

CONSIDERATIONS FOR CREATING A NATIONAL CONSERVATION EASEMENT DATABASE

THE U.S. ENDOWMENT FOR FORESTRY AND COMMUNITIES

About the Endowment

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The Endowment has been chartered with two purposes:

1. Educational and charitable causes in timber-reliant communities; and
2. Educational and public-interest projects addressing forest management issues that affect timber-reliant communities or the sustainability of forests as sources of building materials, wildlife habitat, bio-energy, recreation, and other values.

VISION

America's forests are sustainably managed to meet broad societal objectives such as marketable products, clean waters, wildlife habitats and other ecological services, while ensuring healthy and vibrant forest-reliant communities.

MISSION

The Endowment works collaboratively with partners in the public and private sectors to advance systemic, transformative and sustainable change for the health and vitality of the nation's working forests and forest-reliant communities.



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INTRODUCTION

The U.S. Endowment for Forestry & Communities (the Endowment) and other conservation partners seek to enhance collaboration and planning in the United States conservation community by developing an easy-to-manage, sustainable system that would allow government and nonprofit organizations to share information on conservation easements in a single, limited-access system.¹ Through exploratory meetings and conversations, a number of public and private conservation players and the Endowment agreed that in order to move forward with developing a conservation easement tracking system, they would need to first:

- Reach consensus on a common rationale and vision for the system,
- Identify and address issues related to data privacy and security,
- Begin thinking through options for designing, managing, housing, and sustaining

the database, and

- Identify opportunities for collaboration with existing protected area database initiatives.

To explore the issues outlined above, telephone interviews were conducted with 26 representatives from government agencies and nonprofit organizations (see Appendix A for a list of interviewees), all of whom will be potential users, consumers, and/or partners of a national database of conservation easements. The interviews focused on the issues above, as well as interviewees' organizational data resources and experiences / lessons with internal, state, regional, and national conservation databases. The interview guide can be found in Appendix C.

The analysis and synthesis of the interview data, along with review of relevant documents (see Appendix D for a list of documents), provide the main content for this report.

BACKGROUND ON EASEMENTS

A conservation easement is a legal agreement between a landowner and a qualified non-profit organization or government agency that limits uses of the land in order to protect its conservation values.² Conservation easements are perhaps the most common vehicle for open space conservation and are obtained and managed by federal agencies (such as the Natural Resources Conservation Service, U.S. Forest Service, and Fish and Wildlife Service), state natural resources agencies, and nearly 1,700 local, regional, and national land trusts.³

Although they are a common vehicle, from the standpoint of planning, conservation easements tend to “fly below the radar.” As a result, compiling information on them is replete with challenges, including:

- Each conservation program has its own objectives.
- Conservation organizations use different

data management systems, from paper files to advanced geographic information systems.

- Most programs have few staff, and local land trusts in particular may have no permanent staff at all.
- Only a few systems maintain information about easements at the state or regional scale.
- Some information about easements on private land may be viewed as private.⁴

Despite these challenges, the Endowment and conservation partners believe that it is vitally important to establish and maintain a system for viewing all conservation easement information at watershed, county, state, regional and perhaps even national scales. The interviews, analysis and synthesis conducted for this study are part of the Endowment and partners' efforts to understand the status of conservation easement data and opportunities for moving forward with creating an effective system for tracking conservation easements.

¹ US Endowment RFP 2008-004 Developing a Work Plan and Business Plan to Acquire and Distribute Conservation Easement Data, 2008.

² PAD-US Design Project, Status and Options for Easement Data in a National Protected Lands Database, June 2008.

³ US Endowment for Forestry and Communities, Forest Conservation Easements: Who's keeping track? 2008.

⁴ Ibid.

Table 1. Tracking systems used by organizational easement holders

	Name and description	Limitations
Land Trust Alliance	The National Land Trust Census	National, but conservation easements are just one part. Mainly a communications piece to generate interest and support for land trusts.
Ducks Unlimited	Conservation and Recreation Lands (CARL) – web based protected area database for the Great Lakes	Regional: Wisconsin, Illinois, Indiana, Ohio, and Michigan.
The Nature Conservancy	Various statewide and regional systems: ConservationTrack in CA and some other states, CARL in the Great Lakes region, the Northeastern database, a collaborative initiative that is managed by TNC and includes 14 states in the northeastern US and 3 Canadian provinces. The Northeastern database is not web based. Working towards a national system of ArcSDE geodata.	Currently all state and regional. ConservationTrack is internal to TNC.
Vermont Land Trust	Internal system as well as University of Vermont (UVM) statewide database that includes all publicly owned and privately conserved lands. Not web based.	UVM system is statewide, but funding has ended and updating (which VLT now does pro-bono) is piecemeal. VLT internal system is up to date.
Virginia Outdoor Foundation	Internal system as well as the web based Conservation Lands Data Base (CLDB), managed through Virginia Department of Conservation and Recreation	CLDB is statewide.
USFS Forest Legacy Program	No consistent year in and year out process of updating or storing the information. Under Development.	
Natural Resources and Conservation Service	Just started a remote sensing project to monitor easements (out of Dallas/Ft. Worth). NRCS priority is to get this up and running.	Just NRCS data.
Fish and Wildlife Service	90-95% of FWS land is in FAIMS (Federal Aid Information Management System)	Just FWS data. Access easements and conservation easements are not coded separately, so unless noted, it's impossible to distinguish one from the other. DOI is in the process of changing from FAIMS to another system (Financial and Business Management Systems). Estimated completion is 2010.

