



April 2013

This document contains comments received by the Department of Conservation and Recreation in response to the February release of “From Here Forward: Proposed Changes to the Department of Conservation and Recreation – Division of Water Supply Protection’s Watershed Forest Management Program.” Some of the responses also reference the Science and Technical Advisory Committee (STAC) report, “Review of the Massachusetts DWSP Watershed Forestry Program”, which was made available for public review in December 2012.

The public comment period has now closed. DCR appreciates the time and effort taken by the public to make these comments. They are presented in alphabetical order. A separate document with the agency’s reply to the issues raised in these letters will be posted shortly on the DCR website.



From: Kate Audette [<mailto:kaudette@hhsi.us>]

Sent: Thursday, March 14, 2013 4:45 PM

To: Updates, DCR (DCR)

Subject: RE: STAC: Keep Commercial Logging out of the Quabbin

Thank you in advance for your consideration. While I currently live in Boston and get my water from the Quabbin I am originally from Hardwick MA. I attended Quabbin Regional School District where our science studies every year featured opportunities to learn about the reservoir. Having that context I am very concerned about the proposals to allow commercial logging out of the Quabbin and hope that serious consideration would be given to retracting this proposal.

Best,

Kate

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March 15, 2013

Commissioner Edward Lambert  
Department of Conservation and Recreation  
Office of Public Outreach  
251 Causeway Street, Suite 900  
Boston, MA 02114

Via Email: [DCR.Updates@state.ma.us](mailto:DCR.Updates@state.ma.us)

Re: **DCR Response to Science and Technical Advisory Committee (STAC) Report**

Dear Commissioner Lambert:

On behalf of Mass Audubon, I submit the following comments on the *Proposed Changes to the Department of Conservation & Recreation – Division of Water Supply Protection’s Watershed Forest Management Program: Response to Forest Heritage Planning Process and the Science and Technical Advisory Committee*, dated February 5, 2013.

As noted in Mass Audubon’s comments on the STAC report (attached), water quality at Quabbin Reservoir and the other parts of the DWSP water supply system is vital, as it provides drinking water to 2.2 million people in Massachusetts. A critical factor supporting the high water quality within the system is that over half of the land within the watersheds draining into the Quabbin and Wachusett Reservoirs is permanently protected from development. These comments supplement Mass Audubon’s previous comments on the STAC report; therefore we will not repeat the points made therein. We note that DCR has acknowledged many of the issues we raised in our previous comments in its response to the STAC report.

DCR has proposed several refinements to the watershed management program based on public input through the Forest Heritage Planning Process (aka Forest Vision) and the STAC report. These recommendations can be broadly grouped into four categories:

1. **Procedural**: These include improvements to public information and comment opportunities, internal project review, and enhanced project oversight.
2. **Forestry Practices**: Revisions are being made to selection of projects involving forest openings, including clarification of the relationship to regeneration objectives; elimination of “cookie-cutter” shaped openings and fitting the openings to the landscape; and development of old-growth characteristics in some locations. Enhancements to green retention requirements are added. Monitoring is also enhanced.
3. **Invasive plants**: DCR has posted a *Terrestrial Invasive Plant Strategic Management Strategy* which will be utilized to manage and minimize invasive plants on the watershed lands. Mass Audubon supports this strategy, while noting that funding is an issue for carrying it out. The strategy also needed to more explicitly acknowledge the concern that soil disturbances and increased light associated with forest harvest openings can create conditions under which invasives are spread through seeds in bird droppings.

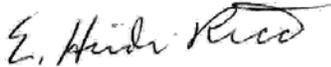
Cleaning of forestry equipment before it enters the site and pre-harvest treatment of existing invasives on a site may not be sufficient to prevent areas disturbed by forestry from being susceptible to post-harvest invasive establishment.

4. **Land Protection**: DCR is making a commitment to further strengthen its watershed land protection program in the Wachusett Watershed, and to partner with others in intensifying efforts to protect critical lands. We strongly support this action.

Mass Audubon supports DCR's proposed refinements to its watershed management program. While scientific debate remains regarding how best to ensure the most resilient forest possible in the face of diseases, pests, invasive species, and natural disturbances (including likely increased threats of storm damage due to climate change) the program DCR is undertaking contains many best management practices. We encourage DCR to continue to develop a more robust monitoring program designed not only to document effects of forestry but also to compare managed vs. unmanaged areas over the long term.

Thank you for considering these comments.

Sincerely,



E. Heidi Ricci  
Senior Policy Analyst

Attachment

cc: Jonathan Yeo, Director DWSP  
Peter Church, DCR Director of Forest Stewardship

Glen A. Ayers  
27 Juggler Meadow Road  
Leverett, MA 01054  
413-834-5729  
[glenayers@gmail.com](mailto:glenayers@gmail.com)

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Office of Public Outreach  
251 Causeway Street, Suite 900  
Boston, MA 02114

March 15, 2013

RE: Comments on the DCR response to STAC

Via e-mail: [DCR.Updates@state.ma.us](mailto:DCR.Updates@state.ma.us)

Dear Massachusetts Department of Conservation and Recreation:

Please enter these comments into the official record for the “Response to Forest Heritage Planning Process and the Science and Technical Advisory Committee Final Report” dated February 5, 2013.

**Statement of Standing:** I hike in the Quabbin Watershed lands on a regular basis. I have hiked extensively in all parts of the Quabbin Watershed. I have personally visited numerous areas of clear-cutting and deforestation perpetrated by the DCR. I have personally witnessed severe impacts to the watershed from the complete removal of tree cover over extensive areas. I have visited areas of severe damage to the soil resources resulting in soil compaction, ponding, erosion, and the formation of gullies on Quabbin public lands due to the use of mechanized industrial de-forestation machinery. I have personally witnessed and documented logging operations that violated set-backs and buffer zones around vernal pools and other highly sensitive ecological areas, and I have seen the destruction caused by logging equipment when it is repeatedly driven directly through active functioning vernal pools, wetlands, and other highly sensitive ecological areas. I have walked around the entire Quabbin Reservoir to draw attention to the clear-cut logging and other abuses being conducted by DCR, to no avail. I have requested in writing, through official public records requests the documentation for the Quabbin logging operations but DCR staff has failed to provide any monitoring data such as soil sample monitoring results, baseline monitoring results, follow-up soil nutrient analyses, and similar information that was requested. Apparently there has never been a soil analysis taken and analyzed before and after the severe logging and deforestation activities take place. The most basic scientific standards have never been met.

I have repeatedly asked DCR staff, EOEE staff, and the STAC Committee Chair, in public meetings and in writing, to conduct a full CO<sub>2</sub> analysis of the timbering/deforestation program that has been conducted at the Quabbin so as to calculate the baseline 1990 CO<sub>2</sub> emissions from the deforestation program in order to disclose and develop a plan for GWSA compliance in accord with the mandate for 25% and 80% reduction in CO<sub>2</sub> emissions associated with the forest removal program at the Quabbin, but none of these requests have ever been answered.

I routinely attend QWAC meetings in Belchertown.

**Comment #1.)** The DCR has violated 301 CMR 11.00 and utilized a fake planning process to circumvent the requirements of MEPA for disclosure of environmental impacts associated with its proposed deforestation plan for the Quabbin and Ware River watersheds. The proposed ending of the logging moratorium and the resumption of industrial timber extraction on DWSP lands is a major agency activity, but no legitimate process has been followed, no public input was incorporated, and the process was completely sequestered so as to exclude the public from meaningful participation in the decision making process. The DCR has attempted to control every aspect of the process so that a pre-conceived outcome would be realized.

**Comment #2.)** The DCR has failed to conduct a legitimate environmental review, has failed to document past impacts from clear-cut logging in the Quabbin and Ware River Watersheds, and has failed to adequately analyze the probable and foreseeable impacts from resumption of the commercial/industrial deforestation logging operations within the protected watershed area. The STAC Report used cherry-picked information to substantiate a pre-conceived conclusion. The public was intentionally excluded from the meetings of the STAC group. For instance, one STAC meeting was held at UMass Amherst on 6/22/12 and the public was given approximately 24 hours of notice for a meeting being held when most people likely to attend would be at work. The notice contained the following statement:

The meeting is open for public observation only. The report, when prepared, will be available to the public on the DCR website at [www.mass.gov/dcr/news/publicmeetings/watershedspast.htm](http://www.mass.gov/dcr/news/publicmeetings/watershedspast.htm). DCR will seek public input on the report in coordination with the Watershed Advisory Committees.

Thus the public was intentionally excluded from any meaningful participation, was told in advance that they would not be allowed to have any input, ask any questions, or challenge any assumptions, and was given the excuse that the public's input would be limited to Watershed Advisory Committees which mostly function as a Good 'Ole Boys Club for huntin' & fishin' in the Quabbin and is stacked with sportsmen who are constantly voicing their strong support for cutting down the forests of the Quabbin and Ware River Watersheds. A more fraudulent process could not have been devised. The process that was followed was completely meritless, a travesty modeled on the Soviet system of political corruption, and sits as a malodorous example of DCR's capacity to violate the ethics, sensibilities, and morality of the concerned public.

**Comment #3.)** The DCR has failed to analyze and compare a reasonable range of alternatives, has failed to consider the No Action Alternative, as required by law, and has produced a vague plan titled "From Here Forward" which should more aptly be named "From Nowhere Backwards". The STAC Report was supposedly produced by a team of "experts" but that committee was predominately made up of biased people with extensive forestry and engineering training. This is the same thing as appointing a committee to study and develop a plan for better meals for school children and then stacking the committee with meat butchers, soft-drink peddlers, and junk-food manufacturers. It would be unlikely that such a group would recommend that children should eat healthy meals based largely on fresh vegetables and fruits. Likewise, the STAC report was preconceived, based on the make-up of the committee, especially when it was mostly written by those with a fetish for pre-emptively and continuously chopping down large trees so that they will be replaced by saplings better able to bend in a stiff wind.

**Comment #4.)** The DCR has failed produce a plan that complies with the Global Warming Solutions Act, although repeatedly requested to do so by the public. The STAC report contains not a single mention of any of the following phrases: “Global Warming Solutions Act”, “GWSA”, “Carbon Dioxide”, “CO2 reduction” “25% by 2020”, or “80% by 2050”. Thus the STAC Report and the DCR Response are both completely lacking in addressing the requirements of the GWSA that all facilities implement a plan to significantly reduce their contributions to the primary cause of climate change and global warming. The proposal to resume the deforestation program on the DWSP lands must be challenged to the fullest extent, since it is based on a continuation of exactly the mindset that has created and perpetuates the climate crisis.

**Comment #5.)** The combining of DEM and MDC in to DCR was an experiment that has utterly failed. The letters “DCR” supposedly stand for the Department of Conservation and Recreation, but in truth a better description for the timber extraction part of DCR would be the “Department of Cut and Run” since this has been the predominant function of the timber extraction campaign being practiced, especially in the last decade. The tree-removal program at DCR has nothing to do with ‘Conservation” and “Recreation” and has no business being associated with the completely opposite goal of protecting parks and forests for the enjoyment of the citizens of the Commonwealth. This non-scientific deforestation pogrom that has been foisted on the public has been widely hailed as unacceptable, controversial, illegal, unsustainable, and unsupportable. The complete lack of scientific analysis, baseline monitoring, impact monitoring, and honest assessments, has left the DCR with an enormous deficit of public trust. This is probably a deficit that DCR will never be able to overcome. The Department should stop trying to further deceive the public with fake studies and absurd proposals to resume their business as usual destruction of public lands. The logging/deforestation section of DCR should be separated from the Parks and Recreation activities, since it taints the entire Department. The deforestation component of DCR should be completely severed, since it has nothing to do with conservation and recreation. The new department containing the logging program should be honestly named the Department of Resource Extraction and Climate Change Acceleration, or DRECCA for short. DRECCA should then be abolished by attrition, defunding, and executive action.

**Comment #6.)** The same goes with the Division of Water Supply Protection. The work of this section should be divorced from the industrial logging operations and should focus on land acquisition and protection. DCR and DWSP are schizophrenic entities where one hand works to acquire and protect land while the other hand works to destroy and violate the land. These are mutually exclusive operations, whereby the public is prohibited from recreating on extensive sections of public land in order to protect it from mere foot prints, while the commercial timber extractors are given permission to remove all forest cover, severely impact the soil, and wipe out wildlife habitat from the very same lands that the public is excluded from even walking on. The absurdity of this situation is undeniable, yet the DCR response proposes to continue this Orwellian program by asserting that in order to save the forest we must destroy it. In truth, in order to save the forests, we must destroy DCR.

**Comment #7.)** The DWSP lands and especially the entire Quabbin Watershed should be allowed to naturally attain full maturity and evolve into an old growth forest. Such examples of old growth are exceedingly rare in Massachusetts, but those areas that do exist have survived repeated hurricanes over the course of centuries. These old growth areas are also essentially devoid of invasive species, the number one threat to the Quabbin Watershed, the protection of

water quality, and public health. Instead the DCR proposes to “treat” 2% of the watershed(s) every year in a never-ending cycle of unnecessary “management” so that the Agency will be able to perpetuate itself while supplying an unending stream of low quality timber resources to the sawmills of Quebec, and all of this at a huge loss to the tax-payers of Massachusetts who are actually paying to have their natural heritage lands desecrated.

**Comment #8.)** The DCR must complete an inventory of the condition of all lands as they existed in 1990 in order to establish the baseline of the CO2 production from their forestry operations. Then the DCR must produce a plan that calculates the current CO2 emissions from their deforestation activities, including their disastrous clear-cutting campaign of recent years. It is scientific fact that the intensive forest destruction practices being promulgated by the Department release massive quantities of CO2 during the initial phases of forest removal and for years following. It takes decades for the forest to recover its ability to sequester carbon and even longer for the carbon that was lost to be regained as compared to a forest that remains undisturbed. DCR must complete this analysis with full public participation in an open and transparent process. The Agency must then implement a plan that results in the reduction of current CO2 emissions so that they approximate the levels that are 25% below the 1990 baseline level. The plan must also propose how the Agency will further reduce its CO2 impacts by 80% below the 1990 levels by 2050. This must all be done before the logging moratorium is lifted at the Quabbin (DWSP). DCR has already wasted the past two years during which time this analysis could have been done. DCR and EOEE officials were well aware that this was required, but have been trying to ignore this mandate by pretending that their method of deforestation is somehow “scientific” and not subject to the realities of the climate crisis.

**Summary:** It is a fact that global deforestation has been a major contributor to rising CO2 levels, global warming, and climate change. The DCR proposal to continuously contribute to the deforestation of our public heritage lands will only exacerbate this condition in violation of the spirit and intent of the Global Warming Solutions Act. The focus of the activities on all DWSP lands should be restoration ecology, guided by conservation biology, and the overarching need to eliminate the out-of-control invasive species infestations that have been created by the deforestation campaign of the recent past. The full public health impacts of the disastrous industrial logging program at the Quabbin need to be analyzed and disclosed. The deforestation operations at the Quabbin may not resume until a legitimate process with complete transparency is used that assures full public participation in all decision-making.

**From:** Glen Ayers [<mailto:glenayers@gmail.com>]  
**Sent:** Friday, March 15, 2013 12:23 PM  
**To:** Updates, DCR (DCR)  
**Subject:** Mass Greenhouse Gas Policy -final

Department of Conservation and Recreation  
Office of Public Outreach

251 Causeway Street, Suite 900

Boston, MA 02114

March 15, 2013

RE: Comments on the DCR response to STAC

Via e-mail: [DCR.Updates@state.ma.us](mailto:DCR.Updates@state.ma.us)

Dear Massachusetts Department of Conservation and Recreation:

Please enter this document into the official record for the "Response to Forest Heritage Planning Process and the Science and Technical Advisory Committee Final Report" dated February 5, 2013.

[The document provided was MA EOEEA's "Revised MEPA Greenhouse Gas Emissions Policy and Protocol", Effective Date: May 5, 2010. The document is available on-line at <http://www.env.state.ma.us/mepa/downloads/GHG%20Policy%20FINAL.pdf> ].

Apparently DCR has never seen this document. It was obviously not reviewed during the STAC process. The DCR Response likewise does not address the policy.

I want this document included in the court record.

Sincerely,

Glen A. Ayers  
27 Juggler Meadow Road  
Leverett, MA 01054  
[413-834-5729](tel:413-834-5729)  
[glenayers@gmail.com](mailto:glenayers@gmail.com)

" O, pardon me, thou bleeding piece of earth, That I am meek and gentle with these butchers!"  
--William Shakespeare, from Julius Caesar, Act 3, Scene 1

From: Lois Barber [<mailto:lois@earthaction.org>]  
Sent: Thursday, March 14, 2013 12:16 PM  
To: Updates, DCR (DCR)  
Subject: STAC

Dear DCR,

I am writing to comment on the proposed commercial logging plan for the Quabbin Reservoir Forest. I am opposed to this plan for several reasons:

1. The Quabbin represents only 1.9% of Massachusetts forests and protects the drinking water for more than 2 million citizens.
2. The standing trees filter the air and water, and absorb carbon dioxide thereby helping to stabilize our climate. The forest also provides animal habitat and is a refuge for people who love this natural forest environment.
3. Logging in the Quabbin will disturb the soil and cause run off into the streams and the reservoir itself. To protect this reservoir, the state has many restrictions on how this forest can be used and it would be consistent to also ban logging.

I encourage you to use this as an opportunity to make the entire Quabbin forest protected from logging.

Please, when you make your decision, have as your number one priority the long-term well being of this forest and the whole state of Massachusetts, not the short term interests of the logging industry.

Thank you for consideration of my comments.

Lois Barber  
29 Taylor Street  
Amherst, MA 01002

From: kathie breuninger [<mailto:kbreuninger@verizon.net>]

Sent: Thursday, March 14, 2013 3:28 PM

To: Updates, DCR (DCR)

Subject: Logging at the Quabin

Reason 1...Wouldn't it be better for the economy at this time for the state to refrain from logging on our public lands? Keeping our public wood off the market would make the individual land owner's wood more valuable and therefore make the individual land owner more apt to log his land. Once money is in the pocket of the landowner and a logger, you have two more people with jobs and money to spend in our economy.

The state never gets much money when they log public land so only one person, the logger profits.

Reason 2... I do not feel the Quabin needs more land opened up around it. I would think it would be a healthier body of water with more trees surrounding it and a healthier forest not having been fragmented by logging.

Kathie Breuninger

## Comments to the “Response to Forest Heritage Planning Process and the STAC Final Report” of February 5, 2013

March 15, 2013

Eric Chivian M.D.

Director, Program on Biodiversity and Human Health  
Center for Health and the Global Environment  
Harvard School of Public Health

### Introduction

I have reviewed the STAC Final Report of November, 2012 and the “Response” document of February, 2013 in great detail, read a large number of scientific articles that bear on the issues raised, and spoken to several scientists with expertise in forest management, forest biodiversity and ecosystem services, carbon sinks, Lyme disease, and other relevant topics.

They include:

Dr. David Foster, Director of the Harvard Forest, Senior Lecturer on  
Biology, Harvard University

Duncan Stone, Bullard Fellow in Forest Research, Harvard Forest

John Roe, Bullard Fellow in Forest Research, Harvard Forest

Dr. Stuart Pimm, Doris Duke Professor of Conservation Biology, Duke  
University

Dr. Rick Ostfeld, Disease Ecologist, Cary Institute of Ecosystem Studies

Dr. William Moomaw, Professor of International Environmental Policy,  
Tufts University, A Lead Author of the IPCC and the Millennium  
Ecosystem Assessment

While my comments have been informed by these discussions, the views expressed below are mine and mine alone, and do not intend to represent in any way the positions of the Center for Health and the Global Environment or of Harvard University, or the opinions of any of the scientists mentioned above.

I am grateful to Secretary Bowles and Commissioner Sullivan for ordering a moratorium on logging in DCR watersheds in 2010, and to STAC for its review of DWSP’s logging practices and for its policy recommendations going

forward. I also appreciate the opportunity to provide comments on the DWSP's "Response" document, and by extension on the STAC Report, and I look forward to engaging, along with my colleagues, in conversations with Secretary Sullivan of the Executive Office of Energy and Environmental Affairs and DCR Commissioner Lambert, to help inform their decisions about the proposal to re-start commercial logging in Massachusetts' watershed lands.

I need to say at the outset that I have many friends in DCR and admire them and their work greatly, particularly Jim French, whose efforts to protect land from development in the Quabbin Watershed are legendary; Paula Packard, whose tireless work to understand the dynamics of Commonwealth surface waters and wetlands and to preserve them deserves special praise; and Caroline Raisler, who was enormously helpful and diligent with all the details involved in my wife's and my Watershed Protection CR. I also want to recognize the hard and dedicated work of the STAC and of those in DWSP and DCR in general, who put in long hours and give it their all, despite perhaps sometimes having the feeling that they have a thankless job.

But in spite of these friendships and this admiration, I feel very strongly that it is my responsibility to question scientific conclusions when I disagree with them, particularly when it comes to critically important environmental and public health questions such as logging in Massachusetts' watersheds. In what follows, I will restrict my comments to logging in the Quabbin Reservoir Watershed, for, as the largest reservoir of surface drinking water in the world, the Quabbin merits the greatest attention and the greatest care.

First, some general comments about the STAC Report and the "Response" document.

- Any scientific report should present a range of opinions and should go out of its way to reveal uncertainties in its conclusions and possible unanticipated impacts, especially when the issues covered are so multifaceted and complex, and when the systems involved are so poorly understood. Both of these conditions apply to the Quabbin Watershed. There is no serious attention paid in the STAC Report, nor in the "Response" document, to scientific opinions that may call their conclusions and recommendations into question, and no admission of such uncertainties, creating the impression that both of these documents are defensive and dogmatic in nature, and raising serious

questions about their open-mindedness and objectivity. What is just as worrisome is that those who may disagree with the assumptions on which these reports are based are characterized, I am sorry to say, in a dismissive and patronizing way, as if they were misguided and uninformed, not getting the big picture, and motivated by ideological and aesthetic, rather than by valid scientific, concerns. This is hardly the way to win friends and influence people.

- It also seems unwise in the STAC Report and in the “Response” document to hold up DWSP’s receiving the first Forest Stewardship Council’s (FSC) “Green Certification” for public land management in North America, without also mentioning that the Commonwealth’s application for re-certification in 2009 was denied, as its forestry practices were not in compliance with FSC standards. Now, four years later, the Commonwealth is still not FSC “Green Certified.” Anyone who knows this history will raise eyebrows when reading these documents.
- Finally, it goes without saying that when you are causing major disturbances to large, critically important ecosystems, the burden of proof is up to you to demonstrate conclusively and convincingly that the potential benefits derived from such disturbances, both short-term and long-term, are greater than the potential risks. Otherwise, such disturbances cannot be justified. In my view, this principle applies very strongly to forest management of the Quabbin Watershed, which, while not an old growth forest and not “pristine,” nevertheless has been in large part undisturbed, outside of intensive harvesting, for 80 years or more.

I will argue below that the STAC Report and the “Response” document have not provided conclusive and convincing evidence that the potential benefits from DWSP’s forest management plans for the Quabbin Watershed outweigh the potential risks, and, therefore, that there be a continuation of the Moratorium on logging in the Quabbin (as well as in the Ware and Wachusett Watersheds). I have included several primary references from the literature at the end of my comments so that readers can follow my argument and decide for themselves.

