OVERVIEW OF TNC EASEMENT STUDY

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The Nature Conservancy has been in the business of land conservation for over fifty years and works in all 50 of the United States and 28 countries. In the US, the Conservancy holds more easements (over 2100) and more acres of easements *(*over 2.7 million acres) than any other land trust. Use of easements as a conservation tool has expanded greatly in recent years across the land trust community. The Conservancy is no exception, and in fact if one uses acres as the metric, then conservation easements represent the dominant protection strategy used by TNC for private lands (see Figure 1).

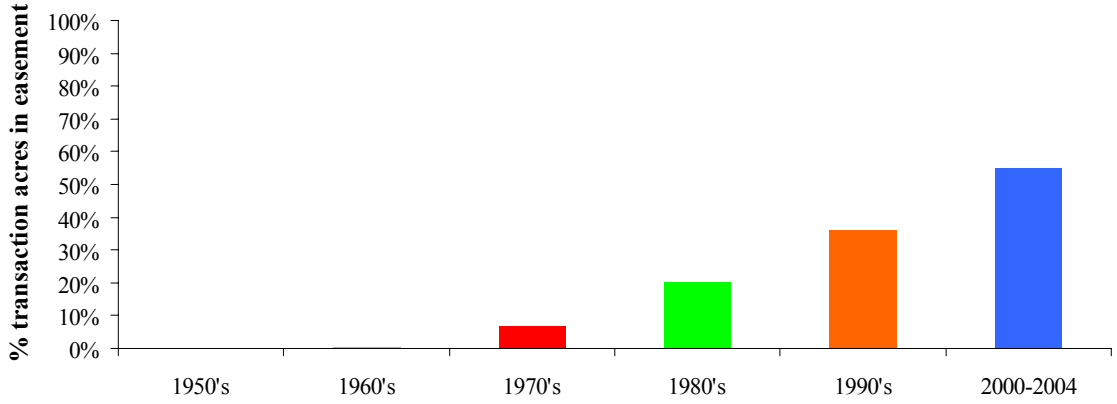

Figure 1. Percent of Total Nationwide Conservancy Transaction Acreage in Easements by Decade.

In the context of TNC's mission there are many reasons TNC uses easements – and it is important to recognize that TNC does not use easements as a stand-alone tool. An easement could further TNC's mission without even having any major conservation targets associated with the land. For example, easements may act as a buffer to more valuable lands, support ecosystem processes, or sustain connectivity by preventing subdivision, land conversion or fragmentation. Easements could also provide a "foot in the door" with a specific community (such as ranchers). The key point is easements must be evaluated in the context of a broad conservation approach (what TNC calls "conservation area plan") and not simply in terms of what is on the land itself. It is also important to recognize that there are several different types of easements in the broader land trust community, and that TNC's focus on conservation easements is in a relatively specialized form. Many other land trusts pursue "open space" or "agricultural" easements. TNC, however, obtains easements in order to advance its mission of protecting biodiversity, and the study we undertook and data we collected address questions concerning biodiversity protection.

Table 1. Comparison of easement and fee-simple acquisitions.

