

Commander's Guide to Understanding and Supporting Working Forests



U.S. Endowment for Forestry and Communities



Cover Photo: U.S. Army Spc. Joseph Lane assigned to Bravo Company 1st Battalion, 503rd Infantry Regiment, 173rd Airborne Brigade Combat Team, climbs a small hill during a field training exercise. *(U.S. Army photo by Spc. Tristan Bolden/Released)*

This document was prepared as a service to the Department of Defense community. The opinions expressed herein are those of the author(s), and are not necessarily representative of those of the Department of Defense.

Credit: This primer was developed by the U.S. Endowment for Forestry and Communities. Special thanks to Dr. Peter Stangel for leading the effort, Sally Atwater and Carla Harper for research and writing, and to Ann-Marie Melief, Rick Cantrell, Mike Countess, and George Flowers for reviewing the text.



Printed on recycled paper
30% post-consumer waste

June 2014



Dear Colleagues,

In recent decades, development has pushed into the rural areas that once surrounded most military installations. This development can push the military to restrict activities on its installations, in an effort to avoid conflicts with and complaints from the surrounding community. “Working” forests – those actively managed for a wide variety of products and uses, from timber to water to wildlife – are not just compatible with the military mission, but can even enhance it. Their survival, however, depends on the financial return from forestry: it must be sufficient for landowners to withstand tempting offers for development, especially as sprawl and second home development raise land values.

Keeping working forests as buffer lands around military installations protects flight paths from tall structures and shields nearby residents from noise. At night, working forests are dark, facilitating nocturnal maneuvers. Sustainably managed forests also filter water, lessen flood damage, store carbon, provide wildlife habitat, and produce a wide range of valuable wood and non-wood products. They also are less vulnerable to pests, diseases, and fires than unmanaged forests. The continued presence of working forests near an installation helps avoid encroachment.

This primer describes cost-effective approaches for the military to protect working lands from incompatible development. One simple step is for procurement officers to purchase local forest products. Just as buying locally grown agricultural products helps farmers retain their land, purchasing locally grown forest products helps forest owners retain theirs. Another step involves initiating partnerships with landowning neighbors; several programs – some tailored specifically to military installations’ needs – now promote collaborative projects that will conserve working forests and farms.

This primer also provides information on the many organizations and resources available to help protect working forests that play an important role for installations. Understanding the links between forests’ economic and environmental viability will inform efforts to protect forest buffers and ensure continued operational flexibility.

Sincerely,

A handwritten signature in cursive script, appearing to read "Carlton H. Owen".

Carlton Owen
CEO and President
U.S. Endowment for Forestry and Communities

TABLE OF CONTENTS

Commander's Guide to Understanding and Supporting Working Forests

FRAMING THE ISSUE	1
<i>The Issue</i>	<i>1</i>
<i>The Implications</i>	<i>1</i>
<i>The Need for Communication</i>	<i>2</i>
INTRODUCTION.....	3
<i>Why Should I Care About Working Forests?</i>	<i>3</i>
BENEFITS OF WORKING FORESTS.....	5
<i>Endangered Species and Working Forests.....</i>	<i>7</i>
<i>Ways to Protect Working Forest Buffers</i>	<i>8</i>
<i>Acquisitions and easements.....</i>	<i>8</i>
<i>Procurement choices</i>	<i>9</i>
<i>Sustainable management practices</i>	<i>10</i>
<i>Conservation ballot measures</i>	<i>11</i>
<i>Innovative partnerships.....</i>	<i>11</i>
<i>Case study</i>	<i>13</i>
<i>Working Forest Partners and Useful Links.....</i>	<i>14</i>
<i>Further Reading.....</i>	<i>16</i>

FRAMING THE ISSUE

The Issue

Encroachment on U.S. military installations and ranges is a serious and growing problem for the Department of Defense (DoD). Encroachment, as defined by DoD, refers to any internal or external factors that inhibit the ability of the Military Services to use their ranges, airspace, and other operating areas to conduct effective training and testing. The rapid pace of urban growth into formerly rural areas around military installations and ranges presents two sets of encroachment problems. First, as residential and commercial development increases in areas near military installations, residents may be exposed to aircraft over-flights, dust, and noise from military activities. Second, the military's ability to conduct important training exercises may be compromised due to incompatible land use adjacent to or near installations and ranges. For example:

- Night training can be compromised when light from nearby shopping centers interferes with a soldier's night vision
- Airborne training, such as parachute training, can be halted when housing developments are built near drop zones
- Usable testing and training areas can be segmented and diminished if development forces endangered species to migrate inside military installation fence lines
- Tall structures, such as cell phone towers, and energy projects, such as wind turbines and transmission lines, may interfere with military operations if project siting is not planned collaboratively with the military
- Competition for frequency spectrum can impede on military communications
- New highways cutting through or adjacent to training areas can segment installations and hamper live-fire ranges

The Implications

Today, our men and women in uniform are deployed around the globe. When our nation sends its military forces abroad, it does so under a solemn agreement with the American people: to train and prepare our military personnel for the challenges of war before placing them in harm's way.

The Army, Navy, Air Force, and Marine Corps manage nearly 30 million acres of land on more than 425 major military installations.

Training provides our soldiers, sailors, airmen, and marines with the skills they need to successfully complete their mission and return home safely to their families. Experience has taught us that realistic training saves lives: military forces must train as they would fight, replicating the challenges, stress, discomfort, and physical and psychological conditions of actual combat. But such training also requires substantial resources, including air, land, seaspace, and frequency spectrum.

To protect our military forces, we must preserve the viability of our installations and ranges. This need is becoming increasingly important in light of the growing challenges posed to training and testing by the rise of urban growth and other encroachment activities that impact our previously isolated training and testing lands.

State and local governments are responsible for managing growth and development through their land use management authorities. Additionally, groups such as land trusts, the agriculture community, private land owners, and conservation organizations – including non-governmental organizations (NGOs) – can leverage their respective interests in conservation areas and partner with the military to establish compatible land use areas, or buffer zones, around DoD lands. Working collaboratively, the military, regional and local conservation organizations, and other stakeholder groups can protect military training capabilities while conserving important natural resources, stimulating local economies, and maintaining community well-being. To date, various groups have taken action in response to the growing issue of encroachment. For example:

- State and local governments have formed military advisory boards to facilitate discussion and develop compatible land use policy for areas around military installations
- States have passed legislation to minimize incompatible development and promote compatible resource use around military installations
- Specific installations have engaged NGOs such as land trusts, as well as state and local governments, to establish conservation areas surrounding military lands

The Need for Communication

Two-way communication between the military and stakeholder groups is critical to successful compatible land use planning. NGOs have the ability to greatly amplify the military's efforts to promote compatible development, while the military can bring various resources that bolster the stakeholder groups' missions. Working together, the military and NGOs can help governments and developers make land use decisions that benefit all parties. This guide is designed to:

- Help DoD officials gain a better understanding of the role NGOs play in decision-making that may affect military operations
- Describe cost-effective approaches for the military to protect nearby working forests from incompatible development
- Facilitate communication and potential collaboration among stakeholders on encroachment issues
- Detail how working forests can help further the military mission

A working forest is actively managed for ecological and economic goods and services, from wildlife habitat and lumber to clean water and fiber. The owners of working forests need economic returns to support ongoing management.

