ENVIRONMENTAL POLICY

Allow "nonuse rights" to conserve natural resources

"Use-it-or-lose-it" requirements should be reconsidered

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Market approaches to environmental conservation, by which mechanisms such as property rights, prices, and contracts are used to advance environmental goals, have gained traction globally in recent decades (*1*). But in many cases, antiquated rules limit their role in conserving public natural resources. "Use-it-or-lose-it" requirements, together with narrow definitions of eligible "uses," can preclude environmental groups from participating in markets for natural resources. These restrictions can bias resource management in favor of extractive users, even when conservation interests are willing to pay more to protect resources from development. We argue that acquisition of public natural resource rights for the purpose of withholding them from development should be allowed. Policies should be reformed to include conservation as a legally valid form of "use." Allowing such "nonuse rights" to public natural resources would enable markets to advance environmental goals, leading to more stable and less contentious outcomes.

Use-it-or-lose-it rules are legally mandated for many publicly managed resources, meaning that rights to the resource are granted on the condition that the resource be exploited. For example, at least 16 of 37

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Nonuse rights have been thwarted on public lands in areas such as southern Utah, shown here.

Organisation for Economic Co-operation and Development (OECD) countries have use-it-or-lose-it provisions for water allocation (*2*). In the United States, these requirements were established in the 19th and early 20th centuries when the nation's primary management goal was to promote productive use of natural resources, defined as extraction. Such rules are outdated today because the demands for alternative, conservation-oriented "uses"—recreation, protection of ecosystem services, and scenic views—often exceed extractive demands for the same resources.

A recent example illustrates the problem. In 2016, environmental activist Terry Tempest Williams purchased drilling rights to 450 ha of federal land in Utah for $2500 at a Bureau of Land Management (BLM) lease auction. To qualify as a bidder, she created a company—Tempest Exploration Co. LLC—and began paying rental fees on the lease. But when Tempest Williams revealed that she intended to keep the oil in the ground, the BLM canceled the leases, arguing that she violated the "diligent development requirement" of the 1920 Mineral Leasing Act, which requires lessees to "exercise reasonable diligence in developing and producing" their leases.

Such requirements may hinder several current US and international conservation goals. Under an executive order issued soon after taking office (EO 14008), the Biden administration announced plans to conserve 30% of US lands and waters by 2030 (referred to as "30 by 30"). To meet that goal, EO 14008 also called for a "comprehensive review and reconsideration" of the federal oil and gas leasing program. Recent scientific proposals to address climate change, protect biodiversity, and safeguard ecosystem services (*3*) have prompted many nations to propose similar goals.

Although we explore this theme here in the context of US law and policy, our discussion is relevant internationally, where public management is common for surface resources, subsurface deposits, fisheries, water, and pollution permits. For example, the supply-side approach of "keep it in the ground" for fossil fuels requires countries to allow nonuse of commercially valuable public resources (*4*). Moreover, the growing international trend toward recognizing environmental flows as a valid use of water suggests that countries often draw on the experiences of other nations when crafting their own definitions of acceptable "uses" of natural resources (*2*). Nonuse rights are also central to ongoing debates over extending legal rights to nature, as in the case of New Zealand's Whanganui River, which was granted legal personhood in 2017. They also complement efforts to restore resource governance authority to Indigenous communities, which often place greater emphasis on nonextractive resource uses.

THE STATUS QUO

With the exception of national parks, designated wilderness, and other protected areas—which together make up only about one-third of US federal lands—the rules governing public natural resources are biased toward extractive uses, requiring leaseholders to extract, graze, divert, harvest, or otherwise develop resources (see the box). These rules made sense more than a century ago to discourage waste and prevent speculation, but they create new challenges today. Efficient resource management requires a more modern interpretation of natural resource "use." Changing values, better scientific information about goods and services provided by intact ecosystems, and income growth have fueled new demands for conservation on public lands that are not formally classified as protected. Meanwhile, "unused" landscapes are becoming scarcer. Natural resource policy has been slow to respond to these changes. This may be due in part to the entrenched power of constituencies who benefit from extractive uses and therefore resist policy changes that threaten their livelihoods.