RATIONALE AND VISION FOR A NATIONAL CONSERVATION EASEMENT DATABASE

Strategic investment and prioritization

According to interviewees, the strongest rationale for creating a national database of conservation easements is the potential of such a tracking system to promote strategic conservation and to help organizations focus their limited resources. In particular, a national database would be a tool for project prioritization, creating multi-state biological corridors and complexes of protected areas, and for putting local and/or statewide work in a national context. The latter is particularly important for small land trusts and other conservation organizations that sometimes struggle to see where they fit in the greater conservation world. *“A national database will help promote the importance and power of local level conservation. It will show how efforts of different organizations fit together to multiply value.”* (Jeff Matthews, Virginia Outdoors Foundation)

Example: As global warming takes its place among national and international priorities, information provided in a national database of conservation easements could help generate and improve thinking about how natural systems adapt to climate change and the concrete role of conservation easements with respect to climate change. For example, land trusts could potentially use the data to track vegetation changes on conserved lands so that if and when Congress passes legislation for tax credits for carbon sequestration, land trusts can demonstrate that they are promoting carbon sequestration on the lands they protect.

Collaboration and communication

A national database of conservation easements will multiply possibilities for collaboration in the conservation community. At the very least, knowledge about what is conserved, and by whom, will support organizations in leveraging one another's efforts. It could also surface and highlight areas of overlapping

interest, possibly leading to collaborative development of protection and management strategies. *“Access to this information will enable the powerful communication necessary to do large scale conservation.”* (Nancy Parachini, USFS) Better collaboration and communication could help federal program managers see how their programs

Example: A national conservation easement database could help inform biological planning by identifying landscape level impacts. This is important for federal species recovery programs run by the Fish and Wildlife Service in collaboration with various partners. The database could also help federal agencies consider who they need to consult or work with as they think about landscape level species conservation.

and funding link with those of other agencies, creating opportunities for leveraging programs and funding, and potentially making available more conservation funding. It could also help agencies improve cooperation by connecting with land trusts and others working in the same landscapes.

Management, evaluation, and accountability

Another useful and “usable” aspect of a national database, according to interviewees, will be its ability to serve as an “adaptive management tool” and as a metric for measuring how land trusts and other conservation organizations are doing vis-à-vis their conservation goals. Interviewees involved in state, national, and regional database initiatives reported that a management component gets partners excited and to the table.

The ability to show where existing protected areas (including conservation easements) are relative to proposed ones, and the ability to evaluate and report on how easements are furthering conservation goals at national and state levels, will enhance accountability, as well as the effectiveness and efficiency of the field of conservation.

Management, evaluation, and accountability *continued*

Example: “When we started [with the Northeastern Conserved Lands Database], people were wary and the database wasn’t anyone’s top priority. That changed when we started making reports ... We are able to make incredible statements about how much conservation is going on, who is doing it, how much acreage there is, how much is for conservation, how much is for multiple use, and etc. Seeing what we can do with this regional level information has gotten people excited to be involved and to maintain it [the database].”
(Mark Anderson, TNC Eastern US Region)

Engaging funders

Related to the above, enhanced accountability, effectiveness, and efficiency will also strengthen the conservation sector’s capacity to “make the case for conservation” when communicating with Congress and other federal, state, and private funders. The potential to generate visual images in various places in the country will also be a powerful support in communicating with funders, “When you’re talking with people who aren’t so familiar with the program, for example, Congress, having something visual is helpful. People tend to associate with a place. It hits them closer to home.” (Christy Kuczak, FWS)

PRIVACY AND SECURITY ISSUES

Although there is general interest and agreed upon need for a national database of conservation easements, when asked about willingness to provide easement data for it, most interviewees expressed concerns about protecting landowner identity. This was particularly the case in light of the proposal for a web-based database. Although the information in question is publicly available in county courthouses, interviewees concurred that a web-based initiative should recognize and be mindful of how much the internet increases accessibility.

Most public agency representatives interviewed indicated openness to providing spatial information, location, and aggregate numbers in terms of value and acres. They would not, however, release landowner data or other information that might facilitate disclosing information about the individuals involved in the transactions. Within the nonprofit community there was more variation. Some were oriented towards sharing as much information as possible with the hope that others in the conservation community would do the same and create a system of mutual benefits. Others expressed concerns that sharing conservation easement data would compromise their ability to continue doing conservation easements by shaking land donors’ confidence in them. See Table 2 for a more extensive summary of privacy concerns expressed by interviewees, as well as their experiences with addressing these concerns.

To some extent, variation in concerns about privacy and security can be linked to regional differences, where people in the northeast seem to be more familiar and comfortable with conservation easements than people in

the west. In other cases, concerns were organizational and sometimes even varied within the same organization. For example, in The Nature Conservancy, scientists interviewed were oriented towards making data available (ensuring always that privacy and security were protected) with the goal of assessing the progress of conservation efforts. However, TNC protection program employees who conduct easement transactions and are in direct contact with landowners were very wary about sharing easement data. Their concerns were rooted in the fact that TNC assures their land donors that the transactions are private – between the organization and the individual. As mentioned above, although the information is already publicly available, there is concern that making information accessible on the internet may create a perception that properties with easements are open to the public.

