# "Rather Than Love, Than Money, Than Fame, Give Me Truth" ~Henry David Thoreau



Forever Wild Forests - Adirondacks, New York



## "Timberspeak" - Logging Spin and Propaganda

Cutting forests serves human desires for wood and money, but except for rare and specific cases, logging is not "needed" to "help" the forest as is often claimed by those who stand to benefit by cutting it. Logging damages the forest ecology, with the degree of harm largely dependent upon the type of cutting. Clearcutting and other aggressive methods used to boost short term profits are particularly destructive.

Cutting a forest, especially clearcutting, degrades biodiversity, soil health, air and water quality, carbon sequestration, undisturbed wildlife habitat, tourism and recreation opportunities, scenic beauty, spiritual refuge and other benefits to the greater society, sometimes permanently. More ecologically friendly selection logging methods can reduce the damage and allow for faster recovery.

Due to the visible environmental damage from clearcutting and aggressive logging, or cutting in inappropriate locations such as public lands, the timber industry and "captured" State and Federal agencies resort to sophisticated propaganda to confuse the public and politicians. Orwellian public relations campaigns that spin reality on its head with false claims that logging and clearcutting "improves" forests and "benefits" wildlife and the environment are used to perpetuate destructive logging practices and prevent genuine forest protection.



"It's hard to sell New England Forestry Foundation memberships on the notion that we harvest trees. We have to frame it that we protect land — we have to go at it obliquely."

Whitney Beals, New England Forestry Foundation <sup>1</sup>

Credible science contradicts claims that cutting forests "helps" the environment, but commonsense is enough to reject such doublespeak. Cutting forests causes ecological damage and is almost always done for wood and money, to boost hunting, or to clear the way for development, not to "benefit" nature. We need forests, but they do not need us. Except for exceptionally rare and specific cases, for genuine forest and ecosystem health, we need to stop "improving" forests by aggressively cutting them down. Leaving areas with nature in charge and free of yet more chainsaw "treatments" is the true prescription for forest health and recovery.

#### Public Land Clearcut Logging Promising to "Enhance and Protect Water Quality"



Quabbin Drinking Watershed Forest, Massachusetts



Chester Blandford State Forest, Massachusetts

## "Timberspeak" - Logging Spin and Propaganda

"There is no conservation reason for creating more early successional habitat. There is much more of it nowadays than there ever was in pre-Colonial times. It's a bogus argument, ginned up as an excuse for more logging. But their argument could work with a gullible public."

John Terborgh, Worldwide Leading Conservation Biologist <sup>2</sup>

#### "What is the recipe for getting people to accept unsightly practices like clear-cutting?

Give them plausible sounding reasons: tell them that the forest is unhealthy, that red maple is taking over, that alien species are invading, that trees will fall on people, that there is an unacceptably high fire danger, that a hurricane will blow everything down. Sound familiar?

Presumably, clear-cutting is needed to help avert such impending catastrophes. But if people aren't buying, what then? Push the "early successional habitat" argument. Win support from a naive public by insisting that we need more cottontails and game bird species, suggestive of a mid-1800s landscape. Have I missed any of the arguments?

By the way, I've been told in private by foresters that these are the standard talking points that State and Federal forest agencies routinely use to soften up the public prior to an unpopular action."

Robert Leverett, Forest Ecologist & Executive Director Eastern Native Tree Society <sup>3</sup>

"Clearcutting and other even aged silvicultural practices and timber road construction have caused widespread forest ecosystem fragmentation and degradation. The result is species extinction, soil erosion, flooding, destabilizing climate change, the loss of ecological processes, declining water quality, diminishing commercial and sport fisheries. There is no better way to save biodiversity than by preserving habitat, and no better habitat, species for species, than wilderness."

Edward O. Wilson, Worldwide Leading Conservation Biologist <sup>4</sup>

#### "Forest Bill is About Commerce, Not Science:

The arguments presented in support of a bill that would allow commercial timber harvest on State lands are illogical. The argument that we need to mimic the natural disturbances of fires, storms, insects, and diseases to prevent the "severe imbalances" of fires, storms, insects, and diseases is wholly illogical. We need to replicate insect outbreaks so that we don't have insect outbreaks? How does this make sense?

We cannot let this bill masquerade as ecological restoration legislation when, at its core, it is a bill to allow revenue generation via logging of public trust resources."

Amy S. Karpati, Pinelands Preservation Alliance & 12 NJ Scientists <sup>5</sup>

"Anyone can identify destructive forest practices. You don't have to be a professional forester to recognize bad forestry any more than you need to be a doctor to recognize ill health. If logging looks bad, it is bad. If a forest appears to be mismanaged, it is mismanaged."

Gordon Robinson, Chief Forester Southern Pacific Land Company <sup>6</sup>

## Pay Attention to What They Do, Not What They Say

"Protecting riparian values, maintaining and protecting habitat for proposed threatened and endangered species, and maintaining a healthy and resilient watershed into the future have been and will continue to be the primary considerations in management of the **Tintah project area.**"



The **Tintah "Project"**, White Mountain National Forest, New Hampshire, 2011

"The Saco Ranger District of WMNF proposes to manage forest vegetation to increase wildlife habitat diversity, forest health, and to improve recreation opportunity in the **Than Project** Area"

Than Project, "Before", 2008



Than Project, Same Location "After", 2011



## Logging Impacts in the Reality Based World

"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."

~United States Environmental Protection Agency 7

Deforestation from clearcut logging is highly disruptive to biodiversity, whereas the effects of selective logging are less definitive. Due to the removal of seed sources, clearcut logging prevents the natural regrowth of endemic species. Selective logging contributes to large scale forest fragmentation, altering forest micro-climates and making forests more vulnerable to fires, as well as affecting plant and animal species composition. The development of transportation infrastructure for logging also increases the degree of forest fragmentation, and allows for easier access to unlogged forests.

~Yale School of Forestry 8

"There is a significant relationship between the time since forest harvest and the size of the carbon pools, which suggested a gradual decline in carbon across the region that may last for decades after harvesting and result in increased atmospheric carbon dioxide." "Researchers collected soils from recently clear-cut forests and from older forests, and pulled carbon from the soil in a sequence of gentle to stronger extractions. The results showed that mature forest stands stored significantly more soil organic carbon in strongly mineral-bound and stable carbon pools than did soils from cut stands."

~Dartmouth College 9

The immediate physical impacts of logging are most pronounced in clear-cutting: the loss of tree cover causes major changes to abiotic conditions (e.g. large increases in light levels, greater variability in temperature), and intensive machine use compacts the soil and breaks deadwood into small pieces Contemporary clear-cutting operations are sometimes accompanied by additional mechanical removal of deadwood and plant debris for safety reasons, to facilitate stand regeneration or, increasingly, as biofuel causing further damage to soil and residual vegetation.

