

UNDERSTANDING BARRIERS AND INCENTIVES TO VOLUNTARY CONSERVATION OPPORTUNITIES UNDER THE U.S. ENDANGERED SPECIES ACT



September 2020

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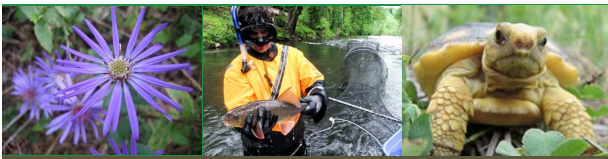
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Voluntary Conservation Opportunities Under the U.S. Endangered Species Act

Executive Summary

PRIMARY AUDIENCE

The primary audience for this report is electric power companies whose work involves understanding whether to pursue or continue voluntary species conservation under the U.S. Endangered Species Act (ESA), leading practices for approaching those opportunities, and options for improving how the ESA can facilitate voluntary conservation. The report assumes an audience that has basic knowledge of the ESA and its provisions and therefore does not provide background on this law.

SECONDARY AUDIENCE

Federal and state wildlife agencies, nonprofit conservation organizations, and others who interact with electric power companies may consult this report to better understand the factors that motivate participating companies to pursue voluntary species conservation and how to lower the barriers to voluntary conservation that electric utilities currently face.

KEY RESEARCH QUESTION

There is increasing recognition that private industry can play an important role in proactively conserving at-risk and imperiled species through voluntary conservation under the ESA. Electric utilities, however, face numerous actual and perceived barriers to undertaking these efforts. Those barriers, and conversely the incentives to pursue voluntary conservation, have not been systematically identified and analyzed. This report helps fill the knowledge gap by evaluating the following questions:

- What types of ESA voluntary conservation are EPRI's Endangered and Protected Species program member companies undertaking?
- What are the incentives for member companies to pursue voluntary conservation?
- What are the barriers to pursuing voluntary conservation?
- What legal, policy, and implementation changes could lower those barriers and expand incentives for companies?

RESEARCH APPROACH

To answer these research questions, the EPRI Endangered and Protected Species program member companies responded to an online survey between August and October 2019 to briefly identify the types of voluntary conservation they performed or plan to perform for ESA-listed and at-risk species. The researchers used the

survey results to determine which companies to interview to gain deeper insights into each company's voluntary conservation activities, incentives to pursue conservation, barriers to conservation, and options to lower barriers and expand incentives related to voluntary conservation. Finally, the interview results were augmented with literature research and information obtained from other experts on voluntary species conservation.

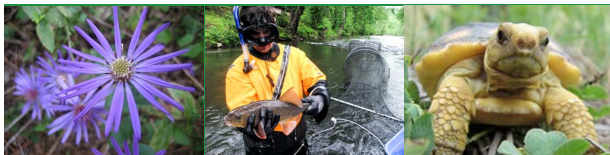
KEY FINDINGS

- Among the 17 member companies that responded to the online survey, 15 have already or are considering carrying out voluntary conservation for ESA-listed or at-risk species. This work represents a significant contribution to conservation that is generally unrecognized in the conservation literature.
- ESA candidate species conservation agreements are the most common voluntary ESA agreements that responding companies have or may participate in. The December 2020 deadline for determining whether to list the monarch butterfly had prompted 10 companies to consider whether to enroll in a conservation agreement for the species. For seven companies, enrolling in a monarch agreement would be their first experience participating in any ESA voluntary conservation agreement. In contrast, only two companies have participated in ESA safe harbor agreements.
- Most responding companies have pursued voluntary conservation for listed or at-risk species outside the scope of any ESA or state conservation agreement. Companies provided several reasons for not enrolling these activities in an official agreement.
- All 13 companies that participated in telephone interviews were willing to pursue voluntary conservation if it yields a benefit to

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their company by directly reducing operations and maintenance costs or by mitigating risk to the company. In situations where direct financial or regulatory benefits were weak or absent, a company's ability to pursue voluntary conservation depended largely on the strength of its environmental stewardship program. In general, companies with a self-identified strong environmental stewardship program were able to justify conservation based on benefits to the environment or benefits to the company that did not yield direct financial or regulatory gains. These include an enhanced reputation (*for example*, positive media coverage of the company's conservation activities) and improved relationship with regulators. For two companies, their environmental stewardship culture allowed them to pursue conservation without the need to show direct or indirect benefits to the company's mission of providing electricity.

- A company's ability to fund voluntary conservation appears partly determined by the constraints and opportunities it faces based on its business structure (for example, public power, cooperative, or investor-owned utility). In general, investor-owned utilities had the most latitude to fund voluntary conservation through an environmental stewardship strategy or program.
- The three main barriers to voluntary conservation were 1) infeasibility of conducting conservation on private lands enrolled in a utility easement (100% of interviewed companies), 2) limited company time and resources to develop ESA agreements or implement voluntary conservation activities (54%), and 3) concern about creating legal liabilities under the ESA (30% of interviewed companies).
- This research identified multiple options to lower the barriers to voluntary conservation for electric utilities. These include providing mitigation credits for voluntary conservation, revamping the safe harbor agreement enrollment process so that it is considerably easier and faster, and using programmatic ESA agreements that allow a permit holder to efficiently enroll multiple companies and landowners.

WHY THIS MATTERS

Understanding the incentives and barriers to voluntary conservation can help wildlife agencies, the public, and others collaborate with utilities to conserve imperiled and at-risk species in a way that

also provides direct or indirect benefits to the utilities. Further, an electric utility benefits from understanding how and why its peer companies are conducting voluntary conservation.

HOW TO APPLY RESULTS

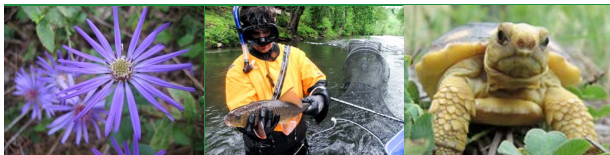
To EPRI's knowledge, this is the first analysis on motivations, barriers, and opportunities for action related to voluntary species conservation for the electricity sector that broadly includes electricity generation and delivery. Some companies, however, are expanding into the transmission and delivery of other energy such as natural gas. This information can inform EPRI-member decision making with an understanding of the full suite of reasons to consider voluntary conservation and the steps they can pursue to facilitate the work. The information also helps members decide how to approach their voluntary conservation work in light of the conservation practices and strategies their peers have implemented.

LEARNING AND ENGAGEMENT OPPORTUNITIES

- The Options section of the report identifies projects that EPRI or its members could pursue to lower the barriers to voluntary species conservation.
- EPRI report 3002007270, *Voluntary Conservation Tools, Approaches to Cost-Effectively Protect Multiple Candidate and Petitioned Species Under the Endangered Species Act and Avoid Listing of Species* (2016).
- EPRI report 3002008426, *A Decision Support Tool for Research and Conservation Options within the Context of the Endangered Species Act* (2016).

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PROGRAM: Program 195, Endangered and Protected Species



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Background

Most people think of electric utilities as supplying the power that we all use daily. But lesser known is the opportunity for those companies to help conserve declining and imperiled species in ways that also benefit a company's business goals. For example, conserving species may promote a company's corporate sustainability mission and reduce the restrictions a company faces under the federal Endangered Species Act (ESA) by removing impediments to future infrastructure growth as well as ongoing operation and management costs that can directly benefit customers through lower rates. Electric utilities may be particularly suited to pursuing these opportunities because many have extensive experience interacting with the ESA and because of the large acres of lands they own, manage, or hold easements on. Nationwide, hundreds of thousands of acres are under some form of control by electric utilities. Besides land, some electric utilities also control, manage, or affect rivers, lakes, and other water bodies, such as through their hydropower and cooling water intake operations.

Few people have evaluated the barriers to and opportunities for electric utilities to voluntarily carry out conservation beyond the minimum required by the ESA and other wildlife laws, and no one has systematically completed this evaluation. For example, what incentives would drive a company to remove invasive species impeding the recovery of an endangered plant? How do those incentives vary based on a company's operating structure? What can conservation groups, wildlife agencies, and utility customers do to incentivize utilities to invest more in restoring rare wildlife? Are some conservation laws inadvertently discouraging voluntary conservation? Addressing these and other related questions will help us understand why a utility would go out of its way to conserve declining and rare wildlife and how laws and policies could promote those incentives.

From a conservation perspective, voluntary conservation is often necessary to stabilize and recover rare and declining species in the United States. Most of these species require active habitat or population management to address persistent threats, including invasive species, habitat succession, and climate change. Although laws such as the ESA are well known for their powerful prohibitions, they rarely compel the active management that species need to recover. For this reason, conservationists have tried for decades to create incentives for landowners to go beyond the minimum required by

the ESA, and much progress has been made.¹ Different landowners, however, likely need different sets of incentives. The sector-specific analysis covered in this study is needed to identify specific strategies and mechanisms to further engage electric utilities.

Many electric utilities already voluntarily conserve listed and at-risk species and receive regulatory benefits for doing so. EPRI's past work has identified those opportunities.^{2,3} What remains missing, however, is a systematic evaluation of those voluntary programs specific to electric utilities, with the goal of understanding the barriers to voluntary conservation and the strategies to overcome them. To address this knowledge gap, the researchers for this project worked with EPRI to survey 17 EPRI Endangered and Protected Species Program member companies about how they benefit from voluntary conservation and how they could expand their voluntary conservation efforts. Section 2 of this report describes the scope of the study and methods. The study focuses on voluntary conservation as distinguished from mandatory conservation required by the ESA or state endangered species laws, as voluntary conservation opportunities are generally less well understood and more complex than compliance requirements. Section 3 summarizes findings, organized by specific barriers and opportunities. Section 4 describes opportunities to enhance voluntary conservation in ways that also advance a utility's business goals. Section 5 concludes with observations about future trends in voluntary conservation by electric utilities. Appendix A contains the complete set of online survey questions used to categorize the types of voluntary conservation that participants indicated they had conducted and the barriers they encountered. Appendix B contains the survey results summarized. Throughout the report, *voluntary conservation* refers to voluntary **species** conservation, distinct from conservation of water, land, or other natural resources independent of species.

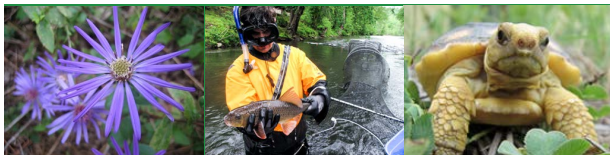
Scope of Report and Methods

This report focuses on conservation actions that electric utilities voluntarily undertake to conserve species listed under the ESA or at risk of becoming listed. Therefore, the report does not cover game

¹ See, for example, C. Langpap, "Conservation of Endangered Species: Can Incentives Work for Private Landowners?" *Ecol. Econ.* 57:558–72, 2006.

² *Voluntary Conservation Tools: Approaches to Cost-Effectively Protect Multiple Candidate and Petitioned Species Under the Endangered Species Act and Avoid Listing of Species.* EPRI, Palo Alto, CA: 2016. 3002007270.

³ *A Decision Support Tool for Research and Conservation Options within the Context of the Endangered Species Act.* EPRI, Palo Alto, CA: 2016. 3002008426.



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species, common species, or mandatory compliance with the ESA, such as through section 7 consultations for federal agency actions or habitat conservation plans (HCPs) for private activities.⁴ Rather, the main purpose of the report is to understand four questions: what voluntary conservation activities are electric utilities pursuing; what motivates utilities to pursue those activities; what barriers to voluntary conservation do utilities encounter; and what changes to ESA policy and practice could facilitate voluntary conservation by the electric utility sector?

The types of conservation measures that are “voluntary” are not always clear. An example is enrollment in a candidate conservation agreement with assurances (CCAA), which is designed to conserve species at risk of becoming ESA listed. CCAAs provide participants with the legal assurance that if they implement the terms of the agreement, they face no additional ESA legal restrictions or obligations if the covered species is listed. This assurance is identical to those provided through an HCP. Like HCPs, CCAAs can also allow the U.S. Fish and Wildlife Service (USFWS) to authorize incidental take for land use activities that are unrelated to conservation, such as oil and gas development and ranching. Although participation in a CCAA is entirely voluntarily, a landowner’s decision not to participate may require him to develop an HCP if the candidate species is listed. From this perspective, CCAAs are often viewed as an ESA compliance tool, even though they are entirely voluntary. Unless potential take of an ESA-listed species can be avoided, in many situations the choice is whether to voluntarily enroll in a CCAA now or separately bear the cost of applying for incidental take authorization through an HCP or participating in a section 7 consultation later.

