

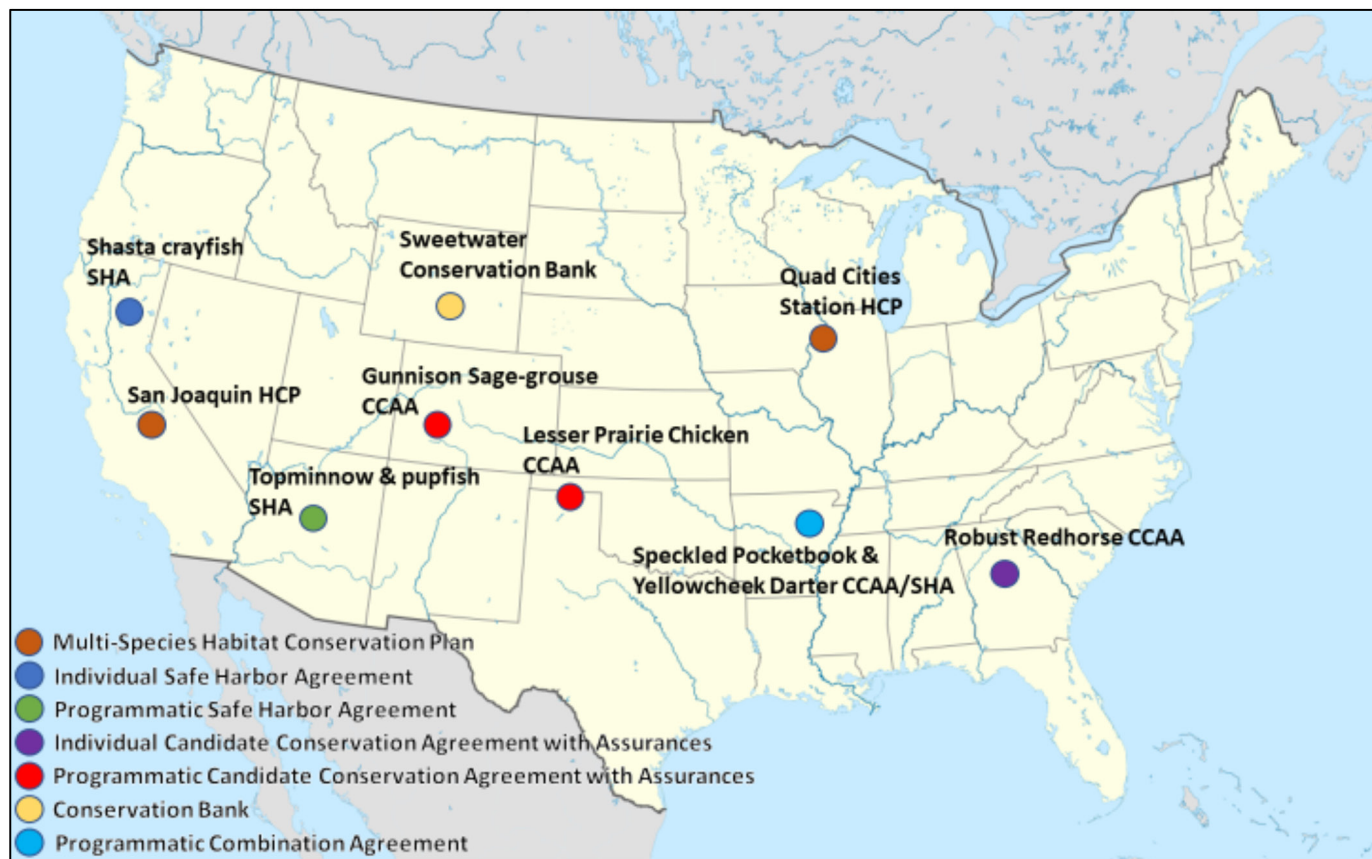
Case Studies of Pre-Listing Conservation Actions for Threatened and Endangered Species

Technical Brief — Endangered and Protected Species, Environment Sector, Water and Ecosystems

Due to ever-increasing pressure from habitat loss, invasive species, and environmental change, the number of at-risk species in the U.S. has increased dramatically, numbering far more than the roughly 1,500 domestic species currently listed under the federal Endangered Species Act. ESA strictures are often controversial and potentially costly for electric utilities that share space with listed species. In recent years, a range of voluntary, pre-listing conservation mechanisms have emerged that allow private landowners and companies to increase regulatory certainty, reduce compliance costs, and accrue reputational benefits while stemming biodiversity loss in the United States. The most significant U.S. Fish and Wildlife Service (FWS) policies promoting voluntary actions to recover listed species as well as pre-listing conservation actions for non-listed species include Safe Harbor Agreements, Candidate Conservation Agreements with Assurances, Multi-species Habitat Conservation Plans that include unlisted species, and conservation banking.

