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Article *in* Wildlife Society Bulletin · January 2023

DOI: 10.1002/wsb.1415

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Received: 29 July 2021 | Revised: 29 October 2022 | Accepted: 30 October 2022

DOI: 10.1002/wsb.1415

OPINION

Conservation easements: A tool for preserving wildlife habitat on private lands

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Abstract

Conservation easements are an essential tool for conserving private lands, and they have great potential for enhancing wildlife habitat and biodiversity. Private land conservation in the United States is likely to increase in the coming years, in light of Executive Order No. 14,008, issued by President Joseph Biden on January 27, 2021, which set a goal of conserving at least 30% of U.S. lands and waters by 2030 (Executive Office of the President 2021). There is, therefore, a need to evaluate the effect of conservation easements on wildlife habitat and biodiversity and to make recommendations for further enhancing the effectiveness of easements. Herein we propose a shift from primarily negative clauses and restrictive language to a more affirmative approach, developing language to proactively improve management of properties under conservation easement in order to maximize benefits to wildlife and ecosystems. In addition, we identify areas for further research on landowner perceptions and experiences regarding conservation easements.

KEYWORDS
biodiversity, conservation easement, private land conservation, tax incentives, wildlife conservation

Private land conservation supports biodiversity and wildlife populations. In the United States, there is an important role for private land conservation particularly in the eastern states, where a significant portion of land is privately owned (Kamal et al. 2015). While publicly owned lands are conserved by federal, tribal, state, and local

governments, private land conservation takes a different form. States, counties, and cities have enacted zoning regulations to manage land use on privately owned lands. Yet frequently, conservation of private lands occurs through mechanisms that involve agreements with individual landowners.

Conservation easements are one mechanism for protecting private lands. The agreements, distinct from temporary land conservation programs such as the Wetlands Reserve Program, the Conservation Reserve Program, and Environmental Quality Incentives Program, possess a unique ability to protect land in perpetuity. Under a conservation easement, a landowner gives up some of the rights to develop their property, a restriction that binds not only the landowner who signed the agreement, but all subsequent owners of the property (Brewer 2003, Jay 2016). Landowners who agree to conservation easements often qualify for a tax deduction (Brewer 2003, Jay 2016). While the temporary programs listed above have also been successful in conserving private property (United States Department of Agriculture 2021), we are focused on perpetual conservation easements due to their permanent impact on the landscape.

We propose a framework for managing properties under conservation easements in order to maximize the benefits to wildlife and ecosystems. Specifically, we argue that a collaborative relationship between a landowner and a land trust, with a focus on actively managing the land to protect and restore wildlife habitat, can enhance the conservation value of the property and support biodiversity. We suggest that our work can inform the efforts of wildlife conservation professionals, private landowners, and policy-makers. We also identify topics for further research on landowner perceptions and experiences related to conservation easements.

Our commentary on the role of conservation easements is timely. While conservation easements are not a new tool, there is a renewed focus on conservation easements and other land conservation tools following President Biden's release of Executive Order No. 14,008, *Executive Order on Tackling the Climate Crisis at Home and Abroad*, on January 27, 2021. Section 216 of this Order expresses a goal of "conserving at least 30 percent of our [U.S.] lands and waters by 2030" (Executive Office of the President 2021). Given the prevalence of private land ownership in the United States, it is unlikely that this goal will be met without significant involvement from private landowners.

PRIVATE LAND CONSERVATION AND BIODIVERSITY

Conservation of both publicly owned lands (lands owned by national or subnational governments) and privately owned lands (lands owned by individuals, corporations, or associations) is crucial to biodiversity and habitat protection (Scott et al. 2001, Jenkins et al. 2015, Kamal et al. 2015). The conservation contributions of public lands such as national parks, national forests, and state protected areas are well known in the United States. Of the approximately 9.2 million km^2 of U.S. lands, about 28% is federally owned, which equates to about 2.6 million km^2 (Vincent et al. 2014, Congressional Research Service 2020). The bulk of federal landholdings are in Alaska and the 11 continental western states; federal lands make up a much smaller percentage of the land area in most eastern states (Vincent et al. 2014). While it is difficult to determine the precise amount of land owned by state and local governments, it is a comparatively small amount (Nelson 2018).

