THE MAINE WOODS

A Publication of the Forest Ecology Network

"In wildness is the preservation of the world." Henry David Thoreau

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Mt. Katahdin from the road to Roaring Brook Campground, Baxter State Park. *Photo by Paul Donahue*

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A Voice in the Wilderness by Jonathan Carter

SAVING MAINE

This is FEN's 20th year. It is hard to believe we have been working to protect the Maine Woods for over two decades. As I reflect back, I am tremendously proud of all that we have stood for and accomplished, but as I examine the present and look toward the future I am disheartened by how successful the "corporate eco-terrorists" have been in spreading false propaganda and continuing their incremental destruction of the forests. They have greenwashed almost every issue and at the same time offered "bribes" to the politicians and those large mainstream environmental groups who will often sell out or look the other way if "charitable donations" are offered.

As I look at the changes around my farm in the mountains of western Maine, I almost think these eco-terrorists are exacting revenge for FEN's outspoken opposition. While my farm itself looks much the same after 30 years, the two thousand acres to the east, currently owned by Yale University (dba Bayroot) and John Malone (telecommunications tycoon and largest private landowner in US), has been systematically destroyed in the last two decades. When Boise Cascade started the process by building a road into this mature forest, I was told that they would be in and out and that no "clearcutting" was planned, no herbicides – just selective cutting. I can only say they were lying - and now after over two decades of continual abuse, there is little left of the once pristine forest. They did leave a beauty strip along the road!

photo by Rick Hesslein

A 'Red Eft' or Red-spotted Newt.

As I look to the west on Gilman Pond Mt., I see a large clearcut on its eastern flank - no, excuse me, by definition it is not a clearcut, a small patch of trees was left in the center of the cut in order to meet basal requirements above clearcut levels. When the stats for clearcutting in Maine are examined, it appears that the practice has declined dramatically. However, a five to ten year clearcut with multiple entries, now called a shelterwood harvest, has surpassed the old record highs of annual clearcut acreage. The corporate strategy has been to accept that they cannot win the battle over clearcuts, so just change the name and tell the public they have seen the light and have been reborn green! Such rubbish.

To the north of my farm, the industrial wind folks have been plotting to blow up the mountaintops and erect scores of 500 foot turbines - turbines that will not reduce carbon or force the closure of a coal fired power plant, turbines that have a marginal efficiency of maybe 15%, turbines that require a significant input of electrical energy to operate, turbines that contain a vast amount of toxic materials that will have to be disposed of in 20 years, turbines that will kill many thousands of birds and bats, turbines that will eliminate the quiet of this rural community and shower it with infrasound and other noise-related health problems.

When I think how I am fenced in on three sides by blatant ecocidal activities and that my situation is not atypical, I have to ask how can this happen? The other day, a journalist asked me to describe the Irving Corporation. I responded by saying, "Irving is the quintessential corporate eco-terrorist - it destroys the forest using unsustainable forest practices, applies toxic pesticides that kill wildlife and poison the waterways, they have no qualms about blowing up mountains in order to retrieve gold while dispersing lots of arsenic in the process, they scam the system in order to build industrial wind facilities which don't reduce greenhouse gases and cost the tax payers billions - and they do all this because they have bribed the corrupt politicians and the "for sale to highest bidder" mainstream environmental groups.
In the court of the natural world, Irving and all the other corporate eco-terrorists would be convicted of high crimes against the planet!

Quiet a rant, but fundamentally true. However, this still begs the question as to why these corporations, with many intelligent and smart people, continue to pursue abusive ecological activities?

Corporate charters require companies to maximize profit for shareholders. Anything that increases costs - whether environmental safeguards, worker health and safety, sustainable resource usage, etc. - are to be avoided. The corporate lobbyist and front people shower local, state, and federal governments with gifts of money and statements of their commitment to a green agenda. The oil and gas industry spends an average of $400,000 a DAY in D.C. – all 365 days a year! If you examine The Nature Conservancy and Audubon's corporate contributors, the list is basically a who's who of the worst environmental corporations in Maine.

In most countries around the world they call influence peddling involving money exchange, bribery – in the U.S. we call it political donations or charitable contributions, and we have legalized it.

In spite of the "bribery corruption", I think there is a fundamental flaw in our capitalistic system that places all the emphasis on growth. In order to maintain growth it is necessary to constantly increase consumption. Consumption (demand) can be increased by runaway population growth and by greater consumer materialism - something the U.S. has exported all around the globe.

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Think about it, Gross Domestic Product or GDP is how economists evaluate the health of economy. I like the Bhutanese way of using Gross Domestic Happiness or GDH as a measure of societal health.

Western civilization - and I fully recognize I am as much to blame as the next - needs to abandon the notion of growth at all cost. We need to endorse a truly conservation-based culture that enshrines reduced consumption as a guiding principle. This does not mean that economic prosperity will end; indeed prosperity would continue, but in a different way. When I think that a hundred million trees are cut each year to supply the junk mail binge of consumption promotion - and that these trees if left standing could absorb millions of tons of carbon dioxide, provide tons of oxygen, clean the air and the water, provide habitat for wildlife, as well as many other services, I realize how insane and bogus the notion is that Adam Smith's "invisible hand" is guiding the marketplace to do the right thing.

After 20 years of FEN activism, I realize that unless there are some basic changes in societal values around consumption and economic health, there is little hope that we will be able to do anything but slow the demise of the Maine Woods, which is really just a microcosm of the bigger planetary picture.

With climate change scenarios dire - although Maine, except for some coastal flooding, appears to be geographically in better shape than most - the world is going to be a vastly different place in fifty years. As we adapt to what Western consumerism has wrought, we can make changes that will mitigate the impact on our children, grandchildren and great grandchildren. Greenlining the Maine Woods - drawing a line around the unorganized territories and saying no to industrial development without voter approval - would be a great first step in building a sustainable future. Indeed, if we do not protect the Maine Woods from the likes of a Cianbro E-W Corridor, Plum Creek's Moosehead Development, Irving's Bald Mt. Mining Agenda, and the Industrial Wind Mountain Slayers, etc., our ability to adapt will be greatly diminished.

FEN is committed to promoting - no, demanding - ecological thinking. I have often wondered why FEN has never had a strong connection with mainstream enviro groups in Maine. Aside from the fact that they sabotaged the clearcutting referenda, offered compromises for the destruction of Moosehead, and have accepted money from industrial wind mountain slayers in exchange for non-opposition, FEN has never over the last twenty years felt the need to be a part of the environmental tribe.

Tribalism is a fact of life. People and groups want to feel they are part of the system. As a result when the system isn't working, they have a hard time breaking away from old ways of thinking.

I hope that FEN never succumbs to the pitfalls of tribalism. The changes we desperately need to save the Maine Woods will come from thinking outside the box and following Einstein's statement that "the problems that exist in the world today cannot be solved by the same level of thinking that created them."

I hope that in the decades to come FEN or some outgrowth of FEN will still confront the status quo with the same level of leadership, truth, and passion FEN has exhibited in the last twenty years.

Is No Place Sacred?
Big Wind is Coming to Thoreau Country

First Wind (now Sun Edison) has applied for meteorological (wind testing) towers for Misery Ridge in Somerset County, just a few miles from the shore of Moosehead Lake. Maine's Department of Environmental Protection has to approve the "met towers".

Misery Ridge is marked by a red teardrop to the left of center,

What does this mean? They want to build a wind project there. They'll have to measure and analyze the wind data for at least a year before they apply for a wind project permit, but you need to mobilize now.

Moosehead: Pristine. North Woods. Gorgeous. Black at night. Thoreau.

Where Winnepesaukee and Sebago folks won't go. Too many bugs. Too far to drive. No WalMarts.

A few years ago most of us were OK violating Maine to save the planet. But now we know how this wind energy fad doesn't move the needle and it costs taxpayers and ratepayers billions.

Look at the map again. It's straight across Moosehead Lake from Lily Bay.

Too many Mainers have waited too long to act. Too many communities have sat back while Big Wind's advance-people infiltrate the locals. The wind weasels put on their shiny Bean Boots and starched barn jackets. They leave their BMWs in Portland and they drive their rented Ford F-150s to the North Country to make deals with landowners and selectmen eager to enhance municipal revenues.

This is not fiction. It's real drama. And it's tragedy.

Look at this map and imagine sitting on the beach at Lily Bay State Park. Beaver Cove. Blair Hill, Spencer Bay. Norheast Carry. Kineo, Brassua...

Black flies, waves lapping the shore, black water and starry sky looking exactly like it did when Henry and Joe paddled there 160 years ago.

But wait. Who the heck moved LaGuardia airport up here to the North Woods??? The red lights flashing across the black Moosehead horizon make it look more like Canobie Lake State Park than Lily Bay State Park.

You get the (ugly) picture. If industrial wind energy was capable of putting a dent in fossil fuel use...if it could actually do something to get us off oil...if wind could reduce our electricity costs...we might tolerate and even welcome its Prudential Tower-sized intrusion on Maine's Quality of Place, on our North Woods. So that Massachusetts can feel good about its profligate energy usage.

But Big Wind is unnecessary, unaffordable, unsustainable, and useless.

So ask your self this:

Will you allow Moosehead to be violated by a massive industrial complex that adds a tiny fraction of 1% new electricity to the grid? Which we don't need!

If you love the North Woods, it you love Moosehead, if you love Maine

BE A NIMBY.

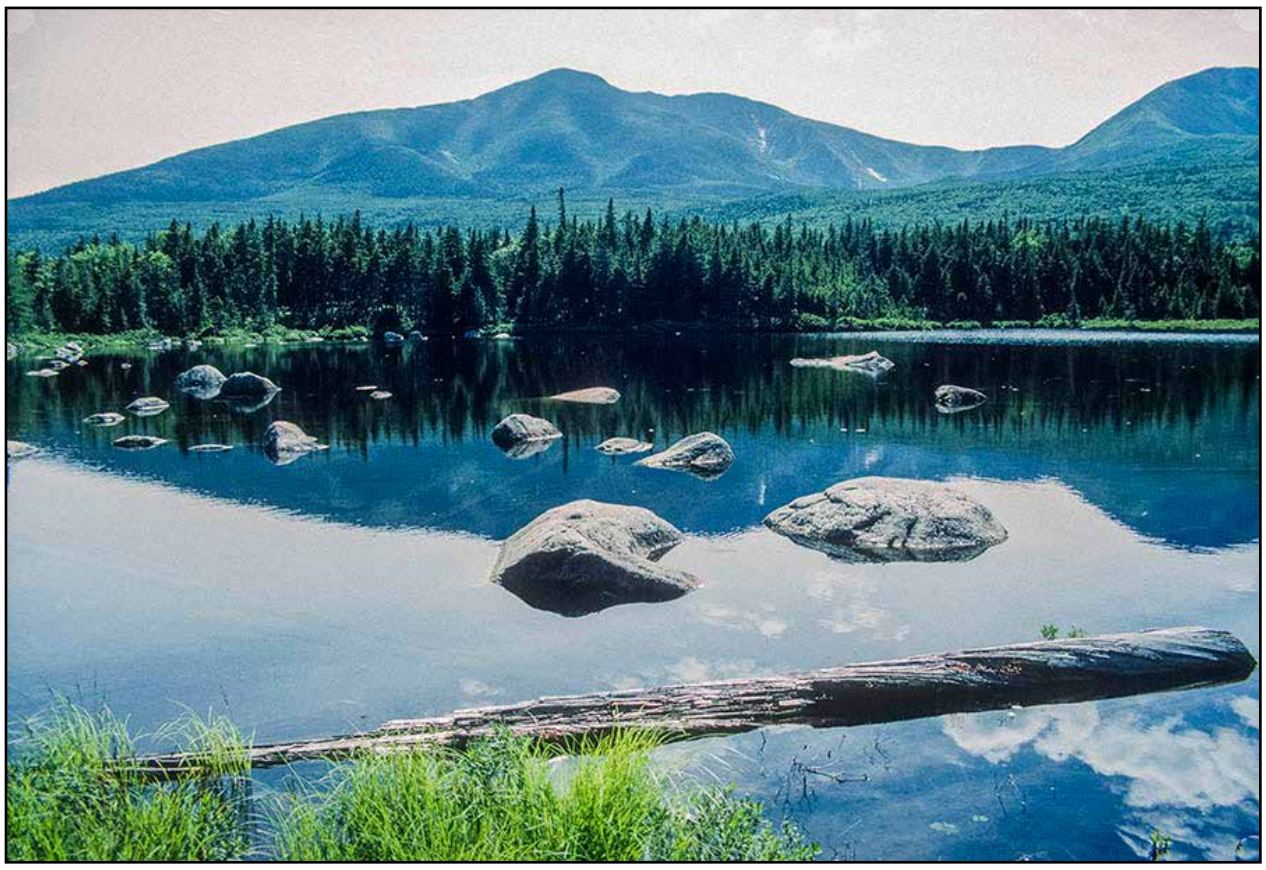
What is YOUR message to Big Wind?

Promoting Sensible Development by Strengthening Democracy - Using Democracy to Protect Maine's North Woods

by Phil Worden

The Need is Urgent

All of us bear witness to the transformation of Maine's North Woods from an exploitive but integrated "Paper Plantation" to a fragmented, developed, sprawling wasteland. As the paper companies abandon Maine for more lucrative global pastures, new dangers - such as mountaintop mining, industrial wind, a divisive East-West Highway/Corridor, sprawling resorts, and fragmented private "kingdom lots" - all seek to fill the vacuum.



Mt. Katahdin over Whidden Pond. *Photo by Paul Donahue*

Nothing documents the threat to Maine's North Woods quite as clearly as Maine's Land Use Regulation Commission's (LURC, now Land Use Planning Commission) 2009 written decision approving Plum Creek's massive development. LURC repeatedly argues in that decision that the zoning **it created and oversees** for the North Woods will result in development that is so bad that Plum Creek's "concept plan" with its huge resorts and sprawling residential development is actually better than what LURC's own zoning allows. I count 36 times where LURC refers to its own zoning as promoting "haphazard incremental," "haphazard unplanned", or "haphazard sprawling" development throughout the North Woods. For example, on page 70 of the Plum Creek decision LURC, referring to itself as "the Commission," says:

> *... the Commission finds that LURC's reactive system of rezoning that largely relies on the adjacency criterion is and will be insufficient to protect the Moosehead Lake region from haphazard, sprawling development, and that the statutory exemption from LURC subdivision review (whereby a landowner is allowed to subdivide any parcel into two additional lots every five years without prior Commission review) has exacerbated the haphazard development pattern.*

On the next page LURC continues:

> *There is no question in our minds that in the absence of a plan for development, subdivision and development will continue. It will continue in a more haphazard and unplanned way, relying on individual kingdom lot sales which could close off large areas of the [affected] area to public access, as well as adjacency and other subdivision options open to the landowner ... Outside of a few well respected family ownerships, the nature of Maine's large landowners has changed dramatically in the last ten years. Where once the forest products industry was the largest owner of forest land in Maine, now they are a small minority in the ownership pie. Investment owners now predominate, and they operate on a much shorter time horizon - usually ten years or less - before they turn land over again.*

Kingdom lots are large single lots (usually in the thousands of acres) owned by wealthy out-of-staters who want a private natural spot where they can get away from the shallowness of their urban moneyed lives. Unfortunately, they tend to bring it all with them, and end up ruining the refuge they seek. As one expert testified in the Plum Creek hearings, they tend to be afraid of the dark and so the first thing they do is put in lights.

All this paints a poor prognosis for the North Woods. This transition, which seems inevitable given current circumstances, speeds us toward the death of the North Woods. Once the North Woods is gone, it will be gone forever.

The immediateness of this poor prognosis for Maine's greatest asset creates a sense of urgency among all those who love Maine and its North Woods.

But What is to be Done?

Yet this very urgency only raises the age old question: What is to be Done? The purpose of this paper is to share the results of some research I did for Charles Fitzgerald, Jonathan Carter and others concerned about the prospects of turning the North Woods into an industrial zone. They wanted ideas on how to create a statute to save the North Woods by "greenlining" it from the multiple threats of industrialization - whether wind turbines, pipelines, E-W highways, metallic mining projects, or large scale resort development, etc. The greenline around the North Woods would preclude industrialization without voter approval.

First, I will describe three minimum requirements to achieve this, the existing tools we already have in Maine and some models from other states. Then I will present a concrete sample statute so people can see how my approach might work. The underlying goal is to promote sensible development by strengthening democracy.

Three Requirements

It seems obvious that whatever we decide to do, it must meet the following three requirements.

1) What we do must be effective at stopping inappropriate development in the North Woods, such as an East West Corridor, mountaintop mining, unsustainable forestry, resorts, etc.

2) What we do must be sufficiently popular to win either legislative approval or a state-wide vote.

3) What we do must be able to survive judicial review. If we are effective and popular, wealthy developers will certainly challenge us in court.

I set out to explore experiences in other states to find a proposal that we could adopt for Maine that meets the above three critical requirements. My bias is that I believe we must rely upon popular power to save the North Woods. If we cannot rely upon Maine people to protect the North Woods, everything else we try to do must fail.

Existing Maine Tools

Before exploring experiences in other states, I reviewed the legal tools we already have in Maine. We don't want to invent a new wheel unless it is necessary. Therefore we should look first at what we already have.

Here is a brief summary of tools for popular power that already exist in Maine:

Peoples' Veto. Maine Constitution Art IV Part III § 17. This provision allows the people of Maine to over-rule (veto) a statute adopted by the Legislature.

Popular Initiative. Maine Constitution Art IV Part III § 18. This provision allows the people of Maine to adopt legislation that the Legislature refuses to adopt.

Municipal equivalents. Maine Constitution Art IV Part III § 21. Cities may adopt both popular initiatives and

vetoes for municipal affairs.

Rulemaking by Popular Petition. Maine's Administrative Procedures Act says that a state agency must engage in rulemaking if 150 people petition it to adopt or modify a certain rule. 5 MRS § 8055.

Municipal-LUPC ordinances. Municipalities zone for their towns; LUPC zones for the Unorganized Territories. However, municipal zoning ordinances are only applicable to a state project if made pursuant to a Comprehensive Plan and even then the governor may waive the local ordinance upon making certain findings. See 30-A MRS § 4352 (6).

The following statutes also affect attempts to regulate development:

Public-Private Partnerships. The "3P" or "PPP" statute, 23 MRS §4251, provides a method for the Maine Department of Transportation (MDOT) to seek private financing for projects it wants but the Legislature won't fund. The version at the time I write this also allows private developers to propose 3P projects to MDOT. If MDOT approves the 3P project, MDOT submits it to the Legislature for final approval. If the Legislature approves it, the new legislation is subject to the peoples' veto. The 3P statute is not the exclusive way to propose a 3P; a private developer can go straight to the Legislature without going through MDOT. Even when the developer decides to use the 3P statute, MDOT review is not rigorous and presents only a low hurdle.

As I write this, the Legislature is considering an amendment to the 3P statute that removes the section allowing private developers to propose a 3P project to MDOT so only MDOT will be able to initiate 3P proposals. Under the amendment, a private developer who wants to initiate a 3P project through MDOT will have to informally persuade MDOT to propose the project as its own rather than transparently reveal the real source of the proposal. The amendment, if passed, might have the unintended consequence of encouraging private developers to go straight to the Legislature and bypass MDOT review altogether. Under the current version, a cowardly legislator who wants to avoid taking a position on a controversial 3P, such as an East-West Highway, can hide behind the 3P statute if the developer goes straight to the Legislature. Such a Legislator can avoid taking a stand on the project by insisting that the developer start with MDOT review under the 3P statute. The amendment would remove that cop-out and fortify the position of those developers who want to go straight to the Legislature without prior MDOT review.

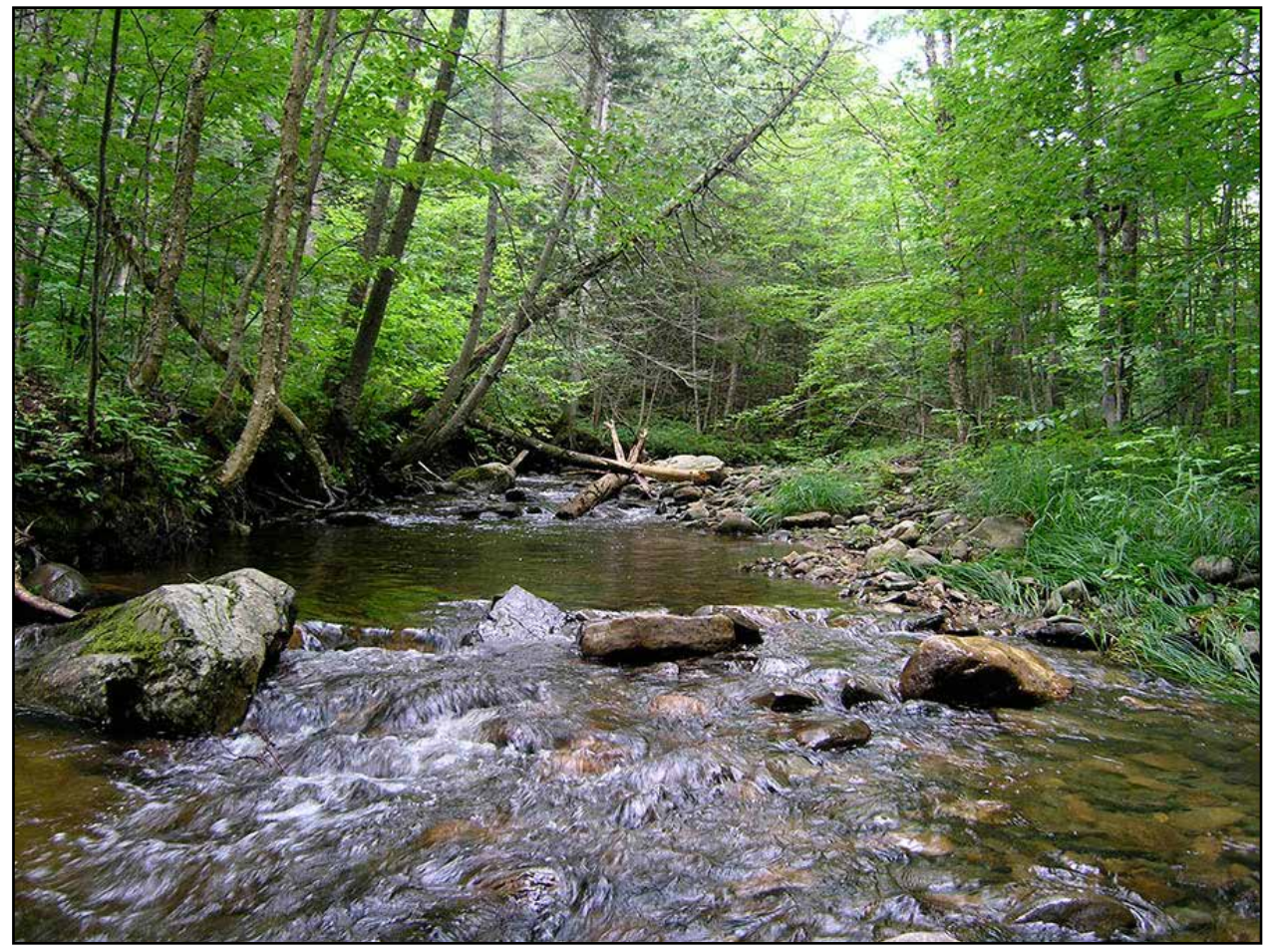
Sensible Transportation Policy Act. 23 MRS § 73. Passed by popular initiative, STPA provides rigorous review for significant transportation projects funded by MDOT. Elsewhere I have proposed a series of amendments to STPA that includes applying it to all significant transportation projects regardless of the source of its funding or its ownership. At any rate, STPA would apply only to an East-West Highway and not to a utility corridor. As our focus shifted away from an East-West Highway to an East-West Corridor (or a combination of both), STPA became less important.