INTRODUCTION

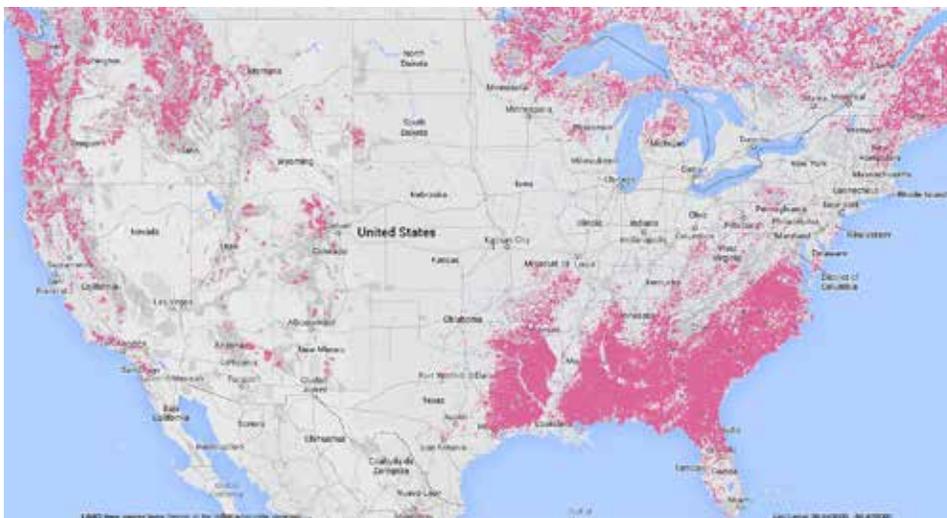
Why Should I Care About Working Forests?

Among the many challenges for military installation commanders is protecting their installations from encroachment. Often, working forests provide buffers that separate installations from surrounding commercial and residential developments. Loss of working forests could compromise military testing, training, and operations.

The risk that working forests will be converted to incompatible non-forest uses waxes and wanes with the economy: the forest product sector is cyclical and the value of land outside urban areas for development is sensitive to the housing and broader development market.

According to the World Resources Institute, the contiguous 48 states lost almost 16 million hectares of forest cover between 2000–2013.

Figure 1. Map of forest loss in the lower 48 states



A TIMO is a management group that aids institutional investors in managing their timberland investments. A TIMO acts as a broker for institutional clients. The primary responsibility of TIMOs are to find, analyze, and acquire investment properties that would best suit their clients. Once an investment property is chosen, the TIMO is given the responsibility of actively managing the timberland to achieve adequate returns for the investors.



Now, however, a change in the forest sector signifies something more serious: over the past two decades, the vertically integrated companies that once managed large forests, harvested and milled the timber, and then processed and sold the wood products have largely divested themselves of their forestland. The new forest owners are privately held timber investment management organizations (TIMOs) and publicly traded real estate investment trusts (REITs), which have more incentive to maximize return on investment and less incentive to retain their lands as working forests. These entities typically manage forests well and often seek certification for their management practices, but they are also focused on providing financial value for their shareholders. TIMO and REIT owners seek the most profitable use for their lands, which means that selling forest lands that provide higher value for development or other purposes may be an option. One consequence of this is that more and more working forests are being sold and converted to other uses.

Protecting working forests adjacent to the installation will achieve the following benefits:

- Safeguarding buffer zones to enhance flexibility in military testing, training, and operations
- Providing off-installation habitat for candidate, threatened, endangered, and at-risk species
- Protecting drinking water supplies



- Providing other ecosystem services, such as carbon sequestration
- Supporting the local economy
- Preserving rural and cultural traditions
- Generating goodwill for installations that support conservation and establish fruitful partnerships with local landowners

After summarizing the economic and environmental benefits of working forests, this primer describes ways to ensure their continued utility to military installations. It then lists sources of information and provides links to potential partners.

BENEFITS OF WORKING FORESTS

A working forest is actively managed for ecological and economic goods and services, from wildlife habitat and lumber to clean water and fiber. The owners of working forests, whether public or private, need economic returns to support ongoing management. Sustainably managed forests that provide economic returns can provide the full range of economic, ecological, aesthetic, and spiritual benefits.

According to the American Forest & Paper Association (www.afandpa.org), the forest industry generates about 4.5% of the total annual U.S. manufacturing GDP and is among the top 10 manufacturing sector employers in 47 states. Demand for traditional forest products, like lumber and paper, is cyclical, rising and falling with the housing market and other economic factors. Some new forest

REITs are an alternative to direct real estate investments. REITs allow small investors to share in both the risks and rewards of real estate investing. First authorized by Congress in the 1960s, REITs bring together capital from many individuals specifically to invest in a diversified portfolio of income real estate, or in real-estate related debt (mortgages). A real estate investment trust can take the form of a trust, association, or corporation. Individuals invest in a REIT by purchasing shares. The shares of many REITs are publicly traded on major stock exchanges and over-the-counter markets.

