

# Endangered Species Safe Harbor Agreements: An Assessment

Endangered Species Act Policy Series



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# ACKNOWLEDGMENTS

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Sand County Foundation is a non-profit conservation organization dedicated to working with private landowners across North America to advance ethical and scientifically sound land management practices that benefit the environment.

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The Environmental Policy Innovation Center was established to develop innovative policies that expand environmental markets, improve water quality, speed endangered wildlife recovery, and incentivize conservation on private lands. We also provide solutions that allow water, energy and other essential infrastructure to move forward while benefiting natural resources. We believe in having an organizational culture built upon trust for a staff of creative people. Taking down non-profit cultural barriers to innovation and risk taking in the development of policy gives the Innovation Center a unique niche from which to provide valuable tools to make conservation faster, bigger and stronger.

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Cover Photo: Oregon chub, a once-endangered fish that has now recovered, in part thanks to Safe Harbor. Credit: Rick Swart, Oregon Department of Fish and Wildlife

# Foreword

By Timothy Male, Executive Director of the Environmental Policy Innovation Center

## Safe Harbor for Wildlife and People

In 1973, when Congress articulated the purpose for a national effort to conserve endangered species of American wildlife, it spoke of the need to develop a system of incentives for states and other partners. Congress stated that those incentives are “a key” to better safeguard our heritage in fish, wildlife and plants. Yet, there is no other mention of incentives in the remainder of the text that fills out the Endangered Species Act (ESA). Today, you still wouldn’t find actual “incentives” described in any detail in the ten-times amended law.

Yet, necessity is the mother of invention and over the last 20 years a diversity of creative approaches to provide those incentives have sprung up to help fill the space between private landowners and endangered wildlife. This creativity has come from landowners who want to help wildlife but fear regulation, non-profits who want to find new ways to partner with their neighbors, corporations whose lawyers fear new liabilities but whose management sees benefits in habitat stewardship. The creativity and will to create partnerships has also come from the U.S. Fish and Wildlife Service and state agencies who together share the responsibility for conserving America’s wildlife diversity.

In this working paper, Michael Bean, former Principal Deputy Assistant Secretary for Fish and Wildlife and Parks at the Department of Interior, describes the ways that a tool called Safe Harbor Agreements have been used to help private landowners and endangered species. Approximately 100 Safe Harbor Agreements have been developed over 22 years, but these agreements and associated conservation efforts have received little analysis or review. This working paper is intended to partially fill that gap.

## What is a ‘Safe Harbor Agreement?’

Most of the time, the landowners who help endangered species by increasing habitat or species’ populations do not want to face increased regulation as a result. Since 1995, a tool called a ‘safe harbor’ agreement has provided landowners the written promise that no additional regulatory burden will ensue from their good deeds to help endangered species. Safe harbor agreements have been used in dozens of states and cover millions of acres of private land. Farmers, ranchers, private companies, non-profits and even state and local government can all participate in these agreements. In most cases, they help endangered wildlife by improving habitat, but some agreements also help experts reintroduce or ‘put back’ species into places from which they have disappeared.

## Accomplishments

As this paper points out, good data on the benefits of or outcomes from safe harbor agreements is lacking, but here are some findings from the paper:

- In eight southern states, more than 400 landowners have joined agreements that cover 2.3 million acres and have contributed to a 25% increase in the population of an endangered woodpecker on those lands.

- Twelve state wildlife agencies administer their own Safe Harbor agreements, however, only two states have done so more than once. Described as “one of the best ideas ever” by an agency director, state agencies have lacked the personnel, training and capacity to implement this kind of work with private landowners.
- Some Safe Harbor agreements have been developed without any landowners signing up to participate or they cover only the lands of the conservation non-profit that administers the agreement.
- Partners are still showing innovation in developing agreements. For example, one agreement in Arkansas covers 25 species, and allows two federal agencies, one state agency and one non-profit to all participate in the efforts to enroll private landowners and take conservation actions.
- The U.S. Fish and Wildlife Service efforts to maintain a database of conservation associated with these agreements is haphazard, lacking progress reports, or accurate information even on which agreements have been finalized.