Energy Infrastructure Corridors. 35-A MRS § 122. Generally speaking, utility corridors are administrated by the Public Utilities Commission ("PUC") but this statute also provides for an Interagency Review Panel to oversee use of statutorily designated utility corridors. The statute lists the existing corridors. The PUC must go through rigorous substantive rulemaking before adopting a new utility corridor. Subsection 1-C of this statute, which requires a "Memorandum of Understanding" with the Maine Turnpike Authority for integration of the Interstate 95 statutory corridor with the Maine Turnpike, illustrates how an East-West Highway might integrate with an East-West utility corridor.

Some Out-Of-State Models

We reviewed three out-of-state models for protection of the environment in the hope of finding something that would help us protect the North Woods.

First we reviewed the Adirondack Forest Preserve in upstate New York because it has the reputation of being one of the most protected forests in the country. In 1894 the people of New York wrote into their constitution that the Preserve is to remain "forever wild." The Preserve is an almost 2 million acre part of the much larger Adirondack Park, which is managed by the Adirondack Park Authority somewhat similarly to the way LUPC manages Maine's Unorganized Territory. While the Preserve remains "forever wild" by constitutional mandate, the Authority allows large developments in the rest of the Adirondack Park. The problem with the Preserve as a model for Maine is that it exists entirely on state owned land. It is more analogous to Baxter State Park. Most of Maine's North Woods is privately owned. Imposing a "forever wild" condition on private land would almost certainly constitute a "taking" that would require just compensation to the land owner.



Cottle Brook, Phillips. *Photo by Paul Donahue*

Next we reviewed the Martha's Vineyard Commission. This is a regional commission that reviews development projects that have "regional impact" as opposed to just a "local impact." If a developer presents an application for a permit to the local planning board and the board determines that the proposed project will have a "regional impact", the application is forwarded to the MVC, which then takes jurisdiction over all the permits for that project. The local planning board makes the decision whether the proposed project should go to the regional commission. The Massachusetts Supreme Court rejected an attempt by a town to refer a project in a neighboring town to the commission. The town claimed the project would have an adverse impact on it but the court held that only the local planning board in the town where the project was proposed could decide whether the project would have a "regional impact."

We liked the idea of having a separate, more rigorous set of standards for development projects that would have a "regional impact" rather than just a "local impact." But we doubted that creating a new bureaucracy such as a Regional Commission would be popular in Maine.

Strengthening Maine's Site Location of Development Act, 38 MRS § 481 et seq, might solve the problem since that law deals with developments "of state or regional significance that may substantially affect the environment", but its 20 acre trigger is so broad that it cannot impose sufficiently rigorous standards. 38 MRS § 482(2).

Next we reviewed two models from Southern California beach towns that require certain development proposals to be submitted to a popular vote before any permits are issued for it. The City of Del Mar has an over-lay area in which a developer must submit a detailed plan for the proposed development that not only gets reviewed by the city's authorities but is also voted on by the residents in the city. San Diego requires a change of land designation for certain types of developments and provides that those land designations cannot be changed unless the change is approved by a city-wide popular vote.

Although a strategic consensus has yet to emerge in Maine, I support the California models and want to explain how we might use direct democracy in Maine to protect the North Woods.

Who Votes on What?

Before crafting a specific model of direct democracy for Maine, three basic questions must be answered: 1) Which developments will require a direct vote?, 2) Who votes?, and 3) What geographical region will be covered?

There are two different approaches to defining which development proposals will require a popular vote. One approach is to define particular types of developments that will require a direct vote, such as developments of a certain size, quality or specific impacts. The other approach is to define developments that provoke a certain amount of political controversy, such as requiring a vote whenever a certain number of Mainers petition for a vote. The importance of this question cannot be over-estimated. Popular votes can be expensive, cumbersome and even boring. If we require too many votes on too many projects, we will lose popular enthusiasm. On the other hand, developers are likely to seek ways to avoid a popular vote and if our triggering definitions are not comprehensive enough, damaging projects may sneak by.

There are three different constituencies that could vote. One would be those people in the region that will be affected by the project, which will vary from project to project. Another would be residents in the Unorganized Territories. The third would be a state-wide vote. On this question, we need to not only consider the practical logistics of the vote, but the likely outcome of the vote as well. Put bluntly, the question gets down to whether we can rely upon people in the southern half of Maine to help protect the North Woods.

The question about the geographic area to be covered raises similar concerns. The vote requirement could apply only to projects in the North Woods, which would have to be geographically defined. Or, it could apply only in the Unorganized Territory, which is already defined and managed by LUPC. Or, it could apply to significant proposals anywhere in the state.

The Separation of Powers Problem

Finally, before presenting a concrete proposal, I want to explain the Separation of Powers problem with direct democracy. While applying direct democracy to ***legislative*** questions, such as administrative rulemaking, presents no constitutional problem, applying it to ***judicial*** questions, such as administrative adjudications or permit hearings, does present a profound constitutional problem. Legislative adjudications, such as a Bill of Attainder, are constitutionally prohibited. The doctrine of Separation of Powers is stricter under the Maine Constitution than it is under the federal constitution.

An example of the problem in the land use arena would arise if we tried to hold a vote on a specific permit, such as a permit to Cianbro to build an East-West Highway. On the other hand, we could hold a popular vote on whether an East-West Highway should be a permitted use. Generally speaking, legislative issues have general impact and are prospective, such as "Should anyone be allowed to build an East-West Highway in the future?" Adjudicative issues are specific and retrospective, such as "Has Cianbro met the existing standards for building an East-West Highway?" We can vote on whether anyone can engage in a particular activity, but cannot vote to revoke a particular person's permit.

Conclusion

Allowing the people to vote on developments that have critical impact can be **effective** at stopping inappropriate development because the people can vote to deny land uses that they think are destructive. It can be **popular** because voting touches on basic American values and does not require agreement on any particular development. It has survived **judicial review** in California for decades. Thus it satisfies all three essential requirements listed at the beginning of this article.

The North Woods is in crisis and needs our help. I hope this article plays a constructive role in the process of arriving at a broad consensus that we can all unite behind.

A Sample Statute Using Democracy to Protect Maine's NorthWoods

by Phil Worden

I have drafted a concrete statute providing for direct votes on developments with a "potential for critical impacts" in the Unorganized Territory. My hope is that an actual sample statute might help people focus concretely on what they like and don't like about the proposal so it can evolve into a proposal that will win broad approval. Here are some of the highlights of my model statute; the full statute can be found on the FEN web site.

A beaver pond in Phillips, Maine. *Photo by Paul Donahue*

To get around the problem of creating a new bureaucracy, I placed my statute in the LUPC statute since LUPC already exists. Section 685-D was repealed effective in 2009 so I decided to put my sample statute in that empty part of the LUPC statute.

My first subsection sets the policy of protecting the North Woods and includes declaring that the "people reserve to themselves the right to give final approval through a state-wide popular vote on developments that have a potential for critical impact on the North Woods." This "purpose" section will guide courts in interpreting the rest of the statute.

The second section declares that all "[d]evelopments with a potential for critical impact are prohibited uses unless developed pursuant to a concept plan approved by the commission and the plan is approved by the voters of the State of Maine." The commission has been using concept plans for decades but only when both initiated and approved by the landowner. I turn this on its head by mandating concept plans in subsection 2 and putting more rigorous standards into them in subsection 4. By starting out prohibiting these uses we get around the Separation of Powers problem by requiring the developer to petition for a rezoning, which is a legislative act that we can vote on.

Subsection 3 contains the critical definition of what constitutes "a development with a potential for critical impact" that will trigger the concept-plan- plus-vote requirement. I use both approaches discussed above: I list all kinds of particular developments that will trigger the vote requirement but I also provide in § 3 (A)(6) that a vote must be held regardless of the type of development if 500 Mainers petition for it. My definition is probably much too broad and needs to be scaled back. I drafted it that way as an illustration of how a definition works in the hope it will help people focus on what they like or don't like about it.

As mentioned, subsection 4 strengthens what the concept plan must include.

Subsection 5 gives the logistics for holding the vote and provides for the issuance of a "citizen's guide" about the proposal and its impact, all at the developer's expense. The vote is state-wide on the theory that the entire state has a stake in preserving the North Woods.

Subsection 6 limits when a developer's rights become "vested" (becomes a property interest) and inserts a "good faith" requirement for vesting. The section prevents developers from rushing to get their permits and vested rights before the statute takes effect.

Subsection 7 both authorizes and limits the commission's authority to adopt rules to apply and interpret the statute. Developers with their armies of attorneys are bound to point out unintended consequences in the statute and this section creates a safety-valve that will allow the commission to correct the perceived problem without requiring another state-wide initiative referendum to amend the provision.

Sample Statute

The people of the State of Maine enact Title 12 Maine Revised Statutes § 685-D as follows:

12 §685-D

1. **Findings and Declaration of Policy**. The people of the State of Maine make the following findings as a supplement to section 681 and declare the following policy to be the policy of the State of Maine:

   A. The North Woods are a vital resource that makes the State of Maine unique.

   B. The North Woods is a delicate, integrated ecological region that will be ruined if not adequately protected by the people of the State of Maine.

   C. The North Woods is especially vulnerable to large scale developments that have a potential for critical impacts that are adverse to the survival of the North Woods.

   D. The commission has made significant use of "concept plans" with some large landowners but so far concept planning has been voluntary with the landowner; the people find that concept plans should be mandatory for developments that have a potential for critical impact on the North Woods.

   E. The people reserve to themselves the right to give final approval through a state-wide popular vote on developments that have a potential for critical impact on the North Woods.

   F. The people of the State of Maine declare that it is the policy of the State of Maine to protect the North Woods so it survives forever and this section shall be construed liberally to fulfill this policy.

2. **Concept plan and voter approval required for developments with a potential for critical impact.** Developments with a potential for critical impact are prohibited uses unless developed pursuant to a concept plan approved by the commission and the plan is approved by the voters of the State of Maine.

3. **Definitions.**

   A. "**Development with a potential for critical impact**" means a development as defined in section 682 that meets any of the following criteria:

      1. A development of state or regional significance as defined in 38 MRS § 482 except that the triggering acreage in 38 MRS § 482 (A) shall be 100 acres rather than 20 acres.

      2. Energy infrastructure as defined in 35-A MRS § 122 (1)(B).

      3. A highway or utility corridor - whether public, private or a public-private partnership - that extends from within 50 miles of the eastern border of the State of Maine to within 50 miles of the western border of the State of Maine. Existing roads, highways or utility corridors that are to be connected to new roads, highways or utility corridors in such a way that the aggregate finished highway or corridor would meet this definition shall all be considered as one highway or utility corridor.

      4. Any development that will exist in more than one township and has any of the following attributes:

         a. Non-vegetated areas of more than 10,000 square feet;
         b. Will generate on any given day more than 50 vehicle trips;
         c. Will store or hold solid waste not created on-site;
         d. Will emit smoke, fumes or vapors in excess of ___ particles per million on any given day;
         e. Will discharge pollutants into the underground water table.
         f. Will generate noise that can be heard two miles from the point of generation.

      5. Any development that will include overhead or underground passage ways for wildlife.

      6. Any development of sufficient public controversy that 500 registered voters petition the commission to declare the proposed development to be a development with a potential for critical impact.

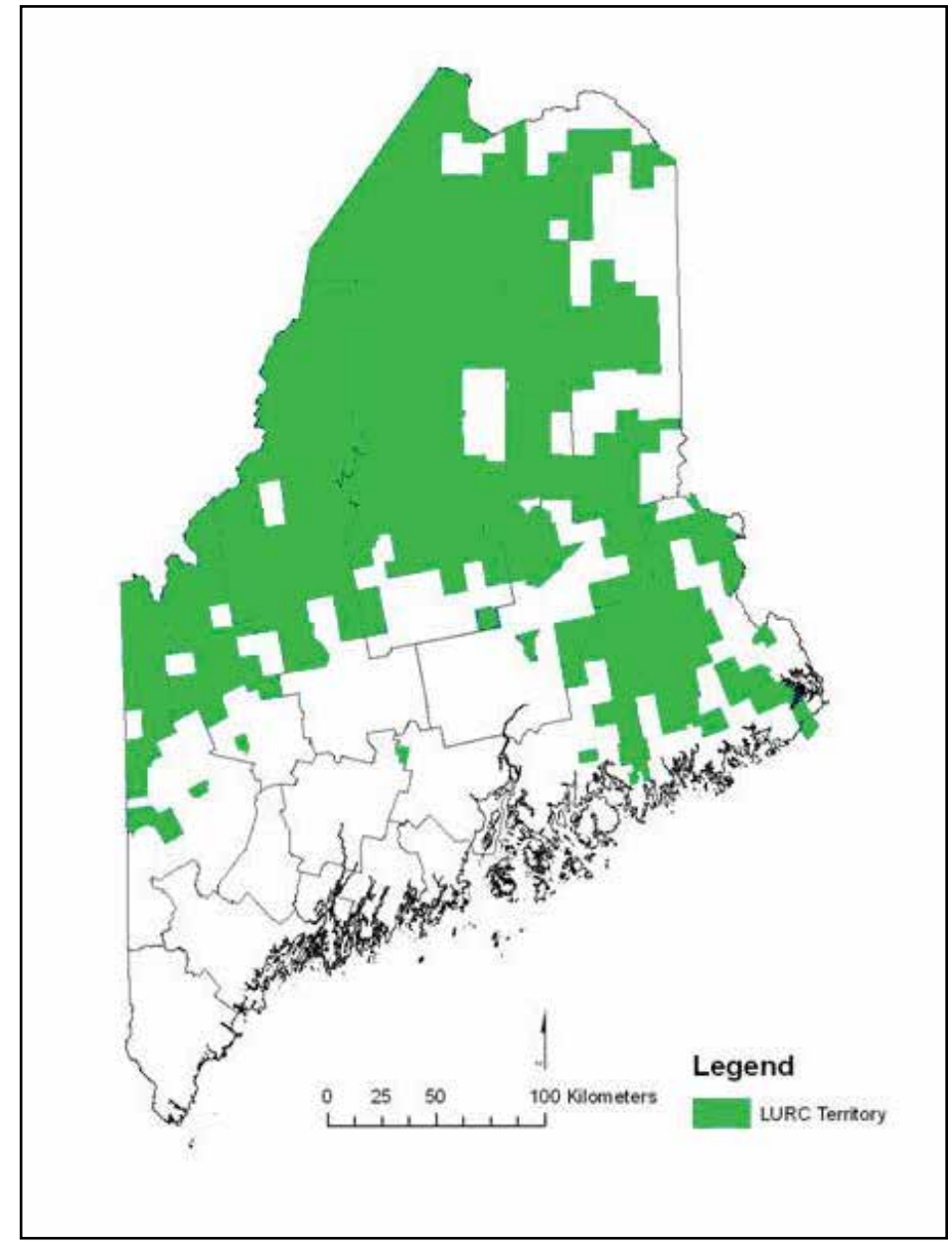
      7. Any development that the commission estimates will cost, in the aggregate over all phases, at least $10,000,000.00

      8. Any development that will exist in both the commission's jurisdiction and in a municipality.

   B. "Good faith reliance on a permit" means an expenditure or commencement of construction that was not motivated by a desire to avoid the impact of this section by speeding the project up to vest rights. A change in construction schedules made after the developer or its employees, agents or attorneys, became aware that this section was pending that has the effect of speeding up the time at which that project becomes vested shall be presumed to be made in bad faith.

4. **Concept Plans.**

   A. Prior to applying for any permits from the commission, the Department of Environmental Protection, the Public Utilities Commission for a development with a potential for critical impact the developer must submit to the commission a proposed concept plan that is similar to the concept plans described in Appendix C to the commission's



Comprehensive Land Use Plan (CLUP) except for the following:

1. The plan shall not be limited to lakes and shall include all aspects of a development with a potential for critical impact.

2. The plan shall include the detailed technical information associated with a site-specific development plan for each specific part or phase of the proposed development.

3. The applicant must disclose all information, data and expert opinions to which the applicant has access relating to the potential impact of the proposed development to the commission regardless of whether the information, data or expert opinions are favorable to the applicant and all this information shall be open to the public. This requirement shall be construed to fulfill its goal of promoting full and open review of the potential impact of the development instead of allowing the applicant to pick and choose to submit to the commission only those studies and other information that supports the proposed plan.

B. The commission shall hold a public hearing on the proposed plan.

C. The commission shall review the proposed plan under the criteria set forth in Chapter 10 §6 of its Rules or under Rules adopted pursuant to subsection 7 of this section. The commission may deny the application for the plan but may not give the plan final approval until it has been approved by the voters of the State of Maine.

D. Since developments with a potential for a critical impact are prohibited uses until developed pursuant to a concept plan that is approved by the commission and the voters, the proceedings on applications for concept plans are major, substantive rule making proceedings. An approved concept plan is not a substitute for a building or other development permit. A developer cannot apply for a building or other development permit from the commission, the Department of Environmental Protection, or any other state or municipal agency, until an appropriate concept plan has been finally approved and then the permits and subsequent construction must comply strictly with the approved concept plan.

5. **Voter Approval.**

A. After the public hearing, the commission shall submit the proposed concept plan for voter approval unless the commission finds substantial evidence that the proposed concept plan does not meet the standards adopted in this section in which case the commission shall finally deny the application without the need for a public vote.

B. The commission shall have the issue of the approval of the proposed concept plan placed on the next state-wide ballot in a way that is both accurate and easy for the voters to understand. If the proposed concept plan consists of specific project parts or time phases, the issue shall be presented on the ballot in such a way that voters can approve or disapprove of each project or phase separately.

C. The commission shall prepare and release at least two months before the vote, a citizens' guide that fairly and accurately describes the proposed concept plan and the potential impact it could have on the North Woods. The citizen's guide shall also include a brief summary of the position expressed during the hearing or afterwards by each party or participant that participated in the hearings. The commission shall distribute the citizens' guide as broadly among the public as is practicable.

D. The cost of placing the proposed concept plan on the ballot and the cost of preparing and distributing the citizens' guide shall be part of the processing fee set forth in section 685-F.

E. If the public vote disapproves of the concept plan no one may apply for a substantially similar plan or project for twenty years. If the voters approve of parts or phases of the proposed plan but disapprove of other specific parts or phases of the plan, no one may apply for a project, plan or phase that is substantially similar to the specific part or phase disapproved by the voters or that contains parts or phases that are substantially similar to the parts or phases that the voters disapproved.

6. **Application; Vested Rights.**

A. With the exception set forth immediately below for vested rights, this section shall apply to all developments in the commission's jurisdiction.

B. This section shall not apply to any development project that has obtained a vested right as of the effective date of this section. For purposes of this section, a "vested right" means that the existing development must meet each of the following criteria:

1. All building, development, and site location of development, permits necessary for all phases of the project must have been finally granted to the developer;

2. Substantial expenditures must have been spent in good faith reliance on the permits obtained; and

3. Substantial construction has been performed in good faith reliance on the permits obtained.

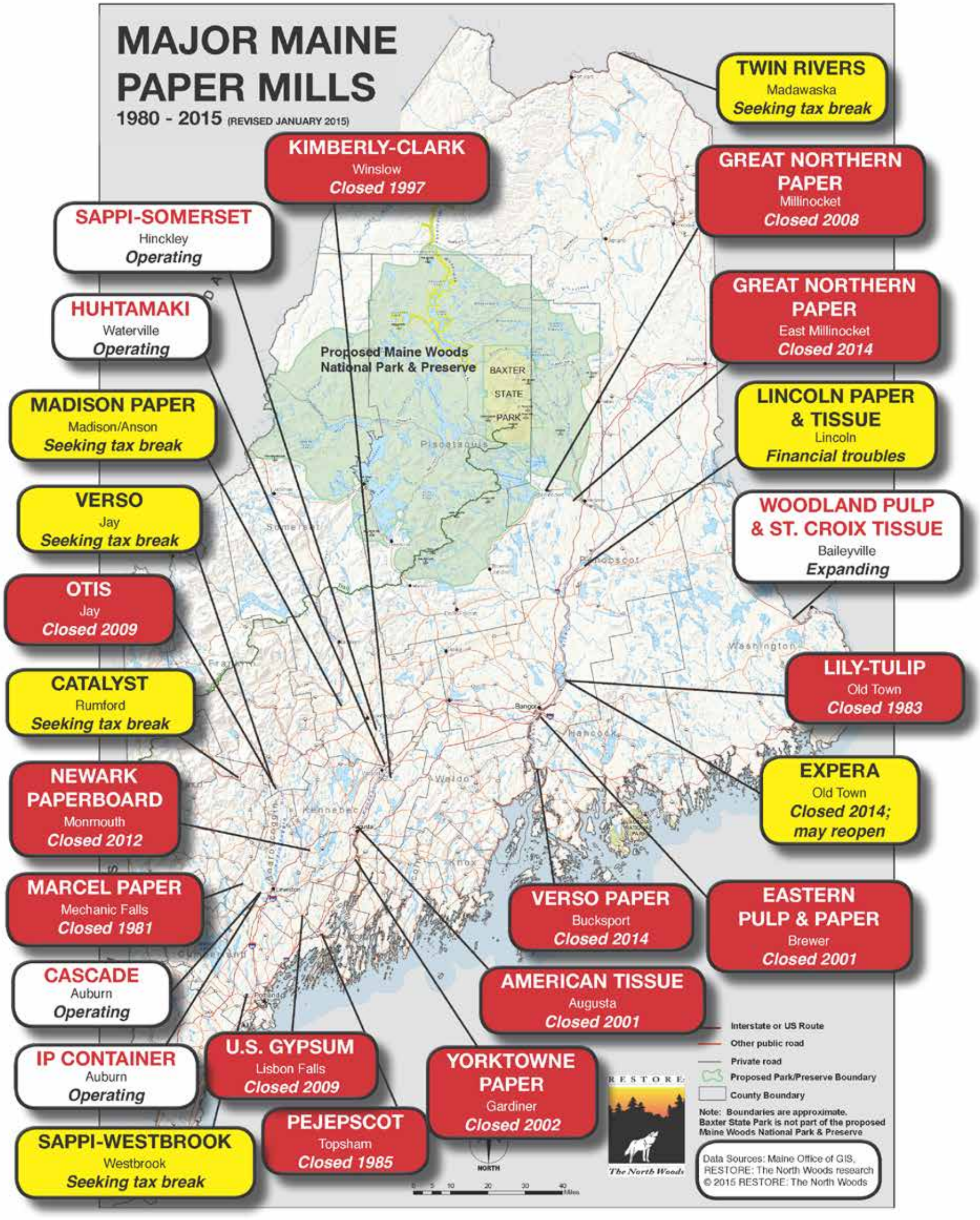
C. Phased projects shall be considered for a vested rights exemption on a phase by phase basis to the fullest extent allowed by Maine law.

7. **Rules.** The commission may adopt rules to implement and interpret this section. The rules may expand and supplement this section provided they are consistent with this section and the intent of this section. If the commission finds that there are types of developments not covered by this section that will also have a potential for critical impact on the water, air, wildlife, forests, or environment in the North Woods similar to, or greater than those defined in this section, the commission may adopt additional definitions of the phrase "development with a potential for critical impact" to expand the reach of this section. The commission may also adopt rules to avoid any unintended consequences of this section. All rules adopted pursuant to this section are major, substantive rules.

Severability. If any sub-section, sentence, clause, phrase, part or portion of this measure is for any reason held to be invalid or unconstitutional by a final judgment of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of the section. It is hereby declared that this measure and each section, subsection, sentence, phrase, part or portion thereof would have been adopted or passed irrespective of the fact that any one or more sections, subsections, sentences, clauses, phrases, parts or portions be declared invalid or unconstitutional.

photo by Rick Hesslein

The Knife Edge at Katahdin.