Conventional shelterwood management progressively opens up the canopy and ultimately results in relatively homogenous even-aged stands. Whilst selectively logged forest can maintain greater heterogeneity, forest structure nonetheless deteriorates as the largest, oldest trees are progressively harvested. Shelterwood harvesting and selective logging also cause substantial mortality to non-target vegetation.

~Woodcock et.al 10

"Creating early successional habitat was a stated rationale for removal of conifer plantations. However, the FSC Northeast Standard does not explicitly state that managers should be creating early successional habitat nor does it mention early successional being of importance."

~Forest Stewardship Council 11

"Clear cutting virtually never replicates the types of disturbances that created early successional habitat under the natural disturbance regime (or natural regimes combined with Native Americans in some areas)."

~Dr. Frelich, Forest Ecologist 12

"Several lines of evidence support forest management as the primary driver of forest degradation...forestry-driven degradation is the most parsimonious remaining explanation for substantial habitat declines."

~Nature, Ecology and Evolution 13



Forever Wild!



## "Maintaining the Watershed"? "Protecting Habitat"? "Forest Health?"



Tintah "Project", White Mountain National Forest, New Hampshire, 2011



Than "Project", White Mountain National Forest, New Hampshire, 2011

## "That Slogan Will Sell in Boston"

In the Massachusetts example, State forestry agencies use half-truths, distortions, omissions, exaggerated and manufactured threats, cherry-picked data and other false excuses to sell logging of State forests to the public.

Almost all logging is claimed to be helping the environment while the true detrimental effects are ignored. The former Chief Forester changed rationale for a timber sale in Robinson State Park **22 times** as each reason was proven false by independent experts. Eventually, economic motivations surfaced and the sale was cancelled. (See "22 Robinson Park Timber Sale Excuses" Appendix A, page 23)

# The following revealing comments regarding how to sell logging to the public are taken from the FSC Report for Massachusetts Public Forests <sup>14</sup>

"The motivation for timber harvest seems to have a strong influence on public acceptance of timber harvest. I agree and characterize them as follows:"

"MDC: Good forestry means lower water rates. That slogan will sell in Boston."

"DFW: They are the wildlife people, "helping wildlife with habitat management." The review team noted that **DFW** is prohibited by State statute from clearcutting, and yet they promote young age classes..... I once visited a game land to watch a machine, nicknamed the brontosaurus, reduce 40-foot tall trees to chips in a few seconds. Pretty impressive machine, and it sat in the middle of an impressive "non-clearcut."

"The public seems to put a hierarchy of values on the motives for management, and intense disturbances such as clearing or controlled burning are acceptable when they are done to benefit wildlife or rare communities. Unfortunately, cutting trees for profit seems to fall at the bottom of that scale of values."

"Planning effort should frame timber harvest in the context of maintaining plant and animal diversity, improving wildlife habitat, and protecting rare habitats."

"DEM also needs to decide the "persona" it wants to project. Perhaps DEM should strive to become "the biodiversity team." **That umbrella would cover a multitude of activities**."

"I think a good image for DEM would be "keepers of the forest," and "growing trees for the future." I am quite sure that "DEM - the timber people—cutting trees for bigger budgets" would be a publicly unacceptable and politically unsupportable image."

"If there were a statewide ballot referendum tomorrow, asking if timber cutting should be allowed on State forests, the "no" votes would win handily."



## Comments to proposed changes to the MA forest practice code illustrate the propaganda by simply changing the definition of clear-cut. <sup>15</sup>

"Comment: 1/2 acre is too small an area to trigger the sensitive word "clearcut". Suggestion: (amend), here and in standards to 2 or 3 acres (change 1/2 to 3 (or 2))."

"Patch Cut means a clearcut of one quarter acre to one acre in size.

Comment: Patch cut size should be increased to 2 or 3 acres to avoid the clear-cut issue."

## **Euphemisms**

Because the word "clearcut" is rightly a "sensitive" word that describes one of the worst forms of forestry, industry and the captured regulatory agencies use euphemisms such as "aggregate retention", "seed tree cut", "shelterwood harvest", etc. to "rebrand" clearcutting for public consumption and to evade legal restrictions.

For example, MA Fish and Game is prohibited by law from clearcutting so they just rename the logging and clearcut anyway. (MGL Chapter 131: Section 4: Part 16, "it shall be a condition of each contract for the cutting and sale of timber that clear-cutting timber on lands managed by the division is specifically prohibited.")

Peru Wildlife Area - A clearcut? No, an "Aggregate Retention" cut



Savoy State Forest, Massachusetts, A Clearcut? No, a "Shelterwood" cut!



### Impacts of Clearcutting and "Even-Aged" Logging

600 leading biologists, ecologists, foresters, and scientists including E.O. Wilson wrote to Congress stating:

"Clearcutting and other even aged silvicultural practices and timber road construction have caused widespread forest ecosystem fragmentation and degradation. The result is species extinction, soil erosion, flooding, destabilizing climate change, the loss of ecological processes, declining water quality, diminishing commercial and sport fisheries...... Even-age logging includes the application of clearcutting, high grading, seed-tree cutting, shelterwood cutting, or any other logging method in a manner inconsistent with selection management." <sup>16</sup>

According to the scientists, clear-cutting and other forms of even-age logging operations:

- Cause significant deleterious effects on native biodiversity, by reducing habitat and food for cavity-nesting birds and insectivores
- Disrupt the soil surface, compact organic layers and expose the soil to direct sunlight and precipitation
- Deplete the habitat of deep-forest species of animals, including endangered and threatened species
- Reduce habitat and food supplies which disrupt the lines of dependency among species and their food resources and thereby jeopardize critical ecosystem function, including limiting outbreaks of destructive insect populations



Even-aged Logging, October Mtn State Forest

- Render soil increasingly sensitive to acid deposits by causing a decline of soil wood and coarse woody debris which reduces the capacity of soil to retain water and nutrients, which in turn increases soil heat and impairs soil's ability to maintain protective carbon compounds on the soil surface
- Disrupt the run-off restraining capabilities of roots and low-lying vegetation, resulting in soil erosion, the leaching of nutrients, a reduction in the biological content of soil, and the impoverishment of soil
- Increase harmful edge effects, including blow-downs, invasions by weed species, and heavier losses to predators and competitors.
- Limit areas where the public can satisfy an expanding need for recreation and decrease the recreational value of land.
- Replace forests with a surplus of clearings that grow into relatively impenetrable thickets of saplings
- Frequently lead to the death of immobile species and the very young of mobile species of wildlife
- Aggravate global climate change by decreasing the capability of the soil to retain carbon, and during the critical periods of felling and site preparation, reducing the capacity of the biomass to process and to store carbon, with a resultant loss of stored carbon to the atmosphere.
- Increase stream sedimentation and the silting of stream bottoms, causing a decline in water quality and the impairment of life cycles and spawning processes of aquatic life from benthic organisms to large fish which in turn causes a depletion of the sport and commercial fisheries
- Cause harmful and in many cases, irreversible, damage to forest species and forest ecosystems

In areas where logging occurs, these scientists call for individual tree selection management which retains the natural forest structure and function, focuses on long-term rather than short-term management, works with, rather than against the checks and balances inherent in natural processes, and permits the forest to go through the natural stages of succession to develop a forest with old growth ecological functions. Additionally, selective logging is more job intensive, and provides more employment and produces higher quality sawlogs than clearcutting and even-age logging.