## Specific Comments

## 1. Loss of Carbon Storage and Carbon Release

Carbon sequestration is mentioned just one time in the entire 72 pages of the STAC report. Carbon release from harvesting is not mentioned at all. It is hard to understand why this issue does not seem to be worthy of any consideration, given that “forests and their soils contain the majority of the Earth’s terrestrial carbon stocks” (a), that deforestation is thought to account for about 20% of total global CO<sub>2</sub> emissions (IPCC, 2007), and that forests in the U.S. are said to sequester some 10% of total annual U.S. CO<sub>2</sub> emissions (1). There is an extensive literature that uncut forests compared to those that are logged store the greatest amount of carbon, and that the loss of carbon sinks, both in trees and in the soils, is proportional to the extent of harvesting (e.g. see 2, 3, 4, 5). What’s more, there is significant soil carbon release from harvesting (5, 6). Forest soils are the largest active terrestrial carbon pool, with over 69% of the total C in forest ecosystems stored in soil (7). While the regeneration of the forest after cutting will eventually result in a sequestering of carbon at an increasingly rapid rate, it may take 20 years or more before it begins to catch up in rate to the amount of carbon sequestered by uncut forests (3), and longer still until the total amount of carbon sequestered is the same.

The plans to cut up to 25% of some areas of the Quabbin Watershed forests over 10 year periods, which will total many thousands of acres over 20 years (judging from past harvesting), will amount to a massive loss of carbon sequestration for the Watershed, and massive soil carbon release. The fossil fuel costs of the chain saws, trucks, and all the other heavy equipment, plus the transport of the logs to their final destinations must be added to these carbon emission calculations as well.

While the release of carbon from soils and the reduction of carbon sinks secondary to DWSP’s harvesting operations in the Quabbin Watershed will not push the world towards a climate catastrophe, the fact that the STAC Report does not even discuss this issue, and has not studied carbon storage or release from harvesting activities in the Watershed at all to my knowledge, at a time when we are rapidly increasing atmospheric CO<sub>2</sub> concentrations and causing more and more frequent and extreme, wildly fluctuating, and increasingly unstable changes to the global climate, when the major academies of medicine around the world, including our own American College of Physicians, have called climate change “the biggest global health threat of the 21<sup>st</sup> Century”, when we need to reduce every

possible source of CO2 emissions and increase every possible carbon sink, when we need to plant more forests, not cut down those we already have, does not inspire confidence.

And given that in 2008, Governor Patrick signed into law the Global Warming Solutions Act for Massachusetts, which requires the Executive Office of Energy and Environmental Affairs, in consultation with other state agencies and the public, to achieve greenhouse gas emissions reductions for the Commonwealth of between 10 and 25% below 1990 statewide emissions levels by 2020, and 80% below 1990 by 2050, it is hard to understand how DWSPs current proposals for massive cutting in the Quabbin and other Massachusetts watersheds will do anything but make it more difficult for the Commonwealth to achieve these goals.

## 2. Biodiversity Loss and Ecosystem Impacts

The STAC Report devotes a great deal of attention to its claim that biodiversity will increase as a result of its harvesting policies, and indeed there are studies that support the finding that many species depend on early successional habitat and will do better with the creation of more open spaces and edges in the forest (b). But it all depends on what one takes as a baseline in talking about the populations of different species, and about what species or family of species one looks at. The species that are said to have declined in New England starting from a century ago, such as field sparrows and cottontail rabbits, thrived in the widespread open fields still present then, as the forests had not yet grown back from cutting done throughout the 18<sup>th</sup> and 19<sup>th</sup> and even into the early 20<sup>th</sup> centuries. If the baseline, however, is the original forests in New England, then it is the deep forest species, like Pileated Woodpeckers, Wood and Hermit Thrushes, Barred Owls, and Fishers that one should be measuring now, not the populations of those species present in greater numbers a century ago.

There is also a substantial literature about how widespread timber harvesting in our forests is devastating for many species—such as for salamanders (8, c, d), which play highly important roles in forest food webs (9) and which are among the most abundant group of vertebrates, both in numbers and in biomass, in New England forests (10), and for other amphibians (e, f). Given the threat of extinction for many amphibian species, it should be important for these species to be considered in any

forest management plan. Saying that logging operations will avoid vernal pools is certainly a worthwhile objective, but one that will be very difficult, if not impossible, to accomplish given the extent of logging proposed, but it is the destruction of the forest itself that is the main threat to amphibians.

There are, in addition, threats from timber harvesting, to many other species, including small snakes (g), wood ants (h), some lichen species (i), and understory plants which may not recover for decades (11). [One has to wonder whether Mountain Lions sighted in the Quabbin Watershed in the 1970s and 1980s by extremely reliable sources, with scat confirmation done some 15 years ago, are still around after all the extensive logging and human incursions, such as from the widespread patch clear-cutting done in the Prescott Peninsula.]

But what may be the most significant, and the least well studied and understood, impact of timber harvesting in the Quabbin Watershed is the effect on the forest floor and the structure and functioning of forest soil ecosystems. The loss of nutrients by removing the harvested timber, the changes in temperature and moisture levels in the soils from opening up the canopy, the compacting and destruction of forest floor organisms by the heavy equipment and the creation of roads (j), the inevitable spilling of gasoline and oil from the heavy equipment, these and other stresses resulting from logging operations all will have drastic effects on soil organisms, both in terms of complexity and abundance, including the mycorrhizae and other soil microbial life, affecting soil fertility, water retention and flow, water filtration, gas exchange (k), nutrient cycling, the flow of aluminum, nitrates, calcium, and other ions into surface waters (l), and other soil processes. These major impacts on soil biodiversity and ecosystem services, some of which may not recover for decades following timber harvesting (12), are barely considered in the STAC Report.

### 3. Lyme Disease and Invasives

Lyme disease is the most common vector-borne disease in the U.S., with close to 25,000 confirmed cases nationwide in 2011, as reported by the CDC, and close to 10,000 additional cases that are considered probable. There are also a large number of cases that never show up at a doctor's office. From 2004 to 2008, Massachusetts had the third highest incidence of Lyme Disease of any state in the country, with close to 61 confirmed cases per 100,000 population.

Lyme is a major public health threat for Massachusetts residents, and may be a particular threat for those who live in and around the Quabbin Watershed, particularly for loggers and hikers and hunters who frequent the forest and its edges. While it is very rarely fatal, Lyme can cause, when undetected and untreated (which is common, as the early symptoms of Lyme resemble a bad flu, as the infected ticks may not cause a local skin reaction and are often too small to be seen, as only about  $\frac{3}{4}$  of people get the characteristic “bull’s eye” rash, and as early blood titers for Lyme are often negative) significant long term cardiac, joint, and neurologic problems. It is totally anecdotal on my part, but two of my good friends, both Petersham residents, both very healthy, very strong young men who work outdoors, contracted severe acute Lyme disease in the past few years—one had severe meningitis requiring hospitalization, the other encephalitis, from which, after several years, he has not yet fully recovered!

It is well studied and documented that the fragmentation of forests increases the risk of human Lyme disease, a result of creating habitat where the most competent host for Lyme in our region, the White-Footed Mouse, can thrive, and where its competitors and predators cannot (13, 14, 15), thereby increasing White-Footed Mouse populations.

Compounding this problem in the Quabbin Watershed is the fact that it is infested with invasives like Japanese Barberry, which thrive when there is a disturbance of the canopy (16), and there is growing evidence that Japanese Barberry provides a habitat favorable to the Eastern Blacklegged Tick and to the White-Footed Mouse, further increasing the risk of human Lyme disease (17, 18 19).

The STAC Report acknowledges that increased gap formation in the forests by management activities can facilitate the spread of invasive plants, and the “Response” document of Feb. 2013 says that it will address invasive plants through the “Terrestrial Invasive Plant Strategic Management Strategy” without really explaining how it will achieve this goal. Creating gaps in the forest through their logging practices will do just the opposite, increasing the spread of invasives, including Japanese Barberry.

The fact that Lyme disease and its relation to forest fragmentation and to the spread of invasives is not mentioned in the STAC Report or in the “Response” document indicates that the authors are either unaware of this

major public health threat or that they do not consider it important enough to address.

#### 4. Money and Jobs

DWSP insists that its commercial logging operations on public watershed lands are not about the money, and quotes 10 year revenue figures for its operations, from 2000-2009 at \$6,940,762, so around \$700,000 a year. It is not clear whether these are total receipts or net profits. But the MWRA Advisory Board does seem to be concerned about the money, for in its comment on the STAC Final Report, it angrily decries that “nearly \$1.5 million in potential forestry revenue” has been lost since the Moratorium was imposed in 2010. If it is not about the money, and the DWSP is interested in causing the least amount of disruption to the forest while achieving its goal of creating a mixed age, mixed structure and species forest, and not reducing nutrients from removing the harvested trees, then why hasn’t it proposed leaving the trees on the ground after they are cut? That would then leave the tree nutrients in the forest, and would avoid the massive destruction to the forest floor caused by the skidders and trucks and dozers and forwarders and roads, as individuals with chain saws could do all the work on their own?

There is another issue here, and that is that the harvesting creates jobs for those who make their living cutting trees and for those who use the timber products. Clearly loggers have one of the most demanding, and most dangerous, jobs of all, akin to commercial fishing, and they have been very hard pressed by this economy, often barely making ends meet. Like commercial fishermen (and fisherwomen), they have to buy or lease their enormously expensive equipment. I suspect that many have been hurt by the Moratorium, and in my view, the Commonwealth, which has implicitly promised them endless work in harvesting trees in Massachusetts watersheds, including the Quabbin, has a responsibility towards them. Perhaps there needs to be a state bond issue for Massachusetts watersheds, to offset the revenue lost by a continued Moratorium, to provide assistance to loggers who are in need (as Federal programs do for fishermen), and to do all the necessary research and monitoring that has not been done but that must be done. Is there a more worthwhile investment in the future of the Commonwealth, in the long-term security of our drinking water and the forest ecosystem that sustains it? No-one, including loggers and others who have profited from wood harvesting in the watersheds, if they fully understood the risks involved, to themselves and their families, would sacrifice the Quabbin

Watershed for a job. Tragically, such trade-offs have been all too common in our country, presented as the only choices available, to the detriment of both the environment and human health.

## 5. Resilience of the Forest to Large Scale Natural Disturbances

The major rationale in the STAC Report and the “Response” document for resuming large-scale logging in the Quabbin, Wachusett, and Ware Watersheds is that we must plan for the “perfect storm” where there is a massive loss of forest cover in the watersheds by a natural disturbance, at the same time as that there is a massive drought. The contention is that an even-aged forest is highly vulnerable to such a disturbance, whether it be a hurricane or another severe weather event, or an outbreak of pests or disease. And so the argument is that we must create gaps in the forest for regeneration so that there will be a greater diversity of trees, both in type, structure, and in age, so that if most of the older trees die at the same time, then there will be diverse stands of younger trees to take their place.

As the Quabbin Watershed is a fairly even aged forest, this argument would appear to have merit, as there is an increased danger of such losses with the spread of pests such as the Asian-Longhorn Beetle, the Emerald Ash Beetle, and Hemlock Woolly Adelgid and diseases like Ash Dieback, all arriving to our region at the same time, and with the prospect of larger, more frequent, more destructive, more long-lasting storms and other extreme weather events secondary to climate change.

But how has DWSP tested this assumption, that creating human disturbances in the forest by cutting thousands of acres of trees is less destructive than the natural disturbances that may occur? The STAC Final Report refers to the ice storm of December, 2008, the tornado of June, 2011, the late-October snow storm of 2011, and Hurricanes Irene and Sandy. There is also reference to the 1998 ice storm. What were the impacts of these events on the Quabbin Watershed? What was the level of damage on intact areas of forest versus those that had been harvested? Were larger, older trees more vulnerable during these events? How did the forest respond in areas where trees were blown down, and over what period of time did it regenerate from these natural disturbances? What studies were done in harvested areas versus those that were untouched on forest soils and soil ecosystem functions?

From 1980 to 2009, more than 44,000 acres of forest have been cut by DWSP in the Quabbin, Ware, and Wachusett Watersheds, (and in the Sudbury Forest). What experiments have been done to test the hypothesis that regeneration in these areas of thinning, patch clear-cutting, and “shelterwood” cuts has resulted in a diverse forest with multiple species represented? How have invasives, deer and moose browse affected this regeneration?

The STAC Report and the “Response” document both refer to their cutting practices as following “state-of-the science” Best Management Practices that have always been followed, and yet these practices seem to be constantly changing—from thinning during the period of the 1960s to the 1990s to a mixture of “cookie-cutter” patch clear-cuts and “shelterwood” cutting until 2009 to only “shelterwood” cuts being proposed from now on. There is little explanation about why these changes have been made and how each of these practices achieved, or did not achieve, the goals set out by DCR.

We are told that 90% or more of the cut areas of forest, according to the new proposal, will be below 2 acres in size (which will, of course, create even-aged forests up to 2 acres) but there is no figure about the total amount of acreage that will be cut per year or for a 10 year period, only that the total will not exceed 25% of a watershed forest over 10 years. What experiments have been done in the Quabbin Watershed to demonstrate that openings up to 2 acres are necessary? How was the figure of 25% of the watershed forest arrived at? For the Quabbin Watershed, which has some 85,538 acres of forested land, we are talking about cutting down more than 21,000 acres over the next 10 years. Is this what is being planned?

One would think that with such a proposal, there would have been an ongoing large-scale research program in the Quabbin and other watersheds to determine whether the harvesting program DCR is proposing is absolutely necessary. Since this is not mentioned, one can only assume that such studies have not been done.

One such study that has been done, by Dr. David R. Foster, Director of the Harvard Forest in Petersham, Massachusetts and one of the foremost forest biologists in the world, and Dr. David A. Orwig, a Forest Ecologist and Senior Investigator at the Harvard Forest (20), looked at the

immediate and long-term consequences of two major disturbances to forests that they created in test plots—one by wind and one by insects—and compared them to the effects of salvage and pre-emptive harvesting, such as has been done in the Quabbin Watershed. The study was done in Petersham, one of the towns in the Quabbin Watershed. What is instructive about this seminal study is that it showed the great resilience of such forest systems to large natural disturbances and concluded that the negative impacts on forest ecosystems are greater with harvesting regimes than they are with leaving the forests alone and allowing them to recover from natural disturbances.

## 6. Air and Water Quality

Destroying large areas of the forest canopy will serve to lessen air quality, as the canopy is a filter of small and large particulates in the air—from cities, industrial sites, incinerators, cement production, and other sources, binding them so that they do not enter our lungs and cause and exacerbate asthma and other chronic pulmonary diseases. The leaf surfaces of the canopy also serve as chemical reaction sites that detoxify air pollutants like nitric oxides, the precursor of ground level ozone, into harmless compounds (21). Thus the air in and around the Quabbin and other heavily forested areas is healthier for those who live there.

Similarly forest soils act like blotters for pollutants such as inorganic nitrogen (in the form of ammonium or nitrates) and other inorganic and organic compounds. As rain carrying these chemicals falls on the Quabbin Watershed, it percolates through the soil of the forest and is stripped of the chemicals, which are taken up by the plants on the forest floor and by microbes in the soil, and by chemical reaction sites on clay and on the organic matter to which these compounds bind. In a healthy middle-aged forest in New England, like that of the Quabbin Watershed, rain enters with an average nitrogen load of about 8 pounds per acre each year. Stream water leaving these forests often contains less than 1/10<sup>th</sup> this concentration (22).

By its cutting practices, DWSP is removing large areas of the canopy, and causing severe damage to the forest floor and forest soil ecosystems. Both have the potential of threatening water quality.

In the STAC Report and in the “Response” document, it is proposed that there be water quality monitoring in areas where forest cutting has occurred, with sampling done before the harvesting and continuing through active logging, as well as over a five year period following completion of the logging. The sample sites are to be above and below the sites of forest management.

The DWSP has been logging in the Quabbin Watershed since the 1960s. Can it be that despite having had an active forest management program for more than 50 years, the DWSP, whose principal mandate is to supply clean drinking water to some 2.2 million people, has not been testing whether its timber harvesting has affected our water quality or not?

## Conclusion

There are significant potential risks from DWSP’s planned logging operations for the Quabbin and other watersheds—increased greenhouse gas emissions, a decline in the populations of many deep forest species, massive damage to the forest floor and to forest soil ecosystems and their functioning, the spread of invasives, a greater risk of human Lyme disease, and a potential loss of the ability of the forest to filter pollutants from air and water. One major potential benefit that has been claimed by the STAC Report and the “Response” document—that cutting forest stands will lead to a more diverse forest, in age, structure, and type, a forest that will be more resilient to increasingly destructive natural disturbances, thereby ensuring the long-term stability and quality of our water supply, has not been tested. DWSP has no data to support this assumption. And one controlled experiment that has looked at this issue, by Foster and Orwig, has concluded just the opposite:

“All evidence suggests that harvesting exerts greater impacts on ecosystem processes than leaving disturbed or stressed forests intact. A conservative alternative hypothesis for the long-term management of watershed lands might be proposed: the elimination of harvesting and its associated impacts (e.g. soil compaction, road development and improvement) will yield forest and landscape conditions that maintain and improve water quality in the face of ongoing disturbances and stresses.” (20)

A group commissioned by the Ecological Society of America to study the importance of forest reserves in National Forests, led by Professor John D. Aber, a leading forest ecosystem biologist in the Department of Natural

Resources and the Environment, and Provost of the University of New Hampshire, came to the same conclusion:

“We are confident that:

- Despite natural disturbance and successional change, forest reserves are much more likely to sustain the full biological diversity of forests than lands managed primarily for timber production.
- No evidence supports the view that natural forests or reserves are more vulnerable to disturbances such as wildfire, windthrow, and pests than intensively managed forests. Indeed, there is evidence natural systems may be more resistant in many cases.” (23)

More than 44,000 acres out of a total of almost 188,000 acres of the Quabbin, Ware, and Wachusett watershed forests (and from Sudbury Forest) have already been harvested from 1980 to 2009, an amount that may be greater than any single natural disturbance, or combination of them. To harvest more (and it would seem, although the reports are vague about the numbers, that an equal amount, as much as 47,000 acres more, is being planned for harvesting over the next ten years), when there is a great deal of evidence that harvesting causes significant harm to forest ecosystems, and when there is no evidence whatsoever that it protects forests in the long run from natural disturbances, (and may, in fact, make them more vulnerable), should be unacceptable for the people of Massachusetts.

The only mandate of DWSP is to provide clean drinking water. There is no evidence that the harvesting plans as recommended by the STAC Report or by the “Response” document will accomplish this, and a vast literature to support just the opposite conclusion, that undisturbed watersheds, compared to those that have been harvested, are best able to provide the highest quality drinking water.

Until DWSP conclusively and convincingly demonstrates, which they have not in my view--through carefully controlled, long-term experiments within their watersheds, done by respected, impartial researchers from many diverse backgrounds, including several specialized in forest ecosystem services, including some who may even question DWSP’s logging policies--that restarting widespread logging in the Quabbin and in its other Massachusetts watersheds is absolutely essential to their short and long term health and to their providing abundant, clean drinking water for the citizens of Massachusetts; until DWSP conclusively and convincingly demonstrates,

which they have not in my view, that the benefits of their proposed forest management policies significantly outweigh the risks, the Moratorium on logging in the Quabbin and in other Massachusetts watersheds should be continued.

That, as Gifford Pinchot said in 1905, would indeed be for “the greatest good of the greatest number in the long run.”

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**From:** Andy DeSantis [<mailto:andy.desantis@gmail.com>]

**Sent:** Friday, January 11, 2013 10:26 AM

**To:** Updates, DCR (DCR)

**Subject:** STAC

To Whom It May Concern:

Please be informed that as a Commonwealth of Massachusetts Grade 4 Distribution and Grade 3 Treatment Licensed Water System Operator and as a Massachusetts Arborist Association Certified Arborist, I fully support the adoption and implementation of all 9 recommendations contained in the STAC report.

Andrew B. DeSantis  
25 Serino Way  
Saugus, Massachusetts 01906  
[andy.desantis@gmail.com](mailto:andy.desantis@gmail.com)



Environment Massachusetts  
44 Winter St Suite 401  
Boston, MA 02108

Department of Conservation and Recreation  
Office of Public Outreach  
251 Causeway Street, Suite 900  
Boston, MA 02114

Dear Department of Conservation and Recreation,

Environment Massachusetts is a statewide, citizen-based environmental advocacy group, with nearly 50,000 members and online activists across the state. We work to protect clean air, clean water and open space. Over the past four years, 14,000 Environment Massachusetts members and supporters submitted public comments in support of preserving the forest around the Quabbin Reservoir and to protect the reservoir's water quality.

The Department of Conservation and Recreation's (DCR) response to the Science and Technical Advisory Committee (STAC) report on forest management around the Quabbin Reservoir is a small step in the right direction, but much more needs to be done to fully protect our water supply. In order to guard against threats to the Quabbin reservoir, the forest must remain as pristine as possible. The best way to protect the water supply for 2.2 million Bay Staters is for DCR to designate the Quabbin as a forest reserve.

As clearly stated in the DCR's response to the STAC report, the primary purpose of the forest around the Quabbin is to protect and filter the water supply. The best and most cost-effective way to protect the water and the forest itself is to designate the region a forest reserve therefore banning all commercial logging in the area.

Environment Massachusetts supports designating the Quabbin forest a reserve because:

- 1) Harvesting timber is often more destructive to a forest ecosystem, even a stressed ecosystem, than leaving it undisturbed. There is little, if any, controlled, empirical data that shows that active management leads to increased resistance over passive management, and the dangers associated with harvests – erosion, road development, soil compaction, etc. – make non-management the safer and more viable option<sup>1</sup>.
- 2) Large openings in the forest would provide a safe-haven for invasive species which are already a growing problem in Massachusetts and will continue to escalate. Around the Quabbin, invasive species are even more difficult to combat, since the use of chemicals around the water supply could lead to contamination. The best way to protect against invasive species is not to disturb the existing healthy ecosystem.
- 3) Designation as a reserve would allow occasional, non-invasive maintenance in accord with DCR's Forest Reserve Management Plans without the need for commercial logging. As the main importance of the forests around the Quabbin is to protect water quality, the least invasive



Environment Massachusetts  
44 Winter St Suite 401  
Boston, MA 02108

maintenance is preferable. Many cities maintain an unmanaged forest around their reservoirs for filtration. The Quabbin should be no different.

If active management and shelterwood cuts must happen, then the management should be done according to the forest reserve standards with no commercial harvesting, to solidify the express priority of water quality protection, rather than timber harvest. While it is stated in *From Here Forward*, "This recommendation should not be construed as an endorsement of traditional even-aged management methods that, first and foremost, focus on timber values not watershed protection"<sup>ii</sup>, there are no real safeguards to ensure these standards are upheld.

To that end, management should be limited to girdling and felling and leaving logs on-site. This would leave the trees available to provide habitat and nutrients to the forest ecosystem – as they would in the natural disaster that the cut is intended to mimic.

Moreover, the use of heavy machinery should be banned. Heavy machinery for commercial logging leads to forest damage, including erosion and contamination from diesel and oil. The Quabbin currently has numerous restrictions on human activity in order to protect water quality; the same restrictions should be placed on heavy machinery and the roads necessary to maintain them.

While the proposed changes are a slight improvement on previous practices, how beneficial they actually are for the forest will be determined by the implementation and oversight of the policies, which could vary widely. The safer, more effective method would be to designate the Quabbin as a forest reserve permanently, protecting it from any future harm.

If you have any questions please contact:

Anika James

Environment Massachusetts

(617) 747-4345

[Anika@EnvironmentMassachusetts.org](mailto:Anika@EnvironmentMassachusetts.org)

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<sup>i</sup> Foster, David R., and David A. Orwig. "Preemptive and Salvage Harvesting of New England Forests: When Doing Nothing Is a Viable Alternative." *Conservation Biology* 20.4 (2006): 959-70.

<sup>ii</sup> "From Here Forward: Proposed Changes to the DEPARTMENT OF CONSERVATION & RECREATION – Division of Water Supply Protection's Watershed Forest Management Program Response" (2013): 3

Form letter received from Environment Massachusetts members:

From: Environment Massachusetts [<mailto:action@environmentmassachusetts.org>]  
On Behalf Of ...  
Sent: Thursday, March 14, 2013 3:12 PM  
To: Updates, DCR (DCR)  
Subject: STAC: Keep Commercial Logging out of the Quabbin

Mar 14, 2013

Comissioner Edward Lambert  
251 Causeway Street, Suite 900  
Boston, MA, MA 02114

Dear Comissioner Lambert,

The forests surrounding the Quabbin are a critical part of protecting drinking water for 2.2 million people in Massachusetts. It is vital that we protect them with more than just guidelines-we need a permanent ban on commercial logging.