MAJOR MAINE PAPER MILLS
1980 - 2015 (REVISED JANUARY 2015)
KIMBERLY-CLARK
Winslow
Closed 1997
TWIN RIVERS
Madawaska
Seeking tax break
GREAT NORTHERN PAPER
Millinocket
Closed 2008
SAPPI-SOMERSET
Hinckley
Operating
HUHTAMAKI
Waterville
Operating
GREAT NORTHERN PAPER
East Millinocket
Closed 2014
Proposed Maine Woods National Park & Preserve
BAXTER STATE PARK
MADISON PAPER
Madison/Anson
Seeking tax break
LINCOLN PAPER & TISSUE
Lincoln
Financial troubles
VERSO
Jay
Seeking tax break
WOODLAND PULP & ST. CROIX TISSUE
Baileyville
Expanding
OTIS
Jay
Closed 2009
LILY-TULIP
Old Town
Closed 1983
CATALYST
Rumford
Seeking tax break
NEWARK PAPERBOARD
Monmouth
Closed 2012
EXPERA
Old Town
Closed 2014; may reopen
MARCEL PAPER
Mechanic Falls
Closed 1981
VERSO PAPER
Bucksport
Closed 2014
EASTERN PULP & PAPER
Brewer
Closed 2001
CASCADE
Auburn
Operating
AMERICAN TISSUE
Augusta
Closed 2001
IP CONTAINER
Auburn
Operating
U.S. GYPSUM
Lisbon Falls
Closed 2009
YORKTOWNE PAPER
Gardiner
Closed 2002
PEJEPSCOT
Topsham
Closed 1985
SAPPI-WESTBROOK
Westbrook
Seeking tax break
Interstate or US Route
Other public road
Private road
Proposed Park/Preserve Boundary
County Boundary
Note: Boundaries are approximate. Baxter State Park is not part of the proposed Maine Woods National Park & Preserve
RESTORE: The North Woods
Data Sources: Maine Office of GIS, RESTORE: The North Woods research
© 2015 RESTORE: The North Woods

The Sad Colonization of Maine by Big Wind

by Lynne Williams

In late 2008, I began working with the Friends of Lincoln Lakes on their resistance to the Rollins Ridge industrial wind facility. My, how naïve we were in those early days! I have represented community groups, and individuals who were opposing various inappropriate industrial developments in their communities, including the terrible proposed LNG facilities in Washington County. While Downeast LNG is still plugging along, trying to get through various levels of federal and state approval, the awful Quoddy Bay LLC project, slated for Pleasant Point, was sent packing. We were prepared to put in the time, money and energy to expose how terrible the Rollins Ridge project would be for Lincoln and the surrounding communities, just as folks had done with Quoddy Bay LLC. What we did not know, however, was that the fix was in, that industrial wind was given preferential status in Maine and was pretty much exempted from the processes that other energy facilities had to slog through. Former Governor Baldacci, and his semi-secret Wind Energy Task Force, had made very sure of that.

Big Green

In 2007, John Baldacci appointed the members of the Wind Energy Task Force. Their charge was clear - make sure that industrial wind projects get permitted, easily, quickly, relatively cheaply and, most importantly, in those communities that would put up the least resistance to the intrusive industrial developments. It was a travesty that even some of the most respected environmental organizations in the state, such as the Appalachian Trail Club (ATC) and the Natural Resources Council of Maine (NRCM), participated in this process. And participate they did, not only willingly but enthusiastically. "Big Green," as some have taken to calling these, and other environmental organizations that operate in Maine, basically stuck their collective heads in the ground and refused to critically look at the potential harm to wildlife, raptors and bats, humans and communities that these projects would cause.

While there were objections raised to the 2010 Kibby II project, sited in the Western Mountains, by the ATC, the Audubon Society and NRCM, the developer, TransCanada, after being "shocked" that anyone objected to the project, and even more shocked that LURC (now the Land Use Planning Commission) would reject their application, reconfigured the project. Big Green then pretty much dropped their objections.

There is, of course, a history of Big Green receiving considerable financial support from industrial developers. In 2014, according to their own website, Maine Audubon received at least $10,000 from First Wind, $5000 from Reed and Reed, industrial wind contractors, $2500 from Central Maine Power, $1000 from Patriot Renewables and from Cianbro, $500 from law firm Verrill Dana, where Juliet Browne, industrial wind attorney and member of the Wind Energy Task Force, is a partner.

It is commendable that Maine Audubon lists their corporate donors on their web site. However, it is not so easy to identify the corporate donors of NRCM, the Sportsman's Alliance of Maine (SAM), the ATC, or other Big Green organizations. SAM has listed First Wind as a major corporate sponsor, and there have been First Wind ads on the SAM web site. Likewise, after First Wind completed the Stetson Wind project, they made a $100,000 donation to the Forest Society of Maine, ostensibly to create a fund to "provide grants to businesses, groups, and communities to maintain and enhance outdoor recreation opportunities in the Baskahegan Stream Watershed." Crony Capitalism/plantation Maine. Paul Ackerman, *The Times Record*, February 24, 2015.

While the Conservation Law Foundation, one of the biggest apologists for industrial wind energy in Maine, likely gets a significant amount of contributions from industrial wind developers, it also has the advantage of having a for-profit entity called CLF Ventures, which advises industrial energy developers on the "licensing process." One such client is Horizon Wind, developer of the Aroostook Wind Energy project. As CLF Ventures states on their website, the existing transmission system in northern Maine "does not have the capacity to send more electricity from where it could be generated [that's you "rural Maine"] to the markets where it is needed in southern Maine and Massachusetts. At least CLF Ventures is honest about their intent to help industrial wind developers colonize rural Maine to produce the energy needed in southern Maine and Massachusetts.

Perversion of the Legal Process

From my perspective as a land use attorney, one of the most egregious aspects of the Expedited Wind Energy Act was the manipulation and downright perversion of legal process. The Maine Rules of Civil Procedure, Rules 80(B) and 80(C), are very clear about what process is to be followed when appealing a decision by a state agency, such as the Board of Environmental Protection, or a municipal agency, such as a local planning board. Appeals are to be filed with the Superior Court within a specific time frame and that court hears the appeal. If the losing party wishes to appeal the Superior Court decision, they can appeal to the Law Court, the highest court in the state. That is how it works for LNG projects. For issues involving dams. For communications towers projects. For decisions regarding waterfront access. For the entire range of zoning issues. And, in fact, one of the most involved rezonings ever to take place in Maine, the rezoning of hundreds of thousands of acres of land owned by Plum Creek, took almost five years, including four weeks of full-time, detailed, extensive hearings, as well as a series of public meetings in various parts of the state. Once the rezoning was passed by LURC, four environmental groups appealed the decision to the Superior Court, and won in that court. Plum Creek then appealed to the Law Court, and ultimately prevailed. I was one of the appellate attorneys in that matter and while I was disappointed in the eventual outcome, I cannot complain that extensive legal process was not followed.

Yet the 2008 Expedited Wind Energy Act completely changed that process, but only for industrial wind facilities in the expedited wind area of the state, which is essentially the bulk of rural Maine. Now, anyone appealing a municipal or state agency decision regarding expedited wind is required to go directly to the Law Court, skipping the Superior Court entirely. Yes, expedited industrial wind gets to hop ahead of every other type of industrial development in the state. Fair? Hardly. Not only did the Task Force, at the behest of industrial wind developers, their attorney and Big Green, carve out preferential treatment for Big Wind, they penalized those individuals and communities that oppose a wind development, by requiring that they must bypass Superior Court, a less expensive appeal by far, and go directly to the Law Court, with its complicated rules and consequently higher legal costs.

In order to avoid municipal permitting, Big Wind has taken to siting their projects in the Unincorporated Territories of the state, where they are not forced to deal with those pesky Planning Boards but rather with seemingly acquiescent county commissioners who, when presented with the possibility of money that they can hand out to non-profits, fall all over themselves getting these projects approved. When the concept of community benefit funds, as these handouts are called, was discussed at one of the many industrial wind appeals before the Law Court, Justice Donald Alexander noted that "back home in Chicago, we call that bribery."

The Myth of Green Jobs

Some politicians and corporations will use the twisted promise of jobs in order to justify their at best ill-advised, at worst corrupt decisions. And so-called "green jobs" are very alluring. The fact of the matter, however, is that industrial wind facilities offer very few long-term jobs. In my January 24, 2012 op-ed in the *Bangor Daily News*, I noted that "there is no acknowledgment that the jobs are short-term construction jobs, the economic trickle-down into the community is likewise short-term and the remaining jobs, at the facility itself, are few and are often [filled by] contract workers placed by the supplier of the turbines, not local workers." I went on to suggest that providing short-term jobs at industrial construction sites will only lead to eventual job losses as guides, innkeepers, camps and restaurants in the vicinity

of these industrial facilities lose tourist dollars and cut jobs.

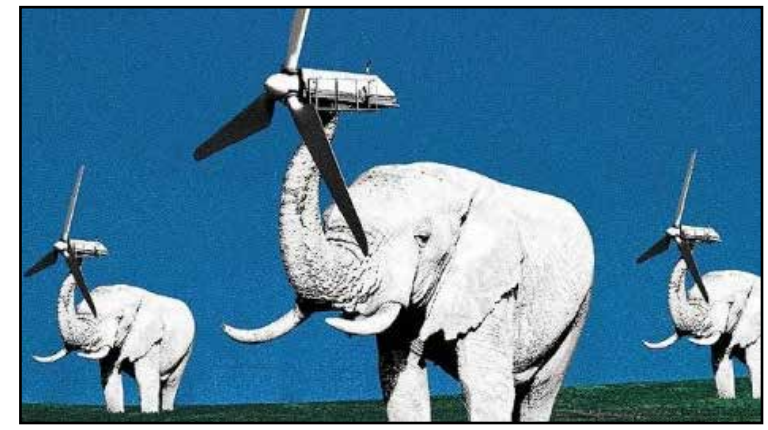
Bad Behavior is Rampant

Ever since the founding of what was first named UPC Wind, now First Wind, by officers of the former Enron Corporation, the company has engaged in co-opting community members, buying up easements for unconscionably small amounts and imposing gag orders on those who do sell easements, keeping their plans purposely vague while paying off communities, and now, most recently, whining that the standard that the Commissioner, and then the Board of Environmental Protection, used regarding aggregate impacts of the Bowers Mountain project was impermissibly vague. The Bowers project is one of only two, out of more than 12 industrial wind projects, that were not granted a permit by the Commissioner. And, one of those two, the Passadumkeag project, was subsequently given a permit by the Board of Environmental Protection.

If one looks back at the relatively short history of industrial wind development in Maine, it becomes clear that the entire process of creating an Expedited Wind Energy Act, and the preferential status that went along with it, involved a process of secrecy, duplicity and "incentives." As one example, Governor Baldacci's Wind Energy Task Force was convened at the same time that Kurt Adams was head of Maine PUC. During his leadership of the PUC, Adams communicated with First Wind about going to work for them. In the final report of the Wind Energy Task Force, it was stated that "PUC Chairman Kurt Adams and agency counsel Mitch Tannenbaum, and DEP Commissioner Task Force member David Littell were particularly helpful to the Task Force" in presenting useful information regarding the energy system, transmission and similar issues. In May 2008, Adams left the PUC to start working at First Wind. Just one month before, while he was still at the PUC, he received 1.2 million units of equity in First Wind, similar to stock options. Illegal - perhaps; dishonest - definitely; self-serving - defines the term; conflict of interest - if you have to ask, you don't know the meaning of conflict of interest. Yet, Attorney General Janet Mills decided that he had done nothing wrong. "Wind-swept task force set the rules", Naomi Shalit, *Pine Tree Watchdog*, August 11, 2010.

Another particularly unsavory incident involved former Conservation Commissioner Patrick McGowan. McGowan directly contacted a LURC commissioner in the middle of LURC's deliberations over the Redington project, prior to the passage of the Expedited Wind Act. McGowan asked the commissioner to "poll the other commissioners to determine if there was a way to get the majority to vote for the proposed project." The commissioner, wisely, declined to do so. The attorney general determined that McGowan's actions did not rise to the level of illegal *ex parte* communication, although he was ordered to undergo training on proper procedures. "Wind-swept task force set the rules", Naomi Shalit, *Pine Tree Watchdog*, August 11, 2010.

Conclusion



This state has been sold to the highest (industrial wind) bidders. The only course is to fully repeal the Expedited Wind Energy Act as well as giving residents of the Unincorporated Territories more control over land use decisions in their communities. More broadly, though, the state needs to have a discussion about energy production, in general. The most egregious industrial offenses occur not because renewable energy is bad *per se,* although wind's potential in Maine is, at best, mediocre. Rather, they occur due to the our reliance on the centralized nature of energy production, where industrial scale facilities are necessary. It is time to have the discussion about how we can transition the state into distributed generation where the difficult decisions are made by the communities themselves, thereby giving the benefits of any project to those most impacted by the downsides of the project, and also by greatly reducing the scale of any projects that are created. We can do this or, alternatively, continue to allow industrial developers from away to treat rural Maine as their own private fiefdoms.

Scenic Byways and Wind Power

Here's a map (date unknown) showing Maine's officially designated SCENIC byways. Under the Wind Energy Act as it now stands, only the turnouts/parking lots on these byways are considered "scenic resources". The length of road that is legally designated SCENIC carries absolutely no weight when considering industrial wind project applications. The wind industry and their cronies thought of everything when they drafted the WEA!

One might ask if the legislature was aware of this when they voted for the WEA. Of course they weren't. The WEA was "emergency legislation" rushed through at the 11th hour of a shortened legislative session. If the legislature had been aware that the WEA offered no consideration to scenic byways, do you think they would have modified the bill? I'd like to think they would have.

Many legislators who voted for the WEA have since gone on the record as regretting it.

Maine's Contentious Wind Energy Act

by Don and Paula Moore

Mike Gosselin, a disabled Navy veteran from the Viet Nam War living one and two thirds mile from the Mars Hill Wind Project, has built himself an insulated bunker in his garage to escape the sound of the wind turbines. He said the sound is like an airplane trying to take off and never making it, similar to aircraft doing touch-and-go exercises on an aircraft carrier or the airfield. It keeps him awake at night and gives him headaches (October 10, 2013, personal interview). Noise from wind farms is just one of the issues plaguing citizens in wind project areas.

This article provides background on Maine's contentious Wind Energy Act (WEA), recaps past attempts to appeal portions of the WEA, reports the current status of wind energy development in Maine, and outlines the on-going contentious issues around wind power.

Background of the Wind Energy Act

In 2007, America was entangled in war with Iraq, and there was a tremendous groundswell of climate change warnings. Facing high oil and gasoline prices at home, Governor John Baldacci was concerned for Maine's energy future. In the preceding few years, three grid-scale wind energy projects were proposed under Maine's site location permitting process. Two projects (Mars Hill and Kibby) were approved; the third was fraught with problems, and so it was denied. In all three cases, Maine's traditional permitting process worked, but potential wind developers were unhappy about the case that was denied.

photo by Brad Blake

A house in Mars Hill.

Wind developers and well-intentioned conservation groups (*e.g.*, Maine Audubon) saw an opportunity. Together they urged Baldacci to assemble a task force that would make permitting easier for wind energy applicants, made urgent by the world's climate change and political and economic oil crises.

The task force was dominated by people with strong ties to the wind industry. (See more on this at: Maine Center for Public Interest Reporting, August 2010 http://www.pinetreewatchdog.org/wind-power- bandwagon-hits-bumps-in-the-road-3/). The stacked task force's "solution" to the oil crisis/wind opposition "problem" was to provide "emergency" legislation establishing a special zoning and expedited permitting process for wind energy projects: Maine's Wind Energy Act.

Energy experts were skeptical about the Wind Energy Task Force's recommendations, pointing out that Maine had already "gotten off oil" for electricity generation purposes, and that, despite popular opinion, wind energy was low benefit for rate payers and high impact on the environment. Nevertheless, the WEA passed without debate by unanimous votes in the House and Senate. With the stroke of Baldacci's pen in 2008, the red carpet was rolled out for a level of rural industrial development that was unprecedented in Maine history.

Flaws in the Premise Behind the WEA

By legislating expedited permitting of wind projects over much of Maine, the WEA purported to increase energy independence and security and reduce CO_2 production. But, something was wrong with that premise. First, electricity was never Maine's source of energy insecurity. According to the U.S. Energy Information Administration (EIA), per capita residential electricity use in Maine is below the national average. Only one in twenty Maine households uses electricity to heat or cool their homes. Experts suggest that converting Maine homes to electric heat would be expensive and impractical, and it would take a tremendous upgrade in the electric grid. Additionally, while heat pumps are a wonderful and efficient technology, they have serious heating limitations when temperatures dip below freezing.

Secondly, with the majority of the state's population living in rural areas, transportation accounts for more than 50% of Maine's CO_2. Out of necessity, Maine people spend a lot of time in vehicles and transport essential goods over long country roads. According to the EIA, "Home heating and transportation consumption make Maine among the most petroleum-dependent states in the nation, with the highest per capita consumption in New England." (http://www.eia.gov/state/analysis.cfm?sid=ME)

Finally, according to the EIA, the majority of Maine's net electricity generation already comes from renewable sources, primarily hydro-electric dams and wood biomass. In fact, Maine tops all other Eastern states in renewable energy production without wind power in the mix, and Maine long ago met its Renewable Portfolio Standard.

Attempts to Change the Wind Law to Benefit Citizens

Maine's egregious Wind Energy Act (WEA) is so slanted in favor of wind developers that the Maine Office of Energy and the Maine Department of Environmental Protection have recommended that the law be modified. In over 20 attempts, state agencies and frustrated citizens have submitted bills to modify the law to better protect citizen rights. Only one citizen initiated bill, one that would have ensured the rights of citizens in the Unorganized Territories to voice opinions about a wind project, made it to the legislature; it did not pass.

Maine's Department of Environmental Projection (DEP) has been successful in making a few, small changes in the wind project permitting process. In a presentation before the new Energy, Utilities, and Technology Committee (EUT) of the 127th Maine Legislature (March 3, 2015: https://www.youtube.com/ watch?v=7VE1TV3I3I0), DEP Commissioner Aho reported that over time DEP has altered the wind project permitting process to require:

- a 2-step process for public comments on wind projects - at beginning and after draft analyses.
- more information in wind project plans on decommissioning, visual impacts on scenic character, and fire safety;
- that financial data be kept up to date during the permitting process to ensure financial capacity. Constant changes in the corporate world as wind developers spin off new corporate entities (LLCs) with different names, merge, or experience financial setbacks or buyouts may alter a developer's fiscal stability;
- noise monitoring during wind project operation (but DEP does not check on the developer's reporting);
- curtailment of turbine operation during critical times for bats and birds (but again, who is verifying the curtailment?).

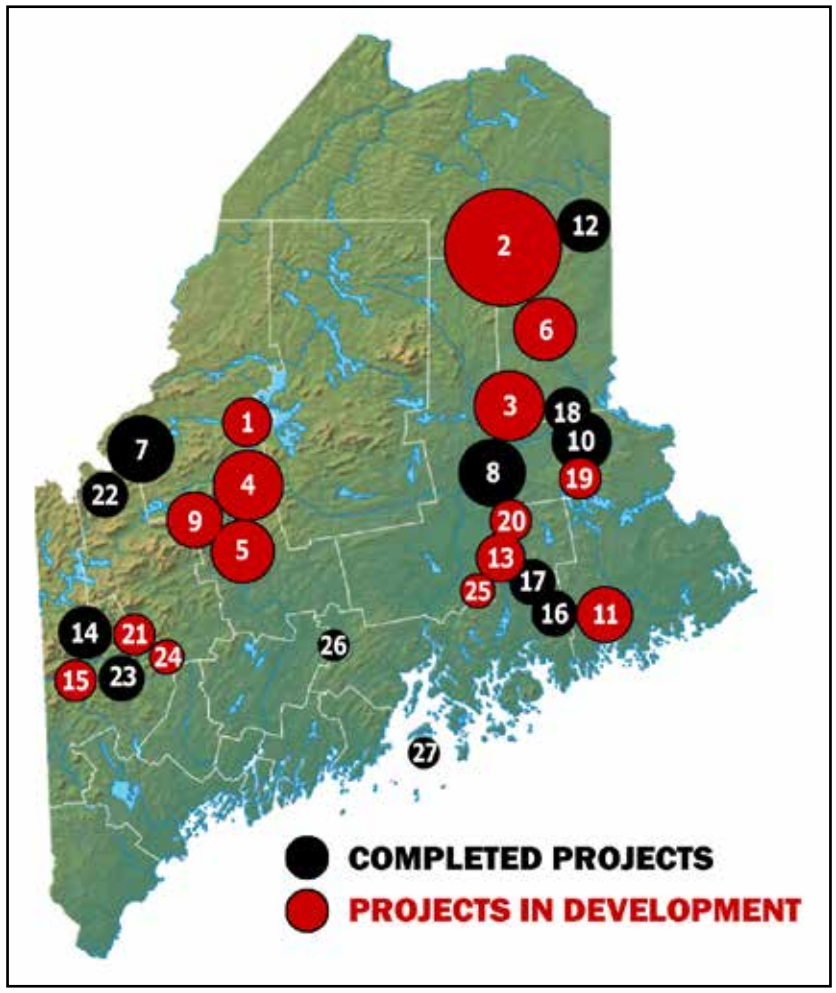


Figure 2: Wind Projects in Maine.

Attempts to Strengthen the WEA for Developers

According to DEP Commissioner Aho, the wind permitting process is very long and complicated, requiring significant time and expense on the part of the DEP, wind developers, and citizen groups that oppose wind projects. Wind permitting is made even more arduous by the fact that every single permitting decision made by the DEP, whether for or against a wind project, has been appealed to Maine's Board of Environmental Protection (BEP). And, most BEP decisions have been appealed subsequently to a law court.

It is clear that wind projects are contentious and costly for everyone involved, not just the wind industry. Yet, legislators in collaboration with the wind industry, continue to create bills to strengthen the WEA to make permitting easier for wind developers at the expense of Maine's citizens. In 2013, Senator Alfond, leading democrat in the Senate, sponsored a bill to overturn a new wind permitting requirement for visual impact analysis from the DEP. The Maine Center for Public Interest Reporting found that wind industry lawyers and lobbyists crafted key components of the bill (pinetreewatchdog.org).

Another bill, LD 791, is being sponsored in the 127th Legislature by Sarah Gideon (D) of Freeport. If passed, it will change zoning to allow Maine's Land Use Planning Commission to add or remove land from wind permitting areas with written request or permission from land owners. Most of Maine's large landowners (*e.g.*, Irving, Plum Creek, Wagner) are in the forest products industry. With the closing of Maine's paper mills, owners of forest land are looking for new revenue. This legislation appears to be a benefit for land owners either hoping to build wind projects or hoping to lease their land to wind developers.

Zoning laws were created precisely to protect a developer's neighbors, the environment, and the character of a region from potential adverse effects. Zoning wasn't created to enhance the profits of a developer. Once again, wind project zoning protections would be sacrificed for corporate entities, not citizens. Legislators should be providing incentives for the forest products industry to make wood pellets, not put up wind projects. Pellets will do more to ensure our energy security and warmth in winter than wind power.

The Current Status of Wind Development in Maine

Despite the complexity and contentiousness of the wind permitting process, wind developers have succeeded in permitting 26 wind projects. (See Figure 2: Wind Projects in Maine.) Twelve wind projects have been completed, fourteen are at some stage in development, and a 27th, expected to be in the Moosehead area, is just at the wind test-tower stage.