Privately owned lands make up the majority of the total land area in the United States (Vincent et al. 2014, Congressional Research Service 2020), which means private land conservation also has an important role to play, particularly in areas of the country where most land is privately-owned (Jenkins et al. 2015). Private lands have been shown to have higher soil productivity and other desirable environmental characteristics than some public lands (Scott et al. 2001, Jenkins et al. 2015, Horton et al. 2017).

Biodiversity is essential for ecosystem health, as well as human existence (e.g., pollination of crops, control of pests; Alonso et al. 2001), and it is threatened by land development. Higher density development is associated with a higher prevalence of non-native species, reduced reproduction and survival of native species, and reduced native species richness (Hansen et al. 2005, Concepción et al. 2016). Private land conservation offers a unique opportunity to address the direct and indirect impacts of development on ecosystems. Species that have been put at particular risk due to development and habitat loss, such as the Eastern Massasauga Rattlesnake (*Sistrurus catenatus*), the

Black-Capped Vireo (*Vireo atricapilla*), and the California Tiger Salamander (*Ambystoma californiense*), may benefit greatly from private land conservation (Pyke 2005, Stein et al. 2010, Bailey et al. 2012, Pope et al. 2013, Hileman et al. 2018). California Tiger Salamander populations are located predominantly on private lands, whereas only about 5% of known populations are found on public lands (United States Fish and Wildlife Service 2000, Pyke 2005, Stein et al. 2010). Likewise, the de-listing of the Black-Capped Vireo from the Endangered Species List can be attributed, in part, to private landowners' conservation efforts (Ruhl 1998, Pope et al. 2013). Further, the habitat for over 4,600 species considered at risk, threatened, or endangered can be found in private forests (Smith et al. 2009, Stein et al. 2010, Sorice et al. 2013).

Recent events have further highlighted the importance of private land conservation. On May 6, 2021, the White House released a report that outlines recommendations for achieving the land conservation commitment set forth in Executive Order No. 14,008. The White House's report stresses the importance of voluntary, incentive-based conservation and private land conservation (Conserving and Restoring America the Beautiful 2021). It is therefore likely that achieving this goal will rely substantially on the engagement of private landowners, and the conservation easement will play a critical role in meeting the 30% conservation objective.

THE CONSERVATION EASEMENT

When land conservation targets both publicly and privately owned lands, the potential for protecting diverse habitats, preserving open space, safeguarding sites of historical and cultural significance, and promoting outdoor recreation increases significantly (Kamal et al. 2015). The conservation easement is a legal agreement (specifically, a deed, which is recorded and becomes part of the chain of title) in which a landowner voluntarily surrenders certain rights to use or develop their property and transfers those rights to a conservation easement holder (which we refer to by the colloquial term, land trust). Under the Internal Revenue Code (I.R.C.), a land trust is a qualified tax-exempt 501(c)(3) nonprofit organization or a governmental agency that has the authority and obligation to maintain the conservation values of a property that is under a conservation easement (I.R.C. 170(c)(1)). In essence, conservation easements are designed to protect the property from the current and future landowners, so the preservation of its desirable features will span multiple generations (Jay 2016).

Use of conservation easements in the United States

A land trust may partner with a landowner to place a conservation easement on the landowner's property to preserve or restore native habitats, promote biodiversity and protect at-risk species, provide ecosystem services, create buffers between other properties, or add corridors between conservation lands (Kiesecker et al. 2007, Rissman et al. 2007, Pocewicz et al. 2011). Conservation easements are also commonly used to preserve open space, protect sites of historic or cultural significance, or offer opportunities for public education and recreation. The Land Trust Alliance, a national association of land trusts, conducts a comprehensive census on private land conservation every 5 years. The 2015 census estimated that 67,923 km^2 of land in the United States was protected by perpetual conservation easements in 2015 (Land Trust Alliance 2015), and the 2020 census report estimated that 81,896 km^2 of United States land was protected (Land Trust Alliance 2022). The National Conservation Easement Database (NCED) tracks lands that are covered both by perpetual conservation easements and lands that are covered by non-perpetual conservation programs, such as the U.S. Department of Agriculture's Conservation Reserve Program. As of May 2021, it reported that there were 191,476 perpetual or non-perpetual conservation easements in the United States, spanning 132,340 km^2 (National Conservation Easement Database 2021). Land trusts are not required to register their conservation easements with NCED, so these statistics are likely to considerably underrepresent the amount of land protected under conservation easements.