For this study, the researchers had to draw a line as to what they considered voluntary. They considered CCAAs voluntary because those agreements are never compulsory, even though the decision not to enroll in one could lead to compulsory future ESA requirements. The study also considers the following activities voluntary:

- Candidate conservation agreements (CCAs). These are similar to CCAAs, except they provide no legal assurance that a participant will not face additional ESA restrictions or obligations if a species is listed. Because federal agencies are ineligible for CCAAs, they are the most common participants of CCAs.
- Safe harbor agreements (SHA). These agreements involve private or other nonfederal landowners whose actions contribute to the

recovery of a listed species. In exchange for carrying out the actions, participants receive ESA assurances that if they fulfill the conditions of the SHA, the USFWS will not require them to carry out any additional or different management activities. In addition, at the end of the agreement period, participants may return the enrolled property to the “baseline conditions” that existed at the beginning of the SHA.⁵

- Other activities to conserve at-risk or listed species under the ESA. This category covers any voluntary activities under the ESA besides CCAs, CCAAs, and SHAs. An example is when a utility implements nonmandatory recovery actions as part of its ESA section 7 consultation on an infrastructure project.
- Activities to conserve at-risk or listed species outside the scope of the ESA or any state conservation laws or programs. This category covers conservation measures that utilities implement independent of the ESA or any state wildlife conservation law or program. An example is contributing to a habitat conservation fund established by a coalition of regional conservation partners.

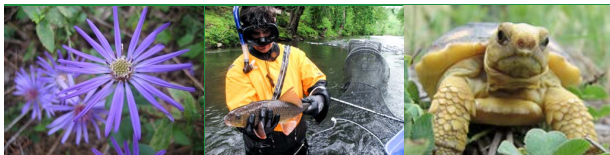
This study was initiated with an online screening survey of EPRI’s Endangered and Protected Species Program member companies from August to October 2019, asking them about the types of voluntary species conservation work they have implemented or plan to implement in the near future (Appendix A). The 17 companies that responded to the survey range from the largest electric utilities in the nation to smaller regional companies. The purpose of the survey was not to seek detailed information from the companies but rather to determine which ones to subsequently interview for more information and what questions to ask during the interviews.

The survey results (Appendix B) provided insights for follow-up interviews with 13 member companies, each one represented by one or more employees who volunteered for the interviews. During the interviews, which occurred from November 2019 through January 2020, company representatives responded to a series of questions centered on the following topics:

- Detailed description of past, current, and near future voluntary conservation activities
- Reasons for carrying out the activities
- Barriers to carrying out the activities

⁴ For more about CCAs, visit the USFWS’s CCA fact sheet. Accessed May 2020: <https://www.fws.gov/endangered/esa-library/pdf/CCAs.pdf>

⁵ For more about SHAs, visit the USFWS’s SHA website. Accessed May 2020: <https://www.fws.gov/endangered/landowners/safe-harbor-agreements.html>



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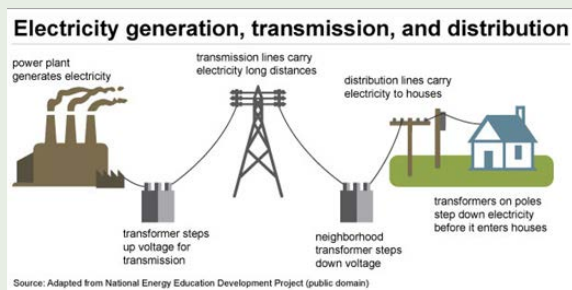
- How voluntary conservation is enabled or impeded by the company's operating structure, budget, stewardship culture, external pressure, and any other factors
- Type of interaction with regulators, landowners, and environmental organizations
- Recommendations for facilitating voluntary conservation
- Any other information or comments the company provided

In some instances, the interview responses were inconsistent with the online survey responses. When this occurred, the interview responses were used for the analysis in this report. To encourage candid dialogue during interviews, the identity of all companies and their staff has been kept anonymous throughout this report unless interviewers received permission to mention them. In some situations, the conservation activities or programs discussed in the interviews are public information. Examples include the identity of CCAA participants and information from company press releases. In this report, company-specific public information is referenced to help illustrate certain concepts.

The companies interviewed may not represent the typical electric utility in the United States. The Endangered and Protected Species Program member companies are a self-selecting group of companies likely to have above-average interest in species protection issues compared to other electric utilities. Therefore, the findings in this study might not apply to other EPRI members. For context, the Endangered and Protected Species Program members represent approximately 30% of the total megawatts of electricity generated by EPRI members based in the United States and approximately 21% of U.S. electricity generation. EPRI members overall represent approximately 69% of the megawatts generated by utilities in the United States and approximately 90% of the electric utility revenue generated in the United States. These figures are only estimates, partly because the exact values depend on the methods used to calculate the values and on which types of companies are considered U.S. based. Nonetheless, these figures provide a reasonable approximation of the extent to which the interviewed companies supply electricity in the United States.

Overview of Electric Utilities

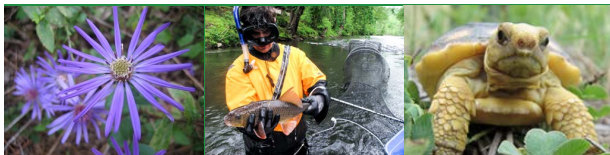
An electric utility is a company that generates, transmits, and/or distributes electricity for sale to customers, generally in a regulated market. As illustrated below, *generation* involves the production of electricity through natural gas, coal, sunlight, wind, water, nuclear, or other energy sources. *Transmission* involves moving electricity from its source, often across large distances, over high-voltage power lines. That voltage is then reduced by transformers and moved across lower-voltage lines directly to end users in a process called *distribution*.



Credit: U.S. Energy Information Administration

There are three major types of electric utilities. As discussed later, the structure of each affects its incentive to pursue voluntary conservation.

- **Public power utilities.** These government-owned utilities serve local or regional customers. Public power utilities can be small and serve a municipality or can be very large and serve an entire state or region. Some public utilities generate their own electricity, while others buy electricity from other companies. Public utilities structure their electricity rates to recover the cost of their services to customers, not to generate a profit. Depending on state law, some public utilities have their electricity rates regulated by a public utility commission.
- **Cooperative utilities.** Like public power utilities, cooperative utilities are not-for-profit corporations, which generally serve rural areas. Cooperatives are owned by their members, who are the end users or purchasers of the electricity. Cooperatives operate on a cost-of-service basis, so any profits they generate are reinvested back into the business. A cooperative may or may not be regulated by a public utility commission. Not all cooperatives generate their own electricity; some purchase it from other companies. Some cooperatives sell wholesale power to other cooperatives that serve retail customers.
- **Investor-owned utilities.** These privately-owned companies have shareholders and investors and are for-profit companies. The shareholders and investors may or may not be customers of the companies. In general, investor-owned utilities are large corporations and may provide services in both regulated and deregulated markets. A “regulated energy market” is one in which all aspects of the business come under the purview of a public utility commission. A “deregulated energy market” is one in which electricity generation is bid into a competitive market. Some investor-owned utilities also own and operate natural gas companies that transmit and deliver natural gas to residential, commercial, and industrial customers. Investor-owned utilities supply electricity to approximately three-quarters of all electricity customers nationwide, predominately in heavily populated areas in the east and west coasts.



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Findings

This section focuses on three issues:

1. Establish a baseline of what voluntary conservation the 17 utilities that completed the online surveyed pursued or may pursue in the near future.
2. Understand the drivers for utilities to pursue voluntary conservation.
3. Describe the barriers to voluntary conservation.

What Voluntary Conservation Have Utilities Pursued?

Among the 17 companies surveyed, 15 have already or were considering carrying out voluntary conservation for at-risk or listed species. This represents a contribution to conservation that, until now, has not been systematically documented and is likely underappreciated by the public and regulatory agencies.

The researchers organized the types of voluntary conservation activities into three broad categories (Table 1). The first category is CCA and CCAAs. Twelve utilities have participated in at least one of these agreements or are considering participating in one in 2020. The second category is SHAs, which only two companies (both investor-owned) have participated in. The third category includes all other types of voluntary conservation activities that are outside the scope of a formal ESA agreement. This includes voluntary research on listed species, contribution to conservation funds, and in-kind donation of company resources to help wildlife agencies with conservation projects. All but two utilities had activities that fit this third category. To better understand these results, the major findings are described in greater detail below.

Most companies have carried out voluntary conservation without using an ESA or state-based agreement or seeking regulatory credit for the work

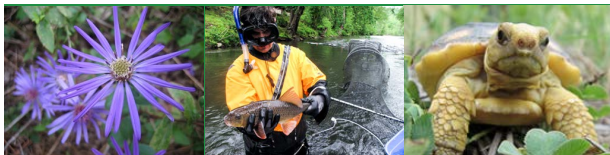
Almost all the companies interviewed had carried out some type of conservation for listed, at-risk, or rare species without having enrolled the activity under an ESA or state-based conservation agreement. Further, the companies did not seek regulatory credit for those activities to use as mitigation in the future. Later in the report, the researchers discuss the motivations to carry out these activities without receiving mitigation or other regulatory credits. For now, the researchers emphasize that major portions of the electric utility sector's conservation efforts for listed and at-risk species will remain unrecognized if one looks only at ESA agreements.

The type and number of voluntary activities varied widely by company, but in general the activities were extensions of a company's existing activities to manage land or water as part of its normal operations. Because of this connection, many of the companies were able to carry out the voluntary activities without major complications. For example, companies have installed bird nesting structures on transmission towers, managed company land for declining species, surveyed species beyond the requirements of their ESA permitting actions, and modified their operations to avoid impacting species. For some companies, these activities were funded through their environmental stewardship program, some at tens of thousands of dollars annually. Those companies tended to report the greatest number of voluntary activities and are major contributors to the conservation of certain species. Other companies had no company-wide stewardship program, so their voluntary actions, if any, tended to be modest and were often carried out by employees during or outside of work hours.

Although conservation activities in this category were not linked to an official ESA agreement or regulatory crediting framework, they

Table 1. Number of companies with different types of voluntary species conservation activities, organized by company type. The second column, "Utilities that have conducted voluntary conservation," refers to any voluntary conservation action, including those under a CCA/CCAA, SHA, and other programs or agreements. Therefore, the third, fourth, and fifth columns are subsets of the second column. Some companies have multiple conservation activities, so the second column is not the sum of the other columns.

Type of utility	Utilities that have conducted voluntary conservation	Utilities with a candidate species agreement (CCA/CCAA)	Utilities with a safe harbor agreement	Utilities with any other conservation activity
Public	5	2	0	4
Cooperative	3	0	0	3
Investor-owned	7	2	2	6
Total	15	4	2	13



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Figure 1. Longleaf pine forests of the southeastern U.S. are some of America's most biologically diverse ecosystems. Southern Company has used its profits to fund over \$8.3 million in projects to restore these forests, benefitting hundreds of species including the red-cockaded woodpecker, gopher tortoise, and indigo snake. CC BY-SA 2.0, Justin Meissen.

can still indirectly benefit a company. Almost all companies that conducted voluntary surveys and other scientific research explained that the study results could benefit the company in future ESA permitting actions by providing information to streamline permitting or to avoid ESA restrictions where the species is absent. Further, the companies reported that voluntary surveys or conservation measures would improve their relationships with the USFWS, which in some instances could lead to other “soft” or indirect benefits to the company during future ESA permitting. Partly for this reason, some companies considered it satisfactory to conserve species without securing ESA legal assurances or regulatory credits.

Finally, some companies have donated significant funds to habitat conservation programs generally, without connecting them to any ESA agreement or seeking regulatory credits in return. An example is Southern Company's partnership with the National Fish and Wildlife Foundation and other public and private partners to pay a portion of the Longleaf Stewardship Fund, which supports projects to conserve over 350,000 acres of longleaf pine habitat and the species that rely on those forests. Southern Company reports spending over \$8.3 million from 2004 to 2019 on the fund, which is likely the most significant program to conserve longleaf pine forests.⁶ A few other companies reported funding species or habitat conservation measures but at more modest levels.

