

Easement Stewardship for Landscape Scale Conservation Easements

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**for
Easement Stewardship Systems Roundtable
American Farmland Trust, Washington, DC
March 21, 2005**

BACKGROUND

In March 2001, the New England Forestry Foundation (NEFF) completed the purchase of a conservation easement on 762,192 acres of forest land owned by the Pingree family in Maine. The Pingree easement is currently the largest conservation easement in the United States. The easement prohibits development of the land and commercial uses, except for forestry uses, and requires the land be managed under guidelines that foster sustainable forestry. This white paper examines the experience developing an easement monitoring protocol and baseline for the Pingree easement and offers this experience as guidance for others considering landscape scale conservation easements.

STEWARDSHIP SYSTEM

The basis for an effective easement stewardship program starts with good easement drafting and language that is clear, unambiguous, and does not place unreasonable requirements on the easement holder to monitor and enforce specific terms of the easement. Early in the process both NEFF and the Pingree family recognized the need to draft the conservation easement to not only reflected their mutual goals for the land, but also allow for a practical and efficient means to monitor the easement over time. This situation was particularly true for the Pingree easement because of the sheer size of the property. The large acreage and its remote location was a major factor in designing the easement language and the stewardship system that followed. The Pingree easement includes all or portions of fifty townships in Maine's unorganized territory and almost none of the property has access by public roads. This situation required a new approach to easement monitoring and through a series of meetings NEFF developed a hierarchical stewardship system discussed below.

The intense public scrutiny around issues of "sustainable" forestry and public access also presented a challenge to the parties. Most of the large landowners in the Northern Forest region in the Northeast are very protective of their property rights and their land management prerogatives. The Pingree family had owned the land for 160 years and was the first landowner in Maine to be recognized by the Forest Stewardship Council and its agent, Scientific Certification Systems, as exceeding standards for sustainable forest management. No well-intentioned conservation group, albeit with a forestry bias, was going to tell them how to manage their land. However, the landowner's attitude was not incompatible with NEFF's organizational philosophy towards conservation easements. NEFF did not want to take on the extremely labor-intensive and expensive process of reviewing and approving management plans on 762,000 acres, so the easement was drafted to provide guidelines for sound forest management practices,

rather than dictate specific forest management prescriptions. As a practical matter, specific management prescriptions would be extremely difficult and expensive to monitor and enforce.

NEFF's stewardship system is designed to foster a partnership with the landowner in an effort to avoid problems before they occur and avoid the role of being a police officer in regards to private land stewardship. The conservation easement effectively removed any economic uses of the property, except forestry. The Pingree family and NEFF knew that sound or "sustainable" forest management practices would produce the highest economic return over time. In that respect, I believe it is likely the easement's forestry guidelines will be largely self-enforcing and also serve the landowner's interest in generating the highest economic return from the land. NEFF also believed that sharing information and knowledge with the landowner about new and progressive forestry practices, and information about the property learned from the monitoring process, would foster a positive and collaborative relationship with the landowner, thus reducing possibility of enforcement actions.

The unorganized townships in Maine's north woods are almost completely privately owned but have a long history of public access for outdoor recreation pursuits like fishing, hunting, canoeing, camping, hiking and snowmobiling. Some years ago the large landowners in northern Maine joined together to form the North Maine Woods Association as an entity to manage public access on private lands. People wishing to enjoy these lands are required to register with North Maine Woods, indicate their itinerary and pay a modest fee for the use of the private roads and primitive camp sites maintained by the Association. The Pingree family is part of the Association. The Pingree easement was drafted to provide for a continuation of historical public uses as a purpose of the easement but does not guarantee public access. The easement allows the landowner to manage public access on its own terms. NEFF recognized the Pingree family's right and need to continue managing public access to these private lands. The easement did not contemplate restricting, nor was the Pingree family paid for, access or other attributes beyond development rights, and NEFF did not want to assume any management responsibilities for public access.

Another historic land use in the Maine north woods is the tradition of sporting camps and lodges. Many of the large private landowners lease camp and lodge sites, typically on lakes and ponds, under long term leases. When the Pingree easement was completed, the property included a number of lease sites. These sites are excluded from the easement so long as the lease is in effect. If the lease expires and is not renewed in two years the area becomes included in the easement. The lease sites can only be expanded pursuant to the existing lease agreement or to meet the minimal practical requirements of the site or to conform to law. The easement does not allow for new lease sites to be established.

BASELINE

Once the easement was completed, its terms were examined in light of the need for baseline data and monitoring responsibilities. The Pingree easement baseline is based on sets of data that include the following:

Maps and Property Descriptions

- USGS topographic base maps with property boundaries
- GIS maps with attribute information for the 50 townships, including roads, gravel pits, lease sites, etc.
- Description of historic recreation activities
- Property legal descriptions

Photographs and Satellite Images

- Satellite images of the property at the time of the easement
- Aerial photographs of the property near the time of the easement
- Digital photographs of key structures and improvements existing on the property at the time of the easement

Documents and Reports

- Forest Management Plan
- Existing inventories not in the forest management plan
- Forest harvesting reports required by Maine law
- Copies of leases
- Description of camp-sites managed by North Maine Woods
- List of federal and state laws that govern use of the property

The baseline report's map and photographic information is maintained in both print and electronic formats. GPS waypoints were collected for gravel pits, camp sites, lease sites, and other site attributes. The attribute data is maintained on a GIS system on individual township base maps that can be linked to the photographic information. The baseline report is signed and acknowledged by the parties. The electronic data is stored on non-rewritable CD-Rs, which are labeled and initialed by the landowner. Any public release of the baseline data is governed by a confidentiality agreement.