Tax and financial considerations

Because landowners who put a conservation easement on their property give up some rights to develop or use their property, they may be eligible for a federal income or estate tax deduction as a result of this charitable contribution. Section 170 of the I.R.C. sets forth the eligibility criteria for, and the valuation of, the income tax deduction. The income tax deduction is calculated based on the appraised value of the property before versus after the conservation easement restrictions are put into place (I.R.C. § 170(f)(11)). States offering state tax incentives for conservation easements generally also utilize the I.R.C. eligibility criteria discussed above (Land Trust Alliance 2021). In some jurisdictions, a conservation easement landowner may benefit from a reduction to property tax liability as well (Land Trust Alliance 2021). For some landowners, federal and state tax incentives may serve as a powerful motivational factor; for others, they may be viewed as an added benefit, secondary to the primary goal of land and wildlife conservation (Jay 2016).

The cost of planning for perpetuity does offset the financial benefits of a conservation easement to some degree. The Land Trust Alliance's Standards and Practices indicate that the best practice for ensuring Internal Revenue Service (I.R.S.) approval of a conservation easement deduction requires that the land trust develop a plan for ensuring its ability to inspect the property and enforce the easement in perpetuity. As recommended by Sections 6 and 11 of the Land Trust Alliance's Standards and Practices, when a landowner donates a conservation easement, they also contribute to the land trust's Stewardship and Conservation Defense endowments (Land Trust Alliance 2017). The Stewardship endowment is a non-diminishing endowment that is designed to generate enough investment revenue annually to cover the cost of inspections, including mileage, staff time, and related expenses. The Conservation Defense endowment is a shared risk pool that is designed to cover the costs associated with any enforcement action taken by the land trust for any conservation it holds, such as attorneys' fees and court costs. Government grants and private donations from other individuals can help defray these expenses. Land trusts may also purchase specialized conservation insurance to cover expenses associated with landowner enforcement actions. However, even accounting for the cost of Stewardship and Land Conservation Defense endowment contributions, protecting habitat with a conservation easement is substantially more cost effective than protecting it through outright purchase of the property. With their relatively low cost, ability to preserve the land in perpetuity, and ability to engage private landowners in wildlife management practices, conservation easements may be increasingly popular in the years to come, particularly in states with a high percentage of privately-owned lands.

Affirmative and negative clauses in conservation easements

The I.R.C. requires that a conservation easement must be donated exclusively for conservation purposes in order to be eligible for a charitable tax deduction (I.R.C. § 170(h)(1)(C)). The I.R.C. defines conservation purpose as: (i) the preservation of land for outdoor recreation or education for the general public, (ii) the protection of a relatively natural habitat for fish, wildlife, or plants, (iii) the preservation of open space for the benefit of the general public, or (iv) the preservation of a historically important land area or historic structure (I.R.C. § 170(h)(4)(A)).

The I.R.C. definition of conservation purpose is a starting point for shaping the land-use restrictions contained in conservation easements. Easements often contain more specific parameters and restrictions, tailored to the interests of the landowner, the land trust, and the unique aspects of the property (Jay 2016). For example, if an easement agreement is written to protect a family farm, the easement may restrict development and subdivision, while allowing the landowner to grow crops and construct farming-related structures (Jay 2016). If an easement's purpose is maintaining the property's wildlife habitat, the easement would restrict or prohibit any activities that could negatively impact that habitat, such as land disturbance or planting of non-native plant species (Jay 2016). These types of clauses, which restrict or prohibit certain land uses (e.g., development, mining) are referred to as negative restrictions (Rissman 2013, Jay 2016), and they comprise the vast majority of the language in most

conservation easements. Negative restrictions, and the associated inspection and enforcement actions by land trusts, ensure that land is not being materially altered in a manner that reduces its conservation value (Jay 2010).

