

D I A L O G U E

Conservation Easements in a Changing Climate

Summary

Conservation easements are increasingly being used both for traditional conservation purposes and as a tool for critical climate change mitigation and adaptation. Because land use decisions are generally made at the local level, environmental and conservation stakeholders should consider using easements as a hedge against inactive or regressive federal policy as well as against the stressors from our warming climate. On May 17, 2017, ELI convened a seminar around the book *A Changing Landscape: The Conservation Easement Reader* (ELI Press, 2016), which excerpts leading articles and reports to illuminate various aspects of conservation easements. This discussion provided valuable information and strategies for maintaining the integrity of conservation easements in perpetuity while creating flexibility to address the dynamic threats of climate change. Below we present a transcript of the discussion, which has been edited for style, clarity, and space considerations.

Laurie A. Ristino (moderator) is the Director of the Center for Agriculture and Food Systems and an Associate Professor of Law at Vermont Law School.

Jessica E. Jay is a founder and Principal Attorney at Conservation Law, P.C., and an Adjunct Professor of Law at Vermont Law School and Denver University's Sturm College of Law.

Adena Rissman is the Associate Professor of Human Dimensions of Ecosystem Management in the Department of Forest and Wildlife Ecology at the University of Wisconsin-Madison.

Erik Meyers is Vice President for Climate and Water Sustainability for The Conservation Fund.

Laurie Ristino: I want to thank the Environmental Law Institute for hosting this seminar as well as for publishing our book. There's never been a more important time to talk about land protection and the tools to do so, given climate change and what's happening to our national political landscape.

Our first speaker will be Jessica Jay. She is my co-author and also an adjunct professor of law at Vermont Law School.

Her law firm is devoted to protecting working landscapes like environmentally significant lands in Colorado and the Rocky Mountain West. She represents landowners and easement holders working to conserve land using durable but flexible perpetual conservation easements drafted to anticipate changes over time. Jessica is dedicated to ensuring the permanence of such land conservation through sound conservation transactions with practical stewardship and enforcement mechanisms.

Our next speaker is Adena Rissman. Adena focuses on people-environment relations as an associate professor in the Department of Forest and Wildlife Ecology at the University of Wisconsin-Madison. Her research focuses on conservation policy design and implementation, the ecological impacts of conservation policy, and social and legal adaptation to environmental change. She has extensive expertise researching conservation easements and has published more than 40 peer-reviewed articles, including 17 on conservation easements since just 2007.

Erik Meyers is vice president of The Conservation Fund. He currently leads projects on climate adaptation and resiliency, provides leadership on urban and coastal water sustainability, and assists with mitigation efforts. Recent projects include pioneering coastal marsh adaptation work at the Blackwater National Wildlife Refuge and a national, nature-based coastal protection initiative led by the U.S. Army Corps of Engineers and the National Oceanic and Atmospheric Administration. He is a board member of the Natural Capital Investment Fund, and also currently serves on the boards of the U.S. Water Alliance and the Wildlife Habitat Council.

Jessica will be giving us an overview of some of the legal issues. Next, Adena will follow up and talk about climate change and some of her work to see how that really plays out in the conservation easements context and what land trusts across the nation are doing. Then, Erik is going to give us a perspective of a nongovernmental organization (NGO) that is working on the ground nationally on some of these very important issues, as well as some of the innovations that are occurring with easements anticipating and reacting to climate change.

Jessica Jay: Thank you for spotlighting our publication today. So, the legal framework for these questions is really whether conservation easements can be used and utilized for addressing climate change in either a prospective way or retroactive way—whether we can look back to adapt

these conservation easements that are already in existence or look forward to plan through conservation easements that are climate controls and address those issues in newly drafted easements.

I'll touch on the qualifications for tax benefits, which is an overarching issue relevant and relative to climate change in this discussion. Then, I'll look at the challenges with using or attempting to use this perpetual tool of conservation easements, which includes the need for their potential modification, to adapt to and mitigate climate change. Last, I'll attempt to give one forward-looking example of strategies for planning using conservation easements.

The legal characteristics of perpetual conservation easements, sort of a 50,000-foot view, is that, first and foremost, they're voluntary. They're generally not the product of a requirement, whether it be by land use controls or by a regulatory agency. They can come about in those ways, but the way we think of them generally is that they are voluntary agreements entered into between the landowner and either a nonprofit, charitable organization known as a land trust, or a government entity.

The other aspect I touched on already is that these conservation easements are typically considered to be private processes. They can involve the government, they can involve public access to private lands, but the typical sort of interaction between the parties engaging in these perpetual documents is that they are private, between a land trust and the landowners. They typically do not award other than visual public access to properties. While in some circumstances, we do have open-space easements that have public access for education and recreation, that's not necessarily the typical conservation easement grant. These are considered to be incredibly unique.

Further, no two conservation easements are the same. Even if you have the same donor of a conservation easement or grantor landowner and the same holding entity, whether it's a government agency or a land trust, that conservation easement may be different for a variety of reasons from another held by the same entity granted by the same owner. The legal description would be different and possibly the values being protected by the conservation easement would be different.

So, this creates sort of an anomaly in the landscape of real property protections in that this is not a cookie-cutter industry. Every single one of these documents is insularly unique to its own circumstances, its own landowner, its own holder, and the purposes for which it was granted.

And last, the most dynamic aspect of conservation easements, and probably their most controversial component, is that they are usually granted to be perpetual, which as Woody Allen has told us is a really, really, really long time, especially toward the end. We understand that conservation easements are intended to last for a very, very long time, and in order for that to happen, we need to plan at the outset for the inevitability that they last forever.