Electric power facilities and other private actors have successfully enrolled in many voluntary conservation plans and agreements under the federal Endangered Species Act. A set of 9 case studies illustrate incentives for voluntary actions, benefits, challenges and lessons learned.

Safe Harbor Agreements allow landowners to increase listed species habitat or populations on their properties while maintaining their ability to return the land to its 'baseline' condition at their own discretion. Candidate Conservation Agreements with Assurances allow landowners to conserve unlisted species with the guarantee that, if the species is listed in the future, the landowner's regulatory burden will not increase beyond the stipulations of the agreement. Habitat Conservation Plans (HCPs) ensure that a company's activities will not be restricted beyond what is agreed to in the HCP, and including unlisted species can extend that



assurance to additional species in case they are listed in the future. Conservation banking is different in that it does not provide regulatory assurances for a landowner. Instead, conservation banking policies allow landowners to generate 'credits' by conserving or restoring habitat, and then earn a profit by selling those credits to developers to fulfill mitigation obligations that may be required of developers by state or federal regulations. In addition to the profit incentive for a bank owner, conservation banks can provide a more efficient means for companies to satisfy regulations than other mitigation mechanisms.

To assess the importance of these four types of voluntary conservation for electric power companies, EPRI developed nine case studies covering different species, regions and situations. Four of the case studies featured electric power companies directly. The remaining five examined agreements that did not attract participation from the electricity sector but could provide useful models for electric power companies. The case studies highlight the incentives and benefits of the plans and agreements, costs and challenges of developing and implementing them, and lessons learned that may provide insight to companies considering similar actions. This case studies should be useful to private landowners and firms contemplating participation in voluntary conservation of endangered, threatened and candidate species.

Study Approach

Researchers searched the FWS ECOS database to identify agreements that included electric power companies, covered areas that include electric utility infrastructure, or could be of use to electric power companies. Nine case studies were chosen, including: one conservation bank, two multi-species Habitat Conservation Plans that included unlisted species; two Safe Harbor Agreements, three Candidate Conservation Agreements with Assurances, and a combination Safe Harbor Agreement/Candidate Conservation Agreement with Assurances. Case studies were developed by reviewing publicly available documents and interviewing participants. Interviewees included employees of electric power companies, as well as state and federal regulators who participated directly in these agreements. Interview questions focused on:

- Incentives for participation;
- Landowner-regulator relations;
- Planning and negotiating the agreement;
- Required conservation actions;
- Costs and funding sources;
- Challenges and successes in implementation;
- Benefits to the landowner and the species in question;
- Key factors leading to success or failure; and
- Technical, operational, economic, environmental, or political challenges.

High-level summaries of a selection of four case studies are included as boxes in this brief.

Multi-Species Habitat Conservation Plan by Exelon Generation

Quad Cities Nuclear Generation Station, Illinois

The Quad Cities Station (1871 MW, nuclear), owned and operated by Exelon Generation, signed a Habitat Conservation Plan in 2009 to ensure that a proposed change to its thermal outflow regime would not violate the Endangered Species Act. The HCP also included provisions for basic operations and maintenance of the facility, as well as the potential removal of a pier extending into the Mississippi River. The HCP covered two species of freshwater mussel that reside in the Station's immediate area. One was listed as endangered at the time, and the other was a candidate species. To mitigate the impacts of the proposed change as required by the FWS, Exelon elected to expand existing fish and mussel research and propagation activities on the property rather than the more traditional approaches of offsite mitigation or payment of mitigation fees. The HCP provided regulatory assurances for Exelon's proposed activities at the Station, as well as reducing compliance costs, improving public and regulator relations, and providing substantial social benefits.

Key Findings from Case Studies

The case studies showed that voluntary conservation programs can offer a way for companies to reduce regulatory compliance costs, improve their reputations with regulators and the public, and produce real social benefits. A number of common themes emerged from the analysis.

Key findings include:

- **Companies engage in voluntary conservation when avoided regulatory costs are expected to be significant.** In all of the case studies that included large electric utility companies, participation was driven primarily by financial concerns over future regulatory costs. In the Safe Harbor Agreement for Shasta crayfish by Pacific Gas and Electric, for example, the company helped regulators to improve the overall status of a species in order to reduce the likelihood of more burdensome regulation should the species continued to decline. In the multi-species habitat conservation plan established by Exelon Generation, the company did even more than was legally required under the assumption that this would ultimately lead to greater efficiency and lower compliance costs. In situations where the financial incentives and risk of increasing future regulation were not as clear, electric companies did not participate.