The Quabbin watershed should be designated a Forest Reserve, and, if management is necessary, it should be done by the Massachusetts Department of Conservation and Recreation. The fate of our drinking water should not be left in the hands of commercial interests.

For the health of our environment, and New England's largest supply of clean, fresh drinking water, we must protect the Quabbin reservoir. In order to continue to keep our water safe to drink, I urge you to designate the forest around the Quabbin as a Forest Reserve, and prohibit commercial logging.

Sincerely,

**Comments sent to MA Department of Conservation and Recreation  
on Quabbin logging from Environment Massachusetts' website**

	<b>CONTACT NAME</b>	<b>CONTACT PHONE</b>	<b>CONTACT EMAIL/WEB SITE</b>	<b>ADDRESS #1</b>	<b>City, State Zip</b>
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**Sent:** Thursday, March 14, 2013 1:46 PM  
**To:** Updates, DCR (DCR)  
**Cc:** internet, env (ENV); Parks, Mass (DCR)  
**Subject:** "STAC"

28 Fuller Road  
Montgomery, MA 01085-9841  
March 14, 2013

Department of Conservation and Recreation  
Office of Public Outreach  
251 Causeway Street, Suite 900  
Boston, MA 02114

Re: "STAC" Quabbin Forest Report  
Via e-mail: [DCR.Updates@state.ma.us](mailto:DCR.Updates@state.ma.us)

To the Massachusetts Department of Conservation and Recreation:

As almost sixty year taxpayers in the Commonwealth, we are deeply disturbed that the Quabbin Watershed area under the "STAC" report will continue to be logged. This is public land and an important forest preserve that serves to protect our environment and the health of the people. Experts agree that the best way to treat a resource like the Quabbin forest area is to let nature take its course. Nature will take care of this valuable ecosystem that not only benefits the people by cleansing our air and providing over two million people with pure drinking water, but also provides habitat to many species of animals and plants.

In this age of climate change, we must be especially careful, as stewards of our planet, as to what we do to our forests around the world. Here in Massachusetts, we should be setting an example of how we treat our precious forests, not putting them up for sale to those who would plunder them.

We are outraged by the "STAC" report and we believe that in the years to come, this plan, if allowed to be adopted, will prove to be one of the biggest mistakes ever to be subjected upon the people of Massachusetts. We believe that those associated with and supporting this report will be viewed in a negative light.

We urge all involved to reject the notion of logging in the Quabbin Watershed area and in all state owned forestlands and watershed areas that belong to the public in Massachusetts.

Dr. Aline Euler  
Henry P. Euler

CC: Dr. David Cash, Office of Energy and Environmental Affairs  
Rick Sullivan, Office of Energy and Environmental Affairs  
Edward Lambert, Department of Conservation and Recreation  
Governor Deval Patrick  
State Senator Michael Knapik  
State Representative Peter Kocot  
Senator Elizabeth Warren  
Congressman Edward Markey  
Congressman Richard Neal

**From:** Nan Finkenaur [<mailto:nan@adrenaline-design.com>]

**Sent:** Thursday, March 14, 2013 1:40 PM

**To:** Updates, DCR (DCR)

**Subject:** STAC

To whom it may concern:

Please protect the Quabbin from logging. I don't believe that logging is necessary for clean water. This important forest should be preserved as interior forest and protected as a forest reserve. The Quabbin should be left pristine to provide fresh air, filter water naturally, provide wildlife habitat, and recreation for our our densely populated state. With the climate rapidly changing, it is more and more important that we protect our publicly owned forests from commercial exploitation.

Certainly creating early successional habitat through logging is controversial. It should not be done to intact interior forests. If logging must be done, please choose a less aggressive approach.

Thank you for considering my comments.

Sincerely,

Nan Finkenaur  
72 King George Drive  
Boxford, MA 01921

**From:** Dave Gafney [<mailto:gafneyphoto@verizon.net>]  
**Sent:** Friday, March 15, 2013 5:19 PM  
**To:** Updates, DCR (DCR)  
**Cc:** Dave Gafney  
**Subject:** STAC

March 15, 2013

Department of Conservation and Recreation  
Office of Public Outreach  
251 Causeway Street, Suite 900  
Boston, MA 02114

Dear Massachusetts Department of Conservation and Recreation:

The following are some of my concerns regarding the recent report by the Science and Technical Advisory Committee (STAC). First and foremost, it appears that little, if any, thought was given throughout this process to the designation of the Quabbin (or even any small part of any of these watershed lands) as “reserve” where logging would be excluded.

When DCR watershed lands were excluded from the Forest Futures Visioning Process (which was far from perfect, but at least contained a number of people highly critical of DCR policies) some assumed that this was done to rig the game and that STAC would serve largely as a rubber stamp for the status quo. Sadly, this report does little to convince me otherwise.

I do not say this lightly. There are both conclusions and insinuations throughout this report that show that this panel is highly biased against the no logging option. It includes statements that logging mimics natural conditions (it seldom does), that it improves forest health (clearcutting seldom does), that it improves water quality (it doesn't) as well as water flow (no mention of loss through evaporation in clearcut or heavily logged areas). There were comments within the report regarding early successional habitat, but nothing about those species that require mature, un-fragmented forests. There is no mention that heavy logging can greatly disturb the soil and the complex microbial communities of the soil, or that this kind of disturbance can create the conditions that allow for the invasion of harmful invasive-intrusive plant species. There was nothing to explain why much of the Quabbin is off limits to such low-impact public activities as hiking, snowshoeing and cross country skiing but these same areas somehow are not harmed by the presence of diesel trucks, skidders and other heavy equipment. There was a bit of bragging about DCR having been “green” certified by the Forest Stewardship Council but no mention that in 2009, it lost this certification after being severely criticized by FSC for its logging practices. This was not a report by an objective and unbiased group.

“Science” is often used to rationalize and justify clearcutting and heavy industrial-scale logging on public lands, but science can be - and often is - used to show the harmful effects of such logging. Nothing within this report shows that STAC had members that could, or were willing to, present this alternative viewpoint. Extensive discussions of possible future hurricane damage as a rationale for logging only serves to heighten the obvious bias that exists within this report (it

might be facetiously mentioned that they forgot to include possible future damage from earthquakes and volcanoes as well).

Ultimately, how we manage our state's public lands is not just a matter of science (even if there was scientific agreement on many of these issues-which there surely is not), but of philosophy and politics as well. A few years ago there was legislation being considered by the U.S. Congress called the Save America's Forests Act. As it was written at the time, this statute would have precluded clearcutting on all federal lands except in very limited and well-articulated circumstances. After the Republican congressional wins of 2010, the legislation never made it to the floor of the House of Representatives. However, prior to 2010, it had about 140 co-sponsors in the House. From my perspective, what is truly important is that all ten Massachusetts Congressmen were co-sponsors of this legislation. There was an identical bill in the U.S. Senate and this was co-sponsored by both Senators Kennedy and Kerry. All of these elected officials have to answer to their constituents. That such legislation not only was supported, but co-sponsored, unanimously by our federal congressional delegation should tell us a great deal about where political and public sentiment is within our state regarding these issues.

That the "STAC" process included virtually no public participation and was left to a panel of "experts" which apparently did not include any serious critics of clearcutting or proponents of the ideals of wild land preservation, shows how little this panel reflects the diversity of thought that exists within this state regarding these matters. My guess is that a significant part of the Massachusetts public is highly sympathetic toward seeing most, if not all, of the Quabbin being set aside as a reserve or protected wilderness. This process failed to even consider such an option. It was, in fact, rigged against this possibility and was profoundly un-democratic as well.

Very truly yours,

David Gafney  
Attorney at Law  
M.S. Forest Ecology  
B.S. Natural Resource Management

**From:** Julie Harrell [<mailto:photonicgirl@hotmail.com>]  
**Sent:** Thursday, March 14, 2013 8:48 AM  
**To:** Updates, DCR (DCR)  
**Subject:** STAT

Please do not continue the new legacy of destroying all remaining forests in your great state.  
Thank you.

Jules Harrell

For PEACE in 2013,

# Robbo Holleran

## Forester

211 Green Mountain Tpk Chester, VT 05143 (802) 875-3021 Fax: 875-2337  
Providing a complete forest management service since 1982

Department of Conservation and Recreation  
Office of Public Outreach  
251 Causeway Street, Suite 900  
Boston, MA 02114

December 10, 2012

Re STAC DWSP Watershed Forestry Program

I have read the entire report with considerable interest. This is refreshingly scientific, making clear distinction between public perception, emotional responses and established facts. The historical context and review of the current controversy should be very helpful to many readers.

I am a private forester in Vermont, and licensed in Massachusetts with 30 years experience. I have been involved in public education and professional education throughout my career, and currently serve as president of the Vermont Forestry Foundation. I was selected as the third author for the current revision of the "Silvicultural Guide for Northern Hardwoods and Mixed-wood types" with Bill Leak and Mariko Yamasaki because of my practical approach and experience.

The "time tested principles and practices of water supply management" lead us to a crisp conclusion for active management. The city of Denver wishes they had the foresight to apply this in previous decades, before the timber industry left Colorado, forest health declined, and fire susceptibility rose. While the Quabbin forest is less impacted by fire, hurricanes and other weather events are the major factors for which to plan.

Your conclusion for increasing species and structural diversity through active management is warranted. This will create a more resilient forest for any contingency. Slightly reduced forest transpiration is expected, and improved wildlife habitat is a by-product. Irregular shelterwood is an applicable procedure, and this is also well described in the current revision of the hardwood silvicultural guide (not in print yet). There are many variants, which are all applicable. 'Regular' shelterwood has the removal cut in 5-15 years, providing an even aged stand. The term 'irregular' has been used to define where the removal harvest is delayed for 20+ years. We have called this 'deferred shelterwood', and used 'irregular' to define the special arrangement as 'dis-uniform'. So, a dis-uniform shelterwood, with deferred removal of the overstory for 20+ years, creates structural and species diversity, and can be flexible in treating "microstands" from previous disturbance or management. It can also be used for a full range of species, and to transition into 2-aged or multiple aged stands.

I would suggest retaining patch cutting options, and thinning. Especially for areas where undesirable understory has become established, the full daylight and scarification of larger openings may be the best tool to promote diverse regeneration. The 'modified patch cut approach' described in the report is useful. Though not well researched, there is some experience that natural regeneration may out-perform invasive shrubs such as buckthorn or honeysuckle in large, scarified groups without the use of herbicides.

It is important for public policy people to understand the historic successes, occasional failures and complexities of land management at the Quabbin, specifically to interact with the public. The general public is not well informed on forestry matters, and is in fact, largely mis-informed. It should be an important goal of the land management team at DCR to actively engage in public education. Unfortunately, Massachusetts and every other state, has a Dept of Education which seems to be working in a different direction. I have specific recommendations:

1. Active harvesting sites that are visible to the visiting public should have detailed interpretive signs that stay at the site for at least three years. These should explain the overall goals of management (species and structural diversity for watershed resiliency) and specific history of the harvest area. They should explain the specific goals, and perhaps have pictures of what the area should look like in 3, or 5, and ten years. A blurb on the wildlife benefits would be helpful. Other appropriate information should be available at other popular spots.
2. While the report makes good sense in explaining competition among trees for “light, water and nutrients”, light is most important. In New England, competition for water and nutrients is minor at best. A look at tree rings of areas that have been thinned show distinct release (increase in radial growth) at each thinning, with slower growth as crowns become compacted. Radial growth is a direct measure of the health of the trees and available carbohydrates. Most people have the mis-informed idea that tree rings show a record of weather, especially rainfall. This is only true in very dry forests. This one educational point is essential in explaining the benefits of active forest management.
3. Someone at the Dept, with the proper zeal, knowledge and writing/speaking skills, should allocate a specific amount of time to public education. This might involve a monthly column for magazines, or general press release. Forest tours for school groups, colleges, and professional education are helpful. Website maintenance should be on-going. Other venues for public interaction will present themselves, and there should be a go-to person who is ready and willing to take these on.
4. The opportunities for the interested public to use the land should be increased. Whether this is hunting, fishing, picnicking, or other recreation, provides an opportunity for the general public to benefit from this vast resource and be supportive. Hunters should be particularly receptive to active management, with the correlation to game species habitat. I realize this has risks, and any goon with a cell-phone camera can make misery for you. But with the interpretive signs and education mentioned above, I think most criticism can be dealt with.
5. Your 25 page summary and 4-page overview are important, as noted above. I would suggest using photos, as provided in this report, or images as used in DeGraaf et al “Technical Guide to WL management” in explaining forest management options over time. These could easily translate into a quality website for a range of user-groups, and could be the ‘chopping block’ from which other educational materials are derived. I would be glad to assist in preparing these, or in training someone for forest education.

Yours,

Robbo Holleran

Department of Conservation and Recreation  
Office of Public Outreach  
251 Causeway Street, Suite 900  
Boston, MA 02114

March 14, 2013

To everyone responsible for the stewardship of the Forests surrounding the Quabbin Reservoir, and by extension, the remaining publicly owned watershed forests:

Thank you for taking public comments on the STAC report and the DWSP response to the STAC report on Watershed Forestry.

I was a member of the Advisory Group of Stakeholders (AGS) for the Forest Futures Visioning Process (FFVP). Two important aspects of that final report were:

<http://www.mass.gov/dcr/news/publicmeetings/forestry/finalwannexes.pdf>

**1) FFVP recommendations were intended to be considered in the review of DWSP forestry**

"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. " page 27

**2) Large Forest Reserves of 15,000 acres or more are highly desirable, provide many ecosystem services and benefits, are supported by the administration and are recommended by FSC Forest Certification. The Quabbin forests are available and appropriately sized candidates for such a designation.**

"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. " Page 8

"Large Forest Reserves are intended to return significantly under-represented late successional forests to the Massachusetts landscape. Lorimer and White (2003) estimate that for eastern oak forests on the pre-settlement landscape, multi-cohort stands with a component of mature and old trees would have been common, occupying roughly 25–40 percent of the landscape, and for northern hardwood forests, the estimated pre-settlement proportion of the landscape in old-growth forest (>150 years old) is 70–89 percent. D'Amato et al (2006) estimate that there are currently 1,119 acres of old growth in the Commonwealth, less than 0.04 percent of the state's forests. Therefore, a key goal for DCR forest management should include restoration of missing late successional structure and function.

Forest reserves are a widely recommended approach to restoring and maintaining ecosystem functions associated with **late successional forests**, which provide unique ecosystem services and **support resilience in the face of future uncertainties such as climate change**. Norton (1999) stated that —On scientific grounds, reserves are important because they contribute to **protecting the full range of biodiversity**, including ecosystem processes that characterize the forest.‖ He mentions the extensive documentation of species benefiting from old-growth forest stands, highlighting —**the value of having some areas free from all production management**.‖ Norton concludes that —a primary reason for reserves is to ensure that representative examples of biodiversity indigenous to an area are protected. While many indigenous species can persist in forests managed for timber, changes in composition and age structure of forest stands resulting from forest management alter habitat availability for many species,‖ and that —if our overriding goal for managing a reserve is to **protect the full range of biodiversity** within it, then the changes that result from sustainable management, no matter how subtle, are not compatible with this goal.‖

Examples of late successional forests supporting biodiversity include breeding bird densities that are significantly higher in old forests (Haney and Schaadt, 1996). Selva (1996) found that older forests yielded a greater diversity of lichens than younger forests and that some species were only found at sites that had supported mature trees for many centuries. Chandler (1987) found that many insect species were more abundant in old forest. These findings are especially important in the context of the fact that vascular plants and vertebrates make up only 20 percent of the species in our forests (Anderson, 2008). The remaining invertebrates, lichens, mosses, fungi, bacteria and other taxa represent 'unknown biodiversity' that place an imperative on protecting the full complement of forest structures and functions.

**Unmanaged forests have recently been shown to play a crucial role in forest carbon sequestration and storage.** Nunery and Keeton (2010) —showed that even with consideration of C sequestered in harvested wood products, unmanaged northern hardwood forests will sequester 39 to 118 percent more C than any of the active management options evaluated. This finding suggests that reserve-based approaches will have significant C storage value.‖ Pages 35 and 36

**My proposal for the forests surrounding the Quabbin Reservoir is that they all be declared a Large Reserve, allowed to evolve through natural processes.** Although the STAC report spent considerable time comparing active and passive management of the Quabbin Reservoir forests, the discussion read as an attempt to convince the reader that active management was the only responsible way to manage the watershed. On one hand there was little discussion included with respect to harm that active management can do, and on the other hand, an alarmist description of a worst case scenario of a "perfect storm". There were few if any convincing arguments that active management would even matter in the perfect storm scenario presented.

**The benefits of Reserves (as described in the work of the FFVP) raise issues that should have been more thoroughly acknowledged in the STAC report:**

**1) Protection of the full range of biodiversity**

The STAC report and DWSP response discuss their mandate to protect water quality, and also make arguments for the creation of early successional habitat. There is very little mention of the wide range of species that depend on an unfragmented interior forest. There is no in depth discussion of the biodiversity of reserves as described above. There is no mention of the full variety of causes for the decline in some bird species that do prefer early successional habitat, but instead an implication that clearcutting at the Quabbin would help to solve the problem, albeit farther away from the water source than has been the current practice. There is no mention of studies that show that clearcuts lose their early successional habitat benefits in a short period of time as regeneration takes hold. And finally, there is no admission that over time there has been more effort to protect habitat for game species than for non game species. In short, it seems that the temporary benefits of early successional habitat formation after a clearcut are used to justify commercial cutting in the plans. There is much written that says the best way to provide grassland and shrubland habitat is to maintain and expand what we already have using “edges” that already exist. By imposing active management on the forests, and seeking to grow marketable trees for commercial purposes, we distort the natural balance of wildlife, increasing the deer population and the white footed mouse population, necessitating warnings about the high threat of ticks and requiring hunting in the forests to further manipulate the wildlife population.

**2) nutrient cycling**

**3) soil formation**

These would include nature's own accumulation of leaf litter and naturally downed limbs and logs in a forest left to evolve naturally. Scientific literature as studied by the Technical Steering Committee of the Forest Futures Visioning Process supports these two services provided by reserves (unmanaged forests)

**4) watershed protection**

Leaving a watershed forest alone is one choice open to watershed managers. Has there been sufficient science and documentation about the urgency to manipulate the Quabbin forests to guard against the worst possible hurricane during the worst possible drought conditions over the entire watershed? There are stated goals of creating a more resilient forest, but is there sufficient science and documentation that the proposed cuts and the openings will actually make the forest more resilient? What about wind impacts to vegetation that is suddenly exposed when it had previously been protected by surrounding forest? Mass Audubon, in its January 18 comments on the STAC report cite Preemptive and Salvage harvesting of New England Forests: when doing nothing is a viable alternative by D.R. Foster and D.A Orwig. From that work they present “...the idea that disturbance events in mature forests may not pose as high a risk to water quality as commonly understood.” Could we have made the choice to leave these watershed forests, especially those surrounding the Quabbin, alone?

**5) long term carbon sequestration**

While DWSP refers to the “threats” of climate change to warn of potential natural disturbances

, they barely mention the need to offset carbon emissions or the carbon sequestration service provided by this enormous forest in the middle of our state. There should have been a full accounting of the carbon sequestration values lost and the carbon emissions associated with the commercial harvesting of trees from our watershed forests. And that loss should be reconciled with the mandates of the Global Warming Solutions Act. That act requires EOEEA, in consultation with other state agencies and the public, to set economy-wide greenhouse gas (GHG) emission reduction goals for Massachusetts that will achieve reductions of: Between 10 percent and 25 percent below statewide 1990 GHG emissions levels by 2020, and 80 percent below statewide 1990 GHG emission levels by 2050. Clearly one of our most economical/efficient ways to help meet these goals is to allow our forests to grow, not cut them.

#### **6) development and perpetuation of late successional forest and old growth**

There are just over 1000 acres of old growth in the state of Massachusetts. Late successional forest is underrepresented on our forested landscape. What better way to encourage and increase both types of late stage forests than to let our watershed forests age naturally as reserves. Late successional forests themselves provide “resilience in the face of future uncertainties such as climate change”. Why does the report not mention this resilience?

#### **7) preservation of ecologically, socially and culturally sensitive/significant areas**

In a large reserve such areas would be automatically protected and preserved. Currently the watershed plans list acreage where there is no management: on steep slopes, in and around wetlands and on other inaccessible locations. These are “reserves by default” because it is either illegal or impossible to actively remove timber products in those areas anyway. The only acreage that has been designated a “reserve of choice” other than Quabbin Park is the Pottapaug Natural Area, about 1,183 acres. By choosing to designate the forests of the Quabbin Reservoir as large reserves, EOEEA could be sure this historically significant portion of our state would be forever preserved, with no need to study and then isolate particular features or bear the responsibility for inadvertently harming any of them.

#### **8) value in having some areas free from all production management**

Clearly active management of the forests presents numerous ways in which the forest, the soils, the wildlife habitat and the water quality could be harmed. There is impact and potential damage from roads, skidder trails, landings, vehicles, equipment, mechanical operations, petroleum products that are required, compacting of soil, erosion problems, issues with stream crossings, runoff and sedimentation, rutting and displacement of soil from removal of logs and more. Oversight and monitoring to prevent these impacts is difficult. Often when damage is done it can't be mitigated, and often it is not possible for political or union protection reasons to hold those who cause the damage responsible. The spread of invasive species is one of the most serious problems threatening the watershed forests. There is a huge need, so far inadequately addressed, to form a plan to deal with the invasive species that are already present in the forests, not to mention those that will be spread into newly opened areas. All management activities in the forests, all openings created by the management of the forests encourage and facilitate the spread of these invasive species.

#### **9) Provision of Wilderness/Spiritual values and recreation. The Quabbin watershed could be a vital core block of “wildlands” to help realize the Harvard Forest vision of Wildlands and Woodlands for the Northeast.**

Our only opportunities for providing a true sense of wilderness for future generations is within large tracts of undisturbed land. We are blessed to have the watershed forests, especially the huge block of land surrounding the Quabbin Reservoir, which could provide a unique and accessible wilderness experience for this highly populated state.

### **Forest Stewardship Council (fsc) forest certification and the loss in 2009.**

There are many strongly held opinions that FSC certification is not appropriate for public lands for many reasons, chief among them that certification is intended for lands whose primary and only purpose is to produce timber products. Despite that controversy, Massachusetts did hold an FSC certificate for all of its public lands between April 2004 and April 2009. The forests of the Quabbin reservoir held an FSC certificate for several years before that. The DWSP response to the STAC report mentions FSC certification with pride but never mentions the fact that the forests of Massachusetts, including the watershed lands LOST certification in April 2009. Comments from WSCAC that favor restoring FSC certification to the DWSP watershed lands are the only hint that the forests are not currently eligible to be certified as “well managed forests”. Attendant with that loss of certification were multiple corrective action requests placed upon the state during the recertification assessment that pointed out lack of compliance with the standard by which certificate holders are measured. Several of the conditions referred directly to the forestry on the watershed lands, to the justification for decisions that were made, to the inadequacy of the full understanding of the environmental impacts of the planned forestry.

### **FSC corrective action requests on DWSP watershed lands and the Principles related to High Conservation Value Forests:**

The Forest Stewardship Council does not claim to decide where a certificate holder will perform its commercial harvesting, it simply claims to guide the client to sound practices where timber production is the goal. One of the major corrective action requests placed upon the state was that it should resolve with public input just where it was appropriate and acceptable to do commercial timber extraction. In any case, the forests of the Quabbin were deemed High Conservation Value Forests which demanded a “precautionary approach” should management of the forests be desired. An important riparian forest serves as a natural buffer for the water resources it protects, and all levels of caution must be employed to be sure this natural buffering service is not impaired by active management.