## Recommendations

After 22 years and having inked 100 agreements, the concept of Safe Harbor is no longer a pilot or experimental idea for endangered species management. The U.S. Fish and Wildlife Service can take a number of steps to learn from that experience. This should include a decision on whether and how to scale up Safe Harbor so that it makes a meaningful positive impact on wildlife conservation and people because the demand for such agreements is likely much bigger than the progress made thus far. Critical to any future expansion, the U.S. Fish and Wildlife Service needs a stronger commitment to track the agreements that it does develop. If participants were asked to provide their monitoring reports electronically, the agency could include links to those reports with other documents on file.

Agreement development takes too long and is not always a priority for staff, either at the local office level or at the regional level where some review and approval is required by managers or solicitors. The agency’s leadership also needs to decide whether it really trusts landowners joining these agreements to do right by wildlife. Right now, many agreements are developed as if they are a contract between adversarial parties, requiring the need to specify every contingency, document compliance and take extreme care in implementing them. If 22 years of experience leads the agency to believe that there is real partnership opportunity, a faster approach to agreement development and a higher degree of trust in participants could go a long way to expanding the partnerships.

# Endangered Species Safe Harbor Agreements: An Assessment

*A Paper for the Sand County Foundation*

*By Michael J. Bean*

## Introduction

Regulatory measures often have unintended consequences, and the Endangered Species Act (ESA) is no exception. That 1973 federal law seeks to conserve imperiled species by prohibiting and penalizing actions that harm them, including land management actions carried out by private landowners on their own land. Prohibiting harmful activities, however, has sometimes also deterred helpful ones by making landowners less likely to allow or carry out activities that could attract endangered species or increase those already on their land. The logic behind such landowner behavior is unassailable: a sure way to avoid liability for harming an endangered species is to make certain that it is never present. So, although the Act's goal of recovering imperiled wildlife would be best served if landowners were willing to lay out the welcome mat for endangered species, the means by which the law seeks to achieve that goal have led some landowners to do the opposite, in effect posting a "keep out" sign for the very species most in need of a place to live.

Fortunately, since the mid-1990's there has been a way around this dilemma, one that makes it possible for landowners to undertake activities that attract or otherwise benefit endangered species without fear that by doing so they will subject themselves and their land to new or additional regulatory restrictions. That solution is called a safe harbor agreement, and was first utilized by forest landowners in the Southeast and the U.S. Fish and Wildlife Service (Service) with respect to the endangered red-cockaded woodpecker, a denizen of Southeastern pine forests. Since then, hundreds of landowners have entered into such agreements covering millions of acres of forest, farm, and ranch land. Safe harbor agreements have been used to restore or enhance habitat, and to augment existing, or establish new, populations of dozens of endangered or threatened species in nearly every region of the country.

Despite some twenty years of experience in the use of safe harbor agreements, however, there has not yet been a detailed assessment of that experience. There is as of yet no analysis of how extensively and how effectively such agreements have been employed, what problems have been encountered, and what important lessons have been learned from this experience. This paper aims to address these and related matters. Before doing so, however, two caveats must be acknowledged.

The first is a disclosure. The author of this paper was closely involved more than two decades ago with the development of the safe harbor concept and with the design of the first safe harbor agreements. That fact may dispose the author to emphasize the accomplishments and deemphasize the shortcomings of a conservation tool for which he bears a significant measure of responsibility. Readers will have to judge the success or failure of the author's effort to provide a balanced presentation, one that frankly acknowledges the difficulties, challenges, and failures of safe harbor agreements as well as their successes.