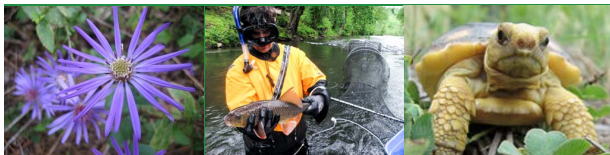
Many companies were very interested in CCA/CCAAs, with most of the interest driven by the goal of managing legal risk

Among the companies surveyed, four have enrolled in one or more CCAs or CCAAs, making these agreements the most common type of ESA agreement among the companies. During this research, the Nationwide Candidate Conservation Agreement for Monarch Butterfly on Energy and Transportation Lands was being developed, and many utilities were aware of it. The CCAA allows utilities to enroll their right-of-way lands with the University of Illinois as the permit holder.⁷ Ten companies were strongly considering or investigating the possibility of enrolling in the CCAA before the end of 2020, when USFWS must decide whether to list the species. For seven of those ten companies, a monarch CCAA would be their first experience participating in any ESA voluntary conservation agreement. Considering that these seven companies have never had to participate in any such agreement, the potential listing of the butterfly already reveals the broad regulatory implications of this decision within the electric utility sector.

Six of the ten companies considering enrollment in a monarch CCAA emphasized that their interest was driven primarily or entirely by the goal of managing their legal risk if the monarch were

⁶ Southern Company, 2018. “Southern Company and Partners Award Grants to Benefit Longleaf Pine Forest and Wildlife.” Accessed May 2020: <https://www.southerncompany.com/corporate-responsibility/corporate-responsibility-newsroom/environment-articles/2018-grants-longleaf-pine-forest-wildlife.html>

⁷ Nationwide Candidate Conservation Agreement for Monarch Butterfly on Energy and Transportation Lands: An Integrated Candidate Conservation Agreement with Assurances (CCAA) and Candidate Conservation Agreement (CCA). March 2020. Accessed May 2020: https://www.fws.gov/savethemonarch/pdfs/Final_CCAA_040720_Fully%20Executed.pdf



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listed, rather than an environmental stewardship goal. Even though enrollment in a monarch CCAA is a voluntary measure designed to help conserve the species, the motivation may differ from that for other conservation activities a utility pursues. In this respect, enrollment in a monarch CCAA is akin to participating in an HCP because both are principally motivated by the goal of managing a company's legal risk. Nonetheless, some companies may enroll based solely on risk management benefits but continue to participate over the long term based on other reasons too, such as the broad public appeal of monarch butterflies and the positive publicity that monarch conservation generates for a company.

Despite the popularity of CCAAs, two companies expressed concern about the durability of these agreements. One company has consistently been advised by its outside legal counsel that the USFWS lacks the authority to issue CCAAs because they cover candidate species, over which the agency has no legal jurisdiction under the ESA. If a legal challenge to this authority succeeds, a company's CCAA could be invalidated. For this reason, the company has never participated in a CCAA. A second company expressed concern based on lawsuits challenging the listing of the lesser prairie-chicken as threatened and criticism of the five-state CCAA for the species.⁸ The company is following the outcome of these disputes before deciding how much to invest in CCAAs.

Companies rarely enroll in safe harbor agreements

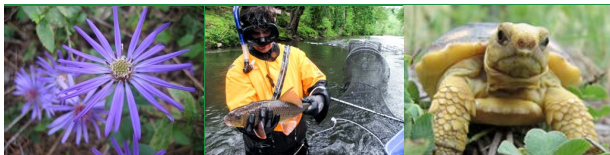
Besides CCA/CCAAs, SHAs are the other voluntary ESA agreement available to utilities. Only two utilities, Duke Energy and Southern Company, have participated in an SHA, both to improve habitat for the red-cockaded woodpecker in the southeastern United States. In contrast, two other companies explained that despite their interest in helping to reintroduce listed species, they are unlikely to develop an SHA because they cannot justify the time and costs of doing so from a business perspective. Because reintroducing a species or improving its habitat very rarely offers direct benefits to a utility's primary mission of supplying electricity, most utilities are unlikely to enroll in an SHA unless doing so becomes extremely easy and cost efficient.

One of these companies also explained that if it ever had to return an SHA property to baseline conditions (that is, those at the start of the agreement) and remove or harm a covered species in the process, the company might receive negative publicity for destroying endangered species habitat. The company thought that the general public will never fully understand or appreciate the fact that an SHA allows a return to baseline. As discussed later in the report, public perception is important to many utilities.



Figure 2. Ten of the companies interviewed were considering the possibility of enrolling in a candidate conservation agreement for the monarch butterfly. Seven of those companies have never enrolled in any ESA voluntary conservation agreement, underscoring the significance of the upcoming listing decision.

⁸ E&E News, 2020. "Long-buried audit finds misuse of protection funds." Accessed April 2020: <https://www.eenews.net/stories/1063004621>



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Figure 3. The red-cockaded woodpecker is the only species for which the utilities interviewed had entered into a safe harbor agreement to improve the species' habitat. Duke Energy and Southern Company are improving woodpecker habitat under each company's agreement. Credit: USFWS.

Why Do Utilities Pursue Voluntary Conservation?

The second main issue addressed in the interviews is why electric utilities participate in voluntary conservation. Prior to the interviews, the researchers identified a diverse set of motivations for voluntary conservation using the 2019 online survey results. Traditionally, conservationists have focused on creating regulatory and financial incentives for the regulated community to conserve species. Examples include providing greater regulatory predictability or streamlined permitting under the ESA. Those “bottom-line” incentives remain important but are unlikely to fully explain why many electric utilities carry out voluntary conservation.

Through the interviews, the researchers learned that many companies are increasingly motivated by other incentives too. For example, the rise of corporate sustainability programs over the past decade has allowed many companies to justify allocating time and resources to conserving wildlife and other natural resources—regardless of whether those activities also provide a clear link to a bottom-line benefit. During the interviews, the researchers tried to capture the full range of incentives and identify those that function as primary and secondary drivers of behavior.

The primary incentives for most companies are cost reduction and risk mitigation

For most of the utilities interviewed, the main incentive to pursue voluntary conservation is if it directly benefits a company's ability to supply electricity. In fact, 10 of the 13 companies interviewed explained that a direct benefit to its bottom line is “important” or “paramount” in its decision to pursue voluntary conservation that has a nontrivial cost. These bottom-line benefits generally fall into two categories: reducing a company's operations and maintenance costs (O&M costs) and mitigating risks.

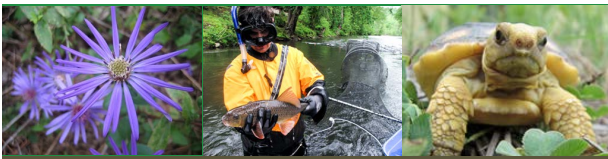
Reducing O&M Costs

Voluntary conservation can produce this benefit in several ways:

- Conserving a species before it declines in status, at which point the cost to avoid impacting the species and offsetting any unavoidable impacts likely increases. For example, highly imperiled species may pose greater operational constraints to utilities because impacts to populations of those species must be strictly avoided.
- Conserving an at-risk or candidate species to the point at which it does not require listing under the ESA, eliminating the cost of ESA compliance.
- Improving the status of an endangered species so that it is down-listed to threatened, at which point the USFWS gains the option to issue a section 4(d) rule for the species that can exempt certain activities from requiring an ESA permit. Eliminating permitting workload translates to decreased operating costs for utilities and land managers.
- Improving the status of a listed species so that it is delisted, at which point the cost of ESA compliance is eliminated. Although landowners often need to continue carrying out some conservation measures to ensure that delisted species do not require relisting, those measures are less onerous than ESA consultation and permitting requirements.

Voluntary conservation agreements that expedite or streamline ESA permitting requirements can also reduce O&M costs—even if a species' legal status is unchanged. The most common example from the interviews is the Nationwide Monarch CCAA.⁹ Enrollees commit

⁹ Nationwide Candidate Conservation Agreement for Monarch Butterfly on Energy and Transportation Lands: An Integrated Candidate Conservation Agreement with Assurances (CCAA) and Candidate Conservation Agreement (CCA). March 2020. Accessed May 2020: https://www.fws.gov/savethemonarch/pdfs/Final_CCAA_040720_Fully%20Executed.pdf



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to carrying out conservation measures on certain enrolled lands, including reseeding with native flowers, in exchange for receiving ESA incidental take coverage for their operations if the monarch butterfly is listed. The conservation agreement is structured to reduce the permitting and reporting workload that utilities would otherwise face if each company were to develop its own agreement with the USFWS. This reduction in regulatory compliance costs translates to a direct savings in O&M costs.

Mitigating Risks

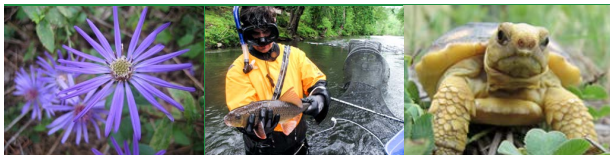
Mitigating risks refers to minimizing a company's legal, reputational, and other risk from the presence of a listed or at-risk species. Social media, watchdog conservation groups, and other factors can heighten this risk in new ways. Voluntary conservation that minimizes the risk can take many forms:

- Increasing regulatory predictability for a company by establishing upfront its long-term legal obligations under the ESA. Enrollment in a CCAA is an example of this predictability: enrollees receive a legal assurance that if they carry out the conservation measures described in the CCAA, they face no additional ESA obligations for the duration of the agreement. For most of the companies interviewed that are considering enrollment in a monarch CCAA, regulatory predictability was the primary reason they cited for enrollment.
- Creating an easier path for future ESA compliance requirements. One example is receiving mitigation credit for voluntary conservation measures and using those credits to offset future impacts. The availability of credits provides an assured path to ESA compliance, rather than requiring a company to search for mitigation credits or other options during permitting.
- Giving the company greater control over the terms of its future ESA compliance obligations. Two companies reported that they had better control over the terms of a voluntary conservation agreement than a regular ESA permitting arrangement that the USFWS negotiated with the company. In the former situation, the companies have more flexibility to dictate favorable terms and can withdraw from negotiations if the outcome is unacceptable.
- Voluntarily avoiding impacts to a species from construction and maintenance activities, which in turn reduces or eliminates the need to obtain an ESA permit for those activities or to adopt cost-

lier mitigation measures under a permit. One utility, for example, voluntarily avoids impacts to the Indiana bat during the active roosting season. Although the avoidance measures inconvenience the company and increase electricity costs for its customers, this outcome is presumably better than one in which the species is impacted, which then requires the company to seek an ESA permit. The process to secure a permit can be complicated, time consuming, and unpredictable given the USFWS's understaffing problems. As a result, voluntary avoidance—which a company has control over—can create an easier path to managing legal risk than securing an ESA permit to authorize impacts.

In these examples, voluntary conservation can reduce company cost or increase regulatory predictability. But throughout the interviews, the opposite issue also arose frequently: in some situations, voluntary conservation can undercut a company's bottom line by creating new costs or increasing a company's legal risk. For example, one company was approached with a proposal to reintroduce an endangered insect onto its lands. The reintroduction offered no benefit to the company's ability to produce electricity and, instead, created a new ESA liability for which the company would have to expend resources to mitigate. Unable to justify the reintroduction from a cost or risk perspective, the company declined the reintroduction.

This reintroduction scenario contrasts starkly with the monarch butterfly scenario and shows that whether voluntary conservation promotes a company's bottom line is very context dependent. Enrolling in a monarch CCAA is a "no brainer" as one company explained because it viewed the agreement as the easiest path to satisfying any future ESA compliance requirements for the species (as noted previously, though, not all interviewed companies had committed to enrolling in the CCAA; some were still evaluating this possibility). Without that regulatory driver, the incentive to voluntarily spend time and money on species conservation becomes a much harder sell for most companies. There was no requirement for the company above to reintroduce an endangered insect onto its land, because the ESA requires private landowners only to avoid and minimize impacts—not to help recover species. Therefore, a bottom-line benefit will rarely, if ever, create a reason to reintroduce species or pursue many other voluntary conservation measures for which there is no regulatory pressure.



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Figure 4. Georgia aster (*Symphyotrichum georgianum*), a species that the USFWS precluded from listing based partly on conservation measures that Georgia Power, a Southern Company company, agreed to perform on rights of way under a 2014 CCA. CC BY-SA 4.0 BioSthorms.

