

"Local Governments and Climate Change: Planning for Uncertainty and the Bailout Mentality"

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To date, the states and local governments have been the primary drivers of the development of global climate change law in the United States.¹ Activity by the national government has been limited, though that should change with the landmark U.S. Supreme Court decision in *Massachusetts v. Environmental Protection Agency*² prompting the national government to take action regulating green house gas emissions under the Clean Air Act. Even though the international political debate continues about the causes of global climate change, the science of global climate change is having an increasing impact on public policy as expressed through state and local legislation and the courts. These public policy efforts are beginning to have an impact on what planners do. An increasing number of local governments across the United States are undertaking a variety of actions in response to global climate change -- adopting "sustainability plans," changing local practices such as purchasing hybrid vehicles as part of the municipal fleet, using compact florescent bulbs in city buildings, etc. States and local governments are also evaluating the relationship of the built environment to green house gas emissions.³ Most of the efforts to date focus on reducing green house gas emissions.

This paper explores the impact of global climate change on two local planning issues -- forest parcellation and coastal erosion. These issues are not new. They have confronted planners for decades. Global climate change, however, brings a new dimension to these issues both from a planning perspective and from a legal liability concern. The paper is an outgrowth of the research completed for

¹ Michael B. Gerrard, ed., *Global Climate Change and U.S. Law* (2007).

² 549 U.S. 1438 (2007).

³ See, e.g., *People of the State of California v. San Bernardino County*, xxxx, requiring that San Bernardino County evaluate its comprehensive plan for impacts on green house gas emissions under the California Environmental Quality Act.

two separate projects. The first research project, funded by the Minnesota Forest Resources Council, is an effort to better understand the role of local governments in Minnesota in addressing forest parcellation. The second project, funded by the National Sea Grant Law Center, focused on developing model regulations for Wisconsin's coastal local governments bordering Wisconsin's two Great Lakes -- Superior and Michigan.⁴ While neither research project was originally focused on global climate change, as the projects proceeded, issues related to global climate began to have a significant influence on both projects. The influence of global climate change on these issues is explored below.

A New Context for Forest Planning

The Minnesota Forest Resources Council, created in 1995 as part of the Sustainable Forest Resources Act,⁵ is a 17 member board appointed by the Minnesota Governor to facilitate the development and implementation of various programs related to forestry, and advise the Governor and federal, state, and local governments on sustainable forest resource policies and practices. The members represent a range of perspectives -- industry, the environment, government, etc. The Council traces its origins to the generic environmental impact statement prepared in the early 1990s under the Minnesota Environmental Policy Act in response to concerns about the overharvesting of Minnesota's forest resources. Since its creation, the Council has been responsible for various forest policy initiatives ranging from forest tax policy to promoting sustainable forestry management practices.

In 2008, the Council identified forest parcellation as a priority issue for the Council. According to the Council, "Parcelization [sic] has been closely linked to forest fragmentation and development, which have demonstrated negative impacts on timber availability, wildlife habitat, biodiversity levels, recreational opportunities, and other forest-related benefits."⁶ The research project undertaken for the

⁴ The research is published in Brian W. Ohm, *Protecting Coastal Investments: Examples of Regulations for Wisconsin's Coastal Communities* (2008). The publication is available at <http://aqua.wisc.edu/publications/PDFs/ProtectingCoastalInvestments.pdf>.

⁵ Minn. Stat. Chap. 89A.

⁶ Minnesota Forest Resources Council, xxxx.

Council was part of the Council's efforts to analyze Minnesota's local planning enabling laws to make recommendations to the Minnesota Legislature about developing a broad and integrated set of policy tools to mitigate the adverse effects of parcellation.