The second caveat is that much of the basic information presented in this paper is derived from the Fish and Wildlife Service's "Conservation Plans Database" which is available on-line at <https://ecos.fws.gov/ecp0/conservationPlan/>. That database purports to provide core information about every safe harbor agreement done to date, as well as copies of the agreements and related documents

such as permits, NEPA documents, and biological opinions. Unfortunately, the information in the database is often incomplete and sometimes wrong. Particularly disconcerting is the fact that, for about half of the agreements, none of the key documents, including the agreements themselves, are available in the database. Some of these documents can be found on Fish and Wildlife Service regional office websites or elsewhere, although finding them is often not easy.

The database is also both over-inclusive and under-inclusive. It identifies some agreements as having been completed and having had a permit issued, when in fact no permit has yet been issued. In other cases, it fails to include some agreements that appear as completed agreements on Service regional office websites. Most importantly, it contains no information about how the agreements are working in practice. For example, it includes both individual landowner and “programmatic” agreements, without noting that some of the latter have never had any landowners agree to participate in them. In addition, although all or nearly all safe harbor agreements require the permittee to file an annual report with the Service, and such reports could provide useful information about agreement implementation, very few of these reports are available on-line either in the database or anywhere else accessible. For landowners who may have heard about a programmatic agreement in their area and who may be interested in joining it, the database fails to identify a point of contact either with the Service or with the program administrator. Thus, the limitations of the database are unfortunate not just because they make a researcher’s job more difficult. They also limit its utility to landowners who might be inclined to pursue such agreements on their own land.

With those two important caveats in mind, this paper now turns to an examination of the past two decades of experience with safe harbor agreements. That examination begins with an explanation of what safe harbor agreements are and how they work, then explores some of the purposes for which these agreements have been used, and then concludes by considering some of the challenges facing such agreements and how those challenges might be met.

## **What Are Safe Harbor Agreements and How Do They Work?**

A safe harbor agreement is an agreement in which (1) a non-federal landowner commits to carry out on his property (or to allow another person to carry out on his property) some action that is expected to benefit the conservation of an endangered or threatened species, and (2) the landowner receives an assurance that his or her voluntary action will result in no new or additional regulatory restriction on the use of that property. There are several key elements to that definition that warrant further elaboration.

First, the reference to a “non-federal landowner” means that not only private landowners, but also state or local governmental agencies that own land, can enter into safe harbor agreements with respect to their lands. Only federal agencies are ineligible to enter into safe harbor agreements for their lands. Second, it is not always necessary to have a fee simple ownership in the land. Rather, a lessee or other owner of a less-than-fee interest in a property can enter into a safe harbor agreement applicable to that property, so long as his or her interest is sufficient to carry out the proposed management activities.

Second, there must be a well-founded expectation, generally based on prior experience, that the management actions to be taken will attract, increase, or otherwise tangibly benefit an endangered

or threatened species<sup>1</sup>. Most safe harbor agreements involve either the enhancement of habitat for an endangered species or the landowner's consent to the release of an endangered species on his land. Actions that have only a remote or highly speculative chance of benefiting such species are not intended to qualify for an agreement. Safe harbor agreements, in other words, are not available to every landowner, simply by virtue of being a landowner, no matter how sincere the landowner's apprehension that an endangered species not currently present on his property might show up there in the future

A final point requiring elaboration is that the regulatory relief afforded by safe harbor agreements is relief only from new or additional restrictions. This means that if endangered or threatened species already occur on the property, a safe harbor agreement does not relieve a landowner from any regulatory restrictions that may stem from their presence. The important distinction between existing and new or additional restrictions is captured by determining the "baseline" conditions on the property. For every parcel subject to a safe harbor agreement there must be a determination of baseline conditions, which is usually done by means of a survey for the species to be covered by the agreement or its habitat. Baseline conditions are sometimes expressed in terms of a measure of abundance of the species, but more often in terms of the quantity and quality of occupied habitat present for a particular species.

The baseline determination may be the most important part of any safe harbor agreement. It serves two key purposes. First, it clarifies the nature and extent of existing Endangered Species Act (ESA) restrictions, if any, applicable to the property. Second, it serves as a ceiling on potential future regulatory restrictions. The management actions undertaken as part of a safe harbor agreement may increase the abundance of an imperiled species on a property, expand its distribution there, or even attract a rare species that was not previously present. However, the landowner may, usually after a period of years specified in the agreement, incidentally wound, kill, or otherwise harm the species in the course of land management activities that return the property to (but not below) its baseline conditions.