Because environmental nongovernmental organizations (ENGOs) generally cannot acquire public resource rights directly, environmental values are largely expressed through regulations that define permissible uses or through litigation under various environmental statutes. Rather than directly acquiring natural resources and conserving them, ENGOs must instead expend considerable resources attempting to influence political, legal, or administrative processes, often with little or only short-lived success.

Moreover, political and legal approaches often pit extraction-dependent communities against environmentalists and can result in contentious outcomes that are vulnerable to shifts in partisan control. In its final year, the Trump administration reversed several management policies of prior administrations such as allowing logging in previously protected areas of Alaska's Tongass National Forest (*5*). Though ENGOs opposed these policies—and likely would have paid more than traditional users for leases to conserve these areas—they lacked the ability to acquire lease rights. Although the Biden administration may undo some of these policy changes, a future administration could reverse course yet again.

Expanding public natural resource rights to include conservation will require amending or reinterpreting US laws that govern resource management, some more than a century old. Depending on the resource, this could be done by an act of Congress or state legislatures, by revisions to administrative rules by the executive branch, or sometimes through judicial rulings. Because administrative rules can be modified relatively easily by future administrations, legislative reforms provide the most reliable way to create nonuse rights that are reasonably secure and free from political interference.

A CASE FOR NONUSE RIGHTS

If done with care, letting conservationists acquire resource rights has the potential to improve the status quo for several reasons. First, markets can reveal information about the economic values for what are currently considered nonuses of public resources. Measures for the values of recreation and conservation are sensitive to assumptions about the extent of the market and the degree of substitutability between different resources and sites (*6*). Allowing market exchanges of resource rights for both use and nonuse purposes could reveal how the value of additional conservation differs across locations and circumstances, enabling ENGOs to identify and conserve areas where there is substantial unmet conservation demand.

Second, there is evidence that ENGOs would participate in markets to conserve public natural resources if allowed to do so. There are active markets for conservation easements and payments for ecosystem services on private land—where nonuse rights to natural resources are recognized (*7*). In instances where ENGOs have been allowed to acquire nonuse rights to publicly managed resources—under either region-specific legislation that authorizes nonuse acquisitions, administrative procedures to enable nonuse buyouts at an agency's discretion, or state requirements to accept high bidders for leases on state-owned lands—several groups have demonstrated a willing-

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ness to acquire these rights (*8*). ENGOS have purchased federal energy leases, negotiated voluntary grazing permit retirements with ranchers, contracted to leave water instream for fish, and outbid logging companies for timber leases (see table S1). The authority to acquire nonuse rights currently applies to only a few regions and specific circumstances but could be expanded to other areas of public natural resource management.

Third, nonuse rights have the potential to deliver more secure and lasting conservation outcomes than traditional management policies, as long as such rights are reasonably secure and well defined. In the 1990s, the Grand Canyon Trust, an Arizona-based ENGO, negotiated agreements with ranchers to relinquish their federal grazing permits in Utah's Grand Staircase-Escalante National Monument. Even though the ENGO successfully struck a deal with permittees, there was no certainty that the BLM would not later reissue the permits to other ranchers. Because of federal grazing requirements, the ENGO could not hold the permits themselves without grazing livestock (*8*). Indeed, in 2020, the US Department of the Interior announced plans to reopen these retired allotments to grazing. By contrast, if the rules allowed the group to acquire the permits for conservation purposes, such rights would be secure through clear contractual obligations and would have well-defined time horizons.

Fourth, rights-based approaches allow conservation priorities to adapt to evolving market and environmental conditions. When relative values change or new information emerges, market participants can respond quickly by buying or selling existing rights (*9*). These adjustments reflect the natural arbitrage we would expect as extraction and conservation demands respond to environmental change. For example, climate change may alter the variability, timing, and spatial distribution of wildlife migrations, wildfires, and streamflows, among others (*10*).

