



Massachusetts Conservation Restriction Stewardship Manual

A Handbook for Land Trusts and Conservation Commissions



Massachusetts Audubon Society

March 2006

Endorsed by the Massachusetts Association of Conservation Commissions



Massachusetts Land Trust Coalition

18 Wolbach Road - Sudbury, MA 01776

Tel: 978-443-5588 Fax: 978-443-2333 E-mail: info@massland.org

Dear Massachusetts Land Trusts and Conservation Commissions,

Ever since the late 1600's, when the citizens of Boston voted to tax themselves to protect the Boston Common, Massachusetts has been a national leader in protecting land for public benefit and the common good. And for the last 100 years, non-profit conservation land trusts, municipalities, and state agencies have been in the forefront of the Commonwealth's land protection efforts. Massachusetts now has about 1 million acres protected by public agencies, municipalities and land trusts, a significant portion of which is not owned by a conservation entity but has had a Conservation Restriction (CR) placed on it by conservation-minded private landowners. Meeting our responsibilities as stewards of that land is one of our greatest challenges, especially so when that land is placed under a Conservation Restriction.

The Massachusetts Conservation Restriction Stewardship Manual that you hold in your hand is an important and timely reference guide to CR stewardship for both Land Trusts and Conservation Commissions across the Commonwealth. I congratulate Mass Audubon on the completion this important publication. I believe that it should serve as an important component of future CR stewardship outreach and training in Massachusetts. I particularly appreciate the fact that the support of Mass Audubon and the Lincoln Land Conservation Trust will allow complimentary copies of the Manual to be distributed to those land trusts, conservation commissions, public agencies and other organizations that currently hold conservation restrictions in Massachusetts. With the publication of this Manual, Massachusetts once again demonstrates its foresight and leadership in land conservation.

Sincerely,



Bernard J. McHugh, Coordinator
Massachusetts Land Trust Coalition

MassLand.org

The Web site for the Massachusetts Land Protection Community

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Nick Holland, Conservation Restriction Stewardship Specialist, Mass Audubon
Kathy Sferra, Land Protection Specialist, Mass Audubon
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For copies, contact Mass Audubon, Department of Land Protection, 208 South Great Road, Lincoln, MA 01775 781-259-2100 or land@massaudubon.org

The Massachusetts Audubon Society is the largest conservation organization in New England, concentrating its efforts on protecting the nature of Massachusetts for people and wildlife. Mass Audubon protects more than 30,000 acres of conservation land, conducts educational programs for 250,000 children and adults annually, and advocates for sound environmental policies at the local, state, and federal levels. Established in 1896 and supported by 65,000 member households, Mass Audubon maintains 43 wildlife sanctuaries that are open to the public and serve as the base for its conservation, education, and advocacy work across the state. For more information or to become a member, call 800-AUDUBON (283-8266) or visit www.massaudubon.org.

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Massachusetts Conservation Restriction Stewardship Manual

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Section 1

Introduction

Over the last 30 years, the conservation restriction (known in most other states as a conservation easement) has become increasingly popular as a land protection tool. Since receiving legislative recognition in 1969, more than 77,000 acres have been protected by conservation restrictions held by municipal conservation commissions and land trusts in Massachusetts. Various state agencies have also used this tool to protect additional land.

Conservation restrictions divide interests in land among two or more parties with the landowner retaining ownership of the property and the land conservation organization, such as a land trust or a public agency, holding the conservation restriction. The conservation organization is responsible for enforcing the terms of the conservation restriction to ensure that the conservation values of the property are protected in perpetuity.

In past years, conservation organizations, state agencies, and municipalities sometimes accepted conservation restrictions without adequate consideration of the extent of the responsibility that is involved in long-term stewardship of these restrictions. Since conservation restrictions are less than a full ownership interest in land, they were thought to entail less responsibility for management. In fact, conservation restrictions carry significant stewardship obligations that are becoming more evident with the passage of time.

The following remarks made in 2002 by Land Trust Alliance (LTA) President Rand Wentworth indicate the conservation community's increased realization that stewardship of land subject to conservation restrictions is vital:

"We...need excellence in the management and defense of conservation easements.... We think that these easements will protect land forever, but, in fact, they are becoming increasingly vulnerable to legal challenge.... Many land trusts are not prepared to



	<i>defend these easements in court: they did not complete a baseline survey prior to accepting an easement; they are not monitoring easements annually; and they lack an endowment to defend easements....”</i> Over the past few years, land trusts and public agencies across the country have been working to upgrade their stewardship of conservation restrictions. It is now generally understood that good stewardship of conservation restrictions by land trusts and agencies requires both initial documentation and annual monitoring of the resources on the property. The national Land Trust Alliance’s updated “Standards and Practices” for land trusts include revised practices for conservation restriction stewardship. These Standards and Practices are reprinted in the margins of this Manual. In addition, in 2003, the Massachusetts Land Trust Coalition convened a group of conservation professionals to focus on conservation restriction stewardship and defense. The recommendations of this group, the Massachusetts Easement Defense Subcommittee, are directed at improved stewardship by land trusts and state and local agencies that hold conservation restrictions. These recommendations, as well as an outline for the development of a conservation restriction enforcement policy, can be found in the Appendices of this Manual. This Manual has been developed to take these “best practices” one step further, providing land trusts and public agencies — particularly municipal conservation commissions — with a useful reference guide addressing the various aspects of conservation restriction stewardship. This Manual is the first of its kind — a detailed reference guide focused on issues surrounding conservation restriction stewardship. The Manual is intended both for users who are just beginning a program of conservation restriction stewardship, as well as for those who are seeking to upgrade their approach to the stewardship of their restricted lands. It is not intended to mandate how things should be done but to present useful practices — and in some cases alternative approaches — to achieve conservation restriction stewardship goals. This manual cannot substitute for individualized legal advice, and land trusts and conservation commissions are encouraged to consult counsel wherever possible in designing and implementing a conservation restriction stewardship program.
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Section 2

Overview of Conservation Restrictions and Conservation Restriction Stewardship

A. What is a Conservation Restriction?

A conservation restriction (“CR”) is a legal document by which a landowner (or “grantor” in legal terms) conveys a partial interest in land to a qualified conservation organization or public agency (known as a “grantee” or “holder” of the conservation restriction). By granting a conservation restriction, a landowner agrees to forgo or limit future development and use of the property in order to preserve identified *conservation values* – the particular features or qualities of the property that are to be protected. These might include wildlife habitat, scenic views, agricultural land, watershed protection lands or other important resources.

A conservation restriction is recorded in the chain of title of a property at the appropriate Registry of Deeds or Land Court so all present and future owners have notice that the property is subject to the conservation restriction and that they are required to comply with its terms. The landowner continues to own the property and has the ability to sell or convey the property to anyone at any time, subject to the terms and conditions of the conservation restriction. The organization or agency, as “holder” of the restriction, assumes the responsibility of periodically monitoring the property to safeguard the conservation values and enforce compliance with the terms of the conservation restriction.

A Flexible Tool for Land Protection: Conservation restrictions have a number of significant benefits as a method of protecting land. They are particularly useful when the landowner wishes to continue to own or use the property but wants to ensure that the conservation values will be protected in perpetuity. In addition, a conservation restriction is highly adaptable to the needs and wishes of the landowner and the conservation resources of the property. By leaving ownership in private hands, conservation restrictions also help to maintain the local tax base.



A conservation restriction may be written to prohibit all activities that may alter the natural condition of the property, or it may allow agriculture, forestry or other uses that are consistent with protection of the conservation values of the property. It may even permit limited development (such as an additional house or construction of a barn), but must specify the type, extent and location of such development. For example, if a new structure or septic system is to be permitted within the conservation restriction, a suitable building envelope must be identified within the restricted area. The specific terms of each conservation restriction must be tailored to the property that is being protected.

Landowners who place conservation restrictions on their property are not required to allow public access or public use of the land unless they wish to do so.

Conservation restrictions are generally placed on land in one of three ways:

- ☑ A landowner who wishes to see his or her property preserved in perpetuity may donate a conservation restriction to a conservation organization or a public agency.
- ☑ A conservation organization or public agency may purchase a conservation restriction from a landowner. In some cases, only the restriction is purchased, leaving the fee ownership of the property in the hands of the original owner. In other cases – for example, in an agreement between a land trust and a public agency to protect a property – one entity may acquire ownership of the property (the fee interest) while the other acquires a conservation restriction.
- ☑ A developer or landowner may be required by a municipal or state permitting process to place a conservation restriction on a portion of a parcel that is being developed. For example, the open space in an open space residential development (also known as a cluster development) may be subject to a conservation restriction. The Natural Heritage and Endangered Species Program often requires a conservation restriction on sensitive



portions of a property as mitigation for development impacts elsewhere.

For more information on conservation restrictions, including a sample, see the “Further Reading” sidebar at the end of this Section.

Tax Benefits for the Landowner: When a conservation restriction is donated outright or purchased for less than its fair market value (called a “bargain sale”), the landowner may be eligible for a federal income tax deduction. To qualify as a tax-deductible gift, a conservation restriction must be written to be effective in perpetuity, and be accepted and recorded by a public agency or qualified conservation organization such as a land trust. In addition, the conservation restriction must provide at least one of the following public benefits listed in Section 170(h) of the Internal Revenue Code:

- Preservation of relatively natural habitat for fish, wildlife or plants,
- Preservation of open space for the scenic enjoyment of the general public, or pursuant to a federal, state or local conservation policy,
- Preservation of land for outdoor recreation by, or the education of, the general public, or
- Preservation of historically important land areas.

The value of a donated conservation restriction is typically eligible for a charitable deduction if it meets these requirements, as further described in the IRS regulations (see “Further Reading” at the end of this section). The value of the conservation restriction is calculated as the difference between the value of the land before and after the imposition of the restriction. For example, a lot worth \$100,000 may only be worth \$20,000 if a conservation restriction is placed on it that prohibits construction of any kind. The value of the gift would then be the value before the restriction minus the value with the restriction, or \$80,000. These values must be determined by a qualified appraiser in a manner that meets IRS requirements. Note that conservation restrictions that are required as the result of a regulatory proc-



ess are typically not eligible for a charitable deduction.

In addition to these potential income tax benefits, landowners who protect their land with a conservation restriction may be eligible for property tax reductions (by reducing the assessed value of the land) as well as estate tax benefits (by reducing the value of their estate). A detailed discussion of tax benefits is beyond the scope of this Manual; landowners who are interested in the tax benefits of protecting their land should be encouraged to consult with tax and land use professionals to determine the extent of such benefits as applied to their particular situation and ensure that they meet the legal requirements to qualify for tax benefits.

Authorizing Legislation: The legislation authorizing conservation restrictions in Massachusetts (MGL Chapter 184, Sections 31 to 33) was adopted in 1969. The law requires that all conservation restrictions held by land trusts and municipalities must be approved by the Secretary of the Executive Office of Environmental Affairs (EOEA). Prior to obtaining signatures from the landowner and holder, a conservation restriction should be sent to the Massachusetts Executive Office of Environmental Affairs for review to ensure that it meets the requirements for the Secretary's signature. If the restriction is held by a private nonprofit organization, it must also be approved by the municipality (generally the Board of Selectmen, or Council and Mayor/City Manager). After the landowner and holder (and any local officials) sign the document, it receives final approval and signature by the Secretary of Environmental Affairs. Conservation restrictions held by state agencies do not require local approval.



This local and state approval process is unique to Massachusetts. Restrictions granted prior to 1969, and those that do not go through the approval process outlined above, including deed restrictions, require periodic re-recording (after 30 years, and thereafter every 20 years) to maintain their enforceability. For this reason, any restriction that is intended to be permanent – and any restriction for which the landowner intends to claim a charitable deduction – must go through the applicable state and local approval process. EOEA main-

tains a list of all conservation restrictions that have been approved in Massachusetts showing grantor, holder, date, acreage, and registry recording information.

Other Types of Restrictions: In addition to conservation restrictions, Chapter 184 also authorizes several other types of permanent restrictions, including Agricultural Preservation Restrictions approved by the Commissioner of Agricultural Resources, Watershed Preservation Restrictions approved by the Commissioner of the Metropolitan District Commission (now the Department of Conservation and Recreation), Historic Preservation Restrictions approved by the Massachusetts Historical Commission, and Affordable Housing Restrictions. While a detailed discussion of each of these types of restrictions is beyond the scope of this Manual, it should be noted that they also require documentation and monitoring as described below.

B. What are the Elements of Conservation Restriction Stewardship?

Organizations and agencies that hold conservation restrictions have assumed the responsibility of ensuring that the conservation values of the property are protected and that the terms of the restriction are enforced in perpetuity. The best way to do this is through a sound stewardship program which includes documentation of the conservation values and man-made features on the property that is being protected by the restriction, regular property monitoring, and development of a strong working relationship with owners of restricted properties.

Conservation restriction stewardship — creating Baseline Documentation Reports and conducting monitoring visits for each conservation restriction held by your organization or agency — may seem like an overwhelming task. But as with any big job, it is helpful to break the task into pieces. Start by gathering good records on the conservation restrictions held by your agency or organization. Develop policies and procedures to ensure that baseline documentation is completed on new conservation restrictions as they are accepted. Then go back and begin to tackle the older restrictions.

While this may seem like a lot of work, it is not unreasonable to assume that every conservation restriction could eventually be

Land Trust Alliance Standards and Practices

In 2004, the Land Trust Alliance (LTA) revised its “Standards and Practices” their ethical and technical guidelines for the responsible operation of a land trust. LTA requires that member land trusts adopt Land Trust Standards and Practices as the guiding principles for their operations, indicating a commitment to upholding the public trust and the credibility of the land trust community as a whole. LTA encourages all land trusts to implement Land Trust Standards and Practices at a pace appropriate for the size of the organization and the scope of its conservation activities.

Land Trust Standards and Practices are organized into 12 standards and supporting practices to advance the standards. The practices are guidelines; there are many ways for a land trust to implement the practices depending on the size and scope of the organization. LTA provides resources to assist land trusts in the implementation of Land Trust Standards and Practices. Additional information and resources can be found on LTA’s website, www.lta.org.

The Land Trust Standards and Practices relevant to conservation restriction stewardship are also appropriate for public agencies (such as conservation commissions) and are highlighted in this space on the following pages.

Land Trust Alliance Standards and Practices <u>Standard 11: Conservation Easement Stewardship</u> <i>The land trust has a program of responsible stewardship for its easements</i> <u>Practice 11B: Baseline Documentation Report.</u> <i>For every easement, the land trust has a baseline documentation report (that includes a baseline map) prepared prior to closing and signed by the landowner at closing. The report documents the important conservation values protected by the easement and the relevant conditions of the property as necessary to monitor and enforce the easement. In the event that seasonal conditions prevent the completion of a full baseline documentation report by closing, a schedule for finalizing the full report and an acknowledgement of interim data [that for donations and bargain sales meets Treasury Regulations Section 1.170A-14(g)(5)(i)] are signed by the landowner at closing.</i> <u>Practice 11C: Easement Monitoring</u> <i>The land trust monitors its easements regularly, at least annually, in a manner appropriate to the size and restrictions of each property, and keeps documentation (such as reports, updated photographs and maps) of each monitoring activity.</i>	violated. These violations may be intentional, unintentional, or the result of an accident (for example, an oil spill or a plane crash on the property). A future landowner may not be as conservation-minded as the landowner who originally placed the restriction on the property, an owner may misunderstand the terms of a conservation restriction, or a neighbor may encroach onto the restricted property with a new shed or fence. A strong stewardship program will minimize the potential for violations, ensure that violations that do occur are discovered in a timely fashion, help maximize the likelihood of positive resolution, and provide a solid evidentiary foundation in the event that legal action is necessary. A good stewardship program includes a number of elements, and this Manual contains tips and strategies designed to address each of these components. These are: ☑ preparation of Baseline Documentation Reports ☑ a regular monitoring program ☑ cultivation of strong and ongoing relationships with land owners ☑ written policies for the enforcement and amendment of conservation restrictions ☑ a source of funds for carrying out conservation restriction stewardship responsibilities including monitoring and enforcement C. What is Baseline Documentation? Baseline documentation is a critically important tool for ensuring that the terms of the conservation restriction are honored. A Baseline Documentation Report is a written report that accurately portrays the condition of the property as of the date that the conservation restriction was recorded, and serves as a benchmark for comparison against future conditions. It contains a description of the property, site maps, photographs and other materials. Much of this information is normally gathered during the process of considering whether to accept the conservation restriction, and is submitted to EOEA as part of the conservation restriction application. The land-
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owner, holder, preparer, and photographer each attest to the accuracy of the Baseline Documentation Report by signing affidavits. The Baseline Documentation Report is signed by the landowner at closing and is maintained as a permanent record of the condition of the land as of the date of the conservation restriction.

Baseline documentation serves other purposes as well. The Internal Revenue Service (IRS) requires that a landowner seeking an income tax deduction for a donated conservation restriction provide the holder with a “natural resources inventory” that describes the condition of the property at the time of the gift. More specifically Section 1.170A-14 of the Treasury regulations read, in part,

‘the donor must make available to the donee, prior to the time the donation is made, documentation sufficient to establish the condition of the property at the time of the gift. Such documentation is designed to protect the conservation interests associated with the property, which although protected in perpetuity by the easement, could be adversely affected by the exercise of the reserved rights. Such documentation may include:

(A) The appropriate survey maps from the United States Geological Survey, showing the property line and other contiguous or nearby protected areas;

(B) A map of the area drawn to scale showing all existing man-made improvements or incursions (such as roads, buildings, fences, or gravel pits), vegetation and identification of flora and fauna (including, for example, rare species locations, animal breeding and roosting areas, and migration routes), land use history (including present uses and recent past disturbances), and distinct natural features (such as large trees and aquatic areas);

(C) An aerial photograph of the property at an appropriate scale taken as close as possible to the date the donation is made; and

(D) On-site photographs taken at appropriate locations on the property. If the terms of the donation contain restrictions with



For Further Reading

“The Massachusetts Conservation Restriction Handbook” published by the Commonwealth of Massachusetts Executive Office of Environmental Affairs, Division of Conservation Services, 100 Cambridge Street, 9th Floor, Boston, MA 02114, 617-626-1000. The Handbook and additional information on conservation restrictions are also available on line at the website of the Division of Conservation Services:

<http://www.mass.gov/envir/dcs/restrictions/default.htm>

A sample Conservation Restriction is available online from the Massachusetts Land Trust Coalition at <http://www.massland.org/pages/tools/tools.html>

Land Trust Alliance, 1331 H Street NW, Washington, DC 20005, 202-638-4725. LTA’s 2004 Standards and Practices are available on line at www.lta.org.

IRS Regulations: 1.170A-14
<http://www.wildlaw.org/easements/TreasReg1-170A-14-a-d.html>

regard to a particular natural resource to be protected, such as water quality or air quality, the condition of the resource at or near the time of the gift must be established. The documentation, including the maps and photographs, must be accompanied by a statement signed by the donor and a representative of the donee clearly referencing the documentation and in substance saying "This natural resources inventory is an accurate representation of [the protected property] at the time of the transfer."