For more information, please see DoD's "Commander's Guide to Renewable Energy" at: <http://www.repi.mil/Resources/Primers.aspx>.

Biomass, as defined by the Energy Security Act (PL 96-294) of 1980, is "any organic matter which is available on a renewable basis, including agricultural crops and agricultural wastes and residues, wood and wood wastes and residues, animal wastes, municipal wastes, and aquatic plants."

products, all of them renewable, can help grow American markets and prevent the loss of future working forestland.



- **Wood energy.** Increasingly, energy is produced from woody biomass and the feedstock is abundant. Forests in the west, particularly those on federal lands, need to be thinned to improve forest health and reduce damage from wildfire and pest outbreaks. Purchasing these fuels for installation needs could sustain working forest buffers while advancing energy security.
- **Wood pellet exports.** The south is capitalizing on a growing European market in alternatives to fossil fuels. Wood pellets and chips have great economic potential.
- **Wood-based nanotechnology.** Cellulose nanocrystals and nanofibrils have novel, high-performance applications. Added to other materials, such as plastic or metal, they create high-value products that are strong, light, and inexpensive, with a wide range of potential military applications from ballistic glass to lighter, stronger equipment.

Working forests also provide multiple environmental benefits:

- **Habitat for imperiled species.** Sustainable forest management respects the integrity of the local ecosystem and protects biodiversity. Installations with candidate, threatened, endangered, and at-risk species can leverage their own restoration efforts by ensuring connectivity with off-installation wildlife habitat corridors on working forests. Conversely, the conversion of forests to urban sprawl pushes wildlife onto installations, which can trigger restrictions on military training and testing activities.
- **Climate resilience.** Trees offset fossil fuel emissions by removing carbon dioxide from the atmosphere and releasing oxygen. The sequestered carbon – accounting for about half of dry wood's weight – remains in the lumber or paper made from harvested trees. Because wood products are easily recycled, carbon storage is extended beyond the life of the original product.
- **Heat island mitigation.** Trees lower air temperature as water transpires from their leaves. They also provide shade, reducing annual heating and cooling costs in the United States by \$2.1 billion.

- **Soil conservation and water quality.** Tree roots stabilize the soil and prevent erosion, resulting in cleaner rivers, lakes, and reservoirs. Forested watersheds provide two-thirds of the fresh water in the United States; protecting these watersheds protects marine life and reduces costs to filter and treat water.

Endangered Species and Working Forests

Working forests provide many economic and cultural benefits to military installations and they can help ease pressures associated with the management of endangered and at-risk species. Working forests provide habitat for many species of concern. By protecting working forests off-installation, it may be possible to create new operating space on the installation.

One well-known example of this approach is the partnership between the U.S. Army and the Environmental Defense Fund to benefit the endangered golden-cheeked warbler at Fort Hood. Fort Hood hosts about 50% of the known population of this songbird, which nests exclusively in Texas. The Army did all it could for the bird on Fort Hood, but training pressures required investments in warbler conservation outside of the installation, in order to free up training space on-base. Through an innovative recovery credit system, the Army pays landowners who provide habitat for the bird, thereby earning credit to help offset the short-term impacts of training on the base.

Another example involves the endangered red-cockaded woodpecker, which prefers old-age longleaf pine forests in the Southeastern and Southern U.S. This ecosystem is also home to many other at-risk species, including the gopher tortoise. Marine Corps Base Camp Lejeune is using forest lands outside its boundaries to meet recovery goals for the woodpecker. Off-installation lands with the potential to harbor red-cockaded woodpeckers are



identified, evaluated, protected, and managed, thereby enhancing the recovery of the Lejeune population. In return, the recovery goal for the Lejeune population can be reduced, providing clear benefits to the military. The end result is that this expands the acreage supporting the installation goals, without taking installation lands to meet the goal, and even allowing for expanded use of the installation to meet primary missions.