Maine's wind projects range in size from 119 turbines for the newly-permitted Number Nine Mountain Wind Project in Aroostook County to smaller, community projects of three turbines on Beaver Ridge in Freedom and Fox Islands Wind Project on Vinalhaven. The first turbines erected in Maine were 200 feet high but are now proposed at 400, 600 and even 700 feet. (See Figure 3: Height of Modern Wind Turbine Compared to Transmission Tower, Pine Tree, and Person.) Taller turbines are necessary to capture wind on the small, inland Maine mountains where wind speeds are marginal.

One project considered in development, the Bowers Mountain Wind Project, is still at the Supreme Court. It was denied by the Land Use Regulation Committee (now the Land Use Planning Committee) in 2012 and denied again by DEP in 2013. The BEP upheld the DEP's denial in 2014 when First Wind appealed. Still, First Wind has appealed the BEP decision to the Court. A hearing on the appeal is scheduled for April 8, 2015.

DEP Commissioner Aho reported that as of March 2015, DEP expects three more applications for wind projects in the next 12 months. In addition, Somerset Wind LLC, a subsidiary of First Wind, is now seeking permission to erect wind testing towers within the area of the Moosehead Forest Conservation Easement owned by Plum Creek Maine Timberlands LLC. When the Plum Creek Moosehead development was granted, Plum Creek retained the right to undertake "studies of wind speed" in the conservation area. The march of wind projects into Maine's scenic North Woods is continuing.

On-Going Issues with Wind Projects in Maine

Many issues continue to plague wind project development in Maine, both for the public and for DEP. This is a brief summary of the major ones. Some issues are the result of a wind law that was rushed through the legislature before a thorough consideration of many factors. Issues with an asterisk are ones Commissioner Aho mentioned in her recent presentation to the EUT (March 3, 2015).

1. Wind Project Illumination*. Wind turbines are required by the FAA to have red lights to warn air craft and avoid collision. The FAA continues to promise that a new system will be approved that will allow lighting to come on only when aircraft are in the vicinity. It has been years and still no rule making on the new illumination system.

2. Bats*. The DEP continues to be concerned about the impact of turbines on bats, given the devastation of the Maine bat colonies by white nose syndrome.

3. Birds. There is no verifiable analysis of the impact of wind turbines on birds in Maine. It is assumed that night-time predators clean up the carcasses, and there is no requirement that wind developers monitor bird (or bat) kill.

4. Noise*. Noise and turbine vibrations continue to plague people who live in close proximity to wind projects.

5. Property values. People who have property or homes in the vicinity of wind projects are often unable to sell (*e.g.*, Mars Hill - see photo on page 12), and this severely affects property values.

6. No opting out of expedited areas*. The WEA has a provision for adding areas to the expedited wind permitting territory, but not for removing areas. This leaves residents and property owners in the unorganized territories in a serious dilemma, since they cannot vote on wind projects, unlike citizens in municipalities.

7. Calculation, dissemination, determination of tangible benefits*. Wind projects built in municipalities are required to receive tangible benefits under the WEA. These benefits continue to be contentious and vary greatly from municipality to municipality.

8. Visual impacts*. The visual impact of industrial scale wind projects with 650 foot-tall turbines on scenic areas was limited to 8 miles in the WEA , but even the DEP has recommended increasing that distance. In addition, visual impact analysis involves a subjective element, and visual analyses have been challenged by wind developers and opponents of wind projects alike.

9. Determining scenic resources*. In the permitting criteria, the WEA recognizes

the need to protect "scenic resources of state or national significance," but the studies identifying those resources are 25 years old.

10. Requests to expand project size after the permitting is complete*. Some of the permitted wind projects have subsequently applied for additional phases of development, including increasing turbine size or adding more turbines. DEP is concerned that it does not know the full extent of the project up front when making a decision. For example, changing the foot print of a project with more turbines may subsequently impact more wildlife habitat or scenic resources.

11. Small scale projects expanding*. Under the WEA, wind projects with three turbines or less do not have to be permitted by the DEP. One area of concern is whether or not DEP needs to have more oversight of small scale projects that want to add more turbines, subsequently increasing the footprint into DEP's jurisdiction.

12. Separation of power supply from power transmission. Maine law requires separation of power supply from transmission, creating a competitive market condition for supply that presumably better benefits the Maine electricity users. However, both Emera Maine and Central Maine Power are owned by larger corporate entities that also own wind power projects in the state. Hence, this creates a potential monopoly of power transmission and power supply, illegal under Maine law.

13. Energy consumption in wind facilities. Large wind turbines require large amounts of electricity to operate: yaw mechanisms to keep blades perpendicular to the wind, controlling blade-pitch to keep the rotors spinning at a regular rate, heating the blades to prevent icing, braking the blades in high wind, etc. However, the amount of electricity Maine wind projects use, versus what they produce, is never calculated.

14. Low energy production by wind facilities. Wind speeds on land in Maine are marginal. None of the completed wind projects has ever produced its rated capacity of wind power. Most produce just 25% of their rated capacity. In addition, wind power production does not always meet the demand for electricity. For example, wind is often negligible on warm, sultry, summer days, just when air conditioners are cranking.

15. Renewable Energy Credits. Maine has already met its requirement for renewable energy. Therefore, most of Maine's wind projects seek contracts with other New England states to sell them Renewable Energy Credits, a legal scheme whereby states can meet federal standards for renewable energy while still continuing to burn coal and oil in their power plants. And, this is just one aspect of wind power's dubious role in reducing CO2. (See more examples in the Conclusion of this article.)

16. Production Tax Credit. In a strange twist of the law that was meant to encourage renewable energy development, wind power developers receive Production Tax Credits to build wind projects, not to produce electricity. The only profit is in building, not producing, regardless of the name for this credit.

17. Investment Tax Credit. Owners of wind and solar projects are allowed to take an Investment Tax Credit, instead of the Production Tax Credit. It is a 10-year tax credit given *in advance* for projects the year developers apply for it. If this tax credit were eliminated tomorrow, Mainers would still get stuck for the credits ten years into the future.

Conclusion

A Citizen's Initiative may be the last chance Maine has to stop the annihilation of our environment and scenic resources for the illusory promise of wind power. In this issue of *The Maine Woods*, you can read about a current citizen initiative to amend the 2008 WEA. This is not a wholesale repeal of the Wind Energy Act. It will simply level the playing field and restore citizens' rights.

Ozzie Zehner, author of *Green Illusions* (2012, University of Nebraska Press), outlined many myths of renewable energy, including wind power. Zehner suggested that the biggest myth of wind power, seized on by naive environmentalists, is that wind power will save the world from CO_2. Nothing could be further from the truth.

First, wind projects are located in remote regions, far from population centers. Therefore, they require huge deforestation of the environment when loping off tops of mountains for staging areas and when creating access roads and new transmission lines

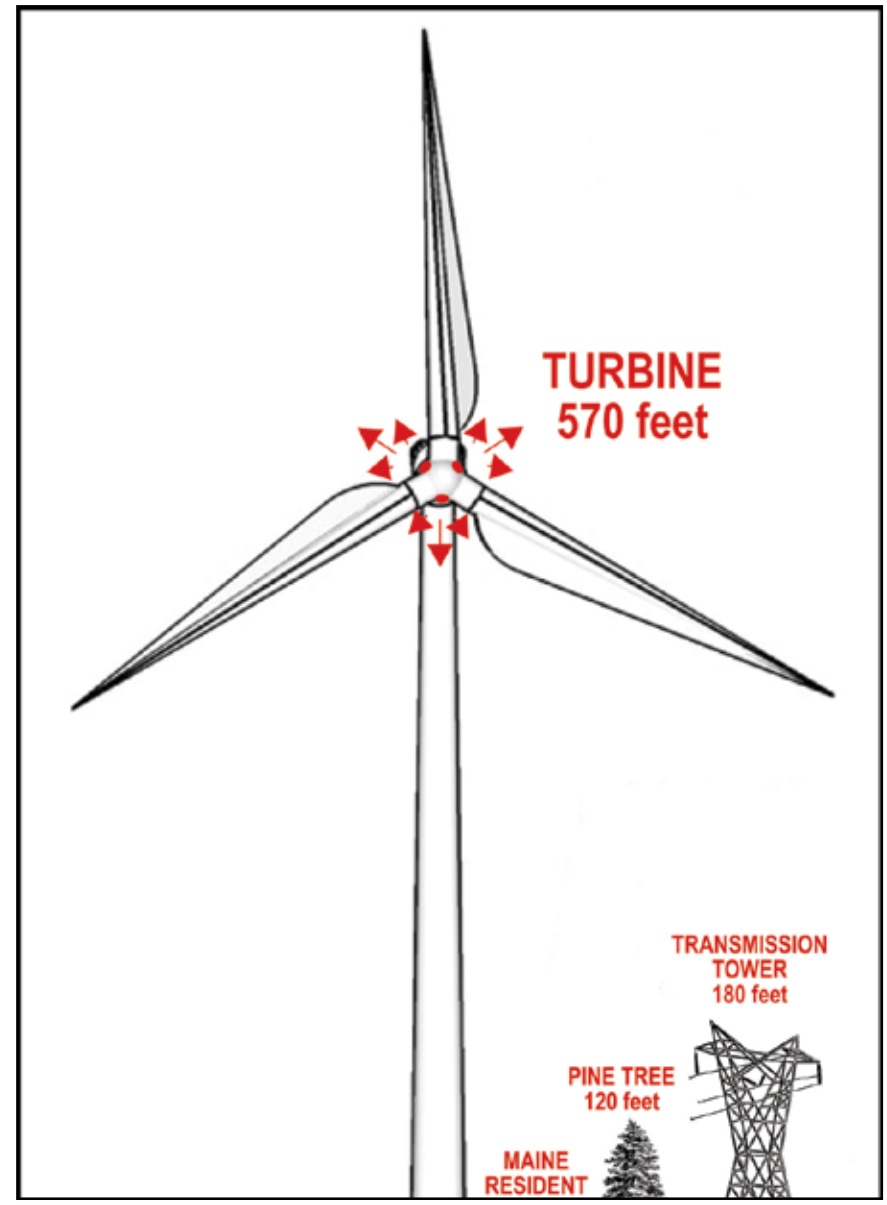


Figure 3: Height of Modern Wind Turbine Compared to Transmission Tower, Pine Tree, and Person.

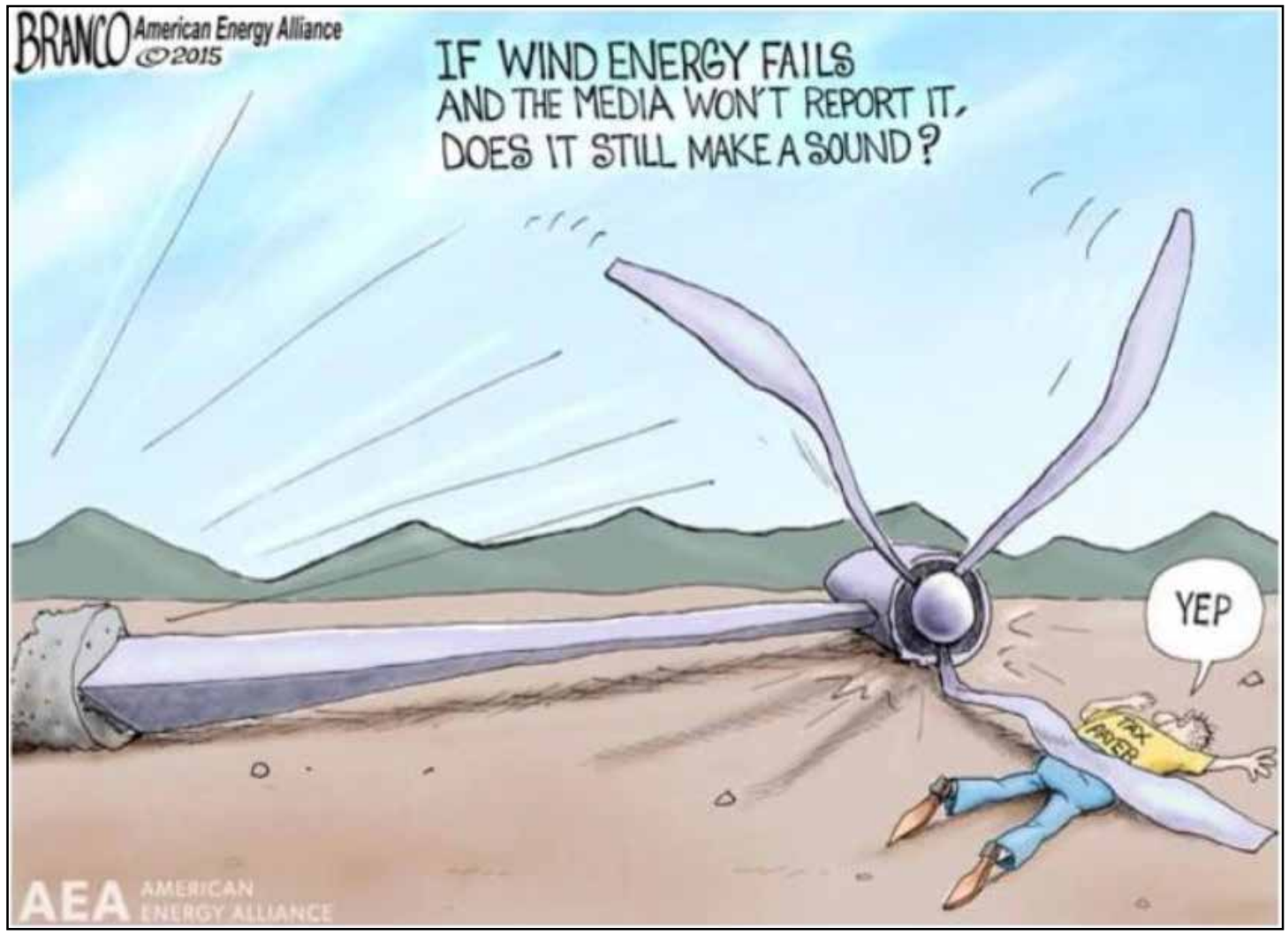
in wilderness-like areas. Trees reduce carbon in the atmosphere by sequestering carbon in new growth, and this sequestration is not calculated in the clear-cutting for wind projects.

Second, turbines may not emit CO_2, but the total carbon footprint created by the mining, building, transporting, installing, land clearing, maintaining, and decommissioning activities that support them do create CO_2. Fossil fuels provide the power behind all these activities. In addition, the large turbines, like those used in Maine's wind projects, rest upon massive, carbon-intensive concrete bases which are needed to prevent the hulking towers from toppling in the wind. Many scientists currently think at least 5 percent of humanity's carbon footprint comes from the concrete industry, both from energy use and the carbon dioxide byproduct from the production of cement, one of concrete's principal components (2009, science daily.com.)

Finally, wind power is stubbornly intermittent and unpredictable. And, it may require more electricity to maintain a wind turbine than it produces. Therefore, backup power from traditional, predictable power plants will always be needed to pick up the slack and avoid power outages or turbine malfunction. Experts estimate that wind power will never be able to provide more than 5% of the US energy needs, at best.

Considering that states can purchase wind power for Renewable Energy Credits while continuing to burn fossil fuels, and considering all the fossil fuel use required to build a wind project, wind power is really a hybrid fossil fuel. So much for wind power saving the world from CO_2. Maine's WEA appears to be a scheme to make some people rich on tax credits at the expense of Maine's tax payers, environment, wildlife, and tourist-attracting scenery.

Anyone interested in joining the Citizen's Initiative effort should contact Dan Remian at (207) 354-0714 or n7CD@gwi.net. For more information about wind power and wind power resistance efforts in Maine, go to SavingMaine.org and Citizen's Task Force on Wind Power in Maine.



An Act to Repeal and Amend Sections of the Expedited Wind Energy Act to Change the Permitting Criteria for Wind Energy Development

This Citizens Initiative is not a wholesale repeal of the Wind Energy Act. The CI will simply level the playing field and restore citizens' rights. If approved by Maine voters, the law as amended by the CI will:

1. Eliminate the special expedited permitting process that is destroying many of Maine's most valuable natural areas
2. Leave in place a Wind Law that is fair, that will not prevent wind development and that will allow wind project permitting decisions to be based on science and empirical evidence.
3. Restore to citizens who live in 2/3 of the State their voice in local wind project permitting
4. Restore the right of Maine citizens to appeal wind energy permitting decisions in Superior Court
5. Eliminate arbitrary and unreasonable wind energy goals that create artificial demand and disrupt free markets
6. Require a wind developer to obtain a Public Benefit Determination:
    - proving that Maine needs the additional electricity generation;
    - proving that the electricity generated by Maine wind facilities will be for the benefit of Maine citizens;
    - proving that turbine noise emissions meet American National Standards Institute criteria;
    - that includes a bond to cover 100% of the cost of decommissioning the turbines and restoring the landscape when the project is no longer viable.
7. Challenge assumptions in the Wind Law that as a result of wind development:
    - fossil fuel energy facilities will be closed;
    - we will achieve energy independence by reducing our use of foreign oil;
    - our CO2 emissions will decline and climate change will be controlled;
    - wind energy will have only positive benefits for our health and environment.

What We Need To Do

A CI relies on citizen support for passage. If we get enough signatures the petition will go to the Legislature for consideration. The Legislature may choose to enact it or send it to the voters as a ballot measure. The first step was getting Secretary of State approval of the petition language. That step is complete and Maine citizens can now sign the petition that is being circulated.

We need to gather over 50,000 signatures. That's where I hope you will help. Please help us by pledging to collect a certain number of signatures. How many do you think you can get? 5? 50? 500? Can you ask other concerned citizens to collect signatures too?

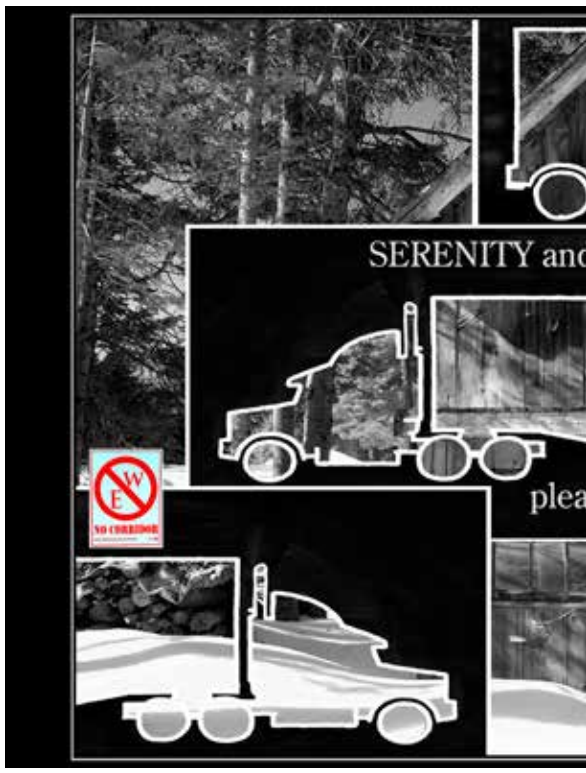
You may have noticed that as more and more of these projects are built, the public's attitude has shifted against the wind developers. We are finding citizens eager to sign petitions. I think you'll be pleasantly surprised at how easy it is to collect signatures.

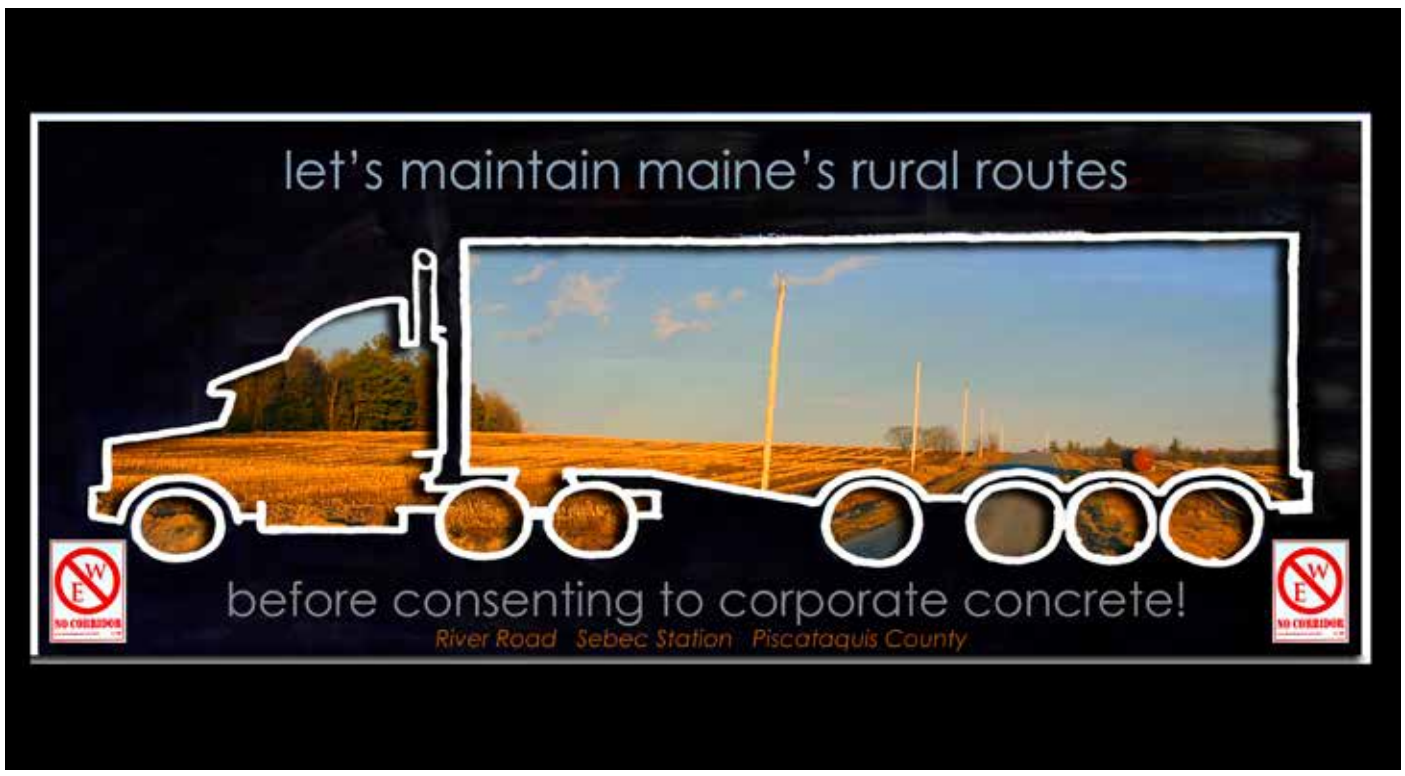
A person collecting signatures is known as a Circulator. Both Circulators and signers must be Maine residents registered to vote in Maine. The rest is as easy as signing your name. If you're ready to help I can provide you with everything you need to know.

Our deadline to collect all the necessary signatures is early September of 2015. Even though that's months away, we need to move quickly to accomplish our goal. So, contact me today if you want to be part of this initiative.

As always, thank you for pitching in to protect Maine's environment and economy.