At the same time, we need to confront some of the criticisms and context for the concerns surrounding a perpetual document. It's not unrealistic or unreasonable to suggest that this notion that someone owning land could decide the use of that land forever and bind the hands of all future landowners over the rest of time for as long as we know—that it might be audacious in the most positive light and arrogant in the most negative light, presumptive, and an attempt on our part to control future generations' use and decisionmaking regarding land. You know, who are we to do this? These are fair questions to ask.

I'm of a mind personally that protecting land and setting out the intent to protect land forever is perhaps no more or less binding than the decision to build on land. We have yet to see a robust undevelopment approach to land, so decisions to build on landscapes have become nearly as, if not equally, binding as the decision to protect that land.

But we go into this with our eyes wide open, knowing that these are the decisions we are making today and, yes, they are intended to bind hands of future landowners forever. So, we're going to raise the question: why are these perpetual? And when I engage in my own conservation easements, drafting on behalf of land trusts or landowners, I have to be able to answer why this needs to be perpetual, and why is it perpetual, the latter question being the easier one to answer and the one I'll take first.

So, where do conservation easements come from and what are the legal bases upon which they rely? Conservation easements existed long before particular sections of the tax code were developed, but they really became a much more popular tool upon the passage of §170(h) of the Internal Revenue Code and its accompanying §1.170A-14 Treasury Regulations. The two principal components of these laws are, one, qualifying characteristics for which you would gain a tax benefit under these laws, and two, the perpetual nature being required as a matter of law under the code and its attendant regulations.

Regarding the first requirement, in order to qualify for the tax benefits in the form of a deduction, you need to grant the conservation easement for one of four qualifying purposes. The general categories under which you could grant a qualifying conservation easement include public recreation or education; open-space scenic qualities or pursuant to clearly delineated governmental conservation policies, both of which would need to provide a significant public benefit; wildlife habitat; and historic land or structures. You'll notice there is no category for climate adaptation or mitigation.

Regarding the second requirement, conservation easements shall be drafted to be perpetual. This is why we draft easements for that length of time. It's also why statutes have been created in all but one state to authorize the creation of perpetual conservation easements.

Two fascinating components to this law include first, that “perpetual” is defined as protecting the conservation purposes for the easement’s grant in perpetuity. The reason I’m pausing here is because this is different than and distinct from protecting the land under easement itself, perhaps, and the conservation deed itself. The code discusses protecting the purposes for which the easement was granted.

And second, distinct from protecting the purposes is the definition for the “qualified real property interest,” which is that upon which you are granting a promise to protect, and we’re given a definition for that which is a restriction granted in perpetuity on the use made of the real property, which is not focused on the purposes.

So, we’ve got a twin set of goals here: one is to protect the purposes set out by this perpetual document over time, and one is to protect the landmass under the conservation easement, encumbered by the conservation easement over time. Conservation easements, then, are supposed to be perpetual either in protecting their purposes over time or in protecting the landmass that they are assigned to over time. This is an important distinction regarding climate change.

Putting this perpetual document into practice raises these twin challenges whether or not we’re talking about climate change. First, we strive to make conservation easement deeds durable, meaning they need to endure over time, they need to be unambiguous, enforceable, and able to withstand outside challenges whether by the landowners who granted them, successor landowners, outsiders to the property wanting access, and so on. Thus, we want them to be strong internally and to last forever.

We also want them to be flexible, responsive, reactive, dynamic, and able to flex without breaking in response to change. These are at times complementary characteristics of conservation easements, but at times also contradictory. The fact that we’ve got to try to accomplish both of those things while drafting in anticipation of anything and everything that might come to be on the property is going to be captured by our climate discussion with a question, which is: can we address climate change with perpetual conservation easements?

Adena Rissman: I’ve been working on conservation easements for a number of years and want to share with you some of the results of the study I conducted with colleagues on the questions of conservation easements in adaptation to climate change.

There’s a big-picture question here: how do you plan for permanence in a changing world? And a really specific question: how does the conservation easement structure shape options for responding to climate change? I thought I would give a couple examples of the way climate change

can affect conservation goals, and explore how we adapt existing conservation easements or future easements that might be created to address climate change impacts, rather than focusing on climate change mitigation or greenhouse gas emission reductions.

I want to start with a story, from the Southwest Michigan Land Conservancy. In this case, there was a conservation easement that was set up to protect a rare and high-quality wetland coniferous site, which was considered highly vulnerable; in particular, the hemlock conifers on this site were particularly vulnerable to climate change, being at the south end of their range in Michigan. The landowner, who is a very active manager of the property, was very concerned that these hemlocks would be lost, and brought a proposal to the organization to instead plant the site with Asian wetland conifers as a way of ensuring that the site remained in wetland conifers under a changed climate.