Corrective action requests were placed specifically upon the DWSP forest managers at the time of the recertification assessment. Some of those corrective action requests were appealed by the state. A list of some of the relevant corrective action requests from the 2009 assessment, and the final corrective action requests after the appeals are provided below. I submit documentation of these corrective action requests only to illustrate that there is a record, from independent auditors of problems with active management in the forests of the DWSP watershed forests. I am concerned that these problems have been “glossed over” in the STAC report and the DWSP response. I am in favor of solving these problems by declaring the watershed lands surrounding the Quabbin as an unmanaged reserve. In some of the material provided below there are three dots and spaces to indicate that some information has been shortened. I would be happy to supply all full documents to anyone interested. It is not my intent to take any information out of context.

From: **Forest Management and Stump-to-Forest Gate Chain-of-Custody Certification Evaluation Report for the: Commonwealth of Massachusetts Executive Office of Energy and Environmental Affairs Conducted under auspices of the SCS Forest Conservation Program. SCS is an FSC Accredited Certification Body**

**Date of Field Audit: 6-10 April 2009** Date of Report: Draft July 19, 2009 Finalized with Major CARs: August 4, 2009 **Certified: Expired**

**Non-conformity:** The NE Regional FSC Standard requires that monitoring of operations be conducted and that summaries of monitoring results be made publically available (Criterion 8.5). This information is not currently available from the agencies. ..

**Major CAR 2009.3**

Prior to award of certification, all agencies must make publicly available a summary of the results of monitoring indicators, including those listed in Criterion 8.2.

**The following non-conformity and CAR were revised April 08, 2010 in response to SCS management's findings regarding EOEEA's appeal.**

**Non-Conformity:**

Criterion 7.3 requires that *"Forest workers shall receive adequate training and supervision to ensure proper implementation of the management plans"*. ...

DWSP provides only a limited amount of field training/mentoring for new employees, which the audit team deems insufficient. A recent consequence due, at least in part, to DWSP's inadequate training is the unacceptable harvest practices that occurred on the Quabbin Woodward Rd Sale. In DWSP's public response to these unacceptable harvest practices, DWSP acknowledges that training of staff is a key to proper execution of management (DWSP document titled "Response to Woodward Rd Complaint-12/17/09). As such, it is reasonable to conclude that the Woodward Rd sale problems might have been avoided with better training.

**CAR 2009.8**

BoF and DWSP must implement formal training programs for new and existing employees that ensure both agencies are providing adequate training for proper implementation of the management plans.

**The following non-conformity and CAR were revised April 08, 2010 in response to SCS management's findings regarding EOEEA's appeal.**

**Non-Conformity:** Indicator 6.3.a.2 requires protection of advance regeneration. Forest harvesting operations on BoF and DWSP properties are not in conformance with Indicator 6.3.a.2 because advance regeneration was not protected at DWSP harvest sites 1029, 3119, and 3111, ...

The audit team observed inconsistent practices related to the pre-harvest evaluation and protection of advance regeneration in even-aged regeneration treatments on BoF and DWSP properties. There were several instances of designated shelterwood removal cuttings with little or no surviving regeneration after the harvest.

**CAR 2009.10**

BoF and DWSP must implement formal harvest planning measures to assess the adequacy of advance regeneration stocking before treatment. Unless the silvicultural objective is best accomplished by eliminating advance regeneration, harvest operation must ensure protection of advance regeneration.

**The following non-conformity and CAR were revised April 08, 2010 in response to SCS management's findings regarding EOEEA's appeal.**

**Non-Conformity:** The team observed retention levels in patch cuts and openings on BOF and DWSP properties to be insufficient relative to the requirements of Indicator 6.3.a.8 *"When even-aged management is employed, the retention of live trees and native vegetation within the harvest unit is based on an analysis of surrounding stand and landscape conditions. The level of retention increases with the size of the management unit, scale, the intensity of management within even-aged management units, and the total area of such units on the landscape."*

Non-conformances with 6.3.a.8 were observed at DWSP site 3119, DWSP site 3111, ...

No systematic analyses were implemented by BoF or DWSP to determine green-tree retention levels in larger openings. In the absence of a full analysis, the State is unable to establish the appropriate retention levels for maintaining ecological function and values at the stand and landscape level. Factors that, at present, have not been adequately considered include the range in variation of natural disturbances within each community type, the degree to which even-aged management is used, whether natural or artificial regeneration is employed, and the extent to which complete overstory removals are conducted.

## **CAR 2009.12**

BOF and DWSP must develop and implement quantitative standards for structural retention for even-aged regeneration cuttings. Standards must incorporate established guidelines for wildlife management and conservation of rare species.

### **The following non-conformity and CAR were revised April 08, 2010 in response to SCS management's findings regarding EOEEA's appeal.**

**Non-conformity:** Indicator 6.1.e requires the completion of environmental assessments that present options to maintain and/or restore the long-term ecological functions of the forest (see also 7.1.c). The team observed several harvest sites where the management goal is to create early successional habitat by clearcutting mature forests not experiencing widespread mortality. Given the relatively intense biophysical impact of clearcutting along with the clear social concerns expressed by Massachusetts citizenry, there is a need for a thorough environmental assessment per Indicator 6.1.e. The informal environmental assessments that were done for these treatments do not cover all the requirements of 6.1.e. (which requires covering all topics listed under Criterion 6.1). In particular, the DWSP should address whether these treatments are consistent with the natural pattern and scale of disturbance that was present in these forests under historic disturbance regimes.

## **CAR 2009.13**

DWSP shall conduct an analysis that fully addresses the ecological impacts of clearcutting healthy mature forest stands. The assessment must fully cover all the requirements of Criterion 6.1. Per Indicators 6.1.e and 7.1.c.1, the results of this review must be incorporated into written guidelines to be used in making future silvicultural prescriptions for intact mature forest stands. Per Indicator 6.1.d, the assessment must be done prior to continuing this type of management activity (i.e., clearcutting mature forest to create early successional habitat).

### **The following non-conformity and CAR were revised April 08, 2010 in response to SCS management's findings regarding EOEEA's appeal.**

**Non-conformity:** Indicator 6.1.e requires the completion of environmental assessments that present options to maintain and/or restore the long-term ecological functions of the forest (see also 7.1.c). BoF and DWSP have not completed an adequate environmental impact assessment (per Indicator 6.1.e) prior to regeneration harvesting of mature conifer plantations. ...

Since their initial certification in 2004, BoF and DWSP have conducted regeneration harvests on plantations of non-native (and in some cases, native white pine) conifer species. Neither BoF nor DWSP have presented evidence of completing environmental impact assessments that consider the habitat values of mature plantations, viz. dense mature coniferous habitat used during migration and as winter habitat for animals. The evaluation team found no evidence that the positive aspects of maintaining these plantations on the landscape have been considered from either a social or environmental impact standpoint. Given the relatively intense biophysical impact of clearcutting along with the clear social concerns expressed by stakeholders, there is a need for a thorough environmental assessment per Indicator 6.1.e. The informal environmental assessments that were done for these treatments do not cover all the requirements of 6.1.e. (which requires covering all topics listed under Criterion 6.1).

**CAR 2009.14**

BoF and DWSP shall conduct an analysis that fully addresses the ecological impacts of removing mature conifer plantations. The assessment must fully cover all the requirements of Criterion 6.1. Per Indicators 6.1.e and 7.1.c.1, the results of this review must be incorporated into written guidelines to be used in making future silvicultural prescriptions for mature conifer plantations. Per Indicator 6.1.d, the assessment must be done prior to continuing this type of management activity (i.e., removal of mature conifer plantations). Note: this CAR applies to all plantations (including white pine), not just those of non-native species. Incomplete (partial) overstory removal cuttings, designed to release well established conifer advance regeneration and which retain significant vertical structure are exempt from this CAR.

**Non-conformity:** During the audit, sites were observed where a lack of protection for seeps and springs had resulted in damage to these resources during harvest operations. On DFW sites seeps and springs were protected and contract had proper language- thus they are exempt from this CAR.

**CAR 2009.16**

Harvesting guidelines must be developed and implemented to protect seeps and springs.

**Non-conformity:** The State has not organized and presented its monitoring information in a manner that shows the effectiveness of the measures employed to maintain or enhance the applicable HCV attributes. A minor CAR is issued (rather than a Major) because the State is undertaking monitoring of HC VF, but more work is needed in some instances to directly link monitoring to maintaining HC VF.

**CAR 2009.20**

All agencies under this certificate must present monitoring information in a manner that provides feedback on the effectiveness of measures employed to maintain or enhance HC VF.

**Invasive Species:**

The 2009 recertification assessment also contained a number of recommendations for improved forestry performance. This recommendation with respect to the significant concern related to invasive species emphasizes the problem, but only requests analysis and completion of plans. Writing plans does not address the truly serious practical problems associated with the absolutely necessary control and elimination of invasive plants. There is a clear aversion to using chemical treatments in a watershed forest. There are practical considerations of the effectiveness of cleaning equipment. Who will be sure that loggers take the time and expend the effort to do a thorough cleaning of their equipment? How can we be sure that every speck of invasive plant material, and pests will be removed from this equipment that reaches deep into these sensitive forests? And who can be expected to control the seeds dropped by birds into the freshly opened areas of the forest where the seeds can take root?

**Background/Justification:** There is strong recognition that invasive plants are a significant management concern for the agencies and work has been done to document strategies for addressing them on some of the public properties.

**REC 2009.5**

Finalize the document Terrestrial Invasive Plant Management Plan for Properties Under Care and Control of the DCRF DWSP and complete similar analysis for the BOF and Watershed lands.

**It would be very helpful to have a full accounting of the monetary costs and benefits of the forestry program.** Such an accounting should include all aspects of the program, such as staff, personnel, equipment, clerical work, etc. It seems that the logging revenue is a motivating factor for decisions that are made with respect to the stewardship of the forests. What

would a comparison of costs between actively managed forests and maintenance of complete forest reserves show? Not only would you reduce all the costs of arranging for the logging operations, but there would be no need for the request for additional funds for the proposed performance monitoring before and after harvests, above and below them. Has such a cost analysis ever been made?

**The Mission of the Department of Water Supply Protection agency is to: "protect, preserve and enhance the environment of the Commonwealth and to assure the availability of pure water for future generations." Passive stewardship of the forests may well address that mission with less potential harm than active management.**

The STAC report and the DWSP response all indicate a determination to actively manage the forests for the commercial extraction of valuable timber products and the associated revenue. They don't convincingly argue that the selling of public resources is protecting, preserving and enhancing the environment. Instead of focusing on the quality of the water supply, they seem to be assuring us that what they want to do with the forests won't "hurt" the water supply. Their plans to provide performance monitoring for impacts from harvesting is alarming because it implies such monitoring has not been deemed necessary in the past. The document contains multiple examples of commercial justifications of cutting (such as white pine plantations) that are "generally of low commercial value". There seems a reluctance to accept the value of late successional forest. Ex. "where such areas can be efficiently and effectively treated to enhance old growth characteristics, this practice may be applied" Clearly this is not an enthusiastic endorsement of allowing a forest to mature beyond its prime marketable age. The response to the STAC recommendation for openings of irregular shapes, sizes and distributions implies this is only an aesthetic issue that will compromise silvicultural objectives and cause problems with the "operability of the harvest and limitations on regeneration diversity."

I am sorry to have to conclude that the whole approach to reviewing stewardship of the Quabbin forests was to make active management more acceptable to the public. The scientific justification for a large reserve never received a fair hearing.

**I do appreciate that DCR has sought public comments on this matter.**

**Please continue to seek public comments, but not between Thanksgiving and January 10 of any given year.**

It is my hope that you will consider seriously the public input you receive related to the future stewardship of the Quabbin and other watershed forests. Of note, there were only 7 comments submitted on the STAC report between December 14, 2012 and January 18, 2013. Two of those were from the MWRA Advisory Board and WSCAC. The poor response is no measure of citizen lack of interest in the stewardship of our watershed lands. This year those dates, Dec. 14 – Jan 18, were not only the height of the religious holiday season, but because of last minute congressional decisions relative to important tax matters, many citizens were focused on the resolution of extremely important issues related to their personal economic futures. It is important that you select time periods when "regular citizens" can focus on the topics for which you seek their opinions.

**Please work to convince the MWRA Advisory Board that there were and still are substantial and worthwhile reasons to call for a moratorium on watershed forestry, to call for a review of the plans, and that DCR has the right to do both.**

It is also my hope that the MWRA Advisory board will demonstrate a more receptive attitude toward the criticisms directed at the forestry at the Quabbin. It is my hope that they will better appreciate that the Quabbin and other watershed forests are publicly owned lands, maintained at taxpayer expense and that responsible stakeholder input should be considered in the stewardship of those forests. Their comment on January 14 attributes the recent moratorium to the Woodward Road controversy as if there were no other basis for the moratorium. They never mention the specific criticisms directed toward DWSP in the FSC recertification assessment of April 2009. The MWRA advisory board showed no patience with the time taken for the STAC review. The MWRA advisory board expresses its clear bias in favor of active management and the revenue it provides. The MWRA advisory board also dismisses and belittles much of the constructive criticism when it directs DCR to “...correct half-truths and misinformation circulated to serve others' agendas” and when it blames the “past 30 months” on poor communication between DCR and its stakeholders. This comment had a most arrogant and defensive and unhelpful tone.

Hopefully I have posed some responsible questions and opinions worthy of consideration in the full context of all stakeholder input that is received.

Claudia Hurley  
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**From:** Wes and Rita [<mailto:wesrita@comcast.net>]  
**Sent:** Wednesday, March 13, 2013 8:39 PM  
**To:** Updates, DCR (DCR)  
**Subject:** STAC

Gentlepeople:

The comments below are not in my own words but they express how I feel far better than anything I could have written myself:

*There is no good reason for commercial logging in the Quabbin forest and many good reasons not to.*

*This is the largest, intact, and most important forest in Massachusetts. It represents only 1.9% of Massachusetts forests and yet protects the drinking water for more than 2 million citizens.*

*The logging program operates at a loss, and is subsidized by economically struggling citizens. Most of the logs are sent to Quebec and some of the loggers even come from out of state.*

*How can the state justify preventing citizens from even walking in areas of the Quabbin forest to allegedly protect the water quality, and then turn around and allow large diesel trucks to drive into the watershed and clearcut the forest nearly down to the waters edge?*

*It is time to genuinely pursue the best "management" for this 1.9% of Massachusetts forests, and that is to simply **let it grow** in a reserve protected from logging, similar to the other tiny percentage of other Massachusetts forests (6%) that are in state reserves protected from logging.*

*This simple step would save scarce public dollars and allow the forest to do what an uncut forest does best - filter the air and water, absorb carbon dioxide (as mandated in the Massachusetts Global Warming Solutions Act), provide mature and undisturbed wildlife habitat, recreational opportunities, scenic beauty and a spiritual refuge from commercial pressures particularly in a tiny state like this with 6 million residents.*

*This is the least we relatively wealthy first world citizens can do as we admonish poor third world citizens to protect large swaths of their forests for planetary health.*

*Couldn't have said it better myself. Think about it.*

Rita Jaros

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24 South Maple Street

Shelburne Falls, MA 01370

Stephen H. Kaiser  
191 Hamilton St.  
Cambridge Mass. 02139

To : Commissioner Edward Lambert, Dept of Conservation and Recreation

From : Stephen H. Kaiser, PhD

### **Comment on DWSP Response to the STAC Forestry Report**

I appreciate the opportunity provided by DCR for public comments on both the original STAC report and Division of Water Supply Protection (DWSP) staff response. My submission will address several issues : professional credibility of the results, proposals for continued clearcutting (rather than thinning), lack of reasonable consideration for thinning and proper shelterwood, concern for rare events, climate change, and legal compliance. A series of ten attachments elaborates on several of the issues in more detail.

Recognition of certain public comments already received on the STAC report is warranted. Mr. Favaloro of the MWRA Advisory Board is typically blunt and candid in his observations. He clearly makes his point, even when I may disagree with his conclusions.

I have communicated with Mr Holleran at length in the past and have found him to be one of the most learned of working foresters, as shown by his activity in the rewriting and editing of the "Silviculture Guide for Northern Hardwoods and Mixed Wood Types." His appointment to STAC should be considered as a valuable addition, as he is effectively an applied scientist, with a sense for the world realities of the woods and wood products economy. He knows what the logging business is all about -- warts and all. In many ways, I wish he had written the STAC report.

The EEA mandate set out in April 2010 is limited to a "*review of the scientific principles that guide existing Land Management Plan objectives .... [and analysis of] proposed changes to implementation on issues such as opening sizes and retention standards....*" (p.1) The controversy about logging at Quabbin is much larger than a simple technical review.

### **A Problem Statement and the Need for MWRA Input**

In a startling omission, both the STAC report and the DWSP response lack any statement of the problem to be solved. DCR has authorized a review of logging policy

at Quabbin, but what is the specific problem that STAC and DWSP understand they must solve? What evidence is there that they have solved the problem?

Any professional scientific or engineering report must begin with a problem statement. It must end with evidence that the venture has made progress in solving the problem. The STAC report is devoid of these vital elements, and instead has been diverted into a posture of justifying ongoing state forestry policies, with only slight modifications.

DWSP clearly has a legitimate service function -- to protect public water supplies of the state, in accordance with Section 2 of MGL Chapter 92 1/2. Moreover, in 2000 the EPA granted Massachusetts a waiver from installing a \$200 million filtration plant, with the stipulation that the watershed forests must be protected.

The very first question that should have arisen is this : what position do the Massachusetts Water Resources Authority (MWRA) and the EPA take with respect to logging activities at Quabbin? Has the MWRA ever provided to DCR a statement of what sort of logging activities should be allowed ... encouraged ... or discouraged, in the interest of protecting its water supply?

Critics of Quabbin logging operations have raised a more demanding question -- why is any clearcutting allowed at Quabbin and why has the land been subject to such damage and exposure? Surely it would make sense for DWSP to seek some sort of supporting authorization and policy accord from MWRA and EPA. DCR should ask the Authority to assess the issue of water quality and land disturbance caused by logging. Yet, STAC and DCR do not appear to present such evidence.

If there were a document with such policy justification in existence anywhere, surely STAC and DWSP would have been the first to find it and release it to the public. DWSP appears to have invented its own logging policy and program, without consultation with MWRA and EPA. As matters stand today, there is no water quality issue that requires logging.

Clearcutting could threaten the Quabbin or Wachusett lands due to the potential for exposed soil and erosion. DWSP recognizes the need to allow "stop work" orders to be restrict logging contractors during a hurricane or heavy rain. With this evidence and a lack of support from MWRA and EPA, DCR would be advised to halt preparation of any contracts that entail or risk clearcutting of Quabbin and Massachusetts forests.

### **A Brief History of STAC and Open Process**

The history of STAC as summarized on pages 1-2 is fascinating. The first meeting was 1996, with subsequent meetings once a year between 1996-2000. Then

for the next ten years -- an entire decade -- STAC was basically inactive, with no formal meetings. DWSP made no demand for their expertise.

Not until it was reconvened in June 2010 did STAC again become operational, stimulated by the EEA mandate of April 2010. There is an awkward parallel with the legislatively mandated Forestry Committee under Chapter 132 Section 41, which has not met since 2007. Efforts to revise the forestry regulations are stalled. Clearly the House of DCR is suffering from forestry dysfunction. Policy coordination is no easy matter to resolve. (See Attachment A for a history of Forest Futures participation)

The STAC report and DWSP response contain no description of forestry actions that went wrong anywhere in the DCR system. The experience of the clearcutting at Savoy Mountain State Forest demonstrated the errors associated with state forest lands (see Attachment B). A similar argument was offered in the PowerPoint file prepared by Forest Watch to criticize logging at Quabbin. (see Attachment C).

One of the features of the Forest Watch presentation was the use of photographs, both aerial and ground level, to document the clearcutting actions at Quabbin. This controversy was brought to the discussion table of the Steering Committee of Forest Futures right at the end of their process. The long-time veteran forester of the MDC for decades defended his criticism of the Quabbin logging, saying "I would not call it forestry."



### **Designation of Chairmanship for STAC**

The designation of the two co-chairs of the original STAC committee leaves a cloud over the independence of the STAC report and the process surrounding it. The primary concern resides in the selection of a DWSP employee, as co-chair.

The committee is designed as an external advisory committee of experts to DCR. The selection of a DWSP employee to the role of chair -- and who is not a member of the committee -- significantly compromises the credibility of the technical committee, especially on key issues involving Quabbin lands.

How could it be seen as proper that a DCR employee directly involved in the actions and defense of Quabbin activities would be allowed to serve as co-chair of a Quabbin technical committee? This same co-chair of the advisory committee is also the author of DCR's response to the STAC report.

The credibility of both the STAC report and the DCR response is stigmatized by this arrangement. The fact that DWSP has also produced a presentation urging consideration of the forestry industry's economic interests further complicates the situation. (See Attachment D).

It would have been desirable to have Dr. Barten's involvement in the 1995 Quabbin Certification added to his list of activities on page 5 of the STAC report.

### **Role of DWSP in Responding to STAC**

It is perfectly legitimate for DWSP to defend its goals and actions, but that partisan role cannot be mixed with the operations of a third party review of those actions. The DWSP response is not a technical document, and does not address key issues such as clearcutting. DWSP refers to patch cuts only once in its document and does not mention clearcuts :

Large openings with irregular boundaries and other site-specific ecological features (which clearly differentiate them from the controversial geometric patch cuts .... that led to the harvesting moratorium)." (p.3)

In fact, the original protests were not about geometric versus non-geometric cuts.

The selectivity of DWSP is illustrated in its summary of the comments received on the STAC report : there is no mention of any opposition to clearcuts or support for the alternative management methods of thinning. DWSP does not refer to its legal purpose and authorization, or any other legal issues which could relate to logging programs at DCR.

But there is one statement I find myself in complete agreement : *"Simply put, silvicultural methods that are inherently controversial should be set aside when they jeopardize the watershed forest management program as a whole."* (p. 3) We should be able to agree that the clear cutting of Quabbin is inherently controversial.

It was not clear in either document the extent of varied opinions among the STAC members. Were there instances of dissent to individual conclusions and recommendations?

### **The Unresolved Issue of Motivation**

On page 18, the STAC report ventured at least partway into the murky waters of motivation, most notably in the following statement :

STAC discussed several common statements about the intensity of and motivation for harvesting operations by the Division of Water Supply Protection. Statements that "logging is unsustainable" (annual harvest is greater than annual growth) and that "they are in it for the money" are not supported by forest inventory and financial data. (Tables 2.5 and 2.6) (p.18)

No identification by either STAC or DWSP is provided as to the source of these "common statements", so the veracity and context of any claims is quite unclear. The reference to "they are in it for the money" suggests personal or group profiteering, which is illegal, and there is no clear identification who the "they" is.

This entire discussion -- strange for a report by scientific experts -- is entitled "Harvesting Intensity and Imputed Motives on DSWP Forests." Any references to financial issues or money appear to be confined to Table 2.5 and the results are ambiguous at best. Who would be the party or parties engaged in profiting or receiving financial benefits?

The only evidence in the current documentation that anyone might be "in it for the money" comes from the correspondence of Mr. Favaloro of the Advisory Board in his letter of January 14, 2013. Therein, he expressed his concern that *"from a ratepayer perspective, nearly \$1.5 million in potential forestry revenue was lost."* Is this what the STAC report means of common statements of persons being "in it for the money"?

Does the "in it for the money" reference apply to the logging industry or to DWSP itself? As a private industry, the forestry companies and associations would naturally have a major interest in the financial consequences of logging, but the STAC report provides no clarity on that point and neither does DWSP. Any indications of motives must come from evidence external to the current review.