Conservation Easements	Fee Simple Acquisition
Lower cost (highly variable, but range from 1/4 - 3/4 of fee value, typically in the middle)	Dramatically more costly (often 3 times more than easement interests – significantly more than that if there are numerous legal parcels, major improvements and or commercial resources on site)
Ideal for abating irreversible threats over large acreages, where compatible land uses are consistent with project outcomes. (Especially important in those cases above where landowners are unwilling to sell their land.) Note: • Targets may or may not be present on easement lands. • Providing buffer, supporting natural processes & sustaining connectivity are appropriate outcomes too.	Needed where property is for sale, landowner wants public or conservation ownership or where no ongoing activities that are attractive to a landowner are compatible with sustaining the targets present.
Examples of threats which could be addressed include: subdivision/development, other land conversion, fragmentation. Examples of potentially compatible uses might include quiet enjoyment, or other recreation, or grazing, or agriculture.	The following may require that fee be used over easement: • Sensitivity of targets • Small acreage of land unit • Need for some kinds of active management
Useful as a holding action. By precluding irreversible impacts, opportunities remain to upgrade level of protection in the future if necessary.	Because fewer acres can be protected, lands not purchased may lose conservation value, or context, and no longer contribute to project outcomes. (Such losses can degrade the value of adjacent properties and may actually undermine achievement of outcomes project-wide.)
Permits compatible economic use of land, and so may be more acceptable in many rural communities because of contribution to local economy and because land continues to support the property tax base, ("working landscapes")	In California, most economic uses precluded by property tax exemption constraints, unless TNC is willing and able to pay property taxes. Also some uses are precluded by TNC's non-profit unrelated business income (UBIT) prohibitions.
Charitable tax deduction available to landowner who makes a gift of a conservation easement to TNC, or sells one for below fair market value, ("bargain sale" of a conservation easement).	Charitable tax deduction available to a landowner who makes a gift of land, or sells land for below fair market value, ("bargain sale"), to TNC.
Provides significant flexibility in securing protection from landowner, including permitting many owners to stay on the land.	Outright purchase may include a short-term lease back to the seller, but is effectively the end of their relationship to the land.
Can serve as a "foot in the door" – a first level of engagement with a landowner.	Requires that funds for the entire purchase be available in order to affect this kind of protection.
TNC is limited in the management rights which it can secure and exercise as a part of the easement. Generally they must be spelled out in advance. Unspecified future activities which may impact the owner's activities generally require owner consent and may require additional compensation. Often, though, there are opportunities to work on land management or restoration activities outside of the easement terms.	All rights, (or almost all), are held by fee owners, so TNC's management activities are constrained only by funding.
Key protection tool for large areas and specific threats as a part of an over-all project strategy.	Key protection tool when applied as needed and combined with other methods at the project level.

There have been numerous newspaper accounts, scholarly articles, and books dedicated to conservation easements recently and there is a vigorous debate concerning the effectiveness and public good of easements. Almost without exception, the discussions are anecdotal as opposed to analytical. Even the scholarly reports tend to be case studies rather than formal statistical analyses based on random samples from which estimates of easement attributes can be gleaned, or hypotheses about easement performance can be tested. The most important contribution of our study is a randomly selected and geographically broad data base that can be used by the land trust and scientific community, and can provide a benchmark of easements in January 2005 against which to gauge future conservation work and results. As described below, we gathered detailed data on 119 randomly selected easements. These data were obtained via surveys, but the surveys were filled in by conservation staff whom are responsible for monitoring

or visiting easements as well as the landscape-scale conservation projects for which easements are one piece of an overall conservation strategy. Each easement required hours of data entry or inquiry, and ambiguities were (partially) addressed by producing a "supplemental survey" that asked field staff to revisit questions and clarify previous answers. In short, the data represented by this study are unique. Although we have tried to clearly document these data, we strongly encourage anyone who intends to use the data for their own investigations to contact Peter Kareiva (pkareiva@tnc.org).

METHODS

To characterize conservation easements we focused our study on a sample of eight states. These states were chosen so that they were scattered across the contiguous 48 states in a way that spanned the range of variation in "conservation context", and represented a range of attributes for wealth, percent of public versus private land, species diversity, and the extent of the Conservancy's easement activity. In particular, we sought a variety of states – states that used easement infrequently as a conservation tool, and those that use them quite often. The eight states selected for this study were: California, Florida, Maryland, Michigan, New Hampshire, Texas, Washington, and Wyoming (Table 2).

Table 2. Variation among 8 sampled states.

	CA	FL	MD	MI	NH	TX	WA	WY
TNC easement acreage	218,387	123,907	3,528	156,631	27,792	206,636	5,850	239,316
regional/local LT easement acreage[1]	298,472	35,667	174,337	44,243	119,792	119,574	34,077	35,425
# land trusts[1]	172	29	46	47	39	32	32	5
population density[2]	0.35	0.45	0.70	0.19	0.22	0.13	0.14	0.01
2001 gross state product (millions)[3]	$1,359	$491	$195	$320	$47	$764	$223	$20
2003 per capita income ($)[4]	$33,749	$30,446	$37,331	$30,439	$34,702	$29,372	$33,332	$32,808
% land protected[5]	24.2%	13.3%	6.4%	3.8%	7.9%	1.4%	14.7%	9.2%
% species at risk[6]	28.5%	14.3%	3.9%	4.0%	2.8%	10.1%	7.3%	6.8%

total species diversity[6]	6,717	4,368	3,148	3,135	2,327	6,273	3,375	3,184
# federally listed species[7]	304	111	26	21	11	91	40	17