The study conducted for the Council explores the role of local governments in addressing forest parcellation.⁷ The initial part of the study evaluated the capacity of local governments to address forest parcellation. Based on extensive interviews with local planners and review of local plans and ordinances, the study found that in many cases, local officials do not view forestry as an issue, let alone the more specific issue of forest parcellation. However, while forestry does not appear to be a priority issue for many local governments, the study found that a very high percentage of local governments in out-state Minnesota have adopted comprehensive plans (many of them amended in the recent past) and have adopted implementing programs like zoning. For example, the study found 96% of Minnesota counties have a comprehensive plan, and 86% of Minnesota's eighty seven counties exercise zoning authority.⁸ This finding is contrary to earlier studies about the general state of local planning in Minnesota that concluded there was a "lack of planning" in out-state Minnesota.⁹

From a natural resource perspective, while many of the plans are weak in addressing forestry issues, many of the plans do prioritize water related issues and agricultural issues. One reason for this disparity might be that, at the local government level, people do not value forest resources to the same level they value agricultural and water resources. Another explanation for why forestry is presently not seen as a critical issue in plans and ordinances, as compared to water and agriculture, may relate to the attention the state legislature has paid to water and agricultural issues. As a state that values its waters, Minnesota is a state with an abundance of laws related to water resources. Approximately 13.1 million

⁷ Brian W. Ohm and Lee Nellis, xxxx [Forthcoming] (2010).

⁸ The figure includes the five metropolitan counties that are required to have comprehensive plans under the Metropolitan Land Planning Act. The two metropolitan counties of Hennepin and Ramsey County do not have authority to prepare comprehensive plans. The remaining eighty counties have discretionary comprehensive planning authority.

⁹ Minnesota Planning Agency, xxxxx.

acres are covered by surface water in the state. As an agricultural state, Minnesota has various laws related to agricultural land protection. Minnesota has about 26.9 million acres of farmland.¹⁰ Laws related to forests are more limited. With respect to parcellation, part of the disparity between forest land protection versus agricultural land protection may also relate to land tenure. In Minnesota, very little agricultural land is under public ownership. Of Minnesota's approximately 16.7 million acres of forestland, about 10.6 million acres is owned by the public.¹¹ It is also important to note that most of the 16.7 million acres of forestland is covered by a forest management plan prepared by the owner of the forest land (e.g., family owned forests, industry, the federal government, the state government, the tribes, and the counties.) The fifteen primarily forested counties in northern and central Minnesota own about 2.8 million acres of forestland. The state of Minnesota covers about 50.9 million acres total.

While most Minnesota local governments may not presently view forestry as a priority issue, the study shows that local government are planning and have the capacity to plan for forestry issues. The study did find a handful of forested communities that recognize forest parcellation as an issue and have adopted innovative approaches to addressing the issue that are worthy of replication in other Minnesota communities.

Two recent state policy initiatives, while not directly exclusively at the issue of forest parcellation, have significantly influenced the context for addressing forest parcellation. On November 4, 2008, the Minnesota voters adopted a constitutional amendment to increase their sales taxes by three-eighths of one percent for 25 years as a supplemental fund for purchasing conservation lands, water protection, and cultural heritage preservation lands. The tax increase is projected to raise about \$240 million. About \$70 million will be available for conservation related purchases. A significant portion of that money is anticipated to go to forestry land protection.¹²

¹⁰ 2007 Census of Agriculture, xxxxx.

¹¹ Minnesota Forest Resources Council, xxxxx.

¹² Lassard-Sams Natural Heritage Council, xxxxx.

The other policy initiative relates to global climate change. In a 2008 report, the Governor's Minnesota Climate Change Advisory Group (MCCAG) established state goals for reducing green house gas emissions.¹³ The MCCAG also recognized the importance of forests in greenhouse gas reduction by suggesting that nearly 30% of the state's 2025 greenhouse gas emission reduction goals could be achieved through forest management initiatives. Minnesota's extensive forest resource base is estimated to store 280 million metric tons of carbon. This is calculated to be equivalent to the exhaust from 140 million automobiles.¹⁴ To meet the green house gas reduction goal, the MCCAG recommended that the state increase carbon sequestration in forests by planting 1,000,000 acres of trees.