Although the IRS regulations place the burden of providing a natural resource inventory on the landowner (at least for those transactions where a tax deduction will be claimed), many organizations and agencies offer to prepare a full Baseline Documentation Report for the landowner (which is likely to be more expansive than what is required by the IRS) to ensure that it is done in a manner that meets the standards and future needs of the holder for baseline documentation. In those cases where weather or other circumstances prevent completion of a Baseline Documentation Report prior to the closing, a basic inventory that meets the IRS requirements can be signed at closing, with follow up afterwards to complete the full Baseline Documentation Report.

The Baseline Documentation Report is used as the primary reference during subsequent monitoring visits, and provides important data for property management and for evidence to defend the conservation values of the property in the event of a violation. Without a comprehensive and timely Baseline Documentation Report it may be much more difficult — and sometimes impossible — to identify violations, or to prove that a violation occurred after the restriction was recorded.

Conservation organizations and agencies that hold conservation restrictions for which Baseline Documentation Reports were never prepared should make the development of such reports a priority. While it is more work to go back in time and develop a so-called “after the fact” Baseline Documentation Report, it is possible to do so. Preparation

of the Baseline Documentation Report is discussed in Section 4 of this Manual and a sample Baseline Documentation Report can be found in Appendix B.

D. What is Conservation Restriction Monitoring?

Upon the acceptance and recording of a conservation restriction, the conservation organization or public agency that holds a restriction (the holder) assumes the responsibility for enforcing the terms of the restriction in perpetuity. In addition to preparing a Baseline Documentation Report, the holder should also monitor the property by visiting it annually (or more frequently if necessary). The principal purposes of monitoring are: 1) to ensure that there are no violations of the terms of the restriction, 2) to discover and document any violations that have occurred, and 3) to cultivate a strong working relationship with the landowner. The more frequent the monitoring, the earlier any violations will be detected. Detecting violations soon after they occur may enable the holder to limit their extent and to more quickly remediate any damage and ensure restoration of the property.

Regular monitoring can also help prevent unintentional violations by maintaining the landowner's awareness of the restriction, and by letting neighbors and others know that the land is being regularly inspected. The monitoring process also creates the opportunity to develop an ongoing relationship with the landowner and provide information regarding land management and protection. This is particularly important for successor owners who acquired the property after the conservation restriction was in place and were not involved in crafting the terms of the restriction.

In order to build a useful record of property conditions over time, monitoring should be conducted using consistent practices and procedures from one year to the next. These are discussed in Section 5.



Further Reading, Continued

The Conservation Easement Handbook, Trust for Public Land and Land Trust Alliance, 2005.

Other websites of interest:

www.massland.org

www.massaudubon.org/land

[www.http://
www.thetrustees.org/
pages/2519_putnam_conser-
vation_institute.cfm](http://www.thetrustees.org/pages/2519_putnam_conservation_institute.cfm)

[www.sudburyvalleytrustees.
org](http://www.sudburyvalleytrustees.org) (see [stewardship sec-
tion](#))



Section 3

Researching Conservation Restrictions and Other Land Records

The first step in good conservation restriction stewardship is to ensure that you have basic information about each of the conservation restrictions that your agency or organization holds. You may be starting out with excellent, current records, or you may need to “start from scratch.”

If you do not have information about the conservation restrictions that you currently hold, you will need to begin by doing some research to identify existing conservation restrictions, obtain legal documents and boundary descriptions or surveys, and find out who currently owns the land.

The first step is to compile a definitive list of all conservation restrictions held by your agency or organization. All conservation restrictions should be on record at the Registry of Deeds for your area. The town’s assessing office may also have information about existing conservation restrictions. A list may be in your community’s most recent Open Space and Recreation Plan. The Massachusetts Division of Conservation Services within the Executive Office of Environmental Affairs can also provide a list of the conservation restrictions they have in their records for any community.

This section of the Manual contains information about basic land records that can be found in municipal offices as well as how to navigate the Registry of Deeds. A list of key documents that should be in each conservation restriction file can be found in the margin of the next page. The decision about where to start with research should be made by the holder of the conservation restrictions and is a function of the geographic scope of your organization or agency. Municipalities or land trusts that are based in one community are likely to find that the easiest starting place is the municipal assessing office. Regional or statewide organizations may find it more efficient to gather information from the Registry, particularly where information is available on line. In

some cases, a combination of both will be needed. While this Manual is not intended to be a comprehensive guide to title research, the basic information here should enable most conservation restriction holders to locate the documents that are needed for conservation restriction stewardship.

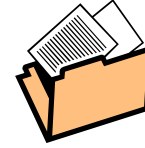
A. Searching for Land Records

Deeds, Conservation Restrictions, and Other Instruments of Conveyance:

A deed is the instrument of record of the transfer of title (ownership) to land. There are other “instruments of conveyance” that are used to record the transfer of interests in land, including restrictions, conservation restrictions, easements, mortgages and wills. In order to be valid, each instrument of conveyance must be placed on record or “recorded” so that it is available for public inspection. Once recorded, these instruments put the public on notice that an interest in property has been created or changed hands (in legal terms, this is known as “constructive notice”).

These instruments may be recorded at one of the Commonwealth’s Registries of Deeds or the Land Court. Other instruments affecting title to land may be found at the Registries of Probate. These are often, but not always, housed together at the Commonwealth’s 21 Registry of Deeds offices. Each of the Registries has a computer system that allows users to access many documents electronically via dedicated terminals. However, there are different systems in place, so that a user familiar with one system may find that help is needed at a different Registry. All of the Registries have staff available that can assist in using the computer systems. Many of the Registries also provide for free on-line searching (and sometimes printing) of recent documents. Registries vary tremendously in the extent of historical information available on-line, and it is often necessary to go to grantor and grantee indexes to obtain older land records information. A list of towns with their applicable Registries as well as addresses, phone numbers and web links to each Registry can be found at the website for the Secretary of the Commonwealth, www.sec.state.ma.us/rod/rodidx.htm.

Registries of Deeds and Recorded Land: The majority of land records are located at the Registries of Deeds. The Registries



Creating Master Conservation Restriction Files

As a starting point, every land trust and agency that holds conservation restriction should have a master file for each conservation restriction that it holds.

The following items are essential components of each file. Locations for finding documents are noted where applicable.

- ☒ a copy of the conservation restrictions with all signatures [Registry or Assessor]
- ☒ a copy of the grantor’s deed [Registry or Assessor]
- ☒ a copy of any surveys or plans of the restricted property [Registry]
- ☒ The name of the current property owner and copy of the assessors map [Assessing Office]
- ☒ Copy of any Baseline Documentation Report
- ☒ Copy of monitoring reports
- ☒ Any other relevant documents (title reports, notes from meetings with landowner, etc.)

<u>Current Massachusetts Registry of Deeds Websites:</u> Berkshire (North/Middle/South) Dukes Franklin Hampshire Middlesex North & South Nantucket Suffolk Worcester South www.masslandrecords.com Barnstable www.bcrd.co.barnstable.ma.us Bristol-Fall River www.fr-registry.com Bristol North www.tauntondeeds.com Bristol South www.newbedforddeeds.com Essex South www.salemdeeds.com Essex North www.lawrencedeeds.com Hampden http://204.213.242.147/alis/ww400r.pgm Norfolk www.norfolkdeed.org Plymouth http://regdeeds.co.plymouth.ma.us/ Worcester North http://151.203.96.11/alis/ww400r.pgm For Updated Statewide Information: http://www.sec.state.ma.us/rod/rodidx.htm	were created to safeguard and make available legal instruments pertaining to rights to real property (e.g., deeds, mortgages, liens, easements, rights of way and deed restrictions), and supporting documents such as surveys and plans. The Massachusetts registries' archives go back as far as the early 1640s and are current to within several hours of the present. Registry clerks examine each instrument to ensure that it meets Registry recording standards. All instruments are bound in record books in the order they are received. The Registry computer assigns a document number and records the book and page number, and time and date of recording, and indexes the instrument based on the names of the grantor and grantee and the property address. The Land Court and Registered Land: The Land Court Department of the Trial Court (generally referred to as the Land Court) has jurisdiction over the registration of title to real property and over title disputes throughout the Commonwealth. When the court is asked to settle a title claim, it researches the history of ownership up to the present using Land Court and Registry archives, and interviews parties with knowledge of the property. The Court may issue a Certificate of Title that guarantees both the title and boundaries of the property, which is then referred to as registered land (as compared to recorded land). Information about registered land may be found at the Land Registration Departments within each of the registries. Registry of Probate and Land Transferred by Will or Intestate Succession: When a landowner dies, title to their land may be passed to others either via a written will, or by the "rules of intestacy" which provide for the disposition of an estate's assets absent a will. When title is passed to the landowner's heirs by either means, the transfer will be recorded at the county Registry of Probate, and may well not be reflected in the records at the Registry of Deeds. Generally it is necessary to visit the Registry of Probate in order to view this information as it is not available on-line. B. Registry of Deeds Research Records at the Registries of Deeds and Land Registration De-
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partments (Land Court) generally may be searched by the name of the grantor (the party conveying an interest, such as a seller, or the landowner that conveyed the conservation restriction), name of the grantee (the party receiving the interest, such as a buyer or the holder of the conservation restriction), book and page number, document number, street address or municipality. Land Registration Department records can also be searched by certificate of title and court case number. The Registry of Probate indexes its records by name of the deceased (“decedent”) and a probate number.

Note that the indexes for the Registry of Deeds, Land Court and Registry of Probate are separate. Unless you have a specific Land Court Certificate number (usually shown as Cert# or C.O.T. in the reference) or Probate number (usually a reference beginning with a P) for a document you are seeking, it almost always makes sense to begin your research at the Registry of Deeds and then search elsewhere if you are unsuccessful.

Conservation restrictions should contain a reference to the grantor’s deed (e.g. “For title reference, see deed from John Smith to Robert Jones dated July 14, 1993 and recorded at the Worcester District Registry at Book 13570 Page 90”). This is a good starting place for research, as many of the other instruments of interest such as maps, plans, easements or rights of way will be referenced in the deed. If there is no such reference, begin your research using the name of the grantor of the restriction. If you don’t know the exact name of the grantor, it is possible to “back search” for the document using the name of the grantee — the holder of the conservation restriction.

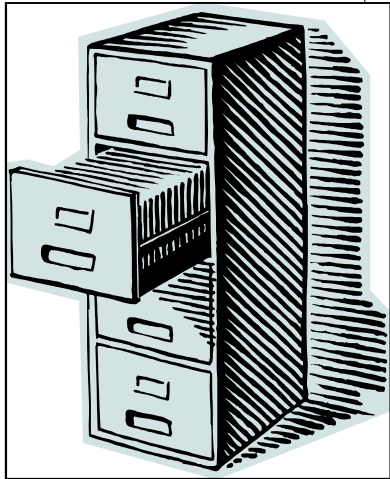
Finding subsequent owners: Search under your grantor’s name from the date of the conservation restriction forward to see if they have been the grantor on any subsequent deeds. Review those deeds to see if they apply to the property subject to the conservation restriction. If your grantor is deceased and no deed can be found, search under his/her name at the Registry of Probate. For older conservation restrictions, it may be necessary to consult the hard copy grantor/grantee index.

Finding a boundary description: Start by locating the grantor’s deed to see if there is a “metes and bounds” (distances

Tips for Registry Database Searches



- Your organization or municipality may appear several different ways in the database — and often an exact match is required. Try entering less information, for example “Audubon” rather than “Massachusetts Audubon Society” or “Mass Audubon.”
- When asked to select a type of document, one option is often “restrictions.” Be aware, however that sometimes conservation restrictions are incorporated into deeds. In other situations, the Registry may not have coded the document as a “restriction.” When in doubt, cast a broader net based on the name of the land owner or land conservation organization or agency.
- If searching for a restriction held by a municipality, try searching just on the name of the Town rather than the more specific holder of the restriction, i.e., “Lincoln Conservation Commission”
- If you are at the Registry, ask at the desk for help. The staff there are generally very willing to help point you in the right direction.



and directions) description of the property. If not, find that grantor's deed reference, and then examine that document. As you "chain back" through title to the property, be mindful that some prior deeds may convey a larger parcel that contains the property subject to the conservation restriction. If there is no recorded description, it may be possible to compile one based on the boundary descriptions of abutting parcels.

Finding a map or a plan: Use the technique described above to see if there is a reference to a plan in any deed, or search the recorded and registered plans based on the property address, or current and prior owners. As above, it may be possible to compile a map based on maps of abutting parcels. Note that plans are generally not recorded in the same books as deeds and other instruments, but in a separate set of oversized plan books. They are also indexed separately at the Registry and Land Court. As an example Plan Book 30, Page 4 is not the same as Book 30, Page 4. Plan Books are often in a separate section of the Registry, but are also available for inspection and copying – sometimes in hard copy and sometimes on film.

Finding easements or other encumbrances: Any easements or encumbrances over a property should be recited in each subsequent deed, but often they are not. Search the records using the current and previous owners as grantors to uncover these instruments. It is important to research easements that were recorded prior to the conservation restriction as they may affect the activities that can take place within the restricted area. For example, if an abutting landowner has an access easement over land subject to the conservation restriction, they may have the right to build an access road across the conservation restriction even if new roads are specifically prohibited under the terms of the restriction.

C. Municipal Records Regarding Conservation Restrictions

Conservation Commissions, Planning Boards, and Boards of Selectmen: Within a municipality, the first place to start gathering records about existing conservation restrictions is with the local Conservation Commission who may already have existing files and/or may have information about restrictions in the most

recent copy of the municipal Open Space and Recreation Plan, if there is one.

It is also worth a visit to the Planning Board office to see if they have any records about conservation restrictions. In many communities, such restrictions have been required as part of the permitting process for subdivisions (e.g., open space or “cluster” subdivisions) or other development. Planning departments may also have access to Geographic Information System maps, which may be useful in producing Baseline Documentation Reports and assisting with other conservation restriction stewardship responsibilities.

Town Assessing Offices: Perhaps the most accessible and useful place to start to gather information about land subject to conservation restrictions (particularly at the local level) is at the municipal assessing office for the community where the restriction is located. These offices are the repositories for information required to calculate and collect property taxes and, as a result, are likely to have information about parcels subject to conservation restrictions. The assessors’ tax maps show each property indexed by map, parcel and lot number. In some communities these maps are more detailed and may even show land subject to conservation restrictions. Note also that the assessor’s maps are designed to show the general location of properties in relationship to one another, and are not a substitute for survey plans when it comes to locating boundaries in the field.

Assessors also maintain a listing of all property owners in the town. Using either the owner’s name or the map, parcel and lot number, you can access the information in property listing books and/or field cards maintained by the assessor (many of these “cards” are now computerized). The field cards typically include the following information:

- ☒ Owner’s name and mailing address
- ☒ Property address
- ☒ Owner’s title reference (the Registry book and page reference for the owner’s deed)



	☒ Date of purchase ☒ Improvements, if any, and the date they were made ☒ Acreage ☒ Assessed value of land and improvements ☒ Taxes assessed ☒ Tax status (e.g. Chapter 61, 61A or 61B) Assessing offices also generally have copies of deeds for properties in their community. Obtaining this information prior to visiting the Registry can save a great deal of time in searching, since you will be able to begin your search with the current owner's name, deed reference (and possibly a boundary survey reference), and date of conveyance already in hand, and use this information to locate the conservation restriction and other information that is on record at the Registry. The assessing office is also a handy place to quickly gather contact information about the current owner of a restricted property as well as similar information about abutting landowners. This can be helpful if you are trying to identify the name of an abutter who might be responsible for encroachment on land subject to a conservation restriction or to find surveys of abutting land. Note that assessing offices vary widely in the type of information available. Some have sophisticated computer systems that are available on-line, whereas others still rely on paper records. The staff at assessing offices are generally very helpful and knowledgeable about lands in their town and may also be able to assist in identifying land subject to conservation restrictions. In smaller communities, assessors' offices may only be open one or a few days a week, and only during certain hours. Call or visit the town's web site for this information. Many towns now make assessor data available on line and more than 40 communities have field card data available through the Community Software Consortium at http://csc-ma.us. Another source is the Vision Assessors Database at http://www.visionappraisal.com/databases/mass/index.htm.
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Section 4

The Baseline Documentation Report

A. Preparing the Baseline Documentation Report

Much of the information required to prepare a Baseline Documentation Report may have been gathered as part of the pre-acquisition review of a conservation restriction. The Baseline Documentation Report can be prepared by either a trained staff person or volunteer for the conservation organization or public agency, or by a hired consultant. Typically, preparation of a “basic” Baseline Documentation Report requires a day in the field to verify boundaries, take photographs and document the resources found on the site. Additional time is needed to gather all of the various information that is incorporated into the report. Large or complicated properties will take more time. It is generally preferable to prepare the report when there is no snow cover and when the leaves are off the trees. Such conditions make it easier to find and photograph property boundaries and to locate man-made features like trails and roads.

As conservation organizations and agencies consider how best to ensure that Baseline Documentation Reports are prepared in a timely fashion – and weigh the option of having them done “in house” versus hiring a consultant — factors to take into consideration include the availability of funds, volunteer suitability, staff capacity and the desirability of having such reports prepared in a consistent format. If an organization or agency prepares many Baseline Documentation Reports each year, it may make sense to have a trained staff person who will do this and acquire the needed equipment. Where the need for baselines is occasional, contracting this work to a consultant or a seasonal intern (such as a teacher or graduate student during the summer) may be more efficient. Whatever the approach, it is important to consider preparation of a baseline as an essential part of the project — just as with legal review or survey work. This subject is discussed further in Section 6.