[1] Land Trust Alliance. 2003 National Land Trust Census. Available online: http://www.lta.org/aboutlt/census

[2] Persons per acre. Calculated as total population 2003 divided by state surface area. U.S. Census Bureau. Annual Population Estimates 2000-2003. Available online: http://www.census.gov/popest/states/NST-EST2003-ann-est.html. National Resources Conservation Service. 1997 Summary Report. Available online: http://www.nrcs.usda.gov/technical/NRI/1997/summary_report/table1.html

[3] 2001 Gross State Product. Bureau of Economic Analysis, U.S. Department of Commerce, June 2004. Available online: http://www.bea.gov/bea/regional/gsp

[4] 2003 Per Capita Income. Bureau of Economic Analysis, U.S. Department of Commerce, June 2004. Available online: http://www.bea.doc.gov/bea/regional/statelocal.htm

[5] Protected area includes: Land Trust, State Park System, National Parklands, National Monuments, National Rivers, National Lakeshore, National Preserves, National Seashore, National Wildlife Refuge, and National Wilderness Areas.

[6] NatureServe Central Databases, accessed April 2002

[7] U.S. Fish and Wildlife Service. Threatened and Endangered Species System. Available online: http://www.fws.gov/endangered/wildlife.html

Because more easements have been established within the last 5-10 years than during earlier periods, a strictly random sample from our eight states would not have included many easements prior to 1995. For that reason, we stratified our sampling within each state by time period, drawing 10-11 easements (or fewer, if fewer were available) acquired within each of two time periods: 1985-1994 and 1995-2004 (Table 3). The total number of easements held by the Conservancy in study states ranged between 9 (WA) and 137 (WY), with as few as 0 in any ten year period (for 1985-1994 in WA) and as many as 98 in a ten-year period (98 between 1995 and 2004 in WY). In total, our random sample included 119 easements, with a sampling intensity that ranged from 15% (20 out of 137 for WY) to 91% (10 out of 11 for MD).

Table 3. The number of easements per state by time period, and the number randomly sampled for inclusion in the study. The random sample was taken blindly by creating a larger database of easement names and picking 'rows" in that data base for inclusion in the study.

	Easements Established 1985-1994			**Easements Established 1995-2004**		
	Total #	Sample Size	% Sampled	Total #	Sample Size	% Sampled
CA	15	10	**67%**	55	11	**20%**
FL	9	9	**100%**	20	10	**50%**
MD	4	4	**100%**	6	6	**100%**
MI	0	0	**n/a**	22	10	**45%**
NH	6	6	**100%**	25	10	**40%**
TX	6	6	**100%**	60	11	**18%**
WA	2	2	**100%**	4	4	**100%**
WY	35	10	**29%**	98	10	**10%**
Total	***77***	***47***	***61%***	***290***	***72***	***25%***

To characterize each of the sampled easements, we used a survey that drew on the expertise of conservation staff directly familiar with the easement, monitoring records, and original easement documents (the survey questions are available as a pdf online as "TNC Conservation Easement Survey and Supplement"). The survey asked questions about the conservation context of each easement, its intended purposes, the purpose and frequency of monitoring, the status of conservation targets on the easement, and whether there were any ecological or legal problems known to the staff. Survey design, proofing data entry, and interpretation of survey answers was conducted by a team of eight conservation practitioners, one from each state: Gary Amaon (Edwards Plateau Ecoregional Manager in Texas), Elizabeth Gray (Director of Conservation Science in Washington), Tina Hall (Director of Conservation Programs in Michigan), Richard Hilsenbeck (Associate Director of Protection in Florida), Joe Kiesecker (Senior Ecologist in Wyoming), Lynn Lozier (Conservation Track Program Director in California), Patrick Naehu (Nanjemoy Project Director in Maryland), and Mark Zankel (Director of Conservation Programs in New Hampshire). This study team represents over 85 years of TNC experience. Importantly, after an initial survey the above team assembled and collectively pursued analyses while checking data for errors or ambiguities. During this workshop, several ambiguities were uncovered and a "supplemental survey" was designed and sent back to the field. Both the original and the supplemental survey are provided in the "TNC Conservation Easement Survey and Supplement" pdf. The data we provide include entries for both the original survey and the supplemental survey.

