

Expanding the Toolbox of Land Conservation Strategies in Two Distinct Regions

PHASE II FINAL REPORT - April 2019

Prepared for:



GAYLORD AND
DOROTHY DONNELLEY
FOUNDATION

A collaboration of:



Executive Summary

Like in many other regions, the traditional conservation funding sources in the Chicago Wilderness Region and the Lowcountry of South Carolina have been instrumental in acquiring and stewarding land, but they are insufficient to meet growing natural resource needs. The work of the Gaylor and Dorothy Donnelley Foundation has significantly advanced conservation in these regions, and this report is the second of two to help the foundation identify emerging and/or underutilized funding and financing strategies to accelerate the pace of conservation. This report builds on the work completed during Phase I, which included a broad scan of conservation strategies (see Attachment 8) and highlighted eleven top tier strategies for further examination.

During Phase II of the project, the team was focused on further evaluating strategies that emerged as holding promise during Phase I. The team developed evaluation criteria in collaboration with foundation staff. Those criteria included:

- Scale of impact: rough gauge of conservation impact as measured by acres, dollars and/or environmental uplift
- Readiness/enabling conditions: nonprofit capacity, cultural climate, statutory changes needed, political climate and funding availability
- Timeliness/urgency: exceptional threats and exceptional opportunities
- Ability for philanthropy to affect change: especially, the opportunity for Donnelley to play a catalyzing role, alone or in partnership with others
- Opportunity to increase diversity, equity and inclusion in conservation
- Value or efficiency: land conservation achieved per dollar spent

During Phase II, the consulting team turned to local experts and land conservation practitioners in each region to ground truth the initial findings (see interview lists below). We are grateful to the foundation's land conservation grantees and other partners who shared their time and insights with the consulting team. Both the Chicago Wilderness region and the South Carolina Lowcountry are home to some of the country's leading land conservation practitioners and innovators. The ideas that emerged from this study are not necessarily new to these regions. In fact, many of the Tier 1 ideas are already underway or have been tried in some form. The goal of the study, and especially Phase II, is to discover how Donnelley can support the land conservation community's desire to think innovatively about their work and focus on the most impactful strategies.



Chicago Wilderness Region Local Practitioner Interviews

Name	Title	Organization
Brook McDonald	President and CEO	The Conservation Foundation
John Sentell	President and CEO	Lake Forest Openlands/PSCC
Josh Ellis	Vice President	Metropolitan Planning Council
Peg Kohring	Senior Associate, Conservation Services	The Conservation Fund
Emy Brawley	Associate Director, Conservation Services, Midwest (formerly served as VP of Conservation for Openlands)	The Conservation Fund
Kris Krouse	Executive Director	Shirley Heinze Land Trust
Rebecca Sanders	VP, Great Lakes and Upper Mississippi Flyway	Audubon Great Lakes
Jack Darin	Chapter Director	Sierra Club, Illinois Chapter
Jeff Walk	Director of Conservation, IL	The Nature Conservancy
Brian Sauder	President and Executive Director	Faith In Place
Eileen Figel	Deputy General Superintendent	Forest Preserve District of Cook County
Sharon Bush	Executive Director	Grand Victoria Foundation
Wendy Paulson	Chairman	Bobolink Foundation
Marcy Twete	Division Manager, Corporate Responsibility, Americas; ED USA Foundation	ArcelorMittal
Jason Navota	Director	CMAP
Brian Daly	Associate Planner	CMAP

South Carolina Lowcountry Local Practitioner Interviews

Name	Title	Organization
Chris DeScherer	Managing Attorney	Southern Environmental Law Center
Ashley Demosthenes	Executive Director	Lowcountry Land Trust
Lisa Jones Turansky	Chief Conservation Officer	Coastal Conservation League of SC



David Bishop	Coastal and Midlands Conservation ACE Basin/Southern Lowcountry Project Director	The Nature Conservancy, SC
Jamie Rader	Manager of Conservation Programs	Ducks Unlimited
Jennie Stephens	Executive Director	Center for Heirs' Property Preservation
Raleigh West	Executive Director	Lord Berkeley Conservation Trust
Roy Richards, Jr.	Philanthropist	
Jenny Russell	Executive Director	Merck Family Fund

The following report is divided into two major sections - the first section focuses on the Delta Institute's findings in the Chicago Wilderness region. The second section focuses on Open Space Institute's (OSI) findings in the South Carolina Lowcountry. Both of the regional reports center around "Tier 1 Strategies" - those identified by the project teams as having the highest potential. The sale of forest carbon, a strategy with potential in both regions, is included last. Those strategies slated for Tier 2 and Tier 3 still warrant further consideration, but are lower priority for the purposes of this report and are not discussed in detail here (see Attachment 1).

Summary of Tier 1 Strategies

Chicago Wilderness Region

1. **Leverage federal agricultural programs for conservation.** There are approximately 3.8 million acres of farmland within the Chicago Wilderness region, representing 49% of the total land area. Agricultural land buffers many of the region's critical conservation areas and improving and protecting these lands is vital to protecting the region's investment in landscape scale conservation. 82% of currently protected areas in the region have agricultural lands that buffer them. Recommendations are discussed in more depth in the report and include:
 - Provide funding to the Association of Soil and Water Conservation Districts and other agricultural organizations in the Chicago Wilderness states for capacity building.
 - Provide match/cost-share for conservation organizations and private landholders seeking funding through Natural Resources Conservation Service (NRCS) programs.
 - Support the development of [Regional Conservation Partnership Programs](#) (RCPPs) in the region.
 - Provide funding to train conservation implementation organizations to become Technical Service Providers (TSP) through NRCS.
 - Support increases in capacity at NRCS offices in the region.
 - Serve as a convener and educator for those interested in agricultural programs.

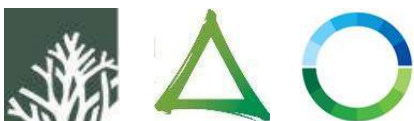


2. **Link watershed protection and stormwater management.** Linking watershed protection and stormwater management can bring significant funding to enhance conservation outcomes in the Chicago Wilderness region, while strengthening collaboration between communities, municipalities, and conservation practitioners. In an era of increasing major storm events, this strategy is also an important aspect of climate resilience. State Revolving Loan Funds in the Chicago Wilderness states provide over \$1 billion dollars in loans annually. If a larger portion of that funding could be positioned to support watershed protection, we would see a huge win for conservation. Stormwater user fees could also make a significant contribution to green infrastructure. Recommendations are discussed in more depth in the report and include:
 - Support advocacy work currently underway to change the State Revolving Loan Fund to ensure that conservation objectives are incorporated into program administration.
 - Support initiatives for user fees for green infrastructure with a focus on permanent conservation.
 - Promote the development of implementation strategies that align stormwater and conservation objectives by investing in organizations that specifically target the interaction between the two.
 - Continue to monitor and support innovative trading programs.
 - Educate and train the practitioner community around the link between stormwater management and conservation.

3. **Utilize utility corridors as conservation corridors.** Some of the largest sustained corridors in the Chicago Wilderness region can be found on utility and publicly held property. Electric power line utility corridors represent between 135,000 and 160,000 acres of open space within the Chicago Wilderness Region. Of this, approximately 9.5% of those acres (13,000 to 15,000 acres) are within or adjacent to managed and protected lands in the Chicago Wilderness region. Recommendations are discussed in more depth in the report and include:
 - Prioritize natural area conversion in corridors that directly meet the Foundation's landscape scale conservation objectives.
 - Directly fund and support the conversion of corridors.
 - Fund research into best practices for rights of way (ROW) conservation and maintenance.

South Carolina Lowcountry

1. **Expand local ballot measures for land conservation.** The potential impact of local bond initiatives on South Carolina's Lowcountry is substantial. Prior ballot initiatives have far outweighed federal and state conservation spending. In addition, the more local funding a project generates, the more it may help demonstrate to state legislators broader support for conservation, and in turn lead to increased state funding. Donnelley has a history of supporting efforts to explore local funding options and we suggest continuing and expanding these efforts. Recommendations are discussed in more depth in the report and include:
 - Support polling and economic analysis of conservation need and ability to pay in counties where public funding programs might be expanded or initiated.



- Develop targeted retrospectives of the value of public funding for community economic and social well-being.
- Support efforts around specific transactions to link state and local funding to showcase for local communities how small amounts of funding can leverage state and private funds.
- Encourage Lowcountry partners to develop a shared strategy for increasing scope, impact and public perception of the existing local funding measures and ways to leverage local funding with existing state and federal sources.

2. **Finance forest protection.** With large tracts of timber land potentially up for sale soon, the conservation community is interested in identifying new sources of finance for forest protection. Resource Management Service (253,591 acres), Weyerhaeuser (104,278 acres), and FIA (135,290 acres) control extensive land holdings in South Carolina and particularly across the Lowcountry. This provides an excellent opportunity to work with a limited number of entities to affect landscape scale conservation. Recommendations are discussed in more depth in the report and include:

- Identify highest priority Timber Investment Management Organization (TIMO) lands and understand ownership structure and timelines for timber fund expirations.
- Research easement transactions with TIMOs and determine how best to ensure high level of ecological protection for a variety of possible scenarios.
- Assemble experts to advise on financing scenarios that include different mix of public and private funding, debt and equity (“deal doctoring”).
- Conduct further analysis on forest condition and the feasibility of selling carbon credits and securing and transferring Scenic River Tax Credits.
- Play a direct role in financing conservation easements or land acquisition through a mix of grants, low-interest loans and/or interest rate sweeteners or guarantees.

3. **Conserve coastal wetlands and ensure marsh migration along critical resilient corridors.** By conserving coastal wetlands and ensuring marsh migration along critical resilient corridors that will absorb sea level rise and related flooding and maintain water quality, the Lowcountry can become a model of urban adaptation to climate change. Such a strategy will require using resilience science to target public and mitigation funding and integrating various regulatory efforts, as well as floodplain protection and buyout programs, to ensure a sustainable future for the region. The Donnelley Foundation is already funding the advocacy organizations that are working on these issues. However, there may be ways to strengthen and target this work for increased effectiveness. Recommendations are discussed in more depth in the report and include:

- Support more comprehensive mapping, utilizing ecological resilience, marsh migration models, and flooding data, to identify the highest priorities for land acquisition and buyouts. This can establish explicit protection, restoration, and stewardship priorities for the land trust community.
- Use the above analysis to identify categories of floodplains for protection, based on ecological and human criteria, and identify communities located in those floodplains



that have completed a FEMA Community Rating System (CRS) application and those that have not.

- Support a “circuit rider” to assist local towns in digitizing protected lands within their floodplains and other elements of the CRS application process that can improve CRS scores. This represents a significant barrier to increased CRS enrollment as most towns lack the staff and technology to do the work.
- Engage community members, particularly in economically underserved areas, in the design and implementation of adaptation strategies.
- Continue to connect with national groups that have targeted the coastal Carolinas for support to help communities adapt to climate change.
- Assist communities in identifying the required 25% local match required to receive FEMA buyout funds after a natural disaster and final title holders for the lands acquired.

Sale of Forest Carbon Offsets

The sale of forest carbon offsets holds promise in each of the foundation’s focus regions. In the Chicago Wilderness, the forest preserve and conservation districts contain tens of thousands of acres of well-stocked forests that are managed only for wildlife and recreation. As such, they are well-suited for the potential sale of forest carbon offsets that could generate tens of millions of dollars, which could then be directed toward additional land protection and stewardship. In the South Carolina Lowcountry, the bottomland hardwood forests of large industrial ownerships may be attractive targets for carbon offset sales, which would eliminate or severely restrict harvesting in these ecologically-sensitive forests. In addition, there may be opportunities to aggregate smaller, family-owned forests into collaborations that can sell forest carbon offsets as the markets begin to develop. Recommendations are discussed in more depth in the report and include:

Chicago Wilderness

- Introduce forest preserve and conservation district staff to carbon developers based upon recommendations of this project team or other experts.
- Support a convening of forest preserve and conservation district representatives specifically focused on this opportunity to gauge interest and provide educational opportunities.
- Provide case studies and introductions to experts and other public agencies that have pursued carbon offset sales.
- Fund data collection and other aspects of an initial feasibility study.
- Consider a PRI to support a carbon development project if a project seems feasible.
- Support efforts to engage corporations in discussions about the potential for voluntary acquisition of forest carbon offsets.
- Identify opportunities for potential carbon offset sales revenue to target conservation minded activities such as restoration or additional land protection.

South Carolina Lowcountry

- Support workshop(s) with local and/or national experts on the potential for the sale of forest carbon offset sales and/or technical assistance programs for land trusts and landowners.



- Fund initial research and feasibility studies on the potential for forest carbon offset sales on large timberland ownerships as well as aggregated individual ownerships.
- Support efforts to engage corporations in discussions about the potential for voluntary acquisition of forest carbon offsets.
- Engage national conservation organizations in discussions about the potential to expand their carbon offset sales programs to South Carolina.

Cross-Cutting Recommendations

The following report provides in-depth information on each of the Tier 1 strategies, including detailed recommendations and action steps for the foundation. The consulting team also wanted to highlight cross-cutting recommendations that could help accelerate the pace of multiple strategies in both regions.

Convening and Catalyzing

Groups in both regions felt Donnelley could take an even more active role in convening grantees and others to share best practices and lessons learned from implementing innovative conservation strategies. Many of the Tier 1 strategies are already underway, or have been tried, but encountered significant challenges. The following suggestions come from the project team, and to be successful, they should be implemented in close collaboration with grantees and with an eye toward addressing barriers and challenges currently felt by conservation practitioners. The following suggestions are listed roughly by increasing complexity and cost:

- Sponsor webinars or “charrettes” with regional and national experts to work through a conservation strategy or project.
- Send a team to industry conferences like the Conservation Finance Network Boot Camp or the Network for Large Landscape Conservation, for example.
- Fund research on specific issues relating the opportunities/challenges practitioners are grappling with.
- Host multi-day workshops similar to the Yale School of Forestry & Environmental Studies Berkeley Workshops, which invite in regional and national subject matter experts to explore a particular land conservation topic in depth and produce reports with detailed recommendations.

