

CHAPTER 12

Cooperation or Conflict: Two Approaches to Conservation

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In 2012, the mayor of a southern Utah town found herself working to protect the local cemetery from an invasion of small rodents. The Utah prairie dog had made itself at home in the cemetery, digging burrows that sank headstones and created hazards for those visiting their loved ones. Paragonah Mayor Constance Robinson explained that some of the animals had even made their way inside coffins buried in the cemetery. She noted, “When we found that out, we were devastated.”¹

Utah prairie dogs are a unique species that create complex underground “towns.” In addition to damaging the local cemetery, the prairie dogs burrowed under the runway at the nearby Parowan Airport. The damage was so bad that the runway no longer met Federal Aviation Administration safety standards. Underground fencing had to be installed to keep the prairie dogs out so the airport could continue operating.²

Town residents such as Mayor Robinson hoped to remove the prairie dogs to stop the damage being done in their community. But the Utah prairie dog was listed as a threatened species under the Endangered Species Act. That meant that federal regulations made it illegal for anyone to harm or remove the animals without a permit, even if that harm occurred by accident in the course of otherwise legal activities such as maintaining the town’s cemetery or airport runways.

While many were frustrated by these restrictions, others agreed with the need to protect the animal to prevent extinction. Lindsey Sterling Krank of the Prairie Dog Coalition expressed this sentiment: “Love ‘em or hate ‘em, we gotta have ‘em. . . . If you were to remove a prairie dog from the prairie ecosystem, the prairie ecosystem could fall apart.”³

This conflict over the Utah prairie dog eventually culminated in a lawsuit in which a group of local property owners and local governments, calling themselves “People for the Ethical Treatment of Property Owners,” sued the federal government, alleging that federal restrictions on their ability to remove prairie dogs from their land were unlawful. In 2014 a US district court judge sided with the property owners, putting a halt on federal restrictions.⁴

But when federal restrictions were removed, the prairie dog was not left to fend for itself. Instead, the state stepped up and created its own plan to protect the species. That plan involved \$400,000 in funding for habitat protection on state lands. State biologists were tasked with moving prairie dogs from residential areas to the state-owned conservation lands that were being improved for the specific purpose of providing quality habitat for the species. Soon after, prairie dog numbers rose to their highest counts in recorded history.⁵

What made these state-led efforts so successful? First, they aligned incentives so that landowners were encouraged to work toward conservation goals rather than against them. Prairie dogs, like most endangered species, rely on private land for their habitat. That makes it essential for governments to treat landowners as valued conservation partners through policies that encourage them to share their land with endangered species. Utah’s plan did this by allowing landowners and conservationists to work together to achieve the desired environmental goal of recovering an imperiled species.

Second, the Utah plan relied on local knowledge by consulting state biologists and people with on-the-ground expertise in what it takes to help the species thrive. Conservation efforts are more likely to be successful if they have buy-in from local people. The state’s plan achieved this by treating local stakeholders as partners in conservation rather than as obstacles.

Unfortunately for the prairie dog, in 2017 the 10th Circuit Court of Appeals overturned the district court's decision and made Utah's successful plan to move prairie dogs to more hospitable habitat unlawful.⁶ The Supreme Court was then asked to review the case, but declined to do so in 2018.⁷

But the story of the Utah prairie dog didn't end with the 10th Circuit's decision. In 2018, the US Fish and Wildlife Service allowed Utah to resume its successful management of the species. The agency worked with the Utah Division of Wildlife Resources to create a 10-year conservation plan for the Utah prairie dog. The plan creates permits that allow limited removal or harm to the species as long as steps are taken to mitigate impacts to the species elsewhere. The new plan also involves relocating prairie dogs from private land to areas that are better suited to their survival, and it uses incentive-based approaches through conservation easements and conservation banks.

The fight over this rodent in southern Utah helps illustrate how environmental policy today often pits stakeholders against one another rather than allowing for cooperation. Protecting wildlife and preventing extinction are worthy goals, but environmental policies must be evaluated on the basis of their outcomes rather than their intentions. The approach we choose matters in determining whether we will get the desired outcome, as well as how much conflict, litigation, and controversy will happen along the way.

In the case of the Utah prairie dog, the initial implementation of the Endangered Species Act created a punitive regulatory approach that punished local actors for taking any action that harmed the species, even on their private property. This approach reduced the incentives for local landowners and environmental groups to work together to find a win-win solution. Because this approach did not provide a path for cooperative solutions to emerge, conflict and litigation were the result.

But the removal of federal restrictions created the opportunity for local stakeholders to formulate their own plan. Utah's innovative plan to help the prairie dog recover was successful because it relied on incentives and allowed bottom-up solutions to emerge. Even though

the courts gave power back to federal officials, those officials allowed Utah's successful, cooperative conservation plan to continue.

Every sphere of social life is characterized by varying levels of cooperation and conflict. Cooperation occurs when people work together peacefully, and conflict entails people fighting against each other. Cooperation occurs on a massive scale every day when people voluntarily exchange their money and property in markets. Even if people don't have the same goals, they can bargain and exchange with one another to find mutually beneficial outcomes. This process of voluntary, mutually beneficial exchange allows people to coexist in a cooperative way.⁸

Government regulation can play an important and helpful role in getting good environmental outcomes. Some laws and regulations, however, are better at creating opportunities for cooperative solutions to emerge than others. Top-down policies tend to result in conflict rather than cooperation because they give people with different goals limited opportunities to compromise with each other. But policies that are flexible and allow people to compromise and exchange with one another tend to result in much more cooperative outcomes.

The story of the Utah prairie dog demonstrates how a conflict-ridden situation can become more cooperative through policy change. When state and federal policies were changed to allow people to find bottom-up solutions, more cooperation resulted, benefiting both the prairie dog and local people.

Many current environmental policies create incentives for opposing sides to engage in conflict by lobbying for policies that benefit their side at the expense of others. For example, environmental organizations are often pitted against energy and manufacturing companies, and they battle by spending billions of dollars lobbying for policies that benefit them. From 2000 to 2016, special interest groups spent more than \$2 billion lobbying Congress for policies related to climate change. This activity made up almost 4 percent of total lobbying expenditures during those years.⁹ Reforms to environmental policies could change the incentives so that resources are put to socially productive uses rather than wasted through lobbying.