The survey and supplemental survey were completed over a five month time period (March 2005- July 2005). None of the sample includes easement after 2004. It is important to note that concurrent with this scientific study, TNC instituted several management and institutional procedures aimed at improving compliance monitoring and easement design. The data we report here can serve as a benchmark for a subsequent study, against which the effect of these procedural changes can be assessed.

Further, in order to more fully explore issues related to easement effectiveness, compliance and violation, each survey lead asked 3-4 accomplished practitioners in his or her state to provide information on current or previous problem or violated easements from their own experience. This non-random portion of the study drew upon the collective memory of 34 people who had an average of over 14 years of professional engagement with conservation easements.

PUBLICLY AVAILABLE DATA

We have made available as an EXCEL file all non-confidential data collected as part of our random sample of 119 easements. The original data included sometimes lengthy prose explanations of several answers and we have not made these text fields available to the public. The data columns are arranged to correspond to survey questions. By working with the data file and the surveys the context and meaning of the data should

be clear. The "uses" of easement represent a codification of the text descriptions or drop down choices in the surveys. The codes for uses were as follows:

USE	EASEMENT PURPOSES (3.1, 3.2, 3.6)
1	retain property/habitat undisturbed in natural state/condition
2	prohibit certain further development activities, fragmentation
3	protect endangered species
4	protect marine/aquatic habitat or communities (e.g. shoreline, wetlands)
5	protect habitat for migration routes
6	protect unique features (e.g. cliff, geothermal,etc)
7	buffer for habitat or feature
8	contribute to viability/connectivity of surrounding protected areas
9	protection of larger landscape through conservation easements
10	manage in accordance with a conservation plan or agreement
11	restoration activities
12	satisfy mitigation components
13	protection of historic value (e.g land uses, structures)
14	compatible grazing, heritage ranching
15	species re-introduction site
16	natural water and nutrient retention, with rights to flood, flow and store water upon property
17	accomodation of educational and/or scientific activities/facilities
18	public benefit: access, services, and/or scenic enjoyment
19	demonstrating easements as effective conservation tool for area (e.g. forest conservation, ranch stewardship)
20	priority acquisition for TNC or other partners
21	donor cultivation
22	landowner/community relations
23	partner relations
24	board member relations
25	owner preferred TNC over other partners (e.g. government, land trust)
26	easement acquisition required (e.g. by grant, lawsuit)
27	sold through/involved in conservation buyer program
28	prevent uses that would impair, degrade or interfere with conservation values
29	any commercial use

USES were identified from text responses or selections from drop-down choices given in the survey to the following questions:

2.4 To what extent does the easement complement or enhance other protected areas in the region? e.g. USE 8

2.5 Indicate which of the following contributed to the decision to use an easement as the protection tool at this site... e.g. USES 23, 17, 18, 9, 14

2.7 Are there existing structures on the property? Respond to the questions below and add comments where desired... e.g. USE 2

2.8 Are there any <u>commercial</u> use(s) of the property? e.g. USE 14, 29

2.9 Are there any <u>public</u> and/or educational uses of the property? Please check the current human uses on the property (actual activities, regardless of whether they are identified as purposes in the easement terms).. e.g. USE 17, 18

3.1 What is/are the stated purpose(s) of the easement, as written in the recorded easement document? e.g. USES 1,10,11,17,18,22,23,28

3.2 If additional easement purposes are noted in the project package, and that information is available, list them here: e.g. USE 8, 23

3.3 Rank the contributions of this easement <u>in support of target viability</u>: e.g. USE 7

3.5 Rank the threat abatement contributions of the property: e.g. USE 2, 28

3.6 In your own words, are there additional *programmatic* purposes of this easement, in relation to the conservation activities of your chapter? e.g. USE 11, 13, 14, 22, 23

3.7 Do management plans exist for the property? e.g. USE 10

5.3 If this easement is NOT monitored for ecological conditions, do you have a plan/intent for monitoring that will assess TNC's ecological outcomes there? e.g. USE 14

6.1 Does this easement retain the features or conservation values (e.g., buffer, target species and communities) for which it was originally protected? e.g. USE 8, 9

6.2 In your opinion, is the easement accomplishing any *additional* purposes and goals for which it was established? e.g. USE 23

All other data in the EXCEL spreadsheet should make sense if one refers to the appropriate corresponding survey questions.