Broadening Coalitions

The Donnelley Foundation is already actively supporting a number of conservation-focused collaborations. Many conservation groups have begun to examine their role in the community and the need to engage more deeply with non-conservation oriented organizations to advocate successfully for shared goals. The Donnelley Foundation can help support this work in the following ways:

- Look for opportunities to support collaborations of non-traditional conservation allies, like healthcare organizations, affordable housing advocates and communities of faith, among others.
- Fund capacity assessments not only within conservation organizations, but also within partner agencies.



- Support efforts to communicate and translate complex conservation data (like climate resiliency) into actionable and meaningful steps to ensure long-term ecosystem health.
- Continue to join with other funders (philanthropic and corporate) to promote conservation goals.

Communicating about Conservation Goals

Many practitioners mused about whether acreage was the proper metric for measuring conservation success, particularly in the Chicago Wilderness region. Due to the highly fragmented landscape, the large acre parcels present in other geographies are absent from the Chicago Wilderness region. In addition, certain very high value parcels are quite small but remain incredibly important from an ecological standpoint. As such, the interviewees wondered if there might be an alternative way of measuring “conservation value.” Similarly in the South Carolina Lowcountry groups felt that the ultimate conservation metrics are more about clean water, wetlands protected or restored (“ecological uplift”), access to nature and recreation, increased climate resilience, and involvement of underserved communities in conservation work.

The Donnelley Foundation is already helping to lead this change in mindset by supporting a broad set of conservation goals in its foundational documents for each region and in the goals and indicators of the Lowcountry Land Conservation Partnership. However, there was a disconnect between the perceived foundation priority of acres articulated by the interviewees and the more nuanced goals of the foundation. If the foundation were to promote and communicate its broader conservation goals (i.e. those not strictly related to increased acreage) more strongly, it would likely see good support from the group of practitioners interviewed for this work.

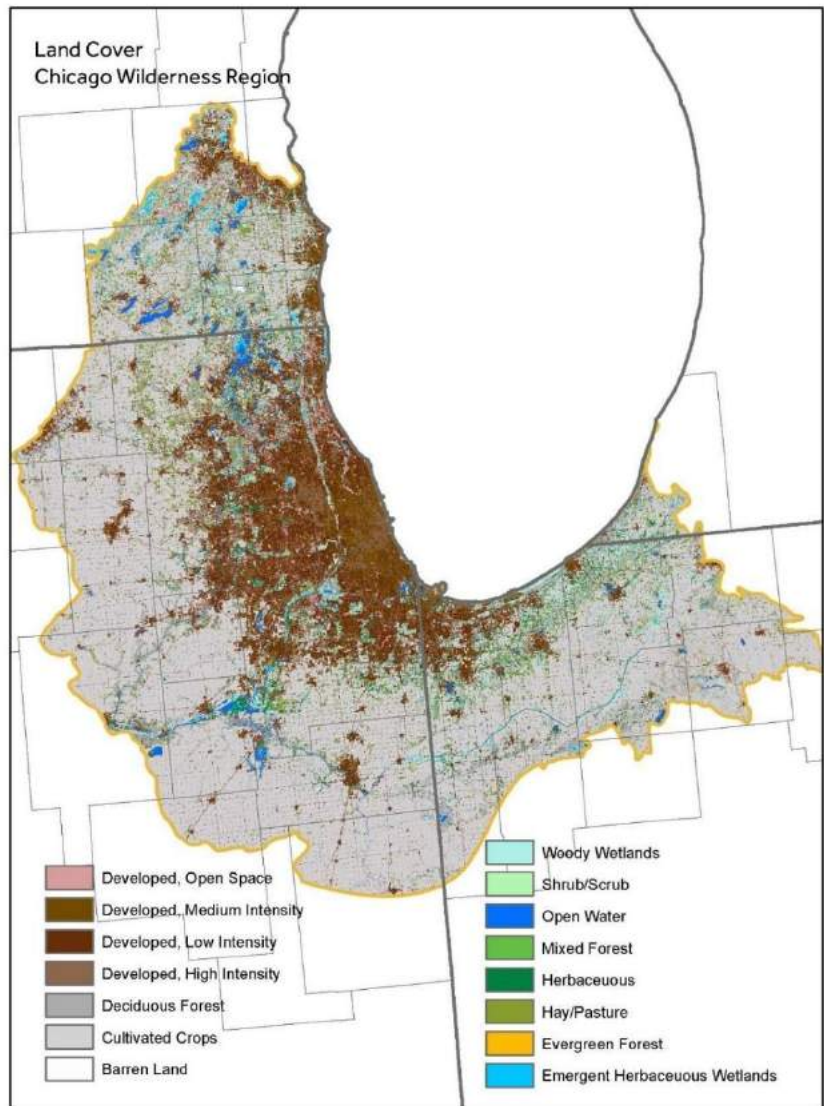


Chicago Wilderness

Executive Summary

The Chicago Wilderness region, stretching from the southeastern part of Wisconsin to northwest Indiana and into Michigan following the Lake Michigan Coast, is incredibly diverse in both ecology and people. As such, diverse strategies for implementing conservation are needed in order to create landscape scale impact. Strategies implemented on the north shore of Chicago will be significantly different than those used to implement contextually appropriate conservation in Southern Cook County or the Kankakee. We see this as a strength for the region because it makes a number of different strategies viable within the defined geography. With this study, we hope that conservation practitioners and those funding their work will be able to better align their efforts with the strategies most primed to be successful in their sub-regions.

Readers should note that for the sake of simplicity, feasibility considerations for the Chicago Wilderness study region were at times limited primarily to Illinois and Indiana within this report.



DATA: GIV; National Land Cover Database 2011

Observations from Local Land Conservation Practitioners

In order to evaluate the strategies highlighted in the Phase 1 report, the project team interviewed a set of local land conservation practitioners and identified a number of important observations that should be considered as the foundation identifies key strategies moving forward. These observations included:

- There continues to be a disconnect between the work done by the conservation community and the communities served within the region. Many practitioners emphasized the need to rethink



what it means to be a “conservation practitioner,” expanding our work through new partnerships and participants.

- Interest in innovation remains high, but capacity and knowledge gaps that would allow for experimentation and innovation remain key barriers to success.
- The current state of Chicago Wilderness as an organization has left a void in conservation collaboration and has left many practitioners asking about the best and most effective way to collaborate for conservation goals. This gap creates a short-term deficit but a long-term opportunity for new leadership and innovative partnerships to form that might not have been readily identifiable under the previous conditions.
- Many innovative conservation strategies in our region require partnerships with municipal and state governments, as well as regulated entities. In order for these models to be successful, conservation practitioners emphasized that their current lack of capacity for advocacy create barriers to region-wide opportunities.
- The need to communicate and interpret climate resilience data was identified by practitioners as an area of deficiency in the region. Climate change poses a risk to all the existing investment in conservation in the region and identifying resilience strategies will be key to ensuring the long-term success of our work. Communicating and translating complex climate data will create systems and structures that ensure long-term ecosystem health in the region.
- Understanding how best to measure and track conservation value continues to be a debate within the conservation community. This is not something easily solvable but ecosystem service metrics might provide a more nuanced approach to evaluating the work of conservation practitioners in our region.

Opportunities for Innovation: Tier 1 Strategies

Beginning with the 11 strategies identified as promising in the Phase 1 report and based upon the evaluation criteria developed, we evaluated applicability of each strategy to the Chicago Wilderness region. This evaluation was based on the feedback provided by our interview group and additional research conducted by the project team. The results of that detailed evaluation process can be found in the evaluation matrix in Attachment 2.

Through the evaluation, three strategies were identified as Tier 1 strategies because of their readiness, timeliness, and opportunity for supporting landscape scale conservation outcomes. In addition, these three strategies – leveraging agricultural programs for conservation, linking watershed protection and stormwater management, and utility corridors as conservation corridors— represent not just single strategies but a number of aligned strategies that make them applicable to the diverse landscapes within the region. All three of these strategies represent opportunities for public-private partnerships to leverage private dollars with state or national programs. Each of these strategies also have established funding programs that could be utilized for conservation if aligned better with the current users of the funds (the agricultural community, water utilities, and utility agencies, respectively). A number of practitioners interviewed referenced these collaborations as something they were exploring or currently participating in, but almost all practitioners emphasized that they see opportunities for action and growth as well.



Region-Wide Recommendations

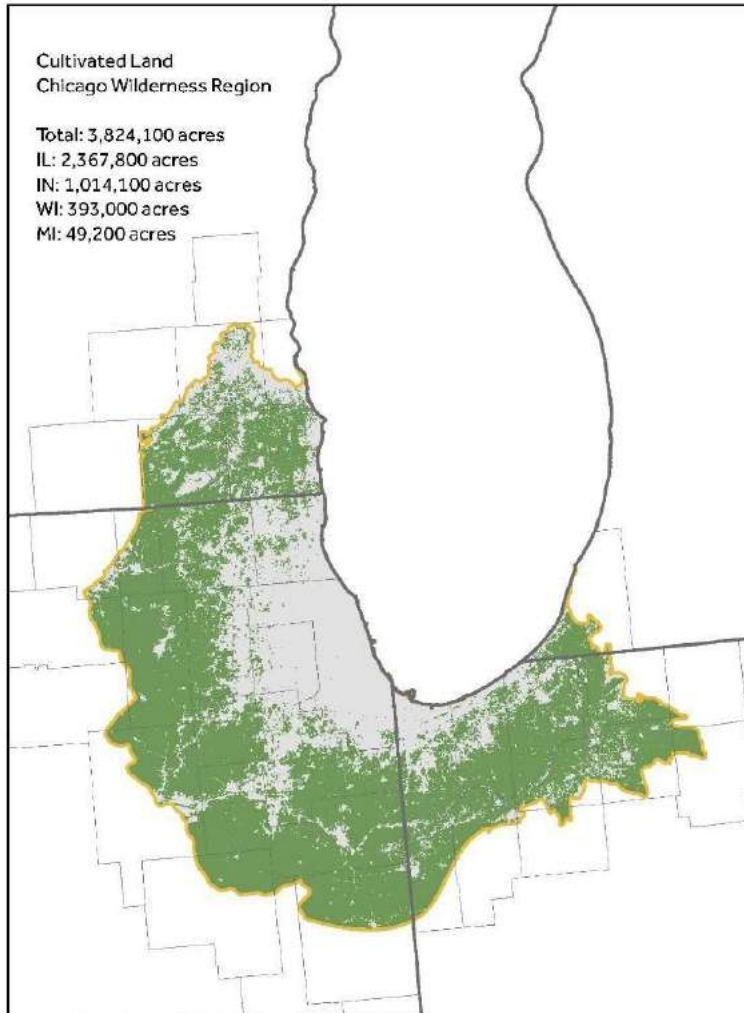
When evaluating these strategies, opportunities for philanthropic engagement, and specifically the involvement of Donnelley Foundation, were discussed with practitioners. In our discussions, and in our follow up research, the following overall recommendations were identified, with more detailed recommendations for each strategy found within the report:

- Practitioners emphasized the Donnelley Foundation’s role as educator, convener, and facilitator in our region. This role is one that should be built upon and continued. All three strategies will require additional expertise within the community and new collaborations with organizations who do not necessarily look at conservation as their primary mission.
- Assessing capacity, not only within the conservation organizations, but also within partners such as NRCS and utility corridor managers, will be key to success of any of the three strategies. Donnelley Foundation can provide the resources to conduct a capacity assessment in the region.
- Invest in organizations to create a long-term presence in communities where they work in addition to around specific conservation projects. This will require funding to cover less formal relationship building. Conservation groups will need to view their work differently, engaging differently than when it was more targeted. This will support conservation groups in creating local partnerships that allow for alignment of priorities prior to planning and implementing conservation activities.
- Support the communication of nuanced but easy to understand conservation outcome metrics. While we understand that acres will continue to be a primary metric, emphasizing alternative habitat and ecosystem health metrics will create opportunities for sub-regions where large acreage may never become available for permanent protection to improve environmental outcomes nonetheless and create region wide conservation benefits.



Tier 1 Strategies and Analysis

Strategy 1: Leverage Farm Bill Programs for Conservation



DATA: GIV; USDA NASS CropScape - Crop Mask Layer, 2017

There are approximately 3.8 million acres of farmland within the Chicago Wilderness region, representing 49 percent of the total land area.

Agricultural land buffers many of the region's critical conservation areas and improving and protecting these lands is vital to protecting the region's investment in landscape scale conservation. While often not considered "conservation" in its highest form by practitioners, protection and stewardship of agricultural lands, including increasing the utilization of Natural Resource Conservation Service (NRCS) programs has widespread applicability in our region, specifically outside of the near shore urban centers.