### **The Economic Advocacy Role of DWSP**

In 2009, after DCR had received initial Forest Stewardship Council (FSC) certification, DWSP produced a PowerPoint presentation extolling this achievement and the value of FSC certification. (See Attachment D) DWSP made its assessments under the title "Quabbin's Green Certification: Justification, Impacts, and Challenges in a Changing Rural Economy." The reference to the rural economy was covered by discussions of the "Status of forest products industry" in the state and the "Role of certification in a challenging and changing rural economy..."

The DWSP presentation makes no reference to clearcuts or patch cuts. It includes only a single mention of the word "water," not counting the single reference to the division as Water Supply Protection. "Watershed" is mentioned twice. In terms of water quality, "quality" is not mentioned once. Economy is mentioned six times and employment twice. Industry is mentioned six times. *"Without a viable forest industry, can forested landscape persist?"* DWSP asked. *"Who pays the taxes? How do you overcome the incentive to develop?"* DWSP raised a whole set of economic questions that do not appear relevant to the division's legal responsibilities for the protection of water supply lands.

DWSP referred to a possible future when conditions *"may conspire to drive the industry out. Quoting a very committed, long-suffering private consulting forester 'I am just tired of being poor.'"* Are these comments in some way connected to the STAC references to "being in it for the money"? The entire issue of the viability of the forest products industry and the decline in its economic fortunes is very relevant to the Commonwealth as a whole, but seems strangely out of place for a government entity whose sole reason for existence is the protection of water supply lands.

One brief claim in the report offers a not fully satisfactory explanation :

An "in it for the money" approach would jeopardize the filtration waiver by US EPA and many other forest benefits and values. The purpose of watershed management and source protection efforts is to minimize costs not to maximize timber revenue. The DWSP, MWRA, and other water suppliers are, therefore, "in it for the sustained cost savings." (p.20)

### **The Priority of the Clearcutting Issue**

I am deeply disappointed in the diminished treatment of the clearcutting controversy in both the STAC report and the DWSP response. The origins of the Quabbin logging controversy and the stimulus for the STAC report can be traced to the vivid photos of logging operations and damage to Quabbin lands, as circulated by Forest Watch. A second, more detailed reading of STAC analysis makes clear

that while STAC does recognize the public relations damage from patch cuts, it seeks only to change the shape of those cuts, and not to discontinue them entirely.

STAC and DWSP seem to believe that if the shape of the clearcuts is changed, the public concerns will be resolved. This is an approach that seeks to blame the rectangular nature of many cuts, and offers an alleged solution based on more irregular shapes.

I contend that the primary controversy is not over the shape of the clearcutting at Quabbin. The primary issue is the total area of the clearcutting and why any such cutting is tolerable on Water Supply Protection lands. STAC and DWSP give us very little of the history of this controversy.

By contrast, Mr. Favaloro provides a very concise description in his "short history" :

In late 2009, with a recent controversial cut on Woodland Road in Petersham, followed up with a March 2010 Boston Globe article entitled "A Clear Cut Controversy," the state decided to place a moratorium on watershed forestry activities (logging) and reconvene an existing team of science and technical advisors to review the principles of the DWSP forestry program.

How was it possible for STAC and DWSP to slip around the "Clear Cut Controversy" and simply discuss the shape of the cuts? It is a common tactic for logging advocates to avoid any debate over clearcutting and often to pervert industry terminology -- so that thinning and shelterwood treatments in effect become total clearcuts, as we have seen historically in Savoy and other locations. This aversion is not unique to Massachusetts, and occurs nationally.

Another distortion occurs by frequent reference to the National Forest Service, which is not an environmental or water quality agency. The Forest Service is part of the Federal Department of Agriculture. Its conceptions of "harvesting" are often applied to all forests, even those reserved for water supply protection on state lands. (See Attachment E). The Gifford Pinchot concept of conservation is merely a preparatory stage prior to private-profit harvesting. Such "conservation" can evolve into environmental corruption when applied to water supply lands.

With the STAC effort, the Administration once had a wonderful opportunity to have third-party scientific expertise brought to bear to shed light on the pros and cons of clearcutting. This opportunity has been lost.

## USE OF RARE EVENTS TO JUSTIFY CLEARCUTTING

I take great exception to the stress by both STAC and DWSP on why we must plan for rare events. STAC provides no convincing proof that clearcutting is preferable to thinning when it comes to forest diversity, uneven aging and reduced damage from hurricanes. The presumption is made that "active management" is needed to prepare for rare events, and that the active management planned is irregular clearcuts. STAC and DWSP should have provided the intellectual basis for such conclusions, and they failed again.

They use the tired implication that it is justified for man to regularly apply the environmental destruction that Mother Nature partially achieves during a rare event. Man's clearcutting is a more dramatic change to the land and it is unnatural, as STAC concedes. The famous 1938 hurricane knocked down larger trees, but left the understory and smaller trees as the basis for a regenerated forest. Harvard forest has shown photos of the aftermath in 1938, and it is not clearcutting.

STAC nevertheless emphasizes the ultimate scenario of a 1960s drought followed immediately by a 1938 hurricane : "A hurricane (e.g., 1938, category 3 event) that blows down 50% to 70% of an even-aged forest upstream of a reservoir system that has been subjected to a prolonged drought (e.g., 1966-70, Quabbin at 45 to 55% of capacity) is a plausible test case or design scenario." (pp. 70-71) Neither STAC nor DWSP consider the obvious question : why would a clearcut be a satisfactory condition at Quabbin ... if a drought or hurricane were to strike?

The STAC bias appears to be one of reinforcing more recent policies of clearcutting. They have not given fair assessment of selective thinning as traditionally practiced by MDC/DCR in past years. This bias undermines the credibility of the analysis. Priority attention should not be on active vs. passive management. Proper focus should be on thinning vs. clearcuts. Fortunately, STAC offers a generally professional description of thinning (See Attachment F for more details on Thinning). It is in the comparison of alternative alternate strategies that STAC fails us.

### "Complacency and Panic"

The STAC report contains one of the strangest pieces of logic I have ever seen in a public document. Former Secretary of Energy, James R. Schlesinger is quoted on page 7, referring to national energy policy : *"We have only two modes -- complacency and panic."* STAC responds with an argument to avoid complacency ... and avoids an obligation to similarly oppose panic : *"In many respects this review centers on the need to avoid complacency about the potential for acute natural disturbances that could change the structure and function of the Quabbin, Wachusett, and Ware watershed forests in a matter of hours."* Are they advocating a panic response?

The Schlesinger statement is a criticism of public response, not a formula for decisionmaking. Surely a collection of skilled professionals such as STAC would recognize the preferable alternative of a thoughtful and measured response to a crisis, neither complacency nor panic. No better example of this approach can be found than Quabbin itself. With the exception of the harsh evictions of residents in the Swift River valley, Quabbin reflects an exceptionally judicious and rational planning process implemented with neither complacency nor panic.

Why did STAC stumble into this ludicrous discussion of complacency? How is any of this relevant to choices over patch cutting or thinning at Quabbin? STAF should have scrubbed this entire section.

### **Climate Change and Clearcutting**

I could find no reference in either the STAF report or the DWSP response to the question of climate change. In addition to energy conservation and efficiency, the most effective way to have any effect on global warming is to increase the sequestration of carbon in our forests. Seventy-five years after its completion, Quabbin has the opportunity for even greater service to society : it can serve as a carbon sink. Its forests already make a major contribution of support, and the STAC report shows the increased aging of the forest, which reflects larger trees with higher amounts of sequestered carbon.

The STAF/NWSP "solution" is to continue and even expand clearcutting -- the removal of sequestered carbon. Given EEA's official policies of requiring many project developers to consider the implications of their development on climate change, it is extraordinary that DCR would not have agreed to similar requirements when planing for forestry operations on water supply lands. (See also Attachment G)

### **FAILURE TO DISCUSS THINNING AND INVASIVE SPECIES**

The Forest Futures analysis was notable for its strong emphasis on forest regeneration to control invasive species. By contrast, the STAC/DWSP approach is to stress rare events rather than invasive species. Here again, the solution should have been to consider a full, complete and fair comparison of thinning vs. clearcutting, and not to draw strained justification due to either invasive species or to rare events.

Quabbin today does show evidence of certain invasives, and DCR in the past has sought to study the situation and seek appropriate action. Inspection of past regeneration of clearcut sites demonstrates that early growth is often dominated by so-called trash trees and other unplanned vegetation. The exposed, unvegetated sites that were clearcut are especially vulnerable to attack by invasives. Even mildly invasive trees such as Norway Maples can dominate with their vast profusion of annual seeds released. (See also Attachment H)

## **Implications for Wachusett**

With the revival of STAC in 2010, the focus was expanded to include all water supply lands, not just Quabbin. Because all Quabbin water sent toward Boston must pass through the Wachusett Reservoir, both MDC/DCR and EPA have recognized the need for greater protection of the Wachusett watershed.

During my employment at both MEPA and EOEEA during the 1970s and 1980s, I experienced these concerns first-hand with the construction of the express highway I-190 from Leominster to Worcester. The road construction occurred for many miles within the Wachusett watershed, and originally proposed a high-level bridge crossing the reservoir. Concerns of citizens and environmental officials in the early 1970s forced a relocation of the alignment to the west of the reservoir. EPA and MDC continued to express concerns over residual impacts, primarily the effects of increased turbidity that could reduce the effectiveness of natural filtration and chlorination.

The EPA Division of Water Supply under legendary leader Floyd Taylor insisted on a Wachusett protection program, with detention basins, sand filtration and other site protections during construction. EPA insisted on independent inspection and verification of such protections, including one full-time EPA employee on-site, and my own contribution as a state environmental employee committed to ten hours a week. I witnessed the conditions and results of EPA action to shut down I-190 highway construction in the late 1970s. EPA insisted that under the 1975 Safe Drinking Water Act that it had the power to shut down construction sites that threatened the quality of water supplies. (See Attachment I)

I feel sure that if Floyd Taylor were alive today, he would act to stop the clearcutting at Quabbin.

## **FAILURE TO ASSESS LEGAL LIMITATIONS ON LOGGING ARTICLE 7**

The Forest Futures study included a separate section which compiled all legislation and regulations affecting state forestry. The lawyer worked to assemble a remarkably complete collection of relevant documents. For unexplained reasons the lawyer made no further assessment of forestry regulations or the need for any legislative action to modify existing statutes. More seriously, there was no assessment made to evaluate the legal situation and conclude how clearcutting complied with the legal requirements associated with state forestry operations.

The STAC/NWSP work is actually a step backwards from Forest Futures, in that there is absolutely no discussion of forestry laws and regulations, including the basic authorization for DWSP and its legal obligations. This is a very serious omission, and should have been addressed by DCR, if not by STAC.

In my public comment of January 18, 2013, I raised the issue of proper compliance with the provisions of Article 7 of the Declaration of Rights of the State Constitution :

Article VII. Government is instituted for the common good; for the protection, safety, prosperity and happiness of the people; and not for the profit, honor, or private interest of any one man, family, or class of men"

My conclusions of January 18 are still pertinent. A common good must be -- but has not been -- identified for the clear-cuts. Allowing commercial logging on state lands designated for water supply protection is not consistent with a requirement to identify a proper public purpose, namely the common good, and fails to comply with prohibitions against profit-making by private special interest groups as a direct result of government action, such as commercial loggers.

STAC ignores Article 7 in quoting Gifford Pinchot's 1905 staff directive to the fledgling U.S. Forest Service that "where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run." (p.7) The proper guidepost should have been the common good and the limits on profits from government actions, as specified in our state Constitution.

The DCR refusal to discuss the provisions of Article 7 is not unique. In the City of Cambridge, my experience is that the City Council and two other boards have stonewalled the issue, despite frequent requests that they debate the merits. Lacking any initiative from the City, I prepared a brief "treatise" on Article 7 and have attached it to my comment as a separate PDF file. (See attachment file J)

MGL Chapter 92 1/2 Section 2 on the Division of Water Supply Protection provides the authorization for DWSP functions :

The division shall construct, maintain and operate a system of watersheds, reservoirs, water rights and rights in sources of water supply, shall supply thereby a sufficient supply of pure water to the Massachusetts Water Resources Authority, and shall utilize and conserve said water and other natural resources in order to protect, preserve and enhance the environment of the commonwealth and to assure the availability of pure water for future generations."

This legislation contains no authorization for forestry operations, and by implication any forestry work done should be solely for the purposes of "assuring the availability of pure water for future generations."

## CONCLUSIONS

The proper focus of the STAF/DWSP analysis should have been on clearcutting vs. traditional thinning operations. Clearcutting worsens the vulnerability of the watersheds to sudden changes, such as hurricanes and heavy rains.

My interest in Quabbin is one of exceptionalism -- that Quabbin is in a very special category of land, worthy of the highest forms of respect, veneration and protection that society can provide. It is a remarkable combination of the finest elements of planning, engineering design, public service as a water supply, and environmental values created by a combination of Man working with Nature to provide tranquility and aesthetic pleasures of water and forest lands.

As an engineer, I see this achievement as reaching a much higher level than any other totally natural or man-made feature of our state. I would contrast the magnificence of Quabbin with the failed promise of another major state project: the Big Dig. MWRA's harbor cleanup is indeed a great achievement, but it lacks the evident brilliant engineering and predominant visual effect of designing with Nature. We have a special obligation to protect the greatest single achievement of this Commonwealth -- Quabbin Reservoir and its surrounding lands. Clear-cutting has no place in this scenario.

Sincerely,



Stephen H. Kaiser, PhD  
Mechanical Engineer

**Attachment A Forest Futures and the Participatory Process**

DCR made a brave decision four years ago to bring in a mediator to resolve a persistent state forest controversy that was paralyzing monthly Stewardship Council meetings. Under pressure, the agency also decided to separate the Forest Futures study from any Quabbin controversies. We are now paying the price for this segmentation by having a closed process (the preparation of the STAC report and the preparation of the DWSP response) with only the public comment periods available for participation. The extent of the public dialogue has been severely deficient, and it was this dialogue which allowed the Forest Futures process to reach its levels of agreement and accord. Presently, the burden of all aspects of the logging controversy at Quabbin has been placed on STAC : political, scientific, economic, environmental and legal issues for which STAC has some of the necessary competencies but not all of them.

During a decade when DCR encountered a firestorm of protest over forestry practices, it is astonishing that DCR or DWSP did not utilize the skills of STAC and instead the committee as a whole was dormant. What was DWSP leadership doing?

DCR chose to limit the participation in the STAC review to seeking "community input through public meetings with its legislatively mandated watershed advisory committees after the review is presented." (p.1) Because the Forest Futures process worked well for DCR, the agency should have applied the same structure and participation to Quabbin and other DWSP lands, as tardy as the review might have been. For some reason, the state chose a largely closed process utilizing a long-dormant committee with minimal public participation. As far as I know, there has been no involvement of the Stewardship Council, which by law has control over DCR.

DCR concluded Forest Futures with the issuance of its Forest Heritage Plan, making it even more evident that the heritage of Quabbin and Wachusett should receive a higher priority. Yet the STAC report and DWSP response include no discussion of this Quabbin heritage. It has been my concern to protect the remarkable heritage of the Quabbin engineering and environmental achievement. This concern leads me to conclude that the abuses of Quabbin and Wachusett lands through clearcutting were far worse than for non-DWSP state forest lands.

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**ATTACHMENT B The Savoy Experience**

The Forest Futures process included site visits for members of the Steering Committee and citizens. DCR initially selected a visit to Leominster State Forest as a way to show people how excellent forestry can be done. To balance this presentation, DCR chose a visit to one of the more controversial sites where loggers had done extensive clearcutting. Twice I visited the notoriously damaged state forest sites in the town of Savoy. The two sites in Savoy Mountain State Forest were planned for shelterwood cuts : in reality they received clear-cut treatments.

One Savoy site contained a small cemetery. Some local citizens had been tending it, cutting the grass and putting out little flags at the headstone of a Union veteran from the Civil War. Since the forestry contract, trees had fallen over into the cemetery and broken several headstones. Other debris made it very difficult to access on foot.

During the Forest Futures tour, the hired forester who did the original cut near the cemetery gave a heartfelt apology for the damage that occurred. I felt that possibly we had made some progress. The recent response of DWSP at Quabbin leads me in doubt that we have achieved any permanent forestry progress at DCR.

To their credit, as part of the Forest Futures process, DCR allowed observers who were reviewing forestry practices to see all of modern forestry : the good, the bad and the ugly. The difficulty is establishing a steady line of progress at DCR that will lead to proper treatment of forest lands, and not to periodic retrenchments into unwise accommodation of logging interests.

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### **ATTACHMENT C    The Quabbin Clearcut Documentation**

Much of the controversy over Quabbin forestry three years ago came from newspaper reports, a PowerPoint presentation of photographs and commentary prepared by Forest Watch, and internal arguments among foresters about what had gone right or wrong with the Quabbin logging.

The Forest Watch presentation at 10 MB is too large to be included as an attachment to this comment. It can be accessed at :

[www.maforests.org/QUABBIN.pdf](http://www.maforests.org/QUABBIN.pdf)

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**ATTACHMENT D DWSP PowerPoint on Quabbin and Economic Impacts**

In 2009 a PowerPoint presentation was prepared by DWSP entitled "Quabbin's Green Certification: Justification, Impacts, and Challenges in a Changing Rural Economy." One focus was on the economic implications of the DWSP forestry program, as noted on page 6 of my main comment.

This PowerPoint file converted to PDF has been attached as a separate file :

[2009 NWSP Quabbin FSC Green Certification and Economic Aspects .pdf](#)

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## **Attachment E THE MISAPPLICATION OF THE HARVESTING MODEL**

The perceived mandate of the Forest Service for many years is one of the Pinchot concept of conservation as preserving the forest for a time until the wood can then be harvested. This forestry model with its commercial applications is completely wrong for Quabbin and for any property subject to requirements of water supply protection.

DCR should see its obligation to avoid any "harvesting" outlook that is based on a U.S. Forest service model. Its proper goal should be to establish DWSP standards much stricter than standards for DCR state forests, U.S. Forest Service lands and most private forests.

STAC was commissioned to investigate the size and density of forest clearings. DWSP prefers to use the term "patch cut" to reflect clearcuts that are somewhat smaller than those applied to state and private forests : "*A patch cut removes most or all of trees in ~0.5 to ~2 acre openings over less than half of a harvest unit. (Cutting more than half the stand is typically called 'patch retention.')*" (p.46) Where did this patch concept come from and why should anyone except commercial loggers think it is suitable for Quabbin? STAC should have begun with an investigation why any clearcuts were necessary. The report does include the admission that "*Patch cuts like those shown in Figure 5.1, have little resemblance to typical natural disturbance patterns.*" (p.46) STAC simply refused to cast a critical eye on the basic concept of patch cuts.

The trends from traditional thinning to clearcutting ("regeneration" according to the report) are limited to a description in economic terms.

Harvesting revenues have increased in relation to the size and value of the trees and the transition from thinning to regeneration treatments. They also have increased as a result of the thinning and stand improvement treatments (by design and as expected) that enhanced the growth rate of the most valuable and vigorous trees. Another major influence on revenue is the volatile nature of timber markets as global demand for building materials and furniture waxes and wanes. That said, recent regeneration harvests of straight, sound, large-diameter logs command a much higher price (10 to 100 times) than an equal volume from the firewood and pulpwood sales of the 1960s-80s. (p.20)

When discussing harvesting, STAC does refer to clearcutting, including the use of herbicide applications (p. 25). However, the discussion is quite incomplete. If trust is to be restored, there must be clear commitments by DCR to limits on forestry work. During the aftermath of Forest Futures, planning for state forests included

a proposal to allow clear-cuts of up to "ten hectares." I complained immediately -- first because the metric system is not commonly used in forestry and the reference is unduly obscure. Secondly, no conversion to familiar units was made. The unit of hectares is equivalent to 2.5 acres. DCR's obscure staff proposal would have authorized clear-cuts as large as 25 acres.

The DCR response was to simply airbrush the reference to ten hectares, and leave no specific limits to clearcutting. Such actions by any public agency are highly destructive to citizen trust, and simply feed an image of DCR as an agency caught up in a spiral of external control in favor of outside logging interests.

The primary objective should be to get rid of clear-cutting on all DCR lands, and at Quabbin in particular. The response of DCR not to supplant the ten-hectare reference with an explicit limitation on clear-cuts is simply wrong and at a minimum is a failure of proper disclosure.

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## Attachment F : STAC on Thinning

Below are some of the STAC sections describing aspects of thinning in forestry applications :

"The primary aim of all thinning methods (e.g., low, crown, free, etc.) is to reduce, at least temporarily, the competition for light, water, and nutrients among trees in order to enhance the growth of the residual or "crop" trees. (It is directly analogous to thinning a row of carrot or bean seedlings a few weeks after germination in a vegetable garden. Even at that early stage of growth it is possible to identify the most vigorous plants, carefully remove the weaker adjacent plants, and in so doing improve the crop yield for the growing season.) " P. 49

"Two forms of thinning (low thinning and crown thinning) were used on DWSP forests (1960s through the 1990s) before the transition to regeneration cuts. Low thinning (sometimes called "thinning from below") removes the intermediate and suppressed trees, making some of the water and nutrients they used available to the residual trees. The harvested trees were typically used for firewood, pulpwood, or low quality, small diameter sawlogs.

"As the names connote, crown thinning (Figure 5.5, option 5) removes intermediate and weak co-dominant trees and reduces stand density—at the level of the crown canopy—to enhance the growth of the remaining co-dominant and dominant trees. ... The irregular shelterwood cut regeneration method described earlier tries to protect and "release" the regeneration that may be present from earlier thinning treatments. In contrast, a simple patch cut may inadvertently destroy some these seedlings and saplings or subject them to a drastic and ultimately lethal change in microclimate (full or partial shade and moist soils is abruptly changed to full sun, dry surface soils, and desiccating heat and wind)." P. 50

"Most people regard thinning to be more aesthetically palatable, during and immediately after harvesting operations, than regeneration cuts. If the logging is skillfully and carefully done (especially during the dormant season on dry, frozen, or snow-covered soil) a thinning operation may go unnoticed. In contrast, it is hard to miss the startling, short-term change brought about by most regeneration methods—with the necessary objective of increasing the amount of sunlight that reaches the forest floor. As the second- and third-growth forests across most of the DWSP lands matured during the 1960s through the 1990s, thinning was an appropriate and effective silvicultural method. Before the deer population was reduced to average densities (from 30 to 50 animals per square mile to state-wide average of 5 to 10 animals per square mile) by controlled hunting, regeneration cuts had little or no likelihood of success. The combined effect of deer and moose browsing on forest regeneration is challenging, but still within manageable bounds on DWSP lands." P. 51

"In sum, discontinuing the use of regeneration cuts and returning to earlier thinning methods on DWSP forests would, no doubt, enhance the growth rate and value of crop trees, lead to the establishment of some shade intolerant regeneration, and mollify some critics. However, thinning would do little to meet the primary objective of the current watershed forest management plan increasing structural and species diversity. P. 51

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### Attachment G Climate Change and Carbon Sequestration

Climate change should have been considered as a factor in planning for forestry policies at Quabbin. A key element in such planning is to consider the effectiveness of trees in sequestering carbon. The larger the tree, the more carbon is sequestered. Larger trees have greater bulk in trunk and branches, with higher amounts of biomass as measured by weight or cubic foot. Young forests will typically have less carbon sequestration than older forests.

Climate change strategies would tend to support older forests, with less emphasis on young or uneven-aged forests. There would also be different approaches to removal of dead trees and branches from the forests. Sorting out the proper strategy becomes very complex. For example, a purely economic forestry approach would result in relative short cutting cycles, possibly as low as 10 or 15 years. Managed cuts based on maximizing carbon sequestration suggest ideal cutting cycles of 100 to 120 years, according to the 1987 edition of "Silviculture Guide for Northern Hardwoods and Mixed Wood types." by Leak, Solomon and DeBald. (p.19) Stated simply, climate change and need for carbon sequestration means that all forest managers should rethink their previous beliefs. They should significantly extend cutting cycles and hold off on cuts that are made too soon or too frequently.