The rest of this chapter will examine why some types of environmental policy lead to conflict and controversy and why other arrangements can result in more cooperation. First, we look at the types of institutions that facilitate cooperation and limit conflict. To do this, we explore some basic economic principles that show why cooperation through exchange is likely to be more successful in achieving positive environmental outcomes than top-down policies. Second, we examine how a nonprofit called American Prairie Reserve has relied on property rights and incentives rather than punishment to engage in large-scale conservation. We also discuss the shortcomings of American Prairie Reserve's approach. Finally, we explore key implications for public policy going forward that would likely help the US achieve better environmental stewardship. We use the Endangered Species Act as an example to explore potential reforms to improve environmental outcomes and decrease conflict.

Conflict or Cooperation? Finding Institutions That Work

From prairie dogs in southern Utah to wolves in Yellowstone, attempts at conservation often result in conflict. This conflict comes about for many different reasons. Sometimes conflict happens when different environmental goals clash—for example, advocates of large-scale solar power plants have butted heads with wildlife conservationists because the solar power plants can take up critical habitat for endangered species such as the desert tortoise.¹⁰ Other conflicts arise when people disagree about which goals are most important, how different goals should be pursued, and who should bear the cost of reaching those goals.

Effective environmental policy must provide ways to resolve conflict and facilitate cooperation between people with interests that may be at odds. In this section, we compare a positive-sum system of property rights and voluntary exchange with the zero-sum system of political decision-making that is often used in environmental policy today.

Scarcity—the Root of Environmental Problems

To understand conflict in environmental policy from an economic point of view, it is helpful to first understand scarcity. Scarcity occurs because

human desires often exceed the means to satisfy those desires. Given the right circumstances, every resource in the world can become scarce because no resource exists in unlimited amounts. People also value resources differently, and will inevitably disagree about how a particular resource should be used. Environmental problems arise when people place conflicting demands on scarce natural resources or disagree about how to achieve a particular environmental goal.

For example, the vast “sagebrush sea” of Wyoming is a prime location for oil and gas extraction, but it is also an important habitat for the greater sage-grouse—a bird that is native to much of the American West and has been considered for listing as an endangered species. Although the sagebrush sea of Wyoming is indeed vast, it is not unlimited. There are only so many areas where oil and gas production can take place, and likewise, there are only so many acres where sage-grouse can live. Without some sort of mechanism to decide the “who, what, how, and when,” conflict will arise between the many parties who have competing visions for how Wyoming’s sagebrush sea should be used.

While some level of conflict is inevitable, what matters is how institutions channel human behavior. Some institutions are more likely to encourage people to look for mutually beneficial outcomes, while others are more likely to spark conflict that results in more costs than benefits.

Property Rights, Exchange, and Cooperation

The positive-sum, cooperative system of property rights and voluntary exchange is important for dealing with competing visions for how any resource should be used. Property rights make it clear who has the ability to make decisions about a particular resource. Private property rights allow those who hold them to benefit from decisions that create value, and force the owner to bear the costs of choices that go poorly. Property rights also assign liability to people who damage another person’s property, making it clear who has to pay whom when something goes wrong. Thus, property rights give owners a strong incentive to use their property wisely and give non-owners an incentive to be careful with another person’s property.¹¹

Property rights work best when they can be traded, exchanged, and contracted over. Markets allow property owners to trade, rent, or make contracts with one another on the basis of how much they value a particular property right. Markets thus facilitate cooperation on a massive scale. Humans can peacefully coexist because property rights clarify the rules about who can use what, and if one person does not like how another person's property is being used, the two people can bargain with one another to come to a mutually beneficial arrangement.¹² In markets, property rights incentivize owners to weigh the costs and benefits of their actions. When markets allow people to trade with one another, resources can flow to those who value them most. Thus, voluntary exchange is mutually beneficial because both parties see an exchange as making them better off (or they wouldn't choose to trade in the first place).

The concept of private property rights is not always easy to define because property rights are really a "bundle" of sub-rights that function together. For example, if a person owns a house, she has several sub-rights associated with her ownership. Her property rights mean that she has the right to do many different things: paint the house yellow, build a fence around it, sell it, transfer it to a family member, stop others from trespassing, run a business from it, use it as collateral for a loan, rent out a room, lease out the house entirely, and sue people who cause damage.

Property rights are not absolute, however. Property owners can choose to give up some of their sub-rights in the bundle. For example, in conservation easements, landowners can choose to give up the sub-right to develop the land that they own. Essentially, a conservation easement means that a landowner gives the sub-right of development to the government or another organization for the purpose of conservation. If the landowner sells the property in the future, the new owner likewise cannot build anything on the land because it is set aside for conservation.¹³

Property rights are complex. For example, sometimes property rights are not easily exchangeable. If property rights cannot be exchanged, it may be difficult to use them to solve problems. In other cases, there

may be spillover effects, called externalities, when property rights are not defined. For example, it is difficult to assign property rights to air and therefore difficult to address air pollution through property rights. Another example where defining property rights is difficult is in the case of wildlife. For example, private landowners generally get to decide what to do with their land. These rights are not absolute, however, as government agencies may decide to regulate private landowners when endangered species live on or migrate across private land. In such cases, policymakers have to balance the private property rights of landowners and the public interest in protecting endangered species.

Government policies and property rights are interconnected. Governments help to clearly define the limits of property rights, keep records of property ownership, and enforce property rights through policing and the court system. Governments rely on private property and mutually beneficial exchange to function because government revenue comes largely through property taxes, sales taxes, and income taxes.¹⁴

Many renowned scholars, including Nobel Prize winners, have studied the role of property rights in solving social problems—these scholars have included Ronald Coase, Elinor Ostrom, Douglass North, Yoram Barzel, and Daron Acemoglu. They have spent decades researching how property rights contribute both to economic growth and to environmental solutions. But when private property rights are not clearly defined or enforced, people cannot engage in mutually beneficial, positive-sum exchanges. The lack of clear property rights can thus lead to conflict when opposing parties fight over who is being harmed and who should have to pay damages.