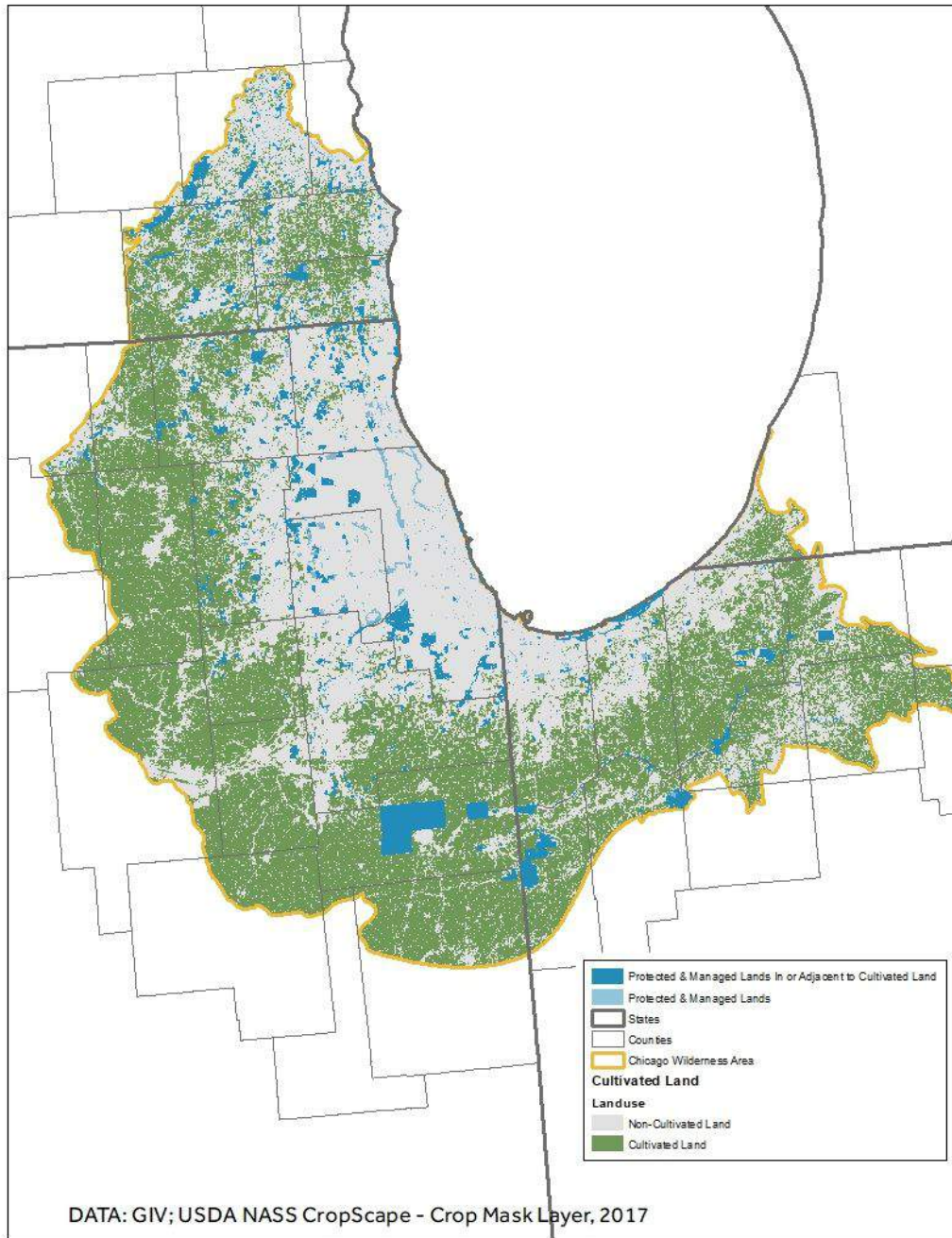
According to the Illinois Department of Agriculture, Illinois has lost 3.6 million acres of farmland since 1950, an average of almost 77,000 acres each year. This loss is mostly due to development. Conserving farmland and improving farming practices is

vital to protecting open space in the Chicago Wilderness region. It's also an important source of rural economic development. Directly and indirectly, the business of farming employs one million Illinoisans and agriculture-related industries, such as farm machinery manufacturing, agricultural real estate, and production and sale of value-added food products contribute billions more to the state's economy.

After long considering the agricultural community outsiders to conservation, the community is now excited about partnership and seeing the necessity of collaboration with farmers in order to achieve large scale impact. 82% of conserved land in the Chicago Wilderness is adjacent to or within agricultural acres.



Protected and Managed Lands Adjacent to Cultivated Land



(Note: Map scale obfuscates certain adjacent lands making Cultivated Land difficult to see. Detailed maps can be provided by Delta Institute as requested)



Many NRCS programs are established through the conservation title of the farm bill. **In 2017, approximately \$84.2 million in Illinois, \$64.9 million in Indiana, and \$71.5 million in Wisconsin were obligated through 13 different Title 2 programs for conservation purposes on agricultural land.**

While all of these programs still have contracts in place with farmers, some no longer enroll new participants because they have expired or been rolled into other programs. A full list of the 13 programs with existing contracts can be found in Attachment 4. This table does not include a number of additional technical assistance programs that are currently active for supporting conservation activities indirectly.

Currently seven programs are still actively accepting applicants. Two programs, the Emergency Watershed Protection Program, a natural disaster recovery program, and the Watershed Rehabilitation Program, which repairs aging dams, are not applicable to this work. The remaining five programs fall into three categories: 1) those providing for permanent protection; 2) those providing for long-term protection of more than 10 years; and 3) those providing short-term conservation protection of zero to 10 years.

The Farm Bill conservation programs, taken in total, are the largest single federal source of funding for private land conservation.¹ The 2018 Farm Bill adopted many of the Land Trust Alliance's highest priorities, including provisions that streamline the Agricultural Land Easement program and increase funding for the Agricultural Easement Program (ACEP) by \$2 billion over 10 years. Many of these programs require matching funds or a cost-share. Securing these leverage funds is critical to fully utilizing the available federal resources for conservation on agricultural land. Many practitioners interviewed expressed concerns about identifying matching dollars to be able to access NRCS dollars.

In addition to the investments made through the federal government, private investors also represent a nascent resource for funding conservation efforts. Between 2016 and 2018, private investors intend to deploy \$1.4 billion of already-raised capital in the sustainable food and fiber sector worldwide.² On a local level, a number of alternative farmland investors, such as Iroquois Valley Farms, have partnered with land conservation organizations to conserve farmland and implement enhanced conservation practices such as organic farming, cover crops, and filter strips.

Current Barriers and Challenges

NRCS programs are complex, requiring a deep knowledge of requirements and eligibility and a strong relationship with local NRCS staff, who also face significant capacity constraints. Practitioners emphasized that their knowledge of programs is growing, but that the complexity of the programs creates a capacity hurdle for organizations.

¹ <https://www.landtrustalliance.org/topics/federal-programs/farm-bill-conservation-programs>

² Kelley Hamrick, State of Private Investment in Conservation 2016: A Landscape Assessment of an Emerging Market, (Washington DC: Ecosystem Marketplace, 2016), <http://forest-trends.org/releases/p/sopic2016>.



The capacity of the local NRCS offices in their given region also factors into the ability to access these programs. Organizations must develop the relationships with the local staff, push for them to actively enroll acres in programs, and assist in identifying landowners who might fit specific programs.

Almost all of those interviewed expressed optimism about partnering with the farming community in Illinois, Indiana and Wisconsin, and specifically with the more rural communities outside of the near shore counties. In order to be able to do this more effectively, practitioners felt they must first work to change a broader narrative around the juxtaposition of conservation and agriculture. By better working to find common ground as stewards and by working to find areas where conservation practices could potentially improve farmer resilience and livelihood, the groups might better leverage their individual expertise. A change in mindset for some conservation practitioners, or a hybridized approach to leveraging these programs, will need to occur as some are not keen on the temporary nature of some of the agricultural conservation activities.

Recommendations to Support this Strategy

- **Provide funding to the Association of Soil and Water Conservation Districts and other agricultural organizations** in the Chicago Wilderness states to collaborate with grantees and conservation organizations to develop conservation strategies.
- **Provide match/cost-share** for conservation organizations and private land holders seeking funding through NRCS programs. One of the key barriers for accessing NRCS programs is the identification of the necessary match. The foundation can directly help organizations overcome this barrier through targeted grant-making.
- **Support the development of more [Regional Conservation Partnership Programs \(RCPP\)](#)** in the region. RCPPs streamline NRCS conservation funding for groups partnering on working lands conservation. RCPP awards can be significant, maxing out at \$10 million per project.
- **Provide funding to train conservation implementation organizations to become Technical Service Providers (TSP) through NRCS.** TSPs assist agricultural producers in accessing NRCS programs on behalf of NRCS. These providers add capacity but must be trained and certified.
- **Support increases in local NRCS capacity.** While increasing TSPs and RCPPs will create additional capacity in our region, NRCS offices continue to be under-resourced and lack capacity. In other geographies, organizations have partnered with their local NRCS offices to co-fund positions and increase capacity. We are advocating that conservation organizations in the Chicago Wilderness region explore the possible partnership structures with Chicago Wilderness NRCS offices in an effort to address capacity gaps directly.
- **Serve as a convener and educator.** Many of the organizations we interviewed expressed a desire to learn more about NRCS conservation programs. The Donnelley Foundation can continue to serve as a convener, bringing together grantees and conservation professionals to learn from regional and national experts. There are many opportunities to highlight successful models from around the country to promote innovative thinking within the Chicago Wilderness region.



Strategy 2: Link Watershed Protection and Stormwater Management

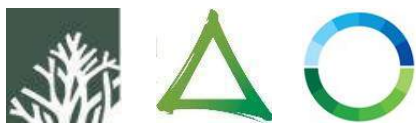
Linking watershed protection and stormwater management can bring significant funding to enhance conservation outcomes in the Chicago Wilderness region, while strengthening collaboration between communities, municipalities, and conservation practitioners. In an era of increasing major storm events, this strategy is also an important aspect of climate resilience.

Notably in the Chicago Wilderness region, many recent partnerships have involved the implementation of green infrastructure for both conservation and stormwater management. This has been especially true in communities entering into consent decrees with the federal government to reduce their stormwater contributions to natural waterways. **For example, in 2013, the federal government issued a consent decree with the Metropolitan Water Reclamation District of Greater Chicago (MWRD) requiring it to improve water quality by capturing high flows of stormwater and wastewater from the combined sewer system that serves Chicago and 51 surrounding communities. This regulatory pressure creates an opportunity for conservation organizations to emphasize the multiple benefits of conservation for communities with diverse challenges.**

A number of different strategies exist for linking conservation with water management. These mechanisms are detailed in Attachment 5. The three strategies listed below are the most promising in the near term for supporting conservation outcomes in the Chicago Wilderness region. To meet the goals of the foundation, projects that increase connectivity of conserved lands and create habitat at an effective scale should be prioritized.

1. Accessing the State Revolving Loan Programs for Conservation

Each state has two different clean water revolving loan funds capitalized by state and federal funding under the Clean Water Act. In Illinois, the 2018 public water state loan program (drinking water fund) has an intended distribution of \$400 million, while the water pollution control loan program (wastewater/stormwater fund) has one of \$500 million. Indiana, where the loan program is smaller, saw approximately \$21 million in loans through its drinking water state revolving loan and \$367 million through its wastewater revolving loan fund program in 2017. The programs also contain a green project reserve component, which enhances applicant scoring when a project includes green infrastructure. EPA policy states that, to the extent there are sufficient eligible project applications, not less than 10 percent of the funds made available for the revolving loan funds shall be used by the State for projects to address green infrastructure, water or energy efficiency improvements, or other environmentally innovative activities. To date, the program has been used in a limited way in the Chicago Wilderness region to support conservation, but if it were utilized even at the program minimum of 10 percent it would provide significant resources for green infrastructure (see table below).



	Drinking Water Fund	Wastewater/ Stormwater Fund	10% for Green Project Reserve Component (if fully realized)
Illinois (2018 cap)	\$400 million	\$500 million	\$90 million
Indiana (2017 cap)	\$21 million	\$367 million	\$38.8 million
Michigan (2018 cap)	\$42 million	\$115 million	\$15.7 million
Wisconsin (2018 cap)	\$67 million	\$158 million	\$22.5 million

The revolving loan program provides states with a great deal of flexibility in the administration of the program. This has given certain states the latitude to implement creative incentives for implementing conservation related projects in conjunction with traditional utility infrastructure work. For example, Ohio has led the way in the development of a sponsorship lending programs where in exchange for a reduced interest rate, the wastewater facility invests in a watershed conservation project or green infrastructure investment. A 0.5% reduction in annual interest rates in exchange for that amount being invested in stormwater management and conservation could mean as much as \$80 million dollars annually in the region for conservation.

Although there are barriers to accessing the state revolving loan funds in the region (see “Current Barriers and Challenges” section below), this could be a sizeable source for conservation funding in the future. In addition, the time appears right for a change. Practitioners are unifying around the advocacy needed to push regulators, elections might result in openings for policy change, and water utilities are understanding the impact conservation can have on meeting stormwater management requirements.

2. Stormwater User Fees to support Permanent Green Infrastructure

Until recently, the costs of managing stormwater, specifically in heavily populated areas, were borne by local municipalities. With aging infrastructure and an increased understanding of the impact of stormwater runoff on our natural environments, a number of stormwater districts have implemented stormwater fees. These funds can be invested specifically in traditional grey infrastructure, and should be in some cases; however, they can also be utilized for nature-based solutions that better align with conservation goals.

While some municipalities have stormwater fees in place, not all within the region currently utilize this funding mechanism. Communities such as Michigan City, Indiana have begun public campaigns to pass legislation allowing for the fees with the goal of generating between half a million and 1.6 million dollars annually. EPA estimates find that the typical stormwater utility fee ranges from \$3 to \$7 per month per effective residential unit. If fully applied to the approximately 3 million households in our



region, between \$100 and \$250 million could be generated annually.³ Linking these fees to conservation and green infrastructure to support reduced stormwater impacts may help sway public opinion in favor of these relatively small fee increases.

3. Stormwater Retention and Water Quality Trading

An environmental credit trading program is a market mechanism where one entity undertakes an activity that provides environmental benefits in exchange for payment from another entity. These programs work best when there is a regulatory framework requiring entities and property owners to meet certain caps or standards.

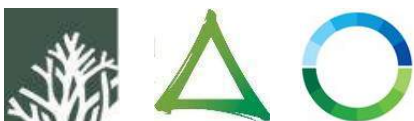
There are several trading schemes that could generate revenue for landscape scale conservation in the Chicago Wilderness geography. Stormwater credit trading is most applicable in urban communities throughout the region. Under this structure, a property owner can earn credits for practices that increase stormwater storage onsite. These credits can then be sold at a premium to another entity who is not able to meet their retention goals on site. In order for a stormwater retention trading program to work, there must be onsite retention ordinances within a given geography. A number of municipalities and utilities have retention requirements in place, however that is not universal. A first step from an implementation standpoint would be to insure that low-impact development or stormwater retention ordinances are a requirement for development throughout the region.