STAC began to study this issue but immediately misinterpreted the common tree growth curve which has slow initial growth followed by a midpoint of maximum growth, followed by gradually slowing growth until the tree expires :

“The logistic (S-shaped) growth curve—from ecology and silvics—is the scientific underpinning for the principle that young, aggrading forests retain more nutrients .... At early stages of stand development, especially with a diverse species mix that includes fast-growing early successional species, biomass accumulation increases at an increasing rate. After several decades of rapid growth, increased competition, and subsequent decreases in the number of trees per unit area the logistic growth curve reaches an inflection point. (p.26)

This inflection point often occurs in the range of 100-120 years, depending upon tree species and local growth conditions. Because the early growth along the S-shaped curve means slow accumulation of carbon, a strategy for maximum biomass accumulation would involve allowing for tree growth beyond the point of inflection, such as 130 to 150 years. These subtleties do not appear in the STAC analysis.



**Attachment H Increase in Invasive Species from Clearcutting**

Clear-cuts result in excessively dense scrub growth and the predominance of fast growing "weed species" and other invasive species. New strategies should be adopted to balance sensitive forest thinning, healthy trees and action to control true invasives and disease.

Thinning can allow foresters much greater control over the species of trees that are allowed to survive at Quabbin. The result can be a set of preferred tree species in a proper mix, with mixed ages for balance.

Clearcuts are a much more drastic and damaging form of forest management. Sites that have been clearcut become a landscape of tree stumps, ruts, and slash, with little control over the types and density of trees that will be regenerated. In time, a forest can work things out, but the sorting process requires dealing with encouraging the desired trees to push out and overgrow other forms of vegetation, including invasives, brambles, etc. Clearcutting leaves the forest floor at its most vulnerable condition, with opportunities for fast-growing invasives to get a foothold. If a residual overstory remains from thinning, the invasives have less of a toehold, and lose out in the primary battle for sunlight.

These subtleties needed must more investigation than has been provided by STAC and DWSP to date.

Does thinning do a better job of controlling invasives than clearcutting?

Does clearcutting require more rather than less maintenance to assure proper tree density and selection?

If invasives become established in clearcut sites even for a relatively short period, does this significantly increase the probability that the invasives will spread to other areas of the forest?

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## **Attachment I WATER QUALITY IMPLICATIONS OF CLEARCUTTING**

STAC and DWSP could have made clearer the requirement for stricter standards on water supply lands than on state forest lands. For example, "meeting the minimum standards of M.G.L. Chapter 132 – the Forest Cutting Practices Act – would not be an acceptable performance standard for forest management on a public water supply (for this or any other water supply system in Massachusetts)." (p.43) What then are the minimum standards that apply? The Chapter 132 standards are outdated, and new regulations have not yet been adopted.

What are the standards which should apply? Does DWSP have any such standards, and are they proposing any improvements? What is the status of DWSP lands that have been reserved from active management? The only such reference I could find was on page 31 :

the overarching question, which is, should the DWSP forests be managed (noting that large areas have already been reserved from active management) or should they be designated, in their entirety, as large reserves? As emphasized throughout this review, this choice should be considered and a decision made in the context of the water supply system."

The STAC conclusions and precautions do not include a reference to standards and regulations :

If the policy decision is made to re-start active management on DWSP lands, the most appropriate method(s) for implementing that decision should be clearly identified. As a practical matter, the decision to re-start management will not be made without reasonable assurance that (1) active management is the preferred approach, (2) the goals and objectives (encompassing a range of forest benefits and values) of the existing or revised LMP can be met, (3) water quality can be maintained, (4) a repetition of the current controversy can be avoided, and (5) related issues and concerns can be fairly and effectively addressed. (p. 43)

STAC recognizes the MWRA role in demonstrating compliance with turbidity requirements, but proceeds to make a case for the difficulty and costs of sampling to achieve that very compliance :

MWRA characterizes the withdrawals for drinking water supply to demonstrate compliance with requirements for fecal coliform and turbidity to maintain the waiver of

filtration treatment. .... Collecting, transporting, processing, and analyzing samples in order to generate accurate and consistent (precise and replicable) data and information is time consuming and expensive.

It is necessary, therefore, to weigh the costs and benefits of each new sampling site and/or water quality metric before the network or scope of sampling is increased. (p.58)

Nevertheless, STAC properly emphasizes the need for DWSP to engage in further testing, and virtually admits that DWSP policies have not been fully and openly tested :

The implicit assumptions in DWSP plans about the short-term effects of active management on streamflow and water quality should be explicitly tested. The willingness and ability to test working hypotheses is a cornerstone of an adaptive management approach. (p. 70)

How is it possible for DWSP to imply that their proposals for forestry at Quabbin have been properly tested? If DWSP will not do the necessary testing, who will?

The ultimate admission of problems with site impacts on water quality is the provision in the forestry contracts for a "best management practice" to include issuing stop-work orders to contractors during wet weather.

....these short-term impacts could be avoided or prevented with different silvicultural methods or best management practices (including things as simple as "stop work" provisions for wet weather in the timber sale contract). (p. 61)



**Note : Attachment J Article 7 is contained in a separate file.**

**From:** [ckosterman57@comcast.net](mailto:ckosterman57@comcast.net) [mailto:[ckosterman57@comcast.net](mailto:ckosterman57@comcast.net)]

**Sent:** Tuesday, March 12, 2013 10:40 PM

**To:** Updates, DCR (DCR)

**Subject:** STAC---Stop logging in the Quabbin!

Dear DCR,

We believe there should not be logging in the Quabbin, and this forest is meant to protect the watershed. Also the public is subsidizing the logging and the logs are going to Quebec, so it is a rip-off for the public who owns these forests. You need to be stewards of our precious natural resources, and we are depending on you to honor our wishes as stated above.

Respectfully submitted by,  
Sandra and Charles Kosterman  
141 Barton Rd.  
Greenfield  
MA 01301

March 12, 2012

Re: Comments on STAC

To Whom It May Concern:

As a Massachusetts citizen, my preference is to allow the forest surrounding the Quabbin Reservoir to grow undisturbed. It removes airborne contaminants from the rain, builds up the organic content of the soil, and holds the soil in place. Contiguous old-growth forest also provides shelter to the rare species that cannot survive outside this increasingly rare habitat. We owe our descendants at least this small remnant of the environmental legacy we inherited.

Cutting down trees now to prevent them from being knocked down later by a storm makes no sense, unless it's to sell the wood. However, the value of the lumber pales in comparison to the value of ecosystem services provided by an intact old-growth ecosystem that purifies our drinking water and supports rare wildlife (see attached). Cutting down trees also disturbs the land in ways that encourage invasive plants, and reduce the biodiversity that is integral to a healthy ecosystem.

The heavy equipment used for logging today must be kept in continuous operation to make the payments to the bank. The incentive is always to bend the rules in order to increase the amount of lumber and the efficiency with which trees are harvested. Resources available for oversight of loggers are limited, and shrinking every year due to budget cuts. We already saw the results of this in the harmful logging practices that led to the moratorium. Resuming logging activities will inevitably result in more such damage to the forest.

Atmospheric CO2 is on track to top 400 ppm this year for the first time in over 800,000 years, and the rate of increase is accelerating (see: <http://www.esrl.noaa.gov/gmd/ccgg/trends/>). How can we ask countries like Brazil to protect their rain forests, which remove CO2 from the atmosphere, when we cut down even the forests that protect our own water supply?

Thanks to the foresight of visionaries who built the Quabbin Reservoir eight decades ago, the greater Boston area enjoys drinking water quality second to none. We should err on the side of caution, and protect and preserve the forest that makes it so.

Sincerely,

Paul Lauenstein  
4 Gavins Pond Road  
Sharon, MA 02067  
781-784-2986

Figure 22 summarizes annual value by land cover type. **Losing Ground: At What Cost? – Technical Notes**

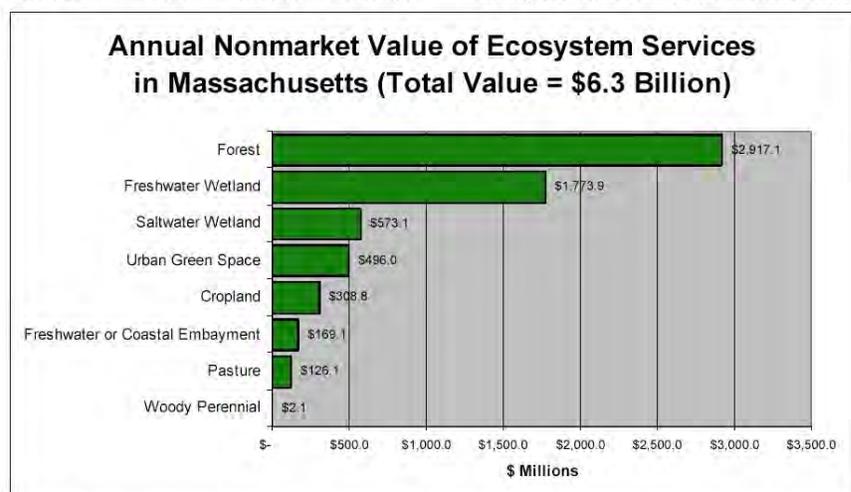


Figure 22: Total annual ecosystem service value based on 1999 land cover data. Source: analysis for Mass Audubon by Gund Institute, University of Vermont.



# Massachusetts Forest Alliance Position Statement

*Advocating for a Strong, Sustainable Forest Economy*

Date: 15 March 2013

Subject: Comments regarding the DCR response to the STAC report on watershed forest management

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The Massachusetts Forest Alliance (MFA) represents woodland owners and forest professionals throughout Massachusetts and advocates for a strong, sustainable forest economy in the Commonwealth. Our diverse membership consists of individuals and businesses who support local, responsible forest management. Collectively, we share vision of a Massachusetts where:

- a strong forest economy is widely regarded as a vital component of social, economic, and environmental well-being
- native forest products are an integral part of the 'Buy Local' movement
- forest management is recognized as a responsible and desirable approach to resource conservation
- the legal and regulatory environment sustains woodland ownership and encourages the local forest products economy to thrive

The forests that surround the Quabbin and Wachusett Reservoirs and the Ware River Watershed all play an essential role in providing the people of Massachusetts with a renewable, sustainable supply of vital natural resources – namely fresh, clean drinking water for 2.2 million consumers in the greater Boston area. Clean drinking water, however, is not the only local resource derived from these watershed forests. Since the 1960's, the 56,000 acre forest surrounding the Quabbin Reservoir has also yielded a sustainable, continuous supply of locally grown forest products. These timber products, harvested by local logging firms under the close supervision of state foresters, are a by-product of the management strategy called for in the reservoir's long-term Land Management Plan (LMP), which is designed to maintain the integrity of the Quabbin's water supply.

In recent years, the active forest management component of the Quabbin's LMP came under criticism from a group of Massachusetts citizens concerned with the potential negative effects of timber harvesting on water quality. As a result, the MA Dept. of Conservation and Recreation's Division of Water Supply Protection (DWSP) launched a formal review of management practices that occur on all state watershed properties. During this two-year review process a moratorium was placed on all commercial timber harvesting on the Commonwealth's watershed properties, which subsequently jeopardized the future economic viability of many of the area's small business owners whose livelihoods depend on an active forest economy in the Quabbin region.

In the interest of conducting a balanced review, a Science & Technical Advisory Committee (STAC) was established and commissioned to produce a report that examined various management scenarios for watershed forests, and their efficacy in the context of water quality. The Committee was composed of various professional experts in the fields of forest hydrology and watershed management, silviculture (the science of growing stands of trees), wildlife biology, forest ecology, invasive species management, biochemical cycling, natural resource economics, civil and environmental engineering and public policy. In December of 2012 the Committee presented a thorough and comprehensive report that contained a series of recommendations for improving ongoing management, which included the recommendation to continue active timber management, with some

alterations to the layout and intensity of timber harvest operations. An item of particular importance, the report cited that since active timber management began in the Quabbin Forest over 50 years ago, thousands of water quality tests conducted annually have never linked timber harvest operations on the Quabbin with negative trends in water quality.

In February 2013, the MA Dept. of Conservation and Recreation (DCR) presented a response to the STAC report, which outlined their intent to move forward on many of the recommendation laid out by the Science & Technical Advisory Committee, including measures to improve public accessibility to Land Management Plans, increase opportunities for public comment on specific management projects, and provide a more transparent and detailed internal review process. The February response document also outlined DCR's intent to resume active forest management with a focus on uneven-aged prescriptions that result in small, irregular forest openings. DCR's response to the STAC Report represents a balanced, thoughtful approach to improving the practices carried out on watershed properties throughout the state.

Though it is not the primary objective of the Commonwealth's watershed forests, the fact that local, sustainably produced forest products can be produced concurrent to responsible watershed management deserves our recognition and appreciation, and should not be dismissed. In Massachusetts, of the roughly 4.7 million tons of forest products consumed by residents each year, only two percent are produced locally. Promoting active management on public lands demonstrates our state's collective commitment to be more than responsible consumers of natural resources; it is equally important to be responsible producers. Local timber harvesting not only promotes the production of these renewable resources, it helps to support our state's rural economies and provides hundreds of meaningful jobs in production, manufacturing, and forest industry support services.

The citizens of Massachusetts requested a complete and thorough review of management practices on watershed lands under the jurisdiction of the MA Division of Water Supply Protection. These periodic reviews are both time-consuming and necessary. We congratulate DCR for completing the two-year process, and for identifying responsible, defensible recommendations to continue and improve the methods by which we care for our forestlands. The Massachusetts Forest Alliance fully supports DCR's response to the 2012 STAC Report.

Respectfully submitted,

Massachusetts Forest Alliance  
249 Lakeside Avenue  
Marlborough, MA 01752-4503

(617) 455 – 9918  
[Policy@MassForestAlliance.org](mailto:Policy@MassForestAlliance.org)

**From:** Chris Matera [<mailto:christoforest@maforests.org>]  
**Sent:** Monday, March 11, 2013 9:16 PM  
**To:** Updates, DCR (DCR)  
**Subject:** "STAC" Quabbin Forest Report

Dear DCR,

At the following link, please find comments for the STAC process regarding logging and forest management of the Quabbin forest which protects Boston's drinking water  
[http://www.maforests.org/MFW-Stac%20Comments-Mar\\_11,2013.pdf](http://www.maforests.org/MFW-Stac%20Comments-Mar_11,2013.pdf)

The comments are in PDF form, but are about 16 MB, so please be patient, it takes a minute or two to download.

**Please send me a quick note to let me know you were able to download the comments and include them in the record without any problem.**

Thank you for your time,  
Chris Matera  
Massachusetts Forest Watch  
413-341-3878

*NOTE: Due to size limitations, only the main letter is included in this compendium of comments. Please follow the link above for appendices referenced in the comment letter.*

MASSACHUSETTS  FOREST WATCH  
[www.maforests.org](http://www.maforests.org)

March 11, 2013

Department of Conservation and Recreation  
Office of Public Outreach  
251 Causeway Street, Suite 900  
Boston, MA 02114

RE: "STAC" Quabbin Forest Report  
Via e-mail: [DCR.Updates@state.ma.us](mailto:DCR.Updates@state.ma.us)

Dear Massachusetts Department of Conservation and Recreation:

If the intention was to foster yet more public distrust, cynicism and anger directed at the Massachusetts Department of Conservation and Recreation (DCR), Massachusetts Energy and Environmental Affairs (EEA) and other agencies overseeing the Quabbin drinking watershed forest, then the Science and Technical Advisory Committee (STAC) report was a success.

Starting with a committee makeup well known to be heavily biased toward logging, not only was the effort guaranteed to take a dismissive stance to the "no commercial logging" option in this public forest, but it was clear to many, that the process was going to be nothing more than a rubber stamp for renewed commercial logging operations masquerading as forest stewardship.

Maybe STAC is the perfect acronym, since the deck was clearly stacked from the beginning.

To most citizen observers following the issue, this effort has been highly undemocratic, and was never meant to do anything more than provide a thin veneer of accountability (with some token window dressing) as a pretense to continue business as usual - the publicly subsidized looting of the public treasure for private gain.

This manipulative process was a classic example of a government agency going through the legal motions while ignoring the spirit of laws meant to protect the public interest. To put it more bluntly, STAC was just sophisticated political cronyism posing as governmental oversight.

To add insult to injury, the rationales used to justify continued commercial logging of the Quabbin forest are laughable, and should embarrass anyone associated with the STAC report.

Particularly, the nonsensical and unfounded claims that we need to cut the forest now to protect against some theoretical future hurricane, and that logging will "help" forest health and water quality, show utter contempt for the public who owns these forests. These spurious excuses are an insult to reason, intelligence and credible science.

Not only do mature forests better maintain their ecological integrity in severe weather events, but forests and wildlife benefit from the impacts of natural disturbances. Logging does NOT mimic natural disturbances as often claimed by vested interests, and except under extremely rare and unnatural conditions, logging does not “improve” forest health and water quality (as claimed in Orwellian fashion by STAC), and instead, often degrades these qualities.

Additionally, the report does not highlight the fact that logging disturbs the soil and enables and accelerates the spread of invasive species which is already a large problem in many areas of the Quabbin reservation in no small part due to historical logging practices.

Rather than parroting pseudo-science peddled by vested timber interests to justify logging, a credible and ethical study would have admitted the commercial motives at stake, and would have thoroughly discussed and highlighted more credible (if not inconvenient) science regarding logging impacts such as the following:

**The United States Environmental Protection Agency:**

<http://water.epa.gov/polwaste/nps/czara/ch3-1.cfm>

*“Local impacts of timber harvesting and road construction on water quality can be severe, especially in smaller headwater streams.” “These effects are of greatest concern where silvicultural activity occurs in high-quality watershed areas that provide municipal water supplies or support cold-water fisheries.”*

**Dr Foster and Dr Orwig at HarvardForest:**

[http://harvardforest.fas.harvard.edu/sites/harvardforest.fas.harvard.edu/files/publications/pdfs/Foster\\_ConservationBio\\_2006.pdf](http://harvardforest.fas.harvard.edu/sites/harvardforest.fas.harvard.edu/files/publications/pdfs/Foster_ConservationBio_2006.pdf)

*“All evidence suggests that harvesting exerts greater impacts on ecosystem processes than leaving disturbed or stressed forests intact. A conservative alternative hypothesis for the long-term management of watershed lands might be proposed: the elimination of harvesting and its associated impacts (e.g., soil compaction, road development and improvement) will yield forest and landscape conditions that maintain and improve water quality in the face of ongoing disturbances and stresses.”*

*“Although intuitive support exists for the development of “protection forests” through silvicultural approaches to increase the resistance and resilience of forests to pests, pathogens, and natural disturbances, empirical data to support the approach are lacking. Not only is there sparse evidence that such approaches achieve their goals of increasing resistance and resilience, little evidence suggests that natural disturbances yield negative functional consequences. Therefore, current management regimes aiming to increase long-term forest health and water quality are ongoing “experiments” lacking controls. In many situations good evidence from true experiments and “natural experiments” suggests that the best management approach is to do nothing.”*

It is important to remember that there has been no serious accountability for the actions that prompted STAC in the first place. The same “managers”, with their same belief system of exploiting public forests for private gain, are still in charge, and they still claim that the Quabbin clearcuts shown in **Appendix A & B** were done to “help” forest health and water quality.

Anyone who believes this propaganda might also be interested in a bridge in Brooklyn. For more about timber industry propaganda, see **Appendix C**.

The lack of any serious accountability for the aggressive, destructive and sometimes illegal Quabbin logging over the previous 5 years, in combination with an unfortunate dearth of strong public interest advocates in the responsible agencies, leaves little doubt that the moment the spotlight is off, these same managers (who generally consider the Quabbin forest their own personal fiefdom) will again attempt to cut these public forests as aggressively as they can get away with. Simply put, without more enlightened leadership, there will never be any trust.

The highly pre-determined nature of the STAC outcome has also revealed the limits to good faith citizen participation in the democratic process. While it has become clear to many citizens that submitting public comments to Massachusetts DCR and EEA is about as useful as banging ones head against a brick wall, it is still worth the effort if only to illuminate the charade that it is.

This type of public manipulation, and the failure of the Massachusetts public agencies to stand up for the public interest against exploitive special interests is what ultimately leads to costly legal and legislative action.

Since the burden of limiting future abuses of the Quabbin natural environment will likely fall on citizens armed with cameras, video recorders, “Google Earth” images, media contacts, lawyers and legislators, and considering that we have learned that we cannot depend on the public resource managers to protect the public interest, the obvious question becomes - why should the public even employ public resource managers?

**In summary, there is no good reason for logging the Quabbin forest and many good reasons not to.**

This is the largest, intact, and most important forest in Massachusetts. It represents only 1.9% of Massachusetts forests and yet protects the drinking water for more than 2 million citizens.

The logging program operates at a loss, and is subsidized by economically strapped citizens. Most of the logs are sent to Quebec and some of the loggers even come from out of state.

How in the world can the current state management possibly justify preventing citizens from even walking in areas of the Quabbin forest to allegedly protect the water quality, and then turn around and allow large diesel trucks to drive into the watershed and clearcut the forest nearly down to the waters edge?

They cannot, and it says everything about the integrity, agenda and quality of state forest management at the responsible levels.

It is time to pursue the genuinely best “management” for this 1.9% of Massachusetts forests, and that is to simply **let it grow** in a reserve protected from logging, similar to the other (only) 6% of Massachusetts forests that are currently protected from logging in state reserves.

This simple step would save scarce public dollars and allow the forest to do what an uncut forest does best - filter the air and water, absorb carbon dioxide (as mandated in the Massachusetts Global Warming Solutions Act), provide mature and undisturbed wildlife habitat, recreational opportunities, scenic beauty and a spiritual refuge from commercial pressures particularly in a tiny state like this with 6 million residents.

This is the least we relatively wealthy first world citizens can do as we admonish poor third world citizens to protect large swaths of their forests for planetary health.

Sincerely,

Chris Matera, PE  
MA Registration #49815  
Massachusetts Forest Watch  
Northampton, MA 01060  
[www.maforests.org](http://www.maforests.org)  
413-341-3878

Appendix A: Quabbin Aerial and Ground Logging Photos

Appendix B: Quabbin “Google Earth” Logging Photos

Appendix C: Timber Industry Propaganda

CC: David Cash, EEA  
Rick Sullivan, EEA  
Edward Lambert, DCR  
Governor Deval Patrick  
State Representative Peter Kocot  
Senator Elizabeth Warren  
Representative Edward Markey

**From:** [dbhguru@comcast.net](mailto:dbhguru@comcast.net) [<mailto:dbhguru@comcast.net>]

**Sent:** Friday, March 15, 2013 8:30 PM

**To:** Updates, DCR (DCR)

**Subject:** STAC

Dear DCR,

I won't argue for the no forest management option in Quabbin because I seriously doubt that approach has any chance of being adopted. But I do believe that the current controversy over how to best manage the Quabbin watershed to protect water quality and the forest resource there can be resolved following some fairly simple rules. My suggestions follow.

1. Eliminate clearcutting except in highly unusual circumstances such controlling forest pathogens and insect pests where there is wide scale agreement that some clearcutting is a needed mitigation strategy. Otherwise, do not clearcut. As a reinforcement, I quote from one of the study participants.

trust. Simply put, silvicultural methods that are inherently controversial should be set aside when they jeopardize the watershed forest management program as a whole. Since these watersheds must be protected and managed in perpetuity, patience, not efficiency, is the key measure of forest stewardship. At the other end of the management and successional continuum, silvicultural methods (i.e., specialized thinning techniques) to deliberately accelerate the development of old-growth characteristics in appropriate stands should be considered.