## Selling Clearcutting to the Public with the "Young Forest Initiative"

Excerpts from "Forest-Clearing to Create Early-Successional Habitats: Questionable Benefits, Significant Costs", Kellett, et. al, January 9, 2023, pp.4-6, www.frontiersin.org/articles/10.3389/ffgc.2022.1073677/full

"This campaign is promoting "early successional habitat" through multiple activities: clearcutting, group selection and other forms of patch clear felling in established forests; intensive "mechanical treatments" such as brush-hogging and mowing; and herbicide application and prescribed fire in successional habitats and younger forests. Recognizing the controversial nature of such widespread forest-clearing, the organization hired a marketing firm to "shape an overall communications strategy". This firm administered opinion surveys and focus groups that showed most forest landowners value beauty, scenery, nature, and biodiversity far more than logging or financial return.

A plan was then devised to promote early-successional habitats through an extensive network of partnerships. Terms which focus group participants found unappealing, such as clearcutting, early-successional habitats, shrub, and scrub, were replaced with the more appealing "young forests." Simple and positive language emphasized forest "health," wildlife, habitat diversity, and scientific-sounding outcomes. A pseudo-historical pitch was crafted to emphasize the decline of once common and familiar species without acknowledging the highly artificial and historically anomalous nature of their former abundance.

In 2012, YFI inaugurated the "youngforest.org" website, aimed at persuading target audiences to support the campaign. Within a decade, the YFI had recruited more than 100 "partners". These are primarily traditional forestry and game species management interests, such as timber companies, federal and state forestry agencies, federal and state wildlife agencies and sportsmen's organizations. All of these partners benefit from forest-clearing through increased profits from timber sales, larger agency budgets, more staff, direct payments for creating young forest habitat, or elevated populations of desired game species.

The YFI has attracted generous financial support from a wide range of public agencies, private organizations, and large corporations such as Richard King Mellon Foundation, U.S. Forest Service, U.S. Fish and Wildlife Service, American Forest Foundation and Shell Oil Company. In addition to activities on public lands, money is directed to land trusts and private landowners through numerous state and federal sources."

TABLE 2: Marketing and communication strategies used by the Young Forest Initiative

Strategies	Recommendations	Actions and Outcomes
Identify public values	Mobilize opinion surveys and host focus groups of landowners and the public to identify values. Set up regional pilot campaigns.	Recognize that forest owners and the public value beauty, scenery, nature, and biodiversity more than logging or financial return. Promote these values as enhanced by young forests.
Change language	Avoid terms with negative or unclear or connotations, i.e., "clearcutting," "early successional," "scrub," or "shrub."	Refocus language to emphasize "young forest" and emphasize that "a diversity of wildlife requires a diversity of habitats."
Create websites	Focus on target audiences such as private landowners, conservation professionals, residents of forested communities, and hunters.	Establish the Young Forest Project website as a central information hub that emphasizes benefits and collaboration to promote campaign goals.
Recruit partners	Identify partners with an interest in "young forest" species (i.e., deer, Ruffed Grouse, Wild Turkey, and Golden-winged Warbler).	Use the Young Forest Project website to build an extensive network of "partners" and include links to their websites (see Supplementary 2).
Persuade the public	Promote timber harvesting and active management to create young forests as a benefit to plants and wildlife.	Avoid and diminish negative impacts of clearcutting and focus on how "ugly [clearcuts] grow quickly into beautiful [habitats]."

## Clearcutting to Create Early Successional Habitat to Allegedly "Help" Wildlife

"It is now clear that to maintain a rich bird fauna, conservationists in eastern North America should focus on preserving large tracts of forest of several hundred acres or more – rather than many small tracts. And contrary to traditional wildlife management, which often seeks to create edge habitat, protected woodlands should be spared intrusion by roads, power lines and clearcuts."

Raymond O'Connor, Professor of Wildlife at the University of Maine in Orono <sup>17</sup>

"This effort to promote a supposedly "ideal" balance of forest types produces is an essentially contrived forest composition. In order to create habitat, you have to destroy one, so they're destroying tracts of forest and all of the species that occupy those to create this artificial early successional type for the benefit of a few species. It's all a ruse. It's all a made-up story just to basically, to do what their intent is, which is to log."

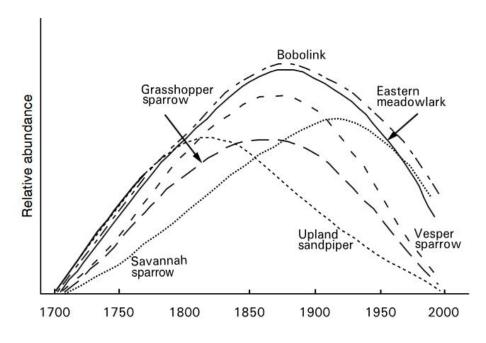
Rick Enser, Biodiversity specialist for decades at Rhode Island Department of Environmental Management <sup>18</sup>

Wildlife dynamics are complex, and clearcutting to allegedly "help" wildlife by creating early successional habit (ESH) or "young forests" is simplistically and opportunistically used to confuse the public objecting to aggressive logging and clearcutting. Most wildlife planning (94%) does not even undergo any independent external review and lacks scientific integrity.<sup>19</sup> Much more lacking, and important, for species diversity is mature and old growth forests, which are almost non-existent in the northeast.

ESH has reduced in New England because the forest has recovered from the widespread clearing that occurred in during colonization but due to earlier and ongoing disturbances will always remain above natural levels which were small in size and caused by temporary openings created by rare natural disturbances. In New England, natural ESH levels covered on average ~3.5% of the landscape. Currently, ESH is estimated at ~4-5% in southern New England and between ~9-25% in northern New England. Early Successional species populations have consequently been unnaturally high and are now returning to natural levels.

The graph below of grassland bird species shows the typical rise and fall of early successional species that rose in the eighteenth and nineteenth centuries with deforestation for agriculture and which naturally reduced over the past century as farms moved west and forest areas gradually recovered.

Typical Rise and Fall of Early Successional Species in New England 21



Maintaining unnaturally high levels of ESH to support unnatural levels of early successional species is illogical, but it would be more logical and less destructive to do so by maintaining existing open habitats rather than clearcutting intact forests which fragments and destroys the forest ecology. Additionally, clearcutting may not even create more ESH as it can maintain the same successional status and sometimes even send the forest forward to a later stage, dependent upon the successional status of the overstory and understory tree species, the ecosystem type, and silvicultural system.