Dan Remain, Cushing, ME, (207) 354-0714(207) 354-0714,Email N7CD@gwi.net





Billboards

by

These billboards seek to add positive
construction of a proposed East/West
tral Maine, our billboards encourage t
of those multi-axled trucks! Please - s
sider what disruption and potential de
forests, farms, and families: on those
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in the Landscape

Bruce Towle

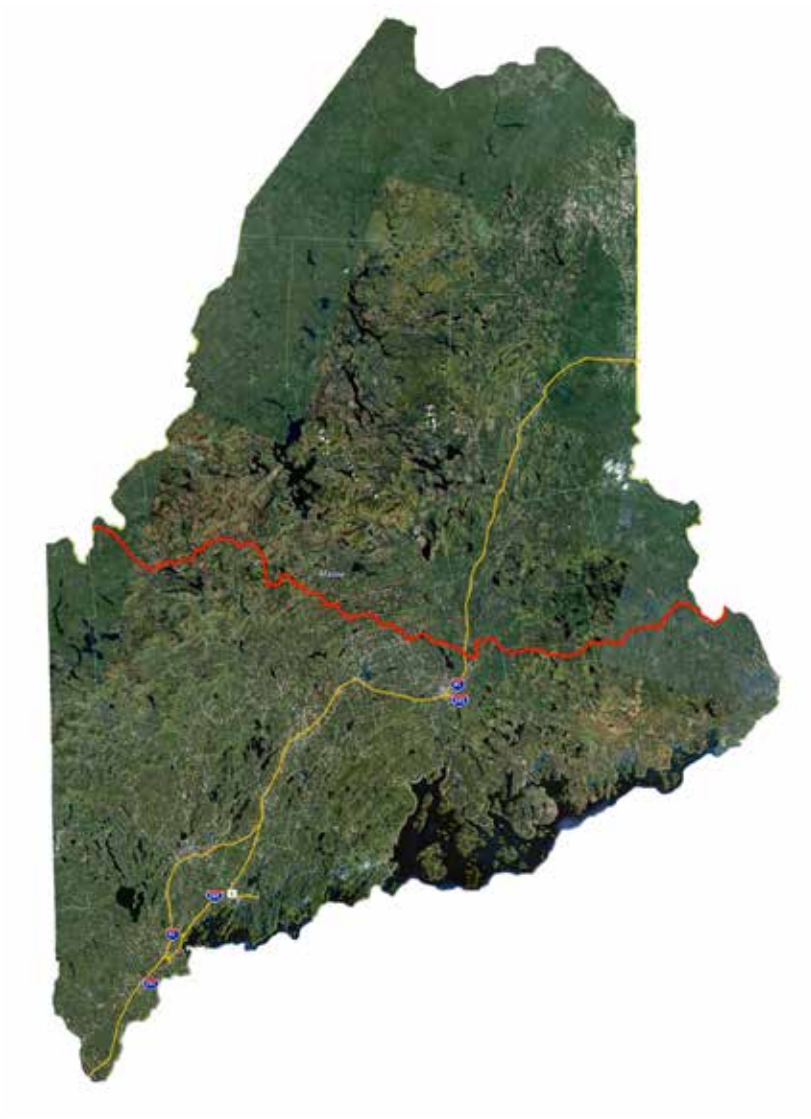
notes to voices alreay raised in opposition to corridor. Rather than obstructing views of cen- hose passing by to "Look, look through shapes ee, and recognize what is there now. And con- struction construction would have on existing folks who by choice, chance, or circumstance ng in the path of such a proposal."

Update on the Cianbro EWC Plan and Friends of the Piscataquis Valley

Friends of the Piscataquis Valley continues its work to protect quality of life and place in Maine's major watersheds Kennebec & Penobscot wherein lies the Piscataquis Valley

by Sidney Mitchell

Around Thanksgiving, 2011, a report in the *Piscataquis Observer* appeared; our regional State Senator Doug Thomas announced before the Dover-Foxcroft Select Board that the Cianbro Construction Corporation will be building a so-called 'East-West Highway' right through Dover-Foxcroft! Among some of us temporal beings



who are grateful every day for the quiet enjoyment of interior rural Maine, chills went down our spines. But families were gathering and the Holidays were underway. It was not until after New Years Day of 2012 that five of us gathered in one of our living-rooms to form Friends Of The Piscataquis Valley (FOTPV) in order to participate in a broad-based response of resistance to the imminent corporate take-over of our towns, counties and state - first, it seemed, by means of this Trojan Horse called 'the East-West Highway'....and otherwise presented, on February 14, 2012, to state legislators by its legal title: the Cianbro East-West Transportation, Utility & Communications Corridor (EWC).

Since then, and due to a general and sustained public outcry, combined with an organized grassroots campaign, this particular Cianbro Project is now supposedly relegated to 'the back burner' - as announced publicly last summer (2014) by Cianbro's Project Manager Darryl Brown. Ahead of that announcement, on June 16, 2014, FOTPV organized an all-day picket on the sidewalks surrounding the Cianbro Administrative Headquarters in Pittsfield during which a WABI-TV reporter interviewed Peter Vigue's son, Cianbro's current President Andy Vigue, who was at work inside the building. Andy Vigue stated, for the benefit of television evening news viewers, the current status of the project: the East-West Corridor Project "is in the preliminary stage of final development." Hmmm...perhaps on the back burner on low simmer? But we, the Public, are not likely to know ever for sure until we actually hear the shovels hit the soil.

FOTPV, all these months and years since January 2012, has put down roots, grown and evolved to address the Cianbro EWC Plan along with its apparent connections to a large set of mega-projects intended by 'stakeholders' for our region that includes mining for gravel and sand, biomass, freshwater and metallic minerals - all 'projects' that would be well-served by a super-corridor to transport these commodities (and profits) out of Maine and to transect Maine to fully service the needs of Canadian and multinational fossil fuel corporations via pipeline, transformer lines, truck and rail.

AT WHAT 'STAGE' IS THE CIANBRO EWC PLAN CURRENTLY?

What Doug Thomas says...

February 19, 2015...in a *Bangor Daily News* OpEd "*Our economy won't improve if we reject development*." This excerpt follows four paragraphs of Thomas's homespun analysis of poverty in Maine, and then he says...

"…We're about to let a $2 billion dollar investment in the Maine economy slip through our fingers like we have so many other improvements over the years. A project that would provide hundreds of full-time, benefit-paying jobs long after the hundreds of millions in construction payroll is gone. A project that would lower our property taxes because of the taxes this business would have to pay. A project that would improve our transportation system and lower those costs to help our businesses compete. That project is the East-West Highway...We're told tourism is the answer. Heaven knows we need those jobs, but how do they compare to the jobs we've lost? We're told we all can raise vegetables in our backyard and sell them beside the road. I can assure you, welfare pays much better and you won't get sunburned...The point is, we're being convinced to say no to all these projects by out-of-state groups that don't have any answers and really don't care"...[and so on].

What Peter Vigue says...

February 23, 2015...An interview of Cianbro's Peter Vigue by an editorial staff member of *MaineBiz*... (four days after the above Thomas *Bangor Daily News* OpEd)...Same lead-in about Maine's poverty and who is to blame (this time 300 words) and then comes...

...Yet Vigue stresses the need to again use the waterways to Maine's advantage. He's a big proponent of expanding the shipping facility at Eastport, one of Maine's three deep water ports (along with Searsport and Portland). Expansion would mean having to build rail access (at present, the closest rail line is 16 miles away, at Ayers Junction). Yet the "deep water" part of the port already exists. Even as the Port of New York and New Jersey spends $7 billion to deepen its channel to 50 feet, Eastport has a natural resource with its depth of 64 feet. Deeper channels mean larger ships and greater cargo capacities. Leading ports in New York; Norfolk, Va.; and Savannah, Ga., are reaching capacity. Ports on the West Coast are beset by labor issues and high costs. Eastport, by contrast, has great potential and is a step closer to ports in Europe and the Suez Canal, Vigue says...Though the effort has stalled, Vigue continues to push for an east-west highway that could connect Maine to Quebec on one side and New Brunswick on the other (running from Coburn Gore on the west to Calais on the east). "The real challenge isn't about a highway," he says. "We're within one day's travel from 40% of the U.S. population. What do we have that other people want? What is sustainable?" Maine's agriculture potential can also be used to our advantage, he says. Food is one thing everyone needs. As a native of Aroostook County, he has a natural inclination to promote the agricultural resources there: potatoes, broccoli, beef and other products. And products with a Maine label continue to have widespread appeal. "We have 1.3 million people. We can turn this around on a dime," Vigue says. "But we need a strategy and a plan."

The two above public statements dove-tail together in their unified message. In Thomas's variation, he belittles Maine's current growing organic farming phenomenon by suggesting it to be a few people in their backyards, so lame as to only be reaping sunburns...while Vigue couches the potential for agriculture along an EWC track as a mega-agribusiness opportunity to feed 40% of the population of the U.S.A.! It is evident that, as all corporations do, no plan is ever withdrawn but only shelved for more opportune moments for quick sale to the Public-at-Large...conjoined with, perhaps, what follows, a recent version of the BIG PICTURE CORPORATE VISION for Maine as described in the usual public-relations lingo.

What Angus King (and Peter Vigue) say...

March 30, 2015 from *Portland Press Herald 'Looking for edge, Maine plunges into Arctic policies: Sen. King, Gov. LePage and businesses work to set the stage for more trade as warming northern waters allow expanded shipping and potential for the state to be a U.S. gateway'* Despite King claiming a qualified opposition to the Cianbro EWC Plan, he certainly can match Vigue's vision for Maine as a Commodity Bonanza Land of monstrous proportions as you will see below.

'Maine's interest in the Arctic may seem puzzling, considering its location some 1,500 miles south of the Arctic Circle. But the state's geographic position at the north-

east corner of the nation means ships passing through the Arctic reach Maine ports first, said Louie Porta, director of policy for The Pew Charitable Trusts' Oceans North Canada campaign...Maine's Arctic push is happening on multiple fronts. On the national stage, Maine's junior U.S. senator, Angus King, partnered this month with Sen. Lisa Murkowski of Alaska to create an "Arctic caucus," with the goal of prodding the United States to become a leader in guiding policy decisions that affect the Arctic...King traveled a year ago to Barrow, Alaska, and sailed aboard a U.S. Navy nuclear submarine in the Arctic Ocean. When he returned to Washington, he saw Murkowski on the Senate floor..."I said, 'I want to be the Arctic senator.' She said, 'No, you can be an assistant Arctic senator,' " said King...'

[Recall that, one of King's first acts in early 2013 as U.S. Senator replacing Olympia Snowe was to appoint Peter Vigue to the Advisory Board of the Joint Legislative Committee on Transportation...on which Vigue still sits...Read on...]

'...In the private sector, one of the state's most prominent business leaders, CEO Peter Vigue of the Pittsfield-based construction giant Cianbro Corp., has been building relationships in Iceland and Greenland, where he traveled extensively last year to scout potential projects...So far, Portland is reaping the benefits from the Eimskip service, but Eastport stands to gain the most if the Northwest Passage route develops because it has the deepest natural harbor on the East Coast, Vigue said. He sees Eastport as the best port for large ships carrying bulk cargo, such as iron ore. He said the cargo can be shipped across the country on rail lines that can be brought into the port on a state-owned right-of-way. "Maine is in an ideal position," he said. "The opportunity is enormous."...But Maine is competing with Seattle, Washington, and Edmonton, Alberta - which is a rail hub with access to Vancouver and the Hudson Bay...'

[What Vigue neglects to mention is that Halifax and other ports on the Nova Scotia east coast have deeper-than-Eastport harbor waters that face open ocean without tightly-packed pesky little islands in the way of hypothetical big container ships moving in and out, such as Eastport has. So, Eastport not only competes with New York, Norfolk, Savanna, Seattle Washington, Edmonton and Portland Maine, but also Nova Scotia, which is closer still to Europe and the Suez Canal! In fact, it could be said that the only practical use of Eastport would be for under-harbor oil pipelines, to offload or onload via tanker ships offshore.]

'...As declining sea ice levels open more of the Arctic to shipping and natural resource extraction, there is growing commercial interest in the Arctic, as well as growing interest by non-Arctic regions to supply those new commercial interests, [Sara French, a senior policy analyst at the Gordon Foundation, a Toronto-based philanthropic foundation] said. "What we are seeing is a general trend as the Arctic becomes much more interesting to different regional players out of the Arctic," she said. King, who sits on the Senate Intelligence Committee and the Armed Services Committee,...'

[And let's not forget the Senate Budget Committee! For a retired guy, King is a very busy Junior Senator... Federal legislative committee assignments for U.S. Senator Angus King, 114TH Congress of 2015: Senate Committee on Armed Services. Member, subcommittee on Personnel...Senate Committee on the Budget...Senate Committee on Energy and Natural Resources. Member, Subcommittee on Energy...Senate Committee on Rules and Administration...Senate Select Committee on Intelligence.]

'...said icebreakers are crucial for shipping in the Arctic and also conducting rescue operations and securing U.S. strategic interests. King said he's also concerned about Russia's increased military presence in the Arctic. Russia is building more than a dozen new airfields and adding four new combat brigades. As Arctic sea ice melts, he said, the U.S. must recalibrate its national security and economic strategies. [He's in deep.] King said his priority is to find ways that allow development to occur peacefully and minimize conflict...Besides business interests in the Arctic, Maine has one of the nation's oldest research institutes dedicated to understanding the climate – the Climate Change Institute at the University of Maine, established 42 years ago. Moreover, researchers at Bigelow Laboratory for Ocean Sciences and the Gulf of Maine Research Institute are studying the impact of climate change on oceans and marine life...'

[One would think that the Climate Change Institute at the University of Maine might alert these captains-of-industry to the March 19, 2015 report from the Center

For American Progress titled *Why a Melting Arctic Could Sink the Global Economy,* one point being that the Arctic Ocean is melting now at a much faster rate along shipping routes that are in service nowadays, astoundingly, from April through October. Apparently, the shipping activity itself is accelerating Arctic melting. (For exciting profits fast and furious, Vigue and King ask for social license! Are we in, Maine?!)]

WHAT HAPPENED IN EARLY APRIL 2015 ON MAINE'S 127TH JOINT LEGISLATIVE COMMITTEE ON TRANSPORTATION...

Despite a broad-based groundswell of citizen commentary supporting this bill before the Joint Legislative Transportation Committee, LD 506, ***An Act to Improve Public-Private Transportation Partnerships,*** never made it out of committee - no work sessions, just plain 'un-uh'. This dismaying outcome has not been reported in the press - a very much buried story before, during and after except for some citizen letters-to-the-editor. Rep. Ralph Chapman sponsored this bill that, if it had become law, would have caused the Cianbro EWC Plan to disappear, at least as a project custom-designed as a partnership with the State of Maine under the auspices of the Maine Department Of Transportation (MDOT).

Some of us are in conversation with Nina Fisher, who is the Constituent Services Legislative Liaison of the Executive Office of MDOT, to consider her suggestion to insert the prohibition of a transnational corporate multi-purpose corridor via LD 1168, ***An Act to Prohibit the Delegation of Eminent Domain Power to Private Entities,*** by including specific language as a way to get a Cianbro EWC ban through the legislature! (that is, according to Fisher, if the Governor approves). But this maneuver seems a bit disingenuous in that MDOT was instrumental in creating the P3Law with Cianbro attorneys to begin with (and we have proof).

Apparently, Cianbro has a Plan B and MDOT still 'needs' such language on the books that allows for industry-generated legislation that protects corporate projects from public scrutiny and leaves the state fiscally vulnerable as 'partner' so corporations are assured of profit regardless of the feasibility of any transportation project. From hereon, FOTPV might perhaps join others in the call for 'No new fossil-fuel-based transportation infrastructure in Maine'.

IN SUMMARY...

The above are some of the updates that are directly or indirectly associated with the Cianbro EWC Plan. FOTPV is also working to disallow the modern metallic mineral mining industry to operate in Maine. This industry is fast and vast and completely disinterested in nor capable of preventing perpetual water and soil contamination in a very wet state of acid rock composition. In this current legislative session, this effort is not going so well either, thus far (at this time of reporting on April 21, 2015).

FOTPV's initial and primary concern from the beginning has been the Cianbro East-West Corridor project which has, naturally, led us to also research and take action on associated over-arching corporate strategies that do not benefit the public sector. The two most concerning corporate strategies in our state are the acquisition of private corporate easements that, once obtained, are 'in perpetuity', and the ongoing and radically progressive erosion of democracy on all levels of government to cede control of land and natural resources to a growing global corporate hegemony. The re-writing of state laws to allow corporate control are the core of this progressive erosion of democracy. Concerned citizens of Maine, that includes FOTPV, are joining in the widespread citizen movement that objects to such control of all who live and work outside the profit-sharing realm of corporatism.

As an all-volunteer organization, FOTPV will continue in its research, public outreach, corporate and government watchdogging, direct democracy work, sidewalk and roadside pickets, alliance work with other grassroots organizations, legislative action and administrative organizing as we are compelled to do for as long as we are able by whomever we may be. We are sustained by and grow in resilience due to interactions we have every day with other temporal beings like ourselves who know the intrinsic value of rural life in Maine as it has been allowed to remain, such as it is, up to this moment in time.

We live with the smell of the earth, the forest air and the rain in our noses and so may perceive readily what is good for the continuation of quality of life and place among neighbors, friends, and, to the best of our ability, for all that lives in our shared home of rural Maine.

For further information and/or to join our group email/snailmail lists, contact Sidney Mitchell at 207-564-8687...blackflybait@gmail.com.

Metal Mining in Maine and El Salvador: Commonalities & Contrasts

by Sidney Mitchell

As a participant on the last two Anti-Mining Delegations to El Salvador of last September and this March, co-sponsored by U.S./El Salvador Sister Cities and Bangor's Power In Community Alliances, I am anxious to report to Maine residents some general impressions.

As a 'working forest', Maine is more than four times the land area of El Salvador with less than one fifth its population. Maine residents have 'elbow room' and so enjoy not necessarily having to inhale the neighbors' smoke from their various smelly fires. We do not have the critical mass of population of El Salvador that causes intense social pressure and competition for resources and yet also allows for true community to form and remain intact over generations.

The international delegation present to observe the plebescite in the municipality of Nueva Trinidad.

Still, both Maine and El Salvador suffer chronic economic depression and unemployment and are threatened by and forced to endure so-called 'modern development' schemes that are of no benefit to the social fabric and quality of life and place. In fact, worldwide, rural people are thus compelled to go to the cities to find work, resulting in the eventual emptying out of the countryside. It is as if the rural countryside, by design, is being readied for the very worst kinds of exploitation, such as modern open pit metallic mineral mining.

Indeed, the essential backgrounds of a country like El Salvador and a state like Maine in the U.S.A. are such that both histories are similar with some similar outcomes. Maine and El Salvador came into being out of the time of first contact between the Western Hemisphere indigenous peoples and the Eastern Hemisphere invaders. It was a shock-and-awe effect that immediately beset the native people with waves of pandemic die-off by means of European microbial pathogens, then moved forward quickly to the formation of fortified labor colonies for the purpose of extracting and exporting the wealth of natural resources.

In El Salvador - indigo, sugar, cotton, coffee, tropical hardwood timber, and the precious metals gold and silver. In Maine - cedar shingles and shakes, beaver pelts, white pine timbers for the British Navy, ice, marble, gravel, paper pulp, potatoes, dairy, seafood, blueberries. In both places to this day, human labor has humbled itself to serve corporate interests for little benefit in return. Early on, these kinds of enterprises were termed 'colonies' and its workers were akin to, or in fact, slaves. Before automation, not all that long ago, the laboring classes had no choice but to toil their lives away at jobs as designed and rewarded according to corporate profit and rarely to benefit the people of El Salvador or Maine - factories, mines, agriculture, woods work under punishing conditions for little pay.

For Salvadorans in the recent past, the demands of colonial cash crop production, the degradation of the land stolen from them and the ever-increasing deprivations finally led to a twelve-year war that was very much like the American War in Vietnam. President Reagan felt determined not to allow communism to take root in El Salvador. His Defense Department was experienced in 'scorched earth' tactics developed out of the modern war perpetrated on Vietnam that ended in defeat for the U.S. less than a decade before. These same tactics were imposed upon El Salvador from 1980 to 1992 with the intention of not losing the war in this case - in other words, with astounding brutality.

The Salvadoran people did not lose but they also did not win. The U.N negotiated a peace accord that resulted in the continuation of an entrenched right-wing regime that is corporate-colonial-friendly, as before. The population remains traumatized. Salvadorans over the age of 45 spoke of the war to us delegation members - it is what they really must speak of to those who represent the outer world. This recent history of a quarter century ago did not also occur in Maine, as luck would have it, but Maine certainly has its share of those who belong to the Salvadoran war diaspora. We Mainers are indeed touched by the modern war crimes that techno-empire perpetrates.

These days in many places the world over, colonial extraction activities are accomplished with gigantic machines by a few operators and it doesn't take long. They make their extravagant messes and move on in a hurry - such is the nature of modern mining. Meanwhile, in El Salvador, the general populus is terrorized by horrific gang violence in the crowded cities. This is a particular and constant worry for young people in danger of random forced recruitment or murder by the gang leadership who happen to be criminal deportees from the prison systems of Los Angeles and other American cities. Meanwhile, climate change chaos has made an early arrival in El Salvador. Situated between two of the great oceans of Earth, these are bringing fierce storms to the country. Simultaneously, gold mining corporations are terrorizing El Salvador in the courts and in remote mountain villages under which the gold lies. Despite this, no mine has been permitted in El Salvador since the end of the war 22 years ago.

Currently, nothing going on in Maine can compare to what goes on in El Salvador. Yet one commonality between these two far-flung places is the corporate idea that both El Salvador and Maine are over-ripe for wholesale exploitation with little or no requirement to provide benefit, short term or long, to these starved-out, economically degraded regions-of-interest. In this way, El Salvador and Maine and other prospects like them are prepped for these surgical extractions that could be compared to organ harvesting for profit...like very different patients subject to an identical procedure.

Just as Salvadorans know of the huge negative effects of the CAFTA agreement their government signed onto, Mainers know of the negative effects of the earlier NAFTA agreement. It created a near complete exodus of manufacturing jobs from Maine over the last twenty years, and this state suffers the loss to this day. To replace manufacturing, the modern automated extraction industries are now here to take what they want. The perpetually toxic heavy metal acid drainage from mining

A river in El Salvador ruined by mining waste.

sites worldwide, once started, will not and cannot be stopped. Once these wounds to the Earth are inflicted, it becomes eternal in human terms. Clean water becomes a scarcity that only the wealthy may access for themselves and to commodify for sale to the rest of us.

People everywhere are now afraid of the next round of trade agreements in the form of the Trans-Pacific Partnership (TPP). As the Bush Family buys up the lands that sit above the largest aquifers in the world - such as in Uruguay - and puts their younger Jeb ahead of the pack as a presidential candidate for 2016, Maine is poised for multiple sites of metallic mineral mining extraction. Meantime, Nestlé intends to save the day by bottling up Maine's abundant clean water - while it remains clean - so we all may purchase it at an inflated scarcity rate. In this scheme, the only thing sustainable is the wealth of the wealthy - but that, of course, is a bad joke.

El Salvador is losing its battle with extraordinary pollution (76% of its fresh water, for instance, is non-potable, mainly due to past metal mining contamination)...ongoing drought alternating with severe storm events... near complete deforestation...relentlessly extreme soil erosion with its accompanying landslides...species extinction... shoreline loss...the dying of the mangrove forests... the dry tropical forests are nearly extinct globally and El Salvador's especially so….its cloud forests are long gone. The El Salvadoran population of over six million, many of whom are subsistence farmers, can no longer sustain themselves in their own homeland. It is 500 years later for all of us as we observe the conquistadors of today paying no mind to what time it is. Organized greed may make sense among those who benefit, but there is a limit that we are all running up against and the perpetrators do not seem to be cognizant of what is just ahead.

It is likely that, all these past 500 years, no one has said that El Salvador is 'the way life should be'. We here in Maine have been quite fortunate in that regard - at least in the modern era of snow plows, all-wheel drives and central heating. But both El Salvador and Maine have this in common: our people have come together to address the threat of corporate take-over that comes with force of law - or guns as the case may be - to extract, commodify, export and concentrate the wealth of these natural places on Earth that are now to be no longer recognizable as such. When the water is both poisoned and disappeared, we all must die or leave...unless one happens to own and operate a detoxification-desalinization plant.

In sharing this understanding, we are unified in caring for our homes, our cultures, our families and our sense of place that is alive for us and for our children who follow. Viva El Salvador! Long live Maine! Life, shared in good company beneath the shade of trees, is the good part of being alive on Planet Earth.