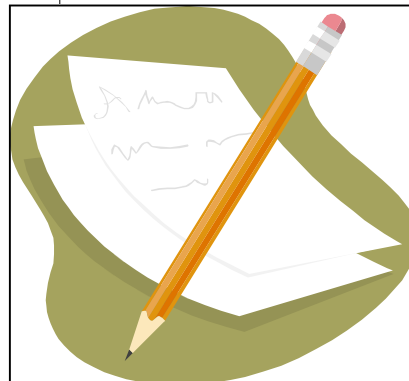


	B. Contents of the Baseline Documentation Report The Baseline Documentation Report is a comprehensive record of each conservation restriction. A sample table of contents appears below and a sample report is included in Appendix B: 1. Conservation Restriction Abstract 2. Directions to Site 3. Conservation Restriction History and Chronology 4. Property Conditions Report 5. Site Maps - USGS Topographical Map - Survey or Plan - Assessors' or Tax Map - Aerial Photograph - Navigation Map 6. Baseline Photographs - Photopoint Map - Table of Photopoint Locations - Photolog - Photographer's Affidavit 7. Executed Conservation Restriction 8. EOEa Application 9. Preparer's Affidavit 10. Landowner (Grantor) Affidavit 11. Holder (Grantee Affidavit) This Section describes the process of preparing for a baseline documentation site visit, navigating around the property, taking and documenting photographs and gathering data to be used in the Baseline Documentation Report. It also includes a discussion of how to compile the report. Appendix A contains more detail on the use of Global Positioning Systems (GPS) receivers, Geographic Information Systems (GIS), and aerial photographs.
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C. The Baseline Documentation Site Visit — Preparation

It is important that the Baseline Documentation Report be tailored to the specific terms of the conservation restriction. The purposes and prohibitions listed in the conservation restriction may give rise to particular baseline documentation requirements. For example, a prohibition against construction of any kind requires that all existing structures on the property be documented. Without this information it may be difficult to determine if a structure pre-dated or post-dated the conservation restriction — and thus to determine whether its construction is a violation of the terms of the conservation restriction. Similarly, a prohibition against the construction of new roads requires that all existing roads be mapped and the size and type documented. If the purpose is to “protect views of the Charles River from Washington Street”, then the Baseline Documentation Report should contain representative photographs and diagrams of these views. If the purpose is to protect one of the few occurrences of an endangered plant species, then photographs of the areas of the property where these plants occur — and of the actual plants — should be included, along with maps and information on how best to find and monitor the local population of this species. If the restriction limits expansion of an existing structure, it is important to document the exterior of the structure and its dimensions, so that when the property is monitored in the future there is a reliable baseline for what existed at the time the restriction was imposed. Similarly any reserved building envelopes should also be documented.

Creating a Conservation Restriction Abstract: The purpose of the Conservation Restriction Abstract is to summarize the information contained in the restriction into one or two pages that can easily be referred to in the field. A completed Conservation Restriction Abstract can be found in the Sample Baseline Documentation Report in Appendix B. Some organizations and agencies find this to be a very helpful and convenient reference, while others prefer to skip this step and always refer to the full conservation restriction when conducting field work.



For baseline documentation and monitoring, the key sections of the conservation restriction are 1) the purposes of the conservation restriction, 2) the identification of the conservation values to be protected, and 3) the prohibited and permitted uses of the property and reserved rights. These key sections should be summarized and entered in the “Summary of Restrictions” section of the Conservation Restriction Abstract.

The purposes may be enumerated in a separate “Purposes” section of the conservation restriction, or contained in the first few paragraphs of the document. The purposes section lays out the essential intent of the restriction, such as “The grantors, in order to insure preservation of the property in its natural, open and scenic condition, hereby grant to the Land Trust of Arlington, a Massachusetts not-for-profit corporation having its principal office in Arlington, Middlesex County, Massachusetts, a perpetual conservation restriction pursuant to Chapter 184, Section 31 et seq. of the General Laws of Massachusetts”. In this case the purposes include “preservation of the property in its natural, open and scenic condition.”

The conservation values of the conservation restriction, often included in the description of the purposes or listed just below, are the specific features of the property that the conservation restriction is designed to protect. These may be specific resources on the property (e.g., “The Premises include two areas identified as BioMap Core Habitat by the state’s Natural Heritage and Endangered Species Program...”), or the public benefit to be derived from the protection of the premises (e.g., “Conservation of the Premises will contribute to the protection of the scenic landscape which is visible from Piedmont Street.”).



The prohibited and permitted uses section of a conservation restriction spells out a) activities and uses that are prohibited by the conservation restriction (e.g., destruction of vegetation, construction of any kind), b) permitted uses that would otherwise be prohibited by the terms of the restriction (e.g., cutting of vegetation to maintain trails, or construction of a shed not to exceed 800 square feet in footprint) and c) specific uses that require the prior review

and approval of the holder (e.g., commercial forestry pursuant to an approved forest cutting plan, or construction of an accessory garage within the building envelope shown on the attached plan).

As you prepare for the field visit to the property, make a list of areas to visit such as important natural features, boundaries, and reserved areas for new construction (generally referred to as building envelopes) and note them in the Suggestions for Key Locations/Features to Inspect section of the Conservation Restriction Abstract.

The “Site Visit Notice” section of the Abstract should summarize the amount of notice (if any) that must be given to the landowner for monitoring the conservation restriction (this may be spelled out in a section titled “Access” or contained elsewhere in the conservation restriction). There may be special access provisions, such as the right of the landowner or his/her representative to be present during property inspections. If the conservation restriction is silent on this subject, note the fact that notice is not required (although as noted in Section 5, it is always a good idea to advise the landowner even if notice is not expressly required by the Conservation Restriction).

Directions: Consult a map (e.g. Yahoo Maps or Mapquest) for detailed driving instructions to the property. Use the property maps or plans to locate a corner of the property near the road. Use this information to prepare **Directions to Site** (see Sample Directions in Appendix B).

Property Maps: Gather existing maps of the property that will help you understand the features of the property and its boundaries, including any available survey plans and assessors maps. Draw the property boundaries (by hand or using mapping software, such as GIS) on a recent **aerial photograph** and **USGS topographical map**, and prepare a navigation map showing the corner monuments and the distances and directions of all boundary lines. When you visit the property, follow these directions and make sure they are clear. For more information on USGS maps, aerial photographs and mapping property boundaries, see Appendix A.

What to Bring in the Field

- ☒ Directions to the site
- ☒ A reduced survey plan or other map of the boundaries and monuments with distances and directions of boundary lines. Property descriptions for any areas that are in question.
- ☒ A recent aerial photograph and USGS topographical map with the property boundaries drawn by hand or digitized using GIS (see Appendix A)
- ☒ Compass & 100 foot measuring tape
- ☒ Clipboard, paper, and writing instruments.
- ☒ Plastic sleeves for any important documents
- ☒ If available, GPS with external antenna, fully charged batteries and chart of satellite availability throughout the day of the visit.
- ☒ Camera with charged batteries and film or memory cards
- ☒ Boundary flagging or a pointer
- ☒ A copy of the CR and/or CR Abstract

Contacting the Landowner: Prior to visiting the property to gather information in the field for the Baseline Documentation Report, you should contact the landowner by either letter or telephone to let the landowner know that you will be doing the Baseline Documentation Report, when you will be there, and what kind of information you will be gathering. Find out in advance whether the landowner would like to accompany you on the site. In most cases, the landowner will be in the process of finalizing the terms of the conservation restriction and so they are likely to be able to be of assistance in pointing out areas of the property that require special documentation (e.g., building envelopes or areas where future clearing is proposed). Be aware however, that landowners may not always be clear on the exact locations of property boundaries. When in doubt always check measurements against the survey plan or property description.

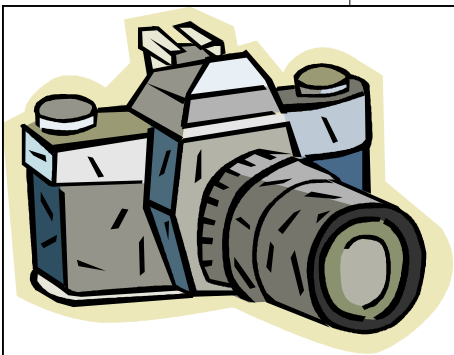
D. Photography & Note-Taking in the Field

Photographs are a visual record of the property conditions at or near the time a conservation restriction is recorded. The Baseline Documentation Report should include photographs of the boundary of the property as well as the conservation values to be protected and any man-made features. All images should be in color, using either digital or traditional film photography. Digital photography is discussed in Appendix A.

As you prepare for your property visit, plan a route of travel that will encompass the list of specific areas in the “Suggestions for Key Locations/Features to Inspect” section of the Conservation Restriction Abstract and as much of the boundary as possible.

Try to organize your route in a logical sequence. This will make it easier to keep photographs organized and for future monitors to relocate your photopoints.

All photographs should be tied to accurate GPS points (see Appendix A) or permanent features to allow them to be reliably relocated by property monitors in the future. If GPS coverage is not being used, or is temporarily unavailable due to terrain (e.g., deep ravines or dense tree cover), establish photopoints at physical fea-



tures that can easily be located and identified such as intersections of stonewalls, trails, boundary markers or large trees.

For efficiency, take several photographs at each photopoint. For example, take photographs in opposing directions along the boundary line, and then one or more into the restricted area from the same point. Find the compass bearing of each photograph by pointing the compass in the direction the picture was taken, and then moving the bezel to align the north arrow with 0 degrees. Read the azimuth (or compass bearing) at the mark along the centerline of the compass while it is in line with the center of the photograph. For more information on how to use a compass in the field see Appendix A.

Photographs: If the boundary is not marked or well monumented, locate and photograph the boundary first, then move on to photograph other areas. When following a boundary without line markers such as a fence or blazes, locate two boundary markers and then go back and take photographs of the property boundary between them. These techniques will insure that all photographs are taken within the subject property. See Appendix A for information on boundary location.

Boundary photographs should be spaced to give an accurate *representation* of the property conditions along the boundary. One need not document the entire boundary with a series of overlapping photographs. In open areas, one photograph can document several hundred feet. In dense cover or hilly areas, look for vantage points that will allow each photograph to contain as much of the boundary line as possible.

Be sure to document areas of the boundary where future encroachment is likely such as along public roads, where woods roads and trails enter the property, and where an abutting property is actively used up to or near the boundary. Remember that lands that are undeveloped today may be subdivided in the future, so unless abutting land is protected, it is reasonable to assume that encroachments may occur in the future.

Take photographs of the interior to give an accurate representation of the undeveloped portions of the property, to show man-

	made features such as buildings, roads and bridges, and to document any of the conservation values identified in the conservation restriction. Also note and photograph any areas where encroachments from adjacent properties or dumping has occurred on the property. Where appropriate, follow up with the landowner to make sure that they are aware of the situation and will take steps to eliminate the problem. As you take photographs, in some locations it may be helpful to mark the boundary or a particular item of interest in the photograph with a pointer or flagging tape so that it may be more clearly seen in the photograph. Photography Field Notes: For each photograph, record the date, a photopoint number (i.e., the waypoint number if using GPS), the photograph number (the JPEG number if using a digital camera; roll number and photograph number if using a film camera), azimuth or compass bearing of the photograph, and any nearby boundary marker such as a corner pin or bound, wall, blaze or fence. Some holders take pictures of boundary monuments with enough context in the photo to make them easier to locate next time, especially if GPS is not being used. Baseline preparers who are not using GPS and GIS will want to annotate a map of the property with photopoint numbers and arrows showing the direction of each photograph. The goal is to have a reference map that allows future property monitors to easily relocate the point from which each photograph was taken in the field. A sample hand-drawn map can be found in Exhibit A. Write a brief but detailed annotation for each photograph or if your camera permits sound recording, record a brief annotation for each photograph as you take the picture. For example, a photograph along a boundary might be labeled "View north-northeast along boundary back toward corner, restricted area is to the right of the tree blaze in the photograph". Such details facilitate error checking and correction during the creation of the Photolog. It is critical to make these notes in the field as
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	the photographs are taken, otherwise deciphering the contents of each photo in the office can be extremely challenging, particularly if you are taking photographs in the woods. It may be helpful to bring along a partner to assist in note taking. When walking the property, take note of the dominant tree and shrub species and any wildlife sightings. This information will be used in the Property Conditions Report to provide information on the habitats found on the property. E. Wrapping Up the Field Visit: Depending upon the terms of the conservation restriction, additional field work may be needed. For example, if there are structures included in the restricted area, you may want to photograph and measure the dimensions of the structure, particularly if the CR prohibits or limits any expansion. You should find and photograph any building envelopes that will be included within the CR. Before leaving the property, make note of any items that will be helpful as you write up your report. Include items such as: wildlife observed, interesting features to visit in the future, boundary conditions (e.g. “the northeast boundary line follows a wire fence for most of its length” or “the northeast corner needs permanent identification”), or information gleaned from discussions with the landowner or neighbors. Other potential items include areas of concern due to current land use or likelihood of future encroachments. If the landowner lives on the property you should consider stopping by to let the owner know that you have completed your work for the day and see if they have any questions or concerns regarding your site visit. Make sure to sit down and organize field notes, photopoints, and photographs as soon as possible after the field visit, while the property is fresh in your mind. F. Compiling the Baseline Documentation Report Once the Field Visit is complete, the next step is to write and compile the remaining sections of the Baseline Documenta-
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tion Report. The following sections are keyed to the sample Table of Contents in the beginning of this section.

The ***Conservation Restriction Abstract*** and ***Directions to Site*** are generally prepared prior to the Baseline Documentation Site Visit, as already discussed above.

The ***Conservation Restriction History and Chronology*** should be prepared by someone familiar with the history of the negotiation of the terms of the conservation restriction. The intent of the History and Chronology is to provide context by chronicling key milestones in the development of the conservation restriction from first contact with the landowner to final negotiations over the terms of the conservation restriction. It is helpful in documenting the intent of the landowner and the holder, and the resolution of any issues that may have come up in the course of the negotiations. It is also a good place to record the rationale behind any unusual provisions in the document. Some preparers also like to include information about the history of the land and its use in this section of the report.

The ***Property Conditions Report*** is a narrative description of the property and its condition at the time of the recording. This information should be tailored to the specific purposes and conservation values of the conservation restriction. The *Introduction* briefly describes the subject property and the circumstances of the grant of the conservation restriction. The *Regional Setting* section places the property into the appropriate Ecoregion and Subecoregion (Ecoregions are areas of relatively homogeneous topography, geology, soils, plant and animal habitats as designated by the Massachusetts Ecological Regions Project for the US Environmental Protection Agency and the Massachusetts Department of Environmental Protection). More information is available at: http://www.epa.gov/wed/pages/ecoregions/mactri_eco.htm. *Manmade Features* lists and describes any significant construction, roads, utilities, clearings fences, stone walls, and the boundary monuments.

The *Water Resources* section of the Report describes lakes, ponds, streams or wetlands on the property or fed by its drain-

NOTE: As you work your way through this section of the Manual, it may be helpful to refer to the Sample Baseline Documentation Report contained in Appendix B.



Further Reading:

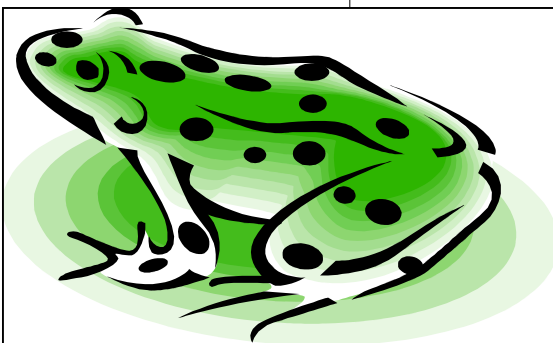
Classification of the Natural Communities of Massachusetts, Patricia C. Swain and Jennifer B. Kearsley, 2001, Natural Heritage and Endangered Species Program, Massachusetts Department of Fisheries and Wildlife, Westborough, MA

age, as well as drinking water resources. The *Geology, Topography and Soils* section describes the topography and aspect of the site, as well as soils capabilities. *Land Use* characterizes the use of the property itself and that of surrounding lands, and may include references to nearby scenic lands or protected and recreational open space.

Using the information above and the dominant tree and shrub species recorded during the site visit, it may be possible to classify the property into one or more *Natural Communities* based on the classification of the natural communities of Massachusetts prepared by the Natural Heritage and Endangered Species program of the Massachusetts Division of Fisheries and Wildlife (<http://www.mass.gov/dfwele/dfw/nhsp/nhclass.htm>). By classifying the property into these communities, it is possible to identify plant and animal species that may be present, particularly if the rare species or habitats are present on the property. For example, the Calcareous Rocky Summit/Rock Outcrop Natural Community found on ridge tops and mid-slope ledges in the Western New England Marble Valleys Ecoregion may be home to devil's-bit (*Chamaelirium luteum*), hairy honeysuckle (*Lonicera hirsute*), northern prickly rose (*Rosa acicularis*) and false pennyroyal (*Trichostema brachiatum*), all listed as Endangered by the Commonwealth.

Finally, the *Important Habitat* section highlights those attributes of the property that are the most critical for habitat, including rare plant and animal species. If you need more information on the habitat significance of a particular property, especially if it is mapped as rare species or priority habitat, you can contact the Natural Heritage and Endangered Species Program for more

information. They will often request a copy of a topographic map with the property delineated on it. In addition, the landowner may have a listing of species that occur on the property or there may be good natural resources inventory data available that is available to the holder. Include this information in this section of the Baseline Documentation Report. If invasive species are present that could threaten the conservation values of the



property this is a good place to note the species that pose a potential threat to the property and any management recommendations if these species could threaten the conservation values of the property.

The Baseline Documentation Report should contain several different types of **Site Maps**, including:

- ☒ a map showing the parcel boundaries (drawn digitally or by hand) on a USGS topographical map
- ☒ a map of the boundaries over an aerial photograph taken near the date of the recording of the restriction
- ☒ any available surveys or site plans, or a navigation map that shows the corner monuments and the distances and directions of all boundary lines.

In addition to these maps, there may be other site-specific maps of the property that should be included including forest cover maps, floodplain maps and other resource information.

Photopoint Map: The Photopoint Map shows the location of each photopoint and may also include the direction of each photograph. A sample Photopoint Map made using GPS and GIS appears in Appendix B. If using GPS, the photopoint locations can be exported from the GPS receiver to GIS and then printed over a USGS topographical map or aerial photograph. Photopoints that were not recorded using the GPS receiver but were tied to boundary monuments can be added using the survey measurements and GIS measuring tools. A sample hand-drawn photopoint map for those not using GIS and GPS is found in Exhibit A.

Table of Photopoint Locations: If Photopoints have been gathered using a GPS unit, print out a list of Photopoint Locations in latitude and longitude or Universal Transverse Mercator (UTM) coordinates so that the photopoints can be manually entered into a GPS receiver and relocated in the future. If the photopoints have been exported to GIS, save a copy of the file so that these points can be easily up-



	loaded to a GPS receiver for future monitoring. Photolog: The Photolog is comprised of the baseline visit site photographs captioned with the photopoint number, photograph number (if digital, JPEG), compass bearing, and a brief description. The first page of the Photolog should bear the legend “All photographs taken on (date) by (name), (title)”. A photograph caption might read: “Photopoint 7, JPEG 32, Azimuth 50 Degrees: View northeast along boundary wall, showing woods road entering property from the west. The restricted area is to the left of the wall” An example of Photolog can be found in the sample Baseline Documentation Report in Appendix B. If digital photographs were taken, the Photolog may be prepared by importing the digital image files (e.g., JPEGs) into a word processing program, then adding a caption to each. Digital image files should be downloaded from the camera directly into a folder with the property name, and then written to a non-rewriteable compact disk signed by the photographer. This compact disk should be stored along with the archived original Baseline Documentation Report (see subsection H below). Complete and sign the Photographer’s Affidavit as well (see example in Appendix B). If film photography is used, one set of prints should be made for each copy of the Baseline Documentation Report. Every print of each photograph must be annotated with the roll and negative number, and arranged in an archival quality protective photo sleeve. The negatives should be protected in archival quality negative sleeves, labeled with roll and photo number, signed and dated, and placed into the Archive copy of the Baseline Documentation Report (discussed under Baseline Documentation Report Distribution and Storage, below). Complete and sign the Photographer’s Affidavit (see sample in Appendix B). Copies of the <i>Executed Conservation Restriction</i> and <i>EOEA Application and Approval Letter</i> are included in the Report for ease of reference. Affidavits: An affidavit is a written statement, generally sworn to in the presence of someone authorized to administer an oath
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such as a notary public. Affidavits are signed by the preparer of the Baseline Documentation Report, the photographer, the landowner and the holder, so that all parties have acknowledged the accuracy of the Baseline Documentation Report. They attest that the materials in the report accurately depict the condition of property at the time of the recording of the conservation restriction. Affidavits may be used to support the validity of a Baseline Documentation Report in future litigation especially if the grantor, preparer or photographer are not available to testify. Sample Affidavits appear in Appendix B.