Ways to Protect Working Forest Buffers

Installation commanders can help conserve the working forests adjacent to military installations in several ways. Some combination of the following approaches may be effective:

- Protect buffer lands in perpetuity through *acquisition or conservation easements*
- Give preference to local forest products in *procurement decisions*, which in turn provides income to forest owners, helping them retain and manage their woodlands
- Encourage adjacent landowners to use *sustainable management practices*, which will improve the environmental and economic benefits of their forests
- Secure funding to protect working forests and other lands through *conservation ballot measures*
- Engage in *partnerships* with local landowners, conservation organizations, and government agencies



Acquisitions and easements

To protect tracts of land that are essential for testing, training, and operations, installations can purchase land through fee-simple acquisition; the land is then managed by either the installation or a partner. Although effective for permanently protecting the land from incompatible uses, this strategy is expensive and, therefore, should be considered as a last option. Acquisitions must go through the full military construction process.

Conservation easements are more affordable and typically cost less than fee-simple acquisition. Easements are interests in land that allow the owner of the easement the right to use or control someone else's land (or an area above



or below it) for a specific limited purpose (for instance, ingress and egress). Restrictive-use easements (or a conservation easement) are specific types of easements that place restrictions on the use of the land. Easements leave land titles in private hands and the land itself on property tax rolls, albeit at lower agricultural rates.

An installation's easements or the easements protecting an installation are typically negotiated and held by a third party, often a land trust or federal or state government agency. The restrictions – for example, the land may not be subdivided or developed – usually apply in perpetuity, although some easements are shorter in duration. For a full description of easements and their benefits, see the report by the American Farmland Trust: http://www.farmland.org/resources/reports/documents/AFT_MilitaryGuide_Dec06.pdf. Most of the land conservation strategies described in this document apply to forestlands.

Procurement choices

The National Defense Authorization Act of 2007 requires the U.S. Department of Defense (DoD) to produce or procure 25% of its total energy needs from renewable energy sources, beginning in 2025. Using woody biomass to generate heat and electricity is one way to comply with the mandate.

Woody biomass is renewable and it produces less atmospheric carbon and other pollutants than burning fossil fuels. It gives landowners a market for their small and otherwise undervalued trees – and thus reason to keep their working forests, rather than sell the land for development.

DoD installations can also help retain forested buffers by purchasing local forest products. For example, structural wood products can substitute for more energy-intensive building materials, such as concrete and steel, thus achieving reductions

For more information, please see “The Department of Defense’s Readiness and Environmental Protection Integration (REPI) Program Buffer Partnerships” Primer at: <http://www.repi.mil/Resources/Primers.aspx>.

in fossil fuel use and emissions. For a forest owner, purchasing locally produced construction materials could mean the difference between holding the land and selling it for development.

Sustainable management practices

The vast majority of America's forests are owned by families and individuals – more than 20 million altogether – but only about 5% of these private forests have professional management or stewardship plans. Without such plans, forest health may suffer, making landowners more vulnerable to short-term economic considerations that may have long-term consequences for forest retention – and military installations.



Natural resources staff from installations could attend or help organize workshops to make local landowners aware of the free or low-cost management plans offered by many state forestry commissions and other agencies and organizations. Increasing the acreage of nearby forests with management plans is a cost-effective way to help retain working forest buffers.

Installation staff can also help educate local landowners about certification and its benefits. Certification of forest management and forest products ensures that the materials were grown, harvested, milled, and transported in a sustainable way. It helps forest owners understand and take advantage of the long-term economic benefits of their trees and lands. It also improves stewardship of their forests, which in turn can benefit wildlife and imperiled species management.