Fifth, market approaches can be designed to compensate current extractive users who stand to lose if policy priorities and economic demands change. ENGOs, for example, could be allowed to negotiate buyouts of existing leaseholders' rights to public natural resources (*8*). More than 10.5 million ha of US public lands are currently leased for oil and gas production—half of which are not yet developed but could be in the near future—and more than 87 million ha are leased for livestock grazing. Letting ENGOs purchase existing leases for conservation purposes would provide a way for current leaseholders to be compensated for relinquishing their permits. Recent state-level reforms that have enabled ENGOs to acquire water rights for environmental purposes are one potential model. Purchases of instream flow rights by Trout Unlimited, Freshwater Trust, and other ENGOs have secured critical fish habitat while compensating traditional water users for the associated reductions. This strategy is likely to receive more widespread support than curtailing extractive users' rights through regulation (*11*).

Legal barriers to conservation leasing of US public natural resources

Grazing
- The Taylor Grazing Act of 1934 gives preference for grazing permits to those who reside within or near a designated grazing district and are engaged in the livestock business.
- If permittees do not graze at or near the authorized level, permits can be revoked and transferred to another permittee.
- Permittees must own or lease qualifying private property that can serve as the base for a livestock operation.

Energy and Minerals
- The General Mining Act of 1872 provides mineral prospectors who discover hard rock minerals an exclusive "right to mine." Claims are maintained perpetually through an annual $100 maintenance fee or labor and improvements at the claim site worth $100 each year.
- The Mineral Leasing Act of 1920 requires oil and gas lessees to "exercise reasonable diligence in developing and producing" energy resources. If resources are not developed within the 10-year primary term, the lease can be terminated and made available for other developers.

Timber
- The National Forest Management Act of 1976 requires that the terms of timber sale contracts "shall be designated to promote orderly harvesting."
- Timber leases on national forests are must-cut contracts. Failure to cut timber within a designated length of time (not to exceed 10 years) voids the contract.

Water
- The prior appropriation system imposes a use-it-or-lose-it requirement on water rights holders in western states. Water must be put to certain defined "beneficial uses," which historically excluded nonuse conservation. Some states now consider conservation, or instream flow, to be a beneficial use, although others do not.

Fisheries
- In rights-based fisheries, quota holders are generally required to own vessels and/or harvest or lease their quota.

Wildlife
- Rights to wild game are only established by harvesting an individual animal rather than by owning a license to hunt. Nonharvested game is under the control of state wildlife agencies and is often available to be harvested by others.

RESEARCH PRIORITIES FOR AVOIDING PITFALLS

Market-based policies can have unintended consequences if not approached with care. For example, stakeholders from local communities may oppose allowing ENGOs to buy out extractive users because of potential economic losses from curtailed development. In the case of public lands, nonuse rights could create challenges for communities and industries that are reliant on activities related to drilling, grazing, or logging operations by reducing regional demand for labor and inputs associated with these activities (*12*). At the same time, there is some evidence that nonextractive uses of public lands (e.g., recreation and complementary preservation) can spur economic growth for rural communities (*13*). In any case, large-scale buyouts for conservation could bring substantial economic and cultural shifts for some communities, and nonuse rights should be designed and implemented in ways that address the concerns of existing stakeholders.

Proliferation of nonuse rights may create revenue challenges and management obstacles for federal and state governments. Although allowing environmental bidders could result in higher revenues from lease auctions, governments may be required to forego royalties accrued from the extraction of resources such as oil, gas, and timber. Bids from extractive users and ENGOs may not be directly comparable because an extractive user may offer a lower up-front bid but provide governments more revenue over time from royalty payments. Nonuse rights may also create challenges for governments whose management strategies are intertwined with existing uses. In some cases,

extraction may be necessary for long-term resource management. Livestock grazing and timber harvesting, for example, can play a beneficial role in resource management and in reducing wildfire risk by limiting the build-up of fuels (*14*).

Carefully constructed rules for nonuse rights could help overcome some of these hurdles. For example, agencies could price in foregone royalties or require higher annual rental payments from nonuse lessees. Agencies could also specify management outcomes that must be achieved regardless of who holds the resource rights. For resources such as timber and rangelands, agencies could mandate wildfire mitigation measures or require lessees to achieve certain ecological outcomes, similar to how the US Forest Service has used stewardship contracting and the BLM has used outcome-based grazing authorizations to meet desired resource conditions. For resources such as wildlife and fisheries, this may be more difficult if managers use harvests (e.g., hunting or fishing) to achieve specific population targets.