While models for credit trading programs exist in other geographies, the Nature Conservancy, Metropolitan Water Reclamation District (MWRD), and Metropolitan Planning Council are conducting the groundwork needed to implement a trading program, known as “Stormstore,” in MWRD’s operating region. The feasibility work identified that there was the demand and supply needed for a trading program; however that the scale of that program might be marginal (hundreds of acres) compared to the overall conserved acreage goal of the Chicago Wilderness region.[1] Similar studies would have to be conducted in other communities to determine if there was enough interest in a trading program.

DC Water’s Stormwater Retention Credit program, established in 2013, has served as a national model for retention programs and provides some insight into the potential for similar programs in our region. Each site within the district must meet minimum stormwater retention requirements. If a site installs green infrastructure or other stormwater management practices beyond its onsite requirements, they can generate credits. Credits can be sold directly to the Department of Energy and Environment (DOEE) for a fixed price (between \$1.70 and \$1,95 per credit in 2017) or through an DOEE approved private market based sale (average price of \$2.07 per credit in 2017). In 2017, 2,422,586 credits were approved for sale or future sale. This could represent approximately \$4.5 million in additional investment for green infrastructure and conservation annually.⁴

³https://cdn.ymaws.com/www.chicagowilderness.org/resource/resmgr/Publications/biodiversity_recovery_plan.pdf

⁴ <https://doee.dc.gov/service/src-press-releases-srccs-news-and-src-program-reports>



In a similar structure to stormwater retention, water quality trading can be used to incentivize land conservation by creating an economic value for the environmental outcomes of conserved landscapes. While water quality trading programs are often tailored to the users in a given geography, at the core of the program a point source water polluter within a given watershed purchases credits from non-point source polluters who have made verifiable improvements at a different part of the watershed.

Current Barriers and Challenges

While many states have taken innovative approaches to implementing their SRF programs, Chicago Wilderness States have room for improvement. In Illinois, a group of practitioners has begun discussions on what it would take to allow for programs like the one in Ohio to be developed locally. Those practitioners report that the administrative burden of additional programs appears to be hindering progress as Illinois EPA and the Indiana Finance Authority are both resource constrained agencies. Beyond overcoming governmental constraints, the conservation community must work with the water utility companies who may see any changes in the rules as taking away funding from their existing sources. A collaborative effort between the two groups to identify program structures such as the sponsorship program, instead of direct project allocation, could help alleviate concerns.

Trading programs can be complex and require additional administrative capacity. In addition, they require consistent development demands. As such, at this time, they might only be well-suited for the northern part of the Wilderness region where development demands are higher and utilizing property for conservation onsite is more costly. Additionally, trading programs are best-suited for communities with regulatory frameworks that require environmental improvements. Not all municipalities and regions currently have regulatory frameworks in place. Lastly, trading programs can often be hard to implement as monitoring and verification become costly. However, if implemented correctly they can directly tie the benefits of conservation lands with a source of funding, resulting in increased implementation.

Recommendations to Support this Strategy

- **Support advocacy work currently underway around the State Revolving Loan Fund** to ensure that conservation objectives are incorporated into program administration and decision making frameworks.
- **Support initiatives for user fees** for green infrastructure with a focus on permanent conservation. Initially an inventory of municipalities without user fees should be conducted followed by targeted support in those communities to conservation advocates.
- **Promote the development of implementation strategies that align stormwater and conservation objectives.** Invest in organizations that specifically target the interaction between the two in an effort to raise awareness around the link between the two.
- **Continue to monitor and support innovative trading programs.** Market-based strategies continue to hold potential but groundwork needs to continue before robust trading platforms can be developed. We suggest that the Foundation continues to integrate into larger networks like the Conservation Finance Network and the Coalition for Private Investment in Conservation.



- **Educate and train the practitioner community around the link between stormwater and conservation.** Highlight successful models from around the country to promote innovative thinking within our region.

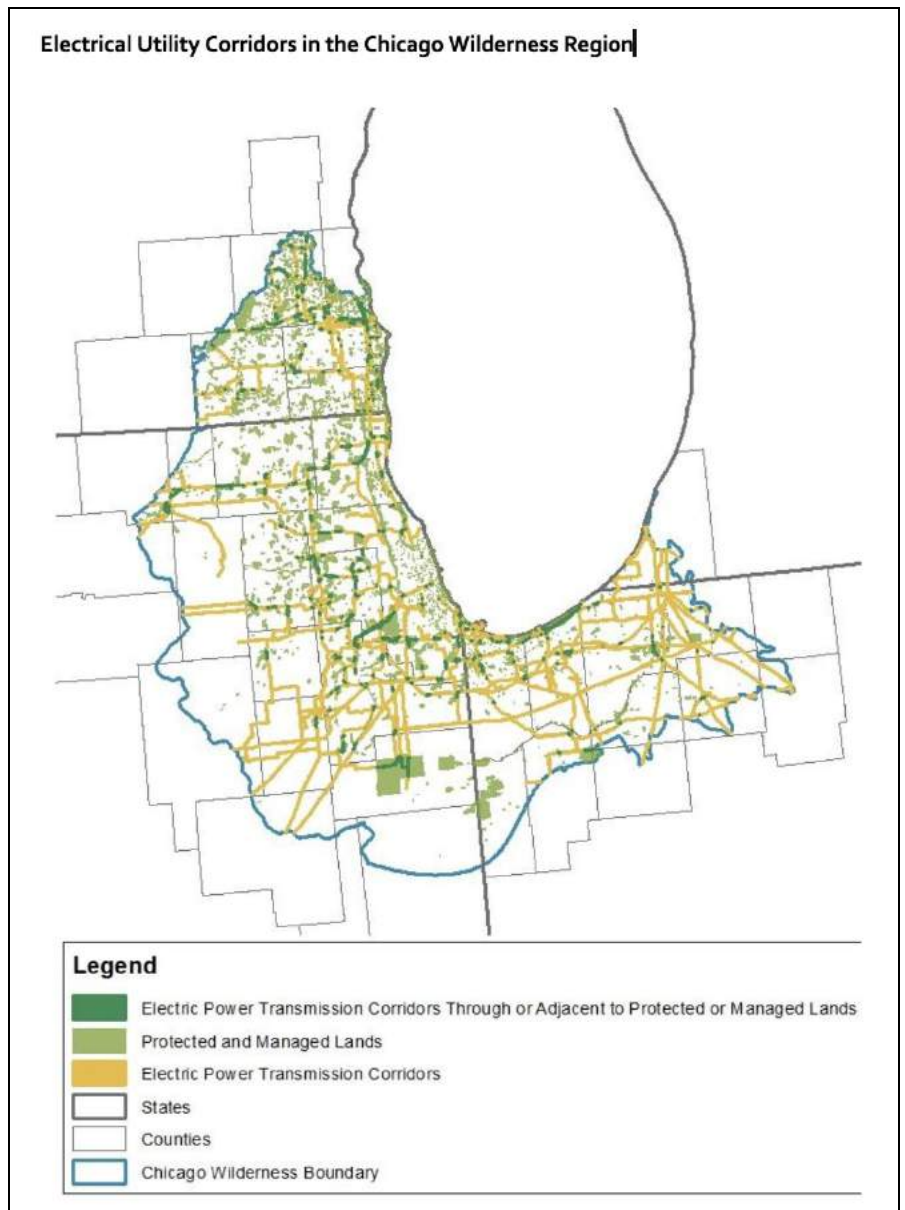


Strategy 3: Partnerships with Utility Providers for Resources and Right-of-Way Conservation

Some of the largest sustained corridors in our region can be found on utility and publicly held property. Electric power line utility corridors represent between 135,000 and 160,000 acres of open space within the Chicago Wilderness Region. Of this, approximately 9.5 percent of those acres (13,000 to 15,000 acres) are within or adjacent to managed and protected lands in the four-state Wilderness region. Pipeline rights-of-way present an additional opportunity for conservation outcomes. In addition, MWRD has legacy properties that may not currently represent high quality habitat but could represent a long-term opportunity.

Utility corridors can serve as habitat corridors for pollinators and birds or can be utilized as connection corridors between key natural areas within the region. They constitute large land acreage on a cumulative basis, are generally maintained in sunny areas with low vegetation height (ideal pollinator habitat), and often extend for considerable distances. These corridors also serve as potential public access points, well-suited for trails and paths that connect constituencies to conservation.

Conservation efforts are not uncommon for utilities in our region as Comed has engaged in strategic partnerships while NiSource/NIPSCO in Indiana practices integrated vegetation management (IVM) which supports pollinator habitat.⁵ In 2017 NiSource began a company-wide initiative to create pollinator habitats alongside right-of-way. Simple behavioral changes in operations have



⁵ <https://napipelines.com/monarch-pollinator-habitats-pipeline-routes/>



already improved conservation value on these utility rights-of-way and easements and by establishing additional partnerships, we can improve upon the conservation benefits for the region.

With growing interest in pollinator habitat as well as an increased awareness on the conservation potential of these lands, our evaluation matrix placed this strategy within the top group of opportunities in the Chicago Wilderness region. Practitioners saw these acres as “low-hanging fruit,” opportunities for conservation on acres that couldn’t be used for much else. They also saw utility companies and agencies as key partners who are currently experimenting with pollinator habitat and are reaching the point where more robust, widespread implementation can take place. Practitioners also emphasized that because utilities currently manage these corridors, the change doesn’t have to be in who manages or owns the properties, but only in how they manage it.

The current existence of a number of unique partnerships, an increased interest in pollinator, and specifically monarch habitat, and the number of dedicated funding sources available to utilities and transportation agencies create the conditions for conservation at scale. Our interviews identified a number of different partnerships already in place that could be used as models for other sub-regions.

Current Barriers and Challenges

While this strategy has buy-in from many conservation partners, it still does not represent the norm within the utility community and has not been fully implemented throughout the region. Practitioners who were part of the interview group emphasized that land management staff of utility companies must change their behavior significantly. For years, management has been focused on mowing rights-of-way so that they look clean and deliberate. Now we are asking these professionals to change their approach and reframe their thinking on what an acceptable utility corridor might look like. Many companies have effectively made this transition and these early adopters may represent the best champions for widespread adoption moving forward.

The conversion of turf grass to a naturalized landscape also takes expertise and resources. Partnerships with local practitioners and sharing experience from pilot projects currently underway (such as the partnership between Comed and the Conservation Foundation) will be helpful. While some utility companies have the resources to make these shifts throughout their lands, others do not and are slowly integrating conservation practices. An injection of external funds from federal, state, or private sources could also help to accelerate the pace of conversion.

Recommendations to Support this Strategy

- **Prioritize natural area conversion in corridors that directly meet the Foundation’s landscape scale conservation objectives.** Identifying and publicizing the utility corridors that are adjacent to or within existing natural areas or those that provide connections between high quality areas directly supports conservation work of practitioners and the Foundation in our region.



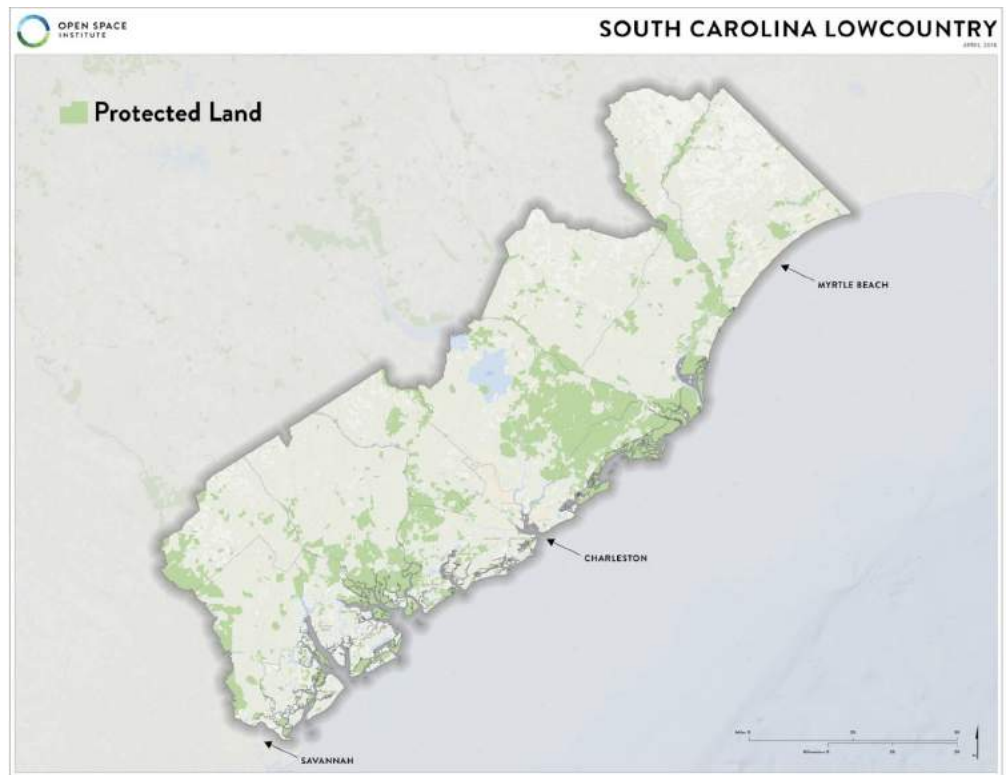
- **Directly fund and support the conversion of corridors.** While utility companies are converting acres over time, the Foundation can accelerate progress by directly funding the conversion beginning with priority areas and then more broadly throughout the region.
- **Fund research into best practices for ROW conservation and maintenance** through groups like the Right of Way for Habitat Working Group that highlight the habitat types that are best suited for corridors. Support the creation of resources/tools for practitioners and investigate other areas where this strategy has been successful.