MONITORING

As mentioned above, NEFF relies on a hierarchical monitoring protocol for the Pingree easement. The protocol utilizes satellite images, aerial photography and field inspections to monitor development activity, site disturbance, the forest management plan, and ecosystem health. This system is designed to monitor the specific attributes regulated in the easement document and ecosystem attributes of interest to NEFF. These attributes include (in no order of priority):

- Lease sites
- Structures used for forestry activities
- Structures allowed for non-forestry activities
- Roads
- Gravel Pits
- Riparian Habitat
- Clear Cuts
- Wetlands
- Recreational Use
- Conformance with the forest management plan

- Forest diversity
- Disturbance
- Ecosystem health

The monitoring protocol calls for three levels of annual monitoring: 1) medium spatial resolution satellite imagery change detection, 2) high resolution satellite or aerial photography sampling, and 3) site specific field inspections. Each year satellite images of the property are acquired from public or commercial sources and analyzed for landscape change. Areas of interest or disturbance are investigated by air and low level aerial photographs collected and analyzed. Areas of interest or disturbance that cannot be confirmed or understood by aerial photographs are then inspected by field visit. An annual meeting with the landowner is required and the results of the monitoring season are reviewed and discussed.

The first level (coarse filter) is the satellite imagery that is collected each year during the spring or early summer. Currently, Landsat-7 imagery is being utilized and can be acquired for \$600 per scene. The Pingree easement requires three scenes. The Image Analysis Laboratory at The University of Maine has developed a simple algorithm for detecting forest canopy change on the landscape. Changes in forest cover can be monitoring in time-series. The location and area of disturbance is quantified using routine image classification methods available in image processing software. Experience is now being gained on accurately determining natural disturbance (e.g. insect defoliation/wind throws) from human disturbance (e.g. herbicide treatment/logging). NEFF contracts with the University to provide the image analysis services.

The second level (medium filter) is aerial photography that is collected on specific areas of interest as determined from the satellite imagery. It would be very expensive to acquire aerial photography annually on 762,000 acres, so only those sites that NEFF feels warrant further investigation are photographed. These photographs can be compared with the aerial photography in the baseline. In addition, the Image Analysis Laboratory is experimenting with a digital video camera fixed on the wing of an aircraft to collect photography of sites of interest. Other aerial photography can be acquired through commercial firms on an as needed basis.

Finally, the third level (fine filter) is on-site field inspection. This activity has to be prioritized as to sites given the size of the property so as to control cost. The field visits are planned to confirm areas of new human disturbance, such as gravel pits, lease encroachment, or forest diversity sampling that cannot be conducted by the previous two methods. Currently, NEFF contracts with New England Forestry Consultants for the site visits and management of the GIS database. The consultant maintains a field office in Bethel, Maine, near the Pingree land which helps reduce travel cost.

COST

One of the greatest challenges to organizations holding landscape scale easements is the cost of monitoring. The monitoring protocol described above is designed to provide a consistent and defensible system of detecting and monitoring change at a reasonable cost. NEFF's initial goal when embarking on this project was to monitor the Pingree easement for ten cents an acre or less (\$76,200/year). After gaining experience and refining the process, it appears it may be possible to monitor the easement for five cents an acre or less. During the fundraising campaign for the

purchase of the Pingree easement, NEFF established a Conservation Easement Stewardship fund at the Maine Community Foundation. The goal was to capitalize the fund with at least one million dollars and use the earnings to cover the cost of annual monitoring. As a donor-advised fund, NEFF has an exclusive call on the amount and use of the funds. Nevertheless, since the Community Foundation has legal control and custody of the Endowment, these funds are sheltered from any claims or judgments against NEFF as a result of liability lawsuits, or in the event the organization ceased operations for some reason.

EXPERIENCE TO DATE

The monitoring protocol outlined above remains a learning process, as there have been only four monitoring seasons since the grant of the easement. Efforts are ongoing to improve and refine the process. Nevertheless, all indications are that the system is going to be effective and efficient. No violations have been reported to date, although the image and aerial photo analysis did discover timber trespass on a nearby tract of Maine public land. This experience points to the value of the system for large-scale tracts of forest land. The Pingree family also has learned to appreciate the value of the monitoring to provide information on their property, since they themselves cannot police all the leases or monitor all their boundaries for encroachment. There is every reason to believe that the monitoring protocol outline above can be replicated in other settings.

REFERENCES

Developing a Stewardship Protocol for the Pingree Forest Conservation Easement: Landscape Scale Monitoring, 2003, by Frank C. Reed, Steve A. Sader and Keith Ross, New England Forestry Foundation Bulletin, at www.newenglandforestryfoundation.org

Also see: www.newenglandforestryfoundation.org/projects/Pingree.asp, for a copy of the easement, maps, and additional information about the project



Legacy Partners, LLC, is a real estate consulting and project management firm lead by Tim Storrow to assist landowners, nonprofit organizations and public agencies achieve their land conservation objectives.

Mr. Storrow has served in the following professional capacities:

- Chief, Bureau of Land Use, Massachusetts Department of Food and Agriculture
- Director of Land Protection, Massachusetts Audubon Society
- Land Protection Program Manager, American Farmland Trust
- Deputy Director, New England Forestry Foundation

Mr. Storrow has negotiated and closed over three hundred conservation real estate transactions conserving many thousands of acres of land in New England, New York and the Mid-Atlantic and Rocky Mountain States. Mr. Storrow has also directed conservation easement stewardship programs for public and nonprofit organizations, including the baseline report for the 762,000-acre Pingree Forest easement held by the New England Forestry Foundation in Maine.