When resources are owned collectively, rules must be created to clarify who gets to use what resources. If rules are not established, individual users may face an incentive to overuse a resource to the point of depletion.¹⁵ The ecologist Garrett Hardin coined the term “tragedy of the commons” to describe this situation, where a resource held in common is exhausted by overuse. When dealing with such a shared resource, Hardin argued that individuals will act in their own self-interest and deplete the resource, creating an outcome that no one desired.

In her Nobel Prize–winning work, Elinor Ostrom outlined how the tragedy of the commons could be avoided. One potential way is to divide the resource into private property. If privatization is not possible or desirable, there are other alternatives. For example, the resource could be managed collectively by the local community, which could create and enforce its own rules for governing the resource. Elinor Ostrom documented many successful cases of community management of communal resources all over the world.¹⁶ Additionally, government officials could create regulations to determine who gets to use commonly owned resources and how they may use them. Although regulations can help overcome the tragedy of the commons, they can also pose other problems, such as favoritism and corruption. Each of these three ways to avoid the tragedy of the commons has trade-offs, so the appropriate course of action will depend on the unique circumstances and the preferences of local communities. In the real world, most solutions to environmental problems involve a combination of privatization, community management, and government regulation. Based on her observations, Elinor Ostrom rejected the idea that solutions to complex environmental problems must rely solely on either a private or a government approach.

Another key insight of Elinor Ostrom’s research shows that one way to overcome complex environmental problems is through polycentric decision-making. Polycentric governance systems have multiple, overlapping decision-making centers, which allow societies to effectively solve environmental problems. A polycentric approach allows federal, state, and local governments, as well as private associations and markets, to come together to find solutions that are better tailored to local conditions, take better advantage of local knowledge, and have more direct involvement by local populations. Polycentric systems allow more freedom for people on the ground to develop their own rules and strategies that work with unique circumstances and preferences.¹⁷

Policymakers who impose centralized, one-size-fits-all laws may not have the necessary knowledge to solve the problems they want to solve, and such top-down policies often spawn conflict. In polycentric systems of governance, many day-to-day decisions are delegated

to lower levels so that people with the on-the-ground experience and knowledge can use their experience and knowledge to solve the problem. Additionally, when local governments and local associations make decisions instead of far-removed “outsiders,” their actions may receive more buy-in from the people on the ground.

The combination of private property rights and polycentric systems can and does help to solve real-world problems such as wildlife conservation. When wildlife can be owned as private property, people have a stronger incentive to engage in conservation. For example, American bison were nearly wiped out of existence in the 1800s, but a combination of government-led conservation efforts and the establishment of private property to bison brought the species back from the brink.

In the 1500s, an estimated 30–60 million bison roamed across North America. As white American settlers moved westward, their farming practices disrupted bison habitat, and their cattle passed diseases to bison. These bison were largely unowned, and people slaughtered them in huge numbers for food and leather, as well as for their bones, which were used for refining sugar, making fertilizer, and producing fine bone china. The bison slaughter was a tragedy of the commons on a massive scale. State legislatures and Congress made a few legal attempts in the 1800s to protect the dwindling number of bison, but most of these laws were either not passed or not enforced. By 1884, there were only around 325 wild bison left in the United States.¹⁸

It was not until the late 1800s, after most of the wild herds had vanished, that people found it worthwhile to capture and breed bison. Because wild herds had been eliminated and private individuals raised live bison, nearly all states changed their laws to treat bison as domestic livestock rather than wildlife. Bison became property just like ordinary cattle. In 1889, 256 bison were in captivity, and by 1901, private bison numbered over 600. In 1902, there were about 700 bison in private herds, and the wild Yellowstone herd consisted of 23 animals.

Once property rights to bison were established, the market for bison emerged. People realized that they could raise bison for meat or tourism. Ranchers bought and sold bison to each other, and they also sold bison to zoos, parks, and refuges.¹⁹ Thanks largely to private efforts,

the population of bison grew to 12,521 by 1919. In the 1990s, there were at least 250,000 bison in private herds. Over this time, the federal government also implemented its own conservation regulations for bison, particularly in Yellowstone. By the 1990s, there were an estimated 20,000–25,000 bison in government-managed public herds in North America.²⁰

The combination of both private and public efforts helped bring bison back from the brink of extinction. In 2017, there were 183,780 privately owned bison in the United States and 119,314 privately owned bison in Canada. Today, the US federal government manages roughly 10,000 public bison, state and other public herds have about 9,000 bison, and Native American tribes manage about 20,000.²¹ American bison are just one of many success stories in which private property rights have aided conservation.²²

Winners and Losers in the Political Arena

When property rights are not or cannot be clearly defined, government regulation can play a role in helping to solve environmental problems. Although regulation has the potential to help improve environmental quality, the command-and-control approach assumes that centralized policymakers have the knowledge necessary to do so. In many cases, however, policymakers may not have the required knowledge to anticipate what the effects of their policies will be, leading to conflict and unintended consequences that may actually be harmful to the environment or cause other problems.²³

To understand why policymakers do what they do, public choice economics uses economic principles to analyze both market and government activity. People in the market are assumed to be rational and self-interested, and so are those in the government. All people, whether they are in the public or the private sphere, respond to their incentives and constraints. With this perspective, public choice economics examines how real-world governments actually make policies, not how an ideal government should or could make policies.²⁴

Public policies are a result of the collective choices of voters, special interest groups, and government officials. Governments have the

power to require citizens to pay taxes and obey regulations. Special interest groups then hire lobbyists to persuade elected officials to enact certain public policies that benefit members of the groups, while the costs are dispersed among other groups.²⁵ Solving environmental difficulties through political means can be problematic because politicians and bureaucrats can be persuaded to choose policies that benefit one side at the other's expense.²⁶

The conflict that arises from the rent-seeking process is a negative-sum game for society because special interest groups use resources to persuade government officials to adopt specific positions, but these resources don't produce new goods or services. In other words, rent-seeking isn't harmless. In some cases, rent-seeking can be negative-sum when competing rent-seekers collectively spend more than the government distributes. Rent-seeking has social costs because real resources are spent trying to capture part of a fixed pie rather than to make the pie bigger.²⁷

Private property rights and voluntary exchange create the potential for both sides to be better off than they otherwise would have been. Politics, however, doesn't have the same potential for trade among opposing groups because both sides attempt to get their preferred policy enacted at the expense of the other side. In other words, private property rights and markets reward those who seek compromise through mutually beneficial exchange, whereas politics incentivizes conflict because some people bear more of the costs than others. Private property rights and markets allow cooperation to emerge and local knowledge to be accessed, which can improve outcomes and provide benefits to both sides. To avoid the problems associated with political rent-seeking, people can achieve desirable environmental outcomes through the cooperative process of market exchange.