While negative restrictions do provide some protection for wildlife habitat, and while land trusts holding easements with primarily negative restrictions may offer landowners assistance in managing their land to promote biodiversity (Rissman 2013), restrictive clauses by definition cannot require proactive management activities. The best they can do is place guardrails around what management activities are permissible – for example, it is common for land trusts to prohibit high-grading (also known as selective harvesting) as a forestry practice.

A conservation easement agreement may also contain affirmative clauses, which either permit or require certain activities on the part of either the land trust or the landowner. Affirmative rights are one subset of these clauses; they represent rights retained by the land trust, such as the right to enter into the property for the purposes of monitoring and enforcement. Affirmative rights can be utilized for management; many conservation easements utilize language wherein the land trust retains the right to approve management activities, either on a case-by-case basis or as part of a comprehensive management plan. The other type of affirmative clause, which offers considerably more opportunity for management, is referred to as an affirmative obligation. Affirmative obligation language requires the landowner to perform certain land management activities, such as prescribed burns, timber stand improvements, invasive species removal, or other activities.

One affirmative obligation which may particularly concern landowners considering placing a conservation easement on their property is public access. Under the I.R.C., public access is required only if the property's conservation purpose includes outdoor recreation or education for the general public (Jay 2016). When public access is required in furtherance of the conservation purpose, the I.R.S. provides specific guidelines for how much and what kind of access is sufficient (Treas. Reg. § 1.170A-14(d)). Typically, easements that are written to protect or maintain habitat for fish, wildlife, or plants do not require public access (I.R.C. § 170(h)(4)(A)(iii), Treas. Reg. § 1.170A-14(d)(4)(iv), Jay 2016). To enforce the terms of conservation easement agreements, land trusts periodically inspect the easement properties they hold. If any behavior that is restricted by a negative easement has occurred, the land trust can legally require that the landowner bring the property back to its original state before the violation occurred (Jay 2016). Likewise, the land trust can legally require the landowner to perform any activities that are required pursuant to affirmative clauses in the conservation easement.

Conservation easements and biodiversity

Conservation easements are promoted by agencies and land trusts as a tool with the potential to improve wildlife biodiversity. Conservation easements can stave off declines in the population size of certain species (Smith et al. 2016, Hughes 2020), and may offer better impact than public land conservation. For example, Kareiva et al. (2021) examined the prevalence of high-priority species (federally-listed, or classified by NatureServe as critically imperiled, imperiled, or vulnerable at the subnational level) in various landholdings in Alabama, and found that privately-owned conservation easement parcels sampled in Alabama had 38 high-priority species identified per 10 km^2, whereas a nearby national forest in the state had only 5 high priority species per 10 km^2. Further, 92 of the high priority species documented on the easement properties were not documented within the national forest at all.

Conservation easements have also been shown to reduce threats to wildlife populations by preventing development and buffering protected public lands (Wallace et al. 2008, Pocewicz et al. 2011, Bennett et al. 2018). Not surprisingly, conservation easement properties tend to have fewer buildings, fewer roads, and an increase in evidence of wildlife activity when compared to areas with high development pressure that do not have conservation easements (Pocewicz et al. 2011). Yet conservation easements are only slightly better than randomly selected sections of non-conserved land at protecting landscape connectivity (Graves et al. 2019) and the wide range of allowed practices on conservation easement properties may result in high levels of habitat fragmentation

and disruption (Rissman et al. 2007). However, these studies are focused on easements with specific land trusts or limited geographic scope (Rissman et al. 2007, Pocewicz et al. 2011, Smith et al. 2016, Graves et al. 2019), and it is possible that different trends could emerge with other land trusts or in different regions based on practices in those areas. Overall, research supports the position that conservation easements can play an important role in protecting biodiversity on private lands.