South Carolina Lowcountry

Executive Summary

The Lowcountry in South Carolina contains a diverse mix of conservation organizations that have worked for decades to protect the region's ecologically significant landscapes. These groups, which include sophisticated advocacy organizations and highly effective land conservation groups, have evolved the collaborative conservation model they forged in the ACE Basin 30 years ago into a true landscape-level partnership across the Lowcountry.⁶



Observations from Local Land Conservation Practitioners

Interviews with field leaders suggest they are willing to experiment in search of innovative, new financing strategies, as evidenced by current efforts to create a water fund in the Savannah and direct mitigation funding toward protection of iconic landscapes. But the challenge of keeping pace with development, as well as intensive extractive resource use, has underlined the need to investigate ways to increase the scale and effectiveness of their work. Specific observations include:

- More expertise is needed to develop cutting edge strategies, such as carbon finance.
- Practitioners say they need more resources to implement what they are already doing.
- A better division of labor is needed among practitioners, e.g., groups should specialize instead of them all requesting a little bit of funding to do many of the same things.
- Climate resilience could become an organizing principle for work in the Lowcountry, especially around the highly resilient river corridors that drain from the mountains into the sea and the coastal wetlands that facilitate marsh migration. Protecting these "natural strongholds" could safeguard species in the long term and provide other ecological and human benefits, including

⁶ Note that in this report all maps of the South Carolina Lowcountry include Marion County and Williamsburg County although these areas are currently outside the defined service area of the Gaylord and Dorothy Donnelley Foundation.



reducing flooding and facilitating recreation. It is essential to engage community leaders, including from economically underserved areas that are disproportionately affected by climate-induced sea-level rise, in the design and implementation of adaptation strategies.

- There is a strong consensus among field leaders, which can be both a strength and a weakness. Collaboration has produced excellent results, but it may inhibit somewhat the infusion of new ideas.
- There is a strong mesh between regulatory and non-regulatory approaches, e.g., protecting floodplains through acquisition or easements and improving municipal ordinances to reduce stormwater runoff.

Opportunities for Innovation: Tier 1 Strategies

Our three Tier 1 strategies include **Ballot Measures; Forest Conservation Funding;** and an umbrella of climate strategies that include **Wetland Protection, FEMA Buyouts and Insurance Risk Mitigation.** They ranked highest generally because there was for each strategy either significant readiness and/or urgency; the potential to achieve scale; and a critical role for philanthropy to support their development. See Attachment 3 for a more detailed analysis. We acknowledge that our recommendations probably reflect a bias toward financing strategies that are already in place, as opposed to potentially innovative approaches that may not have been deployed in the region. This seems a natural result of such heavy reliance on interviews with stakeholders in the region: people will express support for tools they're already using or are familiar with and may not have views on promising approaches that haven't been tried in the region.

Region-Wide Recommendations

When evaluating these strategies, opportunities for philanthropic engagement, and specifically the involvement of Donnelley Foundation, was discussed with practitioners. In our discussions, and in our follow up research, the following overall recommendations were identified with more detailed recommendations for each strategy found within the report:

- **Achieving Scale.** The focus on scale may obscure deeper dimensions of impact. For many land trusts, a project over 500 acres becomes truly meaningful; for others, a threshold of 500 acres immediately excludes a whole class of people from participating. For example, with as much as 41,000 acres estimated to be held by heirs in six counties in South Carolina – most of it small parcels, not contiguous or adjacent – helping to secure their title to the land represents a different kind of scale.⁷ FEMA lot buyouts represent a case-in-point of how strategically engaging in small transactions can have a disproportionate community benefit.
- **Protecting Land Forever?** Permanence can be another stumbling block in reaching out to new constituencies. For many farmers, term easements – typically of 10 to 20 years – represent a much more palatable approach to protection, and many Farm Bill programs recognize that. For the Center for Heirs' Property Protection (CFHPP), permanence is a real sticky point as most heirs do not have title and therefore cannot legally encumber land forever. The reality of

⁷ Center for Heirs Land Assessment, 2014. The study area for the assessment included Charleston, Berkeley, Dorchester, Beaufort, Colleton and Georgetown Counties.



climate change suggests that easements should retain flexibility, and that as habitat shifts on the land, perhaps the easements should shift with them.

- **Private Funding.** Amid the hand wringing over the Conservation Bank, several interviewees wondered about whether a *Fund for the Low Country* could be established, and key philanthropists contribute to it. It would assume a shared plan for the region and some mechanism for meting out dollars for eligible projects. But some felt that the time had come to see if the community's collaborative gene might produce such a fund. There was also a feeling that the community could more effectively brand their work and attract corporate donors such as Coke or Apple. There was also interest in attracting more resources from outside funders such as Pew, Duke, the US Endowment, etc.
- **Geography.** Some interviewees felt that while the Lowcountry would always be their primary focus, science and climate change is causing them to look further inland. The resilience science places great priority on the river corridors that extend from the corridors up into the Piedmont, and the reality of coastal inundation will ultimately pose challenges for conservation work there.

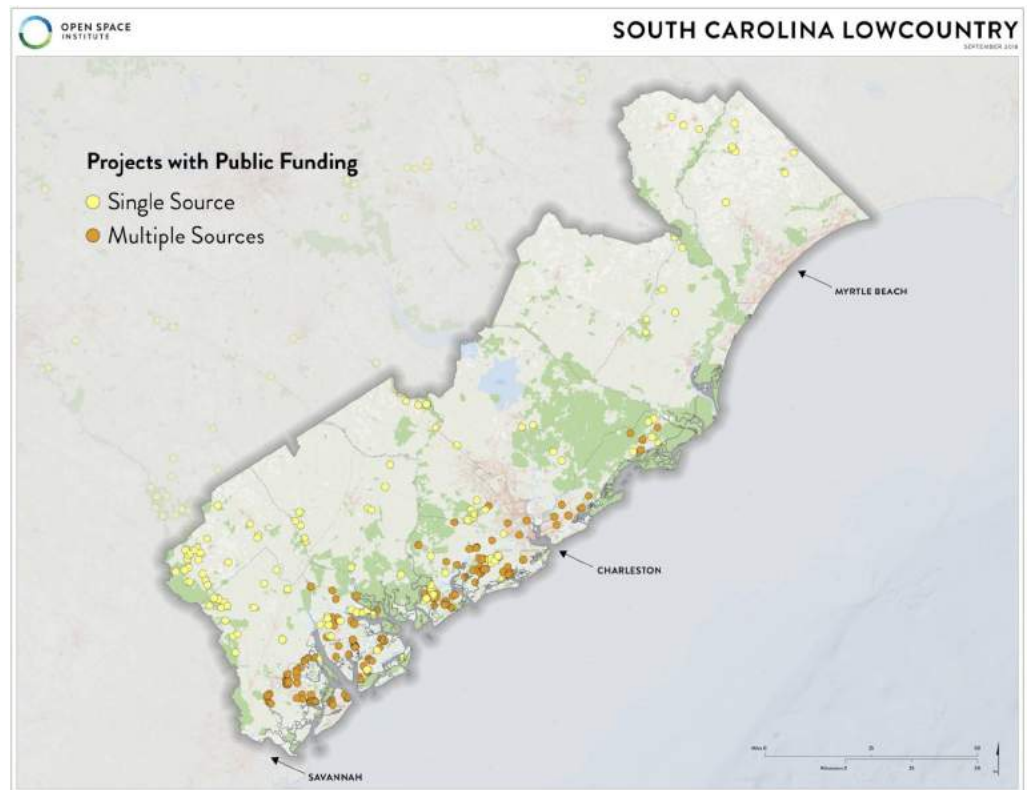
Tier 1 Strategies and Analysis

Strategy 1: Local Ballot Measures

The potential impact of local bond initiatives on South Carolina's Lowcountry is substantial. Prior bond initiatives have far outweighed federal and state conservation spending. In addition, the more local funding a project generates, the more it may help demonstrate to state legislators broader support for conservation, and in turn lead to increased state funding. The success of the two

existing county-level Lowcountry bond initiatives in Charleston and Beaufort Counties demonstrate the potential impact for scaling up conservation locally.

The Beaufort County Rural and Critical Lands program has completed 112 land protection projects, preserving over 23,900 acres of land for conservation, parks, buffers, and scenic vistas. Since 1998,



Beaufort County voters have approved four successive bond referendums totaling \$135 million, with an average 71 percent approval rate, to fund the Rural and Critical Lands program. This November, Beaufort County will vote on whether to extend that funding with a \$25 million bond to protect clean water, beaches, creeks and rivers, wildlife habitat, and coasts.

Charleston County Greenbelt Bank was reauthorized for \$210,000 in 2016 by a 52% vote after spending nearly all of the \$221 million voters authorized (via a transportation sales tax) in a 2004 referendum. The Bank protected 21,000 acres over ten years which allowed the County to reach a goal of placing 30% (approx. 190,000 acres) in permanent protection. Protected greenbelt lands include 10,275 acres near the Francis Marion National Forest and 5,610 acres of wetlands. Also, the county used greenbelt funds to purchase 4,675 acres for parks.

Interviews with South Carolina partners affirmed the importance of replicating these successful public funding programs in other Lowcountry communities. Practitioners see three avenues for conservation action around this strategy: (1) to reauthorize, bolster or expand existing local public funding programs, (2) develop new local funding initiatives in strategic locations, and (3) to link local funding to the recently reauthorized South Carolina Conservation Bank.

It will be important to the Lowcountry conservation community to invest in retaining and improving the existing local funding initiatives. The Charleston County Greenbelt Bank and Beaufort County Rural and Critical Lands Program should be celebrated and supported by the Lowcountry conservation practitioners through positive media, leveraging dollars, and thoughtful partnerships with local communities to meet the needs for parks and open space. Several interviewees mentioned an interest in accessing Beaufort Rural and Critical Lands Program funds, currently deployed by only one land trust organization, to increase leverage and the scope and scale of impact.

Conservation leaders are training their sights on initiating new county-level funding programs in the Lowcountry. Several interviewees mentioned Berkeley, Georgetown and Horry Counties as strategic locations to investigate. Others expressed interest in a comprehensive assessment to determine which municipalities and/or counties were ripe for further exploration (see table below). Assuming that addressing growth patterns, increasing existing protection, and protecting high conservation value areas are compelling messages for initiating local funding, Horry, Dorchester, Georgetown and Berkeley Counties could warrant special attention for exploration in the Lowcountry.



Table 1. Projected population growth and density, percent of the county identified as a conservation priority in the recently released TNC Conservation Vision map, and percent of county in permanent protection for ten Lowcountry counties.

Lowcountry County	Projected growth Rate (2010-2020) <small>Source UNC Population Center</small>	Population Density per sq mi (2018) <small>Source World Media Group LLC</small>	Conservation Priority (%)	Protected Lands (%)
Horry	>18%	225.7	44	7
Georgetown	0-6%	58.4	84	22
Charleston	0-6%	269.3	44	36
Berkeley	6-12%	153.6	60	35
Dorchester	>18%	248	43	17
Colleton	0-6%	33.7	49	18
Beaufort	12-18%	182.4	30	20
Hampton	Population loss	36.7	79	18
Jasper	6-12%	37.2	92	18

Measuring the potential impact of this strategy would depend on funding levels and local goals and priorities. For example, if Horry and Jasper Counties (currently with 7% and 18% of their lands in conservation status respectively) could achieve a 10% increase in land protection through a local ballot measure for conservation funding, protection would increase by roughly 13,700 acres – 5,700 acres in Horry County and 8,000 in Jasper.

Many past projects in the Lowcountry have combined local and state funding. The South Carolina protected lands database shows that of 437 Lowcountry projects funded by a local, state, or federal program, 144 were funded by two sources. However, there may be the potential to link these sources more closely or more deliberately in the future. Under the Conservation Bank’s reauthorization, state funding is now available to local governments to protect and own land whereas in the past it had to be state-owned or held by a qualified non-government organization. This could create greater alignment between local and state priorities and accelerate local support for conservation funding as residents may now see that local priorities attract more state funding. The more local funding a project generates, the more it may help demonstrate to state legislators broader support for conservation, and in turn lead to increased state funding.

Current Barriers and Challenges

The careful design of a ballot initiative for land conservation is challenging and time consuming. It requires a compelling champion(s); selecting the “right” funding source; strategic language or perhaps linking funds to other popular public-works projects such as roads, libraries or schools; impeccable timing; and careful and thoughtful research and polling. The Trust for Public Land (TPL) describes five critical steps in the design of a ballot measure: feasibility research, public opinion polls, program recommendations, ballot language, and public campaign. This strategy would likely require a



substantive investment to engage knowledgeable consultants to help identify which Lowcountry counties or communities are ripe for a ballot measure and to design and implement the initiative.