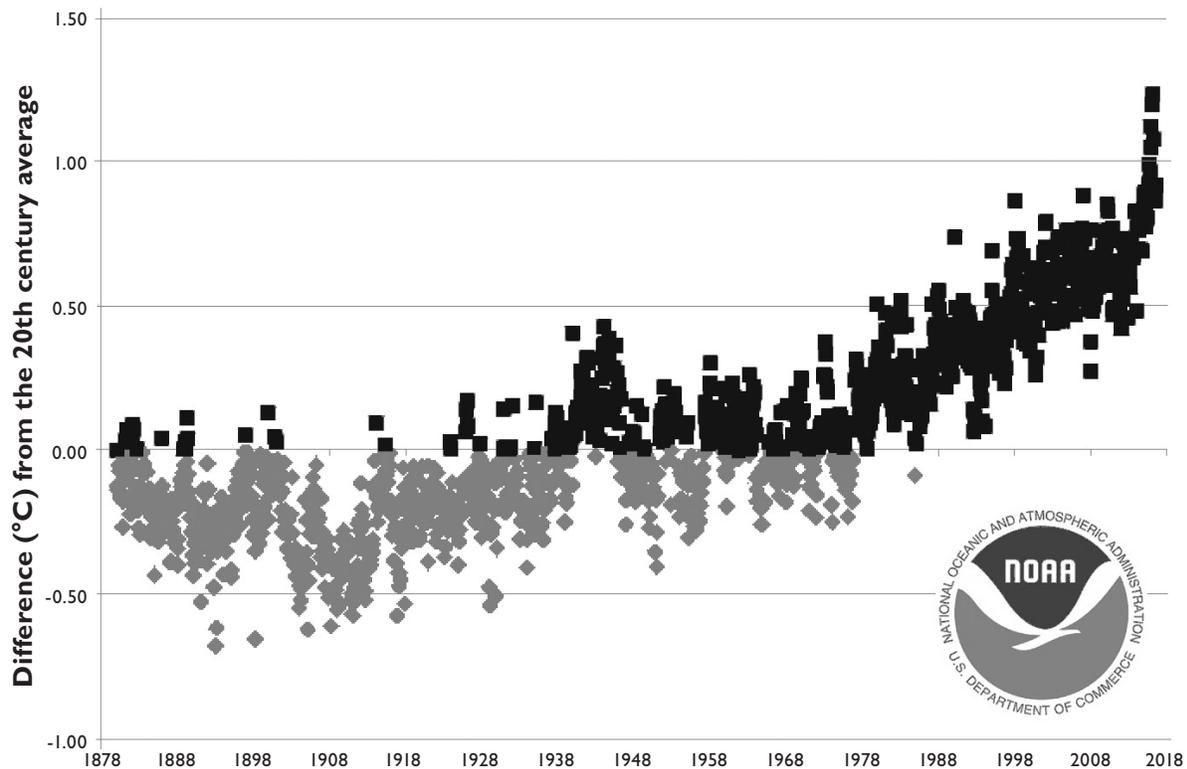
This is a difficult decision for the organization to figure out how to respond to. But the key thing here is not just the choice that they made, but the need for a really explicit decisionmaking process, which they established.

What they did was go back to the conservation easement, read the terms, and one of the things that helped them is that the easement explicitly stated that the organization has the right to approve a restoration plan and also lay out the kinds of things that needed to be in that plan. Then they said, well, okay, it’s one thing to have the legal right to say yes or no, but another thing to get the landowner on board.

Because the landowner had some scientific bent, what they did was bring together a panel of experts to participate in a webinar with the landowner to really try to get that person’s buy-in to say, well, what are the risks here, what are the costs and benefits? They ended up saying no to the proposal, saying, well, if they were bringing in something from Indiana or somewhere nearby, that may be different, but they weren’t going to allow them to bring in Asian conifers. However, they were able to make this decision in a way that retained that relationship with the landowner. And so, I think the understanding of both the legal aspect and the relationship aspect of conservation easements is important here.

Moving to an overview of climate change, I want to give a couple examples of the ways that climate might affect land conservation. The chart below shows monthly global temperature departures. Each dot is a month and the zero line is the average temperature of the past century. You can see that we’ve had an increase in warming over the past half-century. We’ve also seen an increase in heavy downpours, so extreme rain events, and also extreme drought events that are centered largely in the Midwest and the Northeast.

Monthly Global Temperature Departures From Average January 1880–September 2016



Source: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, *Global Climate Report—September 2016*, <https://www.ncdc.noaa.gov/sotc/global/2016/9/supplemental/page-1> (last visited Aug. 8, 2017).

We've seen species shift. There are different birds that are shifting their ranges and their winter destinations, in particular to the North. But not just to the North, sometimes in different places that are all less cold. We've also seen, in addition to climate change, a change in land use. I think it's important to put climate change in the context of other kinds of social and ecological changes that we're seeing. These are things like an increase in invasives, an increase in habitat fragmentation, and an increase in land use.

So, what did our research team do to try to tackle this project? Well, I worked with a number of universities, largely with law professors, in six different states. We coded 269 conservation easements into a spreadsheet, and then we conducted interviews with staff of land trusts and government agencies. This work was conducted in 2011 and 2012, and we've written a number of papers about it, one of which was included in *The Conservation Easement Reader*.

What did we find? We found that many employees of these organizations are concerned that climate change is likely to influence this region. Eighty-eight percent said they were concerned and 9% said they don't know. My guess is, given that these interviews were done in 2011, that 88% might be a little higher by now. But when we looked at conservation easement documents themselves, very few mentioned climate change; 97% did not mention

it. Although we know that this is an important issue, we know for existing easements that climate change is going to need to be dealt with outside of any specific provisions dealing with climate change.

When we asked people what social and ecological changes they perceive as having affected their conservation easements already, they said land use around the conserved properties and landowners on that conserved property are some of the biggest effects that they're seeing, along with development pressure and property values—issues local to the property dealing with land use and landowners.

But a number of changes people saw were ecological in nature: shifting species or habitats, water flow and quantity, which can be affected by climate change, and then climate change itself. One of the reasons that we think people are not working as much on climate change, or at least not at that time, is that climate change was getting a lot less attention than development and other more immediate threats. That's a challenge of the slow-moving, but sometimes very impactful, change that climate change can have.

When we asked people about the likelihood of climate change negatively impacting the conservation goals of their conservation easements, a solid one-quarter said they thought it was pretty unlikely to affect them, although a little more than one-half thought it was likely, and 20% didn't know. That's a pretty high percentage of people

who weren't sure and maybe looking for more information about those potential impacts.

When we looked at the easement terms, we said, well, the easements themselves don't talk about climate change, but what are the mechanisms in the easements that are able to change land management or to change the way that the property is managed and the rights and restrictions that are included? We found that the most common terms were management plans and amendment terms.