Three major forest certification schemes cover U.S. forest management and products:

- *Sustainable Forestry Initiative® (SFI)*, www.sfiprogram.org: The standards of this independent, nonprofit organization are based on principles and measures that promote sustainable forest management and consider all forest values
- *Forest Stewardship Council© (FSC)*, www.fsc.org: This independent, nonprofit organization seeks to protect forests for future generations; its standards address deforestation, environmental degradation, and social exclusion
- *American Tree Farm System*, www.treefarmssystem.org: American Tree Farm certifies the forestry practices of family-owned and other nonindustrial private landowners

Choosing wood products that are grown locally and certified by one of the above programs can benefit local landowners and companies, while promoting the sustainability of natural resources. By encouraging local forest owners to develop stewardship plans for their woodlands and seek certification where appropriate, installations could reap many benefits at minimal cost.

Conservation ballot measures

Securing funding to protect working forests and other lands is always a challenge. One highly successful approach involves tapping into community-driven efforts that let voters voluntarily set-aside money for land conservation. These “conservation ballot measures” have produced eye-popping results. The Trust for Public Land (www.tpl.org/services/conservation-finance) reports that they helped to pass more than 400 ballot measures, generating more than \$34 billion in voter-approved funding for parks and open space. They estimate that every \$1 invested in this approach returns more than \$1,000 in new public funds.

Although conservation ballot measures typically raise funding for a wide variety of open space benefits, including recreation, forest protection certainly benefits. The Conservation Campaign (www.conservationcampaign.org), a program of The Trust for Public Land, lists success and current campaigns. This website also provides practical information on how to start and manage a conservation ballot measure campaign.

Innovative partnerships

The following examples indicate the potential of innovative partnerships to prevent encroachment.

Forest Opportunities in Resource Conservation and Environmental Security (FORCES) is a partnership with DoD, state forestry and wildlife agencies, and private landowners; local governments, communities, NGOs, utilities, and corporations may also be involved. FORCES uses technical assistance and incentives to encourage the long-term conservation of forests that are important to the military. Each landowner receives a forest security management plan that guides activities to achieve the joint objectives of the military installation, state forest action plan, and state wildlife action plan. The plans generally emphasize the maintenance of forest cover. A landowner’s existing forest management plan – developed for forest certification or participation in a U.S. Department of Agriculture (USDA) conservation program – may qualify for FORCES.

- For more information, contact Wib Owen, Southern Group of State Foresters, wib.owen@southernforesters.org

Partnership for Southern Forestland Conservation (PFSFC) was created in 2008 to protect large tracts of working forestland in the south for their

As of FY2013, DoD has leveraged over \$870 million of public and private funds with a 1:1 match under the REPI Program to protect over 314,000 acres of buffer land at 72 locations in 27 states across the country.

economic, environmental, and cultural values. PFSFC focuses on understanding the needs of large, private forest owners, such as TIMOs and REITs. More than 30 private landowners, government agencies, and nonprofits belong to the partnership and meet regularly to learn about issues that affect working forests; participants view DoD as an important partner. In 2012, PFSFC identified more than a dozen locations where conserving large tracts of working forest are likely to be practicable. In each case, a DoD installation is at the core of the selected location.



- For more information, visit www.pfsfc.org.

Readiness and Environmental Protection Integration (REPI) Program is the military's cost-share program to conserve land quickly, at scale, through partnerships with state and local governments, private conservation organizations, and landowners. For example, in 2013 Elgin Air Force Base leveraged \$1.75 million in REPI funds to protect 20,850 acres valued at \$19.5 million. Completed with the State of Florida and the Trust for Public Land, the project provides natural resources jobs and conserves habitat for imperiled species, all while protecting land under important military flight routes. In the same year, Joint Base Lewis-McChord partnered with the State of Washington, a county government, federal conservation agencies, an NGO, and private landowners to set up a stewardship endowment fund for preserving and restoring critical prairie habitat – land that the installation needs for its missions.

- For more information, visit www.repi.mil.