OUR RECOMMENDATIONS

Affirmative clauses in conservation easements

To date, the use of affirmative obligation clauses in conservation easements has mostly been limited to conservation easements on working agricultural lands, with functions such as requiring organic farming practices (National Young Farmers Coalition 2013). However, there is great potential for affirmative obligations to be utilized in other conservation easements with the goal of supporting wildlife populations and increasing biodiversity. Such language may require removal of invasive species, restoration of native habitat, and other measures to expand and enhance wildlife habitat (National Young Farmers Coalition 2013, Rissman 2013). Land trusts adopting this approach do face some trade-offs, however. Affirmative obligations can be more costly and time-consuming for land trusts to monitor and enforce. Further, the lack of judicial precedent surrounding the use of affirmative clauses in non-agricultural easements introduces a risk of costly legal action and unforeseen judicial consequences. For example, Terrafirma, which provides specialized enforcement insurance for land trusts, will not insure affirmative obligations (Larson et al. 2019). Even the process of drafting presents difficulties; conservation easements are drafted by attorneys, not wildlife professionals, and while these attorneys often develop some expertise in land management, it would be unreasonable to expect them to have the same level of knowledge possessed by someone who manages lands professionally. Drafting language that meets legal standards for enforcement and tax deduction validity while simultaneously considering the management needs of the properties presents a significant challenge. Additionally, overly specific or proscriptive language might present an obstacle in the future, as conditions change on the property.

Despite the potential difficulties, land trusts should consider expanding their use of affirmative clauses in conservation easements to maximize positive impacts on biodiversity. An overreliance on negative clauses and restrictions makes for simpler enforcement but less effective resource management. The reality is that natural landscapes are not static; the boundaries between woodlands and grasslands shift substantially over time, and many ecological functions are based on natural disturbances that have been suppressed by human intervention. Prairie ecosystems are an excellent example where high biodiversity and deep soil layers developed as a result of grazing and wildfire, and, without utilization of management that at least simulates disturbance, prairie habitat is likely to be lost to encroachment from invasive plant species (Jordan et al. 2008, Gaskin et al. 2021). Change is natural, but given the rarity of unplowed prairie remnants, good stewardship requires active intervention to prevent overgrowth. In an era where climate change is accelerating and affecting every ecosystem, the necessity of active management is particularly salient (Jordan et al. 2008, Gaskin et al. 2021).

Additionally, careful and strategic drafting can ameliorate many of the risks identified above. There are cases where the land trust's best approach may be to retain an affirmative right to conduct management activities, rather than requiring such activities by the landowner. This type of approach has been utilized with success in state-funded easements conserving Gunnison sage-grouse (*Centrocercus minimus*) in Colorado, and could be generalized to other states and habitat types (Knapp et al. 2013). Given the risks inherent to affirmative obligations, land trusts should take care only to include those management activities which are most vital to preserving the site's conservation values. In other words, perhaps only those activities whose absence constitutes an existential threat to the ecology of the site should be included as affirmative obligations.

Expanding the role of wildlife professionals within land trusts

Affirmative obligations are currently on the leading edge of conservation easement drafting, and so land trusts with low levels of risk tolerance may very well be reluctant to explore such a relatively untested area of law. However, even if a land trust is unwilling to include affirmative obligations in their conservation easement language, or to assert affirmative management rights, there is an opportunity to utilize existing clauses and take a more active role as an interest holder in the land. While land trusts can offer landowners the option to have a property management plan drafted by a third party and approved by the land trust after the easement is in place, they could utilize their land management expertise to draft plans internally as part of the due diligence process, perhaps for a fee to offset the cost of staff time. By doing so, they can more precisely tailor the easement to the management requirements of the property, ensure that management is aligned with the easement's identified conservation values and prohibitions, and provide landowners with a plan for management from the outset of the easement's existence.