Company culture and type are also predominant factors in determining whether a utility pursues voluntary conservation

As explained, all companies were willing to pursue voluntary conservation when it directly benefitted their bottom line. But what about situations in which voluntary conservation offered little or no such benefits, as was the case with the endangered insect reintroduction proposal? In those situations, the researchers found that a company's culture of conservation and the type of company (cooperative, public, or investor-owned) were often the most important determinants of whether it pursues voluntary conservation. In general, companies with a strong environmental stewardship culture, especially backed by a stewardship program and funding, were most likely to pursue conservation for its own sake or for benefits besides cost reduction and risk mitigation (for example, reputation enhancement from voluntary conservation), which is discussed later. Companies without that culture were generally unable to justify voluntary conservation based on any reason other than a bottom-line benefit. Based on the 17 companies surveyed, company structure appears to be a major factor in shaping its environmental stewardship culture.

Cooperative utilities

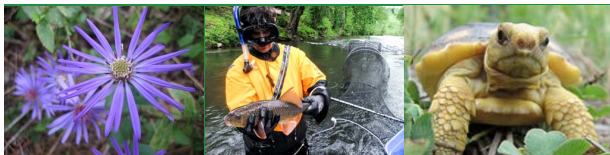
Cooperatives, which are owned by their members, have their conservation culture determined largely by members' priorities. If members want to pay for conservation by increasing their electricity rates, a cooperative can do exactly that. That is, conservation initia-

tives are primarily driven by internal interest rather than by external shareholders as is often the case with investor-owned utilities. For this reason, none of the cooperatives interviewed expressed the need to adopt high-profile corporate stewardship programs in response to shareholder pressure or activist investors.

Because a cooperative may have many members distributed across large areas, interest in voluntary conservation may not be uniform across a company's service territory. In general, however, cooperatives serve rural areas and have many members and employees who value fishing, hunting, and other outdoor recreation. This interest is one reason that cooperatives are amenable to considering factors other than bottom-line benefits in deciding whether to pursue voluntary conservation. One cooperative explained that although cost savings is a top priority, it also strives to balance costs with stewardship, and that there are no "black-and-white" situations when deciding whether to fund voluntary conservation. Another cooperative went further and explained that it does not need any bottom-line benefit to conduct voluntary conservation. Rather, the work is driven by the company's stewardship culture and desire to meet public expectation concerning environmental responsibility. The company's managers embrace stewardship and have also never sought any regulatory credit for their voluntary conservation work. This generous stewardship culture was unusual among the 13 companies interviewed. At the same time, the company had not carried out conservation for listed species. The interview suggests that the complexity and costs of many ESA projects might overwhelm even that company's generous approach to conservation.

Public utilities

Like cooperatives, public utilities are not-for-profit corporations. Because these utilities do not generate profits, voluntary conservation must be funded through the O&M budget, the cost of which is passed on to ratepayers. Conservation that does not yield a direct cost savings or risk mitigation can be difficult, if not impossible, to justify in this scenario unless the costs are minimal or unless conservation is built into the company's mission. Among the three public utilities interviewed, two confirmed this limitation on their ability to fund conservation. And unlike cooperatives, public utilities cannot readily consider their ratepayers' interest in conservation as justification for pursuing conservation that does not yield a bottom-line benefit. Given the narrow circumstances in which public utilities can fund voluntary conservation, the researchers were unsurprised to learn that one of the three companies had no dedicated program or budget for at-risk or listed species conservation, even though it dealt with ESA



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regulatory requirements frequently. Both companies, however, did have several conservation initiatives that relied largely on in-kind contributions (for example, use of company lands and waters for conservation). Presumably, the cost of these initiatives was modest enough to not require a dedicated budget.

The third public utility the researchers interviewed differed from the first two in that stewardship is built into its mission. The company is allowed to use O&M dollars to pay for conservation, even when doing so does not produce a bottom-line benefit. The company allocates approximately \$300,000 to \$600,000 annually for a wide variety of species conservation projects and has an internal natural resource group. Despite the absence of a requirement for bottom-line benefits, the company said it appreciates conservation projects that generate those benefits. For example, the company participates in a CCA for an at-risk fish species, to promote the species' conservation but also to minimize the likelihood of its listing.



Figure 5. The sicklefin redhorse, an at-risk species, benefits from the Tennessee Valley Authority's conservation efforts, including under a CCA. Conserving the species furthers the company's stewardship and risk management goals. Credit: USFWS.

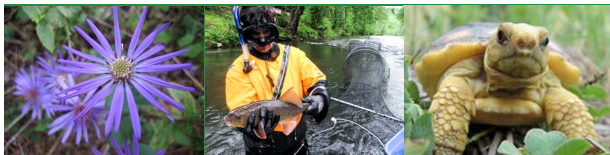
Investor-owned utilities

Unlike public utilities and cooperatives, investor-owned utilities operate to generate a profit. As a result, voluntary conservation can be funded from both the O&M budget and any profits generated. In general, conservation with a bottom-line benefit was funded from this budget, whereas conservation without this benefit was funded from profits. Whether a company used its profits to fund conservation depended on its corporate environmental stewardship culture. To better understand this issue, the researchers organized

the seven investor-owned utilities into three groups. The first group, which consists of four companies, indicated that its companies have a strong environmental stewardship culture and had flexibility to consider a variety of factors in deciding whether to pursue voluntary conservation, with some of those initiatives having limited bottom-line benefits. Several of these companies have a long history of participating in ESA conservation agreements, and one explained that the company thinks of itself as "more than only a power generation company." Further, three of these companies carry out significant species conservation on company-owned lands, and all appeared to pursue voluntary conservation on their own initiative. The second group, which consists of two companies, was generally unable to pursue voluntary conservation without a bottom-line or other benefit to the company's operations and did not have environmental stewardship programs of the same scale as the first group—nor seemed to proactively pursue habitat or species restoration. The researchers' impression is that these companies are moving in the direction of relying less on the need to show a bottom-line benefit and are growing their species conservation and other stewardship portfolio. At least one of the companies relied on employee "sweat equity" to pursue voluntary measures without a bottom-line benefit, rather than on a corporate-level environmental stewardship program. The third group, which consists of one company, had no voluntary conservation work unconnected to a bottom-line benefit. Its work with endangered species was therefore limited to mandatory permitting actions.

For many companies in the first and second groups, investor and shareholder expectations for the companies to pursue environmental stewardship programs was an important factor in voluntary conservation that had few or no bottom-line benefits. Further, this pressure was fairly recent for some companies, which historically had placed a much stronger emphasis on connecting conservation to a bottom-line benefit. In the future, external pressure to conduct conservation may likely affect more utilities as expectations around companies' commitments to corporate social responsibility continue to grow.

To summarize the interview results, the ability of a company to carry out voluntary conservation when there is little to no bottom-line benefit depends partly on the type of utility. For the companies interviewed, the key factors for each type of utility are as follows (these results may or may not be generalized to other companies):



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Cooperatives

- Members can decide to pay for voluntary conservation, generally without the constraints of public utility commission rate structures. Because cooperatives are not-for-profit corporations, conservation is generally funded through O&M budgets and in-kind contributions from the company, especially employee labor.
- Cooperatives did not face external pressure from shareholders or other non-ratepayers to pursue conservation.

Public utilities

- Unless a public utility has conservation in its mission, it may be constrained to spend broadly on conservation. The spending priorities of a public utility often reflect the interests of its ratepayers, which are expressed through its governing body.
- When spending is regulated by a public utility commission, a public utility has limited flexibility to pursue voluntary conservation that does not serve a bottom-line benefit. Like cooperatives, public utilities do not generate profits that they can invest in conservation. Some public utilities, however, do carry out some important conservation through in-kind donation of company resources. Further, one public utility has conservation built into its governance structure, allowing the company to fund a wide variety of voluntary conservation actions.

Investor-owned utilities

- Because these utilities operate to generate a profit, they can use profits to pay for conservation that does not further a bottom-line benefit. Whether a company uses profits for conservation appears to depend largely on its stewardship culture.
- Stewardship culture is increasingly shaped by whether a company's shareholders, investors, and ratepayers prioritize conservation and are willing to pay for it.
- All investor-owned utilities are regulated by public utility commissions, so there are limits to how much a company can invest in voluntary conservation without a bottom-line benefit.

Non-financial/indirect benefits, such as increased reputational value, can bolster the case for voluntary conservation

Besides direct benefits to cost savings or risk mitigation, conservation may also generate important indirect benefits that promote a utility's primary mission of delivering electricity or are aligned with its values. Many utilities interviewed could consider these indirect benefits in deciding whether to pursue voluntary conservation, particularly companies with a strong stewardship culture. For those

companies, the lack of a direct benefit was not a major barrier if indirect benefits were present. Those benefits can take many forms, especially the following:

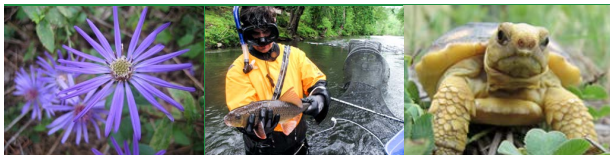
- **Increased reputational value for voluntary conservation work.**

This value can be generated indirectly from the media, regulators, or other sources. Seven companies identified this value as an important or very important benefit to the company, with two companies treating it as the most important indirect benefit. Some of these companies explained that good publicity can help offset some of the negative coverage the company receives, such as in connection to environmental controversies or impacts from their fossil fuel power plants. In addition, four companies identified good media publicity as something they always welcome but did not proactively seek. And several companies reported that their work on wildlife conservation always generates great responses from the public.

At the other extreme, one company avoided publicizing its voluntary conservation work for listed species to minimize the risk that regulators will mandate the work in the future. For this reason, the company also avoided entering into ESA conservation agreements for the work.

Several companies also regarded recognition by regulatory agencies, such as the USFWS, as a welcome benefit. State and federal wildlife agencies, however, rarely provide stewardship awards to the regulated community. This could be a future opportunity to promote indirect benefits that may expand the value for companies deciding whether to invest in voluntary conservation.

- **Meeting public or shareholder expectations.** Several investor-owned utilities discussed the public's increasing expectation for utilities to act as good environmental stewards and the pressure from activist investors on a variety of environmental issues. Meeting these expectations was another indirect benefit that voluntary conservation promoted. Positive reputational value is closely linked to helping meet these expectations by amplifying news about a company's conservation work.
- **Improving relationships with regulators.** At least three utilities emphasized trust and a good relationship with regulatory agencies as a crucial factor in their operations. Voluntary conservation allowed these companies to build the relationships in several ways. One is by showing that the company is serious about conservation. Two is by showing that if a company can successfully implement voluntary conservation measures, it likely is able to



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translate that expertise and commitment to implement mitigation measures under an ESA permit. Three is by creating opportunities to build working relationships and trust between company staff and agency staff.

- **Providing information that facilitates permitting.** Four companies explained that voluntary research on species provides the company with an advantage in future ESA permitting situations. For example, by filling in data gaps about species—especially whether they are present on a parcel of land—a utility can rebut the USFWS’s assumption about species presence, which, if incorrect, would result in unnecessary conservation measures. Another example is by providing information to help estimate the amount of incidental take resulting from proposed maintenance and construction activities. With this information, the ESA section 7 consultation and section 10 incidental take permitting processes are expedited.

To summarize this section on incentives for voluntary conservation, the researchers found that every company welcomed bottom-line benefits resulting from voluntary conservation, with some companies requiring those benefits. With one exception, public utilities tended to have the least flexibility to fund voluntary conservation that did not produce direct benefits, whereas investor-owned utilities had the most flexibility to use their profits to fund voluntary conservation that produced no or limited bottom-line benefits. Whether they did so depended on a company’s stewardship culture. Most companies self-identified as having a culture that allows them to consider both direct and indirect benefits, with some companies pursuing significant conservation efforts that had no direct benefit (for example, reintroductions under a safe harbor agreement). Even the companies that required a direct benefit explained that the growth of corporate stewardship norms was allowing them to begin considering some indirect benefits. Further, at least one company emphasized the connection between voluntary conservation and benefits to utility customers: by improving the condition of species and their habitats, utilities can carry out their operations with fewer risks of endangering a species.

What are Barriers to Voluntary Conservation?