So, many of the conservation easements included the potential for a management plan that provides a lot more flexibility, a lot more space for changing the specifics of land management. But there were also a lot of challenges with management plans. Many of them have an unclear link to the terms of the easement. It's not clear if they're enforceable. Sometimes they're not even written before the easement is done and the landowner is paid. The details about management plans are quite important.

Many easements have an amendment term. There's probably a perpetual debate within the land conservation community around amendments, but it's certainly one potential way to change the terms in ways that may or may not be adaptive for climate change. Many of the conservation easements allow for exceptions with consent. For instance, they might say the rule is you can't plow this area except if we give you consent to do that. Those are ways that organizations are building in exceptions for themselves. A very small number rely on certifications, and these tend to be, say, forest conservation easements that require the landowner to remain certified by the Forest Stewardship Council or the Sustainable Forestry Initiative.

There are a couple points that I want to make based on these findings. One of the things that really became clear to me through doing this work is that adaptation is not the same as flexibility. When we started this work, we were asking people how flexible do you think your easements are? Then, we realized that some people were saying, they're very flexible; we can just ignore a lot of the restrictions if we don't think they apply anymore. Or people were saying they're very flexible because we think those purposes can still be met. Or they're very flexible because if the purposes can't be met, we can just extinguish the easement and move land conservation to somewhere else. We realized that there was too much wiggle room in what flexibility means and so we started to talk more about how to be adaptive. As Jessica was saying, how do we deal with the fact that easements embody this tension between permanence and change?

So, we talk about principled adaptation, something that increases the conservation benefit to really achieve those conservation purposes. I think there's a tension there between whether that's going to be onsite or if those purposes become impossible to meet onsite, whether they're met offsite somewhere else in the landscape.

There is a variety of arenas for adaptive responses. There are questions about where to conserve land, what tools to use, and then more specific considerations if an

organization is using conservation easements. Given my background in conservation planning and evaluation, I think this question of where to conserve land is interesting and really important, and I've been excited to see more strategic conservation efforts by land trusts and governments to think about that question and to use a climate lens among a variety of other lenses for thinking about that goal of being strategic with which lands to acquire. There's another important point here about what tools to use. Conservation easements may not be the right tool for a variety of situations, and I think that choice is another one that's important.

One thing that I hear a lot is, well, if we aren't going to have permanence because of climate change, maybe we should go to short-term agreements. And I think that can be a problematic kind of knee-jerk reaction to say, well, let's go to 10-year or 15-year contracts because there's a lot less of the durability that many people have fought really hard for in land conservation. So, I think there's a challenge to not throw the baby out with the bathwater given some of the challenges that easements might face. Then, sometimes easements may not be the right tool. Figuring this out is something that I think needs a lot of thought.

Third, if an organization is using conservation easements, what are some of the things to keep in mind? The question of drafting the easement is important—stewardship, administrative procedure. As I mentioned in the case study of the hemlock conifers, what's the process that's put into place for doing that change over time?

Then, finally, having the capacity, the staff, the budgets, and being able to call on expertise as needed to be able to address these issues.

There are a couple specific things on the drafting side. Having clear purposes is important, and there is a debate here as to the level of specificity that's good for those purposes. I think there are some real trade offs. If we go with general purposes, then we might lose, say, elements of biodiversity that wouldn't necessarily be included in our goals, just to protect forest or just to protect natural habitat. So, we look at specific rights and restrictions, and then robust processes for change.

In terms of stewardship monitoring, we found that many organizations are not retaining rights to do ecological monitoring, and that may hinder their ability to even know how climate change might be affecting the properties. Having rights to do active land management themselves as an organization could be an action. There's informal adaptation through landowner relationships. Not everything has to be confirmed in the rules to make it happen on the ground. I think that's important, too.

Then, there's a process for diligent, graduated enforcement of those rules, and, finally, public accountability, which is really a broader question about important issues on how we provide the right levels of oversight for the agreements and then these administrative processes for change overall.

I'll end there, and I want to thank all my collaborators and the many conservation organizations and landowners who have worked with us on this project as well as specific funding for this work from the Resources Legacy Fund and other funding for my work from a variety of government agencies and foundations.

Erik Meyers: I really found the other presentations very interesting from our perspective. We were introduced as an organization that is a land trust, and that's true. The Conservation Fund is an accredited land trust, but the major part of our business is not long-term management and stewardship of conservation properties. We're more typically intermediaries in providing services to other public and private partners, and function more like a conservation bank—providing capital and transactional expertise to our partners to help them realize their conservation priorities.

We have a unique dual charter, which includes land and water conservation, but also economic development. That leads us into work on community, economic development, food security, equity issues, water quality, climate resiliency—all part of trying to make conservation work for the nation, work for America. In terms of land conservation results, our biggest programmatic area, we've conserved nearly eight million acres since we were founded in 1985. So, our footprint is significant and we work with partners in virtually all instances.

I would like to comment on a couple of matters generally, and then get into some specific instances where climate considerations begin to intervene in our approach.

Generally, I think the point has been made, Adena made it quite eloquently, that size matters. The larger the conserved landscape, the more protective it's going to be longer-term. Putting together a quilt of protected properties or larger properties is always going to be better than focusing on a small property that you're trying to buffer from various impacts, whether those are from climate change or local land development. You need to have larger properties for the longer term.

A good example would be open inland areas that are adjacent to coastal protected properties. I'll talk about coastal issues in just a moment, but as sea levels rise, coastal marshes disappear and one needs to have an area for those coastal marshes to retreat toward. Otherwise, they cease to exist as an ecological type. Similarly, floodplain areas—conserving lands in historic floodplains out to the Paleolithic dimensions of what those floodplains used to be, will be more protective than narrower conservation protection, given the increased precipitation in many areas of the country. Wildlife habitat tends to move in response to warmer temperatures, as Adena pointed out, whether to higher altitudes for cooler temperatures or to other latitudes. These are general considerations that affect climate-sensitive thinking about land conservation needs.