This is well said except that the acceleration of old-growth characteristics is a course that should be pursued cautiously. In my experience, attempts to speed up old-growth characteristics that I've seen elsewhere are usually made to provide wildlife habitat lost to logging operations. Retaining a sufficient acreage of mature forest in Quabbin will meet the need for old-growth forest habitat.

2. Insure that a significant percentage of the trees are always in mature age and size classes. This should be done by retaining trees in prescribed diameter, height, and age classes based on an overall percentage plan. This may require that the advocates of early successional habitat be reined in a bit.

3. Control invasive species. From images I've seen, this is not presently being done - at least not in parts of Quabbin.

4. Manage logging operations better so that unsightly messes such as have been photographed by Forest Watch won't occur in the future.

5. Staff the forestry operation in Quabbin with people willing to carry out the above suggestions.

I hope this helps. I'm willing to discuss the 5 suggestions in greater depth, if that is desired.

Best regards,

Bob Leverett

Cofounder and Executive Director,  
The Native Tree Society

Cofounder and President  
Friends of Mohawk Trail State Forest

**From:** Tribal Scribal [<mailto:lionoak@gmail.com>]

**Sent:** Thursday, March 14, 2013 4:16 PM

**To:** Updates, DCR (DCR)

**Subject:** STAC Comments

To Whom it May Concern:

I would like to voice some additional concerns I have regarding any further clear-cutting in the Quabbin watershed. One of the most critical aspects of the Climate Crisis we now face is the need to both cut way back on CO2 emissions and to sequester as much CO2 as possible. Trees are a vital component in that pressing need. In the long run, the smartest thing we could actually do is to keep as many healthy trees growing as possible and, of course, to plant many, many more. The climate crisis, the actual fate of the biosphere and future generations of most life forms on this fragile planet calls for rethinking our approaches to forestry. Clearcutting is no longer a viable form of forest management.

As a parent and grandparent I have a quantifiable interest in my state maintaining its forests so that they are in the best possible condition to sequester CO2. Every effort we make to lessen the effects of climate change buys future generations more time to further address this crisis. It would be wise for the State of Massachusetts and its agencies and employees to be on the right side of history in this regard.

Don Ogden, producer/co-host

The Enviro show

WXOJ-LP & WMCB

**From:** Patrice Pare [<mailto:plpare@yahoo.com>]  
**Sent:** Friday, March 15, 2013 7:40 AM  
**To:** Updates, DCR (DCR)  
**Cc:** [plpare@yahoo.com](mailto:plpare@yahoo.com)  
**Subject:** STAC

SUBMITTED VIA EMAIL: [DCR.Updates@state.ma.us](mailto:DCR.Updates@state.ma.us)

March 15, 2013

Department of Conservation and Recreation

Office of Public Outreach

251 Causeway Street, Suite 900

Boston, MA 02114

To whom it may concern:

I am a lifelong resident of Massachusetts and have been enjoying the beauty of the Quabbin Reservoir for decades. But I see the Quabbin as more than an area of beauty and a source of drinking water. It is a resource that can be used in the fight against climate change, which is the biggest threat to mankind. The forest of the Quabbin can help us by sequestering carbon. Therefore, I ask that you stop all cutting of trees in the Quabbin and thereby allow the sequestration of carbon to continue undisturbed.

Aside from the importance of sequestering carbon, a large expanse of undisturbed forest in the Quabbin will provide important animal habitat and will help reduce the problem of invasive species. After all, it is land disturbances by people that have contributed to the problem of the invasive species in the Quabbin.

I urge the Commonwealth of Massachusetts to not restart logging in the Quabbin. Please instead designate it as a wildland reserve.

Thank you for the opportunity to comment.

Sincerely,

Patrice L. Pare

Chicopee, MA



March 15, 2013

Edward M. Lambert, Jr.  
Commissioner  
Department of Conservation and Recreation  
251 Causeway Street, Suite 900  
Boston, MA 02114

Dear Commissioner Lambert,

As a person who was involved in the Department of Conservation and Recreation (DCR) Forest Futures Visioning Process (FFVP) from the beginning, I will state again that it was a mistake and disservice to the people of Massachusetts to omit the Quabbin Reservation and watershed properties from inclusion in the FFVP. DCR based this exclusion on the claim that these lands fall under the care and control of the DCR Division of Water Supply, as if they should not be considered in the larger context of a comprehensive conservation plan. Presented this argument, many of us felt then, and still feel, that the omission of the watershed properties undermined the FFVP from the very start. Commercial logging of the Quabbin is not acceptable. My reasons for this statement follow.

In 2005, a select group of Harvard Forest scientists produced, *Wildlands and Woodlands; A Vision for the Forests of Massachusetts*, a science-based conservation plan for permanently protecting 50% of state lands. From that time to the present, Harvard Forest scientists have continued to build consensus towards the creation of corridors of managed and wild forestlands that would ensure sustainable forests into the future. In the *Wildlands and Woodlands* vision, the Quabbin Reservation is a critical component of Wildlands reserves—with great importance not only to Massachusetts but for all of Southern New England—due to the scarcity of protected lands of such large extent:

Many of the strongest candidates for Wildlands reserves exist on public lands that are already protected from development. Here we highlight just a few of the many possible areas for consideration statewide.... The largest reserve in southern New England could be created in central Massachusetts on the Quabbin Reservation. This is the single largest conservation area in the region, and it is currently actively harvested for timber by the Division of Water Supply Protection. (*W&W*, p. 10)

According to the above statement, the DCR has allowed logging of the Quabbin Reservation to continue largely unabated since 2005, against the recommendations of some of the most prominent and progressive forest visionaries in the country. The authors of *Wildlands and Woodlands* recognize the importance of maintaining large tracts of forested land and warn of impending ecological disaster should the Massachusetts Government fail to provide adequate Wildlands reserves for the future:

After decades of forest protection by state agencies and private organizations, patterns of land conservation and forest management are still inadequate to meet future societal and environmental needs. Large areas of protected forestland are uncommon, conserved forests are largely disconnected, important natural and cultural resources (including many plant and animal species) are vulnerable to loss, logging is often poorly planned and managed, and old-growth forests and reserves isolated from human impact are rare. (*W&W*, p. 4)

With the Quabbin Reservation being one of the few remaining opportunities to conserve large tracts of forestland in reserve, why is it that the DCR and the Executive Office of Energy and Environmental Affairs choose to ignore a blatant appeal to preserve more land in its natural state? The authors could not be clearer about the intention of the Wildlands and Woodlands objective:

We urge the people and Commonwealth of Massachusetts to launch a bold, comprehensive initiative to conserve these precious Wildlands and Woodlands and the ecological and social values they possess. (*W&W*, p.2)

While I believe there is a place for forestry in private woodlands, commercial logging is not appropriate on public lands that offer the last best opportunity to establish necessary forest reserves. You have the responsibility of safeguarding high-value, public conservation lands in Massachusetts from exploitation for private profit. I, like the scientists who have carefully and thoughtfully explained the long-term value of the Quabbin Reservation as a reserve, urge you to act boldly and support the Wildlands and Woodlands initiative to conserve the Quabbin Reservation as the heart of Wildlands in Massachusetts.

Please allow me to make an additional comment on a statement I find troubling in the *Response to Forest Heritage Planning Process and the Science and Technical Advisory Committee Final Report of February 5, 2013*:

The management of the forests that protect this biologically filtered drinking water supply was the first public land management in North America to receive the international Forest Stewardship Council's "Well-Managed Source" certification and has frequently been held up as the standard for forest managers on water supplies and other public land. Yet despite all of the above and a solid track record from over 1,000 successful forestry projects, the program has recently been criticized for a combination of reasons including program modifications, inconsistent practices, and changes in the public's viewpoint. (*Response*, p. 1)

Even though I prefer not to dwell on past conflicts, I find the above statement to be so misleading as to cast doubt on the objectivity of the entire report. Forest Stewardship Council (FSC) certification, however the timber industry proponents may tout it as an indication of high forestry standards, proved to be less than satisfactory in Massachusetts. If the DCR had enforced the high standards required by the FSC on the over 1,000 successful forestry projects, as claimed above, the state would still have FSC certification and there would have been no need for the Forest Futures Visioning Process. I give credit to the FSC certification program, however, for when FSC auditors at Scientific Certification Systems received numerous substantiated reports of violations of FSC standards, they responded to citizen's complaints in far less time and with greater concern than did the DCR certificate holders. Nevertheless, I am still hopeful that the changes in DCR forestry policy and management practices brought about by the FFVP will manifest in gentler and more responsible management of our state forests.

If we are to insure a future that includes Wildlands, we must end commercial timber harvesting at the Quabbin Reservation and work harder to preserve enough large tracts of forestlands to provide the next generation with a hedge against global climate change. Thank you for accepting my comments.

Respectfully submitted,



Sharl Heller, President  
Southeastern Massachusetts Pine Barrens Alliance, Inc.

**From:** Michael Kellett [<mailto:kellett@restore.org>]  
**Sent:** Friday, March 15, 2013 7:29 PM  
**To:** Updates, DCR (DCR)  
**Subject:** RESTORE comments on STAC Final Report - amended

To whom it may concern:

We want to make sure it is understood that the attached comments of RESTORE: The North Woods are directed not only to the STAC Final Report, but also to the DWSP's "Response to Forest Heritage Planning Process and the Science and Technical Advisory Committee Final Report," dated February 5, 2013. However, we focused the substance of our comments on the STAC report, since the DWSP's response replied "directly to the five summary recommendations included in STAC report...and to written public comments it received on this report." The DWSP response was merely a confirmation of the STAC report, not a critical review. The fact that the DWSP does not point out any of the deficiencies of the STAC report raised by RESTORE, but merely affirms the conclusions of the STAC report with minor tweaks, indicates that the two documents represent a common set of conclusions.

As with most Massachusetts citizens, RESTORE was unaware that the STAC Final Report was even released, until it was too late to comment. The fact that DWSP only received comments from seven individuals and organizations to the STAC report within the deadline, and the uncritical nature of the comments received, should have been a strong indicator that there was something very wrong with the public process.

To avoid any confusion, we have slightly amended our comments (see attached) to include these points.

Again, thank you for the opportunity to comment.

Sincerely,  
Michael J. Kellett

On Mar 15, 2013, at 5:50 PM, Michael Kellett wrote:

Attached, please find the comments of RESTORE: The North Woods on the "Review of the Massachusetts DWSP Watershed Forestry Program" by the DWSP Science and Technical Advisory Committee (STAC Final Report), issued in November 2012.

Thank you for the opportunity to comment.

Sincerely,  
Michael J. Kellett

\*\*\*\*\*

Michael J. Kellett  
Executive Director  
RESTORE: The North Woods  
47 Graniteville Road  
Westford, MA 01886  
(978) 392-0404  
(978) 618-8752 cell  
[kellett@restore.org](mailto:kellett@restore.org)  
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[www.restore.org](http://www.restore.org)

# RESTORE:



March 15, 2013

AMENDED COMMENTS SUBMITTED VIA EMAIL: [DCR.Updates@state.ma.us](mailto:DCR.Updates@state.ma.us)

Department of Conservation and Recreation  
Office of Public Outreach  
251 Causeway Street, Suite 900  
Boston, MA 02114

To whom it may concern:

The following are the comments of RESTORE: The North Woods (RESTORE) on the “Review of the Massachusetts DWSP Watershed Forestry Program” by the DWSP Science and Technical Advisory Committee (STAC Final Report), issued in November 2012. RESTORE is a nonprofit organization dedicated to restoring wilderness and native wildlife in the North Woods. We have members in Massachusetts and throughout New England.

The comments of RESTORE are directed not only to the STAC Final Report, but also to the DWSP's “Response to Forest Heritage Planning Process and the Science and Technical Advisory Committee Final Report,” dated February 3, 2013. However, we focused the substance of our comments on the STAC Final Report, since the DWSP's response replied “directly to the five summary recommendations included in STAC report...and to written public comments it received on this report.” The DWSP response was merely a confirmation of the STAC report, not a critical review. The fact that the DWSP does not point out any of the deficiencies of the STAC report raised by RESTORE below, but merely affirms the conclusions of the STAC report with minor tweaks, indicates that the two documents represent a common set of conclusions.

As with most Massachusetts citizens, RESTORE was unaware that the STAC Final Report was even released, until it was too late to comment. The fact that DWSP only received comments from seven individuals and organizations to the STAC report within the deadline, and the uncritical nature of the comments received, should have been a strong indicator that there was something very wrong with the public process.

As a citizen of Massachusetts, I served on the Advisory Group of Stakeholders during the recent Forest Futures Visioning Process conducted by the Department of Conservation and Recreation (DCR), which considered future management of Massachusetts state parks and forests. Based on this experience, I had some remote hope that the STAC review of the DWSP program might at least take a fresh look at forest management in the Quabbin and other Massachusetts watershed lands. Unfortunately, this has not been the case.

The STAC Final Report is nothing more than a recitation of the same industrial forestry-driven ideology and management practices that led to major public controversy and forced the DWSP to

produce this report. Instead of fresh review, the report is simply an attempt to justify logging in the Quabbin and other watershed forests by claiming that it provides substantial benefits in terms of water quality, forest diversity, wildlife biodiversity, resistance to natural disturbances, control of invasive species, and reduction of taxpayer costs. Neither the report itself nor the list of references at the end provides any meaningful documentation to substantiate these claims.

The report almost completely ignores climate change. This is contrary to the Global Warming Solutions Act (GWSA), signed into law by Governor Deval Patrick in 2008. The GWSA requires the Executive Office of Energy and Environmental Affairs (EOEEA) to set economy-wide greenhouse gas (GHG) emission reduction goals for Massachusetts that will achieve reductions of: 1) between 10 percent and 25 percent below statewide 1990 GHG emission levels by 2020, and 2) 80 percent below statewide 1990 GHG emission levels by 2050.

The STAC Final Report not only does not make any recommendations that would reduce greenhouse gas emissions as called for in the GWSA, but its recommendations would certainly increase emissions. The report only mentions climate change in an attempt to bolster its claim that the Quabbin and other watershed forests are in danger of being blown away by storms. The report is silent on the fact that cutting down trees increases the release of carbon and reduces the amount of carbon sequestered in the forest. There is no mention of the fact that the artificial “age class diversity,” advocated throughout the report, is the result of cutting down trees, which will release carbon held in the biomass and soil, thus increasing carbon emissions.

The only responsible policy for the Quabbin and other watershed forests from a climate change standpoint would be to stop all logging and allow the forests to reach an old growth condition. This would result in a net gain in carbon sequestration, since most of the forest is in a young-to-middle age class. As the forests reach an old growth condition, they will stabilize and hold vast amounts of carbon in the biomass and soil. This would be an important contribution toward realizing the goals of the Global Warming Solutions Act.

The report is completely inadequate in its discussion of deer overpopulation and invasive species. The section on deer overpopulation notes correctly that, “unmanaged deer herds limit forest regeneration.” However, the report makes no mention of the fact that the primary reason for the deer overpopulation problem is the logging program, which increases the early successional habitat favored by deer. Instead of addressing the root cause of deer overpopulation — logging — the report relies solely on deer hunting, which deals only with the symptom and is ineffective in long-term population control. The report also makes no mention of the fact that the deer overpopulation promoted by the logging program also increases the threat of Lyme disease, a major concern in Massachusetts. The deer overpopulation being caused by logging on the Quabbin and other watershed forests is not only an ecological problem; it is also a public health problem.

The report correctly notes that, “invasive species (plants, animals, insects, diseases) are an ever-present concern for any forest, managed or unmanaged.” However, the report fails to mention that forests that are “managed” (i.e., logged) tend to have greater invasive species problems than natural forests that are “unmanaged” (i.e., free of logging). Therefore, logging in the Quabbin and other watershed forests is very likely exacerbating the problem of invasive species. This not only threatens the ecological integrity of the watershed forests themselves, but it could also be encouraging the spread of invasive species to adjacent forest lands and undermining efforts to

restore native biodiversity in Massachusetts. Instead of addressing these vital concerns, the report only talks about the impacts of invasive species on tree species that are valuable as timber. The solution it prescribes is yet more “silvicultural treatments” (logging) to create artificial “age class diversity.”

The report claims that logging in the Quabbin and other watershed forests saves Massachusetts taxpayers money. This logging program is obviously very expensive. However, according to the report, logging the forest maintains or improves water quality, thus avoiding the expense of the EPA requiring the construction and maintenance of water filtration and treatment plants. However, the report provides no evidence that treatment plants are likely to be necessary without logging. The report also fails to include any meaningful financial analysis, providing only timber revenue figures and no program cost figures at all. This meager information does not prove the claim that public benefits that outweigh the costs of the logging program.

The STAC Final Report concludes by recommending a full-scale restart of industrial logging in the Quabbin and other watershed forests. This is no surprise, considering the barrage of pro-industrial logging propaganda that pervades the entire report. The conclusion was obviously decided before the report was even started.

RESTORE strongly disagrees with the rationales, conclusions, and recommendations of the STAC Final Report. We urge the Commonwealth of Massachusetts to immediately cancel any plans to restart logging in the Quabbin and other watershed forests. This includes not only clearcutting and its variants, such as shelterwood, seed tree, patch cuts, regeneration treatments, etc., but also other forms of forest “management” that involves cutting trees, such as thinning, individual tree selection, etc. Some of the more benign forms of logging have a legitimate role on private timberlands. However, there is simply no scientifically documented justification for any logging of any kind in the Quabbin and other watershed forests.

We urge the Department of Conservation and Recreation to reject the STAC Final Report, and to designate the Quabbin and other Massachusetts public watershed forests as wildland reserves. They should be given full protection from logging, roadbuilding, and other extractive and industrial activities, and allowed to return to an old-growth condition. This would safeguard water and air quality, help to address climate change, decrease deer populations, promote the recovery of native wildlife diversity, reduce problems with invasive species, offer outstanding opportunities for muscle-powered recreation, and save Massachusetts taxpayers money that is now spent subsidizing logging on the Quabbin and other watershed forests.

Thank you for the opportunity to comment.

Sincerely,

A handwritten signature in blue ink, consisting of a large, stylized initial 'M' followed by a long, horizontal line that tapers to the right.

Michael J. Kellett  
Executive Director

## **A Landowner's Comment on STAC Report and Response and on Eric Chivian's comments to DCR**

I write as a landowner whose @280 acres of forest, fields and farmland is surrounded on three sides by DCR managed Quabbin Watershed lands. Having undertaken a Watershed Preservation Restriction (WPR) on most of my acreage in 2008, I am one of approximately 100 land owners in the Quabbin to Wachusett region who have partnered with the Division of Water Supply Protection to protect the sources of clean drinking water for more than two million residents of the Commonwealth. Like so many landowners and tens of thousands of citizens in communities surrounding the reservoir lands, I view the purpose of ensuring a naturally filtered, reliably clean, water supply to be the paramount priority of the DCR and MWRA in service of the public which benefits from our combined efforts.

While many priorities including recreation, protection of wildlife habitat, minimizing invasives and carbon sequestration compete for attention in the many realms administered by DCR under the aegis of EEA, members of the public, rate payers and abutting landowners certainly expect that water quality and the means to achieve that quality are the highest express purpose of the Land Acquisition and Forest Management programs conducted by DCR in the reservoir areas. Eric Chivian is a close personal friend of mine and we enjoy abiding mutual respect. While he most assuredly deserves consideration for his views on issues and accolades for his accomplishments in the field of public health and the global environment, the dearth of public drinking water which is predicted to afflict humankind within this century, certainly competes in importance with the priorities he champions in his critique of the STAC reports. Fortunately, the priorities of DCR are largely coherent with, not exclusive of, those he highlights.

In pursuit of its primary purpose on watershed lands, DCR has for decades maintained a world renowned program of forest management in which many private landowners have been recruited to participate. In accepting restrictions on significant uses of our land including development purposes, we rely upon the state's active management programs working in concert with individuals, land trusts, other land protection agencies, community organizations and municipalities to ensure the proper care of the extensive forestlands which form our mutual boundaries. The direct benefits of DCR management include the review, establishment and deployment of best forestry practices to maximize forest health, prevention of disease and protection from destruction resulting from man made and natural causes.

Along with numerous members of diverse constituencies in Central Mass., I attended DCR's Barre Town Hall public hearing in Dec. 2013 where Dr. Barten and STAC members presented the Feb. 2013 Response report. Those in attendance included those whose primary interest is in fishing, hunting, nature appreciation, farming, wildlife protection, woodlot management and forest species diversity. The report was met with an overwhelmingly positive response.

It is evident that DCR's practices over time have resulted in corresponding enhancements for the public in the areas of recreation, fishing, hunting, wildlife management, clean air and more over decades. Like many others, I have concluded that the management programs, administered by the Commonwealth, which are scientifically sourced, peer reviewed and vetted and which do include selective cutting of trees, are a distinct public benefit overall. Concomitant with the selective cutting of trees, supported by the STAC reports, is the prioritization, within the program, of developing mature forests which will endure throughout the century. . Indeed, while critics of DCR's woodland management attempt to raise public alarm over "logging", it is demonstrably evident that such activity is neither a priority nor a source of substantial funds for Commonwealth agencies. Instead, strategic cutting has been conducted and should continue to be endorsed in support of the water supply protection, a fundamental mandate of DCR-DWSP.

If scientifically credentialed support for managing forestland, including some cutting of trees, is needed beyond that developed by the cadre of forest ecologists and biologists employed by the state and convincingly substantiated by STAC, one need not look further than to the programs of the Harvard Forest which include timber cuts. I am familiar with one such cut which was conducted by Harvard Forest in 2010, out of public view, not far from my property in Petersham. For your interest, I have attached photos taken of this area which document the tree cutting and accompanying wetland crossing, habitat disruption, erosion potential etc. as I observed them on March 5, 2010. In a nearby location on Harvard Forest land, an interpretive rationale for such cuts was provided which echoed that recently outlined in the STAC Response report.



Further, the Wildlands and Woodlands initiative which Harvard Forest has premiered, underscores the goals outlined by DCR forest management. The extensive “Vision for New England Landscape” has been conceived by David Foster and colleagues and is described in several publications authored by Foster, Donahue, Orwig, Kittredge and others. It outlines and substantiates the need for an extensive program of land acquisition to permanently protect approximately three quarters of existing farms, fields, forests and community open space from further development.

The most recent 2010 Harvard Forest, Harvard University publication begins with an Executive Summary which states;

“ The Wildlands and Woodlands vision strikes a balance between active, long-term forest management and preservation. Ninety percent of the forests would be expansive “Woodlands” that are voluntarily protected from development and managed for forest products, water supply, wildlife habitat, recreation, aesthetics, and other objectives. Ten percent of the forestland, or seven percent of the region, would be “Wildlands” that are established as large landscape reserves subject to minimal human impact and shaped by natural processes.”

One cannot avoid seeing the parallels between the programs which Harvard promotes and those conducted so successfully by DCR. Indeed, the Harvard Forest vision anticipates much more activity in the forest products realms than DCR has ever contemplated. It is useful to note here that Massachusetts brings over ninety seven percent of its wood related products from out of state even though millions of acres of land in the Commonwealth are forested. Common sense dictates that policies which target reductions in carbon emissions should take into account the imbalance implied in neglecting to locally produce wood products necessary for the Massachusetts economy. Citizens, therefore, should be appreciative of DCR’s small contribution toward supplying some of the forest products we depend upon for home building, home heating and paper products here in Massachusetts.

In summary, notwithstanding the important issues raised by many, including those presented for your consideration by Eric Chivian, DCR-DWSP goals and practices which enjoy wide public acceptance should be supported by the lifting of the moratorium on tree cutting. The policies which have resulted in our water supply quality which is second to none, should receive your strong administrative endorsement.