G. Internal Review and Approval Process

Before the Baseline Documentation Report is sent for the landowner's or grantor's signature, each section should be thoroughly reviewed by another individual conversant with conservation restrictions and familiar with the property. Any errors or inconsistencies in the report, however minor, may be used to undermine its authority in the event of litigation over a violation. It is particularly important to review the Photolog and Photopoint Map to see that the captions accurately describe the location and direction of the photographs. It is also important to ensure that any Conservation Restriction Abstract is a complete and accurate summary of the terms of the restriction itself, as monitors will rely on the Abstract as a reference during future fieldwork.

After internal review, send the draft Baseline Documentation Report to the landowner(s) for review and signature. The holder's, preparer's and photographer's affidavits contained in the draft should be signed and notarized to demonstrate that the holder is willing to be held to the same standards. Enclosing a self-addressed stamped envelope will increase the likelihood that the document will be signed and returned quickly. Follow up on any outstanding reports to be sure they are returned in a timely manner, and if the landowner refuses to acknowledge the report, try to find out why, and include that in the report (of course, if the landowner points out a deficiency or error, it should be corrected). If the landowner refuses to sign the report, try to find another individual that will attest to the accuracy of the document.

H. Baseline Documentation Report Distribution and Storage

Once the Baseline Documentation Report has been completed and signed, it should be retained permanently by the holder of the conservation restriction. To ensure that it is not accidentally lost, the original signed document should be printed on archival paper and stored in a secure waterproof, fireproof file cabinet. In addition, an electronic copy of the Baseline Documentation Report should be written to a non-rewritable CD or other electronic media and placed – along with the original CD of digital photographs or film negatives – in a separate but similarly secure storage area. Copies should be sent to the landowner and any co-holders of the conservation restriction. A *Field Notebook Copy* of the final Baseline Documentation Report should be kept by the holder in a three-ring binder for use in future monitoring. Using plastic sleeves, arrange the pages back to back so that they are easily accessible in the field. The copy of the conservation restriction itself is seldom used in the field and may be fitted in to a single sleeve. As discussed in the next Section of the Manual, this Field Notebook serves as dynamic record of the property, and will be updated from time to time with monitoring reports, additional photographs taken during monitoring visits, and documentation of various landowner contacts.

I. Creating Baseline Documentation Reports for Older Conservation Restrictions

In the past, the importance of preparing such comprehensive baseline documentation for conservation restrictions was not so widely recognized and little information was gathered beyond that needed for review and approval by the EOEA Division of Conservation Services. With the increased emphasis on the importance of this information to long-term stewardship of conservation restrictions, many holders of conservation restrictions have recently completed, or are in the process of completing, baseline documentation for restrictions that were recorded in the past. These reports take advantage of historical aerial photos and various affidavits to establish – as best as possible – the conditions of the land at the time the conservation restriction was recorded.

If the Baseline Documentation Report was not completed at the time of the recording of the conservation restriction and the property has not been transferred or sold in the meantime, then the landowner should be asked to sign an affidavit attesting to the fact that the report is an accurate description as of the date of the recording and as of the date of the report, and describing changes that have occurred in the property (if any).

The report should include an aerial photograph taken near the date of the original grant. Other plans may also be helpful in establishing the original condition of the property, including older plans recorded at the Registry of Deeds, farm or forest management plans, and similar documents.

If the property has been sold or transferred since the date of the recording, it still may be possible to obtain an affidavit from the original grantor, if they can be found and are willing to sign such an affidavit. As an alternative, the current landowner should be asked to sign an affidavit attesting that the Report is an accurate description as of the date they took title to the property. If the signature of the original grantor of the conservation restriction cannot be obtained, someone with knowledge of the property around the time the conservation restriction was recorded (e.g., a neighbor or town conservation commissioner) should be asked to sign an affidavit attesting that the Report is accurate as of the date of the recording.



Section 5

Conservation Restriction Monitoring

As was noted in Section 2 of this Manual, regular monitoring of conservation restrictions is an essential component of sound conservation restriction stewardship. The monitoring process creates the opportunity to educate the landowner about land stewardship and protection, to learn whether land has changed hands and to help educate successor owners about the terms of the conservation restriction. Regular monitoring also helps prevent violations by maintaining the landowner's awareness of the restriction, and by letting neighbors and others know that the land is being periodically inspected. The more frequent the monitoring, the earlier any violations will be detected. These violations may be the result of actions (intentional or unintentional) by the landowner, by abutters or by third parties. Detecting violations soon after they occur may enable the holder to minimize harm to the conserved resources and the landowner to more easily restore the property to its required condition.

Land conservation organizations agree that monitoring should occur regularly – at least once per year for each property. **In order to build a useful record of property conditions over time, monitoring must be conducted using consistent practices and documentation procedures from one year to the next.** The monitoring process involves many of the same tasks involved in creating the original Baseline Documentation Report. See Appendix A for a discussion of the use of GPS, GIS, and aerial photography, and tips on boundary location.

A. Preparing for Monitoring Visits

Determine which properties are due for a monitoring visit (see Subsection F below). Depending on the size and location of the properties involved, it may be possible to group properties to minimize travel time and monitor several properties in a single day.

Contact each of the landowners by mail at least two weeks prior to the intended visit date, or in accordance with the notification

provision in the conservation restriction. A sample Annual Monitoring Notice Letter that can be tailored to meet the needs of your agency or organization can be found in Exhibit B. Put a copy of the notice letter in the Field Notebook Copy of the Baseline Documentation Report.

If the recipient calls to report a change of ownership, or the letter is returned due to change of address, identify the new owners via the town assessor's office or Registry of Deeds. Note the new owners in the Field Notebook, and contact them by mail.

If there has been no response to the initial contact, follow up by telephone one week prior to the visit to remind the landowner of the date and time of your visit. Make a note of the date and time of each call, and whether or not you spoke with the landowner or left a message. File these notes in the Field Notebook.

Review the Conservation Restriction History, Abstract, Property Conditions Report and any Monitoring Reports in the Field Notebook to prepare for the monitoring visit. Note in particular whether there were any issues from the last monitoring visit that require follow up. Look at the latest available aerial photographs, and compare them to the aerial photographs in the Field Notebook and note any apparent changes.

Make a list of areas to visit such as important natural features, boundaries subject to trespass or encroachment, areas of concern from the last monitoring report, changes noted in the latest aerial photograph, and reserved areas or building envelopes. Consult the "Suggestions for Key Locations/Features to Inspect" section of the Conservation Restriction Abstract.

Plan a route that will encompass the list of areas to visit and as much of the boundary as possible. Prepare and bring a map of the property on which you will record your route of travel and any photopoints.

Make sure that the Conservation Restriction or CR Abstract, Maps and Photolog in the Field Notebook are filed in a way that makes them easily accessible in the field.

Land Trust Alliance Standards and Practices

Standard 11: Conservation Easement Stewardship

The land trust has a program of responsible stewardship for its easements

Practice 11D: Landowner Relationships

The land trust maintains regular contact with owners of easement properties. When possible, it provides landowners with information on property management and/or referrals to resource managers.

The land trust strives to promptly build a positive working relationship with new owners of easement property and informs them about the easement's existence and restrictions and the land trust's stewardship policies and procedures. The land trust also establishes and implements systems to track changes in landownership.

Exhibit B — Sample Annual Monitoring Notice Letter

May 10, 2005

Mr. Bob Landowner
34 Peaceful Meadows Lane
Ripton, MA 02515

Dear Mr. Landowner:

Our records indicate that you are the owner of land in Ripton that is protected by a conservation restriction held by the Ripton Land Trust. If you are no longer the owner of this property, please contact my office and provide us with any contact information you may have for the new landowner.

On June 13th at 10 am, Joe Landtrust from our office will be conducting our annual monitoring visit and will be visiting the property to walk the boundary lines and evaluate the condition and status of the land. If your schedule permits, you are welcome to join us for part or all of this inspection.

Please call me at 413-555-1212 if you would like to reschedule the visit for a more convenient time or if you have any other questions or concerns.

Sincerely,

Jane Landtrust
Conservation Restriction Stewardship Coordinator

B. Monitoring Field Work

If the landowner lives on or near the property, stop by to let them know that you are on site before you begin. If they are not home, leave a note on their door or on your car letting them know that you are on the property. As you talk with landowners before or after the site visit, it is advisable to avoid making any definitive statements about the condition of the property. The annual monitoring visit is an opportunity to meet and talk with the landowner to see if they have any questions about the conservation restriction or management of the property. The landowner may want to discuss plans for exercise of a reserved right, may be unclear about boundaries, or may be planning to transfer ownership of the property. Even if the landowner is unable to accompany you on the monitoring visit, a follow up conversation can identify important issues that require further discussion and that will help ensure that the conservation values of the property are maintained.

As you walk the boundary of the area to be monitored, you should set your GPS receiver (if you have one) so that it will document your route of travel by automatically recording waypoints at fixed time or distance intervals. If you don't have a GPS, trace your route of travel on a map of the property.

Take photographs of any suspected violations. Use the GPS receiver or your map to record the location of each photograph. Note any violation or change you are documenting along with the photopoint number, JPEG and compass bearing in the same manner as discussed in Section 4 on Baseline Documentation Reports.

Some holders take a small number of representative photographs at prior photopoints on each monitoring visit. Others only take photographs if there appears to be a violation or change in the condition of the property that requires documentation. To document a prior photopoint, use the photopoint map or the coordinates shown in the Photopoint Locations and the GPS receiver to locate the point, orient the camera using the compass bearing from the Photolog, and adjust the zoom to approximate the scale of the prior photo.

CONSERVATION RESTRICTION MONITORING CHECKLIST

Prior to visit:

- ◆ Contact the landowner
- ◆ Review baseline documentation and past monitoring reports
- ◆ Gather materials:
 - * Monitoring Field Notebook containing baseline and copies of previous *Monitoring Reports* and photographs
 - * Survey, plans, and/or maps
 - * Clipboard and writing implements
 - * Camera, batteries, film, memory sticks
 - * Compass & 100' measuring tape
 - * Flagging tape
 - * GPS, if available
 - * Plastic sleeves for important documents if wet conditions are expected

During the visit:

- ◆ Check in with the landowner
- ◆ Walk areas of greatest concern:
 - * Boundaries with abutters
 - * Interior trails/roads
 - * Buildings included in the restricted portion of the property
 - * Boundaries of excluded areas or building envelopes
 - * Other easily accessed areas
- ◆ Photograph any potential violations and any changes in the property

After the visit:

- ◆ Prepare monitoring report
- ◆ Document and label photographs
- ◆ File material as appropriate
- ◆ Follow up with landowner

**Land Trust Alliance
Standards and Practices**

Standard 11: Conservation
Easement Stewardship

The land trust has a program of responsible stewardship for its easements

Practice 11G: Contingency
Plans/Backups

The land trust has a contingency plan for all of its easements in the event the land trust ceases to exist or can no longer steward and administer them. If a backup grantee is listed in the easement, the land trust secures prior consent of the backup grantee to accept the easement. To ensure that a backup or contingency holder will accept an easement, the land trust has complete and accurate files and stewardship and enforcement funds available for transfer.

Practice 11H: Contingency
Plans for Backup Holder

If a land trust regularly consents to being named as a backup or contingency holder, it has a policy or procedure for accepting easements from other land trusts and has a plan for how it will obtain the financial resources and organizational capacity for easements it may receive at a future date.

C. Maintaining Boundaries

Clearly marked boundaries facilitate monitoring and reduce trespassing and encroachment — and therefore the potential for violations of the conservation restriction. In accordance with the terms of the conservation restriction and with prior permission from the landowner, minor boundary maintenance can be done as part of the monitoring fieldwork.

Plastic flagging can be used to mark blazed trees, the remnants of wire fencing and corner pins. Flagging is inexpensive, easy to carry, and usually remains visible for two to three years unless removed. Paint can also be used to refresh old blazes. If the terms of the conservation restriction allow it and with the landowner's consent, signs may be posted along the boundary lines indicating the property's protected status, the holder's name and contact information. An example of such a boundary marking is shown below.



D. After the Monitoring Visit – Preparing Monitoring Reports

It is important to prepare a brief report documenting each monitoring visit for inclusion in the Field Notebook for the property. This report should include a map showing the route of travel during the monitoring visit. It should also show locations of any photos taken or issues noted in the field, with recommendations for follow up. An example of a monitoring report including a route of travel and affidavit can be found at the end of this Section.

After your visit, you should download the route of travel and any photopoints from the GPS receiver, differentially correct the data and export it to the GIS. Using GIS or a hand drawn map, create a map showing the route of travel, any new photopoints, and the conservation restriction boundaries. If using GPS, print an accompanying table of Photopoint Locations (UTM or Latitude and Longitude).

Create a Photolog of any pictures taken in the field with captions showing photopoint, photograph number, compass bearing and comments (e.g., Photopoint 7, JPEG 2, Azimuth 320 degrees: “View northwest showing apparent clearing along edge of field”). Be sure to include a brief description of any violation or encroachment (or other issue) that is the subject of any photographs.

Prepare a final copy of the Conservation Restriction Monitoring Report (a sample is below, see Exhibit C) and file one copy of the report, maps, photographs, and a signed and notarized copy of the Preparer’s Affidavit (see Exhibit D) in the Field Notebook. Store the originals in the same place as the original Baseline Documentation Report for safekeeping.

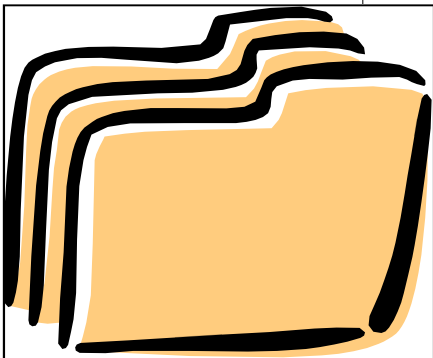
Note that some conservation restriction holders send copies of monitoring reports to landowners. Others do not because of the concern that these reports may be considered to be a form of estoppel certificates (as discussed in Section 6), and so may make it difficult to correct a violation overlooked in one monitoring visit, and discovered during a subsequent visit. These issues should be taken into consideration in crafting

any follow up letters. If the landowner is not present at the monitoring visit, write a follow up letter letting the owner know that you completed your annual monitoring visit of the property.

E. Monitoring Record Keeping

As noted in Section 4H above, the original hard copy of the Baseline Documentation Report, and a copy of the report and photographs on a non-rewriteable CD should be permanently archived in a secure waterproof, fireproof file cabinet in a different location than the Field Notebook. In the event that these files and photographs are transferred from CD to another storage medium, the process should be documented by affidavit to establish that the images have not been altered, and both the new media and the original compact disk should be archived together. Film negatives should also be permanently archived with the original Baseline Documentation Report.

Monitoring Reports should be maintained in the same way, with the original placed in permanent, secure storage and a copy kept in the Field Notebook for the property. While the original Baseline Documentation Report is a static record of the property as of the date of the recording, the Field Notebook serves as a dynamic record of the property from the date of the recording to the present, containing information about how the property has changed over the years and about any actions necessary to ensure compliance with the terms of the Conservation Restriction. The Field Notebook and the permanent conservation restriction file should both be updated regularly to include:



- ☒ completed monitoring reports (including any photographs),
- ☒ documentation of any contact with the landowner other than site visit notices, and
- ☒ notes, memoranda and correspondence regarding any potential violations.

F. Tracking Baselines and Monitoring

A simple spreadsheet or database program can be used to track the progress of the preparation of Baseline Documentation Reports and monitoring. Some key fields are shown below and on the following page:

Conservation Restriction Information

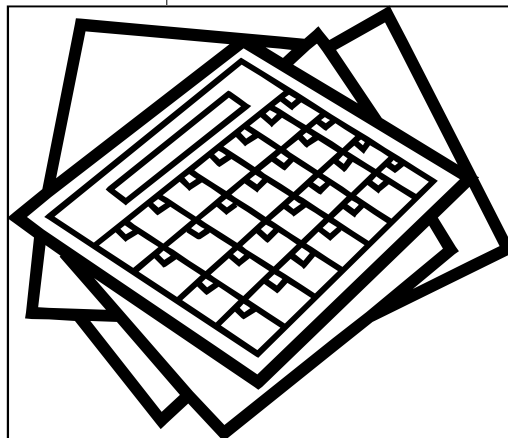
Date of Recording (date)
 Conservation Restriction Reference (book, page)
 Deed and Plan References (book, page)
 Tax Map Reference (map, lot)
 EOEa CR Number
 Current Landowners (name, address, phone)

Baseline Preparation Tracking

Conservation Restriction Abstract Completed (yes, no)
 Directions to Site Completed (yes, no)
 Site Map or Plan (yes, no)
 USGS Topographical Map (yes, no)
 Aerial Photograph (date flown)
 Date Report Due (anticipated completion date)
 Landowner Site Visit Notice Sent (date)
 Landowner Contact Comments (e.g. "left message 12/31/05")
 Site Visit Date (date)
 Photolog Completed (yes, no)
 Property Conditions Completed (yes, no)
 Baseline Documentation Sent for Internal Review (recipients initials, date)
 Baseline Documentation Sent for Signature (date)
 Baseline Signed (yes, no)
 Baseline Archived (yes, no)
 Required Follow Up (e.g. "northeastern boundary should be repainted")

Monitoring Tracking

Monitoring Visit Deadline (generally one year from last Visit Date)



	Landowner Site Visit Notice Sent (date) Landowner Contact Comments (e.g. “left message 12/31/03”) Monitoring Visit Date (date) Monitoring Report Archived (date) Summary of any Issues with Required Follow Up (e.g. “follow up re clearing along western boundary”) Date of Required Follow Up Other Estoppel Requested (date) (See Section 6) Estoppel Sent (date) Notice of Action (date, describe) Response to Notice (date, describe) Using a consistent convention for naming digital files also facilitates project tracking. A hierarchy such as town/grantor/ contents works well (e.g. GraftonSmith folder contains GraftonSmithJPEGs, GraftonSmithPropertyconditionsreport.txt, GraftonSmith2005Monitoring Visit.txt, etc.). If desired, the files for each project can then eventually be linked via links to a web page, allowing access of images as well as text from a web browser. G. Monitoring Situations that Require Special Attention — Subdivision Open Space Many municipalities across the country have adopted land use regulations that permit greater density of development in return for the set aside of permanently protected open space, or such a set-aside of open space may be otherwise negotiated during the permitting process. In other circumstances, a landowner might agree to conserve land in areas not suitable for development in order to make the subdivision more appealing to potential homeowners or in order to meet community goals and expedite the permitting process. While such land is often conveyed outright to the municipality or a land trust, it sometimes remains in private (or association) ownership subject to a conservation or other restriction. In the past, some municipalities have permitted the requirement of a restriction to be met with a simple deed restriction. While this
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may be the easiest alternative in the short term, problems can arise unless the restriction is re-recorded in accordance with Chapter 184, as described in Section 2 of this Manual. In practice, it is difficult for most municipalities to ensure that such re-recording occurs. As a result, a “true” conservation restriction, approved by the Secretary of Environmental Affairs is generally the preferred solution (and arguably is the only way to meet the statutory requirement for a “permanent” restriction on the open space.