Markets and Market-Like Regulations

Up to this point, we have focused on the strengths of markets and the downsides of government policies, but that does not imply that markets always produce the best result or that government policies always lead to bad outcomes. Although there are general patterns that occur

in markets and government, the real world is messy, and solving real-world environmental problems is difficult. Dozens of examples show how markets have worked remarkably well to solve environmental problems when property rights are clearly defined and enforced. Unfortunately, some of the most dire environmental dilemmas concern issues where property rights are not clear. These include issues related to wildlife, water, and air.²⁸

When it is too difficult or costly to assign property rights, government policies may be the best option available to solve environmental problems. That doesn't mean, however, that top-down, government-led conservation approaches will be perfect. Government approaches can also experience failures, impose high costs, and produce unintended consequences. Further, not all government policies are created equal.

The real question is how to merge the best aspects of markets with public policies, while also accounting for the limitations of politics. Many government policies, such as the Clean Air Act, the Clean Water Act, and the Endangered Species Act, have led to improved environmental outcomes. Each of those policies also has its shortcomings, unintended consequences, and costs. In the future, policymakers and citizens can think of new ways to reform environmental policies to limit conflict, facilitate cooperation, and produce desirable environmental outcomes.

Reforms to conservation policies could make the policies more market-like in the sense that they could allow for exchange between different people who have different preferences. The opposite of a market-like regulation would be a command-and-control regulation, one in which policymakers set clear rules and punish people who don't abide by the rules. The critical difference between a market-like policy and a command-and-control policy is who determines the means of reducing pollution. In market-like policies, people voluntarily exchange with one another to decide who reduces pollution, by how much, and by which means. Under command-and-control policies, the government makes these decisions. A government approach can be problematic because government officials may not have the knowledge to identify the most efficient or effective way to reduce pollution. That kind of knowledge can only be generated through market discoveries.

A common problem with command-and-control regulations is that special interest groups have a strong incentive to persuade policy-makers to craft the rules in a way that benefits them at the expense of other groups. Those who bear the costs of command-and-control regulations will try to find creative ways to get around them, which can lead to negative unintended consequences and limit the effectiveness of the regulations. Market-like regulations can be a workable alternative because they allow for mutually beneficial exchange.

One of the most successful market-like regulations enacted in the US was a cap-and-trade system for sulfur emissions, which were the chief cause of acid rain. The amendments to the Clean Air Act in 1990 created the cap-and-trade system, which consisted of two parts. First, total sulfur emissions were “capped” for the entire nation at 8.95 million tons—a 50 percent reduction from 1980 levels. Second, the federal government issued tradable permits that allowed companies to legally emit sulfur in certain amounts. The combined amount of allowable emissions from all permits equaled the total “cap” on national emissions.

The federal government gave the permits, called allowances, to existing coal-fired power plants on the basis of their historical fuel use and an emissions performance standard.²⁹ These permits functioned as a form of government-assigned property rights that could then be traded.

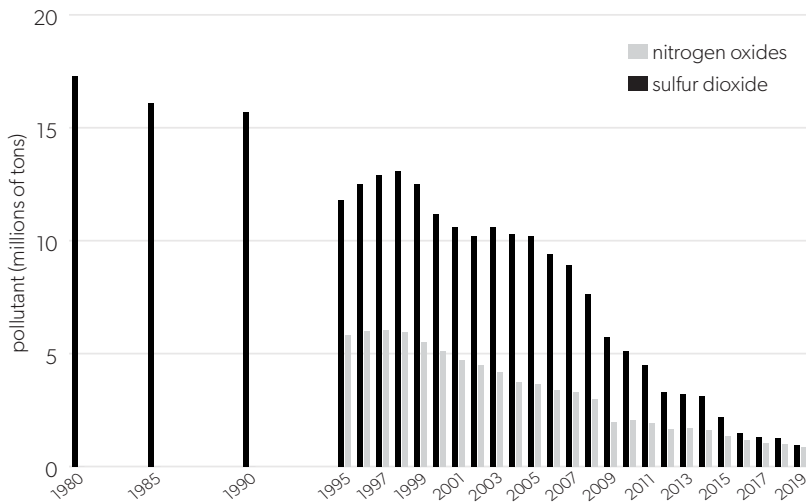
Due largely to the market-like system of tradable permits, sulfur emissions significantly decreased after the cap-and-trade system was enacted. Emissions in 2000 were nearly 40 percent below those of 1980. Much of the sulfur pollution in the US comes from energy producers, and an important lesson from the cap-and-trade system was that firms generating electricity from clean sources made money by selling their permits to firms that produce electricity from dirty sources. The result was that clean energy was essentially subsidized voluntarily by other polluters.

The cap-and-trade system reduced sulfur emissions by millions of tons annually at a fraction of the expected costs. Some of the most important innovations that came from this system were improvements in the accuracy of emissions data, lower costs for every ton of sulfur eliminated, more efficient means of electricity production, shifts to

less-polluting fuel, and more efficient pollutant-removing technology.³⁰ Figure 1 shows how sulfur dioxide decreased over time after the implementation of the cap-and-trade system, and it also shows the success of a similar cap-and-trade program for nitrogen oxides that was implemented in 2003.³¹

Compared to the traditional command-and-control approach, in a cap-and-trade system polluters have a stronger incentive to discover lower-cost ways of reducing pollution. Under a cap-and-trade system, the companies that can reduce pollution for a low cost have an opportunity to sell their permits to other companies that will have a more difficult time reducing their pollution cheaply. This means that all companies have a strong incentive to look for cheaper, more effective, and more efficient ways of reducing pollution because they can make money by doing so. Over time, an increasing number of companies will find it in their interest to implement the cheaper, more effective, and more efficient ways of reducing pollution.