Sentinel Landscapes Partnership. This initiative, begun in 2013, is a collaboration between USDA (Natural Resources Conservation Service and Forest Service), DoD, and Department of the Interior (U.S. Fish and Wildlife Service). In essence, it coordinates the delivery of federal programs that promote the sustainability of working or natural lands around military installations. The program's financial and technical assistance to landowners, offered in recognition



that their properties protect the military mission, may help attract additional funding from nonprofit and even for-profit organizations that value the links among national defense, conservation, and working landscapes.

- For more information, visit www.repi.mil.

Case study

Fort Bragg is one of the Army's premier installations and among the most actively used military complexes in the world, home to the 82nd Airborne and U.S. Army Special Operations Forces. Fort Bragg is also home to rare, mature longleaf pine habitat for the federally endangered red-cockaded woodpecker (RCW). Meanwhile, the 2005 Base Realignment and Closure realigned up to 40,000 troops and their families—along with the resulting economic growth—to the post, increasing the challenges of managing growth in the North Carolina Sandhills area.

When habitat-destructive residential development occurred immediately adjacent to Fort Bragg's training areas, particularly along the southern installation border, the Army was compelled to set aside training land exclusively to protect dwindling RCW habitat. Since then, Fort Bragg has worked to protect longleaf pine forests, both on- and off-installation. As a result, the base was able to remove restrictions on training, five years ahead of schedule after a 20-year process. These working forests also provide public access and recreation.

The Conservation Fund also worked with Fort Bragg using REPI funding to protect the Hoke Community Forest, the first community forest in the Southeast. TCF purchased the property from International Paper and then the county

acquired it from TCF. Under a sustainable forest management plan, the forest provides numerous benefits to Hoke County and the local community, including recreation, habitat preservation, water quality protection, and income generation from pine-straw raking and sustainable timber harvesting.

Working Forest Partners and Useful Links

Additional information on forestry, working forests, and land conservation is available from the following agencies and organizations:

American Farmland Trust, www.farmland.org: A national conservation organization, this group protects farmland and rural landscapes. *Working to Preserve Farm, Forest and Ranch Lands: A Guide for Military Installations* (www.farmland.org/resources/reports/)

sets out the rationale for partnerships between installation commanders and local communities seeking to prevent sprawl.

American Forest Foundation, www.forestfoundation.org: This organization works with family forest owners, including the 82,000 members of the American Tree Farm System, a certification program. It may be able to provide information on the private forestland owners near an installation.

Land Trust Alliance, www.landtrustalliance.org: The website of this national conservation organization provides information about land trusts and how they work. Land trusts are valued partners for many reasons, but especially for their expertise with conservation easements. The Land Trust Alliance establishes best practices for conservation professionals and has an accreditation program. Links to both accredited and unaccredited land trusts are displayed by state.

Natural Resources Conservation Service, www.nrcs.usda.gov: This USDA agency executes farm bill programs that provide financial and technical expertise in conservation planning. NRCS offers many cost-share programs to help landowners finance habitat management and improvement projects.

Society of American Foresters, www.safnet.org: This professional association sets competency and credentialing standards, promotes continuing education for foresters, and maintains a directory of certified foresters.



State forestry associations: In most states, forest owners and others associated with the forest industry have formed associations. These groups are often involved with policy and other issues that affect forests and forest landowners. Many of the state associations may be found at <http://usendowment.org/contradeassociations.html>.

State forestry commissions: Each state has a forestry commission – a good place to start for forestry questions, including those regarding certification and green building. Each state also has a forest action plan, which typically provides an overview of its forests, as well as challenges and opportunities (<http://www.forestationplans.org/regional-state>). The National Association of State Foresters (www.stateforesters.org) is the association for state foresters.

The Conservation Fund, www.conservationfund.org: For nearly 30 years, The Conservation Fund has been saving special places across America. They have protected more than 7 million acres of land and water in all 50 states, from the park down the street to historic battlefields, wild areas and favorite destinations of all kinds. Working with community, government and business partners, The Conservation Fund strives to balance economic and environmental goals. The Conservation Fund has worked extensively with DOD on a variety of projects.

The Nature Conservancy, www.nature.org: The Nature Conservancy is a national organization with state chapters that lead land and biodiversity conservation efforts.