Three aspects in particular make subdivision open space conservation restrictions more difficult to monitor and more prone to violations: 1) infrastructure, 2) intense use, and 3) ambiguous responsibility for managing the restricted land.



☒ **Infrastructure-** Particularly if the development is clustered, the open space may contain utility lines and other infrastructure such as septic systems, drainage basins and piping, retention ponds, sewer lines and other infrastructure. These eventually require maintenance and repair, and this may lead to inadvertent violations as contractors may not be aware of the existence or terms of the restriction.

☒ **Intense Use-** Open land abutting heavily developed areas is always subject to intense use. Some uses are benign, such as walking on authorized trails. However, other uses may be harmful to the conservation values, including the construction of unauthorized trails, inappropriate uses of the property such as riding motorized vehicles, destruction of vegetation (to expand a lawn, for example) and dumping. This challenge of monitoring and enforcing conservation restrictions in subdivisions is magnified by the fact that the conserved land often abuts the backyards of many dwellings. In such situations there is a need for education of abutters who often dump yard debris, construct sheds, create woodpiles and engage in other activities on the land subject to the conservation restriction. It is important to clearly mark the boundaries of the conserved land with both permanent



For Further Reading:

Working With Your Woodland, Mollie Beattie, Charles Thompson, Lynn Levine, 1993, University Press, Hanover, NH

Legal Aspects of Owning and Managing Woodlands, Thomas J. McEvoy 1998, Island Press. Washington, D.C., Covelo, CA

Digitally Documenting Baseline and Stewardship Data, Eric Erler, Exchange, Fall 2000, Land Trust Alliance

Records Policy and Management: A Key Aspect of Protecting Land "in Perpetuity", Darla Guenzler, Exchange, Fall 2000, Land Trust Alliance

boundary markers (this should be required when the subdivision is developed) and with signs denoting the existence of the restricted area — and ideally providing the name and contact information of the organization or agency to contact about the restriction. Clearly marking the entire boundary can help prevent violations, particularly if the boundary is marked with signs referencing the restriction. Boundary markings also facilitate monitoring and will help put abutters and others on notice that this area is not theirs to use as they please. Additional information about boundary signage can be found in Subsection C above.

- ☑ **Ambiguous Responsibility** - The land subject to the conservation restriction may be commonly owned and managed by a homeowner's association or condominium association that has little interest in policing the use of the property — and regularly changes in leadership and membership. As a result, developing an ongoing relationship with such an association in these situations is important, but may prove difficult. An even worse situation occurs when the conservation restriction overlays a large number of individual lots. Such "backyard" conservation restrictions require regular communication with a large number of underlying fee owners and are challenging to steward.

Organizations and agencies considering whether to accept a conservation restriction on open space within subdivisions or other developments should carefully consider the stewardship responsibilities that will be posed by such a restriction. Involvement early in the planning process is critical, while there is an opportunity to shape the configuration of the open space and address any known management issues. In some cases, the land may be so significant that a conservation restriction is appropriate and helpful in assuring the permanence of the open space. However, attention should be given to securing sufficient funds for the preparation of a Baseline Documentation Report and regular monitoring. Stewardship funding is addressed in more detail in the next section of this Manual.

Exhibit C-Sample Monitoring Report

Monitoring Visit Report

APCC Conservation Restriction

Barnstable, MA

October 22, 2004

I visited the APCC conservation restriction on October 21st, 2004 and followed the route of travel shown on the attached exhibit (tracked via global positioning system receiver). Heavy equipment used to assess and install permitted test wells (located at points 1 and 2 on the exhibit) have created two new trails into the property from Lumbert Mill Road, visible in the route of travel. I will contact the town and ask that they consider installing barriers at these points to prevent access by motorized vehicles.

The edge of the property along Route 28 has been cleared and planted with blueberry bushes and other plants (point 3). The photographs below show the frontage along Rte. 28 toward Lumbert Mill Road from two different vantage points on September 8th, 2003 and October 21st, 2004. At the next monitoring visit, the highway bounds should be located to determine if any of this clearing is on the town owned land subject to the conservation restriction.



Photograph taken October 21, 2004 from point 3 on attached exhibit.



Photograph taken September 8, 2003, from along Rte. 28 west of photograph above.

Exhibit C-Sample Monitoring Report Continued (Route of Travel Map)

APCC Conservation Restriction Monitoring Route of Travel December 15, 2005



0 200 400 600 800 1000 1200 1400 1600 1800 2000 2200 2400 Feet



Exhibit D— Affidavit of Preparer of Monitoring Report

Property: _____

AFFIDAVIT OF PREPARER**OF****MONITORING REPORT**

The undersigned hereby certifies 1) that he/she prepared the accompanying Monitoring Report dated _____ pertaining to the above-described Property protected under a Conservation Restriction dated _____ and recorded at the _____ Registry of Deeds in Book ____, Page ____, 2) that based on all the information cited in said Report, that said Report is an accurate representation of the Property and its conditions as of the date of said Report.

The undersigned further states and affirms 1) that the condition of the Property documented in said Monitoring Report does not necessarily represent the condition of the Property allowed or required by the Conservation Restriction, and 2) that the _____ [organization/municipality] does NOT in any manner waive any rights of the _____ [organization/municipality], either at law or in equity, to enforce the provisions of said Conservation Restriction.

Signed and sealed under the pains and penalties of perjury this ____ day of _____, 2006

By: _____

Name and title

COMMONWEALTH OF MASSACHUSETTS

On this ____ day of _____, 2006, before me, the undersigned notary public, personally appeared the above-named _____ and made proved to me through satisfactory evidence of identification, which was _____, to be the person whose name is signed on the document, and acknowledged to me that she/he signed it voluntarily for its stated purpose.

SEAL

Notary

My Commission Expires: _____



Section 6

Administering Your Stewardship Program & Cultivating Landowner Relationships for the Long Term

To reduce the likelihood of violations, it is important to be in regular contact with landowners via monitoring visits, telephone, and mail. Such regular contact will remind landowners of the restrictions on their property, and more quickly identify transfers of restricted properties. These contacts also help to foster the long-term relationship between the organization or public agency that holds the conservation restriction and the landowner, who is ultimately responsible for the day to day stewardship of the land.

This section of the Manual addresses a variety of topics that relate to administration of a conservation restriction stewardship program, and long-term outreach and communication with owners of restricted properties. These include exercise of reserved rights that require approval, handling suspected violations and requests for amendments, and securing funding for the stewardship and defense of conservation restrictions.

A. Stewardship Options: Staff, Volunteers, or Consultants?

As organizations and public agencies develop more formalized stewardship programs, they will need to consider the best method for addressing conservation restriction stewardship needs. The three principal options are dedicated staff, volunteers, or consultants. The best choice will depend on the number of conservation restrictions held by the organization or agency, the availability of funds, and the level of expertise of volunteers or staff. In some cases a combination of options will be best. Some issues that should be taken into consideration in making the decision are:

- ☒ How will stewards be trained? Who will ensure that the work that is done is of sufficient quality and consistency?

Who will recruit, screen, and train volunteers, and review the work that is done?

- ☒ Does an existing volunteer or staff member have the needed technical skills to do this work (or will they learn them) or would it be more efficient and cost-effective to hire someone to do this work?
- ☒ What is the best way to ensure consistency and continuity – both in relationships with landowners and in the quality of the work? For example, the amount of time needed for monitoring is likely less if the same individual is doing this work every year and does not have to become familiar with the property boundaries and issues each year.
- ☒ Might dividing the work be an option? For example, a consultant could be hired for the time-intensive work needed to produce the Baseline Documentation Reports, with a board member or volunteer responsible for annual monitoring. Or, a volunteer might do some of the legwork to gather information, handle correspondence with landowners, or input information into a database so as to reduce the amount of consulting assistance that is needed.
- ☒ What authority will those monitoring in the field have to communicate with landowners and resolve violations? Are they knowledgeable enough to answer landowner questions about land management and land protection options? Are there others to whom they can refer the landowner for answers or information? Volunteer board members and staff members may have an advantage over consultants in this situation.

Many land trusts and conservation commissions rely solely on volunteers to accomplish their work. Many larger organizations and agencies have trained staff that are responsible for conservation restriction stewardship. The best solution needs to be individually determined by each organization and agency as they consider which approach — or combination of approaches — offers the best “fit” given budgetary, personnel and time considerations.

B. New Landowner Contacts

Landowners often don't inform holders when land subject to a conservation restriction changes hands, even though this is required by the terms of most conservation restrictions. Typically, changes of ownership are discovered when annual monitoring visit notice letters are returned. New landowners are usually made aware that there is a conservation restriction on their property as a result of title research prior to purchase — but they may not fully understand what this means — and may inadvertently violate the terms of the restriction as a result. Some organizations routinely remind landowners in correspondence to the holder know if they have any plans for the sale of their properties. This can occur as part of the annual notice of monitoring site visits.

When a new landowner is identified, they should be sent a letter introducing the organization or agency that holds the conservation restriction, along with a copy of the conservation restriction itself and the Baseline Documentation Report (see an example in Exhibit E). The letter should briefly summarize the key terms of the conservation restriction, refer them to the actual CR for details, and describe the annual monitoring process. It is a good idea to meet with the landowner during or in advance of the next scheduled monitoring visit to ensure that he or she fully understands the terms of the conservation restriction and understands that it will result in an ongoing relationship with the organization or agency that holds the restriction. The new landowner should be invited to contact the holder if he/she has any questions or concerns about the terms of the conservation restriction, or to inquire about whether certain activities are allowed prior to undertaking them.

C. Estoppel Certificates

An *estoppel certificate* is a document in which a holder of a conservation restriction certifies to a potential buyer or lender that the condition of a restricted property is in conformance with the terms of the conservation restriction. The landowner might request an estoppel certificate just prior to a sale of the property, or after some significant change in property conditions

Exhibit E— Sample New Landowner Letter



Date

Mr. John Smith

Address

City, State Zip

Dear Mr. Smith:

Our records indicate that you recently purchased land in XXXX[municipality]. The property is listed as tax map XX lot XX. I assume that you are aware that this land is subject to a conservation restriction (CR) held by the [town/land trust] which is responsible for monitoring and enforcing the terms of the conservation restriction.

I am enclosing a copy for your files. The CR was conveyed to the [agency/organization] on XXXX[date] and is intended to protect certain conservation interests of the land in perpetuity.

Once a year, you should expect to receive a letter notifying you of the [agency/organization]'s plans for visiting your property to monitor compliance with the terms of the CR. You are welcome to join us for this field visit, and we will work with you to determine a time that will be mutually agreeable.

In the meantime, I would like to schedule a visit with you at your convenience to review the terms of the CR and our respective roles. I will be contacting you shortly to arrange a mutually convenient time for such a meeting. In the meantime, please feel free to contact me at XXX-XXX-XXXX if you have any questions about the conservation restriction or the annual monitoring process.

We look forward to working with you.

Sincerely,

CR Stewardship Specialist



Exhibit F— Sample Estoppel Certificate



Estoppel Certificate

This is to certify that on [date], I [title], of the [name] Agency/Organization, conducted a physical inspection of land subject to a conservation restriction, described in a Conservation Restriction on [name of property; location] from [grantor] to [owner], dated, and recorded on , in Book , Page at the [County] Registry of Deeds. Accompanying me on this site inspection were and [title/owner].

I am familiar with the terms and restrictions of said conservation restriction, which is to my knowledge in full force and effect and neither amended nor released. Upon such inspection I found the premises to be in compliance with the terms and conditions of the aforementioned conservation restriction, except, [list any problems found], subject only to any breach which would not be apparent by an on-site visual inspection of the surface of the premises, and excepting:

1. any conveyances, liens, restrictions, proceedings or other facts affecting the premises which would be revealed by an examination of the record title of the premises;
2. any unrecorded conveyances affecting the premises, or any proceedings in bankruptcy or eminent domain affecting the premises;
3. any unpaid real estate taxes on the premises, due and payable;
4. any debts incurred on the premises which might ripen into liens; and
5. any breach of the conservation restriction of which the owner [name] has actual knowledge.

The original Grantor and Owner prepared and certified as accurate on [date], an inventory of the Premise's relevant features and conditions (the "Baseline Documentation Report") as of the date of the grant, on file with Owner, and incorporated herein by this reference. This certificate indicates that no material changes have occurred on the Premises since that time.

OR

Material changes that have occurred since that time are documented in a *Monitoring Report Form*, prepared and certified by owner and the current owner as an accurate representation of the condition of the Premises as of the date of the above-mentioned inspection. This estoppel certificate is based on the condition of the Premises as documented in the Baseline Documentation Report, as revised by the *Monitoring Report Form*, incorporated herein by this reference.

Agency/Organization By its: (name/title)

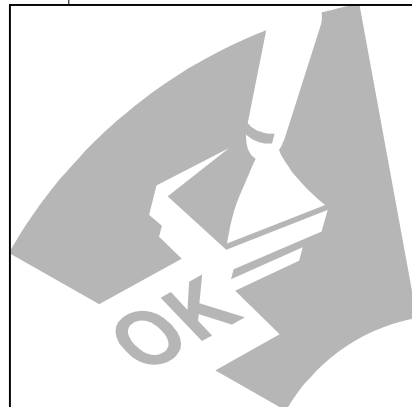


(e.g. construction within a building envelope) even if the landowner is not selling the property. Conservation restrictions often have a provision requiring the holder to issue such a certificate within a specified period of time after the request by the landowner. Estoppel certificates should only be issued after a site visit and a careful review of the Baseline Documentation Report and any monitoring reports (and consultation with counsel if necessary) because, by issuing it, the holder waives its right to claim any violations based on conditions prior to its issuance. An updated monitoring report form should be completed, signed by the preparer, and filed in the Field Notebook along with the estoppel certificate. A sample Estoppel Certificate appears as Exhibit F.

D. Approvals of Permitted Activities

Many restrictions require landowners to notify the organization or public agency that holds the conservation restriction before a certain activity or use can occur on the property. Some restrictions require an additional step of approval by the holder of the restriction for certain activities. These are called “notice” and “notice and approval” provisions. An example might be “creation of additional hayfields provided that 30 days notice is given to grantee” or “cutting of timber pursuant to a forest management plan approved by the grantee”.

When a *notice* is received, the conservation restriction should be reviewed to verify that the planned activity is allowed. A reply should be sent to the landowner acknowledging receipt of the notice, and asking for clarification of the proposed activity if necessary. A site visit may be needed to verify that the proposed activity will not be in violation of the terms of the conservation restriction. Any photographs taken during such visits should be documented as during baseline documentation and monitoring field visits. The notice, reply and any photographs should be filed in the Field Notebook and permanent file. If the activity being proposed is not allowed by the conservation restriction or will adversely affect the conservation values of the property, the landowner should be sent a certified letter noting that the proposed activity or use is not consistent with the terms of



<i>Land Trust Alliance Standards and Practices</i> <u><i>Standard 11: Conservation Easement Stewardship</i></u> <i>The land trust has a program of responsible stewardship for its easements</i> <u><i>Practice 11E: Enforcement of Easements</i></u> <i>The land trust has a written policy and/or procedure detailing how it will respond to a potential violation of an easement, including the role of all parties involved (such as board members, volunteers, staff and partners) in any enforcement action. The land trust takes necessary and consistent steps to see that violations are resolved and has available, or has a strategy to secure, the financial and legal resources for enforcement and defense.</i> <u><i>Practice 11F: Reserved and Permitted Rights and Approvals</i></u> <i>The land trust has an established procedure for responding to landowner required notices or requests for approvals in a timely and consistent manner, and has a system to track notices, approvals and the exercise of any significant reserved or permitted rights.</i>	the conservation restriction. An explanatory call in advance of the letter may be helpful in terms of maintaining a good working relationship with the landowner. In the event that the activity is permitted by the conservation restriction, a response is not required, but may be desirable in the interest of maintaining strong lines of communication with the landowner, confirming the limits of the activity, letting the owner know that the organization or public agency takes its stewardship responsibilities seriously, and documenting the exercise of this right for the file. In the event of a <i>notice and request for approval</i> (as opposed to a simple notice), a written response is required, generally within a timeframe specified in the conservation restriction (often 30-60 days). The organization or agency that holds the conservation restriction should carefully evaluate the request and its consistency with the terms of the conservation restriction. A site visit is likely to be necessary to review the location of the proposed activity and how it may affect the land protected by the conservation restriction. The response to the landowner should specify how the decision addresses the protection of the conservation values of the property, and any conditions being placed on the action in conjunction with the approval to protect these values. If questions arise or more information or clarification is needed, this should also be communicated to the landowner. Be sure to keep any deadlines in mind, particularly if the CR specifies that if no response is received within a specified period of time, the activity is deemed approved. As above, copies of the request and response to the request should be filed in the Field Notebook and the permanent files for the conservation restriction. A follow up site visit may be needed to ensure that the work was done in accordance with the approval, or it may be possible to incorporate this review into the annual monitoring visit. E. Violations Violations range from those that are inadvertent and generally innocuous (e.g., temporary storage of brush within a restricted area) to deliberate and damaging (e.g., filling of wetlands or construction of structures not allowed by the conservation restriction). They may result from the activities of the owner of the
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restricted property, from the activities of an abutter encroaching over the property line, from a third party who is unaware of the terms of the conservation restriction, such as a landscaping company or ATV user, or from an unanticipated incident such as a plane crash or release of hazardous material.

Some violations are discovered during annual monitoring visits. Other potential violations may come to the attention of the holder by the report of a neighbor or other third party. All potential violations should be investigated to determine whether an actual violation has occurred. Sometimes a second opinion may be helpful in making this determination, particularly if the wording of the conservation restriction is ambiguous. The majority of violations can be handled by a cooperative effort between the landowner and holder, while others may only be resolved through litigation. The appropriate reaction by the holder depends on the severity of the violation and the threat that it poses to the conservation values that are protected by the restriction. However, wherever feasible, a goal of enforcement should be to protect the conservation values of the property while maintaining a positive working relationship with the landowner.