All 8 States Summary Table	Easements Established 1985-1994	Easements Established 1995-2004	All*
total number of easements	77	290	367
number of sampled easements	47	72	119
mean acreage	900.8	1993.1	1763.9
% donated	81%	67%	70%
% as first engagement on property	87%	81%	82%
landowner type			
mixed private	85%	83%	84%
private family	74%	75%	75%
private corporation	13%	14%	14%
non-profit	6%	10%	9%
public entity	9%	7%	7%
owner history			
1st gen. with previous knowledge of the property	64%	68%	67%
1st gen. without previous knowledge of the property	4%	17%	14%
2nd gen. family member owner of the property	4%	0%	1%
2nd gen. owner unrelated	13%	8%	9%
habitat type (WWF)			
Temperate grasslands, savannas, shrublands	13%	15%	15%
Mediterranean forests, woodlands, scrub	4%	7%	6%
Temperate coniferous forests	55%	29%	35%
Tropical grasslands, savannas, shrubland	2%	0%	0%
Flooded grasslands savannas	0%	1%	1%
Temperate broadleaf mixed forests	13%	31%	27%
Tropical grasslands, savannas, shrublands	4%	3%	3%
Deserts xeric shrublands	9%	7%	7%
Montane grasslands shrublands	0%	7%	5%
existence in portfolio site	87%	82%	83%
% with site check-ups beyond annual monitoring	64%	68%	67%
% sharing border with other protected areas	83%	76%	78%
decision to use easement at this site			
owner unwilling to sell full fee interest	19%	24%	23%
owner desired to secure the conservation future of land	49%	51%	51%
TNC able to accomplish conservation goals at less than fee	13%	25%	22%
easement donated	66%	47%	51%
easements more acceptable to community than full fee	13%	11%	11%
to preserve land use while accomplishing preservation goals	38%	50%	48%
transferred out of fee to easement	11%	19%	18%
easement as a mitigation	6%	3%	4%
most intensive land use (within 10 mile radius)			
wilderness	2%	0	0%
rural (minimal use, residential, commercial)	32%	53%	48%
residential	51%	35%	38%
industrial	15%	13%	13%
predominant land use (within 10 mile radius)			
wilderness	2%	1%	2%

rural (minimal use, residential, commercial)	77%	85%	83%
residential	21%	14%	15%
industrial	0%	0%	0%
% allowing subdivision	52%	19%	26%
% allowing new structures	47%	71%	66%
commerical uses of property			
farm, field crops, or orchard	11%	8%	9%
vineyard	0%	1%	1%
ranch, grazing, dairy, hay mowing	32%	38%	36%
forestry	11%	17%	15%
hostelry, dude ranch, bed and breakfast,camping	2%	6%	5%
recreation	17%	18%	18%
current public and educational uses of property			
public recreation	21%	17%	18%
other public access	11%	11%	11%
education/research	45%	50%	49%
purposes of easement use			
retain property/habitat undisturbed in natural state/condition	100%	100%	100%
prohibit certain further development activities, fragmentation	15%	22%	21%
protect endangered species	23%	17%	18%
protect marine/aquatic habitat or communities (e.g. shoreline, wetlands)	45%	56%	53%
protect habitat for migration routes	21%	19%	20%
buffer for habitat or feature	15%	19%	18%
contribute to viability/connectivity of surrounding protected areas	28%	19%	21%
restoration activities	13%	14%	14%
protection of historic value (e.g land uses, structures)	9%	11%	11%
compatible grazing, heritage ranching	2%	18%	15%
accomodation of educational and/or scientific activities/facilities	32%	13%	17%
public benefit: access, services, and/or scenic enjoyment	23%	18%	19%
prevent uses that would impair, degrade or interfere with conservation values	72%	83%	81%
% with management plan	36%	44%	43%
% with baseline documentation	91%	89%	89%
% monitored between January 2004 and May 2005	78%	75%	76%
% not monitored between January 2002 and May 2005	11%	2%	4%
% non-compliant	13%	7%	8%
% violated (excluding de minimus)	4%	1%	2%
% with ecological conditions monitored (beyond targets)	43%	35%	36%
% of targets known to be extant	81%	78%	79%
% of targets quantitatively monitored	32%	18%	21%
% of threats quantitatively monitored	11%	9%	9%

* "All" time period has been corrected for the fact that 79% of the easements created between 1985 and 2005 occur in the 1995-2004 time period. Thus, when calculating the percentages in the "All" category, values from this later time period 1995-2004 need to be given greater weight accordingly.

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