Another concern is that nonuse rights, if acquired on a large scale in one area, could create political pressure for managers to make additional resources available for extraction elsewhere, which in turn might offset some of the conservation gains from nonuse acquisitions. This could be prevented by rules that constrain the ability of managers to offer more resources for use in response to acquisitions by ENGOs. For example, states that allow water rights for instream flows often set minimum-flow requirements for specific streams and limit the authority of agencies to grant new water rights that would reduce flows below those standards. Moreover, to the extent that nonuse acquisitions shift extractive activities away from areas with high conservation value and toward areas with low conservation value, such substitution would be consistent with a more efficient spatial allocation of conservation and extraction, even if there were no net decrease in extraction.

Yet another concern is that developers could exploit nonuse rights to create monopoly power by buying up large amounts of extraction rights and withholding them from production. States have addressed this issue in the context of nonuse rights for water through various "antispeculation" measures that prevent instream flow rights from becoming a source of monopoly power. Some fisheries in the United States, Canada, and Iceland have "consolidation caps" that limit the amount of tradable fishing quota that can be controlled by a single entity. Similar rules could be adopted for other resources. Concerns over market power also vary by resource. Locally priced resources like water are more vulnerable to monopoly control than globally traded commodities like oil, timber, and beef.

Spatial externalities could affect the demand for nonuse rights if, for example, access roads, oil and gas infrastructure, or wandering cattle spill onto adjacent areas leased by ENGOs. As a practical matter, a combination of administrative rules and local nuisance and property law would govern such conflicts. More broadly, the scope for these spillovers would likely cause ENGOs to acquire large contiguous areas, as has been the case when exceptions to existing rules allowed nonuse rights.

Experience from existing environmental markets suggests that many of these concerns can be mitigated through careful design and implementation, guided by specific research. Recent social science insights on opposition to rights-based management by resource-dependent communities should be extended and combined with emerging work on gradual or "just" transitions to ensure that communities' concerns are fully addressed (*15*). Insights from mechanism design and auction theory could be applied to address questions of contract structure, revenue generation, and ENGOs' incentives to participate that may vary across different resources (e.g., nonrenewable oil and gas versus renewable timber stands). Finally, our evolving understanding of the ecological impacts of different human uses of land can inform the assessment of how expanded nonuse rights can realize management targets.

Beyond concerns over design and implementation, some may simply object to the idea of having to pay to conserve public natural resources. Yet agencies have longstanding responsibilities to allow multiple uses—including for both extraction and conservation purposes—and to generate fair returns to taxpayers or share revenues with nearby communities. Some state land agencies are even required to maximize resource revenues to benefit schools and other public institutions. Not allowing ENGOs to bid creates an implicit subsidy to extractive users, who face less competition and hence lower prices. Nonuse rights would expand opportunities for conservation in a way that acknowledges multiple-use management responsibilities, respects the rights of existing users, and reflects the opportunity costs of foregone extraction.

Market-based approaches to conservation are not a panacea. Private provision of environmental public goods will always be subject to some degree of free riding, and the magnitude of the conservation benefits that could be achieved with nonuse rights remains an open question. Free riding also affects the informational benefits of market mechanisms. Still, if ENGOs successfully acquire nonuse rights, then the purchase price provides a lower bound on conservation values. Moreover, the benefits of nonuse rights will no doubt be greater in some contexts than in others depending on the environmental services and stakeholders involved. For example, ENGOs may have more difficulty raising money to keep oil and gas in the ground as a strategy to reduce global carbon emissions than to preserve locally prized amenities. At the same time, the rise of crowdsourcing has reduced the transaction costs of coordinating buyers in ways that could enable national, if not global, participation to fund resource conservation.

Ultimately, the benefits and costs of extending market approaches to conservation must be compared against the shortcomings of the status-quo reliance on political and administrative mechanisms. Well-crafted rights-based approaches can help avoid the controversy that has hamstrung previous attempts to advance conservation of public natural resources. As the Biden administration reconsiders its federal oil and gas leasing program and promulgates rules to advance large-scale conservation of US lands and waters, it should embrace markets for nonuse rights to address growing demands for the conservation of public natural resources. ■

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SUPPLEMENTARY MATERIALS

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