The reason for the decline of many species is multi factored and in addition to the landscape returning to natural habitat distributions, includes damage to wintering habitat, migration route hazards, conversion of lands to development and logging. Clearcuts degrade undisturbed dense forest habitat that is critical for a larger number of species that need large contiguous tracts of forest to support viable breeding populations, and which are adversely affected by fragmentation, disturbance and edge conditions.

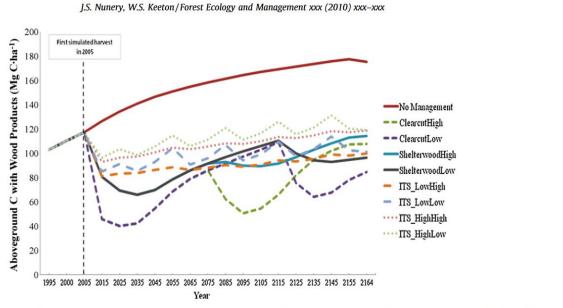
Importantly, State wildlife agencies in the northeastern United States, and throughout the country, are funded largely through hunting license revenues. As such, most efforts by State agencies are game oriented often come at the expense of other species. Many early successional species, such as grouse and woodcock that are used as an excuse to clearcut forests are hunted. If protecting these species is a real concern, perhaps reduced shooting of them might be considered.

For additional expert debunking of the false claims used to promote clearcutting of forests to create "Young Forest" and "Early Successional Habitat" please click **HERE** and **HERE**.

# Manufactured Forestry Myths vs Facts Commonly Made False Claims Used to Sell Logging to the Public and Politicians

**MYTH:** "With young, vibrant, healthy, growth promoted through this plan, the forest will become naturally more efficient at capturing and storing carbon than it is today."

**FACT:** By far, the most effective way to store and sequester carbon in a forest is no logging. If logged, selection logging is better than clearcutting or other even aged management methods. <sup>22</sup>



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Fig. 2. Simulation output time series for the 9 different management scenarios (values represent 10 year mean of 32 stands C storage in aboveground live/dead biomass and wood products). Ten year means of C sequestration were used to create chronosequences to illustrate the temporal dynamics for each management scenario, however these values were not used in the overall statistical analyses and are presented here for illustrative purposes. Average forest growth was estimated for 1995 using 20 year mean predicted growth rates of all stands. Chronosequences starts from the estimated mean averages in 1995, all harvest cycles began at 2005 (noted with vertical dotted line). For management scenario descriptions refer to Tables 2 and 3.

### Manufactured Forestry Myths vs Facts (continued)

**MYTH:** "Massachusetts forests are somewhat homogenous, with trees of similar ages and species..... The plan will generate young trees."

**FACT:** This is an attempt to justify clearcutting and even-aged logging to create mixed aged forests, but most Massachusetts forests already are age-class diverse, possessing seedlings, saplings, pole-size trees and mature trees. The biggest shortfall is old forests, not young forests. The "need" for age-class diversity is a manufactured and false rationalization for even-aged, heavy industrial-type "forestry" and clear-cutting. Even-age logging will not create age-class diversity within forest stands, hence its name.

**MYTH:** "In Massachusetts, foresters are licensed by the State and represent the interests of the forests and the people who own them....Foresters are dedicated to studying and improving the health of our forests"

**FACT:** A procurement forester's salary depends on procuring the best wood at the cheapest price.

**MYTH:** "Through active management, the plan will regenerate areas that are at imminent risk from fire, disease and/or insects, and will improve the health of areas of the forest"

**FACT:** "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." <sup>23</sup>

MYTH: "Forests are choked with stagnant Red Pine and Norway Spruce foreign species plantations"

**FACT:** The State often shows photos of dying plantation stands to justify removing the plantations, but they represent small and isolated areas while the majority of the stands are healthy, beautiful and serving an important function. For decades, State resource agencies praised the plantations of Red Pine, White Pine and Norway Spruce as important wintering grounds providing shelter for wildlife. These stands help offset evergreen habitat loss occurring from declining native Hemlock. Red Pine is a native species in the southern edge of its range and there are scattered, very old stands around the State so it is misleading when the State

calls it "non-native". Norway spruce, while non-native, is not "invasive-intrusive," is self-thinning and as these plantations mature, they do not "stagnate," and become impressive in size and beauty, and provide important wintering habitat.

Even if the State had a valid justification for removing the plantations (which they don't) they could be slowly and selectively removed. Heavier equipment is used to clear-cut these stands than would be used with uneven-age management which can leave the ground torn up and the soil impacted creating heavily disturbed sites that, allows for the invasion of genuinely harmful invasive-intrusive species.



Savoy State Ex-Forest, Massachusetts

### Manufactured Forestry Myths vs Facts (continued)

MYTH: "Forest management plans help sustain healthy, vibrant forests throughout the Commonwealth"

**FACT:** That human intervention is required to help the forest is false. There are human benefits to harvesting trees, but except in rare circumstances, it is misleading to promote the idea that logging is necessary to benefit nature or "save" the forest. Even-aged logging promotes timber production over "healthy, vibrant forests" and "conservation and recreation" values.



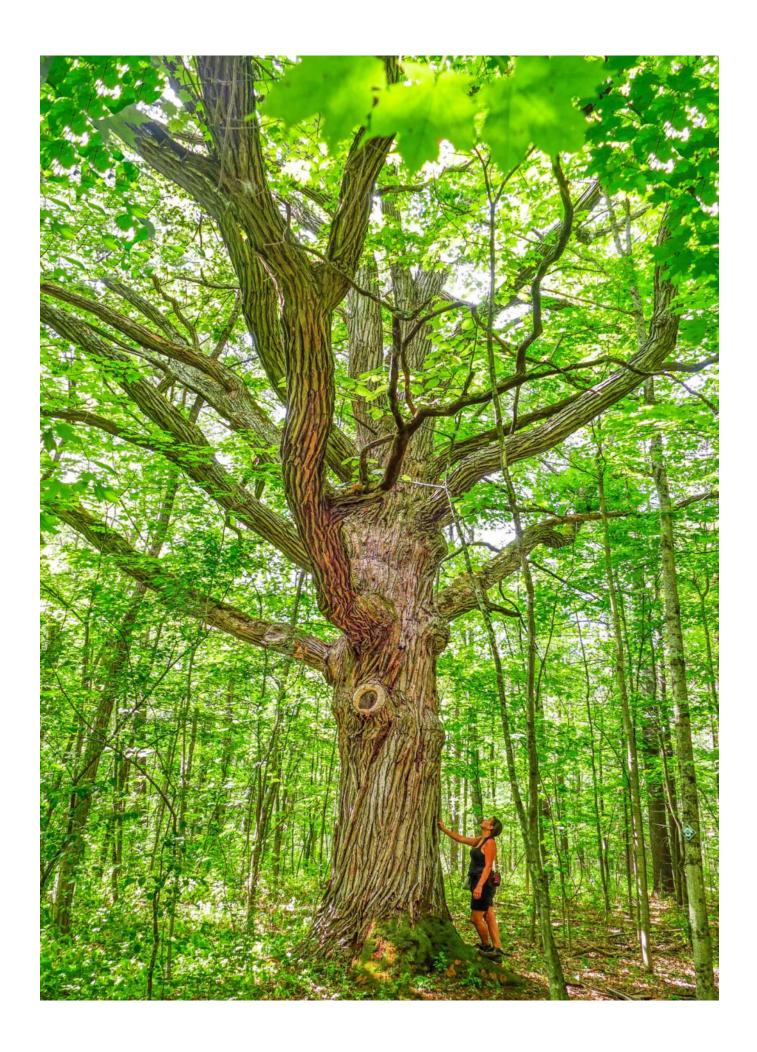
"Healthy, Vibrant Forests?" Windsor Jambs State Park, Massachusetts