Landowners who have no endangered or threatened species on their property when the agreement is negotiated are said to have a "zero baseline." If their agreed-upon management actions attract endangered or threatened species to their property, the presence of such species will not constrain what the landowner can do on the property. Safe harbor agreements have often been used in connection with efforts to establish new populations of an endangered species, such as the black-footed ferret. The landowners participating in these agreements generally have zero baseline responsibilities.

It is also possible for a landowner to agree to what is known as an "elevated baseline." This simply means that the landowner is willing to commit to manage his or her land so as to achieve -- and maintain indefinitely -- conditions for endangered or threatened species that are better than those that existed at the outset of the agreement. Landowners who agree to elevated baselines also have the right to engage in activities that incidentally harm endangered or threatened species, but these landowners agree to exercise that right only if doing so does not result in a failure to maintain the agreed upon elevated baseline conditions.

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1. Similar agreements, known as candidate conservation agreements with assurances, may be available to landowners who commit to actions benefiting species that are candidates for possible future listing as endangered or threatened species.

## Types of Agreements: Individual, Programmatic, and Template Agreements

Safe harbor agreements take three basic forms. The discussion in the preceding paragraphs refers to the simplest of these, an agreement directly between an individual landowner and the Service. That agreement is effectuated by means of a permit issued by the Service to the landowner. As described above, that permit authorizes the take of any endangered or threatened species covered by the agreement, provided that baseline conditions are maintained and any other requirements of the agreement are being fulfilled.

Although individual agreements represent the simplest form of safe harbor agreements, they were neither the first such agreements nor are they the most common. From the very beginning, “programmatic” safe harbor agreements have offered greater efficiency and other advantages. The underlying expectation of a programmatic agreement is that there are likely to be many individual landowners who are willing to implement a common set of conservation practices and who are desirous of the regulatory assurance provided by the permit. Instead of issuing individual permits to each of them, the Service issues one permit to a qualified “program administrator” who agrees to carry out a number of functions that the Service itself would otherwise have to carry out. The most basic of these is to secure the participation of individual landowners under the terms of the overarching programmatic agreement between the Service and the program administrator. That agreement typically sets forth a list of conservation practices, some or all of which individual landowners must agree to implement in order to participate in the program. The agreement between the Service and the program administrator also specifies how baseline conditions will be measured on enrolled properties.

To enroll, an individual landowner enters into a cooperative agreement with the program administrator, the required terms of which are set forth in the overarching agreement between the Service and the administrator. The administrator issues a “certificate of inclusion” to the enrolling landowner. This certifies that the landowner is included within the scope of the permit issued by the Service to the administrator. That confers upon the landowner the right to take the covered endangered species incidental to future land management activities, so long as baseline conditions (determined at the time of enrollment) are maintained and any other requirements of the cooperative agreement are met. The programmatic agreement between the Service and the program administrator is sometimes called an “umbrella” agreement, because it serves as an umbrella that provides regulatory certainty to the individual landowners it covers.

A variety of governmental and even non-governmental entities act as administrators of the programmatic agreements developed thus far. Many are state natural resource agencies. For example, they administer statewide programmatic agreements for the red-cockaded woodpecker in seven states. Collectively, they have enrolled more than 400 landowners and roughly 2.5 million acres in safe harbor programs in those seven states. In an eighth state, Virginia, a programmatic agreement for that species is administered by The Nature Conservancy, one of a half dozen programmatic agreements that organization administers, or co-administers, throughout the country. Quasi-governmental organizations variously known as soil and water conservation districts, resource conservation and development councils, and similar names, administer several programs. The United States Department of Agriculture’s Natural Resources Conservation Service serves as a co-administrator of at least one programmatic agreement.