Minnesota is still debating the social and economic costs of planting 1,000,000 acres of trees. Nevertheless, the recommendation adds a new dimension to how the state and local governments think about forestry issues. Most policy initiatives related to climate change are focused on reducing green house gas emissions. This recommendation focuses on the capture of carbon as a tool for netting out green house gas emissions. This focus provides a new justification for why the impact of parcellation might be an important issue. The Council's original justification for studying parcellation was in part based on protecting "wildlife habitat, biodiversity levels, [and] recreational opportunities." Carbon sequestration was not explicitly recognized as a reason for studying forest parcellation. Global climate has quickly elevated the carbon capture function of forests to the list of public policy justifications for protecting forests. However, because of the importance of the forest industries to Minnesota, the Council also needs to balance the other reason it was looking at the impacts of forest parcellation -- "timber availability" for forest products including bioenergy. The Council has developed sustainable forestry management guidelines that are largely voluntary. The increased attention to the use of forests for carbon sequestration will perhaps cause the Council to think differently about forest parcellation.

¹³ Minnesota Climate Change Advisory Group, xxxx (2008).

¹⁴ Minnesota Legislature, xxxx (1995).

The Council's attention will most likely focus on "Big F" Forestry lands -- the large industrial holdings and the state and national forests. "Small f" forestry lands -- family owned forests, etc., may need to receive increased attention from local governments.¹⁵ The forest transect that appears in Appendix A was developed as part of the research project to help the Council members understand the varying contexts for addressing forest parcellation as the Council members continue to debate these issues.

Adding to the complexity is the uncertainty stemming for a series of lawsuits pending in other states related to forestry management practices that turn forests from being a net carbon sink to a green house gas contributor.¹⁶ Depending on the outcome of these lawsuits, the state and local governments may be prompted to take action on more restrictive management of forest resources in order to avoid legal liability. While none of the lawsuits have been brought in Minnesota, the expansive protections given to the environment under the Minnesota Environmental Rights Act¹⁷ may make Minnesota a prime candidate for future litigation on this issue.

The Coastal Environment and the Risk of Uncertainty

The land along Wisconsin's coasts ranges in height from sandy beaches a few feet above the water level to bluffs that rise to 140 feet above the water. Historic studies have shown that, depending on the geology of the area, these coastal lands are eroding anywhere from a few feet per year up to 15 feet per year.¹⁸ As a result, Wisconsin's coastal environment is a more dynamic environment than the shoreland environment typically found around the state's inland lakes.

In 1966, the Wisconsin Legislature passed the monumental Water Resources Law¹⁹ that, among other things, required that counties adopt shoreland zoning ordinances to regulate development around lakes and rivers in the unincorporated parts of the State. The law included minimum standards that

¹⁵ The "big F"/"Small f" distinction is from Minnesota Forest Resources Council Staff.

¹⁶ See, e.g., *Center for Biological Diversity v. California Department of Forestry* (filed August 13, 2009).

¹⁷ Minn. Stat. ch. 116B (2009).

¹⁸ Springman and Born (1979).

¹⁹ Chap. 614, Laws of 1966.

counties needed to include in the ordinances. This law is primarily responsible for the fact that the entire coastline in Wisconsin is regulated by local governments.

The 1966 shoreland protection standards, typical for the era, represented a “one-size-fits-all” approach for the State’s many inland lakes and not the coastal Great Lakes. While this standard was applied for the most part uniformly across the state for inland lakes, coastal resource experts realized early on that many of the standards were not appropriate for the Great Lakes. One example is the requirement that new development be set back seventy-five feet from the ordinary high water mark. This setback standard would be undermined given the erosion occurring along the coasts and because the ordinary high water mark is prone to move, given fluctuating lake levels.

In 1981, the University of Wisconsin Extension published *Regulations to Reduce Coastal Erosion*²⁰ to provide guidance to Wisconsin’s coastal communities for more relevant approaches for addressing issues along Lakes Michigan and Superior. The ordinance incorporated research-based geologic standards for determining development setback along the coasts.

The 2008 research funded by the National Sea Grant Law Center was initiated as an effort to assess the status of Wisconsin’s coastal regulations and develop updated information on coastal regulations for those communities that would be updating their ordinances as they implemented completed comprehensive plans based on the state’s 1999 comprehensive planning law. A benchmark for the assessment was to determine whether local ordinances reflected the influence of the 1981 guidance or whether the ordinances only followed the minimum standards mandated by the state’s Shoreland Zoning program. Upon assessing local ordinances, the research found that many local ordinances reflected at least part of the guidance of the 1981 publication. In addition, the assessment revealed a number of local innovations.