Given these variations, interviewees with direct large database experience advised working with organizational data contributors where they are. This means starting with the organizations that are ready, “*The variation is definitely an issue, but it will decrease as we work on this project. I would suggest that we take the low hanging fruit and show how innocuous it is and eventually those who are reluctant will see how it could be useful to them.*” (Rob Aldrich, Land Trust Alliance) It also means listening to, hearing, and respecting partner concerns related to privacy and security, whether it is interest in protecting sensitive lands and species from disturbance, concerns about securing landowner identity and privacy, or hesitation about having a “third party” handle and make

Privacy and Security Issues *continued*

available another organization’s information. “People are cautious with their data because they don’t know what we’re going to do with it.” (Melissa Clarke, TNC Eastern US Region). Based on the TNC Eastern US Region’s experience of developing the Northeastern database, Mark Anderson offered that: “We’ve learned that it’s really important to respect your data sources – don’t forget about them and respect their requests. There are things in our data sets that we can’t distribute and things we can distribute. There are a lot of pressures to distribute the whole thing, but in my mind it’s more important to respect the data sources than it is to distribute.”

This speaks to the critical need to spend time ensuring that project partners have confidence in a database initiative and the other partners involved in it. As the project advances, partners realize benefits, and trust is built, experience has shown that not only will new partners emerge, but existing partners will be willing to share more information. “As you build

up relationships, you can ask for more flexibility. Part of the message is that you can start analyzing data, distribute the results of the analysis, produce reports, and recognize contributions by different organizations without distributing the data. When organizations start seeing that across a whole region, it starts to build a compelling picture of how much progress we’re making for conservation. It’s how we’re getting people more comfortable with the process. It’s a peer pressure process – as people see others doing it they want to get involved.” (Mark Anderson, TNC Eastern US Region)

Early on, broad access to detailed information on all conservation easements in a publicly searchable database might raise too many concerns and present too many hurdles. However, a system that allows for controlled access by prequalified parties (e.g., public agencies, conservation planners, and others who have either partnered in creating the system or signed nondisclosure agreements) might be more acceptable.⁵

Table 2. Easement holder privacy concerns and approaches to addressing them.

	Privacy concerns	Approaches
Virginia Outdoor Foundation	Want to provide as much information as possible to benefit partners.	CLDB splits out the easement information – interested parties must contact the database manager.
Vermont Land Trust	Had initial concerns about donor reactions, but has not proven to be an issue and the concern has completely dissipated.	UVM database was split into a publicly available portion and a private portion that interested parties were required to complete data sharing agreement to access.
The Nature Conservancy	TNC assures landowners the information is private to assuage landowner fears of creating perceptions that easements are open to the public. Concerns that access to easement data could damage the environment in which people are willing to sell or donate conservation easements. Concerns about legal implications vis-à-vis land owners.	CARL database has a “public” section with “sensitive” fields inaccessible by public. Code as “private conservation lands,” as opposed to “conservation easements.” TNC’s northeastern database process has focused on relationship building, listening to the concerns of the partners, and building trust. Once relationships and trust are built, partners are more willing to share more information.
Land Trust Alliance	Variation (among land trusts) will decrease as project progresses. Start with low hanging fruit and eventually others will see value.	
Ducks Unlimited		CARL database has a “public” section with “sensitive” fields inaccessible by public.
USFS Forest Legacy Program	FLP would include spatial information, but not attributes beyond location and acreage.	FLP will be developing privacy policies in the next few months.
Natural Resources and Conservation Service	NRCS can’t release land owner names and transaction details (price, appraisal value, etc), but can release location and aggregate numbers in terms of value and acres.	NRCS has an information sharing model developed with Land Scope.
Fish and Wildlife Service	Very rarely is there privacy data or landowner data available – we would have a vendor name, but no privacy information. Concerns about endangered species sensitivity.	

⁵ Ibid.

SYSTEM DESIGN

The majority of individuals interviewed for this study would be potential users or consumers of a national database of conservation easements and, as such, had a number of content ideas. Almost all interviewees, however, fore grounded their “wish lists” with the suggestion that the system be kept relatively simple. “*We don’t want to develop anything too heavy and complicated. We need a system that people can use and update. It’s got to be user-friendly.*” (Larry Orman, GreenInfo Network)

Other overarching and “frequently made comments” were to 1) avoid developing a system overloaded with security and back-up, 2) ensure that the system is developed in communication and consistently with other overlapping systems, and 3) consider opportunities for linking this project, as much as possible, with other existing initiatives (see Collaborative Opportunities below).

Content

Most respondents felt that the system should be web-based with easily accessible data that can be used in individual organizational systems, on desktops, and on laptops. In addition, many said that the data should be as spatially explicit and accurate as possible to allow for various analyses and queries.

In response to concerns about privacy, interviewees were very receptive to an idea of a site that includes a public portion which displays basic upper-level data and a secure private portion that includes more detailed data. The idea that a private portion be accessible only to password holders or upon special request gained wide approval among interviewees. An example of such a model is the two-layer (public/private) system that Ducks Unlimited and others have designed for the CARL database. When an area in the public portion is displayed, there is an annotation that private data also exists. The user can request the source of the private data online and then contact the organization for permission to view their data. Once granted, they can see the private data layer.