Even with strong incentives to carry out conservation, utilities face various barriers to conservation. For example, a company may seek to reintroduce an endangered frog onto its property but is concerned about restrictions to its future operations due to the presence of the protected species. Those concerns, if unaddressed, may

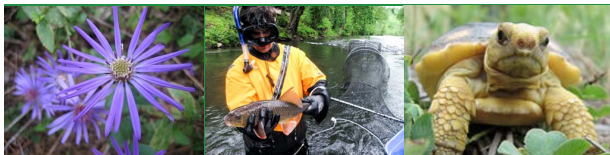
extinguish any motivation to reintroduce the species. Therefore, voluntary conservation depends not only on a sufficiently strong incentive but also the absence of significant barriers that undercut those incentives. Next, the researchers describe the barriers and how they relate to incentives for conservation.

Concern about creating legal liabilities

Many landowners are reluctant to help conserve a listed species because of the ESA regulatory restrictions that may accompany the presence or increased abundance of the species. To address this problem, the USFWS created SHAs in the early 2000s, allowing nonfederal landowners the option to return their enrolled property to baseline conditions at the end of the agreement. Despite the availability of SHAs and other ESA tools intended to address concerns about the creation of legal liabilities from conservation measures, those concerns remain prevalent among many landowners and companies. Unlike landowners, electric utilities face the added problem of incurring penalties for power outages. One company explained that ESA restrictions can contribute to these outages, putting the company in a difficult situation of determining how to comply with the ESA without jeopardizing its mission of delivering electricity. How much do these concerns limit voluntary conservation among electric utilities? The interviews identified a variety of responses to this question.

Three companies, all investor-owned, indicated that legal liabilities from voluntary conservation were a major problem. One company stated that this issue arises all the time, including in discussion with landowners. Another company, as explained previously, had declined to participate in a species reintroduction program because of concerns about ESA restrictions. And a third company explained that restrictions from conservation measures will be a “strong issue” to overcome.

Although SHAs could in theory address the concerns about ESA restrictions, in practice the agreements were rarely a viable option for several reasons. One is the time and cost for utilities to develop and participate in the agreements. At least two companies explained that they would likely never enter into such an agreement for this reason alone, unless the USFWS provided a streamlined process for doing so. Two is that SHAs and other voluntary ESA agreements may require monitoring and surveys at a level that is infeasible for a utility to carry out. Yet without monitoring, it is difficult to understand what conservation outcomes the agreements are producing. Three is inadequate USFWS staffing to engage in voluntary conserva-



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tion, which includes working with the company to develop a draft voluntary conservation plan, reviewing and approving the plan, issuing an accompanying incidental take permit, and completing other time-consuming steps. Finally, one company explained that the public might criticize the company for returning an SHA property to baseline conditions by removing the reintroduced species. Collectively, these issues create formidable barriers for companies that view ESA restrictions as a major legal risk.

On the other end of the spectrum, six companies regarded ESA liabilities from conservation measures as either a minor issue or only a theoretical one that has never materialized. One company stated that attracting listed species is always an issue but “not a deal breaker” if there are ways to manage the risk. Another company that deals regularly with ESA permitting issues was unconcerned about the risk, explaining that it understood the ESA permitting process well enough to feel comfortable securing an SHA or other assurance if needed. Similarly, another company was unconcerned for three reasons: its experience dealing with ESA issues, its view that past ESA restrictions have not been problematic for the company, and the fact that the company is generally improving habitat only where listed species already exist—so ESA restrictions already apply in the area.

There are several ways to reconcile the different perspectives between the two groups of utilities. At a minimum, each company’s concerns may reflect the circumstances of its geography, including the types of listed species present and the company’s relationship with its local USFWS office. The interviews suggest that although most USFWS field offices are considerably understaffed, some offices have enough capacity to work on permitting and other ESA activities without significant delay. Those outliers may account for why some utilities were more confident in their ability to secure ESA assurances for their conservation projects. Another explanation is that different companies perceive the likelihood of ESA enforcement and regulatory liabilities differently. This is not unique to the electric power industry. Within many other industries, their members do not hold uniform views on ESA permitting and compliance. Finally, different companies likely have different levels of risk tolerance, which is often driven by the perspectives of a company’s internal and external lawyers.

Time and complexity of developing conservation agreements

As the earlier findings indicate, whether a company carries out voluntary conservation is not necessarily reflected by whether it

has entered into ESA conservation agreements. Several companies interviewed are conserving at-risk and listed species outside of any ESA agreement or formal process. This informal approach, however, is not ideal in all situations—especially when a utility benefits from the regulatory certainty provided by an ESA agreement. Without that certainty, some companies have declined conservation projects. Therefore, easier methods for companies to develop and participate in ESA agreements may create new opportunities for conservation.

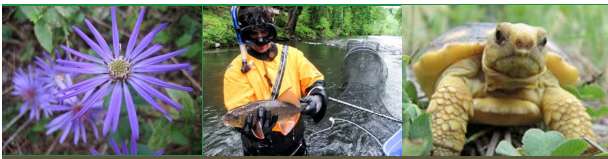
Among the companies interviewed, seven identified the time, cost, or complexity of ESA agreements as a barrier to participation. For example, two companies explained that the time to develop individual SHAs makes it unlikely that they would participate in those agreements. This is especially true for companies that require a bottom-line benefit to justify conservation. Other companies underscored the complexity of certain ESA voluntary conservation agreements, including the Nationwide Monarch CCAA, as a barrier to participation. At least one company explained that if CCAAs are more complex than section 7 consultations or HCPs, the company prefers to pursue the latter to secure ESA permits for its O&M activities.

Inadequate company resources for conservation

Interviewees also identified major differences among companies as to whether inadequate resources limited their ability to pursue conservation. Further, there was a major difference between staff resources and funding resources. Three companies explained that the size of their conservation budget was not an issue. Rather, the companies sometimes had inadequate internal staff to spend the allocated budget, particularly by the end of a fiscal year. Similarly, two other companies, both investor-owned, indicated that internal funding was generally not a barrier to conservation.

On the other side of the spectrum, three companies indicated that the general lack of internal funding for conservation was a major barrier. None of those companies expressed a strong environmental stewardship culture.

Further, for at least three companies, their species conservation work needed to compete against other environmental stewardship priorities, including for conservation under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act, and for forest restoration. Therefore, the size of a company’s general environmental stewardship budget does not alone indicate whether it has adequate funds for species conservation specifically.



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Finally, public utility commissions generally regulate electricity rates and therefore indirectly limit the amount of funding available for voluntary conservation, especially activities that do not directly reduce the cost of operations or mitigate risk for utilities. Despite this restriction, over 60% of the interviewed companies did not identify it as an issue during the interviews, suggesting that other barriers to voluntary conservation are more significant.

Feasibility of conducting conservation on easement lands

For most utilities, conservation can in theory occur on company-owned lands and lands covered by a utility easement. Easement lands, which can be distributed on private and publicly owned lands, generally outnumber the acres of company-owned lands by several orders of magnitude. Therefore, they hold great potential for conserving species that benefit from maintenance activities to clear trees and other woody vegetation that pose a variety of risks to electrical equipment. Many species benefit from the maintenance of this *early succession habitat*—that is, habitat such as grasslands that has not yet transitioned into mature forests.

For almost all utilities interviewed, conducting conservation on private easement lands was infeasible unless an easement specifically allows for conservation, which most private easements do not. Many companies explained that they could not envision any scenario that involved contacting the underlying landowners to inquire about conducting voluntary conservation. The reasons are several, including inadequate company staff to contact landowners, the need to secure permission from each landowner to carry out conservation on easement lands, and the need to reconcile any conservation activities with easement terms that prohibit conservation. It is easy to imagine how all this work is a nonstarter for any company that does not have a strong desire to carry out conservation without a bottom-line benefit. Further, several companies explained that securing landowner participation would be nearly impossible without providing landowners with ESA assurances. As discussed, the ability to obtain these assurances is often time consuming and expensive. Therefore, utilities rarely pursued conservation on private lands. The only exception cited was the Nationwide Monarch CCAA, which covers conservation on rights of way. Under the agreement, the land management activities that benefit the monarch also happen to be operational activities that utilities need to carry out to maintain their rights of way. Many utility easements already allow those activities, and in those instances no landowner permission is needed. In fact, one company stated that enrolling in the CCAA was an easy

decision because the company's current rights-of-way maintenance activities already meet the requirements of the agreement. Other companies were still evaluating whether their easements allowed them to carry out conservation measures under the CCAA without seeking landowner permission and therefore have yet to enroll in the CCAA.

Almost all the voluntary conservation discussed in this report was carried out on company-owned lands, which can include lands purchased as mitigation. Some companies, especially investor-owned utilities, have large landholdings on which they conduct conservation. At least two companies, however, are deliberately reducing their landholdings to save costs. Another company stated that it has given conservation easements to state wildlife agencies and the USFWS because it lacks the staff to manage all those lands. Therefore, the opportunities for conservation on company-owned lands may decrease.

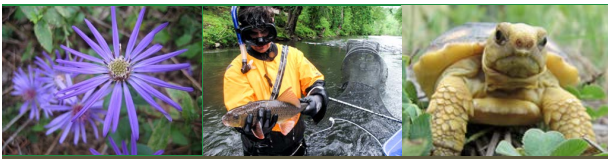
In closing, the interviews identified a variety of barriers to voluntary conservation by electric utilities. Some, such as public utility commission restrictions on how utilities spend their funds, are institutional and unlikely to change. Other barriers, such as the requirement for conservation to produce a bottom-line benefit, are more fluid and may change over time, driven partly by the interests of a company's shareholders, members, or other stakeholders. And yet other barriers, such as inefficient ESA processes, can be lowered by rethinking how conservation laws and policies apply to voluntary conservation. The next section identifies potential changes to conservation law, policy, and practice that could lower the hurdles to voluntary conservation by electric utilities.

Options to Address Barriers and Incentives

The interviews suggest a variety of strategies to facilitate conservation by electric utilities. This section discusses the main opportunities, with a focus on ways to further incentivize conservation.

Easier, faster methods of developing and enrolling in safe harbor agreements

Several utilities are unlikely to participate in listed species reintroductions unless they can guard against any new ESA liabilities. For that to happen, the companies must be able to obtain an SHA or other ESA assurances easily and quickly. Some interviewees identified the current process for developing and enrolling in SHAs as too cumbersome. To encourage them to participate in listed species recovery, a far easier and faster process for enrolling in SHAs is



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needed. As Michael Bean, the originator of the safe harbor concept, has stated, “the surest way to kill a private landowner’s interest in [safe harbor agreements] is to make it complicated.”¹⁰

Today, SHAs are still developed as contracts using Microsoft Word. This process is often time consuming and cumbersome, especially because the USFWS does not have template SHAs that landowners can use. A reimagined process could involve a landowner filling out an online form that contains fields for all the major sections of an SHA. The form should contain instructions and boilerplate language that a participant can tailor to the unique circumstances of each enrolled site, eliminating the need for participants to develop language from a blank slate. Once all the fields are completed, a participant need only click “submit” to convert the fields into a PDF form that is automatically sent to the USFWS for review and approval.

The form can also include the option to upload photos from a mobile phone to help document the baseline conditions of the property at the time of enrollment. Photo documentation can greatly reduce the time required to describe baseline conditions and provide better information in some instances. Uploading photos can also streamline periodic reporting requirements for SHAs.

These faster approaches, which can also apply to CCAAs and other voluntary conservation agreements, take advantage of technology that is basic today but was unavailable when SHAs and CCAAs were introduced two decades ago. To take advantage of these streamlined approaches, the USFWS would need to reinvigorate its program for incentivizing conservation. This includes multidisciplinary staff dedicated to working on voluntary conservation and taking advantage of technology to expedite the traditional paperwork involved in drafting agreements. If these improvements were to happen, more utilities may be willing to enroll in SHAs and allow species reintroductions onto company lands.

One of the companies interviewed is a federal public utility and therefore ineligible to enroll in CCAAs and SHAs. This restriction, however, is a policy decision that the USFWS made two decades ago and that the agency does not appear to have thoroughly revisited since then. Expanding these tools to include federal agencies in some situations would increase participation in voluntary conservation.