Figure 1. Levels of Sulfur Dioxide and Nitrogen Oxides in the US, by Year



Source: "Air Markets Program Data," US Environmental Protection Agency, Clean Air Markets Division, accessed April 18, 2020, <https://ampd.epa.gov/ampd/>.

Anyone can participate in the cap-and-trade system, which means that environmentalists who care about decreasing emissions can buy the permits, tear them up, and choose not to pollute at all.³² For example, the Clean Air Conservancy was a national nonprofit organization that would collect donations from environmentalists and then purchase sulfur permits from energy producers. The Conservancy would then retire the permits so that no one could use them to emit sulfur. The Conservancy used to mail donors certificates announcing the amount of sulfur that had been purchased and retired with the money they sent in.³³

Cap-and-trade and other market-like regulations don't completely eliminate conflict. Deciding what the cap will be is a political decision that can bring about conflict. Different organizations may lobby for a higher or lower cap on emissions, which is a form of rent-seeking. Once a decision is made about what the cap should be, policymakers must then assign the permits. The initial assignment of permits can be contentious because the assignment determines who gains the benefits and who bears the costs, at least at first. Policymakers can assign permits in various ways. The Environmental Protection Agency has often used a sealed-bid auction, in which permits are sold to the highest bidders. Policymakers could also award permits to firms based on the amount of pollution they have historically emitted, or they could award permits in a blind lottery to any applicant. Each system of awarding permits will have trade-offs, and any decision is likely to spark some conflict.

Despite the inherent conflict in deciding how to assign permits initially, a cap-and-trade system is likely to be less conflict-ridden than command-and-control regulations. Once the permits have been assigned, anyone who is unhappy with the initial assignment can seek to buy more permits from those who have a surplus. Under command-and-control regulations, there is no possibility of exchange in a market, so people who are unhappy often resort to lobbying to change the regulations. If they are successful, the formerly favored side will become upset, and its members are likely to lobby to reinstate the old regulations. The back-and-forth of the rent-seeking process is socially wasteful when the total amount of money spent on lobbying by both

sides is greater than the total social benefits.³⁴ Both systems can yield the same pollution outcomes, but cap-and-trade systems encourage a wider range of win-win situations.

Policymakers can look for creative, innovative ways of leveraging markets and market-like mechanisms, as they have for bison conservation and limiting sulfur pollution. These examples illustrate that conservation can and does happen without top-down, command-and-control regulations that spur conflict. The next section explores an innovative real-world approach to species conservation that takes advantage of both markets and market-like mechanisms to limit conflict and facilitate cooperation.

An Innovative Approach to Market-Based Conservation

The Great Plains of northeastern Montana might not seem like much to visitors passing through, but to one local nonprofit, these grasslands offer the potential for achieving key conservation goals. The American Prairie Reserve (APR) is currently working to patch together these seemingly endless grasslands to create one of the world's largest nature reserves. This group aims to restore the landscape and wildlife of the Great Plains to the conditions members of the Lewis and Clark Expedition saw in the early 19th century.

APR's ultimate goal is to create the largest wildlife reserve in the lower 48 states by piecing together approximately 3.2 million acres of both private and public lands. Once completed, the Reserve will contain roughly 500,000 acres of private land, accompanied by grazing leases on adjacent public lands.³⁵

Cooperative Conservation on the Great Plains

APR operates primarily as a willing-buyer-willing-seller organization. It raises money from private donors to buy private land in northern Montana. The sellers are generally ranchers who own large tracts of private land that are accompanied by long-term grazing leases on federal land managed by the Bureau of Land Management (BLM) and state lands managed by the Montana Department of Natural Resources and Conservation. When APR buys private property, it can also acquire the

accompanying leases on federal and state grazing lands if it follows the applicable rules and regulations.³⁶

From 2004 to September 2020, APR had completed 31 transactions to build a habitat base of nearly 420,000 acres. Of the total land in the Reserve, nearly 105,000 acres are made up of private land owned directly by the Reserve. On APR's privately owned lands, the organization is relatively free to engage in its private goals of ecological restoration—for instance, it may reintroduce bison and remove fences to allow wildlife to roam freely, subject to existing laws and regulations. Just over 315,00 acres are leased public lands, mostly owned by the federal government with the remainder owned by the state of Montana.³⁷

Many people are familiar with government-led conservation efforts, such as national parks and national monuments. APR's voluntary approach to large-scale conservation, however, follows a long but often overlooked history of voluntary conservation in the United States. One of the earliest examples was Thomas Jefferson's purchase of land to protect Virginia's Natural Bridge. After Jefferson died, his estate sold the land that contained Natural Bridge, but the land was privately protected until 2014, when the owner sold the property so that it could become a Virginia state park.³⁸

By following this tradition of voluntary conservation, APR is strategically using private property rights to avoid much of the conflict that is associated with conservation through political means. Since property rights can be traded, exchanged, and contracted over, ranchers and conservationists can come to cooperative, mutually beneficial agreements through voluntary exchanges of land. APR supporters would like to see Montana's Great Plains be used for conservation, and traditional ranchers would like that same land to be available for agriculture. For private lands, property rights allow people with opposing views to bargain with one another to find an arrangement that works for both parties. If a rancher values his property at \$1 million and APR offers the rancher anything over \$1 million, both sides are made better off from an exchange.

In addition to buying land, one of APR's main goals is to create an environment where wildlife, including predators, can thrive. Many

ranchers and farmers in the area, however, see wildlife as a threat to their livelihoods. As a result, APR's efforts at wildlife restoration could be undermined in surrounding areas if ranchers and farmers scare away or kill the returning wildlife. APR has started a program called Wild Sky to create incentives for ranchers and farmers that live near the reserve to view wildlife as an asset rather than a liability.

Wild Sky Beef is a for-profit subsidiary company of APR that funds an incentive program for ranchers who share their land with wildlife.³⁹ It contracts with ranchers across the United States, mainly in the Upper Midwest, to raise grass-fed cattle to sell at a premium price.⁴⁰ The profits from selling this beef are used to provide ranchers around the Reserve with financial rewards as incentives for making their land more conducive to wildlife. Ranchers in the program agree to certain conditions, such as not tilling the land, not killing predators or prairie dogs, and installing wildlife-friendly fencing.