The entities that serve as program administrators often have existing relationships of trust with local landowners, relationships that the Service may not have. Thus, they may be better able to identify and secure the participation of landowners. At the very least, the entities that agree to serve as program administrators bring added capacity for landowner outreach and implementation monitoring. In addition, because programmatic agreements require only one overarching permit, instead of a federal permit for each participating landowner, the time and expense of repeatedly undergoing the permit process for multiple agreements, all of which are fundamentally the same, are avoided.

In a few cases, the program administrator is the Service itself. Indeed, the first safe harbor agreement ever was a programmatic agreement for the red-cockaded woodpecker in the Sandhills region of North Carolina in which the permittee was the Service's own red-cockaded woodpecker recovery coordinator. This somewhat novel arrangement spared the Service of the need to go through a separate permitting process for each of the scores of landowners who would eventually participate in the program. Even so, the task of developing and monitoring agreements with each of those landowners has required the nearly full time attention of a Service staff person, a commitment that the Service has been reluctant to make elsewhere due to its limited resources.

Although uncommon, Service-administered programmatic agreements have been utilized in a few other places. For example, the Service's range-wide programmatic agreement for the black-footed ferret is effectuated by a Service permit issued to the Service's own ferret recovery coordinator. Similarly, the Service's Oregon Fish and Wildlife Office serves as the permittee for the Willamette Valley native prairie habitat programmatic agreement for the endangered Fender's blue butterfly. In yet a further variation, the Service's Arkansas Ecological Services Field Office, the Arkansas Game and Fish Commission, the Natural Resources Conservation Service, and The Nature Conservancy can all enroll landowners in a programmatic agreement for several aquatic species in the Upper Little Red River.

This last agreement is noteworthy for at least two reasons. First, it was approved as a combined safe harbor agreement and candidate conservation agreement with assurances, and applied to two species, one of which was endangered (the speckled pocketbook, a freshwater mussel) and the other a candidate for possible future listing (the yellowcheek darter, a fish). Second, it served as the model for an even more ambitious combined safe harbor agreement and candidate conservation agreement with assurances for species in Arkansas' Saline, Caddo and Ouachita headwaters that covers twenty-five species, five of them endangered and twenty of them designated by the state as "species of greatest conservation concern." This agreement is administered by the same four federal, state, and private parties as those that administer the Upper Red River agreement. A unique feature of this most recent agreement is that each of the four co-administrators has an opportunity to concur or not concur regarding the proposed enrollment of any particular landowner. If any of them elects not to concur, no certificate of inclusion will be issued.

The third, and final, form that a safe harbor agreement can take is called a "template agreement." In essence, they are a variation of a programmatic agreement, with the principal difference being that under a template agreement individual landowners apply for and receive permits from the Service rather than certificates of inclusion from a program administrator. Like other programmatic agreements, they are built on the expectation that there will be multiple landowners. The Service minimizes the administrative burden of issuing multiple permits by batching applications – all of which are fundamentally alike because they use the same template – and periodically publishing a

notice in the Federal Register of all the applications received since the previous notice.

To date, relatively few template safe harbor agreements have been developed. One example is the template agreement in Washington for the Columbia Basin pygmy rabbit. Sixteen landowners have received permits under this agreement. To issue these sixteen permits, only two notices of submitted applications, each covering eight landowners, were required.

## **Assessing Accomplishments**

The first safe harbor agreement was issued in 1995, twenty-two years ago. Since then, roughly a hundred other agreements have been approved, nearly half of which are programmatic or template agreements. The Service does not maintain centralized information about the number of landowners enrolled under programmatic agreements or the enrolled acreage, but in the eight Southeastern states where there are programmatic agreements in place for the red-cockaded woodpecker, there are approximately 430 participating landowners and roughly 2.5 million acres of enrolled land.

Landowners who participate in safe harbor agreements are engaged in a wide variety of land uses. Most participating landowners are either non-industrial forest owners or ranchers, although public utilities, local governmental units, universities, nature preserve owners, and residential property owners also participate. Agreements have been used to restore or enhance habitat, create or maintain corridors linking protected areas, augment existing populations, establish new populations, and for a variety of other conservation purposes.