A further opportunity would be to offer cost share or even land management consulting services to landowners for appropriate management activities. While the resources for these programs would need to be developed, they offer the opportunity to substantially improve the management of land conserved by conservation easement. There are two obstacles to the integration of cost share and consulting activities with conservation easements. The first is that land trusts, with all the resource limitations and cost efficiency pressures that accompany the nonprofit sector, are reluctant to apply their resources to more active management of existing land. For a sector where success (and subsequent funding) is largely measured in new acres conserved, focusing additional resources on managing existing easements is out of alignment with economic incentives. The second is organizational specialization. While small land trusts are likely to have staff members and volunteers that fulfill multiple roles, most land trusts differentiate between their land protection staff (who are responsible for acquiring new interests in land) and their stewardship staff (who are responsible for monitoring, managing, and enforcing existing interests). There are practical reasons for the bifurcation of job duties, primarily that they require related but distinct skillsets, but the result is that wildlife professionals who are employed by or who volunteer with land trusts tend to focus heavily on land stewardship and are not typically involved in the conservation easement acquisition process, which is handled by attorneys, accountants, and appraisers. We believe that if wildlife professionals were better integrated into the acquisition process and drafting of the easement agreement, easement properties would yield better conservation outcomes.

Research priorities

Because a landowner's decision to place their property under a conservation easement is a voluntary one, it is important to understand landowner perceptions of conservation easements. Although studies have been conducted on landowner preferences and perceptions regarding conservation easements (Farmer et al. 2015, Bastian et al. 2017, Horton et al. 2017, Vizek and Nielsen-Pincus 2017), they have predominantly studied specific regions and have often left out regions where private land ownership is the highest (Cross et al. 2011, Miller et al. 2011, Vizek and Nielsen-Pincus 2017). Landowners who have decided to place their property under easement, for wildlife conservation or other purposes, may be able to share insights about the motivations and challenges associated with the conservation easement process. Similarly, landowners who have not placed an easement on their property may be able to provide context into their concerns or barriers they have faced (Miller et al. 2011, Sorice et al. 2013). Further research identifying and understanding these factors can help improve the adoption of conservation easements as a tool and provide guidance for further education and for making the tool more accessible and effective (De Young 1996, Ryan et al. 2003, Reddy et al. 2017). Additionally, research on the perceptions of affirmative conservation easements could support greater adoption of this tool as a way to benefit biodiversity.

CONCLUSIONS

For landowners, wildlife professionals, and others with an interest in biodiversity, the conservation easement is a powerful tool for protecting lands and habitats in perpetuity. Conservation easements have been shown in previous research to benefit wildlife biodiversity on private properties (Wallace et al. 2008, Pocewicz et al. 2011, Smith et al. 2016, Hughes 2020, Kareiva et al. 2021). There is a potential for expanded use of conservation easements in the years to come to meet the goal of preserving 30% of U.S. lands by 2030. In light of the current administration's priorities, the ways in which conservation easements are implemented and managed is a timely topic. Conservation easements that are more affirmatively drafted could have the highest ability to preserve and restore wildlife habitat on private lands when compared to conservation easements that are traditionally managed using only restrictive covenants. Additionally, members of the public that have an interest in land conservation but do not have the means to acquire land or place an easement on their property can still contribute to the effort by donating funds to land trusts or volunteering on a conservation easement property. Land trusts can invest in public education and outreach regarding conservation easements to increase this type of involvement. Wildlife scientists and professionals may also be able to offer their expertise to land trusts on how to best manage conservation easements for wildlife. Last, more research on conservation easements will help to increase further adoption of the tool. Academics should engage in research focused on identifying and understanding the benefits and shortfalls associated with conservation easements in order to improve their adoption and effectiveness.

ACKNOWLEDGMENTS

Many thanks to R. Mott and A. Snow for their assistance with this manuscript. Our work was funded in part by the University of Missouri Research Council and by the Mizzou Alumni Association.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ETHICS STATEMENT

No ethical information provided.

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Associate Editor: D. Johnson.

How to cite this article: Brown, S. A., R. M. Rotman, M. A. Powell, and S. A. Wilhelm Stanis. 2023. Conservation easements: a tool for preserving wildlife habitat on private lands. Wildlife Society Bulletin e1415. https://doi.org/10.1002/wsb.1415