I also mentioned coastal areas. Those provide an example of utilizing conservation easements for adaptation purposes. Adaptation involves making adjustments on the

landscape in response to climate effects, but this aspect of land conservation is not primarily motivated by reducing the amount of carbon dioxide going into the atmosphere or CO₂ equivalent. That aspect—reducing carbon is on the mitigation side of conservation—I'll turn to in a minute. Where the adaptation is most clearly needed, in my experience, is in coastal areas, primarily responding to sea-level rise.

Resources for the Future recently published a paper in *Ocean & Coastal Management*,¹ which looked at the U.S. Atlantic coastline and concluded that with a three-foot sea-level rise, a level consistent with projections for the Chesapeake Bay over the next 80 to 90 years, approximately 3.8 million acres along the Atlantic seaboard would be affected. That's a considerable land area and includes a significant amount of protected state and federal land. Not too much private land, mostly state and federal. So, thinking about long-term conservation needs, where will the conservation be most needed? It's going to be in these coastal areas for retreat space, for features like tidal wetlands, coastal wetlands in particular, even in places like the Delaware River and the Chesapeake Bays. The need is not just for coastal areas near open ocean, but, in fact, is mostly in embayments, estuaries, and the back bays behind the barrier islands.

One way that we've looked at projected impacts is by using Sea Level Affecting Marshes Model (SLAMM)² data. This model is frequently used for projecting future marsh migration. Several states, including Maryland, have used SLAMM modeling to do some projections, to anticipate where, at least based on topographic data, their marshes are most likely to migrate. But along with that information, one needs to leaven current land use, land use plans, and infrastructure features, because those will not change. I think the point was made earlier, that those aspects are as fixed on the land as conservation easements are permanent. So, it's difficult to move people out of those areas that might be affected by sea-level rise. Those will not be great places to do long-term conservation if your goal is to see wetlands recreated in those areas.

One of the key strategies that we've used—and here is where the conservation easement potential comes in—is linking open working lands and natural lands. Lands protected for agriculture and forestry purposes preserve open space. Land development involving built infrastructure, such as housing, poses a significant impediment to actions that could allow these wetlands and other coastal areas to adapt to rising seas. Maryland's Rural Legacy Program provides funding to preserve large contiguous tracts of land and enhance natural resources, agriculture, forestry, and

1. Rebecca Epanchin-Neill et al., *Threatened Protection: Sea Level Rise and Coastal Protected Lands of the Eastern United States*, 137 OCEAN & COASTAL MGMT. 118 (2017), available at <http://www.sciencedirect.com/science/article/pii/S096456911630429X>.
2. NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, OFFICE FOR COASTAL MANAGEMENT: DIGITALCOAST, *Sea Level Affecting Marshes Model*, <https://coast.noaa.gov/digitalcoast/tools/slamm.html> (last visited July 25, 2017).

environmental protection. It maintains a sustainable land base for natural resource-based industry, primarily forestry and agriculture.

Rural Legacy is a source of funding. Funding is pretty critical to conservation outcomes. Since it requires the collaboration among a land trust, local government, and the private landowner, voluntary funded conservation easement programs like Rural Legacy drive partnerships that provide sustainable benefits for all. So, with the private landowners, the voluntary program has to agree to impose the conservation easement on their agricultural land. The owner granting the easement retains the right to keep the land in agriculture or forestry use and the natural resource values there. The easement limits the amount of future development that can take place in that area. By keeping the land productive and free from development, what an easement like this does is also keep areas open for future marsh migration in places like the Eastern Shore of Maryland. It's entirely consistent with keeping those areas available for coastal marshes to migrate landward, inward, and upslope as sea levels rise in that area.

Maryland has innovated with a coastal resilience easement modeled after some work that the U.S. Environmental Protection Agency (EPA) did.³ This coastal resilience easement basically looks at limiting the need for future defense against the progression of tidal waters by restricting further impervious surface coverage, requiring periodic soil and water quality plan updates, and permanently eliminating development. This initiative is voluntary and supported by Maryland's Program Open Space funding.

To date, there is only one coastal resilience easement I'm aware of in Maryland. It's near the new Harriet Tubman Underground Railroad National Historic Park in Dorchester County on a family-owned farm property. Eastern Shore Land Conservancy was involved, along with Maryland's Department of Natural Resources, and it's a great project. It helps protect the landscape context of the park, which is also within the Blackwater National Wildlife Refuge and near a state wildlife management area. Thus, there's a huge block of conserved land in that area and this is a piece in that overall puzzle.

I mentioned Rural Legacy, but the Natural Resources Conservation Service (NRCS) has funding as well that supports easements. NRCS has rolled a lot of the agricultural and forestry-related support programs into their agricultural conservation easement program, so it is a significant funding source. The agency also administers the Healthy Reserve Forest Program, providing resources to help landowners protect and enhance forest lands as well.

That leads me to the second specific example, which is also more about climate mitigation than adaptation alone. The Conservation Fund has been protecting working forest lands, which are actively managed for timber, paper pulp, and other products and also have ecological values. Of the

750-million-plus acres of U.S. forest, more than 420 million are working forests. These are actively being utilized for productive provisioning purposes—fiber, timber, and so on. According to our best estimate, and I think this probably comes from the U.S. Forest Service, about 45 million acres of the 420 million acres are at risk of being lost to development over the next 10 years.

Through a special fund that we've created with partners, we've protected about 400,000 acres of working forest over the past decade, but there's still more to do. These forest lands represent more than 2.5 million jobs and \$112 billion of gross domestic product on an annual basis. From an ecological perspective, this working forest area covers approximately 53% of our drinking water source areas, and includes 60% of at-risk species. So, they're significant to protect.