The Wild Sky program provides participating ranchers with financial incentives to view wildlife as a benefit rather than a detriment.⁴¹ Participating ranchers receive payments from the Wild Sky program that help offset the costs of protecting wildlife and promoting ecological health. For example, ranchers are paid for installing webcams on their property to show evidence that they are making their land welcome to predators and other wildlife. Each year, APR staff and a third-party evaluator determine to what extent participating ranchers are improving or maintaining ecological conditions. Participating ranchers that demonstrate ecological improvements to their land receive an annual premium through the Wild Sky program.⁴²

By reducing conflict between ranchers and wildlife, the Wild Sky program provides another example of an arena of conflict transformed into an opportunity for mutually beneficial outcomes.

Political Conflict on the Great Plains

Despite the willing-buyer-willing-seller approach and compensation through the Wild Sky program, APR has led to political tension in Montana. APR operates in the public sphere because it relies on public grazing lands. Federal and state grazing land is a critical component of

APR's strategy because there is not enough contiguous private land in the region to create a self-sustaining prairie ecosystem.

APR functions under the same legal rules as traditional ranchers to acquire federal and state grazing leases. The leases stipulate specific types of animals that count as livestock, as well as where and when grazing can occur. Grazing permits are allocated to individuals with a privately owned "base property" adjacent to a leased plot. On BLM lands, when a lease is about to expire, the current lessee receives priority to renew the lease. If a lessee's base property is acquired by a new owner, the BLM grants this new owner priority to acquire the grazing lease.⁴³

Although APR operates within the same legal rules that apply to all public land lessees, many local cattle ranchers are skeptical, and sometimes hostile, to APR.⁴⁴ Several special interest groups have formed to oppose APR. Understanding the root cause of this tension is helpful in understanding how to make both market- and government-driven conservation more successful.

One of APR's main goals is to reintroduce bison to the landscape on its private and public lands. Bison serve a dual purpose on the reserve. First, bison are native to the region, which helps APR achieve its goal of restoring the land's historical ecology. Second, bison are institutionally important because according to BLM rules, leased lands must be used to graze livestock. To retain its leases to public lands, APR must graze approved livestock; otherwise it will lose its grazing permits. APR has been granted bison grazing permits on two BLM allotments and two state leases, totaling 19,314 leased public acres.⁴⁵

Since not all APR's grazing permits allow bison, APR has requested that the BLM and the Montana Department of Natural Resources and Conservation change the permits to allow bison on all APR's allotments.⁴⁶ In 2018, APR requested permission to graze bison on an additional 17 BLM grazing allotments and 18 state grazing leases.⁴⁷

While it waits for the federal and state agencies to make their decisions, APR grazes a minimal number of cattle on its leased public land so that it can retain those grazing permits.⁴⁸

The BLM has little oversight or control over what APR does with its private land, but access to federal grazing land is under the purview of

BLM decision makers. Federal grazing lands are subject to the National Environmental Policy Act (NEPA), which means that the BLM must complete the environmental assessment process required under NEPA. Depending on the BLM's environmental assessment, it could choose to disallow any bison grazing on APR's grazing leases, forbid season-long grazing, or forbid the removal of internal fencing. If the BLM takes any of these actions, it will be more difficult for APR to accomplish its overall goal.

Between 2018 and 2019, the BLM held several scoping meetings in local communities to facilitate its environmental assessment process. At the scoping meetings, farmers, ranchers, and local government representatives expressed concerns about APR's proposal. BLM spokesman Jonathan Moor said that environmental assessments do not usually involve public scoping meetings, but agency decision makers felt the contention over APR's request warranted such meetings.⁴⁹

After the meetings, the BLM received 2,497 submissions about APR's proposal and the upcoming NEPA analysis. In February 2019, the BLM released 24 topics from the public comment process that will guide the environmental analysis. The BLM has stated that "the public will be notified once the environmental assessment is complete."⁵⁰

Due to the political pushback, APR revised its application for permission to graze bison on its leased BLM lands in September 2019. After significant pushback, in September 2019, APR reduced its request by 80 percent, to just five BLM grazing allotments and five state leases.⁵¹ Now APR is requesting permits for year-long continuous grazing on 48,000 acres of BLM land instead of on the previously requested 290,000 acres. APR's stated reason for this change is "the growing need to resolve concerns and provide more opportunity to publicly demonstrate the sustainability of year-long bison grazing with our neighbors, land managers, and other interested members of the public."⁵²

The BLM's environmental assessment will move forward regarding APR's revised permit requests. After the BLM prepares the environmental assessment and notifies the public about it, there will be another public review and comment period, which will likely involve more meetings in towns near APR. After that period, the BLM will publish

a revised environmental assessment. This assessment will determine whether the BLM allows APR to move forward toward its goals on the public land.⁵³

But the conflict over public land management is not likely to end there. BLM decision makers must choose whether to support APR's goals or the goals of the opposing groups. The side that the BLM does not support is likely to look for alternative ways to change the outcome. That side might try persuade BLM decision makers to reconsider their decision, it might lobby members of Congress to change the laws, it might go to the courts to nullify the BLM's decision, or it might appeal to the president for an executive order that would change the outcome. In markets, opposing sides can bargain with one another to come to a mutual agreement. The political arena is different, however, because people in authority make decisions that they impose on other people. Special interest groups have a perpetual incentive to persuade decision makers to benefit their members at the expense of the members of other groups.

Learning from American Prairie Reserve

The story of APR is still unfolding, but it is a fascinating case study because it offers two distinct lessons. First, the willing-buyer-willing-seller approach and Wild Sky's financial incentives show how private property and markets can lead to a cooperative, mutually beneficial outcome for people who may have opposing ideas about wildlife conservation. Second, the political control of resources, such as public land, can lead to conflict over power and resources. Because APR is working with both private and public lands, the situation is complex, but it provides scholars and policymakers with a new way to look at species conservation.