All possible violations, no matter how minor, should be addressed systematically according to written procedures and policies and by the individual at an organization or agency with authority to handle potential violations. These procedures should address the process that will be followed for resolution of violations and related issues such as contact with the press. Information on development of an Enforcement Policy is contained in Appendix D. If a violation is identified but not formally resolved, such inaction may later be interpreted by a court as a waiver of the holder's right to enforce certain terms of that restriction. Other landowners may look at an organization's or agency's "pattern of conduct" in enforcement; inconsistent handling of violations may undermine that agency or organization's credibility or its case in an enforcement action.

When a potential violation is found, it should be documented as thoroughly as possible. If previous photographs of the affected area were taken at the time the Baseline Documentation Report was prepared or during a previous monitoring visit,

Land Trust Alliance Standards and Practices <u>Standard 11: Conservation Easement Stewardship</u> <i>The land trust has a program of responsible stewardship for its easements</i> <u>Practice 11I: Amendments</u> <i>The land trust recognizes that amendments are not routine, but can serve to strengthen an easement or improve its enforceability. The land trust has a written policy or procedure guiding amendment requests that: includes a prohibition against private inurement and impermissible private benefit; requires compliance with the land trust's conflict of interest policy; requires compliance with any funding requirements; addresses the role of the board; and contains a requirement that all amendments result in either a positive or not less than neutral conservation outcome and are consistent with the organization's mission.</i> <u>Practice 11J: Condemnation</u> <i>The land trust is aware of the potential for condemnation, understands its rights and obligations under condemnation and the IRC, and has appropriate documentation of the important conservation values and of the percentage of the full value of the property represented by the easement. The land trust works diligently to prevent a net loss of conservation values.</i>	relocate these points and take photographs at the same compass bearing and scale. This creates “before” and “after” documentation of the violation. Take additional photographs to more thoroughly document the surrounding area and to provide context (e.g., photograph an area of dumping, and the apparent means of access as well). Document all photographs as described in earlier sections. Once the site documentation of the possible violation has been prepared, it may be necessary to interview neighbors as well as the landowner (or past landowners) to determine who is responsible. Briefly document each conversation in a memorandum, make note of every attempt to contact the various parties, and keep copies of all correspondence. Make note of any deadlines for compliance agreed to by the violator. Whenever possible, violations should be resolved without going to court. Litigation is expensive, time consuming, may take years to resolve, and has an uncertain outcome. Where it is possible to maintain the conservation values by other means such as mitigation by the responsible party or a negotiated resolution, these are preferable solutions. However litigation by the holder of the conservation restriction may be necessary to defend the conservation values of the property if other reasonable means have been exhausted and the landowner has been notified of non-compliance and refused a demand for corrective action. When the violation has been resolved, write a memorandum that describes the violation and how it was resolved. Put a copy in the Field Notebook and permanent file for the property. F. Amendments Amendments to conservation restrictions should be rare and not undertaken lightly. Landowners and holders should assume that the terms of the conservation restriction are perpetual. A conservation restriction may be amended only with the approval of the grantor or landowner, holder, municipality and the Secretary of Environmental Affairs. In some cases, approval of the municipality's legislative body and a 2/3 vote of the state legislature will also be needed pursuant to Article 97
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of the Massachusetts Constitution. The EOEa's policy is to only approve amendments that will strengthen the original conservation restriction, and have no adverse impact on the restriction's purposes or qualification under applicable laws (including section 170 (h) of the Internal Revenue Code, Article 97 of the Massachusetts Constitution, or sections 31-33 of Chapter 184 of the General Laws of Massachusetts).

Experience has shown that it is important for organizations and agencies that hold conservation restrictions to have clear written policies specifying under what circumstances an amendment might be considered and what the process is for processing requests for amendments. The Massachusetts Easement Defense Subcommittee is in the process of drafting a sample amendment policy for Massachusetts conservation restriction holders. Other examples are currently available through the Land Trust Alliance's website. If an amendment is to be granted, the organization or agency should prepare a letter of approval, including a detailed explanation of how the requested amendment meets the criteria above. Early consultation with the EOEa Division of Conservation Services is advisable when any amendment is being considered. Approved amendments should be recorded at the appropriate registry, and a copy put in the permanent file for the property and in the Field Notebook for the conservation restriction.

G. Staffing and Funding Conservation Restriction Stewardship

In order to carry out their stewardship obligations and to identify and resolve future violations, it is critical that every agency and organization that holds conservation restrictions ensures that it has – or is committed to providing – the funds to adequately carry out its stewardship and enforcement obligations.

Conservation Restriction Stewardship Costs: Each organization's stewardship costs differ, as they are a function of many factors including staffing, geographic dispersion of restrictions, and the nature of the restrictions. For every organization, the primary elements that comprise stewardship costs are:

Land Trust Alliance Standards and Practices

Standard 6: Financial and Asset Management

The land trust manages its finances and assets in a responsible and accountable way.

Practice 6G: Funds for Stewardship and Enforcement

The land trust has a secure and lasting source of dedicated or operating funds sufficient to cover the costs of stewarding its land and easements over the long term and enforcing its easements, tracks stewardship and enforcement costs, and periodically evaluates the adequacy of its funds. In the event that full funding for these costs is not secure, the board has adopted a policy committing the organization to raising the necessary funds.

Land Trust Alliance Standards and Practices <u>Standard 11: Conservation Easement Stewardship</u> <i>The land trust has a program of responsible stewardship for its easements</i> <u>Practice 11A: Funding Easement Stewardship</u> <i>The land trust determines the long-term stewardship and enforcement expenses of each easement transaction and secures the dedicated or operating funds to cover current and future expenses. If funds are not secured at or before the completion of the transaction, the land trust has a plan to secure these funds and has a policy committing the funds to this purpose.</i>	☒ Baseline documentation ☒ Monitoring ☒ Administration ☒ Enforcement Baseline documentation is a one-time cost per restriction, the other three are ongoing. Monitoring and administration costs can be estimated based on fairly simple assumptions. Some of the administration costs are largely fixed, such as recordkeeping, writing a landowner newsletter, or developing policies and procedures. Others vary with the number of CRs, such as landowner contacts before and after a visit, and responding to requests for approval of permitted activities, amendments, and estoppel certificates. While the cost of resolving minor violations can be provided for in the stewardship budget, the costs of resolving major violations — those requiring extended negotiations or litigation — can be very significant and are difficult to estimate. Where Will the Funds Come From? Every organization and agency that holds conservation restrictions should identify a source of funds for stewardship of its conservation restrictions. Many organizations and agencies have worked creatively to identify sources of stewardship funds. Some possibilities are listed below: ☒ The landowner who grants the CR may be asked to contribute endowment funds for stewardship of the conservation restriction. These endowment funds are generally pooled by the holder and invested, and the interest used to fund stewardship activities. ☒ The holder can engage in fundraising to cover the costs of conservation restriction stewardship — either on a project by project basis or as part of an overall “stewardship endowment” campaign. ☒ The holder may be able to budget for annual stewardship costs from an existing conservation fund or annual appropriation (but beware of changing fiscal circumstances!)
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- ☑ The cost of stewardship may be contributed annually, for example through condominium association dues.
- ☑ A real estate transfer fee could be considered that would generate a source of income to the holder from the sale of one or more nearby developed properties.

Determining How Much is Needed for Stewardship: There are three basic approaches to determine the amount needed for conservation restriction stewardship:

- ☑ A percentage of the value of the property
- ☑ A flat fee
- ☑ Estimated cost based on property specific factors

The **Percentage of Value** approach is based on a percentage of the property's market value. For example, the TNC Conservation Easement Working Group recommends "20% of the land interest's fair market value." The percentage of value could be based on the property's unencumbered value, the value of the restriction itself, or the restricted property value. For donated restrictions, calculating the percentage based on the restriction's donation value ties the amount of the stewardship endowment request to the value of the grantor's income tax deduction.

A drawback of this method is that it is not tied to the real cost of monitoring a given conservation restriction. For example, a very large and ecologically significant tract in the western part of the state may have a lower fair market value but much higher stewardship costs than a small and ecologically insignificant tract in the suburbs.

The **Flat Fee** is typically based on the holder's average cost of stewardship per restriction per year, converted into an endowment request using an assumed rate of return. For example, if annual stewardship costs were \$50,000 and the land trust had 70 CRs in their portfolio, then the average cost of stewardship would be \$715.00 per CR. To generate



	this amount each year at a 5% rate of return, the required stewardship endowment per CR would be \$14,300. To be fair, this calculation should be made using only the recurring and variable costs of stewardship, as fixed costs don't increase directly with the number of CRs held. Unless all staff involved with stewardship keep careful track of their time, it can be difficult to separate out one-time costs (e.g. baseline documentation) and fixed costs (e.g. landowner newsletters) from total stewardship costs. Some organizations apply multipliers or add-on costs to the flat fee where circumstances warrant. For example, the base amount might be increased for large properties, properties with unusual reserved rights, or those with several current or future building sites. For example, for many years the Vermont Land Trust used a matrix that was a function of both the size of the property, and the number of houses, house sites and subdivision rights that might be exercised in the future. VLT has since begun to base endowment requests on estimated recurring annual costs, and "add-on" fees for reserved rights, unusual features (e.g. presence of endangered species), multiple non-contiguous parcels, and large acreage. (see "Vermont Land Trust Reevaluates The Costs of Easement Stewardship and How to Cover Them" in the Fall 2002 issue of the Land Trust Alliance's <u>Exchange</u> newsletter). The Property Specific Factors endowment approach attempts to estimate stewardship costs based on property specific factors. The two principal advantages of this approach are 1) each request is tied to estimated expenses, so over time this technique should end up fully funding variable monitoring costs, and 2), the worksheet itself is a useful tool for making the request, as the potential donor can plainly see the basis for the amount of the endowment request. Most organizations that use this approach rely on a spreadsheet to help calculate property specific stewardship costs. Several examples can be found on the Land Trust Alliance's website.
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Projected costs are principally a function of estimated hours. Estimating hours requires experience with stewardship and some knowledge of the property and the terms of the restriction. Factors determining cost will include: the size of the parcel, the ease of access, the terrain (hills, wetlands), the boundaries (complexity, number of abutters) the conservation values to be monitored, and the complexity of the conservation restriction itself (particularly the prohibitions and the reserved rights). Additional time will be required for preparing for the site visit (reviewing the baseline and previous monitoring visit reports, contacting the landowner), compiling the monitoring visit report, and resolving minor violations. Factor in additional administrative hours if there are multiple landowners, or one or more co-holders of the restriction.

Baseline documentation — a one-time cost — should be estimated separately. An organization or agency might choose to place the budgeted stewardship amount in an endowment, but to use the funds for preparation of the baseline report to pay a consultant to perform this work.

No organization or agency should accept the stewardship obligations of a conservation restriction without having a plan in place to ensure that the short term, long term and unexpected stewardship obligations of the conservation restriction will be met. Where the conservation values of a property merit acquisition of a conservation restriction, every effort should be made to secure resources for long-term protection of this land.

Appendix A

Technical Tools for Conservation Restriction Stewardship

1. Digital Photography

Digital photography has simplified the process of capturing and managing images, and reduced the variable costs of photo documentation by eliminating film processing. Because the originals are stored in digital form, digital photographs are not subject to physical degradation that can render film prints and negatives unusable over time.

Some practitioners have expressed concerns about the use of digital photography in litigation over a conservation restriction violation. The most common concern is that digital photographs can be easily edited, and so may not be admissible as evidence. However, the same technologies that allow digital photographs to be doctored can also be used to modify traditional photographs. In addition, courts have developed rules to deal with digital evidence of all kinds (text files, email, etc.).

A factor that organizations and agencies should consider in deciding to use digital or film photography is their ability to maintain the digital technology and stay up to date, transferring data to new media as needed in a manner that will maintain the usefulness of the photographs over time and their validity as evidence.

See the web references at the end of this Appendix for more on the use of digital photographs as legal evidence. The proper handling of digital photographs for Baseline Documentation Reports (and monitoring) is discussed in Sections 4 and 5.

Digital Camera Features: As with other consumer electronics, the cost of digital cameras continues to decline even as performance and image quality continue to climb. Here are some key features to look for in a camera:





Picture Quality: Digital camera picture quality is measured in megapixels. A 1 megapixel camera will produce pictures with at least one million pixels (square dots), while a 3 megapixel camera will produce a picture with three million pixels. For baseline documentation purposes, a camera with 3 megapixels or more will produce a sharp image even at full-page enlargements.

Display: Liquid crystal displays (LCD) can be difficult to see in bright light or deep shade. In order to accommodate varying field conditions, it is best to use a camera with a traditional viewfinder. Many digital cameras come with both a viewfinder and LCD. The LCD is useful for verifying that the image captured is clear and encompasses your intended field of view.

Storage: Most cameras have removable storage devices (memory cards, memory sticks or disks) that are available in various capacities. A storage device or combination of devices capable of storing more than enough pictures for a day in the field should be selected. To determine the storage capacity needed, consider the size of the property, the length of the boundary, the number of corners, the topography and the number of natural and man-made features that will need to be documented.

Batteries: Over time, rechargeable batteries are far cheaper than disposables. Most good quality cameras come with rechargeable batteries. A second rechargeable battery may be necessary to accommodate a full day of use in the field, particularly during winter months as battery life declines with temperature.

Sound & Date Recording: Many cameras allow a short sound file to be attached to each photo. Sound doesn't take up much digital storage space, and allows each photograph to be annotated as it is taken saving some time in note-taking. A short narrative description such as "View along boundary wall toward northeast corner, restricted area to the left of the wall" provides a means for verifying the written information accompanying each photograph as the photolog is created. Many camera also have a date stamp. If you are using this feature, make

sure that the date is correctly programmed or it may call into question information in the affidavit if the date on the stamp doesn't match the date that the pictures were actually taken.

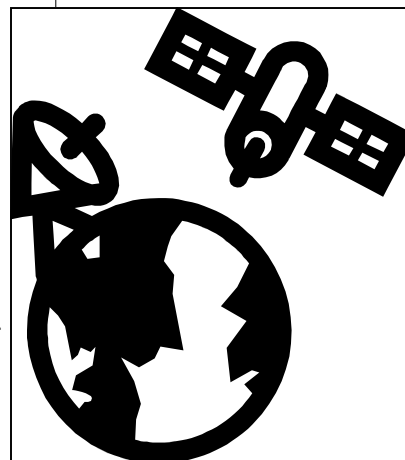
2. Global Positioning Systems (GPS)

GPS receivers are used to accurately locate points on the earth by accessing satellites operated by the U.S. Department of Defense. The most common uses of GPS receivers for baseline documentation and monitoring are locating positions where photographs were taken, recording boundary monuments, mapping trails and roads, and locating areas of conservation interest such as vernal pools or unusual natural communities, and recording the route of travel in the field.

Even inexpensive GPS receivers can often locate points more accurately than traditional methods such as compass and pacing. However, even the most expensive GPS receiver can produce inaccurate results if operated improperly. The discussion below provides an overview of GPS and specific suggestions for maximizing the performance of receivers of all types.

Overview of GPS: GPS currently relies on 24 operational Navigation Satellite Timing and Ranging (NAVSTAR) satellites traveling in six evenly spaced orbits. Each satellite orbits the earth every twelve hours. The receiver measures the time it takes for a signal to travel from a satellite to the receiver, and uses this to compute the distance from the receiver to the satellite, assuming that the signal travels at the speed of light. Based on four such distance measurements and the known location of each satellite, the receiver calculates a unique position.

GPS receivers can only access satellites that are above the horizon. The number of satellites above the horizon at a given location and their positions relative to one another — the *constellation* of available satellites — varies throughout the day as the satellites move within their orbits. It may take several minutes for four or more satellites to rise above the horizon and the GPS receiver to calculate a position.

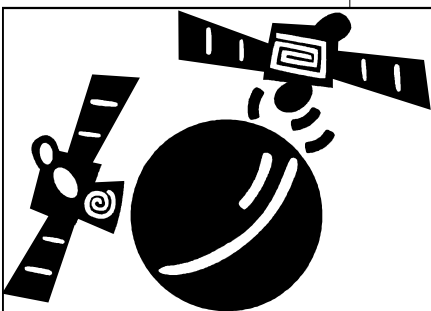


The constellation of available satellites also varies with local site conditions as GPS signals can be weakened by foliage and completely obscured by buildings or terrain. A given receiver may be able to quickly locate the required number a satellites when operated in an open field, but unable to calculate a position under difficult conditions such as under thick tree cover or in a deep ravine.

Sources of Error: There are three principal sources of position errors: 1) poor satellite geometry, 2) atmospheric delays, and 3) multipath error.

Satellite Geometry: The probability of calculating a position accurately is highest when the constellation of satellites is relatively widespread across the sky. When the only useable satellites are grouped closely together in the sky or arrayed in a line, they are said to have a high *Position Dilution of Precision (PDOP)*. A PDOP of 4 or less is excellent, and 7 or greater is poor.

Many receivers will display current PDOP, or allow the user to set a PDOP mask so that positions are only calculated when PDOP drops below a certain threshold. For receivers without this capability, it is possible to predict satellite geometry using



desktop planning software and regularly updated information about each satellite's position. Planning software and data are available for download at www.trimble.com. This software will generate a chart showing predicted PDOP throughout a given day at a given location.

Atmospheric Signal Delays: A GPS receiver calculates the distance to each satellite based on the time it takes the signal to travel from the satellite to the receiver, assuming that the signal travels at the speed of light in a vacuum. However, these signals are delayed as they travel through the atmosphere, and these delays create position errors. Many receivers eliminate some of these errors using an equation for signal delays.

Errors caused by atmospheric signal delays can't be avoided, but they can be corrected using *differential correction*. By con-

stantly operating GPS receivers at fixed and known locations, it is possible to precisely calculate the position errors caused by signal delay (by comparing the known location with the calculated GPS location). This information is then used to correct positions calculated by GPS receivers in the field in the region of the fixed GPS receiver. These fixed GPS receivers are known as Continuously Operating Reference Stations (CORS). CORS are operated by government entities, universities and private companies across the United States.

Some receivers have the ability to receive and apply these corrections in *real time* while others allow for differential correction at a later date (known as *post processing*). Correction information is broadcast in real time via satellite to subscribers for a fee, and is available free of charge via the Internet for post processing.

Recently, a number of manufacturers have released receivers that are capable of real time correction using the *Wide Area Augmentation System (WAAS)*. WAAS is a program of the Federal Aviation Administration intended to improve the accuracy of GPS for use in commercial aviation. The WAAS system uses geostationary satellites over the equator to broadcast correction information. The position, low on the horizon in the northeastern United States, means that these satellites are often blocked by hilly terrain. The weaker WAAS signal is more likely to be absorbed by dense forest cover as WAAS satellites orbit at more than 22,000 miles versus the 12,500 altitude of the GPS satellites. As a result, the WAAS signal is often unavailable.