Which attributes would be public and which would be private would be discussed and determined by a database design team. It may be the case that, depending on privacy concerns, certain attributes may not be possible, at least not for the public portion and/

or in the initial stages of the database. Below is a list of attributes suggested by interviewees in order of stated importance and preferences:

- Geography, acreage, shapefiles, and the organization associated with the easement.
- Land owner information.
- Date of transaction.
- Methods for conserving the land.
- Term of conservation easement (in perpetuity or for 30 years)
- Parameters of the easement (allowable uses and restrictions)
- Specifics on types of management
- Crediting: If multiple organizations were involved, credit all of them. If land was conveyed to another organization or conserved by other means, indicate this along with date of acquisition and transfer to help ensure that land trusts are credited for their work.
- Funding: Display where the funding has come from so that agencies and foundations can see how their dollars are leveraging other dollars.

Some interviewees also suggested soliciting feedback from other user communities (i.e. county planners) to see what kinds of attributes they would want to include.

Information flow and updating

“You have many points of collection and any one can be a break down.” (Nancy Parachini, USFS)

One critical question is whether the system should be centralized with one entity consolidating data and ensuring quality control or whether it should be more decentralized and grassroots, where individual organizations submit and update their information independently. There are pros and cons to either approach:

Centralized approach: A centralized system would likely provide a solid level of consistency because a designated person would be responsible for ensuring that data is entered and errors are caught, and for determining the spatial accuracy of GIS data. Even technologically savvy organizations noted the value of having a central location for these reasons and, in the end, for improving organizational data. In addition,

Information flow and updating *continued*

interviewees reported that managers at the central entities they have worked with generally provided support to lower capacity organizations with digitizing information and preparing it to enter into the system. Some downsides of a centralized system are that it would be expensive and possibly challenged to keep up with the level of activity generated by land trusts and other conservation groups.

Decentralized approach: A decentralized approach that included independent uploading might appeal to land trusts because it would allow them to control their input to a greater degree. A decentralized system would also create the possibility for organizations to map their easements on the web, compare their efforts with adjoining land trusts in other counties, and etc. In short, the system would not just be a database, but a tool for conservation planning and for helping land trusts determine how what is meaningful locally fits into what is happening on a larger scale. Most interviewees thought that an independent uploading system could work, provided each organization assigns an individual or set of individuals to enter the data. Another step to ensuring consistency could be to include the uploading task in the assigned person's (peoples') performance measures. This, of course, would only work if the person is an employee and not a volunteer. The major downside of this type of decentralized approach is that the likelihood of running into inconsistencies and gaps with an independent uploading system is high, particularly with small organizations that lack adequate technical and/or staff capacity.

Hybrid approach: Another approach would be one that blends trained independent uploading with a centralized review process to ensure quality and consistency. To address capacity issues related to the database and uploading data into it, a training workshop could be offered online and/or at the Land Trust Alliance Rally. The workshop could be the mandatory prerequisite for eligibility to participate in the system, receiving a password, and uploading information which would then undergo a centralized review. Although a system that includes training and a review process would not likely address all consistency and gap issues, it would ensure some quality control. Also, although the review component would require

resources, it would be less expensive than a fully centralized system.

All three: It may be the case that a national conservation easement database will need to employ all three approaches (decentralized, centralized, and hybrid) at different points (or even concurrently) during its development process. For example, because the initial focus of this initiative has been articulated as acquiring conservation easement data from the largest easement holders' (NRCS, USFS, FWS, TNC, Ducks Unlimited, and a few state-level land trusts) and then eventually bringing in organizations with fewer easements, it may be possible to start out with a completely decentralized approach, assuming the initial focus organizations have a certain level of technical capacity. When organizations with fewer easements are brought into the process, a centralized approach may initially be necessary to work directly with the lower-capacity organizations to get their data into the system. Once the initial entering is complete, a hybrid approach with the centralized review and a sustained focus on the capacity building piece might make most sense with respect to quality assurance.

Capacity building

"It's going to be extremely tough getting the information. We ask for information on total acres protected and people don't even have those numbers. Getting an actual shape file is going to be monumental."
(Rob Aldrich, Land Trust Alliance)

It will be important to provide sufficient attention to the matter of building capacity among various organizations, and particularly lower-resourced ones, to interface with the database, use the data, and provide data (whether to a central location or through a system of independent uploading). On the front end, it will take time to acquire the data and many groups will need help in assembling and delivering it. Longer term, it might be important for a database initiative to invest and engage in periodic training that would help organizations effectively contribute to and benefit from the database.

Partnership opportunities may exist for the capacity building work. For example, there may be potential to collaborate with the USDA on a recently

Capacity building *continued*

launched initiative to provide funding for geo-spatial work in each state. Through this initiative, dedicated experts will work with communities, landowners, and elected officials on their geo-spatial needs. There may also be opportunities to partner with universities around the country.

Coordination and Housing

Interviewees were split in their thoughts about where the database should be housed and through what kind of entity it should be coordinated. Some leaned towards a private entity, others towards a public agency, and yet others felt it should be something in between. All agreed that in thinking about housing and coordination, it is critical to look at the most sustainable solutions, which are not necessarily determined by whether an organization is public or private.