**MYTH:** "Supplying forest products to support the local economy and employment"

**FACT:** Many of the loggers currently cutting the trees on State forests are from out of state and most of the logs are shipped to Quebec. Additionally, the local timber industry has already degraded much of the private forests through a half century of extensive "high grading", where they have cut the best and left the rest. Many of these private forests no longer have much high quality timber, so industry is turning to public forests to access high quality trees. Importantly, tourism produces 10 times more income than the wood products industry. Cutting over the landscape to add a handful of new jobs to this now highly mechanized industry threatens the employment and economy of the much more valuable tourism and recreation industries and diminishes the ecological and quality of life benefits that occur with healthy ecosystems.

For more about the masters of timber industry propaganda at the USFS: **SEE THIS STORY** 

For chip mill propaganda debunked: **SEE THIS ARTICLE** 



## The Wrong Kind of "Green" Groups



Shockingly, one of the most disturbing, damaging and greatest obstacles to genuine forest protection is that too many of the larger and more influential "green" groups (usually those with big budgets and political access) have left their once admirable roots and have become self-perpetuating, careerist, money driven big businesses in compromising "partnership" with corporations and governments and can no longer be depended upon to put the interest of nature ahead of their own financial interests.

Some of these "Wrong Kind of Green" groups, often referred to as "Gang Green" have become too dependent on corporate and government funding. Too often their function has morphed into a public relations role in their "partnership" with corporations and government.

Members of these groups would be shocked to know their donations contribute to the lavish salaries some of these "non-profits" pay their executives, often with dubious environmental credentials and too often not genuinely working to protect nature. For example, the CEO of the Nature Conservancy (previously a managing director at Goldman Sachs) makes \$912,000 and another 30 TNC employees are paid on average \$445,000. (For comparison, the President of the United States makes \$400,000)

Sometimes just the silence of these "wrong kind of green" groups when advocacy is needed causes the damage, but even more unconscionable is when they actually help advance dubious or even outright anti-environmental policies and projects, or block genuine preservation efforts. In great contrast to the pretty brochures they put out, see some of what TNC really does for a living: **CLICK HERE** 

Not all "green" groups can be lumped together, and they all have different dynamics with the better ones putting the protection of nature ahead of personal financial gain. Unfortunately the "wrong type of green" groups also undermine the efforts of more genuine green groups, so it is important to "follow the money" and realize that not all green groups are equally reliable and honest defenders of nature. For a comparison of the integrity of some different green groups: CLICK HERE

An example of this dynamic can be seen where the Sierra Club, Wilderness Society and Vermont Forest Watch (no relation to MA Forest Watch) sued the Forest Service in 2008 to stop clearcut timber sales in White Mountain National Forest in New Hampshire. Astonishingly, the Appalachian Mountain Club and NH Audubon joined with the timber industry and argued to the court *in favor* of these clearcut logging projects!

What would Appalachian Mountain Club and NH Audubon members say if they knew their donations were spent to help enable clearcutting of our National Forest? For the story: **CLICK HERE** 

### The Wrong Kind of "Green" Groups (continued)



Appalachian Mountain Club and NH Audubon Approved Clearcutting, White Mountain National Forest, 2020

**CLICK HERE** for more photos of the White Mountain National Forest clearcutting that the Appalachian Mountain Club and New Hampshire Audubon argued *in favor* of to the court, and *against* the Sierra Club, Vermont Forest Watch and Wilderness Society. (25 MB)

Why would a group like the Appalachian Mountain Club which claims to be busy "Working to Protect the Places We Love" join the timber industry and argue in favor of clearcutting logging projects in our National Forest? That is the multi-million dollar question.

Maybe the fact that one of AMC's corporate "sponsors and partners" is Weyerhaeuser, one of the largest timber companies on earth, whose routine clearcutting has devastated countless watersheds across North America, or that AMC logs their own "conservation" forests has clouded their world view? Maybe the high levels of compensation for executives at this \$131 million dollar "non-profit" help explain AMC losing touch with their more down to earth roots: President: \$328,000, Senior Vice-President: \$229,000. For more information about the destructive clearcut logging by Weyerhaeuser, AMC's "partner" CLICK HERE

In Massachusetts, the Nature Conservancy and Massachusetts Audubon, joined with the timber industry to block legislation submitted by other environmental groups, and even supported by E.O. Wilson, that would have protected Massachusetts State Public Forests from commercial logging. Using standard timber industry talking points, they worked with logging interests to convince politicians to block this 2020 legislation that would have protected 19% of all Massachusetts forests from logging to allow these forests to capture and store carbon, clean the air and water, provide undisturbed wildlife habitat, flood control, spiritual refuge, scenic beauty, outdoor recreation, support the tourism economy, and more. For details, **CLICK HERE** 

Additionally in the Deerfield River Valley, arguably the most beautiful part of Massachusetts, when private industry and State government drafted up plans to use public subsidies and legislation to increase logging and biomass burning of private forests in western Massachusetts through the "Mohawk Trails Woodlands Partnership", the usual suspects... Massachusetts Audubon, the Appalachian Mountain Club and the Nature Conservancy... gave their blessing to this damaging legislation, once again using standard timber industry talking points claiming in effect that increased commercial logging and tree-fueled biomass burning will "help" forests and the environment.

### The Wrong Kind of "Green" Groups (continued)

When a politician was confronted for pushing the MTWP legislation mentioned above on behalf of timber and biomass industries, he turned to these same "wrong kind of green" groups, Massachusetts Audubon and the Nature Conservancy to greenwash the environmentally damaging nature of the legislation:

"Kulik said the legislation has the support of the Massachusetts Audubon Society, the Nature Conservancy, and a number of other local environmental groups. If there was any aspect of this bill that was harmful to the environment, these organizations would not support it" <sup>24</sup>

Also in Massachusetts, when the State was putting in place plans for a 400% increase in commercial logging in State Public Forests, most of it clearcutting, Massachusetts Audubon, the Appalachian Mountain Club and the Nature Conservancy all enthusiastically endorsed the plans. In an effort to reach out to these groups and understand how this was possible, a signature verified certified letter was sent to MA Audubon and the Appalachian Mountain Club asking: "Do you oppose clear-cutting and aggressive logging occurring on Massachusetts public forests? Would you endorse and work for minimal timber harvesting rates similar to historical levels along with single tree selective logging methods?" None of these groups responded to these questions despite a four month time period and repeated follow-up contact attempts.