Multipath Error: Multipath errors result from satellite signals that are reflected off of obstacles near the earth's surface before they reach the receiver. These signals are delayed by the longer path and so overstate distance, and also can interfere with the straight-line signals. Some high-end receivers have software that filters out multipath signals. Using an external antenna and a *groundplane* will reduce multipath errors on less expensive receivers. The groundplane is a metal plate that attaches underneath the external antenna, and prevents reflected signals from reaching the antenna from below.

Averaging: Many receivers have the ability to collect more than one position at a given location, and to average these positions to cancel out random errors. Surveyors seeking accuracy of a few millimeters allow their receivers to operate for long periods at a single point. Collecting one to two minutes worth of data at a sampling rate of one position per second should usually be sufficient for documenting photopoints and capturing boundary locations.

Comparison of Receivers: GPS receivers range in price from less than \$100 to more than \$5,000 for mapping grade units. The best-known manufacturers of receivers in this price range are Magellan, Garmin and Trimble. All receivers have the same core capability: tracking multiple satellites and computing distances based on the signals received.

The more expensive units support differential correction in real time or via post processing, allow the operator to set averaging, PDOP and other parameters, and may have multipath elimination software. The least expensive units may not even accept an external antenna. A good compromise for baseline documentation and monitoring is a unit that will average points, allow for a PDOP mask and accept an external antenna that can be fitted with a backplane.

Additional information about purchasing and using GPS can be obtained from the sources identified in the "Resources" section at the end of this Appendix.

3. Geographic Information Systems

A geographic information system is a set of computer programs designed to manage, analyze and display spatial data. Spatial data may be thought of as points (e.g., a concrete post at the corner of a property), lines (the western boundary of the town of Marshfield) polygons (the outline of Franklin County) or images (an aerial photograph of Massachusetts).

All of the information in the GIS must be spatially referenced ("*georeferenced*") as it is entered, typically by longitude, latitude and elevation. This al-



allows the user to overlay data from various sources to create maps (overlaying the boundary of Marshfield over an aerial photograph, for example) or for analytical purposes.

MassGIS: MassGIS is the Commonwealth's Office of Geographic and Environmental Information, which develops and maintains a statewide database of spatial information for environmental planning and management. MassGIS has a number of datalayers and images that are particularly useful for baseline documentation and monitoring, including

- Hydrography
- Contiguous Natural Lands
- Protected and Recreational Open Space
- Natural Lands Riparian Corridors
- Certified and Potential Vernal Pools
- Biomap Core Habitat & Supporting Natural Landscapes
- Living Waters Core and Supporting Watersheds
- Scenic Landscapes
- Topographic Contours
- Areas of Critical Environmental Concern
- USGS Topographical Maps
- Black and White and Color Orthophotos

MassGIS has created a dataviewer that makes it easy to navigate through the various datalayers. The dataviewer may be used online or downloaded for use with ArcView. These datalayers are also available for download from the MassGIS website or may be ordered on CD-ROM (www.mass.gov/mgis/).

A digitized outline of the conserved property boundary, prepared based on photo interpretation or from GPS locations of boundary points (as described in Subsection 4, below), can be used as an overlay on the various MassGIS datalayers to create maps depicting conservation resources, land uses, topography and soils, and hydrology on the land subject to the conservation restriction.

Importing Data to GIS: All of the data in MassGIS has been

	spatially referenced to a common <i>coordinate system</i> (the Massachusetts State Plane Coordinate System) and <i>datum</i> (the North American Datum 1983). A coordinate system is a means of specifying locations in space, such as by latitude, longitude and elevation. Each coordinate system specifies a <i>projection</i>, a mathematical means of representing the curved surface of the earth as a plane. A datum is a simplified model of the earth, either in the form of an ellipsoid or a geoid. There are many different coordinate systems and datums in common use today. Before datalayers from multiple sources are used together to create maps or for analysis, they must be <i>reprojected</i> – converted to a common coordinate system and datum. Most GIS programs have utilities that allow a datalayer to be reprojected into a new coordinate system and datum. Information about a given datalayer’s spatial references is typically contained in a “metadata” file available from the data vendor. The metadata contains information on how and when the data was gathered, where it comes from, and any limitations on its use. Importing GPS Locations to GIS: By importing GPS data into a GIS, it is possible to quickly create maps of photopoints, boundaries, roads and trails. An outline of the conserved property boundary can then be used as an overlay on the various MassGIS datalayers to depict conservation resources. GPS data must be reprojected to be consistent with other GIS datalayers. Most GPS receivers compute position using the World Geodetic System 1984 (WGS 84)/Geodetic Reference System 1980 (GRS 80) datum, although they may be set to display coordinates in various coordinate systems and datums. GPS data can be reprojected as it is exported from the receiver, or as it is imported to the GIS program. Trimble software allows the data to be reprojected as it is exported. There are various export programs available for Garmin and Magellan receivers. Some allow for reprojection, while others simply extract the “raw” data in a form suitable for export to GIS. A free utility for Garmin receivers is available from the Minnesota Department of Natural Resources (www.dnr.state.mn.us).
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4. Aerial Photography

Aerial photographs are available from public agencies and private vendors in a wide variety of scales, resolutions and formats (e.g., black and white, color, color infrared). In baseline documentation and monitoring, aerial photographs are used to document property conditions at the time the restriction is recorded, identify changes to the property, identify vegetation community types, and as a backdrop in GIS to digitize property boundaries.

Digital Orthophotographs: A digital *orthophoto* is a digitized aerial photograph that has been “orthorectified” so that it is a planar representation of the subject area as if it were totally flat. This means that it has been corrected for the distorting effects of the ups and downs of the topography on the ground.

Orthophotos can be used for digitizing property boundaries as described below. A digital orthophoto that is georeferenced using the same datum and coordinate system can also be used with other GIS datalayers.

MassGIS offers a number of digital orthophotographs. The most useful for baseline documentation and monitoring are the state-wide 1:5,000 Color Ortho Imagery and the 1: 5,000 Black and White Digital Orthophoto Images, both with ½ meter ground resolution (i.e., each pixel represents ½ meter). The most recent photos are available for downloading from the MassGIS web site or can be used online to make a map using their Online Data Viewer at www.mass.gov/mgis/mapping.htm.

Digitizing Boundaries: Aerial photographs have a number of cues that can be used to digitize property boundaries in GIS. First create a rough polygon of the property boundaries using whatever map or property description is available. Using an aerial photograph as a backdrop, the corner and lines of the polygon may be edited to conform to features such as roads, structures and clearings. The edited polygon can then be used to delineate the property boundaries on topographical maps and aerial photographs for the initial site visit. GPS locations collected during the visit can later be used to correct the polygon.



Note that it is not unusual for parcel lines created on aerial or orthophotos to not fit precisely on topographic maps (and vice versa). Remember that a map like this is an approximation of the boundaries and not a substitute for the actual survey plan.

Other Aerial Photography Sources: The oldest MassGIS aerial photographs date back to 1992. Earlier photos for conservation restrictions granted prior to 1992 are available from The Aerial Photography Field Office of the US Department of Agriculture (www.apfo.usda.gov) and a number of commercial vendors, including Col-East, Inc. (www.coleast.com), Eastern Topographics (www.e-topo.com), James W. Sewall Company (www.jws.com), Chas. H. Sells, Inc. (www.chashsells.com) and National Aerial Resources (www.nar.com).

Most vendors will supply aerial photography in either digital format or hard copy. Hard copy prints can be digitized using a desktop scanner set to the appropriate resolution. Note that while digitized photographs can be imported into a GIS, they cannot be used with other datalayers unless they are georeferenced.

Another sources of very low level oblique aerial photographs can be found on the web at www.local.live.com. New sources are regularly available, so it is worth your time to do some searching for aeriels of your area.

Satellite Imagery: Aerial photographs are particularly good for baseline documentation and monitoring as they are taken at relatively low heights (hundreds of feet versus hundreds of miles) and have high resolution. However they are generally taken at infrequent intervals. The potential advantage of satellites is that images of a given area are captured and made available on a regular basis.

Until very recently, commercial satellite images were only available at low resolutions. Resolution is important as it determines the minimum size object that may be seen in an image. A 30-meter resolution satellite image would be comprised of pixels (picture elements) 98 feet square. At this resolution any object smaller than 98 feet on a side would be invisible even if it fell in the center of a pixel.

Now there is high-resolution satellite imagery with ground resolutions of a meter or less, comparable to aerial photographs. On a per acre basis, the costs are quite low (\$26.00 per square kilometer for some satellite images from one vendor (www.OrbView.com)). However, the individual images are very large and, as a result, so are the minimum order requirements and the cost: the minimum archival order for OrbView is 64 square kilometers, for a minimum order of just under \$1,700. This begins to approach the cost of hiring an aerial photography company to fly custom photographs.

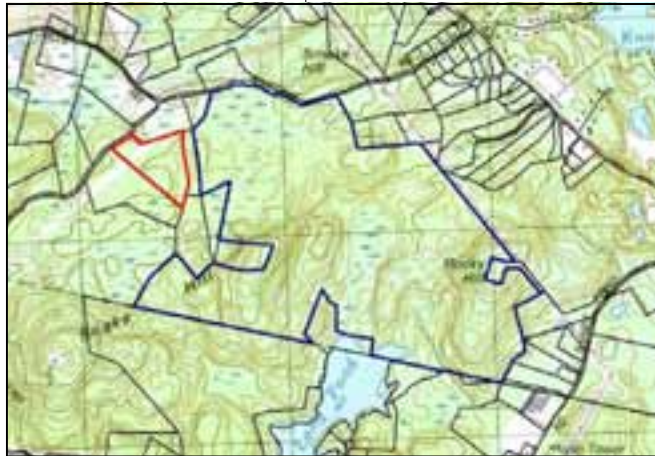
5. Topographical Maps

Topographical maps use contour lines (lines of equal elevation) to depict land forms, and show natural and manmade features of the landscape, including areas of vegetation (shown in green), water bodies (blue), developed areas (gray or red) as well as trails, roads, utility lines, and other infrastructure, and major buildings. Topographical maps thus contain lots of information that is useful for determining boundary location in the field, and in characterizing a property in the Baseline Documentation Report.

United States Geological Survey (USGS) topographical maps are available in various scales. The most useful for baseline documentation and monitoring are the 1:24,000 scale maps (or metric versions at a scale of 1:25,000).

These maps are also referred to as 7.5 minute quadrangles as each encompasses an area 7.5 minutes of longitude by 7.5 minutes of latitude. One inch equals 2,000 feet on these “large scale” maps. The USGS also produces smaller scale maps at 1:100,000 and 1:250,000.

USGS maps are prepared from a variety of sources including stereoscopic aerial photographs and ground surveys. They are highly accurate: the National Map Accuracy Standards require that 90% of all field-verified points on a 1:24,000 map be within



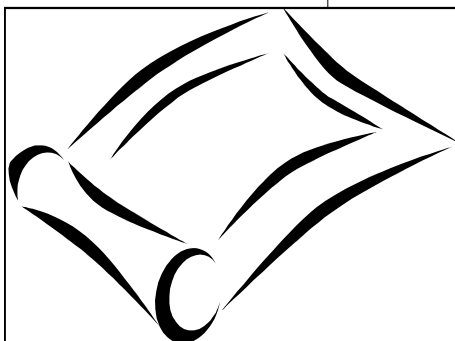
40 feet of their mapped locations horizontally, and within one-half of a contour interval vertically (e.g., within 10 feet if the contour interval is 20 feet).

USGS maps are generally available at many bookstores and outdoor recreation stores. They are also available for downloading from the Mass GIS web site and other commercial online sources such as www.topozone.com.

6. Boundary Location

Boundary Description: The property description in the conservation restriction is generally found at the end of the restriction. It can take many forms, including citation of deeds or plans (by registry book and page numbers or land court document number), reference to town tax maps, or recitation of metes and bounds (i.e., distances and directions). Sometimes a plan is recorded that is prepared specifically for the conservation restriction. This is often done when portions of a property have been excluded from the conservation restriction or if there are building areas reserved within the restricted land.

The property description in the conservation restriction may not be sufficiently detailed to be used for boundary location in the field and additional research may be required. The appropriate county Registry of Deeds or Land Court will have copies of any plans or deeds cited in the conservation restriction. Cited deeds and earlier deeds from prior sales of the subject property may contain useful plan references. Most of the Registries in Massachusetts are now accessible on line, and many allow for viewing and printing of plans and deeds. Town offices frequently have plans on file in the offices of the town clerk, assessor, town engineer or planning department. Note that tax assessor's maps should not be used for boundary location themselves as they are prepared at very large scales, and are often not accurate at the parcel level (see Section 3 of this Manual for more information in researching land ownership).



Metes and bounds property descriptions should be converted into a map for ease of use in the field. This can be done by hand using a protractor and ruler, or

using GIS. The Norcross Wildlife Foundation/Massachusetts Department of Environmental Management Data Editing Extension is a free extension for ArcView that produces maps from metes and bounds descriptions (see <http://www.state.ma.us/dem/programs/gis/de/pe.htm>).

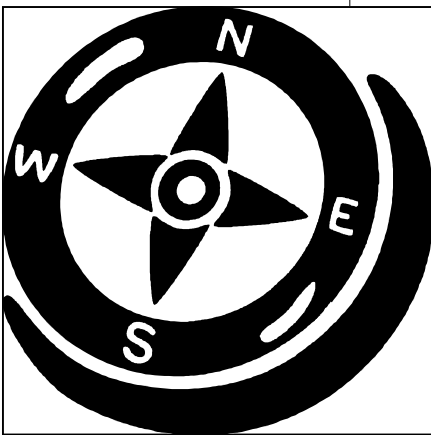
If there is no map or description of the property, It is possible – but very time consuming – to compile a property map using plans or metes and bounds descriptions of abutting properties where these are available. Use the town tax map to identify abutters by tax map and lot or deed book and page, then search the appropriate Registry, Land Court and town offices for plans.

Boundary Location in the Field: Using whatever property descriptions are available, annotate a copy of a map or prepare a sketch that shows every corner and line monument by type, and the distance and direction from each monument to the next. Monuments will be identified by type in the metes and bounds property description and on the survey plans. The most common types are stone bounds (SB), concrete bounds (CB), iron pipes (IP), or rods (or even musket barrels), stonewalls and rock piles. Rock and concrete monuments often have drill holes to precisely locate a corner or line.

A map may refer to pre-existing boundaries as “found” or “existing” (e.g. “found concrete bound”), and those established or to be established at the time the map was made as “set” or “to be set” (“set iron pin”, “iron pin to be set”). It is not uncommon to find that boundaries labeled as “to be set” were never actually put in place.

Wooden stakes near a boundary line may indicate where a permanent boundary was to be set, or could simply be a temporary marker used by the surveying team. Similarly, flagging and areas of cleared vegetation left over from a prior survey may be on or off a boundary line, and may even extend into adjacent properties – particularly in the case of wetland flagging.

The most efficient way to accurately locate property boundaries is to methodically move from one monument to another, following the bearing of the boundary line with a hand compass and keeping track of the distance traveled along the way.



Blazes: Often boundary lines will follow stonewalls or the remains of an old wire fence. Absent these features, it is common to blaze and paint trees on or near the boundary line. A blaze is made by removing a small area of bark with a drawknife or hatchet to expose the wood underneath. The blaze is usually painted to make it visible at a distance.

Trees that are on the property line are blazed in the center on both sides, so that an imaginary line drawn through the blazes would point along the boundary line. *Quartering blazes* are often made on trees that are within three feet of the line. These are similar to the property line tree blazes, but are offset to the side of the tree closest to the line. Trees three to six feet off of the line are blazed once, on the face that points toward the line. Trees are also blazed to indicate corners. Three or more “witness” trees around a corner monument are each blazed on the side closest to the marker. This makes it easier to locate the marker, and makes it possible to replace it if it is disturbed.

Even absent boundary markers, walls, wire or blazes, it is possible to follow boundaries based on cues on the ground. Often there will be a noticeable difference in vegetation on one side of a boundary line due to differing historical uses (e.g. pasture versus cultivated field, managed woodlot versus uncut forest). Other cues include the distinctive mark of healed tree blazes, or persisting scars and burls on trees from fence wire long rusted away.

Following a Bearing: Boundary line bearings may be given in *azimuth* or in *quadrants*. Bearings in azimuth simply use the clockwise angle of deflection from north, with north being 0 degrees, east 90 degrees, south 180 degrees and west 270 degrees. In the quadrant system, the compass is divided into four sections (quadrants): northeast, southeast, southwest and northwest. Directions are given with reference to these quadrants so that northeast is “north 45 degrees east”. The table on the next page compares these two systems:

	Degrees	Quadrant
Northeast	45	N 45 E
East	90	N 90 E, or S 90 E
Southeast	135	S 45 E
Southwest	225	S 45 W
West	270	N 90 W or S 90 W
Northwest	315	N 45 W

Compass bezels (the outer ring that turns) are marked in degrees, quadrants or both degrees and quadrants. Using quadrant bearings with a compass marked in degrees is relatively simple. First set the compass to north or south according to the quadrant bearing, and then turn it the specified number of degrees toward east or west. For example, to set a degree compass for the bearing S 45 W, set the bezel to south (180 degrees) then turn it 45 degrees toward the W mark on the bezel (to 225 degrees).

Bearings may be given with reference to *magnetic north* – the direction of the force lines of the earth’s magnetic field – or true north – toward the earth’s geographic north pole. The difference between the direction of magnetic north and true north is referred to as *declination*. Declination varies from location to location, and over time. The current declination in Massachusetts is approximately 16 degrees west (i.e., magnetic north is 16 degrees west of true north), whereas it is 16 degrees east in Idaho. Current local declination is printed on USGS topographical maps. In Massachusetts, to convert a magnetic reading to true north, subtract 16 degrees. Many compasses can be set to compensate for declination, allowing readings to be made directly in true north.

The polarity of the earth has completely and abruptly reversed itself several times over geological time scales. Magnetic north wanders east and west over much smaller time frames, and so the declination at a given location changes as a result. The table on the next page shows the declination for Worcester

Massachusetts at the beginning of each of the last ten decades, and the annual average change in declination for the decade (calculated using the USGS web site declination calculator).

Year	Declination (west)		Annual Change (minutes)
	Degrees	Minutes	
1930	14	20	2 west
1940	14	35	0
1950	14	27	0
1960	14	29	0
1970	14	32	0
1980	14	46	3 west
1990	15	10	2 west
2000	15	11	2 east

This is the reason true north is often used in maps – it is a fixed reference point. If your map is old and the bearings are given in magnetic north, you may need to compensate for subsequent changes. For example, the magnetic north bearings from a 1930 map would be some 50 minutes off of magnetic north in the year 2000.