With a private nonprofit: The main rationale for housing and coordinating the database through a

Example of coordination through a nonprofit

A certain level of regional coordination might be ensured through the Ducks Unlimited-managed Conservation and Recreation Lands (CARL) database, which has conservation (including conservation easements) and recreation land data for five states in the Great Lake area and the TNC-managed Northeastern database of conservation land in fourteen states and three Canadian provinces in the northeast. Although this regional coordinator layer would introduce efficiency, Rob Aldrich (Land Trust Alliance) noted that it would still be important to make connection with organizations at the local level to ensure information flow, "It's important to get people to see what's in it for them. The closer we make the connection down to folks the better."

nonprofit were that the database must be updated in real time and it might not be realistic to rely on a federal agency to do this because government bureaucracy might slow things down, the funding can be precarious, and strings are often attached. In addition, interviewees made the argument that a database housed in a public agency would potentially be subject to the Freedom of

Information Act. Robb McLeod of Ducks Unlimited indicated that many of the land trusts involved in the CARL project are involved because it includes a clause about privacy and sensitivity. This clause might not be allowed if the database was housed and coordinated by a public entity.

With a public agency: The rationales for housing and coordinating the database in a public agency were that a large percentage of the information in the

Example of coordination through a public agency

Having the database housed in a public agency addresses the issues of updating and accuracy because the responsible staff has performance measures that are linked to the database. But, since state budgets are often tight, getting new programs established can be difficult, thus initial start up grants might be necessary to establish initial maps. However, as mentioned above, once established, identifying funding to maintain the database tends to be less of a problem for state agencies than it is for nonprofits.

database will be coming from public agencies and the database will likely, at least initially and partially, be publicly funded. There are examples of where agencies have database management integrated into their mandate, for example, USGS with the national wetlands inventory. Mary Klein of NatureServe pointed out that working with state governments as the primary data aggregators makes sense because, once established, these programs are usually sustained in the state budget.

With a quasi-public entity: The rationale for housing and coordinating the database in public-private entity was that funding as well as data contributions will likely come from both sectors.

Regardless of where the database is housed, almost all interviewees agreed that the initiative needs to be both cross-organizational and public-private, with management responsibility and input from both sectors. According to organizational partners, the University of Vermont conservation lands database, a public-private partnership worked well – "... it

Coordination and Housing *continued*

Example of coordination through a quasi-public entity:

Some states – Michigan, Virginia, Wisconsin, and others – have statewide land conservation umbrella organizations (in some cases they are policy related or quasi-governmental with connection to nonprofit or volunteer organizations) that could potentially play coordination roles for a national database. In an information flow model that is somewhere between the completely centralized and the hybrid models described above, the statewide coordinating group could reach out to small land trusts through yearly “circuit rider” visits to help build capacity, digitize data, etc.

fostered a lot of cooperation and everyone basically felt comfortable with what was available.” Chris Moore, Vermont Land Trust. Interviewees also agreed that, while the issue of coordination and housing are critically important, the most important issues are related to ensuring the system is secure and established in a way that works effectively for all of the parties involved. *“Fundamentally, the question of whether the database is housed in a public or private entity is less important than making sure that there is a well controlled and secure access and protection for the system.”* (Danielle Conboy, TNC)

Funding and sustainability

“There are a lot of efforts out here that have done good work to put together information, but it doesn’t take long for it to be outdated (days, weeks, months). Unless you think about a long term sustainability plan, it’s all for naught.” (Jon Osborne, Vermont Land Trust)

Below are a range of funding and sustainability possibilities offered by interviewees, from grant support to fee for service to advertising, along with some of the concerns articulated about these approaches. While there is not enough information to develop a plan at this point, these ideas may eventually form the base of a plan. Most important initially will be to anticipate and lay out a cost estimate and budget for the database, from conceptualization to development to implementation to management. Once this is in place, the next step of thinking through and developing a funding and sustainability plan can be engaged in earnest.

Grant possibilities

- Approach multiple foundations (Packard, Doris

Duke, National Fish and Wildlife Foundation) about the possibility of contributing to an endowment that would accrue interest. CARL has been sustained through grants, the Northeastern database has grants as well as staff time written into TNC and state budgets.

- USFS has the ability to do some granting. Look at the funding needs and compile a package or request for it. Although there is currently an uncertainty factor with fire transfers, USFS can still discuss possibilities. NRCS has other priorities and has noted that their main participation in this initiative will be as a data contributor.

Concerns about grants

- It would be fine to start up with a large chunk of governmental and/or foundation funding but long term, in order to be independent, the database needs to have a steady stream of earned income.

User fee

“We will have to be very creative and look at using a for profit model in a nonprofit.” (Larry Selzer, The Conservation Fund)

Some felt that to make the system sustainable, people will have to pay on a regular basis to use it. Ideas for this include:

- A subscription or annual contribution.
- Having federal agencies pay a fee to keep their information updated.
- Having organizations like the Land Trust Alliance assign a fee to each land trust for the information so that the land trust information is always updated.

Various tiered system possibilities:

- A sliding scale for smaller land trusts – the Land Trust Alliance could potentially provide scholarships and/or fee waivers for smaller organizations that can’t afford the system, but stand to benefit greatly from it.
- A user fee process tied to a number of users and degree of access.
- Tiered for the data providers – those with a lot of information receive discounted access.