Managing public lands for conservation or agriculture is difficult because one group may attempt to use the political structure to entrench its interests at the expense of others. When a new actor enters the political arena, the people who have traditionally been favored by political decision makers may see the new actor as challenging the status quo. Nobody wants to see political power shift away from their interests.

Although APR and traditional ranchers both operate under the same institutional rules that allow them to obtain leases to public lands, many ranchers seem to fear that APR could take away their influence on the decision-making process for public land management. For example, one group opposing APR is the Montana Community Preservation Alliance. This group's stated purpose is to preserve the agricultural lifestyle of Montana, fight national monument designations, and prevent the introduction of free-roaming bison.⁵⁴ United Property Owners of Montana is another group composed of local ranchers who want to preserve Montana's "unique agricultural heritage" from the perceived threat of APR's mission.⁵⁵ Several prominent residents who live near APR lands have publicly opposed the nature reserve project. Marko Manoukian, the secretary-treasurer for the Phillips County Livestock Association, and Vicki Olson, the chair of the Montana Public Lands Council, have spoken out against the project.⁵⁶

Despite the conflict over government-owned land, APR's innovative approach on private land takes advantage of both markets and market-like mechanisms. No system, whether relying on markets or governments, will ever completely eliminate conflict. Some institutional arrangements, however, can help resolve conflict more effectively than others can. Markets can resolve conflict because groups that don't see eye to eye can bargain to come to mutually beneficial arrangements. The willing-buyer-willing-seller approach and the Wild Sky program's financial incentives are two important ideas that conservationists and policymakers should learn from.

Reforming Policy to Allow for Cooperation

Reforms to federal policies, such as the Endangered Species Act (ESA), can provide solutions that limit conflict and facilitate effective conservation. The environmental movement of the 1960s sparked legislation meant to help preserve species, reduce pollution, and preserve undeveloped lands. However, these environmental policies have undeniably created conflict over the decades. A prime example is the ESA, which has employed a top-down regulatory approach for roughly 50 years. Despite the good intentions behind the law, the ESA has been a source

of contention and unintended consequences that can make life harder for the very species it is meant to protect.

One unintended consequence has been “shoot, shovel, and shut up.” The ESA takes a punitive approach that punishes people who “take” a listed species. The ESA defines the term *take* to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting a listed species, or even attempting to engage in any of those actions. These restrictions under the ESA apply anywhere protected species are found—even on private land. Because these restrictions mean landowners risk losing autonomy over how their land can be used (and risk the possibility of real reductions in property values), landowners may choose to ignore the ESA and quietly eliminate endangered species that live on their land before government officials find out about the species’ location. Rational and self-interested landowners who discover a listed species on their property may face a strong incentive to shoot, shovel, and shut up.⁵⁷

Another unintended consequence of the punitive approach of the ESA has been preemptive habitat destruction. If a land-use restriction under the ESA is likely, landowners may find it in their interest to destroy the habitat of endangered species to make sure that the species is not attracted there. Landowners may try to beat the restrictions by developing their land more rapidly than they would have otherwise. In 2003, economists Dean Lueck and Jeffrey Michael found evidence that some forest landowners in North Carolina preemptively harvested timber to avoid land-use restrictions related to the endangered red-cockaded woodpecker.⁵⁸

Private property rights give people an incentive to use property responsibly and to avoid harming other people’s property. However, assigning property rights to wildlife is not always feasible. For example, how would we go about assigning property rights to red-cockaded woodpeckers in North Carolina? It would be extremely difficult, especially since the birds can easily travel across different landowners’ property. When private property rights can’t be clearly defined, there may be a justification for government regulation of some form. Private landowners usually control access to wildlife because wildlife often

lives on private land, but government agencies regulate hunting and protect wildlife regardless of where the animals live.⁵⁹ Despite the complexities of wildlife ownership and management, policy reforms could improve species conservation.

Aligning Incentives with Regulatory Flexibility

First, policymakers could focus on incentive-based regulations rather than adopting a punitive approach. Instead of simply punishing people who harm an endangered species, policymakers could make the ESA more flexible so that private landowners are more likely to cooperate. For example, there could be a wider use of permits or agreements that allow for limited removal or harm to a species as long as steps are taken to mitigate impacts to the species elsewhere.

One such reform from the mid-1990s has successfully mitigated conflict and facilitated cooperation: Safe Harbor Agreements. A Safe Harbor Agreement (SHA) is a voluntary agreement between property owners whose land is affected by the ESA and the US Fish and Wildlife Service. If participating landowners contribute to the recovery of listed species on their land, the Fish and Wildlife Service agrees not to impose additional restrictions on their land.⁶⁰

Policies like SHAs are important because they shift the incentives for private landowners. Without SHAs, private landowners have little incentive to go out of their way to improve the well-being of endangered species on their land. If landowners want to improve the environmental quality of their land, they might create an environment where listed species will want to live. But if no SHA is in place, landowners that manage their land to benefit listed species may be “rewarded” with legal restrictions on the way they use their land. SHAs allow good deeds to go unpunished because landowners can commit to do something beneficial for a listed species, even if there is no legal obligation to do it. The federal government then gives an assurance that the voluntary actions won’t cause additional legal restrictions on the use of private land under the ESA.⁶¹

If the goal is conservation that is more cooperative and thus more effective, then policymakers should look for ways to expand the use of

SHAs and consider reforms in the same vein as SHAs that allow landowners to find creative ways to offset their impacts to listed species without bearing the burden of strict regulatory compliance. Since SHAs make the ESA less punitive, landowners are more likely to comply and even cooperate in working toward conservation goals.