Note that *Grid north* appears on many recent maps, including most topographic maps. Grid north is the reference north of coordinate systems that depict the curved surface of the earth as a plane, such as the Massachusetts State Plane Coordinate system described in Section C above. While the difference between grid north and true north is significant near the poles, in our mid latitudes the difference is too small to matter when using a hand held compass.

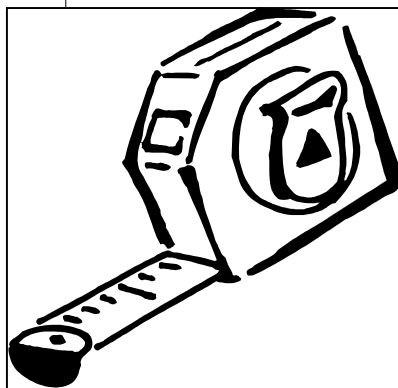
Most professionally prepared maps include a compass rose that indicates the basis for the given bearings. A north arrow with a star is true north, an arrow with an “N” is magnetic north, and an arrow with “GN” is grid north. If the map doesn’t specify in writing or symbolically, pick a prominent line feature on the map (e.g., a road or a wall) and compare its given bearing with a compass reading made on site.

Traditionally, bearings found on maps or in metes and bounds descriptions were given in *degrees, minutes and seconds*. There are 360 degrees on the compass bezel. Each degree is divided into 60 minutes, and each minute into 60 seconds. 45° 12' 50" stands for 45 degrees, 12 minutes and 50 seconds. Bearings may also be given in *decimal degrees*. Decimal degrees express the minutes and seconds as decimal fractions. To convert from degrees minutes and seconds to decimal degrees, the equation is: degrees + minutes/60+seconds/3600. In decimal degrees, 45 12 50" would be expressed as 45.2139 (calculated as 45 degrees +12 minutes/60 minutes + 50 seconds/3600 seconds)

When using a hand held compass, round up to the nearest degree. Minutes and seconds are only meaningful when using a staff-mounted compass or surveying instruments. Set the bezel to the specified direction, then rotate the compass until the arrow aligns with north. Note that large mineral deposits, power lines, electric fences and electronic equipment such as GPS receivers or cameras can cause the needle to deviate from magnetic north. Hold the compass level at about waist height, and well away from electronic devices. Pick a visible landmark (a snag or a tall tree, for example) that is in line with the direction indicated and use it as a guide. When following a boundary line that is not well marked (i.e., no fence or blazes), hang small pieces of flagging at head height periodically, then back sight on these with the compass to maintain the bearing.

Measuring Distance: When setting monuments surveyors use steel tapes and lasers to measure distances to within a small fraction of an inch. Fortunately, following these surveyor's measurements to relocate boundaries doesn't require nearly the same level of accuracy.

Pacing – measuring distance based on stride – is an efficient way to measure distance between boundaries. To determine the length of your pace, measure out a distance of 100 feet on level ground and walk it several times. Divide the distance by the average number of paces (each pace is two steps). Adult paces range from less than 4ft. to more than 6ft.





For Further Reading:

Digital Photography:

The Admissibility of Digital Photographs in Court, Seven B. Staggs— www.crime-scene-investigator.net

Digital Photography as Legal Evidence, Roderick T. McCarve www.seanet.com/~rod/digiphot.html

Mapping Systems General Reference, Trimble Navigation Limited, 645 North Mary Avenue, Sunnyvale, CA 94085

Boundary Research & Map and Compass:

Working With Your Woodland, Mollie Beatie, Charles Thompson, Lynn Levine, 1993, University Press, Hanover, NH.

Legal Aspects of Owning and Managing Woodlands, Thomas J. McEvoy 1998, Island Press. Washington, D.C., Covelo, CA.

GIS, Topo, and Mapping:

Umass Earth Sciences: www.umass.edu/tei/esio

Terraserver: <http://terraserver.microsoft.com>
<http://mac.usgs.gov/mac/isb/pubs/booklets/symbols/index.html>

Geographic Information Systems, United States Geological Survey—<http://www.usgs.gov/research/gis/title.html>

To measure distances between monuments, set off on the left or right foot and count every two steps as 1 pace. Pace varies with slope (shorter uphill and on steep downhills, longer on mild downhills) and conditions (e.g., shorter in snow). With practice, it is possible to adjust for changes in terrain by occasionally adding a full or half pace. Note also that map distances are measured horizontally from one monument to another, and don't take into account the undulations in between. On hilly sites, paced distances will be greater than the map distances.

Where more accurate measurements are required, such as laying out an unmonumented building envelope, a hip chain may be used. A hip chain is a belt-mounted device that contains a spool of biodegradable thread tied to a counter calibrated to measure in feet, meters or other distance units. One end of the thread is tied to an object at the starting point, and the distance traveled is displayed as the thread pays out. A 100' tape measure can also be used, depending on distances, topography and vegetative cover.

Many older maps and metes and bounds descriptions use rods, chains and links. A rod is 16.5 feet, a chain is 66 feet, and link is 7.92 inches (1/100 of a chain). There are 4 rods to a chain. The chain is a useful unit of measurement as 80 chains equal one mile (5,280 feet), and 10 square chains equal an acre (43,560 square feet). For ease of use in the field, these measurements should be restated in feet or paces.

Topographical Maps and Aerial Photographs: Topographical maps and aerial photographs with the property boundaries outlined by hand or using GIS can be very helpful for boundary location. A topographical map may reveal that a corner or marker is near a prominent feature such as an outcrop or a stream. Aerial photographs show variations in vegetation that can be used to locate corners or bounds in the field (e.g., a corner near a small stand of white pines).

Appendix C

Operating Principles for Land Conservation Organizations

Developed by the Massachusetts Easement Defense Subcommittee and Adopted by the
Massachusetts Land Trust Coalition Steering Committee in October 2005, rev. February 2006

How to Use These Operating Principles: It is the goal of the Massachusetts Easement Defense Subcommittee and the Massachusetts Land Trust Coalition that every land trust and government entity that holds conservation restrictions adopt and implement these operating principles. **If you have questions about them, or questions about stewardship or a CR violation, please contact any of the members listed below, or the Chair of the Massachusetts Land Trust Coalition for help.**

PREAMBLE

Conservation restrictions are an important tool for permanently protecting open space, forests, farmland, and other natural resources. Because their provisions are intended to be perpetual, holders of conservation restrictions must provide stewardship that sustains restrictions throughout inevitable changes in ownership and surrounding conditions. Holders must also consider their own longevity as organizations and have the proper policies and systems in place, as well as the financial resources, to uphold their responsibilities to defend CRs against violations.

While each conservation restriction holder is ultimately responsible for defending the restrictions that it holds, we believe that by working together as a land conservation community we will be able to collectively offer a more formidable defense. Our goal is to create the best possible defense to conservation restriction challenges by advising land trusts, municipalities, and state agencies on how to build strong stewardship programs to minimize the likelihood of violations, and on what they can do when they are faced with requests for amendments or violations in the future.

Over the long term, there is little doubt that conservation restrictions (CRs) will be violated and land trusts, municipalities, and state agencies must be prepared to defend these restrictions in a court of law as well as in the court of public opinion. As the number of CRs increases, the land conservation community as a whole must continue to strengthen its CR stewardship practices. One holder's success or failure may affect not only existing conservation restrictions, but also our ability to conserve land in the future.

The following are operating principles that all land trust, municipalities, and state agencies that hold CRs should seek to implement. The operating principles have received the endorsement of the Steering Committee of the Massachusetts Land Trust Coalition and are drawn from years of land conservation experience. MEDS is compiling and drafting sample policies and instructional materials to assist holders in implementing these recommended operating *principles*. *We hope that by leading by example and helping others to implement these operating principles, conserved land in Massachusetts -- that we have all worked very hard to protect -- will remain protected forever.*

MEDS Members: Elizabeth Wroblecka, Esq. Chair; Kathy Sferra, Massachusetts Audubon Society; Bob Levite, Esq., UMASS Cooperative Extension; Dick Evans, Esq.; Andrea Freeman, Trustees of Reservations Putnam Conservation Institute; Andy Goldberg, Assistant Attorney General; Laura Mattei, Sudbury Valley Trustees; Chris Pryor, New England Forestry Foundation; Buzz Constable, Esq., Lincoln Land Trust; Kathy Orlando, Sheffield Land Trust. Special thanks to Joel Lerner for his significant contributions to the genesis of this project.

MEDS Operating Principles for Land Conservation Organizations

1. For every conservation restriction that a land trust, state agency, or municipality holds, there should be an accurate and complete record on file including the deeds to the fee interest and to the conservation restriction, baseline document report, monitoring reports, and plans of record. The location and boundaries of every CR should be known on the ground and documented in the file; holders are encouraged to share this information with MassGIS and other statewide or regional mapping authorities.

Comment: In order to defend its restrictions, a holder must first know and document the CRs that it holds. It is incumbent upon all land trusts, state agencies, and municipalities to ensure the legal validity of and to protect the conservation values expressed in their CRs. A complete record of title and the condition of the land at conveyance and over time will help CR holders prevent violations, assess problems quickly, and enforce the CR. Sharing location and boundary information of CRs with state and regional mapping authorities will assist in tracking all CRs, and provide broader public awareness of the existence of conserved land throughout the Commonwealth.

2. Land trusts, state agencies, and municipalities should have a baseline documentation report completed at closing for every conservation restriction that they hold and should systematically monitor and prepare monitoring reports for every CR that they hold. Monitoring should occur as often as needed but at least annually. In the event that seasonal or other conditions prevent the completion of a full baseline documentation report by closing, a schedule for finalizing the full report and an acknowledgement of interim data should be signed by the landowner at closing. Interim data should consist of documentation submitted to the Division of Conservation Services as part of the conservation restriction application process and should depict the condition of the land at the time of closing.

Comment: Holders of conservation restrictions cannot effectively monitor future changes in restricted properties if they do not have thorough documentation of the site conditions on the property at the time a restriction is conveyed. Baseline reports compiled contemporaneously with the CR ensure an accurate history of these acquisitions and document the initial conservation values and the intent of the grantor and grantee. A sound baseline report, coupled with regular, systematic monitoring, are the essential components of good conservation restriction stewardship – ensuring that conservation values are documented at the time of the restriction conveyance, that violations are promptly discovered and addressed, and that the purposes of the restriction are upheld. The level of monitoring depends on the facts and circumstances of the particular CR.

3. Regular contact with landowners of CR properties is a critical component of successful stewardship programs.

Comment: When a land trust, state agency, or municipality accepts a conservation restriction from a landowner, regardless of whether it was donated or sold, the holder has agreed to uphold the purposes of the CR in perpetuity. Since this is a promise that outlives individuals, it is necessary for holders to have ongoing stewardship programs to carry out their perpetual responsibilities. In addition to baseline documentation reports and systematic monitoring, strong collaborative relationships with landowners of CRs can minimize and often prevent violations and challenges to CRs. Cultivating landowner relationships helps reduce the risk of violations by (a) fostering trust between the CR

holder and the landowner and (b) promoting a better understanding of the specific CR as well as CRs in general. Cultivating relationships is especially important with successive landowners.

4. Land trusts, state agencies, and municipalities should have a written amendment policy ensuring that the conservation purposes of the original CR are protected and that conservation values are maintained or improved.

Comment: Amendments can be perilous. Inappropriate amendments can diminish the conservation value of the land, jeopardize the holder's status under the IRS regulations or the donor's tax deduction, and undermine the holder's reputation as a protector of land in the community. An amendment policy fosters consistency and fairness in the decision-making process and provides criteria that a holder must consider when evaluating proposed amendments to ensure that conservation purposes and values are maintained or improved. A well-articulated amendment policy provides guidance to landowners to help reduce frivolous requests for amendments.

5. Land trusts, state agencies, and municipalities should have a written enforcement policy that ensures that conservation purposes and values are maintained and the property restored.

Comment: An enforcement policy defines the procedures that a conservation restriction holder will follow to ensure that violations are promptly and thoroughly investigated, documented, and acted on in an effective manner that will survive legal scrutiny. Adhering to an enforcement policy ensures that violations are addressed fairly and consistently in light of all circumstances. Such a policy also demonstrates that the conservation restriction holder takes its responsibilities seriously and is prepared to enforce the terms of restrictions against future violations.

6. Land trusts should consider and plan for what entities may receive title to their conservation restrictions in the event of the land trust's dissolution. If dissolution is imminent, a land trust should take affirmative steps to ensure that every CR is assigned or transferred to an appropriate subsequent holder.

Comment: If land is to be protected forever, the conservation restriction must be enforceable forever. A holder of a CR must plan for the possibility that it may no longer be able to carry out its responsibilities as a holder or that it may eventually dissolve as a nonprofit corporation. In the event that it is no longer able to hold or enforce a CR, a holder's primary concern should be locating a suitable subsequent holder because a judicial distribution of a land trust's assets could result in the land losing its protected status.

7. Land trusts, state agencies, and municipalities should have a stewardship endowment, conservation fund, or other mechanism to cover perpetual conservation restriction monitoring and defense costs.

Comment: A holder of a conservation restriction has accepted an obligation to uphold the terms of the restriction forever -- a period extending much longer than any individual involved in the transaction. Over the long term, there is a high probability that conservation restrictions will be violated, either intentionally or accidentally. In order to carry out its stewardship obligations and to adequately defend against future violations, it is critical that every holder have the financial resources to adequately carry out its stewardship obligations and defend future violations.

Appendix D

Massachusetts Easement Defense Subcommittee Conservation Restriction Enforcement Policy Guidelines January 2006

I. Why Adopt an Enforcement Policy?

Enforcement of conservation restrictions (CRs) is a fundamental activity of land trusts and public agencies that hold such conservation restrictions. The purpose of an Enforcement Policy is to define the procedures that a conservation restriction holder will follow to ensure that apparent violations are promptly and thoroughly investigated, documented, and acted on in an effective manner that will survive legal scrutiny. A formally adopted Enforcement Policy helps ensure that violations are addressed fairly and consistently in light of all circumstances. Such a policy also demonstrates that the conservation restriction holder takes its responsibilities seriously and is prepared to enforce the terms of restrictions against future violations.

In recognition of the importance of a clear Enforcement Policy, both the Land Trust Alliance and the Massachusetts Easement Defense Subcommittee have recommended that every organization and agency that holds conservation restrictions adopt a written Enforcement Policy.

Recognizing that Enforcement Policies must be tailored to the capacity and methods of operation of an individual agency or organization, the level of their existing conservation restriction stewardship expertise and the types of lands that they steward, *this memorandum is not intended to be a sample Enforcement Policy, but rather an outline of the issues that an organization or agency needs to address in its development of its CR Enforcement Policy.* A variety of sample policies are available from LTA's resource library, www.ltanet.org.

II. Enforcement Principles

A. Preparation for Enforcement – Avoiding and Addressing Violations

- ☒ Assemble and maintain baseline documentation reports
- ☒ Identify the resources necessary to monitor and enforce CRs, including financial resources and expertise dedicated to CR stewardship
- ☒ Foster and maintain positive working relationships with landowners
- ☒ Monitor regularly and maintain CR and monitoring documentation
- ☒ Maintain procedures to discover and resolve potential violations including training, response checklists, documentation and decision-making protocols
- ☒ Train staff and board in resolution of enforcement matters

B. Objectives of Enforcement

- ☒ Defend the purposes and terms of the CR, the conservation values of the property, and the intent of the original parties
- ☒ Prevent or stop ongoing environmental harm
- ☒ Restore land to the extent feasible or remediate conservation values
- ☒ Discourage any windfall or financial gain accruing to perpetrator of violation
- ☒ Maintain and enhance public/donor confidence in organization and land conservation
- ☒ Avoid negative precedents
- ☒ Evaluate the situation to prevent similar violations
- ☒ Maintain positive relationships to extent possible.

III. The Enforcement Policy Components

A. Identify a clear plan for organizational response to reported violations that includes the following elements:

- ☒ Name and contact information for the organization's enforcement officer (Executive Director, Stewardship Director, or other person as directed in the Enforcement Policy, as well as an emergency contact if the primary contact is unavailable and swift action is needed).
- ☒ Assess reported violations, including whether immediate action is required: Is there ongoing damage or irreparable harm? Is the source reporting the violation credible? What are the risks of inaction?
- ☒ Initiate and document contacts with the landowner (and violator if different); verify details of the violation, determine the facts, review the CR and any applicable laws affected by the violation or potential remediation
- ☒ Contact any necessary public authority (e.g., Conservation Commission)
- ☒ Document specific action steps taken (correspondence, site visit reports, phone calls, attempts to contact owner); include facts (sources, photos, reports) and opinions (interpretations, excuses, assessments) with attention to maintaining credibility and possible evidentiary needs

B. Identify guidelines to assess reported violations: Is it a clear violation or is the CR ambiguous? Is it a willful violation or an accidental one? Are there minor or significant impacts? Is the violation precedent setting? Is it a repeat violation? If you are considering legal action, how strong is your case? What proof do you have? What are the violator's potential defenses?

C. Consider whether "Major" and "Minor" violations will be handled differently in terms of procedures. Note that major violations should be reported to MLTC and/or MACC [see "Types of Violations" below].

D. Assess organization's or agency's range of potential actions which best achieve the objectives of enforcement. Is affordable legal advice available? What resources are available to seek redress? What are the violator's resources and defenses? What are the precedential implications for a win or loss? Will the landowner benefit financially for the violation (private inurement)? What are the public relations implications? What other organizations or agencies might assist with enforcement? (including EOE, the Attorney General, MLTC, other land trusts, etc.)

E. Consider alternatives for resolution, including written warning, written acknowledgement of violation by landowner, CR amendment (see sample policy) or formal interpretation ("discretionary consent"), pre-litigation settlement (by agreement, mediation, or arbitration), or litigation. Any final resolutions must be in accordance with the organization's or agency's adopted Enforcement Policy and signed by an individual with delegated authority.

F. Evaluate remediation goals, as feasible and achievable, including remediation of the violation, alternative improvements of parcel to offset damage, alternative conservation benefits (land, program, finance), clarification or amendment of CR (with due consideration for accountability and future enforcement, avoiding negative precedents and publicity, and avoiding private inurement).

G. Implement the final action, including as necessary final documentation and archiving, legal approval of documentation, ratification by Board or their designee, public relations statement, etc.

H. Throughout enforcement process, strive to maintain positive relationships – assume good intentions (hope for the best), but document adequately (prepare for the worst).

IV. Types of Violations – Suggested Definitions

A. A **minor violation** is an action that technically violates specific language in the CR but is not inconsistent with the purpose of the CR and does not significantly degrade the conservation values of the land protected by a conservation restriction. Examples may be dumping of a small amount of organic debris, or minor tree pruning.

B. A **major violation** is an action that may or may not violate specific language in the CR but is inconsistent with the purpose of the CR or significantly degrades the conservation values of the land protected by a conservation restriction. Examples may be construction of structures, excavation, or clearing prohibited by the conservation restriction or a spill of hazardous materials on the property.