Sidney Mitchell of Dover-Foxcroft, Maine
Friends Of The Piscataquis Valley
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Canadian Mine Disaster Offers Maine a Lesson: Strong Regulations, Enforcement Are Critical

by Nick Bennett

A recent mine disaster in Canada shows that lawmakers need to pass strong mining regulations . The disaster occurred when the tailings dam collapsed at the Mt. Polley copper and gold mine in British Columbia. More than two billion gallons of wastewater and nearly 6 million cubic yards of sludge flowed into nearby lakes and streams.

The breach of the large pond holding waste matter from the mine spilled some 10 million cubic meters of water and 4.5 million cubic meters of fine sand into Polley Lake in central British Columbia.

The impacts have been huge. The spill transformed nearby Hazeltine Creek from a 6-foot-wide stream with a run of endangered Coho salmon into a 150-foot river of sludge contaminated with toxic heavy metals. This sludge also flowed into Quesnel Lake, considered the cleanest deep water lake in the world. Quesnel Lake supports a run of about 2 million sockeye salmon. Salmon will arrive in the area in September, so the timing of the spill was truly terrible.

Quesnel Lake also is a source of drinking water for local residents. Canadian officials claim the water is drinkable a moderate distance from the spill, but they have not done extensive testing and the government has issued a "Do Not Use" order for waters in the immediate area.

The Imperial Metals Corporation began mining at Mt. Polley in 1997. This is a modern mine, not an old "legacy" mine. JD Irving, the Canadian company that led the push for weak mining regulations in Maine, has stated many times that modern mines have solved the terrible pollution problems of the past. The Mt. Polley disaster proves this false. Knight-Piesold Consulting, which designed the Mt. Polley tailings dam, stated the following about modern tailings dams in a memo to the U.S. Environmental Protection Agency about its proposed dam for a mine in Alaska: "modern dam design technologies are based on proven scientific/engineering principles and there is no basis for asserting that they will not stand the test of time."

Tailings dams need to last forever in order to protect downstream waters, wildlife, and communities. Mt. Polley's tailings dam lasted only 17 years.

Canadian regulators warned the Imperial Metals Corporation numerous times about problems with the Mt. Polley mine. In 2011, an independent report concluded that wastewater levels in the tailings pond were too high and could lead to dam failure. The report also concluded the company had no contingency plan in place in case of a catastrophic breach, and it remains unclear whether the company even has one now. Canadian regulators warned Imperial Metals Corporation about the water levels in the tailings pond in May of 2014. Unfortunately, the regulators didn't actually do anything, such as force the mine to change its operations and culture. The clear lesson for Maine is that metal mining requires very strict regulations and regulators willing to enforce them.

No one knows how much it will cost to clean up the Mt. Polley disaster. Initial estimates range from $200 million to $400 million. But Bryan Kynoch, president of Imperial Metals Corporation, has stated his company does not have $400 million: "If it's $400 million, then we are going to have to get mines generating to make that money to do the cleanup. We don't have $400 million in the bank, so we'll have to make that to do it."

"Financial assurance" is one of the issues Maine lawmakers have confronted. The Mt. Polley disaster shows why strict financial assurance regulations are so important. Without them, mining companies are able to cause terrible pollution, even if they lack the money to clean it up. If a mining company wants to do business here, it needs to put sufficient cash in a secure trust up front to pay for a worst-case scenario cleanup. Otherwise, Maine people will be stuck with the cleanup costs.

Anyone who thinks strong regulations and enforcement are unnecessary for modern mines need only look at the Mt. Polley disaster and its chaotic aftermath.

Nick Bennett is staff scientist for the Natural Resources Council of Maine. This article was originally published in the Bangor Daily News.

Cautionary Tales and Inspirational Stories: Bangor's Mining Delegation to El Salvador Returns

by Dennis Chinoy and Katherine Kates

In late March, four of us (Seth Davis, Katherine Kates, Sidney Mitchell, and Dennis Chinoy) joined an international election observer delegation to witness and affirm an extraordinary "community consultation" process. Nueva Trinidad, the municipality that contains Bangor's sister city of Carasque, was to hold a plebiscite to determine whether it would declare itself "Free of Mining."Doing so would legally empower them to petition their local government to formalize their vote as a legal ban on mining.

Nueva Trinidad libre de mineria (Nueva Trinidad free of mining)

First, the Cautionary Tales:

Prior to arriving in Carasque, this group of roughly twenty five people representing El Salvador, Guatemala, Nicaragua, Honduras, Canada and Great Britain and the U.S. visited Salvadoran sites that illustrated the story of the social and environmental havoc that mining has already visited on this country elsewhere. In the process, we also got a vivid reminder of the legal extortion that international trade agreements like the Central American Free Trade Agreement (CAFTA) enable big-fish corporations to impose on little-fish countries and their vulnerable populations.

Stop one was the small community of San Sebastion through which a dead orange Titihuapa River flows. In this area neither surface water nor ground water is safe for drinking, or even for washing. All water is contaminated with iron and other heavy metals, and is acidic to the point of being corrosive. The fish are dead. The population suffers from a freakishly high incidence of the paralytic auto-immune Guillain Barré syndrome, something unexplained but likely not coincidental.

This environmental cesspool was created by a Wisconsin mining company called Commerce Group, which mined for gold and silver here until 1983. Its operations were curtailed by the armed conflict in El Salvador in the nineteen eighties. The company compensated this village not a dime for what it had done here.

On the contrary, when Commerce Group petitioned the government to resume mining operations in San Sebastian and was denied, the company sued the Salvadoran government for a hundred million dollars. This sum represented the profit it believed it could further extract if the company could resume its activities. Such a lawsuit in an international court, while shameless, is legal under CAFTA.

Commerce Group's claim was recently denied by the International Center for the Settlement of International Disputes (ICSID), where such suits are filed. The reason El Salvador dodged this legal bullet: the company couldn't pay the legal fees the international court required. The company's right to sue was never in question.

Stop two: the small community of Marinas in the Salvadoran department of Cabañas. Here, an even more locally sinister story is playing out, as well as Act 2 of legal extortion, CAFTA-style. In this case the river is the Rio Lempa which supplies roughly 75% of El Salvador's water. The mining company, until recently, was a Canadian firm called Pacific Rim. The sum it demanded in the International Court, again for "anticipated profit lost" by denial of a mining permit: 300 million dollars.

In this community, Pacific Rim did its best to bribe the town to consent to mining. It paid the local priest $30,000 to promote its claim, and employed the mayor as a mining company promoter, as well. When these investments were insufficient to deter a local campaign against the company's plans, environmental activists and the local radio station began receiving death threats. Three community members were killed, one in gruesome fashion, ascribed by the mining company to "gang violence". This year, Pacific Rim's legal representative in El Salvador was arrested for having been caught in the act of dismembering a person killed by a gang with which the legal representative was found to be affiliated. The scene mirrored the murder of anti-mining environmental activist Marcello Rivera.

Also this year, Pacific Rim sold its claim to an Australian mining company, Oceana Gold. The price of the claim was twelve million dollars. Ownership of this piece of paper now entitles Oceana Gold to pursue Pacific Rim's legal case against El Salvador in the World Bank's international court. A quick calculation of $300 million divided by $12 million: Oceana Gold stands to make a 2,500 percent profit on its investment if it wins the CAFTA sweepstakes. That's fifty dollars per every Salvadoran in a country where the average weekly income is seventy dollars.

Meanwhile, following the sale of Pacific Rim's mining claims to Oceana Gold, the mining delegation listened to the villagers of Marinas tell us that the death threats have continued.

Small wonder that the community of Carasque and the municipality of which it is a member have embarked on a pro-active campaign to keep mining out of their region. For a much more upbeat story, read on….

Now for the Inspiration

Arriving in the municipal center of Nueva Trinidad, the full international delegation, along with Salvadoran social movement leaders, participated in a powerful exchange of experiences from the shared struggle to protect the environment and health of the people from open pit mining. It was especially moving to hear stories of similar consultation processes in Honduras and Guatemala, in which mining was regionally banned, and the communities have had to stand up to punishing corporate and government push-back against them. We also heard of the violent repression faced by courageous Nicaraguan communities that are organizing to fight encroachment of mining on their mountains and rivers.

The whole delegation landed in Carasque to be greeted by joyful, generous hosting, fresh mangoes, tamales, *chocobananas*, and an impromptu soccer game as we rested in the vibrant little community that is Bangor's sister city.

Nueva Trinidad is the third municipality in the department of Chalatenango, (a region similar to a state), to hold the community consultation initiated by the Chalatenango Free of Mining campaign, and vote on a ban on mining in the region. After receiving training to be international observers, all delegation members were sent off to one of seven voting centers in towns in the municipality to observe. Seth Davis and Sidney Mitchell were placed in the little village of El Bahio, down the road from Carasque. Katherine Kates and Dennis Chinoy, feeling as if they'd won the lottery, were placed

Voting in the municipality of Nueva Trinidad to ban mining in the region.

as official observers in Carasque itself.

The kiosk in the center of Carasque, with its cool breezes, and open view of community comings and goings, housed a tightly run, transparent official voting center. The six members of the "Municipal Electoral Board" and the "Vote Receptor Board" had been well trained. Watching the team of primarily youth, both young women and men, we saw the fruit of years of conscious inclusion of youth and organized efforts to develop young leadership in Carasque.

The long voting day proceeded with a mix of excitement and serious determination. Before casting his vote, Froilan, who'd lost two sons in the war, placed his wrinkled face next to mine and whispered, "If mining comes, it will be far, far worse than the war - our children, our grandchildren, their children, will *not* be able to survive." The day was highlighted by official visits from the governor of Chalatenango, and Chalatenango's legislative representative in the national assembly, accompanied by a bevy of press photographers. Representatives from the human rights ombudsman of the national government also made an appearance to ensure that rights were not being violated in the voting process. After the voting ended, we witnessed a careful counting of votes, *si* or *no*, with the municipal board holding up one ballot at a time for all to see in a process that was a model of transparency.

Here are the results you've been waiting for: Out of 152 total votes, 150 people in Carasque voted no to mining, and 2 people voted yes to mining. 84% of the eligible voters who live in the municipality and thus could possibly vote, participated. We piled into the back of the pickup truck, along with Noemí, the young Carasqueña who was the official receptor of the votes, as she carried the votes to Nueva Trinidad, where the ballots were added to the other 6 voting centers. The mayor of Nueva Trinidad announced that 98.9% of the total ballots were votes against mining, initiating the legal local ban on mining.

We bid goodbye to new friends from the delegation, and the four Mainers returned to Carasque to enjoy two days that included a meeting with the community council, full of stories, laughter and information, a sharing of the experiences of the students supported by scholarships from funds raised by sister city/PICA, a walk up the mountain to watch sugar cane 'honey' being made in the traditional *trapiche*, and a baseball game, topped by a fiesta.

A the fiesta, Dennis shared the story of his first voter observation delegation, in 1994, during the first national elections for president after the war, when voters in the municipality of Nueva Trinidad were nearly denied the right to vote. The government claimed that they were ghost towns, emptied during the war, and that there were no people there to vote. He and other delegates from Maine had crammed into the community's one truck to accompany most of the village, as they rode in the hot sun all the way to San Salvador (about four hours), to prove that "*Estamos aqui*", we are here, we exist, and we insist on our right to vote. Once again, our sisters and brothers are defending the land, with rock solid organizing and commitment born of the long fight for their rights to that land.

As we build resistance to open pit mining in Maine, their resilience and deep determination, their clarity about what's at stake, inspire our road ahead.

Climate Change Threatens to Kill Off More Aspen Forests by 2050s, Scientists Say

by Justin Gillis

The beloved aspen forests that shimmer across mountainsides of the American West could be doomed if emissions of greenhouse gases continue at a high level, scientists warned on Monday. That finding adds to a growing body of work suggesting forests worldwide may be imperiled by climate change.

The new paper analyzed the drought and heat that killed millions of aspens in Colorado and nearby states a decade ago. Such conditions could become routine across much of the West by the 2050s unless global emissions are brought under control, the study found.

"I think of aspens as a good canary-in-the-coal-mine tree," said William R. L. Anderegg, the Princeton University researcher who led the new study, released online Monday by the journal Nature Geoscience. "They're a wet-loving tree in a dry landscape. They may be showing us how these forests are going to change pretty massively as that landscape gets drier still."

Aspens near Brian Head, Utah.

The study found that large aspen die-offs were a near-certainty only if greenhouse emissions were to continue at the runaway pace that has characterized the last decade. If global emissions are brought under control, the chances will improve that large stands of aspens could be preserved, the paper found.

In the fall, stands of trembling aspens are among the most breathtaking sights in the West, turning hillsides an iridescent golden hue.

Dr. Anderegg grew up camping and hiking in the aspen forests of southwestern Colorado and was dismayed when the trees started dying a decade ago. He has devoted part of his early scientific career to understanding the dieback - and the implications of it for forests elsewhere.

A central focus of the research has been to get a better handle on exactly how trees die in droughts, crucial for predicting how they will fare as global warming proceeds. Dr. Anderegg's research on aspens suggests that when the ground gets too dry, air bubbles appear in the tiny tubes that carry water through the tree.

"These air bubbles block the pipes and interrupt water transport, giving the tree a kind of heart attack, basically," Dr. Anderegg said.

He and his collaborators have devised a computer model that, when programmed with climate parameters, can predict aspen mortality with about 75 percent accuracy, and they are working to improve it. Applying their model to the rainfall and temperature conditions expected in coming decades as the climate warms under business-as-usual emissions yielded the prediction of a major aspen die-off.

Depending on exactly how dry the soil gets in the hotter climate, the mortality could extend beyond the West, with aspens - and perhaps many other types of trees - dying across the country, Dr. Anderegg said.

At a global scale, forests have been responding to the rising concentration of carbon dioxide in the atmosphere with accelerated growth, allowing them to pull large amounts of the gas out of the air and thus helping to limit the effects of human emissions. How robust this forest "carbon sink" will remain through time is among the most important topics in climate science.

Dr. Anderegg's paper fits with other recent findings suggesting that forests may not be as resilient to global warming as once hoped. For instance, a paper published two weeks ago found that the ability of the vast Amazon forest to pull carbon dioxide out of the air was weakening through time, with trees growing faster and dying earlier.

Craig D. Allen, a forest expert with the United States Geological Survey who was not involved in the new research, said Dr. Anderegg's work was a step toward understanding what might happen across broad landscapes.

But, he warned, a huge amount of work is still needed on other tree types, in other locales, before the picture becomes clear. "There's just a lot of variability between species," Dr. Allen said. He noted that aspens have relatively shallow roots, limiting their ability to tap deep water in a drought, whereas other trees could be more resilient.

Forest experts, including Dr. Allen, are particularly worried about future "hot droughts," similar to the one that struck Colorado and nearby states in the early 2000s. Huge stands of aspens died, and heat-loving beetles killed millions of acres of pine trees.

These droughts are characterized not just by a lack of rainfall but by high temperatures that suck residual moisture out of the soil. They are predicted to increase in a warming climate.

In addition to killing forests, these types of droughts may make food production more difficult, as is becoming evident in California, which is suffering through the fourth year of an especially warm drought.

The frequency and intensity of such lethal droughts later this century will most likely be reduced if efforts to control carbon dioxide emissions are successful over the next few decades, scientists believe.

"The more we lower emissions, the less the risks become," Dr. Anderegg said. "The choice is in our hands."

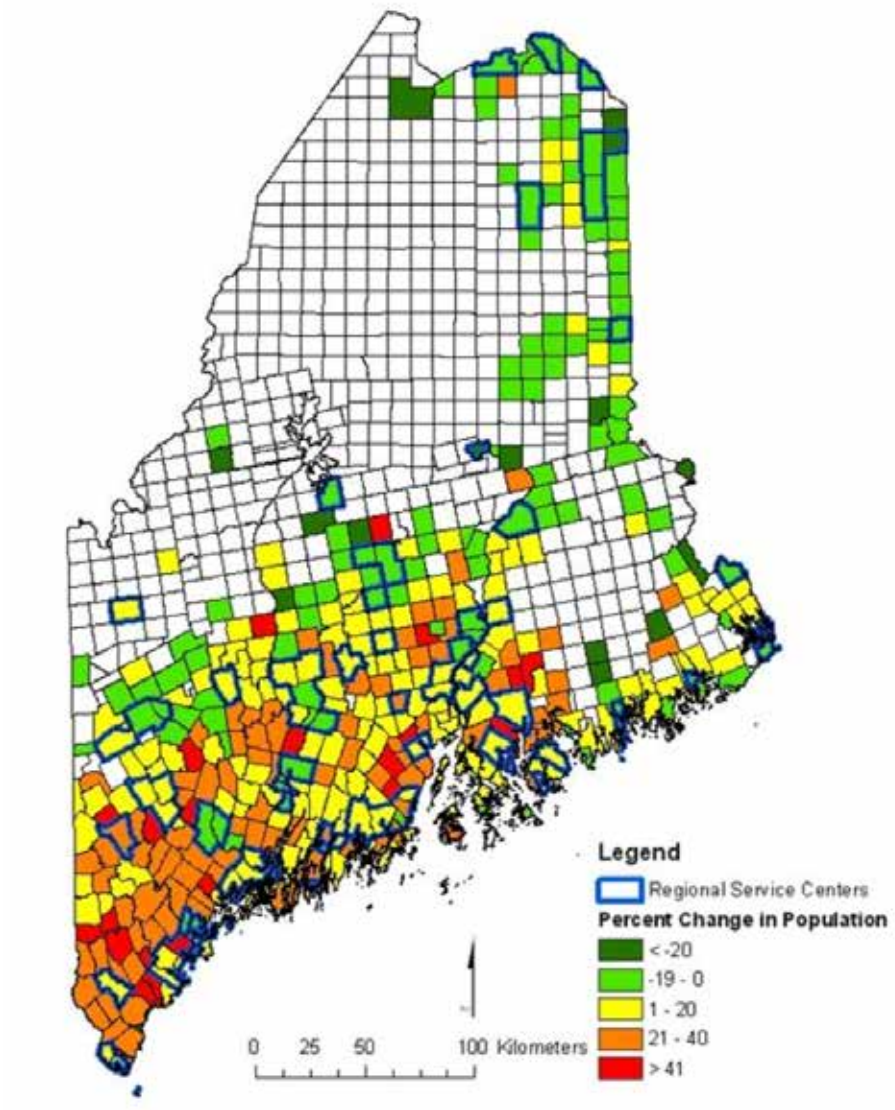
This article first appeared in The New York Times 0n March 31, 2015.

What Is “Sustainable” for Vermont or Maine?

by George Plumb

With all of the environmental challenges facing Vermont, Maine and the Earth at this time, including climate change, the sixth great extinction, water pollution, and forest fragmentation, nothing could be more important than truly living sustainably for the entire human species and every place on Earth.

The term sustainable is regularly used these days by non-governmental organizations, educational institutions, government agencies, and even businesses. But they rarely, if ever, define what they mean by that term. The most commonly understood definition is that humans will live in a manner in the present time without endangering the lives of future generations. But this is a very vague definition without clear parameters. Often much of what is professed to be sustainable is not truly sustainable. Is industrial farming that depends heavily on fossil fuels really sustainable? Is constructing and maintaining massive buildings forever that have huge ecological footprints really sustainable no matter how well constructed or where they are located?



The Vermont chapter of the Sierra Club, Vermonters for Sustainable Population, and many other organizations including the Forest Ecology Network have adopted a new definition that is the strongest definition that is out there. It is:

“Sustainable, means that the people living in a given politically or geographically defined area do not live beyond the limits of the renewable resources of that area for either input (energy and matter) or output (food, material goods, and absorption of pollution). That they purchase or trade from environmentally conscious sources for those necessities that cannot be locally satisfied. And that they live both in numbers and in a manner that allows present and future generations of all life in that area to enjoy a healthy habitat over the long term.”

There are three factors that make this new definition unique and truly meaningful. The first is that when using the term it has to be applied to a given political area and not just in general. Can a city like Portland truly be sustainable in the long run when it and all the people living in it depend almost entirely for resources imported from all over the world and particular for their heating and transportation energy and food? The answer is no. The city can and certainly should work towards being more sustainable but never will it be entirely sustainable or even largely sustainable. However, if it is considered in the context of the land mass of all of southern Maine then yes it could depend to a great extent on that area for its resources, particularly its food, and then become quite sustainable.

The second factor is that the resources used both to meet primary needs and to absorb the pollution generated must come primarily from renewable resources. The Earth is running out of most of the non-renewable resources we use including fossil fuels, arable land, and even fertilizers like lime. Maine is slowly moving in the direction of using more renewable resources such as generating its own electrical energy and growing its own food but needs to make a greater effort at that. And of course greenhouse gas emissions are increasing worldwide as the population grows and people live increasingly lavish lifestyles, like flying in jet planes all over the world on a yearly if not several times a year basis.

Finally, when we apply the term sustainable it should apply to all life native to that region and not just *Homo sapiens*. All life has a right to a healthy habitat. However, we are now causing the Sixth Great Extinction, as is well documented in the book by Elizabeth Kolbert (*The Sixth Extinction: An Unnatural History,* 2014). That is highly immoral and unfair to other species. As Unitarian Universalists say in their seventh principle, we need to “Respect the interdependent web of life of which we are all a part.” Does that mean that wolves should be able to return again to Freeport? No, but shouldn’t they have the right to live in some place in Maine or at least northern New England?

The adoption of this definition led to Vermonters for Sustainable Population initiating the world precedent setting report, *What is an Optimal/Sustainable Population for Vermont?* The report used sixteen different indicators to determine what that optimal/sustainable population should be. Each of the indicators was written by a volunteer expert in that field except for the poverty indicator, where we had to pay an outside consultant to do the research and writing for that one.

The indicators were divided into two different categories. The objective indicators were used to determine the sustainable population and the subjective indicators were used to determine the optimal population. They are broken down as follows:

Objective Indicators-Sustainable	
Biodiversity	310,000
Ecological Footprint	150,000
Food Self Sufficiency	432,923
Forest Cover	600,000
Greenhouse Gas Emissions	400,000
Renewable Energy Production	600,000
Average	**415,487**
Subjective Indicators-Optimal	
Democracy	626,011
Environmental Health	400,000
Happiness of Vermont Citizens	No figure reached
Poverty	500,000
Rural Living/Working Landscape	450,000
Scenic Beauty	600,000
Steady State Economy	600,000
Average	**529,335**
Combined Average	**494,210**
Current Vermont Population	**626,000**
Difference	**-131,790**

In reality if Vermont were to stick solely with one of the more scientific indicators, like ecological footprint or food sufficiency, the difference between what the population is now and what is truly sustainable would be much greater. And of course history bears out that not too many decades ago the populations of Vermont and Maine, when they were much smaller, were much more sustainable because they grew their own food and supplied much of their own energy and material goods. With today's technology, such as solar energy and improved agriculture, our states could support a larger population than a few decades ago, but, even so, not as large a population as we have today given that it takes about one acre of land to feed one person.

The report concludes by making many recommendations on how to become more sustainable regarding population size at the individual, community, state, and national level. At the individual level it recommends that whether female or male we voluntarily choose to replace ourselves only once at the most.

To read the full 71 page report go to www.vspop.org

Although Maine is much larger than Vermont in both population and land mass, the two states are also similar in many respects, including having large tracts of undeveloped land and people who value that land both for its environmental qualities, quality of life, and its tourism benefits. However, both are under threat from developers, political, and even some environmental leaders who say that we can keep on growing the economy and the population and protect the environment at the same time. This has proven to be totally false as scientific data shows that greenhouse gas emissions keep on rising, forest fragmentation keeps on increasing while forest cover is declining, and so much of the Earth's land mass has been taken over to meet human needs that we are now causing the Sixth Great Extinction.