We've acquired conservation lands that are working forests, and imposed a sustainable forestry management plan as part of the environmental uplift. Adena mentioned that as well. At least two well-known voluntary programs exist: the Forest Stewardship Council and the Sustainable Forestry Initiative. They are voluntary third-party certification programs, which is important. So, we have secured working forests and operated them. One source of funding making acquisition of these forests possible is carbon offset or sequestration funding from California's Air Resources Board (ARB) Program.

Forest protection programs can offset increased carbon in the atmosphere by sequestering carbon in the soil and accumulating it in growing trees. We've done a lot of work in this area to sequester carbon in these working forests. The approved forest protocols that attract offset dollars, both voluntary and compliance-based (under the ARB program), have provided funding enabling us to acquire and protect working forest lands.

We impose the sustainable forestry management conditions as part of the conservation easement, which will be held by an additional third party, a land trust. The Conservation Fund does not typically hold the conservation easement. We'll secure a local land trust or a group like The Nature Conservancy or others in the stewardship business to hold them long term. But these forest areas provide a new mechanism to reduce the amount of carbon going into the atmosphere now and into the future.

The conservation easement will also keep in place the forest management plan. Those plans also typically include limitation of subdivision—fragmentation is a big issue with these forests—establishment of special management areas, other forest management goals that speak to enhancing diverse tree age classes, ecosystems, wildlife habitat, sustainable production, and limits on harvest volumes typically. These all go into the conservation easement provisions.

So, the one set of experiences deals with the need to adapt long-term. These forests also have an adaptation component in the sense of being large blocks of land allowing species to migrate across them, but they are also, from

3. See JAMES G. TITUS, U.S. EPA, ROLLING EASEMENTS (2011) (EPA 430R11001), available at <https://www.epa.gov/sites/production/files/documents/rollingeasementsprimer.pdf>.

a climate mitigation perspective, areas where carbon can be sequestered and kept out of the atmosphere.

Along with all of the conditions that have been mentioned here, I want to highlight the fact that depending on where the funding comes from, those funders have their own requirements. It's not just what the land trust and the landowner can agree to, it's what the funders will impose in terms of conditions for granting their funding to go into that conserved easement.

Laurie Ristino: And that can make conservation easements really complicated.

Erik Meyers: It can make them very complicated. And typically what we find in most of these, there is not a single source of funding. There are multiple sources of funding. We often use the term "layer cake" to describe the multiple sources of funding that make conservation acquisition deals possible, so there's a lot that goes into it. I would say along with the landowner, and certainly with the land trust, there needs to be consideration of what the funders require for being able to adapt. Typically in these working forest arrangements, we will advise the current landowner on items to consider when developing the conservation easement terms. So, they go to purposes and conservation values, the practicality, adaptability, and measurability to achieve the enforcement of the easement—division of property, forest management, and, coming back again, the special considerations that the funders require. Again, this is part of the typical approach that we're taking in this context.

Laurie Ristino: Thank you, Erik. I'm glad you brought up both climate adaptation and mitigation and their distinction, but also how you can have both really happening simultaneously on land, especially when we have protected large acreages. We did make a decision at the outset of this talk to focus more on adaptation, and that's because it's my sense from my practice that there has been quite a bit of experimentation using conservation easements for mitigation purposes in order to generate revenue streams and also have protection on the ground. My sense, though, is that both land trusts and state and local governments that hold easements have not innovated in the adaptation space as much.

And it's challenging. Adaptation in conservation easements is one of those things where you need a champion that is credible to really start addressing climate change impacts. It's difficult to draft a good easement anyway, and then you have dynamic issues related to climate change that come into play.

Building upon that, I open this up to all the panelists—is that your sense as well, that there's been more mitigation experimentation and innovation than adaptation?

Erik Meyers: I think that's probably correct. And the adaptation responses tend to be fairly immediate, and you have

slow-moving change rolling forward, so it's hard to anticipate a lot of those in advance. I think some of the push over the past several years on landscape-level conservation has been to think more at a watershed or larger landscape scale for precisely these reasons, but without precision as to what particular location outside of that general landscape. Thus, adaptation generally involves larger landscape conservation as opposed to specifically on a particular property, except again in this context of the onset of sea-level rise, and somewhat for inland flooding, with more instances of extreme storms and impacts in floodplain areas, so there's a little bit of experimentation there.

Adena Rissman: When we think about an experiment, it's difficult to know if these adaptation experiments are working, because a lot of these changes have really just started. About mitigation, measuring and proving that it creates benefits is also a challenge. It is easier to move forward with a best-guess-based expertise to shape agreements that will hopefully result in carbon sequestration. Evaluating mitigation activities afterwards is difficult but important. There's a lot of adaptation in terms of people innovating with different easement terms, but it's difficult to know if that's really climate adaptation and whether these terms are also working.

Laurie Ristino: That's an excellent point. Among the options presented by Adena for changing land management over time on conservation easements—that's "exception with consent," certification, amendment term, and management plans—which do you think is the most compatible legally with conservation easements and which do you think will be most effective to address adaptation needs over time?

Jessica Jay: One of the things I mentioned is that the regulations and code were written 30 and 40 years ago. They didn't anticipate climate change. They still don't.

So, one of our opportunities is to look at whether we try to utilize the existing language of the legal framework we have, and try to adapt it to changes on the ground and in landscape and in climate; or whether we just go ahead and affirmatively reform those documents that would give a thumbs-up to protecting landscapes with conservation easements and make them a bona fide conservation value. Out of the options that Adena raised in the current context of what we have legally, a management plan, as she pointed out, is perhaps not enforceable, not tightly linked to the conservation easement. So, perhaps, it's not the best document to try to address these sorts of changes in an amendment now. The only other issue I'd highlight in that conversation would be that perhaps the easement should follow the resource instead of being anchored to a no-longer-appropriate parcel.

