

## A Radical Re-evaluation of Conservation Planning Priorities

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### Abstract

This paper proposes a reevaluation of conservation priorities through an anti-colonial and equity focused lens. Landscape conservation is a necessary tool in New England to mitigate the impacts of climate change. How this conservation is practiced, or, what nature is conserved and how it is stewarded, is as important as the work itself. This paper first introduces the reader to a ‘good nature’ vs. ‘bad nature’ dichotomy. It then delves into the intricacies of novel ecosystems before explaining how invasive plant mechanical removal is an extractive process that fits within a colonial land ethic. Arguments are made for an anti-colonial stewardship approach, referencing alternative invasive removal methodologies and projects. This paper concludes by arguing for a redistribution of invasive removal funds for justice centered conservation projects.

### Introduction

Conservation planning in New England is at a critical juncture. Climate change is predicted to drastically alter weather patterns in the region, trending warmer and wetter with a greater frequency of extreme weather events like heavy rainfall and associated floods (Calvin et al. 2023). The IPCC identifies “reduced conversion of natural ecosystems” as a crucial priority to mitigating the adverse effects of climate change (Calvin et al. 2023, 27), much of which are under threat of development (Foster et al. 2017; Ricci et al. 2020). To meet climate mitigation goals, conservation planners need to protect as many natural resources as possible while respecting the increasing need for housing and adhering to existing master plans for communities and regions. Globally, funding for conservation does not meet the needs to fully address climate goals (United Nations Environment Programme 2022), and how conservation funding is distributed at this time is critically important. At this crucial time, the kind of ‘nature’ and ‘landscape’ that is being prioritized for conservation and perpetual stewardship seem to fit a problematic ecological paradigm. Furthermore, the amount of funding that goes towards removal of plants in landscapes that do not sync with this paradigm is astronomical. This paper makes an argument for a radical reevaluation of stewardship that embraces anti-colonial methodologies and equitable conservation priorities.

### Background

Landscape conservation practitioners use a variety of factors to determine whether a parcel of land is worth saving. Criteria that contribute to whether or not a parcel is deemed valuable for protection are numerous, but often rely on ecological, aesthetic, and historical considerations. Prioritization is often given to lands that comprise critical habitat, core forests, critical water supply, and other concerns. Land that is particularly scenic, or includes historic land, is often also considered valuable for conservation by the communities that surround it, as well as farmland. The landscape ethic of contemporary conservation planning is to preserve the land in its natural state. This

preservation land ethic is, at its heart, at odds with development. It sees the land as communities have known it in their lifetimes and says, let's keep it that way. It promotes a look-don't-touch mentality where the public is invited to venture into “natural” landscapes that will be stewarded in perpetuity. This stewardship frequently includes the removal of “invasive” non-native plants (Marris 2013). This landscape ethic, held by a vast majority of communities in New England and by many professionals who deal with land is quintessentially problematic. Humans have been intrinsically connected to land for thousands of years. Landscapes throughout millennia have always been managed, either by fire or mechanical practices, by first peoples or settlers (Mann 2005). In the past few centuries, humans have introduced a number of non-native plants that have integrated themselves into our forest ecosystems, for better or worse (Marris 2013). In fields of planning, conservation, landscape architecture, and many others that deal directly with land, it can be very easy to write off landscapes populated with invasive species as less valuable than landscapes that have experienced less ecological disturbances, or are for whatever reason more populated by native trees, shrubs, and herbaceous or annual plants. Some ecologists describe these landscapes as “trashy”, not worthy of the same rigorous study as healthy ecosystems (Marris 2013, 112).

This concept of “bad nature” is dangerous. Many ecologists argue that landscapes populated with non-native invasive species are less ecologically valuable than ecosystems that feature primarily native species (Marris 2013). However, it stands to reason that landscapes filled with invasive species are still more ecologically valuable than an oversized parking lot. What is a land ethic for landscapes that are populated by non-native invasive plants? Do these landscapes not have value? Invasive plants can sequester carbon, provide habitat for birds and mammals, act as food sources for a great diversity of species, increase storm water infiltration rates, and create shade in urban heat islands (Del Tredici & Pickett 2020). They can grow in some of the most extreme conditions, where no plant may be expected to grow (Bryant Logan 2020, 60–66). Are these novel ecosystems, and the exceptional plants therein, not worthy of rigorous academic research the same as any other ecosystem?