²⁰ Yanggen, XXXX (1981).

The 2008 research then attempted to identify more contemporary issues related to the coasts and develop ways to incorporate these into local regulations. The research found that the basic science related to bluff erosion had not changed significantly from 1981 to 2008. However, approaches to addressing some of the coastal issues have changed. The 1981 guidance encouraged a more engineered approach to addressing coastal erosion. Current research encourages a more natural approach. (This introduces the interesting dilemma of how do you tell local governments that followed the earlier guidance that the guidance was wrong and they need to now do things differently.) In addition to the changed approaches to addressing coastal erosion, the availability of scientific data has improved over the past quarter century allowing local governments to make more informed decisions, particularly with the use of geographic information systems. New issues have also emerged, such as stormwater management, that were not as significant in 1981. The issue of global climate change has introduced a new dimension making the coastal areas even more dynamic and complicating planning for the coasts given the uncertainties of how global climate change will affect Wisconsin's coastal areas. While the project for the Minnesota Forest Resources Council raised the issue of global climate change in the context of using forests for carbon sequestration, this project raises the context of how local governments should plan for or adapt to the possible impacts of global climate changes.

The 2008 research took this information and developed more contemporary approaches for addressing the issues confronting communities. The contemporary approaches are contained in the publication entitled "*Protecting Coastal Investments: Examples of Regulations for Wisconsin's Coastal Communities.*"²¹ The publication uses the subtitle "Examples of Regulations" to reflect the many local innovations where local governments are already using more contemporary approaches and can serve as examples for other communities. From a state policy perspective these innovations reflect variations from the minimum standards developed by the State. (These innovations are now presenting an

²¹ Ohm, xxxx (2008).

interesting challenge for the Wisconsin Department of Natural Resources as the agency seeks compliance with the new minimum standards for shoreland zoning.²²⁾

The 2008 research also raises a larger issue, namely, what is the role of local government in bearing the potential legal liability for the uncertain risks associated with global climate change? The main title of the publication containing the 2008 research, "*Protecting Coastal Investments*," implies that it is the role of local government to protect the investments that people and communities have made along Wisconsin's coasts. This may be an appropriate role for government in the exercise of its police powers. Government certainly can develop regulations intended to help protect public health and safety from natural hazards. However, what happens local regulations might actually exacerbate the risk of coastal erosion? What happens when people follow local regulations but the impacts of global climate change are more severe than projected and people are not protected? Will government be held liable? Or what happens if people do things contrary to the local regulations? When bad things happen, should the government bail them out?

Government at all levels (national, state, local) has an inconsistent track record on the issue of whether or not to bail a property owner out when they build in an area of known risk and something bad happens to them. For example, we know that people should not build in floodplains, but they do. The federal government even subsidizes this activity.²³ When the properties flood, if they have insurance or not, government provides assistance. This bail out mentality encourages property owners to take risks they might not otherwise take.²⁴ The concern about whether the government encourages risk taking behavior in the natural hazard setting shares similarities to the recent controversies associated with the federal government's bailout of the banks that took risks with certain mortgage financing tools. In the coastal setting, in light of the growing knowledge of the potential local impacts of

²² NR 115.

²³ National Center for Policy Analysis, *Subsidizing Disaster* (2005);

²⁴ Congressional Research Service, *Federal Flood Insurance: The Repetitive Loss Problem* (2005).

global climate change, local governments need to be more concerned about the potential increased risks involved and potential liability for future damage.