It would be great if Maine would become the second political entity in the world to determine what is an optimal/sustainable population. Maine certainly has the expertise to write the indicators and now that Vermont has framed the model it would be very easy and not very costly to prepare its own report. This could be a great project for the environmental program of one of the colleges or universities or a prominent environmental organization.

If an organization, institution, governmental agency, or organization that you belong to does adopt or endorse this new definition of sustainable or would like to explore the idea of doing a Maine report contact me at **plumb.george@gmail.com**. I would also be happy to come to Maine and give a power point talk regarding the report.

George Plumb is the executive director of Vermonters for Sustainable Population and the initiator of the report, ***What is an Optimal/Sustainable Population for Vermont?*** *published in 2014.*

Humans Have Brought World's Oceans to Brink of 'Major Extinction Event'

But 'proactive intervention' could still avert marine disaster, researchers find

by Deirdre Fulton

Marine wildlife at all levels of the food chain has been badly damaged by human activity, says a new report that urges immediate and "meaningful rehabilitation" if we are to avert mass extinction in the world's oceans.
"We may be sitting on a precipice of a major extinction event," Douglas J. McCauley, an ecologist at the University of California, Santa Barbara and an author of the study, told the New York Times.

The report, published Thursday in the journal Science, finds that habitat loss, mismanagement of oceanic resources, climate change, and the overall "footprint of human ocean use" have resulted in a phenomenon known as "defaunation"—a decline in animal species diversity and abundance.

"Although defaunation has been less severe in the oceans than on land, our effects on marine animals are increasing in pace and impact," reads the study abstract. "Humans have caused few complete extinctions in the sea, but we are responsible for many ecological, commercial, and local extinctions. Despite our late start, humans have already powerfully changed virtually all major marine ecosystems."

"Humans have profoundly decreased the abundance of both large (e.g., whales) and small (e.g., anchovies) marine fauna," it continues. "Such declines can generate waves of ecological change that travel both up and down marine food webs and can alter ocean ecosystem functioning."

Just as the Industrial Revolution during the 1800s decimated the huge tracts of forests, driving many terrestrial species to extinction, industrial use of the oceans threatens to destroy marine habitats and in turn damage the health of marine wildlife populations.

Report co-author Steve Palumbi of Stanford University listed several emerging threats to the oceans: "There are factory farms in the sea and cattle-ranch-style feed lots for tuna. Shrimp farms are eating up mangroves with an appetite akin to that of terrestrial farming, which consumed native prairies and forest. Stakes for seafloor mining claims are being pursued with gold-rush-like fervor, and 300-ton ocean mining machines and 750-foot fishing boats are now rolling off the assembly line to do this work."

"Human activities are negatively impacting the ocean at an ever increasing and unsustainable rate, and we must freeze the footprints of industrial activities and commercial fishing," Oceana marine scientist Amanda Keledjian told Common Dreams. "Oceana applauds these researchers for their work, because assessing the oceans from a holistic perspective is the only way to understand the scope at which we must act to reverse collapsing fisheries and continued habitat degradation."

According to the Times:

Scientific assessments of the oceans' health are dogged by uncertainty: It's much harder for researchers to judge the well-being of a species living underwater, over thousands of miles, than to track the health of a species on land. And changes that scientists observe in particular ocean ecosystems may not reflect trends across the planet.

Dr. [Malin L.] Pinsky, Dr. McCauley and their colleagues sought a clearer picture of the oceans' health by pulling together data from an enormous range of sources, from discoveries in the fossil record to statistics on modern container shipping, fish catches and seabed mining. While many of the findings already existed, they had never been juxtaposed in such a way.

A number of experts said the result was a remarkable synthesis, along with a nuanced and encouraging prognosis.

"I see this as a call for action to close the gap between conservation on land and in the sea," said Loren McClenachan of Colby College, who was not involved in the study.

The report authors say the effects of human activity in the ocean are still reversible: "Proactive intervention can avert a marine defaunation disaster of the magnitude observed on land."

Oceana's Keledjian echoed that appeal. "This study reminds us that it is critical to do everything we can to protect vulnerable species and the ocean ecosystems on which they depend," she said. "While much remains unknown about the state of the oceans, we cannot wait to act until we know with 100 percent certainty that extinctions and devastation are upon us, because that will already be far too late."

This article was first published on January 16, 2015 on CommonDreams

Syria's Civil War 'Linked to Global Warming'

Syria may have fallen into its vicious civil war due, in part, to a drought caused by climate change in what scientists say is strongest connection between violence and human-caused climate change

The conflict that has torn Syria apart can be traced, in part, to a record drought worsened by global warming, a new study claims.

Kelley and Seager do statistical and computer simulation analysis to connect global warming to the multi-year drought, finding that such dry spells are two to three times more likely because of human-caused heat-trapping carbon dioxide in the atmosphere than under natural conditions. The connection between climate change and drought in the eastern Mediterranean is one of the most robust in science, said Seager and other scientists.

In what scientists say is one of the most detailed and strongest connections between violence and human-caused climate change, researchers from Columbia University and the University of California Santa Barbara trace the effects of Syria's drought from the collapse of farming, to the migration of 1.5 million farmers to the cities, and then to poverty and civil unrest.

Syria's drought started in 2007 and continued until at least 2010 - and perhaps longer. Weather records are more difficult to get in wartime.

"There are various things going on, but you're talking about 1.5 million people migrating from the rural north to the cities," said climate scientist Richard Seager at Columbia, a co-author of the study published Monday in the journal Proceedings of the National Academy of Sciences. "It was a contributing factor to the social unravelling that occurred that eventually led to the civil war."

The study's authors do not claim climate change caused Syria's civil war. It's not that simple. Lead author Colin Kelley at the University of California said there are numerous factors involved, including the oppressive Assad regime, an influx of more than 1 million refugees from Iraq, the tumult of the Arab Spring, as well as the drought. Kelley and Seager said they couldn't say which factors were the most important.

But, Seager said, this is the "single clearest case" ever presented by scientists of climate change playing a part in conflict because "you can really draw a blow-by-blow account with the numbers."

They also show that Syria's temperature has risen by nearly 2 degrees Fahrenheit (1 C) since 1900, which adds to drying through evaporation, and winter rainfall has dropped, too. Three of the four worst multi-year droughts in Syria's history have occurred in the last 30 years, Kelley said.

Martin Hoerling, a National Oceanic and Atmospheric Administration meteorologist, praised the study and the arguments as "quite compelling." Hoerling, who has produced studies dismissing global warming's role in some U.S. droughts including California's, said the Kelley paper makes a strong case for the Syrian drought and the violence being connected to climate change.

David Titley, a Pennsylvania State University scientist and retired Navy admiral, said the paper does a good job linking climate change and drought to "varsity-level instability."

"Reading this paper is like reading the analysis of an airline crash," Titley wrote in an email. "There is a chain of events stretching back over 40 years that has led to the present calamitous conditions. The change in climate, forced by greenhouse gases, was one of the key events in this tragic story."

Robert Danin, who is an expert in Middle Eastern politics as a former State Department official, said it's probably correct to say the drought is one factor in the chaos in Syria. But Danin, now a senior fellow at the Council on Foreign Relations, cautions about taking the link too far.

But the link between climate change and conflict has been suggested often in recent years. Last October, then-Defense Secretary Chuck Hagel unveiled a Pentagon report that made exactly that point. "Droughts and crop failures can leave millions of people without any lifeline, and trigger waves of mass migration," Hagel said.

Also last year the Nobel Peace Prize winning Intergovernmental Panel on Climate Change concluded: "Human security will be progressively threatened as the climate changes."

In a separate study, also published in the same journal, Stanford University climate scientist Noah Diffenbaugh, said the long-time upward trend in California's temperatures have caused the current drought there to be worse, regardless of the initial cause of lack of rain. Diffenbaugh didn't see much of a change in rainfall, but a big one in terms of warming.

In the past, he said, some years when there was little rain, it was cool and that didn't cause droughts that were as severe. The heat didn't add to evaporation and what winter precipitation there was came down as snow, which is easier to store than rain, Diffenbaugh said. Now, when there's little rain, there is an 80 percent chance the temperature will be high and worsen the drought, Diffenbaugh said. And in the future, that moves up to close to 100 percent, he said.

While they are different places, there is a connection between the two droughts and climate change, Kelley said. It shows that a wealthy United States can bounce back from a big drought and a country like Syria sometimes can't, he said.

This article was first published in The Telegraph on 03 March 2015

It's Not Called 'Eastern U.S. Warming'

by Paul Donahue

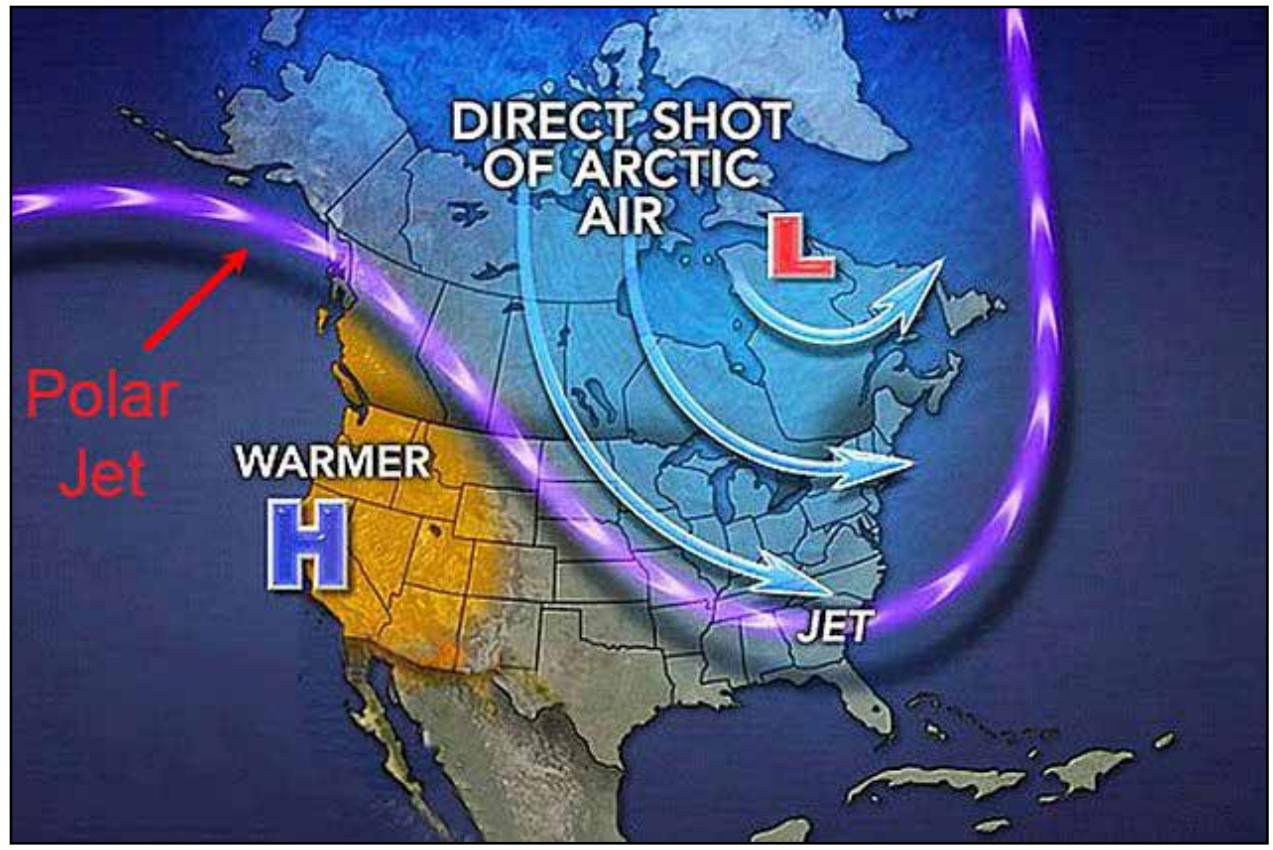
For those who lived through last winter's record breaking cold and snow across the eastern United States, it might seem like global warming has taken a vacation. The well-compensated and/or incurably stupid global warming deniers certainly didn't miss the opportunity to shout from the snow-covered rooftops that we all now had undeniable proof that global warming is a hoax. As just one example, in February *Forbes* ran a column by James Taylor, the right-wing Heartland Institute's professional global warming denier, titled "Record Cold And Snow Destroy Global Warming Claims." It is hard for me to understand why anyone would rely on business advice from *Forbes* when they publish a regular column by an idiot like Taylor, but that's a subject for another day.

When people present to me last winter's weather over the eastern U.S. as evidence that global warming is not occurring, there are three things I tell them.

The first thing I tell them is that it is not called 'Eastern U.S. Warming', it's called 'Global Warming'. The eastern United States is a relatively small part of that globe. While the eastern U.S. was experiencing record cold last winter, the western U.S. was having a very warm winter, with five states - Arizona, California, Nevada, Utah, and Washington - having their warmest winters on record. California broke its previous record by 1.5° F. While record amounts of snow fell across the eastern U.S., a record drought continued across the West, particularly in California.

The second thing I tell them is that it is probably better to use the term 'climate change' or 'climate disruption' rather than 'global warming'. As climatologists have predicted, we are seeing more and more extreme weather, in all its forms. That doesn't just mean heat waves, it means violent thunderstorms, hurricanes, tornados, droughts, record rainfall and floods, and yes, record snowfall and record cold - extreme weather.

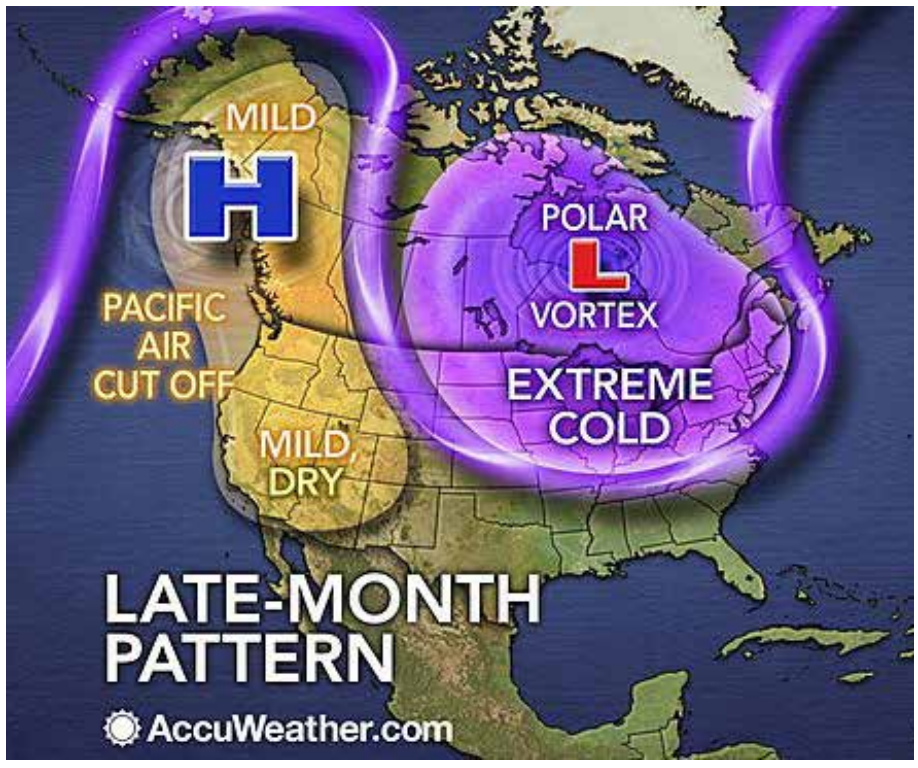
The third thing I tell them about last winter's weather is that, as counter-intuitive as it seems, the record cold and snow experienced across the eastern U.S. were actually a symptom of global warming, not a refutation of it. The explanation gets a little technical, but I'll try to put it in simple terms.



A kink in the Polar Jet allows cold Arctic air to flow southwards into temperate latitudes.

Weather systems in the Northern Hemisphere are driven by the jet streams, fast moving currents of air traveling in a generally east to west direction, encircling the globe in the upper levels of the atmosphere. There are two that pass over North America, the Subtropical Jet and the Polar Jet. The Polar Jet is the one that affects weather over most of the U.S.

The speed of the Polar Jet is a function of the difference in temperature between the polar air mass over the Arctic regions and the temperate air mass to the south. The greater the difference in temperature, the faster the jet stream (Polar Jet) flows. With global warming, the entire planet is warming, but it is not warming evenly, with the Arctic region warming significantly faster - about two to three times faster than the rest of the hemisphere. This phenomenon, known as Arctic Amplification, is largely being driven by the loss of the sea ice cover. This acts as a positive feedback mechanism. White ice that used to reflect the sun's energy back up into the upper atmosphere is replaced by dark ocean water that absorbs that energy. As the ocean water warms, more ice melts, which means even less energy is reflected back into the atmosphere. Then as the polar air mass above the Arctic Ocean warms, the temperature gradient that drives the jet stream winds is reduced, causing the winds to weaken.



Not only is Arctic Amplification causing the jet stream to weaken, but it is also causing it to change course. The path of the Polar Jet is typically wavy, but as it slows down, its path gets even more wavy. You've seen these waves or kinks on weather maps. It was one of these kinks that sat over the eastern U.S. last winter.

These waves or kinks in the Polar Jet mean two things for the weather, First, the weather systems associated with these waves move more slowly, so the weather conditions associated with those systems will last longer. It means that cold spells can last longer, and that storms hang around longer and dump more precipitation. Second, if the Polar Jet dips way down into the southern U.S., as it did last winter, it allows cold Arctic air to penetrate down into those southerly latitudes, much farther south than it normally would.

Very warm water in the Pacific also probably contributed to the very wavy pattern of the jet stream. While there was a huge southward dip of the jet stream over the eastern United States, over western North America there was a huge northward wave in the jet stream, and this was probably caused, at least in part, by the unusually warm surface waters of the Pacific.

The record high water temperatures of the nearshore Atlantic waters this past winter also contributed to the season's storms. The increased temperature difference between the land and the water was a source of energy for the storms. Additionally, when the ocean waters are warm, there is more evaporation, which provides more moisture and precipitation for storms.

In general. as the planet continues to warm, we should see fewer record cold events and more record warm events. However, as climatologists are constantly learning, the planet's weather system is incredibly complex and interconnected. A decade ago, who would have guessed that melting of the Arctic Sea ice would cause record cold winter temperatures in Georgia? Unfortunately, it's too late for us to put the greenhouse gas genie back in the bottle. Atmospheric scientist Dr. Jennifer Francis of Rutgers has been studying the fluctuations in the jet stream waves. When asked what people across the eastern U.S. should expect from future winters, her response was, "Get ready for weirdness."

That Was Easy: In Just 60 Years, Neoliberal Capitalism Has Nearly Broken Planet Earth

A pair of new studies show how various forms of human activity, driven by a flawed economic system and vast consumption, is laying waste to Earth's natural systems.

by Peter Herrick

Humanity's rapacious growth and accelerated energy needs over the last generation—particularly fed by an economic system that demands increasing levels of consumption and inputs of natural resources—are fast driving planetary systems towards their breaking point, according to a new pair of related studies.

Prepared by researchers at the Stockholm Resilience Centre, the first study looks specifically at how "four of nine planetary boundaries have now been crossed as a result of human activity." Published in the journal Science* on Thursday, the 18 researchers involved with compiling evidence for the report—titled 'Planetary Boundaries 2.0'—found that when it comes to climate change, species extinction and biodiversity loss, deforestation and other land-system changes, and altered biogeochemical cycles (such as changes to how key organic compounds like phosphorus and nitrogen are operating in the environment), the degradation that has already take place is driving the Earth System, as a whole, into a new state of imbalance.

"Transgressing a boundary increases the risk that human activities could inadvertently drive the Earth System into a much less hospitable state, damaging efforts to reduce poverty and leading to a deterioration of human well-being in many parts of the world, including wealthy countries," said Professor Will Steffen, a researcher at the Centre and the Australian National University, Canberra, who was lead author for both studies.

In addition to the four boundaries that have already been crossed, the study looked at five other ways in which the planetary systems are under assault by human activity. They include: stratospheric ozone depletion; ocean acidification; freshwater use; atmospheric aerosol loading (microscopic particles in the atmosphere that affect climate and living organisms); and the introduction of novel entities into ecosystems (*e.g.* organic pollutants, radioactive materials, nanomaterials, and micro-plastics).

"I don't think we've broken the planet but we are creating a much more difficult world," Sarah Cornell, another report author, told Reuters.

In this interview with Wired last year, Johan Rockström, executive director of the Stockholm Resilience Centre, described the idea about planetary boundaries in details:

Related to the findings of the first study, the second report examines what it calls the "Great Acceleration" and is an assessment of the speed and influence that specific factors have had in damaging the planetary systems described in Planetary Boundaries 2.0. Using a series of indicators, the study compares the relationship, over time, between 12 'socio-economic factors'—including economic growth (GDP); population; foreign direct investment; energy consumption; and water use—on one side with 12 'Earth system trends'—like the carbon cycle; the nitrogen cycle and biodiversity—on the other.

Using what it calls a "planetary dashboard," the research charts the spread and speed of human activity from the

start of the industrial revolution in 1750 to 2010, and the subsequent changes in the Earth System – e.g. greenhouse gas levels, ocean acidification, deforestation and biodiversity deterioration. The analysis found that increased human activity—and "predominantly the global economic system"—has unseated all other factors as the primary driver of change in the Earth System, which the report describes as "the sum of our planet's interacting physical, chemical, biological and human processes." The most striking, *i.e.* "accelerated," changes to that system have occurred in the last sixty years.

"It is difficult to overestimate the scale and speed of change. In a single lifetime humanity has become a geological force at the planetary-scale," said Steffen, who also led the Acceleration study.

The conclusion that the world's dominant economic model - a globalized form of neoliberal capitalism, largely based on international trade and fueled by extracting and consuming natural resources - is the driving force behind planetary destruction will not come as a shock, but the model's detailed description of how this has worked since the middle of the 20th century makes a more substantial case than many previous attempts.

"When we first aggregated these datasets, we expected to see major changes but what surprised us was the timing. Almost all graphs show the same pattern. The most dramatic shifts have occurred since 1950. We can say that around 1950 was the start of the Great Acceleration," says Steffen. "After 1950 we can see that major Earth System changes became directly linked to changes largely related to the global economic system. This is a new phenomenon and indicates that humanity has a new responsibility at a global level for the planet."

The paper makes a point to acknowledge that consumption patterns and the rise of what has become known as the Anthropocene Era does not fall equally on the human population and its examination of the economic system which is underpinning planetary destruction is one rife with inequality, in which certain populations consume at vastly higher levels than others.

According to the report, "The new study also concludes that the bulk of economic activity, and so too, for now, the lion's share of consumption, remain largely within the OECD countries, which in 2010 accounted for about 74% of global GDP but only 18% of the global population. This points to the profound scale of global inequality, which distorts the distribution of the benefits of the Great Acceleration and confounds international efforts, for example climate agreements, to deal with its impacts on the Earth System."

A worrying trend, notes the paper, is how a growing global middle class—exemplified by those in the BRICS nations of Brazil, Russia, India, China, and South Africa—is an increasing threat to the planet as the consumer mindset established in the OECD nations, particularly the U.S., spreads.

In an interview with the Guardian, Steffen spoke clearly about the overall impacts of the two new studies as he sounded the alarm over humanity's trajectory. "People say the world is robust and that's true, there will be life on Earth, but the Earth won't be robust for us," he said. "Some people say we can adapt due to technology, but that's a belief system, it's not based on fact. There is no convincing evidence that a large mammal, with a core body temperature of 37C, will be able to evolve that quickly. Insects can, but humans can't and that's a problem."