### **New Frameworks: Novel Ecosystems**

Although there is legitimate scientific evidence that non-native invasive species can displace native species and have complex effects on ecosystems often including numerous disbenefits, this evidence has to be taken in context of the anthropogenic world we live in. In *Rambunctious Garden: Saving Nature in a Post-Wild World*, Emma Marris (2013) makes a powerful argument for the acceptance of non-native species:

“Indeed, as the planet warms and adapts to human domination, it is the exotic species of the world that are busy moving, evolving, and forming new ecological relationships. The despised invaders of today may well be the keystone species of the future’s ecosystems, if we give them the space to adapt and don’t rush in and tear them out. These emerging, exotic-dominated ecosystems still look like trash to most ecologists. But a brave few have embraced them and given them a more positive name: *novel ecosystems*.” (Marris, 109)

Marris continues:

“Novel ecosystems are defined by anthropogenic change but are not under active human management. Some were intentionally altered by people—made into tree plantations, pastures, or agricultural fields, for example—then left to go feral. Others were never systematically altered but have been changed by humans from a distance, by the encroachment of introduced species, by climate change, by extinctions, and by a grab bag of other forces. As you might expect, novel ecosystems are now more common than intact ecosystems.” (Marris, 114)

Marris’s book engages with the work of environmental scientist Earle Ellis, who estimated that “35 percent of the world’s ice-free land is covered with novel ecosystems—a huge part of the world and virtually unstudied” (Marris 2013, 119) These landscapes deserve rigorous academic study, stewardship that sees the non-native invasive plants within them as potential equals to their native counterparts, and a radically reevaluated landscape ethic of care.

There are only a few studies that estimate the cost of invasive removal programs, it is an area of study deserving of further research. But the studies and resources that are available indicate that the amount of money spent to remove invasive species in the United States and New England is prodigious (Crystal-Ornelas et al. 2021; Varney 2004). If those in charge of stewarding landscapes embraced a different approach to managing ecosystems, one that does not vilify non-native and invasive species, how much more money would there be for acquisition and protection of landscapes that are in threat of development? And what if stewardship regimes opted to manage these novel ecosystems the same way that we manage “healthy” ecosystems, rather than outright disturbance removal regimes? What would that look like?

### **Mechanical Removal & Extractive Land Relations**

In radically reevaluating the stewardship paradigm for conserved landscapes, I do not argue for an abandonment of landscape and forest management practices, but rather for a more complex approach that treats non-native and invasive species as a part of our ecosystem and makes landscape management decisions on a site by site basis that relies on site specific evidence. The act of extracting from an ecosystem without giving something in return fits within a colonial land ethic (Liboiron 2021). One methodology for a more complex management practice is the adoption of anti-colonial practices. In *Pollution is Colonialism*, Max Liboiron (2021) struggled with the ethics and potential repercussions of removing a plastic heap of fishing gear in the North Atlantic gyre that supported its own small ecosystem:

“I came across fishing ropes and a buoy snarled into a ball. It acted as a fish aggregator, providing shade for larger fish and a platform for micro-algae and microbes to grow, hosting a small but thriving ecosystem... Sitting in our boat, we faced an ethical question: do we take the tangled plastics out of the water, killing the life on and around it, or do we leave them in as the supporting structure of a functioning ecosystem? Are the animals full of EDCs? Probably. Do the chemicals associated with plastics have health effects? Likely. Were the individuals and overall ecosystem alive and thriving? Yes.” (Liboiron, 104)

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This ethical dilemma is the very same dilemma all landscape stewards should face when they encounter terrestrial ecosystems rife with non-native and invasive plant species. The removal of invasive species from ecosystems where they are an established part of the ecosystem, is a practice rooted in colonialism and a colonial land ethic. The mechanical removal of invasive species rips their root structures from the ground, giving nothing back to the ecosystem except its absence. It is extractive, and furthers the practices of colonial land relations. This mechanical removal frequently leaves the site disturbed, prepped for the dispersal of seeds of both native and nonnative or invasive species from nearby seed banks, perhaps in adjacent landscapes.

