in its work to ensure that the full range of views is represented in the decision making process. There is a need for open, transparent, authentic and broad based public participation in decision making for

allocation of land to large forest reserves, parklands and woodlands, and at the full range of planning scales for forest management and implementation - from the broadest, state-wide and district-level forest resource management planning, down to the much finer-scale, stand-level forest cutting plans. There is also a need to address internal processes to improve public participation and better address the concerns of those engaged in the decision making process. The recommendation calls for implementation of best practices for public participation, dedication of management staff to improving participation, clear timelines for projects and policy decisions, and improved tools for reaching the public. Measurement and feedback loops and incorporation of public engagement in project and performance management reviews will ensure better processes.

Recommendation 9: Policies for Privately Owned Forests in the Commonwealth *– A prominent part of DCR's mandates include oversight of all forests in Massachusetts. Due to the importance of private forests to public forest function and integrity, and the high level of public benefits provided by private forests in Massachusetts, the Commonwealth should adopt measures to prevent further forest fragmentation and conversion to other land uses, and promote better stewardship of private forests, including the implementation of a requirement that all forest harvesting plans be prepared by a licensed forester.*

Conservation and protection of the public values provided by private forests in Massachusetts requires increased leadership, education, public investment and alignment of incentives to ensure that these forests will continue to exist in the future and that private landowners make informed decisions about the stewardship of their forest lands. To accomplish these goals, the Commonwealth should support programs and policies that prevent forest conversion. These should include further evaluation of cost share and conservation finance programs, as well as further evaluation of measures to improve stewardship on private lands -- including promulgation of the revised Chapter 132 regulations; better tabulation and dissemination of information collected from harvests in Massachusetts forests (including analysis of and access to GIS data); improved public/private partnerships; legislation concerning tax credits and support for local wood products; and requirements that all cutting plans required under M.G.L. 132 be prepared by a licensed forester.

Recommendation 10: Resources Needed to Implement the TSC Recommendations *-- The DCR Commissioner should develop and implement strategies for funding the specific recommendations from the Forest Futures process.*

Implementing the Forest Futures recommendations will require both reprogramming of existing resources and development of new revenue streams. While it would be convenient to assume that all the proposed changes could be put in place through reallocation and re-assignment of existing DCR staff, this is simply not the case. Increases in DCR staff are needed to support creation of the three zone system, development of new management guidelines and plans, implementation of expanded public participation process, and for both short and long-term management and monitoring of forest reserves, parklands and woodlands. The recommendations in this report form an integrated package of changes that are needed to assure effective management of DCR lands. Many of the recommendations address areas that have been severely under-funded or not funded at all in the past (e.g., preparation of integrated resource management plans, collection and analysis of data to support adaptive management). Consequently, it is critical that the Executive Office of Energy and Environmental Affairs (EEA) and DCR seek additional funding from the

legislature to support implementation of the recommendations in this report. Absent new funding, major portions of the recommendation package cannot be implemented. This includes not only funding for DCR staff but also funds for acquisition of the additional lands needed to (1) ensure the future build-out ecologically functional system of large forest reserves and (2) provide adequate parkland and woodlands to meet the public's future ecosystem service demands.

Finally, although beyond the original charge of the Committee and therefore not included as one of our ten recommendations, the TSC urges the Secretary of Energy and Environmental Affairs to consider the potential benefits of adapting and applying the recommendations and insights from our work more broadly to all forest lands owned by the state. This would result in a more fully integrated vision and management approach for state lands, consistent with the TSC's long-term vision for the forests of the Commonwealth.