Adena Rissman: Management plans are the most common mechanism in which people are actually adapting land

management over time. Amendments tend to be reserved for bigger, thornier questions that often involve amending boundaries, development, and subdivision restrictions, things that aren't really designed just to do adaptation to climate or other kinds of ecological change. So, I would say one real concrete place for improvement is really thinking about that link between the management plan and the easement tool, and coming up with ways to link these more tightly, provide the right kind of oversight, require that people write their management plans before they get the payment, decide what to do if disagreements arise, and really ensure that the management plan has a process for dealing with climate as well as other kinds of changes.

We've been thinking a lot in my research group about novel ecosystems and what that might mean for conservation. There are a lot of different ways of thinking about novelty as not just change, but a creation of something new that we haven't really experienced before. Invasive species are a really common cause of that, sometimes linked to climate change. But we are also seeing a lot of interest now in genetic modification of not just crops, but also trees and the need to really think broadly about a variety of different kinds of environmental changes that might be on the horizon.

Laurie Ristino: I have a follow-up question with the management issue. As a contractual matter, if you refer to the management plan and require it to be adhered to by the landowner in the easement itself, and then it could read into the easement document all the terms of the management plan, then as a contract matter, is it enforceable? I wonder if there is any case law out there that indicates the challenges of really enforcing management plans as a material term of the conservation easement.

Jessica Jay: There's only one case that I know of that has explored something analogous to that under the tax law regime, which was allowing in a baseline inventory a biological document that supports the conservation easement grant.⁴ There was express incorporation of the ancillary document, a baseline inventory, into the terms of the easement that allowed it to be recognized by the court. I haven't seen anything specific to management plans.

What I do when I'm drafting a management plan is expressly incorporate it by reference. And that's kind of the best you can do, short of having the management plan be its own freestanding, signed, executed, and recorded document, or recording it with the conservation easement.

Erik Meyers: Two comments to add to that. One, in the forestry space, having a requirement that you be certified to a third-party forest management system, as a way of regularly updating the management approach and being consistent with the conservation purposes and values that you set out to protect, is a good mechanism if there is a third-party system out there.

The other instance that comes to mind is the EPA and U.S. Army Corps of Engineers' 2008 Mitigation Rule⁵ that considers wetland mitigation banks. There would be a conservation holder of the conservation easement over that bank, generally a third party, and that involves a look back over a period of time to assure that the enhancement, that the uplift of the project, has occurred and there's a potential for looking at that management over time. Now that's a shorter period going back to the Forest Stewardship Council or Sustainable Forestry Initiative, which would essentially contemplate a longer-term management hold on that property. That's why they were established in the first place, for the management of those services.

Laurie Ristino: If we were to develop a set of best practices today for land trusts and NGOs, other NGOs that either broker or hold easements, as well as state and local governments regarding adaptation—we're going to put mitigation off to the side right now—what would those look like and how would we advise those organizations?

Erik Meyers: You do have to think about the enforceability of the easement conditions. Smaller land trusts are less able to deal with very complex sets of requirements, I think, and large ones are going to be pressed in terms of their financial ability to manage diverse properties over a large area according to difference. So, there's a need to balance the unique conservation aspects, and a need to be able to adjust and ensure that the monitoring and enforcement of easement conditions can be maintained over time.

That, quite frankly, is probably more important than many of the other aspects in responding to yet-unknown climate change impacts. We've mentioned the management plans, but thinking carefully about purposes and values to make clear that there could be some shift in the emphasis within the constellation of conservation values that the property is being set up. If you have a single value and you're defeated in providing that purpose by effects on the ground, that's difficult, and then you're probably in the situation where you're doing amendments. So, I would say probably spending more time on that part of the easement drafting.

Laurie Ristino: I think it's worth noting that recently the Land Trust Alliance added a position for climate change director—a first for them, I believe. I think it's really important, and I think that goes to your comment that we have a lot of small land trusts that may not have the capacity to address complex impacts of climate change. I mean just having the regular capacity and staff to manage conservation easements is sometimes lacking. It's really important that national organizations that do have the capacity and wherewithal are taking the leadership role.

4. *Butler v. Comm'r*, T.C. Memo. 2012-72, No. 1752-09 (2012).

5. *Compensatory Mitigation for Losses of Aquatic Resources*, 73 Fed. Reg. 19593 (Apr. 10, 2008).

Adena Rissman: As Erik was saying, I think a lot of the best practices are just best practices, period, regardless of climate change, like having clear enforcement processes. Now, having an insurance pool for legal defense, I think, has been a great innovation over the past decade. When you think about what is different about climate adaptation, one of the frameworks that is helpful has come out of some of our federal land management agencies thinking about when we should be resisting change and when should we be embracing or allowing for change.

I think that's important. In general, in conservation, we've had a real historic focus on persistence and on restoration, sort of looking back and keeping what we have now. But under what circumstances can we allow or encourage transforming to something new? I think that's a different kind of layer, and that doing that work requires a lot of integration of science with decisionmaking with the funders and what they're looking for.

Actually, it's been interesting to look at adaptation in the ways that sometimes rules from certification organizations and from funding bodies could actually create barriers to adaptation. For instance, they may not allow for seed sources that are non-local, say, coming from more southern areas, to enter into a place. There are good reasons for those rules, but under what conditions should we allow for some change to accommodate climate?

Erik Meyers: To your point, Adena, Maryland requirements under Program Open Space easements used to require defense of conserved land using program dollars against sea-level rise until relatively recently. So, not only would they not permit migration of wetlands across conserved land, but you would have had to actively prevent that change from occurring on the property. It is starting to be reflected in some of the underlying requirements, but it's very early in that process.