Funding and sustainability *continued*

- Establish a low tariff on conservation easements (perhaps \$1 per 1,000 acres) that could be integrated into the cost of the easement transaction. The level of the tariff would be linked to the cost of developing and managing the database.

Concerns about user fees

“I don’t know of any site that’s been successful with user fees. Wisconsin tried a user fee for their wildlife inventory and it didn’t work. They paid for developing the inventory and database out of the state budget assuming that they’d reimburse the budget with proceeds from a user fee but no one uses the database because it’s too expensive.” (Robb McLeod, Ducks Unlimited)

Agencies tend to be reluctant about providing funding for “extras” that fall outside of budgeted expenses. *“It’s one thing to have it in the budget and pay for it that way, it’s another to pay for another extra fee.”* (Christy Kuczak, FWS)

The general thinking in the scientific community is that data should be open and free (which is facilitated by grants that enable this), so any fee system for the conservation easement database will potentially need to address unfavorable perceptions generated because of this.

Fees are generally off-putting and if the goal is to maximize use of the system, then anything (including fees) that deters users should be avoided.

Advertising

An internet site with information on tourism/birding

and advertising could potentially include conservation lands and air photos. The site would attract tourists in search of a birding experience – it would be a site people are excited to visit and use so that revenue could be generated through advertising. The site would be interactive where a visitor could search a location, click on lands they are interested in or have been to, and add comments.

Concerns about advertising

The success of advertising would depend on the ability to convince advertisers that users of the website would buy their product, whether it is hunting, recreation, etc. This could bump up against privacy and use issues.

Governance

Some interviewees pointed to the importance of establishing something of a technical advisory board that addresses policy and procedure types of issues. Since the database will be a collective one, all party’s views must be represented, thus the advisory board would have representatives from federal, state, and local government, small, medium, big, national land trusts, and other organizations contributing data. Advisory board members would need to be carefully chosen people who are truly representative, knowledgeable, and respected in the field.

COLLABORATIVE OPPORTUNITIES

Protected Areas Database of the United States (PAD-US), Conservation Biodiversity Institute and Green InfoNetwork

Brief description

The PAD-US initiative seeks to expand an existing GIS dataset that contains approximately four-fifths of the protected land in the United States to include lands protected by public agencies and non-profits as open space through fee or easement ownership interests. The PAD-US dataset will be built and maintained through participation by a network of local, state and regional data providers,



all coordinated by a partnership of key public and private stakeholders.

Status with conservation easements

PAD-US seeks to include conservation easements, but will probably work with the fee data first. The conservation easements are not currently the priority because of the privacy issues and complications in tracking them. PAD-US’s plan is to move forward with the “low hanging fruit” and let people see the advantages to getting their data into the system with the hope that this will generate more interest and collaboration.

Articulation with a national conservation easement database

One very possible scenario is that there will be different

PAD-US, Conservation Biodiversity Institute and Green InfoNetwork *continued*

organizations responsible for maintaining different pieces of the overall PAD-US database. In this scenario, a conservation easement database could develop independently and on its own timeline, yet collaboratively and using a framework that is compatible with PAD-US so that the systems have the option to merge in the future without having to be retrofitted.

Housing and coordination

This matter has not been determined for PAD-US, although it is clear that it will be a public/private partnership. Options for housing and coordination include TNC, CBI, or USGS (although it is not clear that USGS will store conservation easements). It may also be the case the information is stored temporarily while this issue is worked out. It is also possible that the conservation easement data will be stored in one place while the rest of the information is stored elsewhere.

Sustainability

PAD-US is using this year as a design phase to explore issues related to sustainability, housing, governance, etc.

Land Scope, Nature Serve and National Geographic



Brief description

Land Scope will be a mechanism for parties interested in conservation to access and view, visually and geographically, protected area information for the entire United States. The project is piloting at the end of 2008 with five states – Colorado, Florida, Maine, Virginia, and Washington. Land Scope's focus is on building an easy-to-use interface with capacity to overlay and view the information and key points of connection, as well as other priorities for conservation. Because Land Scope is only currently funded to use existing data, the initiative is about two years away from having capacity for land trusts to upload their own easement data. Thus, Land Scope will initially be a mechanism for sharing information, but not for managing and planning.

Status with conservation easements

Land Scope will include a protected areas layer and will

ensure the delivery and updating of this information through the PAD-US database. Conservation easements are on the Land Scope "radar screen" in that the goal is to eventually include the most complete dataset of protected areas, but a dataset that includes conservation easements does not yet exist.

Articulation with a national conservation easement database

Land Scope will be a consumer of the data. The best case scenario for Land Scope would be a mechanism that allows for land trusts and agencies to upload their own conservation easement information, which in turn would be swept into the PAD-US database, and then delivered to Land Scope.

Housing and coordination

Land Scope is housed and managed by Nature Serve.

Sustainability

Land Scope is currently operating with a \$5 million grant. In addition, there is funder interest in building fundraising capacity (for specific conservation sites identified by land trusts) into the site, as opposed to establishing a fee system.