Recommendations to Support This Strategy

Through its support in the Lowcountry, the Donnelley Foundation is funding key organizations working to expand public funding. But some additional focus and small levels of support could be helpful in increasing the probability of success. Efforts to consider include:

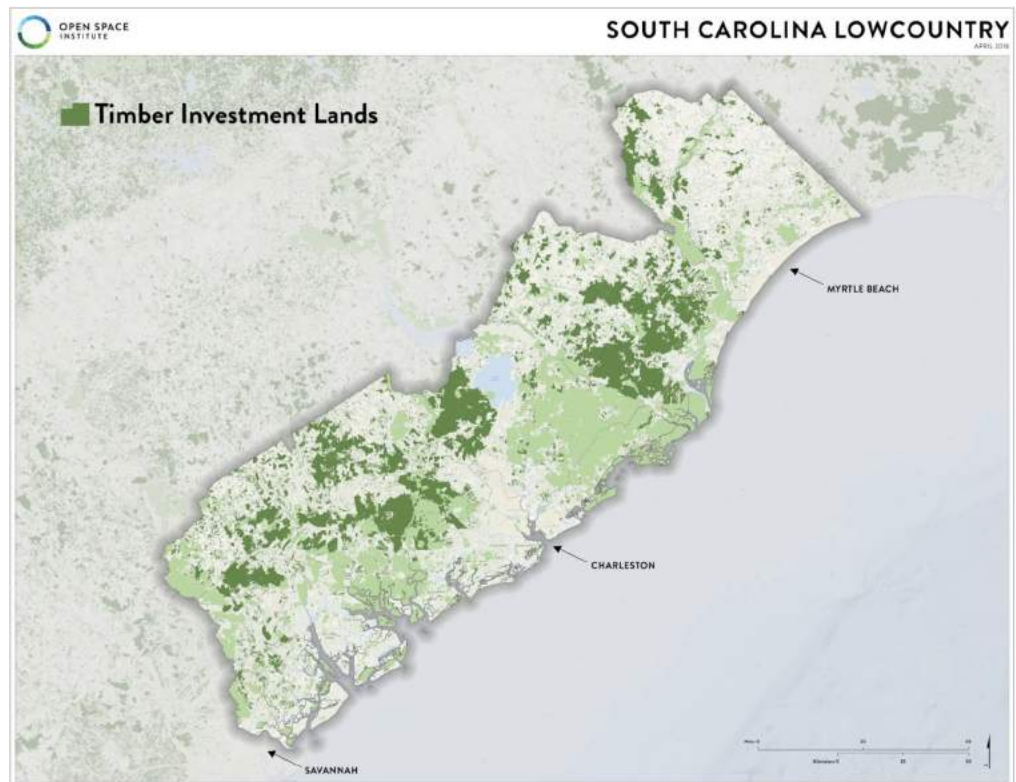
- Supporting polling and economic analysis of conservation need and ability to pay in selected counties where public funding programs might be expanded or initiated.
- Developing targeted retrospectives of the value of public funding for community economic and social well-being.
- Supporting efforts around specific transactions to link state and local funding to showcase for local communities how small amounts of funding might leverage state and private funds.
- Encourage Lowcountry partners to develop a shared strategy for increasing scope, impact and public perception of the existing local funding measures and ways to leverage local funding with existing state and federal sources.



Strategy Two: Financing Forest Protection

With large tracts of timber land potentially up for sale soon, the conservation community is interested in identifying new sources of finance for forest protection. Resource Management Service (253,591 acres), Weyerhaeuser (104,278 acre), and FIA (135,290 acres) control extensive land holdings in South Carolina and particularly across the Lowcountry.⁸ This provides an excellent opportunity to work with a limited number of entities to affect landscape scale conservation. Timber Management Organizations (TIMOs) and Real Estate Investments Trusts (REITs) together own or manage about 16 million acres or 10% of the timberland across 11 southern states.⁹ In South Carolina much of the plantation forest ownership is found in the coastal plain and has changed hands from industrial forest corporate ownership to timber investment ownership— an estimated 1.5 million acres in the northern coastal plain and 1 million acres in the southern coastal plain.

An unusual convergence of interests has made timber investors and conservationists unlikely partners at times. Some investors, having bought land at high prices more than a decade or more ago, are now looking for ways to monetize their assets to achieve desired returns. Conservation easements offer substantial cash today in exchange for restrictions that some timber investors have found palatable, i.e., prohibitions on development in certain places, and sometimes measures to encourage more sustainable forestry. This has resulted in some of the largest private lands sales in history. The growing success of such partnerships is promising for conservation in the Lowcountry.



⁸ Hatcher, J.E, T. J. Straka, Richard A. Harper, T. O. Adams. 2012. Shifting Private Timberland Ownership in South Carolina: Implications for Management Intensity. Open Journal of Forestry Vol 2. No 4 pg 279-285.

⁹ Zhang, D., B. J. Butler, and R. V. Nagubadi. 2012. Institutional Timberland Ownership in the US South: Magnitude, Location, Dynamics, and Management. Journal of Forestry 110(7) pg 355-361.



Resource Management Service, a TIMO with the most land ownership in South Carolina of any timber investment company, has garnered special attention from Lowcountry partners. The Company is beginning to plan for the 2021 sale of its Red Mountain Timber Fund, which includes 2.3 million acres across the southeast with approximately 200,000 acres located in the northern coastal plain of South Carolina. If investment interest is high enough, the Company may try to move much of this land into a new evergreen fund and conservation groups could play a role in bringing much needed capital to the table to make this possible (see Attachment 6- Approaches to Addressing TIMO Lands).

Table 2. Acres and percent of 10 Lowcountry counties in plantation forest ownership (based on TNC's Plantation Forest data layer generated for Terrestrial Resilience analysis).

Lowcountry County	Plantation forest ownership (Acres) Source TNC	Plantation forest ownership (% of County) Source TNC
Horry	53,948	7
Georgetown	221,815	41
Charleston	34,039	6
Berkeley	138,545	18
Dorchester	80,786	22
Colleton	231,074	34
Beaufort	11,296	3
Hampton	86,196	24
Jasper	88,769	21

To achieve return for investors, timber investment companies realize value through appreciation of the asset (timber and land), timber sales and, in certain instances, sale of the land or easements. Timber holdings in the Lowcountry are highly productive and in some cases companies will want to retain ownership and seek to realize revenues from an easement sale. It is unclear how much coastal land holdings might be worth, how much timber companies may seek to ease and importantly how much is necessary to conserve. If conservation partners pursued conservation easements on the 200,000-acre outsale of Red Mountain Timber, it alone could be worth as much as \$200 million. Even if the conservation community could conserve a small part of the ownership, assembling the necessary financing will be a huge challenge.

To protect these and other large forested tracts, the conservation community will likely require a mix of public and private funding, including grant and low-cost loan capital and very likely collaboration with timber investors. The region's land trusts, in particular TNC, TCF, OSI and Lowcountry Land Trust, have experience working with investors, though typically with individuals who are more charitably inclined. Partnerships with institutional investors, such as TIMOs, can be much more challenging because of their fiduciary responsibility to secure market rate returns.



Philanthropy remains the obvious first choice of funding. It is flexible, free and either available outright or through payouts over a limited number of years. Yet, there are a limited number of foundations and individuals who provide grants for land acquisition in the Lowcountry. One promising source of funding may be through the sale of carbon credits, in which forestland owners are compensated if they agree to restrictions on their land in order to facilitate carbon sequestration (see pages 41-44 for an extensive discussion of the sale carbon offsets).

Absent large amounts of up front grants, land trusts will likely need to secure significant flexible, low-cost debt to purchase and hold land until permanent “take-out” funding can be found. One source of such capital may be the State Revolving Fund (SRF). The state actually operates two loan funds, one focused on wastewater and stormwater treatment and a second focused on drinking water. To date, the South Carolina SRF has made loans totaling almost \$1 billion through both funds for projects ranging from sewer upgrades and expansion of wastewater facilities. While nonprofits have tapped SRFs for loan capital in other states, including neighboring Georgia, this has not occurred in South Carolina. Nor has the “sponsorship model” pioneered by various states including Ohio been utilized, in which the interest rate on loans for traditional “grey” infrastructure is reduced, and the funds from the “avoided” interest are earmarked for acquisition of forestland that complement, for example, wastewater investments downstream by enhancing water quality upstream. But several groups interviewed expressed interest in trying to pilot the model.

Current Barriers and Challenges

Since TIMOs are not subject to public scrutiny as much as publicly traded companies, there is little incentive to engage in conservation to bolster their public image. Their only motivation is usually for money.¹⁰ In Yancey’s 2007 research assessing the growing relationship between conservation NGOs and TIMOs, TIMO respondents said that fee simple sales were the best method of transaction, with some going as far as to say that their respective TIMO would not engage in conservation easements. Their reluctance was attributed to several factors - decreased liquidity of the tract, perpetuity of easement (in a highly dynamic future), and inability to get a proper return for investors. All this notwithstanding, in 2014 Resource Management Service, which owns close to 200,000 acres in Georgetown and Williamsburg Counties alone, engaged in a landscape-scale conservation easement effort with The Conservation Fund in Alabama and Florida. The Coastal Headwaters project will permanently protect approximately 205,000 acres of working forestlands across the Mobile, Perdido, Pensacola, and Blackwater Bay watersheds in Alabama and Florida and is the largest single longleaf pine landscape restoration effort on private lands in history.

To negotiate well with a timber investor, the conservation community needs to understand their business model. In the Coastal Headwaters Initiative, RMS approached TCF as a partner through a fee for service agreement. The project clearly met the financial needs of the organization and the conservation imperative of the NGO. But most NGOs are unfamiliar with the TIMO business model and may be at a disadvantage in negotiating with timber investors.

¹⁰ Yancey, H. 2007. Effective Instruments for Timber Investment Management Organizations Cooperation with Conservation Groups. Master of Environmental Management degree and Master of Forestry degree in the Nicholas School of the Environment and Earth Sciences of Duke University.



Recommendations to Support This Strategy

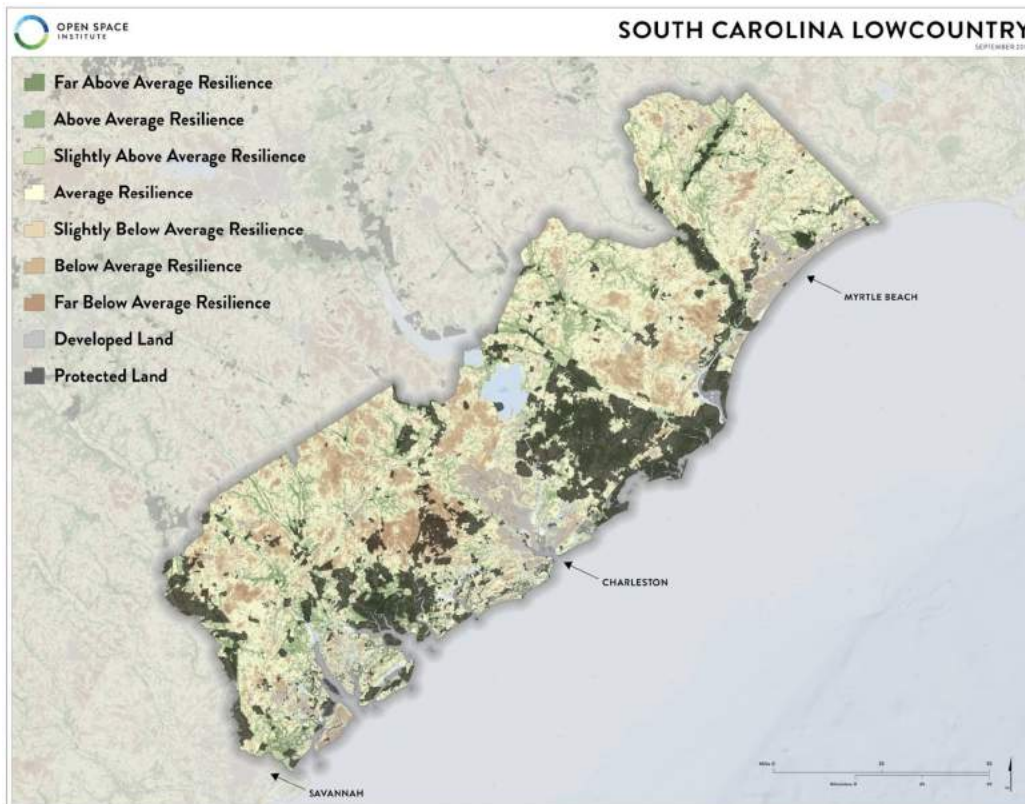
In addition to its valuable role in convening and facilitating communication among Lowcountry conservation groups, the foundation could support targeted research and assistance on financing strategies. Specifically, there is a need to:

- Identify highest priority TIMO lands and understand ownership structure and timelines for timber fund expirations.
- Research easement transactions with TIMOs and determine how best to ensure high level of ecological protection for a variety of possible scenarios.
- Assemble experts to advise on financing scenarios that include different mix of public and private funding, debt and equity (“deal doctoring”). Conduct further analysis on forest condition and the feasibility of selling carbon credits and securing and transferring Scenic River Tax Credits.
- Play a direct role in financing a conservation easement or land acquisition through a mix of grants, low-interest loans and/or interest rate sweeteners or guarantees.



Strategy Three: Coastal Wetlands and Climate Resilience

By conserving coastal wetlands and ensuring marsh migration along critical resilient corridors that will absorb sea level rise and related flooding and maintain water quality, the Lowcountry can become a model of adaptation to climate change. Such a strategy will require using resilience science to target public and mitigation funding and integrating various regulatory efforts, as well as floodplain protection and buyout programs, to ensure a sustainable future for the region.



The destruction caused by Hurricane Florence has highlighted both the precariousness and value of coastal wetlands. Coastal wetlands, some of the most diverse and productive ecosystems on Earth, are important and irreplaceable habitats for slowing the pace of climate change and protecting Lowcountry communities. Intact coastal wetlands continuously remove and store atmospheric carbon while also increasing the resilience of ecosystems and human communities in the face of climate change. Wetlands store flood waters from increasingly intense rainstorms, provide water during droughts and help cool surrounding areas when temperatures are elevated. Wetlands within and downstream of urban areas are particularly valuable, counteracting the greatly increased rate and volume of surface-water runoff from pavement and buildings. The holding capacity of wetlands helps control floods and prevents crop damage from flooding. Preserving and restoring wetlands, together with other water retention actions, can often provide the level of flood control otherwise provided by expensive dredge operations and levees.¹¹

¹¹ Source: <http://water.epa.gov/type/wetlands/flood.cfm>



The U.S. Fish and Wildlife Service estimates South Carolina has about 383,000 acres of salt marsh and marine wetlands along thousands of miles of saltwater creeks which eventually give way to 182,000 acres of freshwater tidal wetlands. According to NOAA, sea level has risen steadily by about a foot in coastal South Carolina over the past century. The average annual sea-level rise since 1993 has been nearly double according to NOAA's 2017 Climate Report. The City of Charleston uses a forecast of 1.5 to 2.5 feet for its 50-year sea-level rise planning. The coast might be a great deal more vulnerable were it not for the conservation community's protection from development of nearly 1 million coastal acres, mostly in the Santee River delta and in the Ashepoo-Combahee-Edisto (ACE) Basin between Charleston and Beaufort, giving salt marshes and other tidal wetlands room to migrate. The challenge now is to conserve additional wetlands north of the Santee River, closer to developed area, and to steward and restore wetlands on protected lands.