Laurie Ristino: And we know how well that works, right? This is really interesting. I used to be an attorney for the Forest Service as well as NRCS, and I was very engaged, as much as a lawyer can be, at the U.S. Department of Agriculture (USDA) Climate Change Program Office, but one of the things that was interesting was that bold move for assisted migration. But I think in this context we're also talking about assisted succession and all the related sticky, thorny issues.

On the other hand, the reality is that the landscape is really changing quickly in some ways. I moved back to New England from Washington, D.C., in the past four years—I grew up in Massachusetts—and I have to say that the weather's noticeably different to me. My mother and I were talking about how it's cloudier. It's kind of like the Pacific Northwest in a weird way sometimes, but it is striking to me. And clearly the weather extremes are having a real impact on the resilience of the flora and fauna. I can see that visually.

Erik Meyers: You bring up a great point, Laurie, that with some of these large forest systems the changes in temperatures are just enough that the endemic native species are never going to mount their return, so you get into the question of whether one can start substituting tree species that are not native to that area? What's your purpose? Is it to retain that native stock in that area or is it to have a forested landscape that may require a change in the species mix, if not outright loss of some species?

Jessica Jay: I think in terms of drafting easements and trying to anticipate this issue, and any other that we can't even think of right now, we have the benefit of knowing that there are things we don't know. So, from a drafting standpoint, if we have that luxury looking forward, we can retain the right to approve changes to the document, as mutually agreeable—or in the sole discretion of the holder with funder approval, of course, if they have that—legacy of oversight. But also thinking and planning about the values that you're protecting, the purposes of the easement, and instilling processes in the document itself in anticipation of change—selecting, prioritizing, having discussions about what happens if no purposes are possible to accomplish. Do we shift to another purpose, a mutually agreeable one, or do we call it quits on that property and move resources elsewhere to protect the same purposes originally anticipated by that document?

These are the types of things we can do in our drafting looking forward. We're less capable of going backwards and instilling those in the document after the fact, so I think it's incumbent on us now to take the opportunity to create inherently flexible documents, even though Adena's research shows that people don't necessarily understand what that flexibility is. But it means revisiting, reprioritizing, and addressing new issues that we couldn't anticipate, and hopefully that will allow us going forward to be able to respond to some of these changes, including on-the-ground changes in the forestry tracts and other changes that may be much more subtle but have dramatic impacts on the conservation easement itself.

Erik Meyers: I want to add from my experience, I've been thinking more and more about the impact of the changing climate on protected areas, not just conservation easements, and the fact is that it is going to be extraordinarily rare when you quickly lose 100% of the value—think of it more as an arc where you have perhaps a declining percentage of what you set out to protect but it doesn't go away. In essence, it becomes almost like a long-term lease. If your property is depreciating, it hasn't completely lost value, it's just less valuable perhaps than it was in comparison when you got it.

So, there's going to be conservation value in most cases protected long-term through these easements. I think what we're talking about is how to continue to enhance and try to maintain the highest potential value out of that protected property, and I think that's the real challenge with

the changing climate. How do you identify the outcomes that would best be suited for that particular area?

On the Eastern Shore, it is very interesting. I was asked by the refuge manager when we started our work at Blackwater, if we're expecting more inundated areas, more shallow water habitat, how can we enhance shallow water habitat to be more valuable? I don't know—that's a great question. And those are exactly the questions that I think from an adaptation perspective we need to not only start asking, but begin to answer because that's where there's going to be added conservation value in the future. We know this. We've got change already baked into the global climate system, and we're going to have to find new conservation value after those impacts. So, thinking about those questions is equally valuable as to how we change the existing protected areas. They provide a buffer. They provide significant conservation value even in a declining sense.

Laurie Ristino: That's a good segue into a plug for research funding that's open source that others can learn from, because this is really desperately needed. There's no way to really protect land-managed outcomes without knowledge, and so, the research component, and publicly supported research, is really needed, and the upcoming Farm Bill reauthorization is a time to protect not only funding dollars for NRCS programs, which are huge for conservation easements, but also the idea that we really need research that applies to working lands, as well as lands not in production, to ensure their viability.

Adena Rissman: I think that's a great point, and I think there certainly is funding available, but a lot of, say, USDA research funding isn't a great fit for land conservation. It tends to be on other issues—food production and sustaining farmer livelihoods, which are both really important and have a strong connection to this work—but the institutionalization of research on land conservation I would say is behind those other fields.

I would also say that the thing that can be challenging about doing this research is getting access to the informa-

tion, and I think that's one of the questions that we've been talking about. In this era, if you're not going to have as much leadership from government, that means we need more leadership from the private sector. I think one of the challenges or things to be aware of is how do we ensure that transparency and that public accountability from private-sector funding and private-sector agreements so that we can still ensure that they're being effective, being coordinated and well-targeted, because many of them do rely largely or to some extent on public dollars as well. For me, just getting the data on where the conservation easements are and what they say, really basic questions, if we could speed up that process, it would make getting to the more interesting questions even easier.

Laurie Ristino: We do highlight part of that issue related to data and research as well in the *Reader*.

Jessica Jay: I want to mention the Open Space Initiative, which is a funding-forward, prospective-looking, collaborative effort to create conservation easements over larger landscapes. They're applying for grants and funding for the acquisition of fee land and conserved lands using perpetual conservation easements—dollars for active mitigation and offset. That's only going to work through the collaborative process of many smaller organizations coming together to create a lattice network of hopefully contiguous landscapes that will help us not just looking forward, but also looking backward and knitting the existing easements together with new easements to do this work.

Laurie Ristino: That's an excellent point. We actually point that out as well in the *Reader*—the need for higher-order collaboration and more sophisticated information data to use easements more optimally in the future.

I want to thank ELI for having the foresight to publish the *Reader*, which I think is a pretty comprehensive look at different aspects of conservation easements, some of which we discussed today. And I want to extend our appreciation to Erik, Adena, and Jessica.