Conservation Almanac, Trust for Public Land

Brief description

The Conservation Almanac plots the progress of conservation in the 50 states over time – how much has been protected, by which methods, or what cost, where the land is, which level is protected by government, and how much the government is investing. Using Google Maps for mapping and to chart locations, the Conservation Almanac provides data and statistical information for understanding the "context" for land conservation. The Conservation Almanac analyzes land conservation activities by compiling baseline acreage and cost of land conservation data, detailing land conservation activities and growth trends in recent years, and summarizing policies and programs that underpin land conservation in each state.



Conservation Almanac, Trust for Public Land *continued*

Status with conservation easements

With a grant from the Wildlife Habitat Research Policy Program (funded by the Doris Duke Foundation), the Conservation Almanac will go beyond looking at just acres and dollars to spatial data to determine where conservation dollars have been spent. This initiative will consider the years 1998-2007 in Oregon, Montana, Missouri, Florida, and New Hampshire and will include easement data for those five states.

Articulation with a national conservation easement database

TPL currently gets protected area data from PAD-US and also has established relationships with data contributors.

Housing and coordination

The Conservation Almanac is housed at and managed by TPL.

Sustainability

Although TPL is not currently building an endowment to ensure that the Conservation Almanac is perpetually updated, they are in conversations with some foundations about funding to go deeper and further with the research. TPL's hope is that philanthropy will continue providing funding to include additional data and to keep the system up to date.

Conservation Registry, Defenders of Wildlife

Brief description

Defenders of Wildlife created the Conservation Registry as a mechanism to track Congress-mandated Conservation Action Plans (habitat restoration and management; enhanced conservation status [including easements]; and monitoring, education, and research) and to provide the context in which conservation actions take place. Specifically, the Conservation Registry seeks to build connections and linkages to enable users to see different conservation projects and activities in relation to one another. Using Google Maps, the Registry records, tracks, and maps conservation actions and can be used as a tool for project management.



Status with conservation easements

Defenders of Wildlife is currently focusing on mobilizing organizations to get data for all conservation actions (including easements) into the database. The initial data collection is taking place in Oregon, Idaho, and Washington, but the system has been developed to accept and accommodate data from all over the United States, and Defenders envisions that the system will expand rapidly.

Articulation with a national conservation easement database

The Conservation Registry is comprehensive in scope and will seek to integrate information from other database initiatives. For example, a portal could be built for the national conservation easement project, thus enabling it to leverage the ability to see where conservation easements are relative to other conservation actions.

Housing and coordination

Defenders of Wildlife will identify state administrators for each state to coordinate and help collect data from disparate sources. The most likely administrators would be departments of fish and wildlife or natural resources, although this will vary from state to state. The current administrators for the three pilot states are: Oregon Natural History Program, Washington Department of Fish and Wildlife, and the Idaho Fish and Game Department.

Although Defenders of Wildlife currently owns the code for the database, it is not part of the overall Defenders' system and Defenders does not seek to be the ultimate owner of the database system. Once it is fully operational, Defenders will turn the Conservation Registry over to another entity to manage it. Such an entity might be a National Foundation (such as the National Fish and Wildlife Foundation), a public agency, or a private organization. The most important thing, according to Defenders, is that the ultimate home organization's long term mission matches that of the Conservation Registry.

Sustainability

The long term funding plan is for the major users of the Conservation Registry to pay an annual fee to support long term maintenance. Private organizations with significant resources will also be required to pay a fee, although probably a little less, and small organizations with fewer resources will pay nothing.

NEXT STEPS

Consultation with a database expert

It is important to note that the options and scenarios outlined throughout this report are drawn from interviews and document reviews, not from consultations with database experts.

Review report

The first step will be to have a database expert review this report with the partners involved in the national conservation easement database initiative to determine what is and is not feasible and advisable, given the goals of the group.

Determine costs and develop a budget

As mentioned in the section on funding and sustainability, most interviewees agreed that one top priority must be to determine the cost of developing and maintaining the database and to develop a budget that can be used in discussions with potential donors and in thinking about sustainability options. This consultation with the database expert should help with this.

Content follow-up

There are a number of ideas in this report about which additional information would need to be collected in order to determine if they are worthwhile. Two such ideas include:

Capacity building

The USDA geo-spatial data initiative might serve as an important partnership to leverage the database initiative's capacity building efforts and resources.

Citizen science

If the conservation easement database takes a “modified Wiki” approach, where land trusts and others would independently upload their information, it might be useful to contact and learn from other “citizen science”-type efforts. One interviewee suggested that the Cornell Bird Inventory has been successful at gathering information through lay-bird watchers and may have lessons to share in terms of guidelines, processes, training, and etc.

Additional information collection

Inventory of state level land conservation databases

As the group moves into the design phase of the

database, it might be useful to determine which states have comprehensive land conservation databases (including conservation easements). According to the information gathered for this study, fourteen states in the northeast, five states in the Great Lakes region, as well as Florida, Montana, Virginia, Colorado, and California all either have or are developing state level databases. There are very likely other states, thus a scan could determine which they are, as well as what capacity in each state exists for collecting and storing information.

Best practices for gathering and storing data

Among the existing state-level databases, it might also be helpful to lay out scenarios of “best practices” for data gathering and storage. This information could help in determining standards for the national conservation easement database.