Candidate Conservation Agreement with Assurances for Robust Redhorse

Oconee River, Georgia

In 1991 biologists discovered a species of fish below the Sinclair Hydroelectric Dam (45,000 KW), operated by Georgia Power Company, that had been “lost to science” for over a century. In 2002, Georgia Power signed the second CCAA in the nation with the FWS for the protection of the Robust Redhorse. Under the Agreement, Georgia Power facilitated the establishment of a new wild population and funded further scientific research, and in return was granted assurances regarding its future level of regulation. Thanks to this and other efforts, the Robust Redhorse remains unlisted under the Endangered Species Act today.



photo source: www.visitmilledgeville.org/

- **Companies judged participation as worth the cost and effort.** Case studies demonstrated that the benefits of voluntary conservation programs exceeded the costs. While greater efficiency may have been possible in some cases, all company representatives interviewed expressed satisfaction that they participated and felt that their participation costs were low compared to the long-term benefits. Those benefits were not limited to reduced compliance costs. Several company representatives emphasized the reputational benefits gained through these programs. The specifics varied by case, but included cultivating relationships that were more efficient and effective, and less adversarial, with regulatory agencies and environmental non-governmental organizations, as well as improved public image.
- **Project finance mechanisms are varied.** In these case studies, companies tended to provide funding for conservation in situations where a company or industry negotiated an agreement that was specific to their own needs. In other cases, state and federal agencies developed inclusive, programmatic agreements that landowners could choose to enroll in, and provided public funding for conservation as

an incentive to participate. In these cases, participating landowners paid for basic property maintenance, but no more. These programmatic agreements saw less participation from private companies than individual landowners, and could represent an opportunity for companies to secure regulatory benefits cost-effectively.

- **Conservation plans and agreements allow for flexibility through adaptive management.** Given the uncertain nature of rare species conservation, and the fact that voluntary programs are less constrained by permitting requirements, allowing flexibility in implementation is important. All of the plans and agreements studied here include some reference to adaptive management, and many outline detailed procedures for how the agreements should be adapted to changing conditions on the ground. However, in practice adaptive management may be under-utilized. The literature on the subject highlights many factors that inhibit companies and regulators from changing practices, even when it would be beneficial to do so. Three utility companies studied here used adaptive management provisions to modify targets and conservation actions.
- **Companies and species may benefit from planning at larger scales and starting early.** Both agency and company representatives emphasized the importance of early conservation efforts in reducing compliance costs and achieving conservation outcomes. Planning at larger spatial scales can also improve the efficiency of conservation actions, as opposed to negotiating agreements for individual projects or properties. Particularly for over-burdened agency staff, regional planning and programmatic agreements can streamline enrollment processes and potentially landowner participation.

Oil and Gas Programmatic Candidate Conservation Agreement with Assurances for Lesser Prairie Chicken

Kansas, Oklahoma, Texas, New Mexico, and Colorado

The Permian Basin Petroleum Association (PBPA) instigated the development of a Candidate Conservation Agreement with Assurances, signed in 2014, which oil and gas producers can enroll in across the 5-state range of the Lesser Prairie Chicken. Participating companies faced increased development costs, but also received regulatory protections for their activities if the bird was listed in the future. When the species was listed, PBPA challenged the finding in court, successfully arguing that the FWS did not take existing conservation agreements sufficiently into account. This agreement provided both regulatory assurances in the event of a listing decision and, in this case, the means of challenging and overturning that listing decision.

Looking Forward

The electricity sector has made substantial use of Habitat Conservation Plans for federally listed species in the past, but more limited use of voluntary and pre-listing conservation programs. Participation in voluntary conservation may grow in the future as the different mechanisms, and their costs and benefits, become more well-known. The cases presented here show that companies and other landowners can and have reduced compliance costs and secured regulatory certainty by going beyond their legal obligations for species conservation. This study may serve as a useful resource to electric power companies and other landowners whose activities overlap with federally listed or candidate species to help them better understand the benefits, address the challenges, and effectively implement voluntary and pre-listing species conservation.

Safe Harbor Agreement for Shasta Crayfish Rock Creek, California

Pacific Gas and Electric Company (PGE) operates numerous facilities on and near Shasta Lake in northern California, home to the endangered Shasta Crayfish. In order to promote species recovery and preclude further regulation, PGE signed a Safe Harbor Agreement with the FWS in 2015 covering just one of its properties. PGE agreed to allow the establishment of a refuge population of crayfish there, and received assurances that the population would not impact PGE's routine operations, and that PGE could return to 'baseline' conditions in the future. This agreement contributed to PGE's reputation with regulators and the public as a responsible partner in conservation, and it is hoped that it may preclude the need for additional range-wide regulations that could impact other PGE facilities.



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