Programmatic agreements that allow a permit holder to enroll multiple landowners

The need for landowners to work directly with the USFWS to develop an SHA or CCAA makes those agreements infeasible for many landowners. One solution to this problem is to use programmatic agreements in which a single permit holder negotiates with the USFWS to develop and approve an ESA agreement and then enrolls landowners into the agreement using subagreements, also known as *certificates of inclusion*. This is how the Nationwide Monarch Butterfly CCAA is structured, with the University of Illinois holding the permit and taking responsibility for submitting annual reports to the USFWS. During the interviews, several company staff explained that this programmatic structure is the only scenario in which they would enroll in a CCAA for monarchs, as the companies did not have the bandwidth to develop agreements directly with the USFWS.

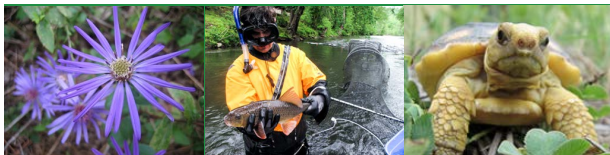
Expanding the use of programmatic agreements for electric utilities is an untapped opportunity. For example, the Nationwide Monarch Butterfly CCAA could be expanded to include other species at risk of listing. Similarly, use of statewide CCAAs and SHAs presents new opportunities to expeditiously enroll landowners.

Mitigation credit for voluntary conservation

As noted, some companies cannot simply write off the cost of voluntary conservation. In those situations, providing mitigation credit for voluntary conservation and allowing those credits to help fulfill future ESA permitting requirements can help companies justify the cost of investing in conservation upfront. Some people might ask whether this situation even counts as “voluntary conservation” if the credits are used for regulatory compliance. In other words, wouldn’t any conservation gains be erased by use of the credits to offset adverse impacts to species? The answer depends on how many credits may be used, which is partially dictated by the type of ESA agreement or permitting action (for example, on paper, CCAAs have a higher conservation standard than HCPs). If a certain portion of credits, however, is voluntary withheld, the conservation gains can outweigh the losses. Developing effective metrics to compare gains and losses is no easy task for many species, and mitigation crediting will not work for all species (for example, some are too imperiled to withstand any significant losses).¹¹ But for species with a proven

¹⁰ M. Bean, “Four Sure Ways to Undermine a Good Idea...and Hurt Endangered Species,” *Endangered Species Update*. 1998.

¹¹ S. zu Ermgassen et al., “The ecological outcomes of biodiversity offsets under ‘no net loss’ policies: A global review,” *Conservation Letters* e12664:e12664, 2019.



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crediting framework,¹² the use of credits is one path to engaging utilities in voluntary conservation while benefitting a company's bottom line.

Unfortunately, the USFWS does not have an official mitigation policy for ESA species, as the Department of the Interior in 2016 revoked the agency's prior policy without replacing it.¹³ Several companies explained that the lack of mitigation policy was problematic, including because it is currently unclear how conservation can count as mitigation.

Beyond species mitigation credits, one company identified carbon sequestration credits for species habitat conservation as another opportunity to reward utilities for voluntary conservation. Doing so would help integrate the company's climate change and species programs, which are currently separate.

Invest in practical research questions

The interviews indicated that scientific research on species can benefit utilities, especially by facilitating their future ESA consultations and permit reviews. Yet the interviews did not identify any deliberate or systematic process for utilities to work with the USFWS to determine the most important questions they could research. If the agency were to publish a short list of the most important research questions for every listed species (perhaps as part of a five-year status review), more utilities and other industries might voluntarily pursue that research. In fact, the publication of those questions would allow different industries to coordinate on research and share research costs.

In the interviews, the most relevant research questions for utilities tended to focus on whether a species is present in an area, whether an area has the physical and biological features to be considered designated critical habitat, how best to estimate the amount of incidental take for a species in light of the impacts from utility operations, and species life history information. Research on all of these questions is fundamental to species conservation, especially for the large percentage of listed species for which very limited biological data exist. Through ESA recovery plans, five-year status reviews, and other USFWS documents, the agency can clarify for the regulated community the benefits they receive from investing in species research.

Species surveys are often expensive for companies to undertake and may need to be repeated because the survey results are valid only for several years or because the USFWS does not publish species maps that are periodically updated to reflect survey results. Very likely, different regulated entities are conducting duplicative surveys without realizing it. If there were online species range maps that are periodically updated with survey results, this could eliminate unnecessary surveys and allow different industries to coordinate on the cost of surveys. In November 2019, the agency published its first standard operating procedure for developing and publishing refined species maps, including based on information that the public provides.¹⁴ As of the time of this report, NatureServe has created refined maps for approximately 2,000 imperiled and at-risk species in the United States.¹⁵ By coordinating with NatureServe, Defenders of Wildlife, and other organizations producing refined maps, utilities may be able to reduce the number of surveys they carry out and focus their ESA permitting and conservation efforts on where species are most likely to occur.

Diversify how companies are rewarded for voluntary conservation

A key finding from the interviews is that more and more companies can consider a variety of benefits to justify voluntary conservation, including indirect benefits such as enhanced reputational value and improved relationship with regulators. Finding more ways to provide those benefits (alongside any direct benefits) will allow utilities to pursue conservation more often. Ideas from the interviews include:

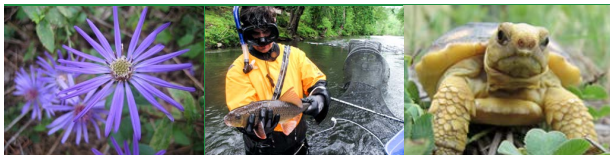
- USFWS and state wildlife agency awards that recognize the conservation progress of individual companies and landowners. Given the large percentage of companies that welcome good publicity or view it as an important benefit, wildlife agencies could promote this incentive through high-profile conservation awards that generate press coverage. The interviews suggest that these awards would resonate with many investor-owned utilities with corporate environmental stewardship programs and activist investors. Several companies explained that broad media coverage of the award and its recipients would make receiving an award more meaningful.

¹² See Table 1 in *Compensatory Mitigation Debit and Credit Quantification*. EPRI, Palo Alto, CA: 2018. 3002013772.

¹³ U.S. Fish and Wildlife Service, *Withdrawal of U.S. Fish and Wildlife Service Mitigation Policy*. 2018, 36472–36475.

¹⁴ U.S. Fish and Wildlife Service, *Standard Operating Procedure, Refined Range Maps for Threatened and Endangered Species*. 2019. Accessed May 2020: https://ecos.fws.gov/docs/SR_SOP/SDM_SOP_Final_14Nov2019.pdf

¹⁵ NatureServe, *The Map of Biodiversity Importance*. Accessed May 2020: <https://habitat suitability modeling - nature serve . hub . arcgis . com / pages / the - map - of - biodiversity - importance>



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- Low-cost certification programs for conservation projects. Several companies explained that conservation certification programs allow them to better track and publicize their habitat restoration projects. One company, however, no longer uses a wildlife habitat certification program because the cost of obtaining certifications was too high. Lower cost methods to certify or recognize the benefits to wildlife from conservation projects will expand the indirect benefits that companies can cite to justify voluntary conservation. Satellite images and other technology will likely lower the costs of certification in the future.
- Recognition by conservation organizations. A few companies expressed appreciation for the direct or indirect recognition they received from conservation organizations for species conservation projects. For example, one company cited the Center for Biological Diversity's voluntary withdrawal of its listing petition for a species that the company helped conserve.

Paying private landowners for conservation

Previously, the report discussed the major barriers to utilities conducting conservation on private property covered by a right-of-way easement. Nonetheless, some companies explained that those barriers can be lowered if landowners were paid or received tax breaks for conducting conservation. In particular, many utility easements are one-time purchases and therefore provide no financial assistance to landowners for conservation work. Even modest financial assistance could provide utilities with a foundation to begin a discussion with private landowners about conservation on their lands. Some existing programs, such as the U.S. Department of Agriculture's funding programs for working farmlands, may already allow funding in these situations.

Increase funding for USFWS

USFWS has received inadequate funding to implement the ESA and has experienced budget cuts in recent years, despite an increasing number of listed species.¹⁶ Six of the companies stated that their local USFWS office was moderately or very understaffed, making it difficult for the companies to receive timely ESA permits and limiting the agency's ability to engage in voluntary conservation. Many other industries and landowner groups report this same problem. One option is for private industry to enter into reimbursement

agreements to pay for additional USFWS staff to work on their projects. The renewable energy and the land development sectors have done this in recent years.

Regulatory rewards for species with demonstrated recovery progress

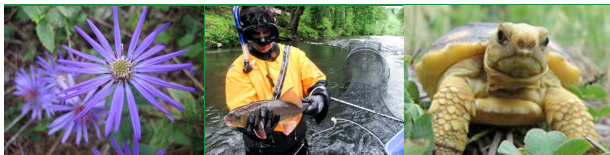
Regardless of the environmental stewardship culture among the companies interviewed, all companies were interested in conservation if it produced a bottom-line benefit. Therefore, the primary way to incentivize conservation is to reward companies that contribute to species recovery by reducing their ESA permitting burden. There are multiple ways to accomplish this. The downlisting of a species from endangered to threatened creates one opportunity to take advantage of section 4(d) rules that eliminate the need to secure ESA incidental take authorization for certain activities, particularly those to conserve species.

For many species, however, a downlisting or delisting is unlikely to occur in the near future. One reason is that many species require significant progress before their legal status can change. An unchanged status, however, does not mean that a species is not moving toward recovery. Identifying finer resolution methods of measuring species recovery progress—such as when individual populations reach their recovery targets—could allow the USFWS to reward landowners more often for their contributions to recovery progress. For example, section 4(d) rules could relax the ESA's regulatory restrictions based on the recovery progress of individual populations, rather than the entire species. Similarly, section 7 consultations requirements—including reasonable and prudent measures to minimize the effects of incidental take—could be tailored based on a species' recovery status. By contrast, the current section 7 process treats reasonable and prudent measures the same regardless of species status, with those measures abruptly ending the day a species is delisted. A gradual approach to relaxing consultation requirements is likely to provide landowners with quicker rewards and therefore motivate voluntary conservation more often.

Conclusion and Future Directions

This is the first detailed study on voluntary species conservation challenges and opportunities within the electric power industry. This report describes how utilities vary considerably in their ability and willingness to conduct voluntary conservation and how those differences are driven by several key factors—including the type of utility and the interest of its shareholders, members, or other stakeholders.

¹⁶ U.S. Fish and Wildlife Service, *Budget Justifications and Performance Information Fiscal Year 2013*. 2013. Accessed August 2020: <https://www.fws.gov/budget/2013/FY%202013%20FWS%20Greenbook%20Final.pdf>



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At one extreme, many public utilities are constrained in their ability to fund conservation that does not produce a bottom-line benefit. For those companies, conservation needs to pay for itself, which is not possible for many at-risk and listed species. For example, there is rarely a strong business case for reintroducing a species onto company lands. Further, the business expense of securing ESA assurances in those situations is a major barrier for some companies. Not surprisingly, the researchers found that many companies have never entered into any formal ESA voluntary conservation agreement. As explained, for seven companies a monarch CCAA would be their first experience participating in any ESA voluntary conservation agreement, and the interest in enrollment was driven mostly or entirely by risk mitigation concerns.

At the other extreme, some investor-owned utilities readily allocate portions of their profits for conservation. In the interviews with those companies, they cited a culture that prioritizes environmental stewardship for communities in which they operate as a major reason for funding conservation. Further, many companies with an environmental stewardship culture will consider indirect benefits, such as enhanced reputation, in justifying the cost of conservation. Some companies expressed a strong connection between voluntary conservation and benefits for ratepayers, in that improving the status of species decreases the risk that a utility's operations will endanger those species.

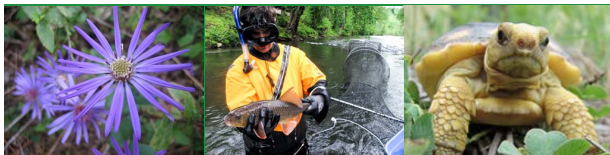
Consideration of indirect benefits seems to be a growing trend among utilities. Several companies explained that in the past, their discretionary spending on conservation focused strictly on bottom-line benefits. But today, utilities are hearing from ratepayers, shareholders, activist investors, or employees who want their companies to offer more than electricity generation services. Many utilities have responded with environmental stewardship programs that have led to the use of company profits, employee time, or other company resources for conservation regardless of bottom-line benefits. With growing expectations around sustainability commitments and performance, this trend is likely to continue, which suggests the importance of establishing clearer connections between voluntary conservation and the variety of financial and non-financial benefits discussed in this report.