Respectfully,

Stephanie N. Selden  
Stony Lane Farm  
52 Phillips Drive  
Petersham, Ma 01366

**From:** janet sinclair [<mailto:jasinclair@verizon.net>]

**Sent:** Thursday, March 14, 2013 10:24 PM

**To:** Updates, DCR (DCR)

**Subject:** STAC

Dear DCR,

Please accept my comments for your consideration.

Please permanently suspend commercial logging in the Quabbin forest.

The Quabbin is the largest, intact, and most important forest in Massachusetts. It represents only 1.9% of Massachusetts forests and yet protects the drinking water for more than 2 million citizens.

The logging program operates at a loss, and is subsidized by economically struggling citizens. Most of the logs are sent to Quebec and some of the loggers even come from out of state.

How can the state justify preventing citizens from even walking in areas of the Quabbin forest to allegedly protect the water quality, while the machinery for harvesting will need roads leading to soil compaction, the fragmentation of the forest, and the spread of invasive species,

It is time to genuinely pursue the best "management" for this 1.9% of Massachusetts forests, and that is to simply **let it grow** in a reserve protected from logging, similar to the other tiny percentage of other Massachusetts forests (6%) that are in state reserves protected from logging.

This simple step would save scarce public dollars and allow the forest to do what an uncut forest does best - filter the air and water, absorb carbon dioxide (as mandated in the Massachusetts Global Warming Solutions Act), provide mature and undisturbed wildlife habitat, recreational opportunities, scenic beauty and a spiritual refuge from commercial pressures particularly in a tiny state like this with 6 million residents.

The benefits would include protection of the full range of biodiversity, soil formation, watershed protection and long term carbon sequestration, development and perpetuation of late successional forest and old growth, preservation of ecologically, socially and culturally sensitive/significant areas

Old forests are under represented on the landscape. I am saddened that public policy would be blind to the value of leaving some forested land alone for future generations. I believe that most Massachusetts residents value our forests, and commercial logging is a sad and destructive intrusion that benefits almost no one. Please do your job on behalf of the public's trust, regarding this land that we own, and protect the Quabbin from commercial logging.

Sincerely yours,

Janet Sinclair  
28 Ashfield St.  
Shelburne Falls, MA 01370

## **“From Here Forward: Proposed Changes to the DCR-DWSP’s Watershed Forest Management Program”**

The following is a response to DWSP’s plan of action prepared in February 2013 by Bruce A. Spencer, retired DWSP forester of New Salem, MA.

I support moving forward with a Watershed Forest Management Program similar to the watershed forest management work employed on Quabbin’s Hardwick and Pelham blocks as proposed in the STAC final report. In order to move forward, it is important to recount the results of past forest management practices and how this work guides future watershed forest management practices.

In the fourth paragraph of the introduction, the first sentence states “For the first 30 years of active forest management on DWSP watersheds, the program focused primarily on silvicultural thinnings that gradually improved the vigor and quality of the forest the agency had inherited”. On the contrary; during the first 30 years, although many thousands of acres of young hardwood stands were thinned to improve vigor and quality, far more thousands of acres of older forest had improvement or regeneration cuts that caused regeneration of pine and birch on much of the Quabbin Reservation, except for the lower 2/3’s of the Prescott Peninsula, where over abundant deer ate even pine regeneration. In poor quality pasture pine stands these cuts were heavy, but openings were irregular and all the best trees were left as individuals, patches or groups to maintain forest aesthetics. These stands have continued to be treated in the Pelham and Hardwick Blocks resulting in irregular stands of multiple age classes and structure, the goal of watershed forest management. Lessons learned from this work concerned the successes or failures of regeneration in forest always hunted and not always hunted.

### **4.3 Improvements in DWSP forestry oversight**

Patch clearcuts started in earnest in 2006 on the north Quabbin even though earlier experimental patch clearcuts had failed to regenerate diverse regeneration, due primarily to moose browsing out the oaks. The Land Management Plan of 2007-2017 requires regeneration to be a diverse mix of species suited to the site. Oak species are well suited to most of Quabbin and the silvicultural requirements to maintain oak, as a part of the future forest, are well known. The most important requirement is the height of the advance regeneration prior to releasing it from shade and not the size of an opening. This was ignored by the DWSP forestry oversight staff. The patch clearcuts were made without advance regeneration or very small advance regeneration and unable to cope with black birch or moose browsing. The oversight staff has not changed. Has this staff taken refresher courses in silviculture, to avoid the errors of the past? The QSTAC reports the need for patience in managing forest, and successful oak regeneration requires patience.

#### **4.4 Revised openings in regeneration harvest**

The concluding sentence, “Canopy openings on DWSP, that provide enough sunlight to support diverse regeneration, fall in the range from 0.25 to 2.0 acres, depending on the height of the surrounding overstory trees, the orientation of the stand, and the shape of the opening.” One only has to look at silvicultural practices on DWSP lands in areas always hunted to know that openings up to 2 acres, 1 acre or even ½ acre are not necessary to regenerate new age classes of all long lived species of trees. What is more important in irregular shelterwood is the slow development of desired regeneration to a height that allows pine, oak, and hemlock to regenerate and develop in gaps and small openings up to 1/3 acre.

##### **4.4.1.1 Standard openings in regular silviculture**

To support the proposed opening sizes from a single tree to two acres the report states: “This size range has been the standard for many years in the vast majority of Quabbin and Wachusett silviculture, as described in approved Land Management Plans, but green retention has been less common and will be applied routinely from here forward to gain the multiple-aged advantage of the irregular shelterwood method.” What better describes the silviculture in the Pelham and Hardwick blocks is the irregular shelterwood system using the variants of **continuous cover, expanding gap, and extended**. These variants addressed the multiple forest structures found throughout DWSP’s watershed forest. Regeneration was often released in gaps up to 1/3 acre, and most importantly the treatment of the whole stand, especially prep cuts to initiate regeneration where none existed. This runs counter to DWSP’s plans to treat 1% of the managed forest for the sake of less logging impact, yet ignoring areas lacking regeneration and the long process to make it happen. I urge DWSP to continue with the three variants of irregular shelterwood.

##### **4.4.1.2 Restoration silviculture**

2. Degraded stands. Most degraded stands have regenerated and have smaller trees worth saving and can slowly be restored with improvement cuts. An improvement cut is a partial or light cut (not another heavy cut) but requires low impact logging equipment, something not mentioned in this report.
3. Oldfield white pine. This restoration can be accomplished with openings up to one acre, and requires both time and patience.

##### **4.4.3 Development of old-growth characteristics**

This work has been done throughout the Quabbin in the past, but unfortunately undone in a few areas on the north Quabbin since 2006. It is not necessary to girdle trees or cut down trees for course woody debris, it happens naturally all the time. Some stands need light cutting to maintain the vigor of exceptional trees but this work has to be done with skilled loggers using low impact logging equipment.

#### **4.4.4 Openings to create early successional habitat**

This habitat can be created following storms, fire, or insect impacts of a severe nature and not require clearcutting undamaged stands.

#### **4.5 Green retention**

This category is not needed when using gaps of ¼ - 1/3 acre and the variant of irregular shelterwood with continuous forest cover.

#### **4.6.1 Best Management Practices (BMPs)**

There is no mention of matching logging systems to silvicultural methods to prevent soil compaction, damage to regeneration and residual trees. Clearcut openings allow for the largest logging equipment, whereas irregular shelterwood requires much smaller logging equipment, not mentioned in this report. Also not mentioned is whole tree harvesting and whether this controversial logging system is permitted on DWSP lands.

#### **4.7 Completion of the DWSP Terrestrial Invasive Plant Management Strategy**

Sister agencies of DF&W and Woodlands Management in State Forest have invasive plant control (using chemicals) prior to harvest. DWSP has been working on this for more than a decade and yet does not have a definitive plan to go forward. Forest land has already been lost to invasive plants on DWSP lands following harvest. This should not continue and an invasive control plan has to be in effect prior to any future cutting.

#### **Conclusion**

DWSP's disregard for forest aesthetics, by employing cookie cutter 1-2 acre openings, brought them to this place. Moving forward with openings up to two acres, (with green retention) is not likely to solve their aesthetic problems. Adding to the aesthetic problems were regeneration deficiencies. Nowhere in DWSP's response is there a discussion of regeneration failures. Without this assessment it will be difficult to move forward.

I support moving forward with a watershed forest management program employing the silvicultural system; "Irregular Shelterwood with the variants – continuous cover, expanding gap, and extended". Carefully implemented with skill and patience, this proposal addresses the aesthetics, regeneration, and water quality issues.

**From:** richard stafursky [<mailto:rhstafursky@yahoo.com>]  
**Sent:** Tuesday, March 12, 2013 10:54 AM  
**To:** Updates, DCR (DCR)  
**Subject:** Fw: cc: DCR logging plans Timber Comments Stafursky

TO:  
Department of Conservation and Recreation  
Office of Public Outreach  
251 Causeway Street, Suite 900  
Boston, MA 02114

Sir,

Quit any plans to log Quabbin. On its face, your committee is not qualified to alter the natural landscape there.

Please include this forwarded email along with the original email in the responses to "Science and Technical Advisory Committee (STAC) FINAL REPORT." The Science and Technical Advisory Committee is not qualified review logging plans for any lands under State control, because there is no one on the committee that is a third-party spokesperson free of logging interests. There is no one on the committee that can defend the natural landscape of any land controlled by the Commonwealth. The committee members only speak for the stakeholders and stakeholders are those that have a money or property interest. The future will show that they are bias. Please abandon any plans to log Quabbin or any other species' forest until such time that there are true, third-party experts.

Richard Stafursky  
155 Belmont Avenue  
Brattleboro, VT 05301  
[rhstafursky@yahoo.com](mailto:rhstafursky@yahoo.com)

----- Forwarded Message -----

**From:** richard stafursky <[rhstafursky@yahoo.com](mailto:rhstafursky@yahoo.com)>  
**To:** "[Timber.Comments@state.ma.us](mailto:Timber.Comments@state.ma.us)" <[Timber.Comments@state.ma.us](mailto:Timber.Comments@state.ma.us)>  
**Sent:** Monday, December 31, 2012 12:21 PM  
**Subject:** DCR logging plans Timber Comments Stafursky

December 31, 2012

Jessica A. Rowcroft  
Bureau of Planning and Resource Protection  
Department of Conservation and Recreation  
251 Causeway Street, Suite 600  
Boston, MA 02114  
[Timber.Comments@state.ma.us](mailto:Timber.Comments@state.ma.us)

RETURN THE FOREST  
(Stop DCR's Species' Forest-Killing Plans)

Please return the species' forest and let Massachusetts be the first state to end forest harvesting on publicly controlled land. Today's citizens expect all the states to take good care of forests. The Commonwealth of Massachusetts can be known around the world as the keeper of the species' forest, not as just another US state that gives away forests.

I disagree with Massachusetts Department of Conservation and Recreation's (DCR) logging plans (The Vision for Massachusetts Forests and the Current Forestry Vision & Implementation). I ask that state logging plans be abandoned as harmful and foolish. They are no model of forestry nor are they a model of a healthy forest. In good faith, DCR plans should be replaced by one universal model and plan to return the species' forests.

Do not listen to those who have cut the forest in the past. Ignore the loggers' claim of forest entitlements. Shame on state ecologists who talk of "balance." Shame on those "conservation" organizations and land trust administrators who log species forests. Pounce on those who talk of the forest as only a resource. Loggers do not understand nor do they speak for the species forest. How could they? They are users not keepers. Laugh when someone claims that logging is healthy for the forest; it is not. There is no forestry science that can possibly justify native canopy destruction and the torturing of the Great New England forests of Massachusetts. Cutting native trees every twenty or thirty years perpetuates a sick forest.

SPECIES FOREST (aka species' forest) is a forest of, by and for all the other species native to that forest. People do not manage a returned species forest. Species forest cannot be defined categorically, because it is not simply one of many forest types. Species forest is not a forest definition which a field technician can use in a study. Species forest means occupancy, and the occupants are named in the expression. The rightful occupants are all the other native species of plants, animals, fungi and soil microbes. Related terms are species' prairie, species' desert, species' mountain, species' sea, species' grassland, etc.

#### DCR forest terms de-coded

DCR'S forest vision      the deadly trident of woodlots, playgrounds and forest curiosities

WOODLANDS              woodlots for loggers

SILVICULTURE            agricultural planting and harvesting and dumbing down of

the forest

"BEST ECOLOGICAL FOREST MANAGEMENT"

"HEALTHY FOREST"

"BEST MANAGEMENT PRACTICES"

"GOOD FORESTRY" under DCR none of these is best for the species' forest

STAKEHOLDER for resources, money, NIMBY or accolades

BALANCE no such thing; the forest always loses

A species' forest is healthy. It is best for the climate, soil and water; is low maintenance; and is loved by the public. A logged and groomed forest is none of these things.

Please include this letter in the minutes of the public review concerning DCR Current Forestry Vision & Implementation forest harvesting plan and all other files having anything to do with the following six forest-cutting projects: Freetown State Forest, Marlboro-Sudbury State Forest, Federated Women's Clubs State Forest (near Quabbin Reservoir), Leyden State Forest, October Mountain State Forest (largest one, near Lee), Sandisfield State Forest.

Sincerely,

Richard H. Stafursky, overseer and originator of the 501c3, 84-acre Species List Forest, Conway, MA US

155 Belmont Avenue

Brattleboro, VT 05301

phone 802 257 9158

<http://wsifconwaymausa.blogspot.com/>

<http://speciesforest.blogspot.com/>

[http://en.wikipedia.org/wiki/Natural\\_landscape](http://en.wikipedia.org/wiki/Natural_landscape)

cc:

Deval Patrick, Governor of Massachusetts

Senators and Representatives (state)

Senators and Representatives (federal)

Richard K. Sullivan, Jr., Secretary of Energy and Environmental Affairs

Edward M. Lambert, Jr., Commissioner DCR

Massachusetts Climate Change Adaptation Advisory Committee

Town of Conway

State Forest Friends groups

From: Jonathan von Ranson [<mailto:commonfarm@crocker.com>]  
Sent: Thursday, March 14, 2013 6:46 AM  
To: Updates, DCR (DCR)  
Subject: STAC

Thank you for the opportunity to comments on logging policy in the Quabbin:

The opportunity presented by the Quabbin, Massachusetts' premiere protected area, is diminished by the commercial logging that is carried out there. From all I can determine, it seems to be a function of habit, or a bias toward business rather than natural function, that explains this. Please put my voice on the record as firmly on the side of natural function in this day of global warming, species extinction through habitat loss, degradation of water quality and a situation regarding the biosphere that is sometimes described scientifically as a cataclysm.

Again, thank you.

Jonathan von Ranson  
6 Lockes Village Rd.  
Wendell MA 01379

**From:** [theonlyjeff@comcast.net](mailto:theonlyjeff@comcast.net) [<mailto:theonlyjeff@comcast.net>]

**Sent:** Monday, April 01, 2013 8:40 AM

**To:** Lambert, Ed (DCR)

**Cc:** Bill Mucha; Pula, William (DCR); Don Rich; Sullivan, Rick (EEA); Bill Westaway; Dick Williams; Ed Yaglou; Yeo, Jonathan (DCR); Dave Papale; Steve Brewer; Wes Dwelly; Eck, Herm (DCR); Anne Gobi; Hopkinson, Matt (DOT); Tom Hughes

**Subject:** Ware River Watershed Advisory Committee Approval of STAC Report Recommendations

Dear Commissioner Lambert,

During our meeting on the evening of Wednesday, March 27, 2013, the Ware River Watershed Advisory Committee (WRWAC) voted unanimous approval of the recommendations made in the Scientific and Technical Advisory Committee (STAC) report for forestry management in the Ware River Watershed. The WRWAC is pleased that the timber harvesting program is going to be restarted in the watershed.

As we have said in earlier correspondence, the WRWAC wants to express its disappointment that the process to restart timber harvesting in the Ware River Watershed has taken so long. In the future we think DCR should implement a procedure to handle similar public complaints to those that shut down forest harvesting operations. The complaint procedure would allow DCR land management policies to continue, uninterrupted, rather than being halted as was the case with logging in the Ware River and Quabbin Watersheds. Any complaint procedures should include the following recommendations from the WRWAC.

1. No action should be taken until the advisory committees are consulted. It is important that the WRWAC and QWAC be part of the decision making process from the beginning.
2. Public hearings should be held with the involvement of both the advisory committees and the complainants. Again, the process should be that these hearings occur prior to any changes in policy.

The cessation of timber harvesting in the Ware River Watershed caused harm, not only to the health of the watershed forest and wildlife habitat improvement, but to the strong relationships DCR had built over the years with many of the good loggers that had been harvesting the trees. Those relationships are important. Shutting down the program was only made worse by the extended length of time it took to get to the point where logging could begin once more.

Thank you for your efforts to restart the DCR forestry program. My hope is that we can continue to work together to ensure that the Ware River Watershed remains a sufficient buffer to protect the waters within it, a suitable home for the wildlife that dwell in the watershed and a valuable asset to the communities in which the tracts of land are located.

Thank you again,

Jeff Schaaf  
Co-Chairman, Ware River Watershed Advisory Committee

**From:** SLAWW Warner [<mailto:slaww@hotmail.com>]  
**Sent:** Thursday, March 14, 2013 1:27 PM  
**To:** Updates, DCR (DCR)  
**Subject:** STAC comments

Department of Conservation and Recreation  
Office of Public Outreach  
251 Causeway Street, Suite 900  
Boston, MA 02114

March 14, 2013

Re: Comments on STAC

To Whom It May Concern:

I am writing to object to the decision to allow commercial logging to commence in the Quabbin Reservoir. As a Massachusetts citizen who is not allowed to walk my dog in the Quabbin nor swim in nor paddle on the water, I cannot comprehend how diesel logging trucks and machines that cause immeasurable harm to the soil, water and trees can be justified. It is my preference is to allow the forest surrounding the Quabbin Reservoir to grow undisturbed to remove airborne contaminants from the rain, to build up the organic content of the soil, and to hold the soil in place. Contiguous old-growth forest also provides shelter to the rare species that cannot survive outside this increasingly rare habitat.

Cutting down trees now to prevent them from being knocked down later by a storm makes no sense, unless it's to sell the wood. This logging program also operates at a loss and is subsidized by struggling citizens. Most of the logs are sent to Quebec and some of the loggers even come from out of state. The heavy equipment used for logging today must be kept in continuous operation to make the payments to the bank. The incentive is always to bend the rules in order to increase the amount of lumber and the efficiency with which trees are harvested. Resources available for oversight of loggers are limited, and shrinking every year due to budget cuts. We already saw the results of this in the harmful logging practices that led to the moratorium. Resuming logging activities will inevitably result in more such damage to the forest.

Atmospheric CO<sub>2</sub> is on track to top 400 ppm this year for the first time in over 800,000 years, and the rate of increase is accelerating. This is the largest, intact and most important forest in Massachusetts. How can we ask countries like Brazil to protect their rain forests, which remove CO<sub>2</sub> from the atmosphere, when we cut down even the forests that protect our own water supply?

It is time to genuinely pursue the best "management" for this 1.9% of Massachusetts forests, and that is to simply let it grow. This simple step would save scarce public dollars and allow the forest to do what an uncut forest does best - filter the air and water, absorb carbon dioxide (as mandated in the Massachusetts Global Warming Solutions Act), provide mature and undisturbed wildlife habitat, recreational opportunities, scenic beauty and a spiritual refuge from commercial pressures particularly in a tiny state like this with 6 million residents.

On a global scale, this is the least we relatively wealthy first world citizens can do as we admonish poor third world citizens to protect large swaths of their forests for planetary health. On a local level, we owe our descendants at least this small remnant of the environmental legacy we inherited.

Sincerely,

Lee Ann and Stuart Warner  
55 Montague Road  
Leverett MA 01054



March 13, 2013

Commissioner Edward M. Lambert  
Department of Conservation and Recreation  
251 Causeway Street, Suite 900  
Boston, MA 02114

Dear Commissioner Lambert,

The Water Supply Citizens Advisory Committee (WSCAC) appreciates the opportunity to comment on DCR's Response to the Forest Heritage Planning Process and the STAC Final Report.

*From Here Forward: Proposed Changes to the Department of Conservation & Recreation-DWSP's Watershed Forest Management Program* outlines DCR's proposed changes to the watershed forest management program.

WSCAC supports the following proposed changes:

- **4.1-Improvements in public information.** DWSP will make information more accessible through increased signage, an annual forestry tour, the posting of cutting plans, and putting photos and contact information for the foresters in charge of harvesting operations online. Public input into the forestry process will promote goodwill and better understanding of DWSP operations. The production of internet-accessible summaries of the agency's Land Management Plans will provide transparency and education.
- **4.2-Improvements in the internal lot review process.** Lot review improvements that include more detailed narrative and additional staff review before going out to bid and after implementation to provide additional oversight and determine if objectives were met.
- **4.3-Improvements in DWSP forestry oversight.** Collaboration and open lines of communication between foresters and the Regional Director. Consistency of forest management decisions, planning and implementation in each watershed to quickly identify and address deficiencies is essential.
- **4.4/4.5-Revised openings in regeneration harvests/green retention.** DCR is aware of the need for public acceptability regarding the appearance of opening shapes, sizes and the amount of green retention. Given that DWSP watershed forestry is based on source protection, not generating revenue, foresters are able to address aesthetic concerns and to encourage the type of regeneration that requires both patience and skill. Smaller irregular openings with additional green retention, invasive plant removal and strong evidence of regeneration will meet both aesthetic concerns and achieve irregular shelterwood objectives.
- **4.6-Enhanced monitoring of timber harvests effects.** We are encouraged that DWSP is moving to a more detailed checklist and BMP monitoring protocol and support the use of both Forestry and Environmental Quality staff to assess the application and effectiveness of BMPs. Cooperation between the licensed forester, licensed logger, BOF Service Forester and Environmental Quality staff can serve as a layered safety net to avoid violations.

- **4.6.2 Water quality**-We support performance monitoring at all DWSP watersheds to verify that no short or long-term water quality problems are associated with logging operations.
- **4.7-Completion of the DWSP Terrestrial Invasive Plant Management Strategy**. The online accessibility of the Terrestrial Invasive Plant Management Strategy provides a good base and we encourage DCR to plan and implement a pilot study off watershed to study the different strategies to control invasive plants.
- **4.8-Strengthening source water protection within the Wachusett Reservoir watershed**. DCR continues to do a commendable job of watershed protection through land acquisition both in fee and Watershed Preservation Restrictions. We strongly encourage the MWRA to include new funding in its upcoming FY2014 five-year cap to assist DCR in its ongoing acquisition strategy.

DCR's response to the STAC report does not actively address the issue of Forest Stewardship Council recertification of watershed forestry operations. WSCAC strongly favors the recertification of DWSP watershed lands. FSC can provide additional review, oversight and the opportunity for improving practices through interaction with outside experts.

WSCAC appreciates the DWSP's attention to public concerns and the substantial time spent on the response to the STAC report. While WSCAC is generally supportive of the watershed management program, we stress the importance of a strong commitment to the changes proposed, and to ongoing public education and transparency.

We thank you for the opportunity to comment.



WSCAC Chair



Excutive Director

**From:** [admin@ndws.com](mailto:admin@ndws.com) [<mailto:admin@ndws.com>]

**Sent:** Monday, March 11, 2013 9:48 PM

**To:** Updates, DCR (DCR)

**Subject:** STAC comment

Reading the material its pretty clear that there was an overwhelming majority of timber interests controlling the way for this review. The pseudo science and hogwash that present the conclusion that somehow removing forest can help water quality are laughable. There is a serious invasive problem already documented as present at past timber harvest sites. To say these sites are enhancing water quality is ridiculous.

The quabbin is one of the few large tracts of state land left that could be made into a reserve. That would serve both to protect the water, but also to enhance species that need that kind of habitat. A rare opportunity is sitting there to achieve that, but the timber interests have their sights on the timber that belongs to the public. This is the time to protect this treasure for the future, not exploit it.

Ray Weber  
West Springfield, MA