MA Audubon clearcut their own "conservation" forest in Massachusetts.



Massachusetts Audubon Clearcutting of their own "Conservation" Forest, May 2020

For more alarming information about actions against nature by National Audubon (CEO compensation \$676,000), MA Audubon (president compensation \$305,000) and other Audubon chapters: **CLICK HERE** 

More information about the "Wrong Kind of Green" in general can be found at the following links:

WRONG KIND OF GREEN GROUPS I
WRONG KIND OF GREEN GROUPS II
THE COLLABORATION TRAP
STATE FUNDED LOGGING PROPAGANDA
COLLABORATORS' CHICKENS COME HOME TO ROOST
PARTNERS WITH BIG TIMBER AND BIOMASS (p. 14)
THE MAN WHO LOVED WILDERNESS
LOST EDGE

# Improving Forest Health? Protecting Water Quality? Enhancing Recreational Opportunities? Creating Wildlife Habitat? Fueling "Green" Energy?

## You Decide



## Stumps Don't Lie

For a shocking look at unrestrained forest clearcutting greenwashed as "sustainable", see this video from Oregon CLICK HERE

For an in depth look at standard industry propaganda used to sell forest destruction to the public, see this video from Sweden 

CLICK HERE



Chris Matera, PE christoforest@gmail.com www.maforests.org September 20, 2019

www.maforests.org/Timberspeak.pdf



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#### APPENDIX A

# 22 "reasons" and rebuttals for a Massachusetts State sponsored commercial timber sale at Robinson State Park

Compiled by the Friends of Robinson State Park: updated: 10-21-2010 Robinson State Park, Agawam, MA

The MA Department of Conservation and Recreation (DCR) proposed (Jan. 2006) and then signed contracts (June 2006) for two first stage shelterwood harvests on 133 acres of the 800+ acre State park. 360,000 board feet of marketable timber were to be sold and removed from the park for \$13,191. One or more future entries into the forest were planned to remove oak and white pine expected to be promoted by the harvests.

For two years, from the beginning of 2006 to the end of 2007 when DCR canceled the contracts, citizens of the area, with the volunteer help of scientists and experts, fought the proposals and the contracts and the reasons set forth by DCR to justify the timber sales. **In December, 2007, the contracts were canceled**.

We hope that by providing the "reasons" set forth by DCR at Robinson we can illustrate that all too often, as was the case here, generic reasons are given, regardless of the specifics of a location, to remove timber from forests for commercial purposes. Scientific rebuttals existed for all reasons (excuses) given at Robinson. It became clear that the DCR Bureau of Forestry offered, adjusted, and then changed one reason after another, all with the intent to remove and sell wood for profit. We believed that was inappropriate in our park.

#### 1) We need to treat four stands of red pine that have shoe string fungus.

**Rebuttal:** There was no shoe string fungus. It was established that the red pines were too close together and nutrient starved. Why is harvest planned in an additional 100 acres of hardwoods in the park?

#### 2) The hardwood forest needs the harvest for forest health.

**Rebuttal:** A visiting famed forest ecologist deemed Robinson to be a healthy interdependent ecosystem. Definitions were established for healthy ecosystem versus "desired condition" of a commercial woodlot where the health is measured only in terms of availability and quality of marketable species.

#### 3) The forest needs the harvest to create biodiversity.

**Rebuttal:** There was documentation of over 50 species of trees, over 600 species of plants and animals (many listed as rare, endangered or threatened), multiple communities of trees, multiple streams flowing to the Westfield River, varied terrain of uplands and lowlands. The park provides the habitat of a closed canopy, yet also provides open areas and edge habitat.

#### 4) The forest needs the harvest to preserve existing biodiversity

**Rebuttal:** The planned harvest would reduce the biodiversity. Snags and a rare river birch were marked for cutting. Flowering dogwoods and birches were slated for cutting and referred to as "trash trees". Trees that stood in and around certified vernal pools were marked for cutting. The fragmentation of the forest was deemed to potentially threaten the favored stopover spot for neotropical migrating song birds. Natural slopes within the park were to be leveled by bulldozers. Timber access roads were planned within 10 feet of a running stream, native vegetation in the understory was to be "crushed and grubbed out" and the ground was to be "scarified". The goal of the harvest was the promotion of oaks and white pines for commercial purposes, not biodiversity.

# 22 "reasons" and rebuttals for a Massachusetts State sponsored commercial timber sale at Robinson State Park

#### 5) The forest needs the harvest to promote age class diversity.

**Rebuttal:** Trees of all ages were documented in the park, some in areas that had never even been tilled. A unique community of Tulip Poplars was thriving in the park, with abundant regeneration of all sizes. A rich Mesic forest was documented. The shelterwood harvests proposed are "even aged" treatments, with anticipated even aged results.

#### 6) The forest needs the harvest because its trees are reaching "maturity"

**Rebuttal:** Trees can grow well beyond the years when they are deemed most valuable for commercial purposes. The natural life of the many varieties of trees in the park could be expected to extend well into the future. A difference was established between "prime time to cut a tree for commercial purposes" and the true lifespan of a tree. The value and services of trees that are allowed to stand and live beyond their marketable maturity were documented. Documentation was presented that the State of Massachusetts has very little late successional or old growth forest and should be allowing at least some of its forests to age.

#### 7) The forest needs the harvest because it contains trees that might die and cause liability issues

**Rebuttal:** In an urban environment, where most dead trees are eliminated for safety or aesthetic purposes, it is essential to maintain dead and dying trees for their ecological values in natural settings as long as they are not true "hazard trees" (defined as dead or structurally deficient with a target such as a trail or picnic area). There was a consensus that true hazard trees could be removed. Not all dead trees are hazard trees. Not all trees that might die should be removed (!)

#### 8) The forest needs the harvest because it lacks young trees that can continue the forest cycle.

**Rebuttal**: The Robinson forest is full of young and small diameter trees. A healthy forest does not need trees that are perfectly straight and useful as timber, and will survive in a forested state without human intervention.

#### 9) The logging is needed to remove large trees that are most susceptible to catastrophic wind events

**Rebuttal:** The proposal said the goal was to leave large beautiful trees in the park! Differences of opinion exist with regard to resistance to wind events and often hold that a forest that is left intact can buffer itself from strong wind storms. When a forest is subjected to man made openings, it is often victim to additional blowdowns of exposed trees. Catastrophic weather events, often destroy the trees of all ages. Most important, such events are natural disturbances that provide naturally for regeneration of different species.