Utilities carry out maintenance and other operations on rights of ways across hundreds of thousands of acres. Those activities, which include clearing woody vegetation, also benefit many native pol-

linators and wildlife that depend on early successional habitat. But through the interviews, the researchers learned that no utility was interested in focusing its conservation efforts on privately held easement lands. The need to contact each underlying landowner, seek permission for conservation activities, and obtain ESA assurances for the landowner far exceeds what even the most conservation-oriented utility can tackle. The Nationwide Monarch Butterfly CCAA, however, fits the narrow circumstance in which some conservation is possible on easement lands. Several companies explained that they can meet the requirements of the agreement with minor or no changes to their current activities—no landowner permission or notification is even necessary. But beyond narrow circumstances such as these, the potential for conservation on easement lands appears limited without major changes in incentives for utilities and underlying landowners. For the foreseeable future, utility-led conservation will likely occur principally on company-owned lands or lands managed by conservation organizations or agencies. Some companies, however, are reducing the amount of land they own to save cost. If this is a broader industry trend, the opportunities for conservation may lessen—especially because company-owned lands likely include a greater diversity of habitat than those on rights of way. An impending land sale is a good catalyst for a utility to determine if it can use the land for current or future compensatory mitigation or for stewardship.

Many of the companies interviewed mentioned their energy portfolio transitioning from traditional generation (for example, fossil fuel) to a portfolio with increased renewables sources. Construction of commercial-scale solar facilities, mortality from wind turbine collision with birds and bats, and other impacts associated with renewable energy will raise new ESA issues for many utilities. These impacts, however, also create opportunities for voluntary conservation to avoid, minimize, and offset impacts—particularly before the need for ESA permitting. Although regulatory compliance was not a part of the study, it is closely tied to voluntary conservation, as evident from enrollment in the Nationwide Monarch Butterfly CCAA.

Despite the barriers to voluntary conservation, there are several opportunities for utilities to voluntarily conserve species in ways that benefit their business goals. This report has identified several actions that can facilitate more utility-led conservation. If EPRI members were to pursue these opportunities, they could shape a future in which conservation and electricity generation benefit each other more often.



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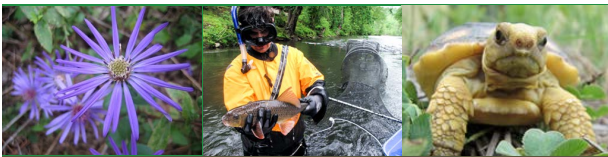
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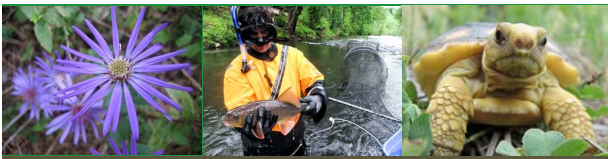
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Appendix A: Online Survey Questions

Following are the online survey questions asked of 17 EPRI Endangered and Protected Species Program member companies during summer 2019.

1. Please provide your company name. (This is for tracking purposes; final report will roll-up results with no specific company attribution.)

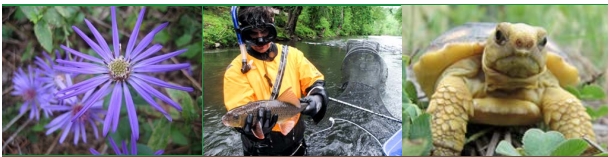
2. Has your company participated in any of the following activities in the last 10 years?
 - ☐ Safe Harbor Agreement for a federally-protected threatened or endangered species.
 - ☐ Candidate Conservation Agreement with Assurances for a species at risk of becoming federally-protected.
 - ☐ Other program to conserve at-risk species.
 - ☐ Voluntary conservation measures that go above and beyond the minimum required for compliance under section 7 or 10 of the Endangered Species Act (e.g., conservation measures to promote species recovery, voluntarily adopting a net benefit standard, or beneficial actions taken prior to consultation.)
 - ☐ Voluntary conservation measures associated with funding from the federal Cooperative Endangered Species Conservation Fund.
 - ☐ Other voluntary conservation measures for at-risk or listed species outside the purview of federal programs.
 - ☐ None of the above.
 - ☐ Other activities (please specify)



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3. Please indicate the reasons your company has not carried out any of those activities.

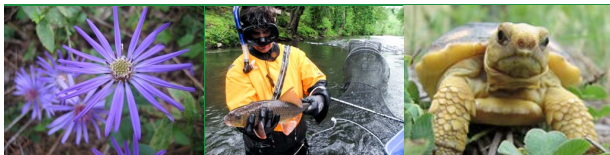
	Major reason 5	4	3	2	Minor reason 1	Didn't apply
Opportunity never arose to carry out the activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Expense of carrying out the activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insufficient technical support to carry out the activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Company not convinced the species would be listed under the Endangered Species Act.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor working relationship with local or regional FWS office.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
No other companies were carrying out the activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Concern about creating additional legal liabilities by carrying out the activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
General lack of awareness about how voluntary conservation works.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Activities would not benefit my company's bottom line (e.g., financial payoff, reducing regulatory burden).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inadequate support within my company to carry out the activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other reason (please specify)						



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4. Did you encounter any of the following issues when carrying out the conservation activities?

	Major issue 5	4	3	2	Minor issue 1	Not an issue
Higher costs than expected.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inadequate funding from my company.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inadequate technical support.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Concern about creating additional legal liabilities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inadequate information about how the conservation program works.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unclear how the activities would benefit my company's bottom line (e.g., financial payoff, reducing regulatory burden).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inadequate support within my company to carry out the activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other barriers (please specify)						

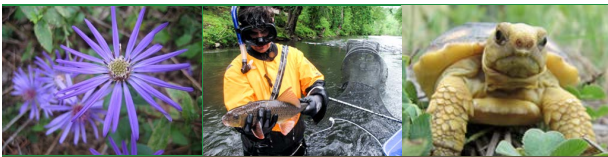


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5. Regardless of your answers to the earlier questions, what incentives would encourage your company to either begin participating in voluntary species conservation programs or expand its existing programs?

	Major incentive 5	4	3	2	Minor incentive 1	Not an incentive
Financial assistance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Technical assistance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased awareness about opportunities to participate in these programs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Greater assurance that my company would not incur additional legal liabilities from creating conditions favorable to endangered species.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Incorporating these programs into my job responsibilities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Greater support within my company to carry out these programs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Better engagement or support from U.S. Fish and Wildlife Service for voluntary conservation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Receiving regulatory credit for voluntary actions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Receiving positive publicity for work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Support from conservation organizations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other incentives (please specify)						

6. Through a phone interview, would you be willing to provide more information about any of the voluntary conservation activities that your company has carried out? If yes, please enter the name and contact information of the person we could interview. Thank you!

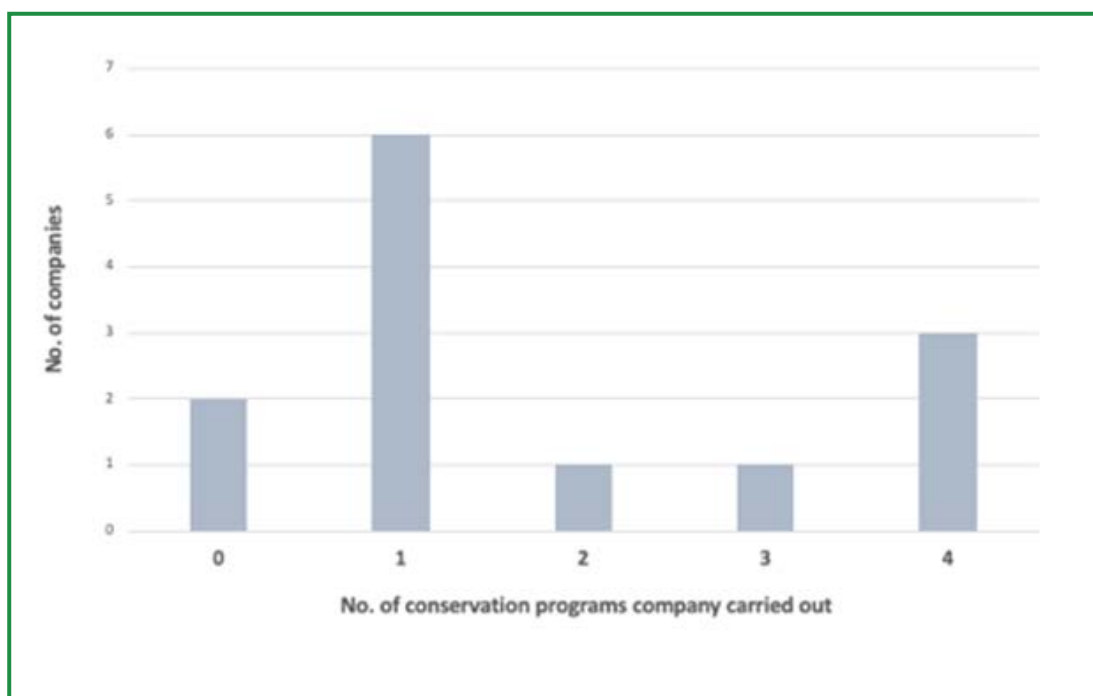
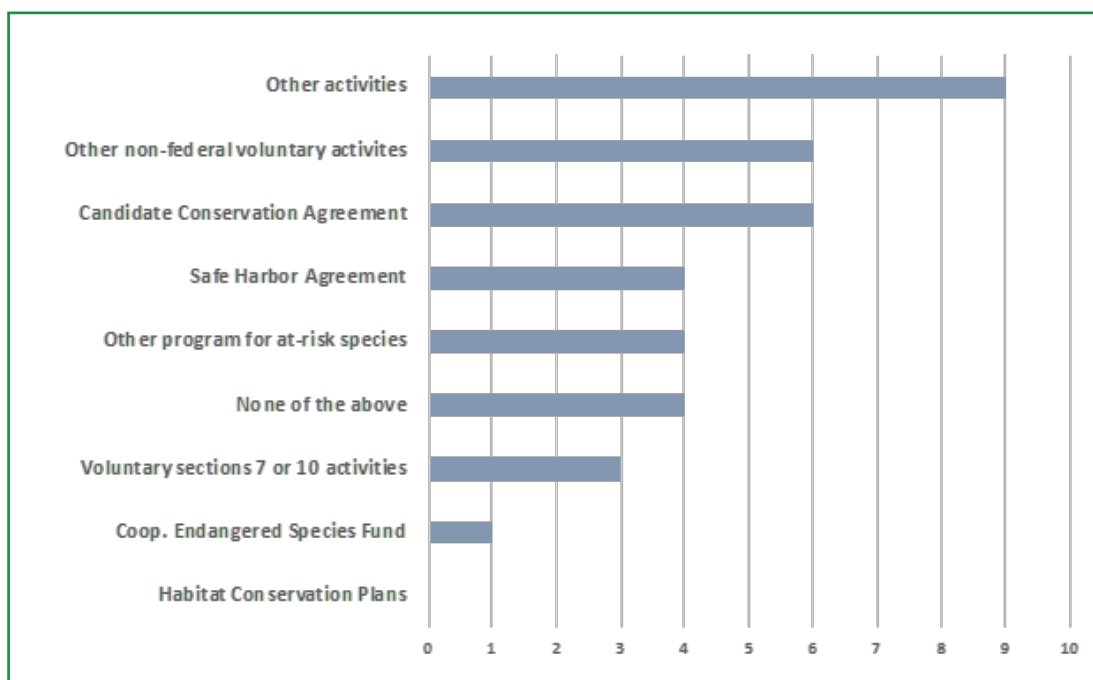


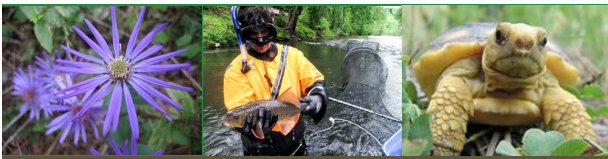
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Appendix B: Online Survey Results Consolidated

Following are the consolidated results from the online survey during summer 2019 (unmodified raw scores).