Resilience science offers a blueprint for identifying high priority floodplains and wetlands and key corridors for marsh migration, as well as complementary efforts to strengthen regulations and accelerate the rate of buy-outs to increase the region's resilience. Four interrelated sub-strategies warrant further investigation:

1. Protecting (or stewarding on already protected land) salt marsh migration space to allow this essential coastal habitat to persist in the face of sea level rise.
2. Engaging communities in the Federal Emergency Management Agency (FEMA) Community Rating System (CRS) program to elevate floodplain protection as a community priority.
3. Working with counties and municipalities to leverage FEMA repetitive loss funding.
4. Building upon recent successes in targeting highly resilient conservation areas for regulatory wetlands mitigation.

Protecting Marsh Migration Space - In developed areas along South Carolina's coast, human infrastructure will be protected with hardened shoreline from rising sea levels. With no space to migrate, areas adjacent to development are likely to become marsh-loss locations if existing marshes aren't able to keep pace with rising seas. This places additional pressure on conservation organizations to protect marsh migration space where it exists and to better understand the role their existing and future conservation easement properties might play in allowing or hindering marsh migration.

Protecting Floodplains through Planning and Buyouts and Engaging Communities in FEMA CRS - Supporting and engaging communities in completing a Community Rating System (CRS) application is a powerful indirect means of leveraging land conservation in the Lowcountry. The goal of the program, which is managed by the Federal Emergency Management Agency (FEMA), is to reduce flood risk. Participating communities receive "credits" for undertaking measures to preserve floodplains that include conserving open space and implementing land use policies that encourage development away from wetlands, dunes, and other naturally protective features. FEMA offers discounts on flood insurance premiums for policyholders based on the credits earned by their communities. When Horry County updated their application in 2016, their score improved from 711 points to 1827 and flood insurance rates for county residents were reduced from 5 to 15%. Incorporating open space protection



in the application accounted for the most significant point increase (329 points) in the updated application.

There are a myriad of opportunities for conservation organizations to provide information, resources or technical assistance to coastal communities to initiate or improve a FEMA CRS application, and plan and facilitate future floodplain protection. South Carolina’s Office of Coastal Resource Management has made a significant first step by initiating the Coastal South Carolina CRS Users Group to provide a forum for coastal communities to share lessons learned, identify best practices and gain efficiencies in planning processes of CRS. Investing in this program simultaneously elevates the importance of floodplain protection and provides a direct financial benefit to residents who pay flood insurance. Of the ten Lowcountry counties, only six are currently participating in CRS. At least four of these counties could likely increase their scores with technical assistance on the application. Additionally, only a handful of coastal towns and cities have completed the application process.

Table 3: Six Lowcountry counties currently participating in FEMA CRS, CRS Class ranking (1-10:1= highest possible score and 10=no application submitted), and percentage discount applied to flood insurance premiums.

Lowcountry County	Effective Date of CRS Application (as of 2016)	FEMA Class (ranked 1-10)	Percent Discount of Flood Insurance
Beaufort	05/1/12	6	20
Berkeley	05/1/13	8	10
Charleston	10/1/10	4	30
Colleton	05/1/07	7	15
Georgetown	05/1/10	8	10
Horry*	10/1/10	9	5

*Horry County updated their application in 2016, but current data was not available.

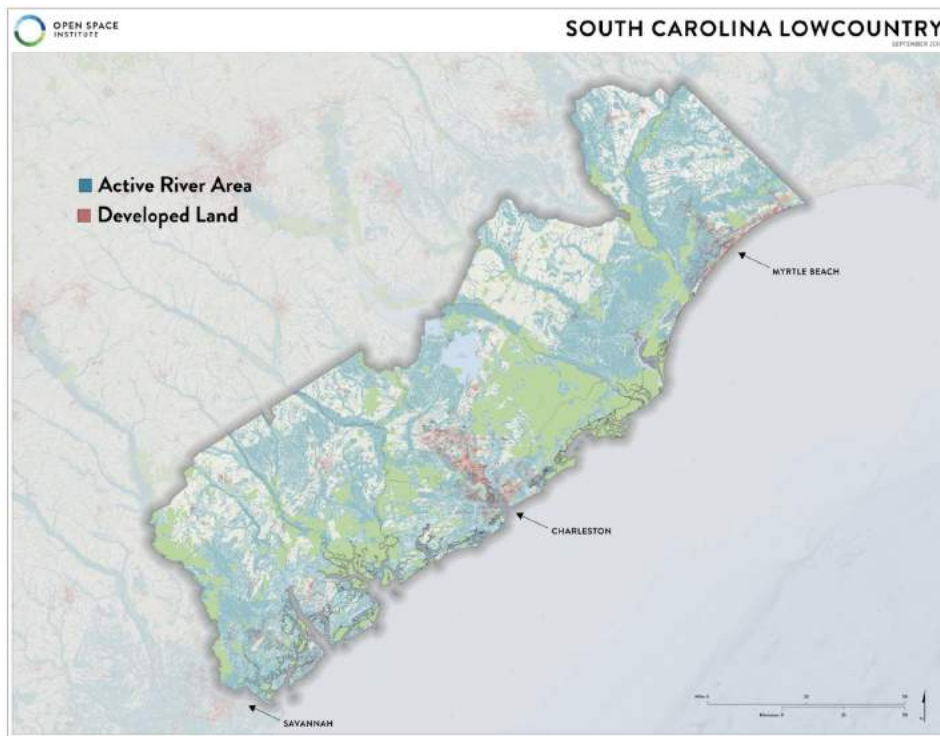
FEMA Repetitive Loss Funding - About 400,000 people - or almost 10% of the state’s population - live in flood-risk areas. With several millennial storms having occurred in the last five years, there is growing acceptance of the risks from flooding and weather-caused disasters. South Carolina’s coastal communities have been proactive about securing disaster relief funding. Between 2010 and 2015, FEMA has provided almost \$40 million in disaster relief in South Carolina, an increasing amount for buy-outs. In Oct 2017, the Charleston Post and Courier announced that FEMA was awarding the city of Charleston more than \$10 million in grants to help buy 48 flood-prone properties in West Ashley where residents were eager to sell. Thirty-two townhomes, which have been flooded four times in the past three years, are among the first properties the city will purchase with the grants to transform the properties into greenspace. Similarly, the City of Conway, in Horry County, earlier this year received \$10 million to buy out structures, which could end up improving the ability of its floodplains to absorb increased water and prevent further property destruction.

Two of the region’s advocacy groups - the Coastal Conservation League (CCL) and the Southern Environmental Law Center (SELC) – are working with FEMA in Charleston County, as well as other cities



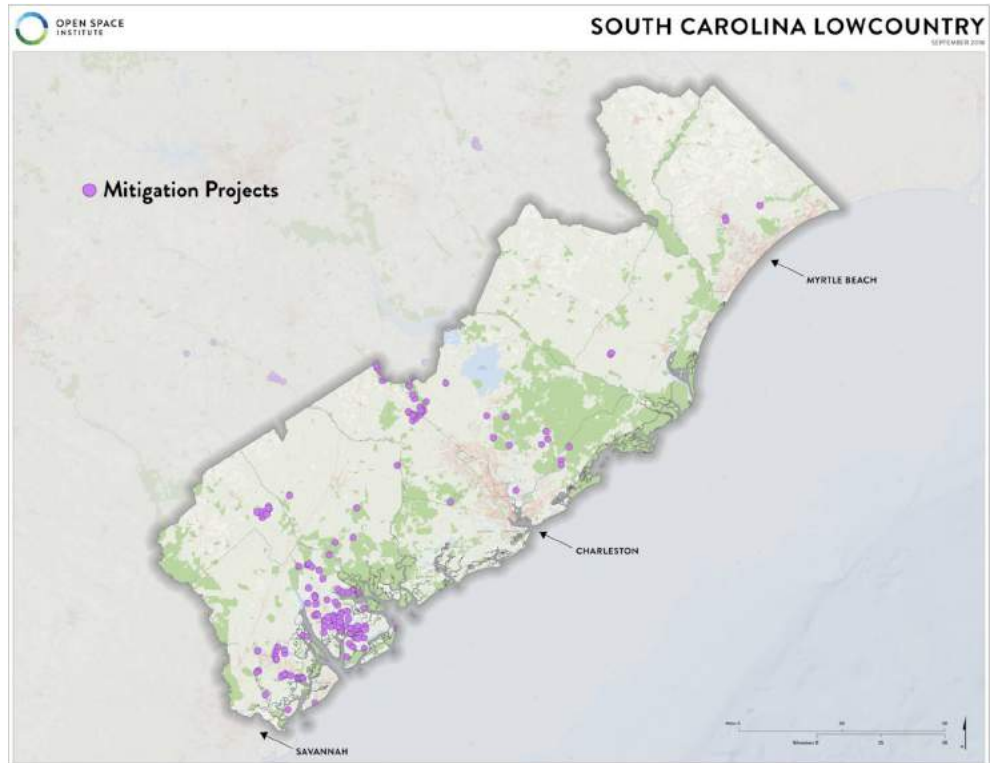
and towns, both to shape disaster relief as well as help local governments secure relief services. CCL is working with the Natural Resources Defense Council on a pilot program to identify optimal properties for buy-out in Charleston, and SELC is using resilience analysis to determine “no go” development zones that can facilitate marsh migration in the face of climate change. Both efforts are promising approaches to increase local investment in floodplain protection.

This strategy provides a mechanism to directly improve community resilience, increase parks and open space in developed areas, and restore formerly developed land to natural areas. With potential application across coastal counties and compounding benefits, this represents a cost-efficient conservation strategy. However, this nuanced strategy will require special sensitivity to a landowner’s, neighborhood’s, or community’s interest in engaging in buy-outs. Where buy-outs are not of interest, increasing community resilience through protection and restoration efforts (discussed above) may be.



Compensatory Wetlands Mitigation

In a region that is nearly half wetlands and that is booming economically, it is inevitable that some development will harm important wetlands. The legal framework requires that the first obligation is to prevent such harm, the next is to ensure that if it is to occur, resulting mitigation is efficient and strategic. With careful attention, wetland mitigation can provide a source of significant funding for conservation in the Lowcountry. A strategic opportunity is to focus potential mitigation funding on protecting the most important wetlands, and marsh migration corridors.



Some mitigation needs, like long term road planning, are easier to forecast, while others are less predictable and project specific, such as mitigation needs for new large manufacturing facilities. When done correctly, applicants who need permission to fill wetlands fund protection and restoration of threatened wetland landscapes that connect to other ecologically significant and/or public lands to offset the proposed impacts to wetlands. When done incorrectly, applicants propose lowest cost preservation and restoration without consideration of where the mitigation tract falls in the larger conservation landscape. Through advocacy, education, litigation, and science, the Lowcountry conservation community has changed the way wetlands mitigation occurs in South Carolina. A system that used to be controlled by private conservation bankers and was based on lowest land and restoration cost to maximize profit is now based on meaningful conservation priorities and protects threatened habitat, at a landscape scale.

With the dedication of the conservation community, USACE, and the other state and federal agencies, South Carolina has become a model for how to handle wetlands permitting. A process that was slow, expensive, did not build on previously conserved lands and regularly landed applicants and citizen groups in court is now fast, reliable, and achieving landscape scale conservation at a record pace (see Attachment 7 for description of factors in South Carolina's wetlands mitigation success).



The South Carolina Secretary of Commerce has lauded this approach to mitigation and emphasized its role in facilitating landscape scale conservation successes behind the Boeing, Mercedes, Palmetto Railways, South Carolina Department of Transportation and South Carolina Ports permits and the reauthorization of the South Carolina Conservation Bank. Both the South Carolina Department of Commerce and the South Carolina Conservation Bank are developing maps to further guide mitigation dollars to meaningful projects.

Conservation partners have the opportunity to continue to shape the future of mitigation by solidifying and institutionalizing the role of conservation groups in the mitigation process, directing mitigation dollars to the highest quality conservation projects, and incorporating thoughtful restoration measures on mitigation properties that incorporate climate resilience as a lens.

Barriers and Challenges

Ensuring coastal resilience requires wholesale changes in how to manage the human footprint in the most vulnerable ecosystems, and sometimes the most vulnerable human communities. The challenges are political, economic and psychological as relocation and even retreat raise difficult issues, including that sea level rise is disproportionately affecting economically underserved communities which face the greatest difficulty in relocating. Key challenges include working collaboratively with these communities to balance human needs with the need to protect the most sensitive wetlands and floodplains; creating incentives for increased enrollment in FEMA buyout programs; using climate science to present a vision that can guide disaster relief and other funding programs for community economic development; and using a mix of compensatory and regulatory tools to help communities take steps to reduce flooding and modify the pattern of future development. While these challenges are significant, there are seeds of a forward-looking vision within some of the most vulnerable coastal communities. For example, the City of Conway has experience three historic flood events in less than 5 years., In response to these events, the City passed an ordinance after Hurricane Matthew that prohibits building in areas that were under water during Matthew. The City is also an active partner in conservation planning and protection projects within the Waccamaw River floodplain. The challenge is to replicate these successes at greater scale across the region.