Lessons learned in conservation land database development

Groups that have developed state and regional conservation databases are addressing many of the same questions that the national conservation easement database initiative will need to address. Some of these groups have been interviewed for this study, however, there are a number of others that will have important lessons from which this initiative could learn – about database attributes, information flow, housing, funding, sustainability, etc.

Navigating conservation database initiatives

There are a number of conservation database initiatives “on the market,” so to speak. In an effort to maximize use, it is perhaps important to help users understand and navigate amongst them. One potential effort might be to provide concise, yet complete, descriptions of the different products, including their main foci, what they do, and the points of articulation with other conservation databases. This information could potentially result in more strategic use of the databases, as well as enhanced collaboration amongst them.

Enlarging the tent

A number of interviewees who were not in the “initial circle” of interviewees expressed interest in being involved as this process advances, and at least in receiving this report.

APPENDICES

Appendix A: List of interviewees

Name	Organization	Referred by
Rob Aldrich	Land Trust Alliance	Carlton Owen
Mark Anderson, Melissa Clarke	The Nature Conservancy (Eastern US Region)	Larry Orman, Danielle Conboy, Rob Aldrich
Bob Bryant	Fish and Wildlife Service	Christy Kuczak
Kathryn Conant	Forest Service	Carlton Owen
Danielle Conboy	The Nature Conservancy (National office)	Carlton Owen
Ernest Cook	Trust for Public Land	Carlton Owen
Elizabeth Crane	Natural Resources and Conservation Service	Carlton Owen
Chris Darnell	Fish and Wildlife Service	Carlton Owen
Christine Hall	The Nature Conservancy (Midwest)	Robb Mcleod
Mary Klein	Nature Serve	Rob Aldrich
Christy Kuczak	Fish and Wildlife Service	Carlton Owen
Lynn Lozier	The Nature Conservancy (California)	Christine Hall
Linda Nichols	Fish and Wildlife Service	Bob Bryant
Robb Macleod	Ducks Unlimited	Carlton Owen
Jeff Matthews	Virginia Outdoors Foundation	Rob Aldrich
Jonathan Mawdsley	Heinz Center	Christy Kuczak
Larry Orman	Green Info Network	Nancy Parachini, Rob Aldrich
Jon Osborne, Chris Moore	Vermont Land Trust	Rob Aldrich
Nancy Parachini	Forest Service	Carlton Owen
Mikki Sager	The Conservation Fund	Larry Selzer
Lori Scott	Nature Serve	Rob Aldrich
Larry Selzer	The Conservation Fund	Carlton Owen
Sarah Vickerman, Gina LaRocco	Defenders of Wildlife	Carlton Owen

Appendix B: Data availability

	Data Available
Virginia Outdoor Foundation	Can provide shapefiles and polygons, work with Jeff Matthews for VOF data and with DCR for statewide data.
Vermont Land Trust	Can provide shapefiles and polygons, work with Jon Osborne for VLT data and with UVM for statewide data.
The Nature Conservancy	No clear consensus. May be state by state process, as privacy concerns vary from state to state.
Land Trust Alliance	Will link the initiative to land trusts.
Ducks Unlimited	Work through Robb Macleod to access Memphis office.
USFS Forest Legacy Program	GIS people will have preferred recommendations and standards. Do not have data available at this time – perhaps in a few months.
Natural Resources and Conservation Service	Talk to Steve Nechero, National Cartographic Geographic Center in Dallas. Can probably provide what they provided Land Scope.
Fish and Wildlife Service	Talk with FAIMS manager, Luther Zachary, to get more information on privacy and accessibility, as well as for long term plans.

Appendix C: Interview Guide⁶

1. What kind of tracking system does your organization currently use?
2. What is your personal vision for how a national conservation easement database will articulate with your own organization's priorities and current activities?
3. What are your organization's expectations and needs with respect to the end-product from this initiative?
4. What privacy issues are you concerned with related to conservation easement size and location data that might potentially be available on the Web?
 - How has your organization dealt with privacy in other projects or what are some examples of how you have seen it dealt with?
5. What are your suggestions for the type of architecture that should be considered for this system?
 - How should information flow?
 - How should the database be coordinated?
 - Where should it be housed?
 - How should it be sustained?
6. Can your data resources be made available? If so, in what form?
7. What collaborative opportunities exist between a national conservation easement tracking system and other conservation database initiatives currently underway?

Appendix D: List of documents

Defenders of Wildlife

Conservation Registry Database Profiles (summary of conservation databases)

Vickerman, Sarah and Gina LaRocco, The Conservation Registry Powerpoint presentation

LandScope

Geospatial Data Processing Workflow

Protected Areas Crosswalk Matrix

Protected Areas Database-U.S.

PAD-US Design Project, Status and Options for Easement Data in a National Protected Lands Database, June 2008.

Orman, Larry and Peter Stein, Why we need improved information about protect lands in the United States,

PAD-US Concept Paper, July 2007.

Trust for Public Land

Overview of the WHPRP (Wildlife Habitat Policy Research Program) Project

U.S. Endowment

U.S. Endowment RFP 2008-004 Developing a Work Plan and Business Plan to Acquire and Distribute Conservation Easement Data, 2008.

U.S. Endowment for Forestry and Communities, Forest Conservation Easements: Who's keeping track? 2008.

⁶ The questions in this guide were adapted depending on the individual and/or organization being interviewed.