Safe harbor agreements are in place in each of the Fish and Wildlife Service's eight Regions save one, Region 7 (Alaska) (though agreements are typically developed at the field office level rather than in the regional offices). However, the Service in some Regions has made substantially more use of this new conservation tool than in others. For example, in Region 1 (the Pacific Northwest and Hawaii), Region 2 (the Southwest), and Region 8 (California and Nevada) there are more than twenty approved agreements each, whereas there are only two in Region 5 (the Northeast) and three in Region 3 (the Midwest). This considerable disparity among Regions may reflect in part regional differences in the number of listed species, but it may also reflect differences in the level of effort to promote the concept among the Service Regions.

As noted earlier, the most promising avenue for achieving a high level of landowner participation is through the use of programmatic agreements in which a qualified third party serves as a program administrator, reaching out to potentially interested landowners and enrolling them through cooperative agreements and certificates of inclusion. State fish and wildlife or similar natural resource conservation agencies would seem to be ideally suited to serve as program administrators, given their expertise, legal authorities, and oft-stated desire to be more directly involved in the implementation of the ESA. Surprisingly, however, states have seldom taken advantage of this opportunity.

Apart from the seven Southeastern states that administer programmatic agreements for the red-cockaded woodpecker, only Arkansas, Arizona, Hawaii, Nevada, and Oregon have agreed to administer programmatic safe harbor agreements. Of these twelve states, only two (Arkansas and Oregon) have agreed to administer two programmatic agreements. One state fish and game agency director, who characterized safe harbor agreements as "one of the best ideas ever," attributed the low level of state pursuit of these agreements to the fact that most state fish and game agencies are

“not very fluent on the topic” and do not understand “how valuable these tools can be.”

Another possible explanation for the unwillingness thus far of more states to serve as administrators of programmatic safe harbor agreements is simply lack of capacity. Administering a popular and successful safe harbor program requires significant resources. For example, there are 175 landowners enrolled in the highly successful programmatic agreement administered by the South Carolina Department of Natural Resources. The Department entered into cooperative agreements with each of those landowners, monitors the implementation of those agreements, provides an annual report to the Fish and Wildlife Service, and continues to enroll new landowners. To carry out those considerable duties, the Department employs one biologist who is also tasked with monitoring red-cockaded woodpecker populations on state-owned lands. Part of the cost of the state’s administration of the programmatic agreement comes from state funding, with the remainder provided by grants from the Service under section 6 of the ESA. Because, as a general matter, state fish and wildlife agencies are heavily dependent upon hunting and fishing license revenue and the federal excise tax on hunting and fishing equipment, and because those revenues are devoted to game conservation, many states lack readily available resources with which to take on the task of administering programmatic agreements for endangered non-game species.

In part because of the reluctance of state fish and wildlife agencies to take on that task, several non-governmental and quasi-governmental organizations have done so. These include The Nature Conservancy, which administers or co-administers six programmatic agreements, the Environmental Defense Fund, which administers two, the National Audubon Society, The Peregrine Fund, the Urban Wildlands Group, the Sacramento River Conservation Area Forum, and several Resource Conservation and Development Councils. These non-governmental groups face some of the same funding challenges as the state fish and wildlife agencies, and have been particularly challenged to sustain their effort over many years in the face of shifting organizational priorities and “donor fatigue.” For example, the Environmental Defense Fund enrolled eight landowners in its Texas Hill Country programmatic agreement for the black-capped vireo and golden-cheeked warbler, but has ceased to seek out additional enrollees because it lacks the resources to manage a larger program. Similarly, the National Audubon Society, which operates in California under the name Audubon California, enrolled three landowners in its Yolo County programmatic agreement for the Valley elderberry longhorn beetle and giant garter snake. However, due to staff changes and revised priorities, it has recently sought to transfer its responsibilities under that agreement to the Sacramento River Conservation Area Forum, a non-governmental organization that administers a similar agreement in an overlapping area. Even The Nature Conservancy, whose budget dwarfs that of most other non-governmental organizations, has had a similar experience. After enrolling seven landowners in its Oregon silverspot butterfly programmatic agreement, the Conservancy’s grant from the Service expired and the Conservancy’s priorities in Oregon changed, as a result of which it is now seeking to transfer some or all of its responsibilities under the programmatic agreement to another entity. Some programmatic agreements provide that in the event that the agreement administrator becomes unable to continue to administer the agreement, the Service will undertake to develop individual agreements for the properties covered by certificates of inclusion.