The Trust for Public Land, www.tpl.org: The Trust for Public Land “creates parks and protects land for people, ensuring healthy, livable communities for generations to come.” They are also leaders in developing conservation ballot measures and other innovative approaches to finance working forest and land conservation.

U.S. Department of Agriculture, www.usda.gov: Some of USDA’s farm bill conservation programs target or include working forests: Environmental Quality Incentives Program, Wildlife Habitat Incentives Program, Conservation Stewardship Program, Agriculture Conservation Easement Program, and Conservation Reserve Program. Landowners adjacent to military installations may qualify to participate and receive benefits that will help them maintain their forestry and farming operations.

U.S. Endowment for Forestry and Communities, www.usendowment.org: The Endowment website provides links to many nonprofit organizations that address forestry and forest management in their operations (go to the “connections” page). Additionally, the Endowment has partnered with DoD to advance the REPI Program and seek solutions to individual installation needs.

U.S. Forest Service, www.usfs.gov: This USDA agency manages the national forests and is staffed with experts on a wide range of topics. Its State and Private Forestry division conducts outreach and provides information on private lands.

Further Reading

- American Forest & Paper Association. 2012. Fun Facts. <http://www.afandpa.org/our-industry/fun-facts>.
- Arbor Day Foundation. 2013. Benefits of Trees. <http://www.arborday.org/trees/benefits.cfm>.
- Butler, Brett J. 2008. Family Forest Owners of the United States. USDA Forest Service, Northern Research Station. <http://www.nrs.fs.fed.us/pubs/5758>.
- Evergreen Foundation. 2013. Forest Facts. http://evergreenmagazine.com/web/category/Forest_Facts.html.
- Food and Agriculture Organization (FAO). 2013. Forestry. <http://www.fao.org/forestry/en/>.
- Grossi, R. 2002. Working to Preserve Farm, Forest and Ranch Lands: A Guide for Military Installations. American Farmland Trust. http://www.farmland.org/resources/reports/documents/AFT_MilitaryGuide_Dec06.pdf.
- Jenkins, D., and S. Repasch. 2010. The Forest/Drinking Water Connection: Making Woodlands Work for People and for Nature. *Journal of the American Water Works Association* 102(7): 46–49. <http://www.awwa.org/publications/journalawwa/abstract.aspx?articleid=24688>.
- Mendel, B.C., and A.H. Lang. 2012. *Wood for Bioenergy: Forests as a Resource for Biomass and Biofuels*. Durham, NC: Forest History Society.
- National Alliance of Forest Owners. 2009. Working Forests. <http://nafoalliance.org/policy-issues/working-forests>.



This primer is one of a series designed in cooperation with DoD's Readiness and Environmental Protection Integration (REPI) Program.

The primer series includes:

- ❖ Collaborative Land Use Planning: A Guide for Military Installations and Local Governments
- ❖ Commander's Guide to Community Involvement
- ❖ Commander's Guide to Renewable Energy
- ❖ Commander's Guide to Understanding and Supporting Working Forests
- ❖ The Department of Defense's Readiness and Environmental Protection Integration (REPI) Program Buffer Partnerships
- ❖ Outreach for Mission Sustainability: Working to Balance Military and Civilian Community Needs
- ❖ Working to Preserve Farm, Forest and Ranch Lands: A Guide for Military Installations
- ❖ Working with Conservation Districts: A Guide for Military Installations
- ❖ Working with Land Trusts: A Guide for Military Installations and Land Trusts
- ❖ Working with Local Governments: A Practical Guide for Installations
- ❖ Working with Regional Councils: A Guide for Installations
- ❖ Working with State Legislatures: A Guide for Military Installations and State Legislatures

To view the primers online, obtain hard copies, or for more information, contact:

Readiness and Environmental Protection Integration (REPI) Program

Office of the Deputy Under Secretary of Defense

(Installations and Environment)

<http://www.repi.mil/Resources/Primers.aspx>

(571) 969-6774