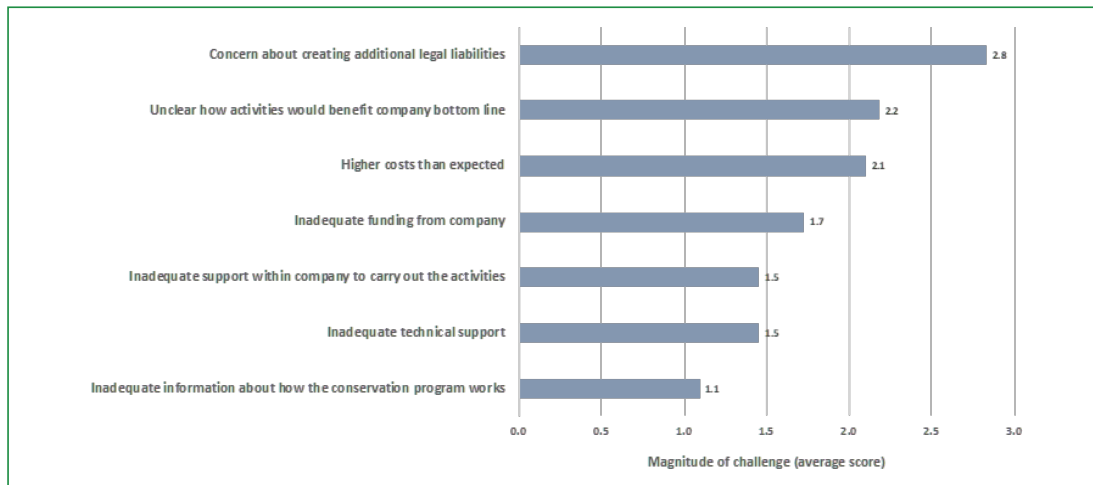
I. Participation in Voluntary Conservation



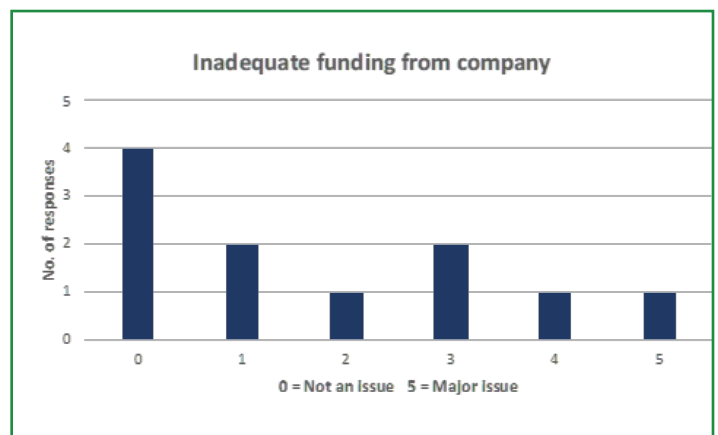
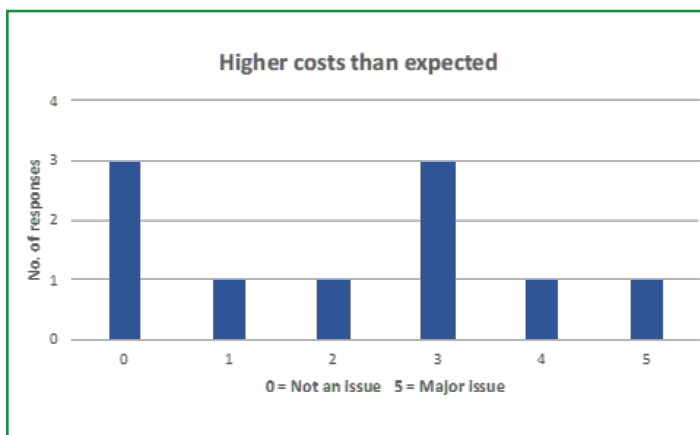
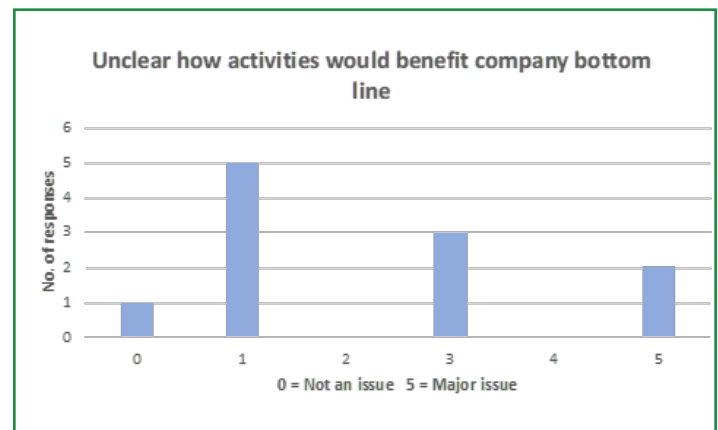
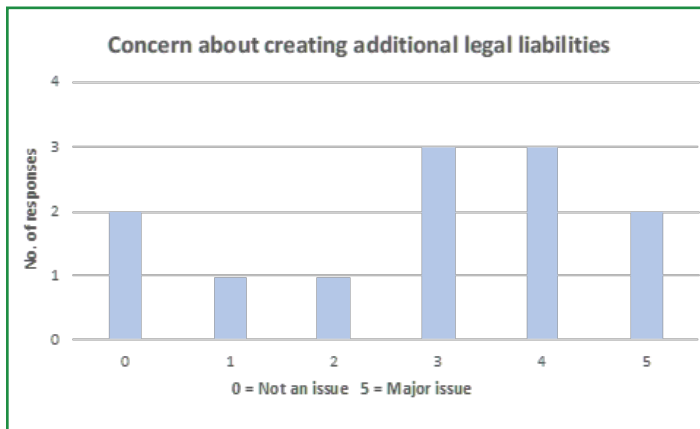


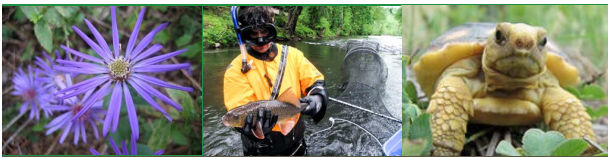
Voluntary Conservation Opportunities Under the U.S. Endangered Species Act

II. Challenges Encountered: Overview



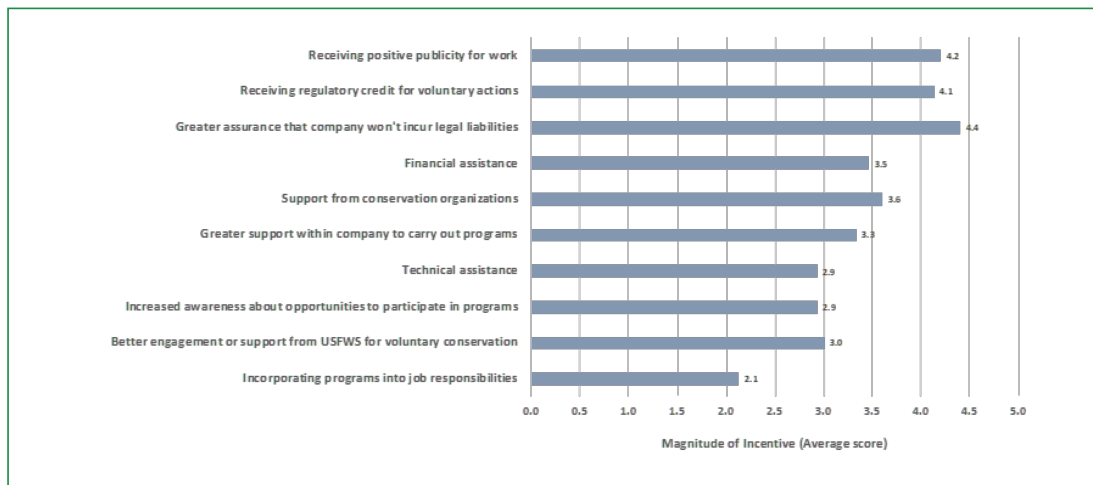
III. Challenges Encountered: Top Four



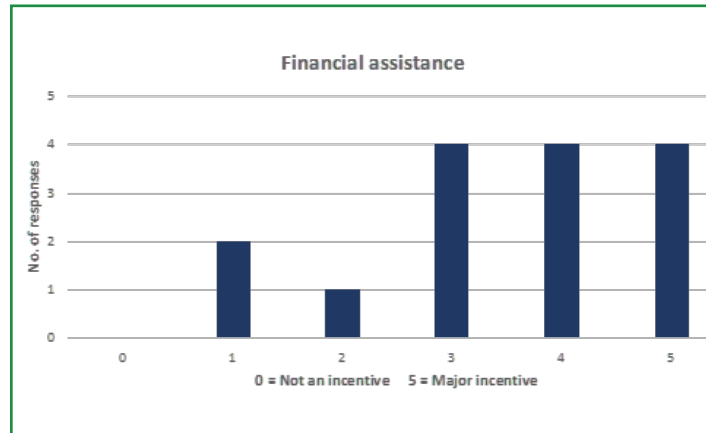
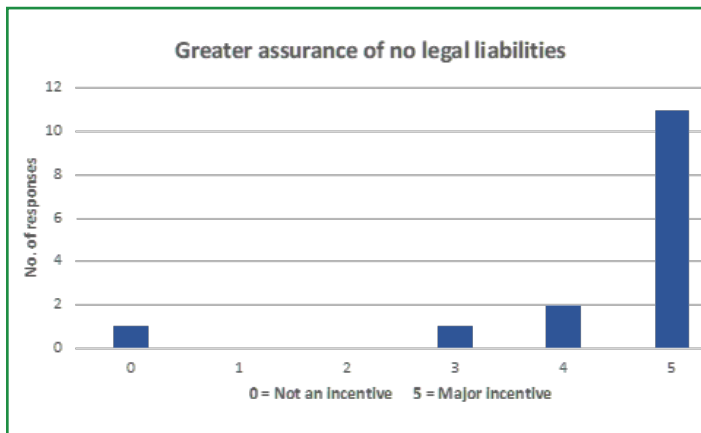
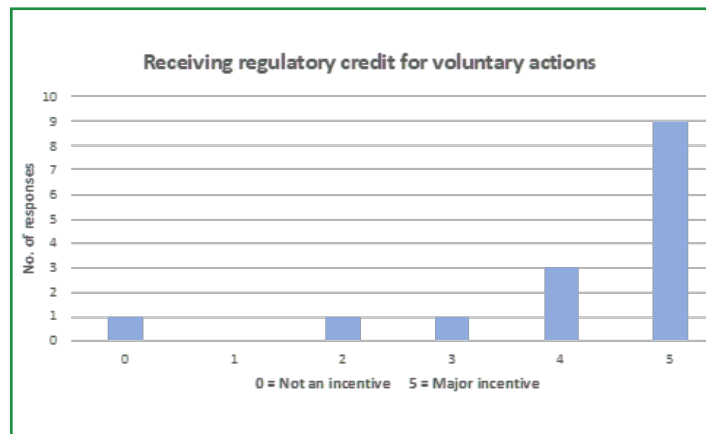
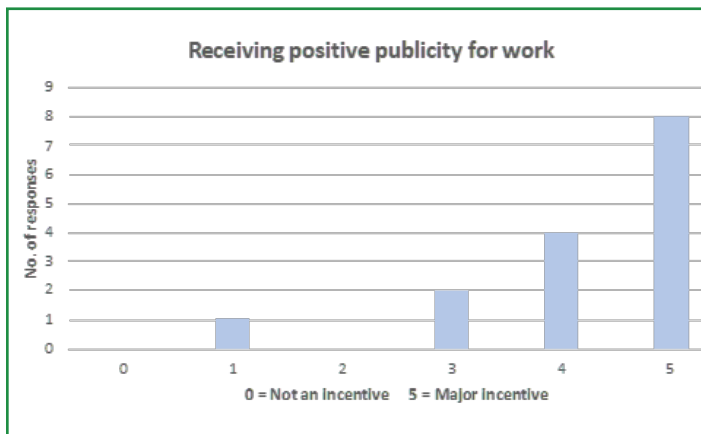


Voluntary Conservation Opportunities Under the U.S. Endangered Species Act

IV: Incentives to Expand Conservation: Overview



V: Incentives to Expand Conservation: Top Four



EPRI RESOURCES

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Endangered and Protected Species

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