Mechanical removals are justified by the presumption that their removal will support native plants and thus support other native species that have co-evolved with them. However, land stewards should not assume that mechanical invasive removal is an infallibly ‘good’ practice. Recent research has shown that invasive plant species have more complex relationships with other species in forest ecosystems than is commonly believed. In the case of insectivorous birds in Connecticut, researchers found that some of the most common invasive species, autumn olive, burning bush, Japanese barberry, and morrow’s honeysuckle, had comparable protein content and arthropod biomass to the most common native species that would fill the void left by invasive removal (Clark et al. 2024; Great Hollow Nature Preserve and Research Center 2024). Dr. Chad Seewagen, one of the study’s authors said in an interview on the research findings:

“Our results indicate that it should first be demonstrated, not assumed, that invasive plants are inferior resources for birds compared to the dominant native plants in the community before land managers undertake costly removal efforts. Clearly some invasives are worse than others and it's not as simple as all invasive plants must go. While we certainly do not suggest that invasive plants have no negative ecological impacts, our study shows that coexisting native plants are not always superior resources for wildlife and that context is important. Managers need to know whether the native plants that are most likely to replace removed invasives are really of greater value to the wildlife for which they are managing the habitat, and if that effort is worth the cost and disturbance.” (Great Hollow Nature Preserve and Research Center 2024, par. 9-11)

In the event that land stewards are open to adopting evidence-based invasive plant management practices, there may be significant opportunities for adoption of atypical removal protocols.

### Anti-Colonial Stewardship & Creative Alternatives in Invasive Removal

So, what are the alternatives to mechanical removal? If landscape stewards deem an ecosystem worthy of invasive removal, based on facts and not assumptions, perhaps the best way to go about that removal is not through a colonial land ethic that extracts and gives no gifts in return. Returning fire to the landscape is one land management tool that has been proven to have varied effects in controlling common invasive species in New England (Richburg et al. 2004), it differs from mechanical removal in that it can have regenerative effects (Lear et al. 2000). Controlled burning embraces a type of stewardship that recognizes humans as an active part of the landscape, a land ethic that promotes regeneration rather than extraction and removal. Burning has been for millennia, and still is today, an indigenous cultural practice rooted in respect and intention (National Park Service 2022). If land stewards are interested in returning fire to their landscapes,

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partnering with Indigenous led conservation organizations in New England, such as the Native Lands Conservancy, could be one method for managing invasive species in non-extractive processes.

Where burning is not appropriate, there are other, more specialized, examples of creative uses of invasive species in the Northeast that landscape stewards can look to for inspiration. In Rochester, New York, Chara Dow and David Dow, a father daughter duo, harvest oriental bittersweet vines from their local woods and transform them into works of art in the form of tables, chairs, benches, and more (Inhabit Films 2017). This unique form of forest management demonstrates how even the most vilified invasive plant species can be transformed into beautiful, useful resources that exist as stored carbon in the form of high end furniture. There is power in their works. They show how invasive plants, viewed most often as problematic or disruptive, can be elegant or beautiful. Could there not be other creative uses for the harvest of mature bittersweet vines, such as natural play climbing structures, interior decor, or many others?

In 2024, in Providence, Rhode Island, an artist collective known as the Below and Above Collective created an artificial floating wetland out of Japanese knotweed stalks. The stalks were harvested, dried, and bound into bundles and assembled into a raft that was installed in an ecologically distressed lake in Roger Williams Park. The floating wetland was planted with a diverse array of native aquatic plants that will attempt to improve water quality in the pond (Lehnert 2024). One of the artists involved in the project, Maxwell Fertik, reflected on the project, and the site where the knotweed was harvested, in the arts publication *Garland Magazine*, “I look at the spot my partner pointed out two years ago and despite the bi-annual bulldozing, a forest of green sprouts hastily appears right on schedule. If nothing else, this project showed me how to work with the abundant material around me and how to share that wisdom with those around me” (Fertik 2024). These projects offer low tech and low cost solutions to invasive species management. Their methodologies are anti-colonial in both their utilization and transformation of the harvested species, and the minimal ecological disturbance caused in their removal.