#### 10) The forest needs the harvest to reduce risks from forest insects and diseases.

**Rebuttal:** The heavy shade and cool temperatures of the canopied forest of Robinson were shown to have kept the Hemlock Wooley Adelgid to a minimum. A DCR study determined that there was very little present in the forest and no mortality as a result of it. The great diversity of tree species already existing in the park created a natural defense in the unfortunate case of damage by an insect that might choose one species as its target. Potential loss to one species would not cause extensive damage to the entire park.

# 22 "reasons" and rebuttals for a Massachusetts State sponsored commercial timber sale at Robinson State Park

#### 12) The forest needs the harvest to benefit wildlife.

**Rebuttal:** Wildlife in Robinson is already quite diverse: Of the four species known to demonstrate that all types of habitat are available in an area: fisher cat, pileated woodpecker, ruffed grouse and goshawk, the first three call Robinson home, and only the goshawk is not currently nesting there. The goshawk has, however, been seen in the park., There are areas of edge habitat along roads, under power lines, near picnic areas and ball fields that support the chestnut sided warbler and the Towhee and Indigo Bunting, examples of birds that prefer a more open condition. Wildlife habitat cuttings are often for "game species".

## 13) The hardwood sections of the forest needed the harvest to efficiently use the same access roads and landings required for treatment of the red pine stands.

**Rebuttal:** Red pine plantations in the interior of the park are better left to die naturally and be taken over by their already thriving white pine understory. They are not a threat to park visitors. More damage to the park would be done by attempted access to the red pines than would occur if they were left alone. Landings for the hardwood section of the forest were planned right at the front entrance of the park with absolutely no regard for the aesthetic ramifications of a clearcut at the focal point of the visitor's first glimpse of the park. Timber roads would have required the bulldozing, widening and leveling of the rolling terrain of the park.

#### 14) The forest needed the harvest to enhance water quality

**Rebuttal:** To the contrary, a geologist report stated that the proposal threatened the stability of the already eroding slopes of the Westfield River, threatened wetlands and streams feeding the Westfield River, would have reduced interception, evaporation and transpiration of rainwater, resulting in more water on the forest floor, more groundwater recharge and ground disturbance due to machine access and log removal. There was potential for sedimentation in the streams and river. Alteration to forest hydrology that can result in increased run off and channel erosion and decrease of large woody debris available for recruitment by rivers and streams were potential indirect impacts to be avoided. The increase in stream temperature from loss of shading from the tree canopy was also a concern.

## 15) The forest will benefit from the harvest because after it is over, the loggers will bulldoze, smooth and move some of the trails.

**Rebuttal:** There are multiple volunteer trail work groups such as the Berkshire Chapter of the Appalachian Mountain Club, the New England Mountain Bike Association and Americorps who provide training and personnel for trail repairs that are much kinder and gentler than the work of a bulldozer. Federal grants are available for trail improvements. Without the damage done by logging equipment in the forest on the trails, there will be much less need for repairs. Additionally, bulldozers make openings wider and more accessible for illegal ATV use

Proposals to cut trees along the eroding river bank, and to leave debris in a trail there, to discourage its use, or to create a vista there, were summarily rejected as ecologically irresponsible, not only from a geological standpoint but because the riverbanks provided habitat for 8 or 9 species of rare dragonflies and damselflies.

#### 16) The town will benefit by getting 8% of the revenue of the timber sale.

**Rebuttal:** 8% of \$13,191 is only \$1,050. Citizens would gladly raise \$1050 to leave the park alone.

# 22 "reasons" and rebuttals for a Massachusetts State sponsored commercial timber sale at Robinson State Park

#### 17) The harvest will benefit the local economy.

**Rebuttal:** The one and only forest products company to make a bid on the job and sign the contract was New England Forest Products from out of state, Greenfield, New Hampshire.

## 18) The forest needs the harvest to remove serious hazards and fire fuel build up along sale boundaries with private abutters.

Rebuttal: The Commonwealth has a policy for cutting hazard trees on the boundaries of the urban parks in the Boston area. The Commonwealth accesses the hazard trees through the private property in question and deals with such hazards as agreed upon with the abutters. On some occasions, an abutter must help with the cost of the trimmings or removals. The same policy should apply to Robinson State Park.

#### 19) The harvest in the East end of the park is needed where trees have encroached on a field.

**Rebuttal:** The harvest was planned for summer, in prime Eastern Box Turtle territory. The area should not be disturbed until well after nesting season. Also the east end of the park was known to contain documented areas of historical significance that should not be touched except when the ground was frozen, if at all.

#### 20) The harvest is needed "or in 20 years the whole forest will be taken over by red maple".

**Rebuttal:** Climate change experts predict that in fact maple tree species will migrate north as climate gradually becomes warmer. Maple tree populations in the park might actually decline, and species such as the Tulip Poplars that are abundant in warmer climates might actually increase. Certainly no one knows for sure, so such predictions are irresponsible.

# 21) "Don't worry" The harvest would be performed using Best Management Practices and the Guidance of FSC "green" certification.

**Rebuttal:** David Capen an auditor for FSC green certification came into the park and wrote a report: he voiced areas of major concern: there had been no plan for the prevention of the spread of invasive species into harvest openings where the ground would be disturbed and invasives already in the park were likely to spread. Cutting along the eroding banks of the Westfield River was deemed inappropriate with likely damaging ramifications. Protections of potential vernal pools, and adherence to Best Management Practices around vernal pools was deemed inadequate. And the park itself was declared to be an inappropriate place for such a conventional timber harvest.

The worst part of this is that the auditor would not require the State to abide by this advice. He merely wrote the report for informational purposes. We learned immediately that we could not trust Green Certification to guarantee acceptable forest harvesting. We filed complaints of the State violations of the New England Standard by which Green Certification clients are judged. The State of Massachusetts lost its certification in April, 2009 and has not yet regained it. (last updated: October 21, 2010).

## 22) The harvest of hardwoods from areas outside the red pine plantations would attract a logger to make a bid on the whole job which would include treatment of the less valuable red pine plantations.

**Rebuttal:** Aside from hazard trees, there is no need to remove the red pines. Over time they will die and the natural white pine understory will take over.

### APPENDIX B – Telling It Like It Is

## On the Shawnee Money Trail

#### THE SOUTHERN ILLINOISIAN

by Sam Stearns, Friends of Bell Smith Springs Feb 22, 2022 25

Of course it comes down to following the money trail.

In the past few years, ever since an 18-year federal court injunction was lifted, the Forest Service has been conducting massive logging on our little Shawnee National Forest. It is no secret that this selling off of our natural heritage actually loses money as it damages the land, water, and air. But like so many crimes against nature it does benefit a few folks financially.