"It's clear the economic system is driving us towards an unsustainable future and people of my daughter's generation will find it increasingly hard to survive. History has shown that civilisations have risen, stuck to their core values and then collapsed because they didn't change. That's where we are today."

What increasing amounts of strong evidence shows, he said, is that there are "tipping points" the human race should simply not "want to cross."

Correction: An earlier version of the article stated the study on Planetary Boundaries appeared in the journal Nature. That was incorrect. The study appeared in the journal Science and that has now been corrected.

This article was first published on the Common Dreams website on January 16, 2015.

Time for Change

by Paul Donahue

Our economic system doesn't work. It doesn't work for the majority of the world's people, and it certainly doesn't work for the environment.

While I am considered far from wealthy by U.S. standards, I have a very comfortable lifestyle. I live in a house where I can stay warm and dry. I have plenty of good food to eat, and plenty of clothes to wear. I am sitting in a padded, swivel chair, and typing on a fancy laptop computer. If I need a break from work, I can pull one of thousands of books from my shelves or watch television or a movie. For me, personally, at least on the surface, our economic system would appear to work quite well. The same can be said for my family and friends.

I have spent much of my adult life working in the developing countries of South and Central America. Compared to the lifestyles of most of the people I have encountered there, my own lifestyle would have to be described as nothing short of opulent. One incident illustrating this is seared in my memory forever. Back in the early 1990's my wife Teresa and I were directing the construction of a canopy walkway in the Amazon rainforest of northeastern Peru. We lived for ten months at a time in one of the very simple rooms in the lodge that housed tourists who came to visit the walkway. One morning one of our local crew came to our room to get a piece of equipment he needed for the day's work. Our room was crammed with the field clothes, books, tree climbing gear, and photographic and tape-recording equipment that we needed, or felt we needed, for the canopy walkway construction and bird research we were doing. When our worker walked in, his first time in our room, he was taken aback, his eyes roving around for a couple of moments. When he finally spoke, the first words out of his mouth were, "*Parece una tienda*" (It looks like a store). To say the least, his own home would have looked very different.

I am very grateful for my time in Latin America for many reasons. I have had more amazing wildlife experiences there than I can remember and traveled through beautiful, wild landscapes unmarred by civilization. It has also given me an important perspective on everyday life here in the U.S., making me realize how privileged Americans are, at least those of the middle and upper classes, to live in a country where their needs and wants are so readily met. Simultaneously, it has made me acutely aware that the high standard of living we enjoy here in the U.S. is only possible because of the misery that has been inflicted upon people in far away lands. We might not want to see it, but it is not difficult to see if we care to look. For us to live the life we do in the U.S. means that…

- The Ogoni people of the Niger Delta live in a toxic ecosystem horribly polluted by endless oil spills;
- The peoples of Iraq and Afghanistan live in lands that have been ravaged by resource wars for decades;
- Like the Ogoni, the indigenous peoples of eastern Ecuador live in an area badly polluted by oil spills;
- Citizens of Chinese cities live with toxic levels of air pollution so we can have the consumer goods they produce in their factories;
- People of the Democratic Republic of Congo suffer armed conflict fueled by Coltan (Columbite–Tantalite), a vital component in all our cell phones and computers, and many other electronic devices. Thousands have been killed and mutilated so we can send text messages anytime from anywhere;
- First Nations peoples in Alberta, Canada are suffering what has been called a "slow industrial genocide" - the toxic contamination and environmental degradation of the tar sands development, the largest and dirtiest industrial project on the planet. As a result of the tar sands, Canada has now become the biggest foreign supplier of oil to the U.S.
- Mexicans living in the *maquiladora* zone along the Mexico-U.S. border suffer the tremendous toxic contamination that came with the passage of NAFTA as U.S. corporations escaped south across the border to Mexico and its lax environmental safeguards;
- River dwellers across gold-mining regions of the Amazon Basin suffer the effects of mercury contamination so we can have gold for our jewelry and computers.
- Environmentalists in Brazil are being murdered at the rate of almost two per week. Brazil has become the most dangerous country in the world for environmentalists, with more than 450 murders of activists over the past decade. Most of the killings have been connected to disputes over the control and ownership of land, and mostly about wealthy landowners wanting to be able to graze more cattle to supply the endless and growing demand from industrialized countries for cheap beef. Small landowners, indigenous groups, and the environmentalists, not to mention the rainforest, suffer as a result.

Time to slay the beast before it destroys us.

The list of abuses against people around the world goes on and on and on. At least as long as that list is the list of offenses our economic system is committing against nature. I am a naturalist and an environmentalist, so I am most disturbed by the effect that capitalism is having on the environment. The statistics are staggering….

- 8 million metric tons of plastic go into the oceans every year.
- Over 4 billion pounds of toxic chemicals are released by industry into the U.S environment each year.
- Worldwide, approximately 5.6 billion pounds of toxic pesticides are dumped on the environment each year.
- Approximately 706 million gallons of waste oil enter the oceans every year. In 2010, BP's *Deepwater Horizon* disaster alone spilled 170 million gallons of crude oil into the Gulf of Mexico.
- Due to overfishing, 3/4 of the world's fish stocks are being harvested faster than they can reproduce. Eighty percent are already fully exploited or in decline. Ninety percent of all large predatory fish - including tuna, sharks, swordfish, cod and halibut - are gone.
- 150 acres (61 hectares) of tropical rainforest are destroyed every minute of every day.
- At least 19% of the world's coral reefs are already dead, and no more than 46% of the remaining reefs can be considered to be in good health. A World Resources report states that all coral reefs will be gone by 2050 "if no actions are taken."
- The International Union for Conservation of Nature (IUCN) considers 1,199 species of mammals (26% of described species), 1,957 species of amphibians (41% of described species), and 1,373 species of birds (13% of described species) to be threatened with extinction. Estimates suggest that between 500 and 36,000 species of animals might be disappearing each year. (Yes, 500-36,000 is a wide range. Scientists don't even know how many species there are on Earth, never mind how many are disappearing annually.)

Just like the list of human suffering caused by capitalism, this list goes on and on. In the history of life on Earth there have been five previous major extinction events, where a large percentage of the living species at the time disappeared. All five of these major extinction events were caused by natural occurrences (if you consider volcanic activity and asteroids natural). The last one of these occurred 65 million years ago, with the extinction of the dinosaurs. We are now living through Earth's sixth major extinction event, with an extinction rate as high as the planet has seen. However, this extinction event is different from the others. It is occurring over hundreds of years not millions, and it is being caused by us. The current rapid extinction of species around the word is being driven by humans, in general, and, in particular, by capitalism. OUR ECONOMIC SYSTEM IS CAUSING EXTINCTION!

Our capitalist economic system doesn't work because it

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The Forest Ecology Network Bookshelf

Green Illusions: The Dirty Secrets of Clean Energy and the Future of Environmentalism

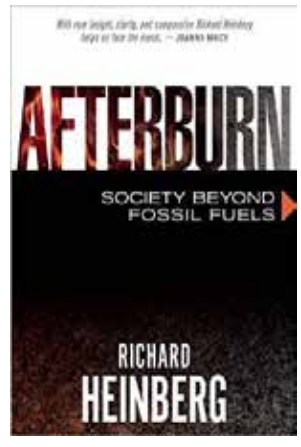
by Ozzie Zehner

Paperback: 464 pages
June 2012
Univ. of Nebraska Press
ISBN-10:0803237758

We don't have an energy crisis. We have a consumption crisis. And this book, which takes aim at cherished assumptions regarding energy, offers refreshingly straight talk about what's wrong with the way we think and talk about the problem. Though we generally believe we can solve environmental problems with more energy—more solar cells, wind turbines, and biofuels—alternative technologies come with their own side effects and limitations. How, for instance, do solar cells cause harm? Why can't engineers solve wind power's biggest obstacle? Why won't contraception solve the problem of overpopulation lying at the heart of our concerns about energy, and what will?

This practical, environmentally informed, and lucid book persuasively argues for a change of perspective. If consumption is the problem, as Ozzie Zehner suggests, then we need to shift our focus from suspect alternative energies to improving social and political fundamentals: walkable communities, improved consumption, enlightened governance, and, most notably, women's rights. The dozens of first steps he offers are surprisingly straightforward. For instance, he introduces a simple sticker that promises a greater impact than all of the nation's solar cells. He uncovers why carbon taxes won't solve our energy challenges (and presents two taxes that could). Finally, he explores how future environmentalists will focus on similarly fresh alternatives that are affordable, clean, and can actually improve our well-being.

Afterburn: Society Beyond Fossil Fuels



by Richard Heinberg

Paperback: 216 pages
April 2015
New Society Publishers

ISBN-10:0865717885

Climate change, along with the depletion of oil, coal, and gas, dictate that we will inevitably move away from our profound societal reliance on fossil fuels; but just how big a transformation will this be? While many policy-makers assume that renewable energy sources will provide an easy "plug-and-play" solution, author Richard Heinberg suggests instead that we are in for a wild ride; a "civilization reboot" on a scale similar to the agricultural and industrial revolutions.

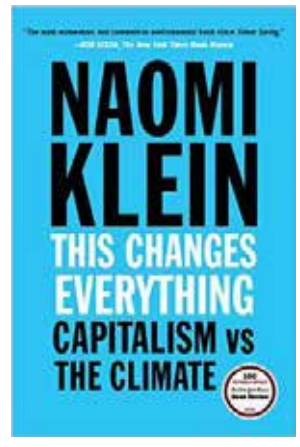
Afterburn consists of fifteen essays exploring various aspects of the twenty-first century migration away from fossil fuels including:

- Short-term political and economic factors that impede broad-scale, organized efforts to adapt
- The origin of longer-term trends (such as consumerism), that have created a way of life that seems "normal" to most Americans, but is actually unprecedented, highly fragile, and unsustainable
- Potential opportunities and sources of conflict that are likely to emerge

From the inevitability and desirability of more locally organized economies to the urgent need to preserve our recent cultural achievements and the futility of pursuing economic growth above all, *Afterburn* offers cutting-edge perspectives and insights that challenge conventional thinking about our present, our future, and the choices in our hands.

About the Author
Richard Heinberg is the award-winning author of ten previous books including *The Party's Over, Powerdown*, and *The End of Growth*. A Senior Fellow at the Post Carbon Institute, he is one of the world's foremost energy educators and communicators about the urgent need to transition away from fossil fuels. He is a recipient of the M. King Hubbert award for excellence in energy education and since 2002 has given over five hundred lectures on fossil fuel depletion to audiences around the world. He has been published in *Nature*, the world's premiere scientific journal; he has been quoted in 'Time' magazine and other major publications; and he has been interviewed on national radio and television in seven countries.

This Changes Everything: Capitalism vv. the Climate



by Naomi Klein

Hardcover: 576 pages
September 2014
Simon & Schuster
ISBN-10:1451697384

The most important book yet from the author of the international bestseller The Shock Doctrine, a brilliant explanation of why the climate crisis challenges us to abandon the core "free market" ideology of our time, restructure the global economy, and remake our political systems.

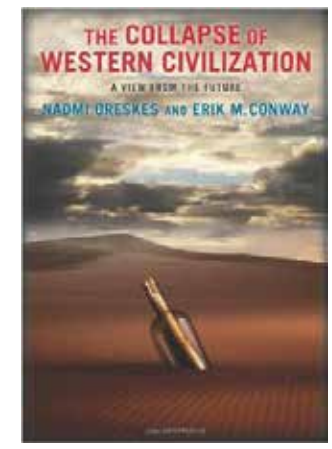
In short, either we embrace radical change ourselves or radical changes will be visited upon our physical world. The status quo is no longer an option.

In This Changes Everything Naomi Klein argues that climate change isn't just another issue to be neatly filed between taxes and health care. It's an alarm that calls us to fix an economic system that is already failing us in many ways. Klein meticulously builds the case for how massively reducing our greenhouse emissions is our best chance to simultaneously reduce gaping inequalities, re-imagine our broken democracies, and rebuild our gutted local economies. She exposes the ideological desperation of the climate-change deniers, the messianic delusions of the would-be geoengineers, and the tragic defeatism of too many mainstream green initiatives. And she demonstrates precisely why the market has not—and cannot—fix the climate crisis but will instead make things worse, with ever more extreme and ecologically damaging extraction methods, accompanied by rampant disaster capitalism.

Klein argues that the changes to our relationship with nature and one another that are required to respond to the climate crisis humanely should not be viewed as grim penance, but rather as a kind of gift—a catalyst to transform broken economic and cultural priorities and to heal long-festering historical wounds. And she documents the inspiring movements that have already begun this process: communities that are not just refusing to be sites of further fossil fuel extraction but are building the next, regeneration-based economies right now.

Can we pull off these changes in time? Nothing is certain. Nothing except that climate change changes everything. And for a very brief time, the nature of that change is still up to us.

The Collapse of Western Civilization: A View from the Future



by Naomi Oreskes and Erik M. Conway

Paperback: 104 pages
July 2014
Columbia University Press
ISBN-10:
023116954X

The year is 2393, and the world is almost unrecognizable. Clear warnings of climate catastrophe went ignored for decades, leading to soaring temperatures, rising sea levels, widespread drought and--finally--the disaster now known as the Great Collapse of 2093, when the disintegration of the West Antarctica Ice Sheet led to mass migration and a complete reshuffling of the global order. Writing from the Second People's Republic of China on the 300th anniversary of the Great Collapse, a senior scholar presents a gripping and deeply disturbing account of how the children of the Enlightenment--the political and economic elites of the so-called advanced industrial societies--failed to act, and so brought about the collapse of Western civilization.

In this haunting, provocative work of science-based fiction, Naomi Oreskes and Eric M. Conway imagine a world devastated by climate change. Dramatizing the science in ways traditional nonfiction cannot, the book reasserts the importance of scientists and the work they do and reveals the self-serving interests of the so called "carbon combustion complex" that have turned the practice of science into political fodder. Based on sound scholarship and yet unafraid to speak boldly, this book provides a welcome moment of clarity amid the cacophony of climate change literature.

Time for Change

continued from page 29

values money above all else. Vibrant and healthy ecosystems, happy and healthy people, clean food, water, and air, civil liberties - all the things that matter to most people - have no relevance or importance in capitalism. Most of the serious problems facing the world are the direct result of capitalism and its warped values. When the accumulation of capital is the ultimate goal and nothing else matters, what you get are unending resource wars, global warming, biodiversity loss, disappearance of wilderness, toxic pollution of the planet, steadily increasing cancer rates, massive poverty, and ever growing income gaps.

So many of the problems being worked on by so many civil society groups and individuals come down to a failure of our economic system. Whether you are trying to keep plastics out of the oceans, make healthcare affordable, or protect a mountain from an industrial wind plant, ultimately you are coming up against the forces of capitalism. Capitalism, in its endless search for profit, dictates one course of action, while you are advocating for the exact opposite. You are seriously outgunned right from the outset.

Back when President Calvin Coolidge said, "The business of government is business, he meant that business should be left alone, unregulated, to operate and make a profit. Today, Coolidge's statement has been taken to an entirely different level, with the line between corporations and government fuzzy, where it exists at all. Before its meaning was twisted, the original definition of the term "fascism" was the merging of corporate and state power. Capitalism by itself can be an extremely malevolent force. When you link corporate capitalism with government power, as in the near seamless blend that we now have here in the U.S., you end up with a truly toxic entity.

Before meaningful change can happen, corporate capitalism and government need to be de-linked. The legalized bribery that passes for our electoral process, ratified by the U.S. Supreme Court, needs to be reversed. Corporate money - all of it - every damn penny - needs to be removed from the political process. Until that happens, the politicians will be working for the corporations, not the people. It is just that simple.

Corporations also need to be thoroughly exorcised from every regulatory agency (FDA, EPA, FCC, etc.), government office, and department that has anything whatsoever to do with policies that impact corporations - and at all levels, local, state and national. The revolving door between corporations and government needs to be not only closed, but dynamited. Abraham Lincoln spoke of a government of, by, and for the people, not a government of, by, and for the corporations. They are not the same thing. What is good for corporations is frequently not good for the people, and certainly not for the planet.

Even the radical and difficult act of de-linking corporations and government likely would not be enough to correct the excesses of capitalism. Capitalism is predicated on endless growth, and in the words of famed environmentalist Edward Abbey, "Growth for the sake of growth is the ideology of the cancer cell." As has been said many times by many people, you can not have endless growth on a finite planet. It is a physical impossibility. Capitalism has no automatic shut-off valve, nothing built into the ideology stating when enough is enough, so in the course of attempting the impossible, capitalism will turn the planet into a wasteland. All we have to do is look around.

Despite overwhelming scientific evidence of impending ecological disaster, on the land and in the oceans, capitalism keeps us firmly on the path to self-destruction.

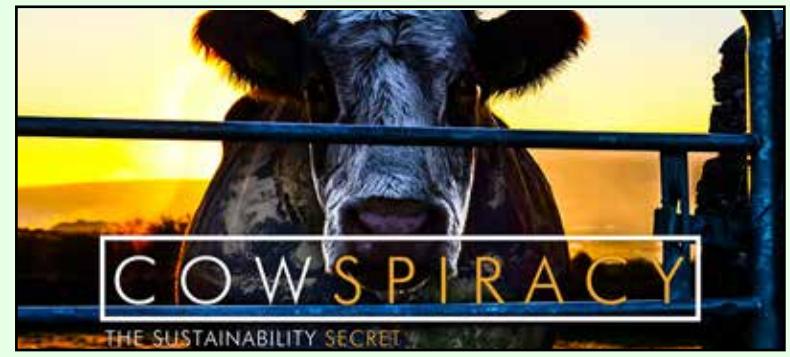
If that is the case, then serious environmentalists need to start thinking about total system change. WHEN YOUR ECONOMIC SYSTEM IS CAUSING A PLANETARY LEVEL EXTINCTION EVENT, IT'S PROBABLY TIME FOR A DIFFERENT ECONOMIC SYSTEM. We need to face the fact that what we have been doing so far is not working, and that we are losing, in a big way. Maybe there needs to be a violent upheaval, maybe not. Maybe change can be achieved one local organic garden at a time. I don't know, but I am reasonably sure that a radical change in thinking and in our economic system is going to be required if we, as a species, are to hold onto a reasonably survivable planet.

drawing by Paul Donahue

Great Horned Owl

The Forest Ecology Network Film Review

Cowspiracy: The Sustainability Secret



*Cowspiracy: The Sustainability Secre*t is a groundbreaking feature-length environmental documentary following intrepid filmmaker Kip Andersen as he uncovers the most destructive industry facing the planet today – and investigates why the world's leading environmental organizations are too afraid to talk about it.

Animal agriculture is the leading cause of deforestation, water consumption and pollution, is responsible for more greenhouse gases than the transportation industry, and is a primary driver of rainforest destruction, species extinction, habitat loss, topsoil erosion, ocean "dead zones," and virtually every other environmental ill. Yet it goes on, almost entirely unchallenged.

As Andersen approaches leaders in the environmental movement, he increasingly uncovers what appears to be an intentional refusal to discuss the issue of animal agriculture, while industry whistleblowers and watchdogs warn him of the risks to his freedom and even his life if he dares to persist.

As eye-opening as *Blackfis*h and as inspiring as *An Inconvenient Truth*, this shocking yet humorous documentary reveals the absolutely devastating environmental impact large-scale factory farming has on our planet, and offers a path to global sustainability for a growing population.

East/West ME

In the words of the producer, *East/West ME* is, "A short documentary about the proposed East/West corridor in the state of Maine. *East/west ME* highlights major hopes and concerns that surround this very controversial topic. The film follows me as I learned about the corridor, interviewing various people with a variety of viewpoints and ideas. The hope is that this film will educate and raise awareness about the East/West corridor."

The producer, Mathias Deming, is a high school senior from Winthrop, Maine. He is a graduate of the Friends of Baxter State Park 2014 Maine Youth Wilderness Leadership Program. Mathias was presented with a Restoration Leadership Award by RESTORE: The North Woods in 2014, and earlier this year he was awarded the Teddy Roosevelt Maine Conservation Award by Maine Woods Forever.

East/West ME can be viewed online at https://vimeo.com/99246765

THE LAST WORD

Another Year of Extreme Weather

2014 was officially the hottest year on record. All of the 10 hottest years on record have come since 1998.

April 2014 - Torrential rainfall in the Florida panhandle caused major flooding, with Pensacola setting new one-day and two-day precipitation records of 15.55 and 20.47 inches, respectively.

May 2014 - The heaviest rainfall in almost 120 years caused severe flooding in Serbia and Bosnia. More than 20 people were killed and thousands more were evacuated from their homes.

July 2014 - Super Typhoon Rammasun, the strongest typhoon to hit southern China in four decades, killed at least 16 people and affected more than three million people in the region.

August 2014 - In Asahikawa, Japan, heavy rain caused flash floods and landslides that buried victimes alive as they slept in their homes, killing at least 32 people.

August 2014 - Heavy rainfall in excess of five inches caused significant flooding in cities across Michigan damaging thousands of cars, business, homes and other infrastructure. Flooding also occurred across Maryland and New York's Long Island, as the slow-moving storm system delivered 24-hour rainfall exceeding 6 and 12 inches, respectively, creating more flood damage. Islip, NY received 13.57 inches of rain over a 24-hour period on Aug 12-13 setting a new 24-hour precipitation record for New York.

August 2014 - A massive red tide bloom spread along Florida's Gulf Coast. These blooms of a kind of algae known as dinoflagellates. These dinoflagellates contain a toxin that affects the nervous and digestive systems of animals. Red tides are usually accompanied by a massive die-off of fish, as well as the birds and other animals that feed on fish. Warmer-than-usual surface water temperatures are usually cited as one of the important contributing factors to a red tide's formation.

September 2014 - Raging monsoon floods swept across India and Pakistan, killing more than 440 people and causing thousands more to flee their homes.

December 2014 - Typhoon Hagupit slammed the Philippines, killing at least 21 people and destroying nearly 1,000 homes. It coincided with the United Nation's Framework Convention on Climate Change Conference being held in Lima, Peru (COP 20). Taiphoon Haiyan, which killed at least 6,300 people in the Philippines alone, coincided with the COP 19 talks in Warsaw, Poland in 2013. Typhoon Bopha, which killed at least 600 people in the Philippines coincided with the 2012 COP 18 talks in Doha, Qatar. The impassioned pleas of the Philippine negotiator, who lost family members in the 2013 typhoon, to finally take some postive steps on climate change had no impact on the outcome of any of the three conferences.

Historic drought conditions affected the majority of California for all of 2014 and through the first months of 2015, making it the worst drought on record for the state. Surrounding states and parts of Texas and Oklahoma also experienced continued severe drought conditions. This is a continuation of drought conditions that have persisted for several years.

The winter of 2014-2015 brought record cold and snowfall to the eastern United States. However, while the eastern U.S. experienced harsh winter weather, the western U.S. had a very warm winter, with five states - Arizona, California, Nevada, Utah, and Washington - having their warmest winters on record. California broke its previous record by 1.5° F. See the article "It's Not Called 'Eastern U.S. Warming'" on page ??.

The atmospheric concentration of carbon dioxide topped 400 parts per million for the longest period on record. The National Oceanic and Atmospheric Administration reported that the grim milestone was reached on average for the entire month of March. The 400 parts per million threshold has been an important marker in U.N. climate change negotiations, widely recognized as a dangerous level that could drastically worsen human-caused global warming. The environmentalist group 350.org takes it name after the 350 parts per million threshold that scientists say is the maximum atmospheric concentration of carbon dioxide for a safe planet. The news about the 400 ppm of carbon dioxide came as the Republican-controlled House Science Committee voted to cut over $320 million in funding for the study of climate change. The money would come out of the budget for NASA's earth science research.

NASA has confirmed the first four months of this year were the warmest start to any year in recorded history.