While the expectation behind a programmatic agreement is that there will be multiple landowners enrolling under it, there have sometimes been very few or even none. Programmatic agreements for which no landowners have enrolled include both state-administered and non-governmental organization-administered agreements. For example, in 2003 the Service approved an island-wide programmatic agreement for the nene (also known as the Hawaiian goose) on the island of

Molokai, but no landowners have enrolled under it. The state attributes that fact in part to the cost of necessary conservation measures, including the need for intensive predator control. The Urban Wildlands Group has abandoned its efforts to enroll landowners in the El Segundo blue butterfly programmatic agreement that it administers, reportedly because of difficulties getting necessary approvals from the state of California. Finally, the Environmental Defense Fund has not been able to enroll any landowners in the programmatic agreement it administers for the ocelot.

There are two Nature Conservancy-administered programmatic agreements in which the only enrolled land is the Conservancy's own land. One of those is the red-cockaded woodpecker agreement in Virginia. Initially, the Conservancy enrolled both its own Piney Grove Preserve and an adjoining parcel owned by International Paper Company. Subsequently, International Paper transferred its parcel to the Conservancy and it became part of the expanded Preserve. Despite limited enrollment in the safe harbor program, the Conservancy has had rather remarkable success restoring the red-cockaded woodpecker in southeast Virginia, which is at the northern extreme of the species' range. When the Conservancy began its efforts there were no more than twelve woodpeckers – and possibly only eight – remaining in the state. Now the Conservancy's Piney Grove Preserve hosts seventy woodpeckers in fifteen family groups, thirteen of which bred in the most recent breeding season.

A less happy ending resulted in Indiana, where a Conservancy preserve was also the only parcel enrolled in the programmatic agreement for the Karner blue butterfly that the Conservancy administers. Before any other lands could be enrolled, the species was extirpated not only on the Conservancy preserve but also on the nearby Indiana Dunes National Lakeshore, which had supported the largest population in the state. A few unusually warm days early in 2012 apparently caused the butterfly eggs to hatch prematurely, before lupine, the larval host plant, had emerged. With nothing to eat, the larvae perished and the Indiana population disappeared. Because the extirpated population had been at the southernmost extreme of the species' range, this loss may have been an unavoidable one in light of ongoing climate change.

These examples raise the larger question of how much, if at all, safe harbor agreements have improved the status of the species covered by them. There is, as yet, little data on that important question. The Oregon chub is the only species that has been declared recovered and delisted subsequent to being included in a safe harbor agreement. The two properties subject to safe harbor agreements for that species contributed to that outcome, but in a minor way.

Some of the most convincing data regarding the efficacy of safe harbor agreements concerns the several programmatic agreements for the red-cockaded woodpecker. Baseline for that species is expressed in terms of the number of active "clusters." A cluster refers to a group of nearby trees with cavities used for nesting and roosting by a family group of woodpeckers. The private properties enrolled in these agreements have a collective baseline of 685 active clusters. Another 171 active clusters have been established on those properties subsequent to their enrollment in safe harbor programs. This achievement is particularly remarkable in light of the fact that prior to the safe harbor agreements, several studies of red-cockaded woodpecker abundance on private land showed steadily declining numbers. Safe harbor agreements have made possible a suite of conservation measures that have turned that trend around, at least on enrolled properties. There is good reason to believe that positive trend will continue, as excess birds from the Francis Marion National Forest will be translocated to nearby safe harbor properties in South Carolina. That effort is to be undertaken by the Longleaf Alliance with the aid of a grant from the National Fish and Wildlife

Foundation whose financial support some two decades earlier enabled the development of some of the first safe harbor agreements.