As scientists warn about the potential for more extreme storm events impacting Wisconsin's coasts, and as the focus shifts away from engineered solutions, it is instructive to look at an example of a more extreme situation -- Washaway Beach in Washington State. The aptly named Washaway Beach is the most rapidly eroding coastline along the Pacific Coast in the United States. Since the early 1900s, it has been eroding at a rate of about 100 feet per year. (The Mississippi River Delta in Louisiana is the most rapidly eroding coastline in the United States in part due to the levees constructed for New Orleans.) Despite the pleas of property owners to Pacific County, where the beach is located, and the State, the government has always viewed the costs of protecting the coast as too high to justify the investment. If the coast were protected, lots along the coast could be worth millions of dollars. But, as the real estate market reflects the risks involved in buying property in the area, the market responds accordingly. Beachfront lots reportedly are available for \$500, though the land might be gone within a year. Further inland, lots that may last a decade go for about \$100,000.²⁵

It is also important to consider how historically the courts have apportioned liability based on knowledge of the risk. The 1922 U.S. Supreme Court decision in *Pennsylvania Coal Co. v. Mahon*,²⁶ a familiar case name to many planners but a case that is often misunderstood, provides a good summary of how at the common law attributes risk. The case arose in the context of a man-made disaster, but also applies in the context of natural disasters. The Mahon's purchased a house and only the surface rights to the land from a coal company. The coal company retained ownership of the subsurface rights and the right to remove all the coal beneath the surface. The deed to the land and house stated that the purchaser was aware of the risk of subsidence and waived all claims for damages that may arise from mining out the coal. The Mahons then sued the coal company to prevent it from mining under

²⁵Seattle Times, xxxx (2007).

²⁶ 260 U.S. 393 (1922).

their home so as to prevent the subsidence of the surface and of their house. The Mahons sought to rely on a Pennsylvania statute, the Kohler Act, which prevented coal companies from removing all the coal from the subsurface in an attempt to limit the subsidence of the surface.

The U.S. Supreme Court in *Mahon*, the court refused to extend government protection to homeowners who purchased only the surface rights to land with full knowledge of the risks of subsidence due to mining activity. According to the Court, "So far as private persons or communities have seen fit to take the risk of acquiring only surface rights, we cannot see that the fact that their risk has become a danger warrants the giving to them greater rights than they bought."²⁷

While no one is expecting that Wisconsin's coasts will suffer the extremes of Washaway Beach, it is critical that people have knowledge of the potential risks involved and the fact that global climate change may alter the nature of low frequency natural events. It is also critical for government to think about whether it is going to bail out property owners when bad things start to happen. If government does not want to bail out these property owners, it needs to be clear about that policy choice. Finally, local governments need to insure that their coastal regulations reflect the dynamic nature of the coasts and do not actually make the risks worse.

Conclusions

Global climate change has the potential to impact local planning efforts in at least three ways -- efforts to reduce green house gas emissions, exploring ways to sequester carbon, and preparing for (or adapting to) the impacts of climate change. Much attention is focused on how local governments can help reduce green house gas emissions. It makes sense to make this approach a priority issue. However, we also need to consider the role that local governments can play in carbon sequestration efforts, as evidenced by the work of the Minnesota Forest Resources Council, and local governments also need to consider how their natural hazard regulations may influence risk taking activity by property

²⁷ ____ U.S. at ____.

owners. As local governments consider these issues, they have the capacity for innovation. States and the national government need to encourage this innovation.