Recommendations to Support This Strategy

The Donnelley Foundation is already very involved in watershed protection in the region. The source water protection efforts engaging utilities and communities in the Savannah River and the Pee Dee River watersheds are among the most innovative in the country. Donnelley is also funding the advocacy organizations that are working on these issues. However, there may be ways to strengthen and target this work for increased effectiveness. Some potential strategies:

- Support more comprehensive mapping, utilizing ecological resilience, marsh migration models, and flooding data, to identify the highest priorities for land acquisition and buyouts. This can establish explicit protection, restoration, and stewardship priorities for the land trust community.



- Use the above analysis to identify categories of floodplains for protection, based on ecological and human criteria, and identify communities located in those floodplains that have completed a FEMA Community Rating System (CRS) application and those that have not.
- Support a “circuit rider” to assist local towns in digitizing protected lands within their floodplains and other elements of the CRS application process which can improve CRS scores. This represents a significant barrier to increased CRS enrollment as most towns lack the staff and technology to do the work. One model may be the Georgia Sea Grant Program, which has dedicated its sole staff member to help counties along the state’s coast become CRS certified.
- Engage community members, particularly in some of the most economically underserved areas, in the design and implementation of adaptation strategies.
- Continue to connect with national groups, such as NRDC, and the Pew Charitable Trusts, which has targeted the coastal Carolinas for support to help communities adapt to climate change. Another funding source is the Climate Resilience Fund (<http://climateresiliencefund.org/about/>).
- Assist communities in identifying the required 25% local share required to receive FEMA buyout funds after a natural disaster (additional justification and purpose for local ballot measures) and final title holders for the lands acquired.



Sale of Carbon Offsets

During the Phase I analysis, the sale of carbon offsets was identified as part of a potential strategy to finance forest protection in South Carolina, a Tier 1 strategy. Initially, the sale of carbon offsets did not seem to be a strong fit for the Chicago Wilderness, since it requires large forested blocks. Although the forest preserve and conservation districts contain large forested blocks, they are already conserved, which appeared to obviate the need for the sale of forest carbon as a path to conservation. In addition, our understanding was that the forest preserve and conservation districts were not open to the potential sale of carbon offsets. However, after conversations with representatives from the forest preserves in northeastern Illinois, we now believe that the sale of carbon offsets should be considered a viable and important revenue-producing strategy.

Strategy Description

Regulated cap-and-trade systems place a limit on total greenhouse gas pollution by issuing or auctioning a limited number of tradable permits to pollute. Some cap-and-trade systems allow emission reduction projects from unregulated sectors of the economy to sell offsets to companies in regulated sectors.¹² The California cap and trade program, for instance, allows the use of carbon offset credits from projects that are capable of reducing greenhouse gas emissions to be sold in California's carbon market as a means of compensating owners for reducing greenhouse gas emissions. Carbon offset credits can be created by any qualified project in any part of the U.S. and sold to a compliance company in California to offset its emissions.¹³

In a voluntary carbon market, emitters may elect to buy carbon offsets to mitigate the effects of their emissions to fulfill corporate sustainability or marketing goals or in anticipation of future regulations. In North America, the voluntary market for forest carbon offsets is significantly smaller than the compliance market. According to Forest Trends' Ecosystem Marketplace, in 2015 in North America forest carbon offset sales totalled \$74.5 million, with \$63.2 million from compliance offset sales and \$11.3 million in voluntary sales. However, there are a number of large companies operating in both study regions that could be approached about the voluntary purchase of carbon offsets.

In order to meet rigorous carbon accounting standards, offsets must be:¹⁴

- Real: tangible greenhouse gas-emissions reductions or increased carbon sequestration
- Additional: emissions reductions or carbon sequestration beyond a "business as usual" scenario and that is not a product of prior legal commitments
- Verifiable: quantifiable, monitorable and verifiable by an accredited third-party actor through a standardized system

According to Paula Chamas from the Conservation Finance Network, forest carbon offsets work well when:

¹² "Conservation Assets: Forest Carbon and Mitigation Banking," New Forests Sector Overview, 2014 <https://www.newforests.com.au/wp-content/uploads/2014/01/Conservation%20Assets%20for%20web.pdf>

¹³ "Carbon Offsets for South Carolina Family Forest Landowners" Clemson Cooperative Extension Forestry and Wildlife, August 2017

¹⁴ <https://www.conservationfinancenetwork.org/2018/06/26/forest-carbon-offsets>



- A landowner is willing to make a binding, long-term commitment to maintaining carbon stocking on the property beyond any existing legal requirements.
- Maintenance of a high level of carbon stocking is compatible with other management objectives applied in the property. These may include goals related to product harvests, wildlife habitat, watershed protection, or cultural resources.
- The forest property already has a high level of timber stocking relative to what is typical in its region – or has moderate stocking but substantial growth potential.
- The forest property is large enough to achieve an economy of scale. Because carbon projects require rigorous inventory, verification and monitoring, the expense of a carbon project often prevents smaller landowners from participating in the forest carbon markets. The size required depends on many factors. Typically, project areas are at least several thousand acres. However, there are efforts underway to aggregate smaller-scale projects to make it economically feasible.

Applicability and Recommendations for the Chicago Wilderness

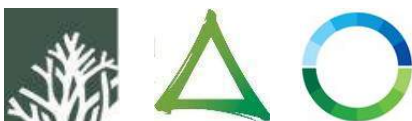
The Chicago Wilderness region includes the forest preserve districts in Cook, DuPage, Kane, Kendall, Lake and Will counties and the conservation district in McHenry County. Because the forest preserves and conservation districts are well stocked and will continue to be managed primarily for wildlife and recreation, they could meet the conditions outlined above. Although the sale of forest carbon would not be necessary to help protect the forest preserve and conservation districts from development, the sale of forest carbon offsets could produce significant revenue that could be used to conserve additional land and for stewardship. For example, the sale of forest carbon offsets could help the Cook County Forest Preserves meet the goals of its Next Century Conservation Plan, which calls for adding 21,000 acres of land and restoring 30,000 acres to good ecological health.

Not all of the acreage in the forest preserve and conservation districts will be suitable for forest carbon offset sales, nor will the districts be universally open to the concept. However, to provide a very rough estimate of the scale of the potential opportunity, we conducted a basic analysis below using the example of six compliance forest carbon offset projects recently completed in New England. These projects yielded an estimated average of \$137 of revenue per acre in their first year of offset sales and an estimated additional \$5-10 per acre annually after the first year of offset sales through forest carbon storage in excess of the new baseline.¹⁵ If even a portion of the forest preserve and conservation district lands were utilized for the sale of forest carbon offsets, there could be significant revenue potential.

Preliminary Estimate of Carbon Offset Sales Potential

County	Acres of Preserves	Revenue From Year 1 Offset Sales (\$137/acre)	Annual Revenue Potential (\$5/acre)
Cook	69,000	\$9,453,000	\$345,000
DuPage	26,000	\$3,562,000	\$130,000
Kane	21,000	\$2,877,000	\$105,000

¹⁵ Jenkins, D. (2015, May-June). Cash for Carbon Revisited. Retrieved from <http://www.finitecarbon.com/wp-content/uploads/2015/06/FiniteCarbon-FLA-article-June2015.pdf>



Kendall	2,663	\$364,831	\$13,315
Lake	31,000	\$4,247,000	\$155,000
McHenry	25,104	\$3,439,248	\$125,520
Will	21,876	\$2,997,012	\$109,380
TOTALS	196,643	\$26,940,091	\$983,215

Carbon offset sales are complex and an industry of carbon finance developers has emerged to shepherd landowners and public agencies through the process in return for a cut of project revenues. In order to help ensure that potential carbon offset revenues are directed toward additional conservation, the foundation could help support the forest preserves and conservation districts in pursuing this opportunity by:

- Introducing forest preserve and conservation district staff to carbon developers based upon recommendations of this team or other experts.
- Supporting a convening of forest preserve and conservation district representatives specifically focused on this opportunity to gauge interest and provide educational opportunities.
- Providing case studies and introductions to experts and other public agencies that have pursued carbon offset sales.
- Funding data collection and other aspects of an initial feasibility study.
- Supporting efforts to engage corporations in discussions about the potential for voluntary acquisition of forest carbon offsets.
- Considering a PRI to support a carbon development project if a project seems feasible.
- Supporting efforts to identify opportunities for potential carbon offset sales revenue to target conservation-minded activities such as restoration or additional land protection.

Applicability and Recommendations for the South Carolina Lowcountry

As described above, forest conservation is a vital part of protecting the ecological health of the South Carolina Lowcountry. Given the presence of large forested blocks in the region, there are already carbon developers active in South Carolina and a number of successful carbon offset sales, including the Francis Beidler Forest, which sold about 450,000 carbon credits through Blue Source, a San Francisco-based carbon developer. Although carbon offset sales are not likely to be a good fit for the plantation-style forests managed by TIMOs for large timberland investors or longleaf pine forests emphasized on private recreational tracts, there may be potential for carbon sales in the bottomland hardwoods of these ownerships, which would dramatically reduce or eliminate limit harvests in for the 100-year duration of the carbon contract.

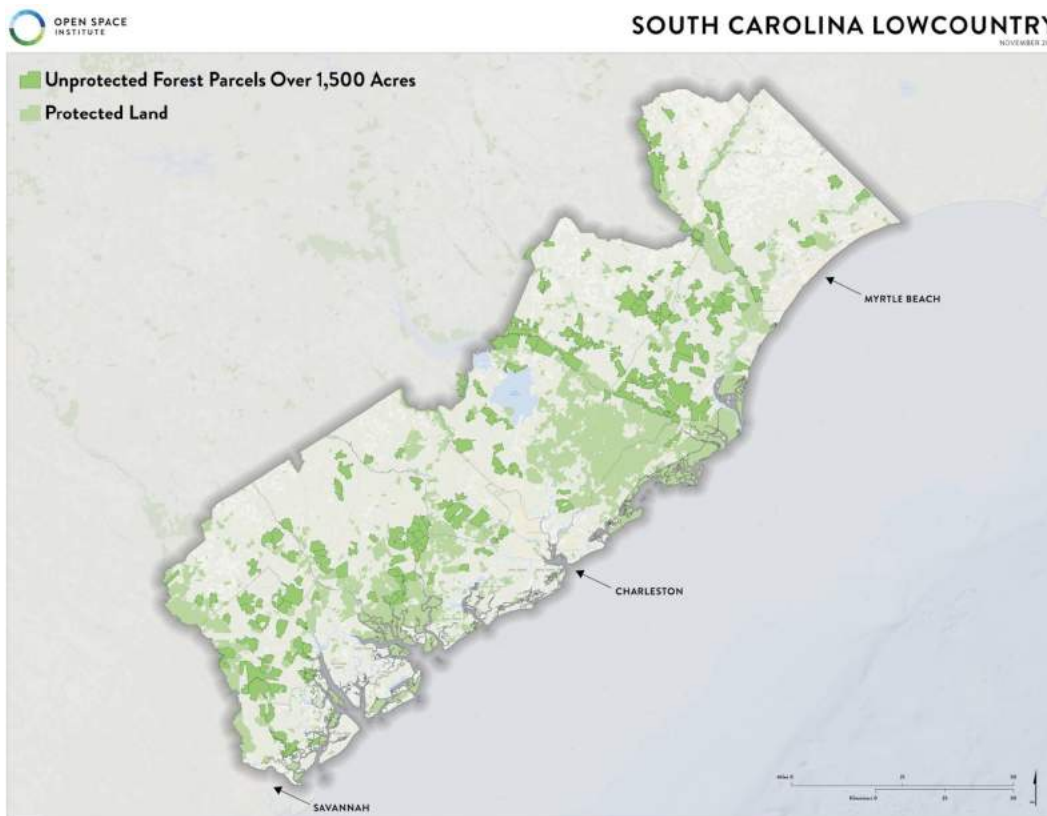
Because the costs of selling and verifying forest carbon offsets are significant, the strategy only makes sense for small, individual landowners if they join forces with other landowners. Fortunately, The Nature Conservancy (TNC) and other NGOs are beginning to develop models for aggregation that may be effective in South Carolina. Data from the South Carolina Forestry Commission shows that 88 percent of the state's forests are privately owned and 63 percent of these private forests are family owned.¹⁶ TNC's Working Woodlands program has enrolled more than 56,000 acres of forests in

¹⁶ Clemson Extension



Pennsylvania and four other states. At the heart of the Working Woodlands program are management plans that TNC develops to help landowners manage their forests. In some cases, TNC has helped aggregate land for third-party certification, conservation easement sales and carbon offset sales.

The map below provides very preliminary insight into the potential for carbon sales on privately-held lands in the South Carolina Lowcountry. The map highlights privately-owned parcels greater than 1,500 acres, the parcel size considered by many to be the minimum for the economical sale of carbon offsets, given the cost of selling and verifying carbon offsets. Extensive additional work would be required to determine the amount of carbon, landowner interest and other aspects of feasibility, but it is notable that these parcels aggregate to nearly 500,000 acres. Many of these parcels are adjacent to previously-protected land, making them important buffers to existing conservation investments.



The foundation could help land trusts in the South Carolina Lowcountry further explore carbon offset sales by:

- Supporting workshop(s) with local and/or national experts on the potential for the sale of forest carbon offset sales
- Funding initial research and feasibility studies on the potential for forest carbon offset sales on large timberland ownerships as well as aggregated individual ownerships
- Supporting efforts to engage corporations in discussions about the potential for voluntary acquisition of forest carbon offsets
- Engaging national conservation organizations in discussions about the potential to expand their carbon offset sales programs to South Carolina



Attachments

1. Table: Summary Evaluation of Top Tier Strategies
2. Table: Detailed Evaluation for Chicago Wilderness
3. Table: Detailed Evaluation for South Carolina Lowcountry
4. Table: Key NRCS Programs and Funding in Chicago Wilderness Region
5. List of Strategies for Connecting Watershed Management and Conservation
6. Approaches to Addressing TIMO Lands in SC Lowcountry
7. Description of factors in South Carolina's wetlands mitigation success
8. Table: Conservation Funding and Financing Matrix