While some safe harbor agreements have clearly produced positive conservation outcomes for the species they cover, others have not. For example, only a year after the Robert Mondavi Corporation entered into a safe harbor agreement for its Cuesta Ridge vineyard in California to help the California red-legged frog, the company was acquired by another corporation that elected not to continue the agreement. Under a safe harbor agreement with the Cheeca Lodge, a resort property in the Florida Keys, nectar sources for the endangered Schaus swallowtail butterfly were planted on the resort grounds as part of an effort to create a movement corridor for the butterfly. However, to date there has apparently been no reported observation of the butterfly on the resort property. There are other agreements for which it would be most accurate to say that no tangible benefit for the covered species has yet been documented.

The administrators of several of the programmatic safe harbor agreements expressed the view that those agreements had produced important intangible benefits. One called the agreement “a valuable diplomacy tool” despite limited enrollment under that agreement. Others expressed the belief that although some of the participating landowners may well have been willing to cooperate even without a formal agreement, being able to offer the option of a safe harbor agreement was an effective way of reassuring landowners that their concerns were recognized and acknowledged as legitimate. These benefits are impossible to measure, but apparently real.

## **Conclusion and Recommendations**

More than two decades after the first safe harbor agreements were approved, the record of accomplishment under these agreements is decidedly mixed. A few have produced notable conservation results, but others have not. None, apparently, has had any negative impact, and for many the jury is still out regarding the impact they will ultimately have. It is beyond the scope of this paper to assess the factors that have made some agreements quite successful and others not, but that is an assessment that needs to be made and for which the Service seems best suited. The following recommendations are obvious steps for improving the ability of the program to help landowners and wildlife:

- There is need for a much better system of tracking and documenting agreements. The Service’s “conservation plans database” is incomplete, out of date, and sometimes wrong. Committing to develop and maintain a database that is complete, up to date, and accurate is vital. In the digital age there is no excuse for anything less.
- For safe harbor agreements to contribute significantly to the conservation of endangered or threatened species, far more landowners will need to participate in them than are currently enrolled. Programmatic agreements offer the most efficient means of enrolling large numbers of landowners. However, the more landowners who enroll in programmatic agreements, the more resources will be needed to administer those agreements. Program administrators, both state agencies and non-governmental organizations, have expressed the need for sufficient resources to fulfill that role in a responsible way. A serious effort to quantify that need and secure it should be made.
- While many non-governmental organizations have willingly taken on the role of serving as

program administrators, their ability to sustain that commitment over time has been more uncertain than that of governmental administrators. As a result, future programmatic agreements with non-governmental organizations should give clear direction as to what is to happen in the event that the administrator is no longer able to carry out the functions of an administrator.

- Administrators of programmatic safe harbor agreements face many common challenges, yet there has apparently been little communication among such administrators. Several of them expressed the view that it would be highly useful to take part in a meeting with their counterparts from other programs, where experiences and perspectives could be shared regarding common problems and their potential solutions. Either the Service or some philanthropic donor should consider supporting this suggestion.
- The Service should more systematically evaluate the potential for safe harbor agreements to contribute to the recovery of listed species. In developing or revising recovery plans for species not solely dependent on federal lands, the Service should routinely consider whether prevailing uses of non-federal lands can be accomplished compatibly with the conservation needs of the species and whether safe harbor agreements can help foster that compatibility.

The challenge of conserving species at risk of extinction requires action not just from federal agencies on the lands they administer. For many species it will also require the active cooperation of farmers, ranchers, forest landowners, and other state, local and private landowners. Safe harbor agreements have sometimes been very helpful in securing that cooperation. They have the potential to benefit more species in more places, particularly if the experience gained over the past two decades is closely examined with a view to producing better, more productive agreements in the future.