Appendix A

Maintaining Forests Across the Land Use Continuum

	Community Character	Forest Management	Strategies
Urban Center	<ul style="list-style-type: none"> • "Main Street" and surrounding residential neighborhoods. • Often includes older industrial districts. • Paved streets and central water and sewerage. 	<ul style="list-style-type: none"> • Urban forest is among any community's most important assets. 	<p><i>Forest land parcelization is not an issue</i> in the Urban Center.</p> <p>Cities can help limit the demand for rural residential land by <i>promoting attractive infill development</i>.</p>
Urban Fringe	<ul style="list-style-type: none"> • Newer residential neighborhoods. • Strip commercial development and light industrial uses. • Residential densities from around 0.5 to 3 units/acre. • Some multi-family housing on the fringes of larger communities. • Streets tend to be paved. • Most areas have central water/sewerage. 	<ul style="list-style-type: none"> • Forest values unlikely to be sustained due to the potential for conflict with other land uses and the ecological isolation of the remnant forest parcels. 	<p><i>Not the place to expend energy</i> combating forest land parcelization.</p> <p><i>Encouraging attractive infill of vacant land</i> here may help reduce the demand for more rural land.</p>
The Interface	<ul style="list-style-type: none"> • Extensive low-density residential. • Scattered commercial uses, including numerous home businesses, and an extensive network of roads. • Average parcel size >1 but < 40 acres. • Scattered larger parcels remaining. • Boundary between the Interface and the Urban Fringe is blurred. The interface may extend deep into the Forest along roads. 	<ul style="list-style-type: none"> • Forest cover is patchy to nearly continuous. • Overwhelming edge effect. • Limited connectivity between forest patches. • Timber production can occur, but forest management is not as efficient or free of conflict. • Area of maximum wildfire hazard. • Special resources are scattered (e.g. important plant and wildlife habitats) throughout the interface. 	<p><i>Too late to preserve large blocks of forest</i> here.</p> <p>Good work can still be done in <i>protecting and buffering the remaining larger parcels</i>, especially those with lots of <i>special resources</i>, and in <i>limiting wildfire exposure</i>.</p> <p><u>Investment Strategies:</u></p> <ul style="list-style-type: none"> • Acquisition to preserve remaining large tracts of forest and special resources where there is some development pressure. • Conservation easements have limited applicability here. They may be used effectively in concert with conservation development and density transfers. • Tax incentives are unlikely to prevent parcelization where the demand for land is high. <p><u>Regulatory Strategies:</u></p> <ul style="list-style-type: none"> • Average densities and conservation development requirements to buffer larger forest tracts, minimize the edge effect, and maximize connectivity. Conventional zoning exacerbates the potential for conflict in the Interface. • <i>Firewise performance standards</i> are critical here, as are standards that help protect special resources.
	Community Character	Forest Management	Strategies
The Lakes	It is hard to draw a transect anywhere in northern Minnesota without hitting a lake or two. <i>Forestland parcelization is not the issue in the shorelands environment, however, where state-mandated shoreline zoning prevails.</i>		
The Commercial Forest	<ul style="list-style-type: none"> • Forest values - clean water, outdoor recreation, timber, and wildlife – are produced on private land. • Essentially continuous forest cover. May also include recreational facilities, like campgrounds; other resource-dependent uses, like mines; and the occasional hunting cabin. • Only significant areas of residential development are along lakeshores. • Average parcel size > 40 acres. 	<ul style="list-style-type: none"> • Road network generally limited to that needed for forest management. • Plenty of interior forest. • Good connectivity where the forest is not continuous. • Encompasses many special resources, including stream corridors, wetlands, steep slopes, archeological and historical sites, and important plant and wildlife habitats. 	<p><u>Investment Strategies:</u></p> <ul style="list-style-type: none"> • Ideal environment for the use of conservation easements and a tax program (property or income, or both) to encourage land retention and sustainable forest management. • Acquisition may be necessary to protect special resources or ensure public access for recreational use. <p><u>Regulatory Strategies:</u></p> <ul style="list-style-type: none"> • Exclusive Forest Use Zoning – is the best regulatory strategy here. <p>Where local governments hesitate at Forest Use Zoning: Very large (at least 80 acres) minimum lot size can be used in concert with stringent Firewise and resource protection standards. Local governments will also want to consider the costs of providing services to remote home sites.</p>
Public Forest Lands	<ul style="list-style-type: none"> • Forest lands administered by counties, the state, and the U.S. Forest Service. • Produce timber and many other "products," including clean water, outdoor recreation, and wildlife. 	<ul style="list-style-type: none"> • Forest management proceeds in accord with plans developed by the responsible agency. • Active forest management can be affected by incompatible uses on neighboring private lands. 	<p><i>Parcelization generally is not an issue on public lands</i>, although a few of the counties occasionally sell a parcel.</p> <p><u>Investment Strategies:</u></p> <ul style="list-style-type: none"> • Acquisition or Land Exchange – to consolidate public lands. <p><u>Regulatory Strategies:</u></p> <ul style="list-style-type: none"> • Regulatory strategies suggested for the Commercial Forest and Interface areas – to protect the public's investment in its forest lands. Conservation development regulations should require ample buffers for adjoining public lands, as well as providing for wildlife movement between public lands.