The Forest Service falls under the Department of Agriculture (USDA) and they have no problem with disbursing our tax money as corporate welfare to the timber, chemical and prescribed burn industries. This is accomplished with the help of sycophants in State bureaucracies and non-governmental organizations (NGOs), some under the guise of "environmental" groups. Some of these organizations are set up specifically and deliberately to channel money to adjacent landowners and fund "coordinators" who sell this scheme to the public under the guise of education, with a thin veneer of cherry-picked pseudo science.

By the 1930s our Shawnee Hills had been logged, burned, farmed, and grazed into a moonscape which could no longer sustain people. The soil was gone and with it, the people. When the Shawnee National Forest was created after the Dust Bowl, pines were planted to allow rebuilding of the forest soil we lost. They have done a remarkable job of this and are today developed into mixed hardwood/pine forests.

During the 1980s what were initially pine plantations were deemed by the Forest Service to be "the pine problem" and they dropped chemicals and sprayed Agent Orange to kill our native hardwoods and thus allow the pines to flourish. This poisoning of public land led to the formation of a grassroots environmental group, ACE (Association of Concerned Environmentalists), which drew attention to the practice. The Forest Service then declared they would solve "the pine problem" by clear cutting 50,000 acres of pines on the Shawnee through money-losing below-cost timber sales. This was fine with some large "environmental" groups, even though it would rip the scab off the healing land and once again imperil the soil. At the same time, plans to log the largest oldest hardwoods on the Forest were exposed, leading to ACE evolving into RACE (adding "Regional" to ACE).

The Forest Service and their accomplices assured the public that they would abandon below-cost clear cutting. They would still cut the same trees and still lose millions of tax dollars doing it—but claimed that these were not timber sales: they were "ecological restoration." The agency and biostitutes (biologists who prostitute themselves for industry & bureaucracy) distorted reality, defied logic, and created new euphemisms such as "gap-phase dynamic group selection logging" and

"thinning" to cover up what they were doing. The public did not buy it and neither did the federal court. For 18 years under a court injunction the Shawnee was allowed to grow. Native hardwoods regenerated in the pines and throughout the areas which were spared from logging.

Hardwood and pine stands which were logged prior to the injunction did not fare so well. Instead of the oaks and hickories which the Forest Service promised would result from logging, it actually mostly resulted in more beech, maple, and pines so thick you cannot walk through them. This is just the opposite of what agency biostitutes claimed would happen.

Today the Forest Service buys the fealty of logging supporters by giving them massive grants. NGOs under the auspices of burning, poisoning, and "letting the sunshine in" have raked in literally millions of dollars in recent years for claiming that the best available science demands that the forest be logged, burned, and poisoned.

This is patently untrue.

There is now a growing body of independent science—not the studies funded by the Forest Service and related industries—which effectively refutes the notion that you can log, burn, and poison the forest back to health. And there is a very clear money trail which connects logging supporters back to the Forest Service and their misuse of taxpayer money. Locally this money has gone to groups dedicated to burning (\$1,000,000+), poisoning (\$1,500,000+) and logging to "let the sunshine in" (\$3,600,000+). The money which has gone to industrial forestry proponents in academia bears scrutiny, too.

It is easy to stake out a small patch of forest land and garden it heavily so that it produces whatever result you choose. Government agencies and NGOs do this to create small showcase places that may convince some people of their good intentions and technical expertise. But nowhere on the Shawnee have they been able to accomplish this on a larger scale.

To anyone who doubts this I offer an eye test: contact me and I will gladly show you sites on the Shawnee which have been "managed" for forest health. They are all abysmal failures. To continue this same regimen and expect different results is the definition of insanity.

In the words of Aldo Leopold, "A thing is right when it tends to preserve the integrity, the stability, and beauty of the biotic community. It is wrong when it tends otherwise."

For anyone who thinks I am too harsh in my assessment above, I offer a quote from another keen observer of human folly, William Shakespeare: "O, pardon me, thou bleeding piece of earth, That I am meek and gentle with these butchers."

Join me for a tour and let the land speak for itself.

Sam Stearns is the Public Education Coordinator for Friends of Bell Smith Springs. You can email Stearns at <u>bellsmithsprings@hotmail.com</u>, or visit <u>www.fobss.org</u> or <u>www.shawneeforestdefense.info</u>



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#### Citations

- 1 Page 9 www.maforests.org/FF%20Notes%20May%202010%20-%20NEFF.doc
- **2** E-mail from John Terborgh to Michael Kellet, March 9, 2021
- **3** E-mail from Bob Leverett to Chris Matera, December 22, 2009
- 4 www.saveamericasforests.org/resources/Scientists.htm
- 5 www.pressofatlanticcity.com/opinion/commentary/amy-s-karpati-forest-bill-is-about-commerce-not-science/article 8fd65b41-c4f3-5ff7-8e90-0c66e8579112.html
- 6 www.amazon.com/Forest-Trees-Guide-Excellent-Forestry/dp/0933280408#reader\_0933280408
- 7 <u>www.maforests.org/EPA-TimberHarvesting.pdf</u>
- 8 https://globalforestatlas.yale.edu/forest-use-logging/logging
- 9 www.sciencedaily.com/releases/2014/12/141202161503.htm & www.sciencedaily.com/releases/2016/04/160415125925.htm
- 10 www.maforests.org/WoodcockHalmeEdwards HANDBOOKOFFORESTECOLOGY CH30.pdf
- 11 <u>www.mass.gov/eea/docs/eea/lf/green-certification-report-peer-review-2009.pdf</u> & <u>www.mass.gov/eea/docs/eea/lf/green-certification-report-2009.pdf</u>
- 12 www.forestry.umn.edu/people/lee-e-frelich
- 13 https://www.nature.com/articles/s41559-022-01737-8
- 14 Pages 150-152 http://www.maforests.org/forestgreencertreport.pdf
- 15 Pages 15 and 21 http://www.maforests.org/PATCHCUT.pdf
- 16 www.saveamericasforests.org/resources/Scientists.htm
- 17 http://macphailwoods.org/forestry/public-land-management/sustainable-stewardship/
- 18 https://www.earthisland.org/journal/index.php/articles/entry/fighting-a-logging-epidemic-in-vermonts-roadless-forests
- 19 www.maforests.org/ScienceMissing.pdf
- 20 www.maforests.org/Lorimer%20and%20White%20-%20ES%20Habitat.pdf
- 21 https://pdfs.semanticscholar.org/56d4/afbb6a1b80b25fae122ba80885d6fe240448.pdf
- 22 www.maforests.org/Keeton.pdf
- 23 https://www.maforests.org/FosterConservationBio2006.pdf
- 24 www.maforests.org/TrojanHorse.pdf
- $25 \ \underline{\text{https://thesouthern.com/opinion/columnists/opinion-sam-stearns-on-the-shawnee-money-trail/article} \underline{\text{60c8b92e-3a06-5c17-a798-485fd8baa4b1.html}}$