### **Discussion: Where else could invasive removal money go?**

In the event that landscape conservation planners and stewards can adopt a more complex approach to managing invasive plants, one that accepts non-native species as part of novel ecosystems on a case by case basis, it stands to reason that a great deal of funding that otherwise would have been spent on costly invasive removal programs could be available for other conservation endeavors. This money could be used to acquire additional parcels of land deemed worthy of conservation, in the same methodology that conservation planning has been operating in New England.

However, it is worth noting that a vast majority of landscape conservation in New England, in its present state, primarily serves a very specific subset of our population. There is evidence that shows that wealthy white people are those who financially benefit most from landscape conservation (Lang et al. 2023). This considered, it stands to reason that money set aside from adopting an anti-colonial stewardship practice should serve primarily under represented stakeholders. Perhaps funding that would have gone to remove invasive species could be put forward to specifically conserve parcels in underserved and underrepresented communities.

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Alternatively, funds could be allocated to promote limited development that creates affordable housing for underserved communities in the direct vicinity of newly conserved land. The Pioneer Valley Habitat for Humanity and the City of Northampton, Massachusetts, has demonstrated how this can work with modular homes located next to over fifty acres of permanently conserved open space (Feiden 2019).

If funding that is made available by setting aside costly invasive removal programs is not significant enough to acquire actual parcels of land, or fund creative affordable housing partnerships, there may be opportunities to use that funding for educational and interpretive materials that explain the nuances of native and invasive plant interactions in the Northeast. There is a significant amount of history of how these plants arrived in North America, who brought them here, why they were brought here, and how they came to be naturalized in landscapes across New England. It is important to understand how humans were intrinsically involved in the arrival of those plants. This education could work towards reshaping the ‘good nature’ vs. ‘bad nature’ dichotomy and work to roll back some of the xenophobic language associated with the topic (Abbate & Fischer 2019; Simberloff 2003).

### **Organizations to look to for precedents**

There are several conservation organizations in the Northeast that can be looked to for precedent for alternative approaches, such as Land in Common community land trust in Greene, Maine, the Native Land Conservancy based in Mashpee, Massachusetts, and the Boston Food Forest Coalition in Boston, Massachusetts to name a few. As Max Liboiron (2021, 133) says in their book, “a wide range of peoples” can engage with anti-colonial practices. Conservation organizations do not need to be indigenous led to adopt an anti-colonial practice, they can be allies. Some organizations already embody an anti-colonial practice, even if it is not specific outright in their mission statement, as is exemplified by the Boston Food Forest Coalition (BFFC). BFFC aims to transition thirty vacant parcels in the City of Boston to food forests by 2030 (Ungerleider & Freeman 2024), this act of reforestation and community building in the direct vicinity of a diverse mix of stakeholders is an example that all conservation organizations can look to as they introspectively reflect on who their own projects serve. Land stewards can further work to embrace anti-colonial allyship through the adoption of cultural respect easements on their land. This easement is “a legal agreement that guarantees Indigenous people cultural access to land in perpetuity” (Native Land Conservancy 2023, par. 1). Cultural respect easements guarantee indigenous peoples access to land for ceremony and other traditional or cultural purposes. It is, at present, the nearest thing to land reparations short of a deed transfer (Native Land Conservancy 2023).

### **Conclusion**

Conservationists, town and regional planners, land trust and non-profit organizations, and practitioners in related fields can work together to guide landscape conservation in a more equitable and anti-colonial direction. If a more conscientious approach to landscape stewardship is adopted, and significant funding is made available in the absence of expensive invasive removal regimes, this funding can be designated for projects that are reflexive, and center justice as a primary driver of conservation priorities. The results of this proposed radical reorganization of

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stewardship priorities could be extraordinary. It falls upon us to protect the natural resources that climate change impacts threaten, while simultaneously recognizing the conservation value of novel ecosystems, and serving the communities who have historically gained the least from contemporary landscape conservation practices.

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