Policymakers could also expand the use of incentive-based conservation efforts such as the Conservation Reserve Program (CRP). Under this program, the US Department of Agriculture's Farm Service Agency pays farmers a yearly rent if they remove environmentally sensitive land from agricultural production and plant species that will improve environmental quality. These contracts typically last 10–15 years and are intended to help improve water quality, prevent soil erosion, and reduce loss of wildlife habitat. Since the CRP was enacted in 1985, it has been the largest private-lands conservation program in the United States.⁶²

Research has found that due to the CRP, soil quality improved in several places across the country as highly erodible cropland was replaced with perennial grass.⁶³ The CRP has also helped increase the population of several species, including waterfowl, songbirds, fish, and macroinvertebrates.⁶⁴ The Congressional Research Service found that the CRP prevents 325 million tons of soil erosion annually, protects 2 million acres of wetlands, sequesters 52 million metric tons of carbon dioxide annually, and provides habitat for 13.5 million pheasants and 2.2 million ducks each year.⁶⁵

Like all policies, however, the CRP has trade-offs and unintended consequences. For instance, some noncropland has been converted into crop production in part because of the incentives created under the CRP. Because the CRP reduces production, it drives up output prices for crops. As prices increase, farmers have an incentive to convert noncropland into cropland to take advantage of the higher prices. Research indicates that for each 100 acres of cropland retired under the CRP in the central United States, 20 acres of noncropland were converted to cropland, offsetting 9 percent and 14 percent of CRP water and wind erosion reduction benefits, respectively.⁶⁶

Despite the trade-offs, policymakers can still look for incentive-based conservation efforts like the CRP while learning from experience to

mitigate unintended consequences. New conservation policy innovations that are yet undiscovered could also improve species conservation further while benefiting landowners in a win-win scenario.

Species Conservation through Polycentricity

Another effective way to enable cooperative approaches to conservation is through polycentricity, in which many overlapping decision-making centers are allowed to work together. A polycentric approach to conservation from 2010 to 2015 kept the greater sage-grouse off the endangered species list. Federal, state, and local policymakers, as well as private associations, cooperated to conserve the greater sage-grouse populations in the western United States. The example of the greater sage-grouse is helpful because it shows how various governments, businesses, and nonprofit organizations can effectively conserve species in a polycentric system.

After several years of legal battles, the US Fish and Wildlife Service announced in 2010 that the listing of the greater sage-grouse was “warranted but precluded,” temporarily deferring listing the bird under the ESA.⁶⁷ The threat of a full listing, however, was a real possibility. The greater sage-grouse became a “candidate species” for full listing under the ESA. Candidate species don’t receive statutory protection under the ESA, but the Fish and Wildlife Service encourages various levels of government and private organizations to form partnerships for candidate species’ conservation. If conservation measures aren’t taken, the Fish and Wildlife Service can choose to formally list a candidate species and give it the full statutory protection of the ESA, which can be punitive and lead to the unintended consequences mentioned previously. Through a candidate species designation, the Fish and Wildlife Service tries to address the needs of species so that the full regulatory restrictions of the ESA don’t become necessary. A candidate species designation gives federal, state, and local policymakers, as well as private citizens, a wider range of options to experiment with conservation efforts because the full statutory requirements of the ESA do not apply.⁶⁸ The candidate species designation for the greater sage-grouse gave federal agencies, state governments, and private

associations a chance to work on conservation efforts to avoid a full listing in the future.

Federal agencies, such as the BLM and the US Forest Service, drafted new management plans after the candidate species designation, which were adopted in 2015. The new plans amended the previous plans to increase the protection for sage-grouse across million acres of federal land across much of the western United States.⁶⁹ The new plans also expanded coordination between the BLM and the Forest Service. Finally, the plans also provided technical assistance and financial support for conservation on private lands.

A wide range of stakeholders, including farmers, ranchers, energy developers, state fish and wildlife agencies, and many others, helped the BLM and the Forest Service develop their new plans.⁷⁰ These new plans sparked some controversy, however, because the Obama administration did not adopt the state plans as it originally said it would.⁷¹ Despite that, the federal government's approach still allowed polycentric decision-making in many regards.

One effective polycentric approach from the BLM and the Forest Service was the Sage Grouse Initiative. More than 1,100 private individuals across the West participated in the Sage Grouse Initiative, which had the dual goal of restoring about 4.4 million acres of sage-grouse habitat while also allowing economic development on federal lands. The Sage Grouse Initiative works through voluntary cooperation, incentives, and community support to protect sage-grouse habitat and increase sage-grouse populations. The initiative accomplishes these goals by helping ranchers on private rangeland secure conservation easements, promote deep-rooted perennial grasses to keep the range weed-free, remove conifers that threaten sage-grouse habitat, perform wetland restoration projects, and make fences more visible to sage-grouse to reduce deadly collisions.⁷²

Utah developed its sage-grouse conservation plans in a highly polycentric structure because roughly half of Utah's greater sage-grouse live on private lands, making local communities and private landowners necessary participants for successful conservation. Utah policymakers created the Community-Based Conservation Program and Local

Working Groups. The Community-Based Conservation Program is run by a Utah State University extension program staffed predominantly by university-affiliated researchers. It provides incentives for private landowners and local communities to engage in conservation as an alternative to direct regulations. The program facilitates sage-grouse local working groups throughout Utah.⁷³

Local Working Groups were first implemented in 1996 and were later expanded to accommodate the candidate species designation. These groups bring together state and federal agents, local landowners, and other interested parties to conserve sage-grouse. Each group has its own conservation plan and works to reverse the decline of sage-grouse in its area. Utah currently has 11 Local Working Groups, and several other states have adopted similar groups. Now there are more than 60 across the West.⁷⁴

The sage-grouse example shows how a polycentric approach to public policy can effectively solve conservation problems. Policymakers should look for ways to take advantage of the benefits of polycentric systems to improve environmental policy.

Conclusion

Overhauling entire public policies, such as the ESA, may not be possible, but making small adjustments on the margin may be a politically palatable move toward more cooperative, effective conservation. People who care about saving endangered species should also care about finding the most effective ways of saving those species. The histories of many public policies, like the ESA, have been rife with controversy, conflict, and unintended consequences. Despite this conflict, policymakers and environmental groups alike have found innovative, creative ways to facilitate cooperation so that conservation is more effective.

The real-world examples presented here suggest that conservation is not achieved by good intentions alone, but by the actual rules that societies make. Creating or reforming policies that allow people to find cooperative, win-win situations is likely to lead to better conservation outcomes. Conservation and environmental stewardship in general could be improved by leveraging the power of private property and

reforming public policies to better align incentives with desired outcomes. By recognizing and working to reform current policies that create conflict and unintended consequences, policymakers can help move toward a more cooperative and more effective model of conservation.