

# Safe Harbor for the Red-Cockaded Woodpecker

## *Private Forest Landowners Share Their Views*



Courtesy of Pollatch Corporation

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### ABSTRACT

We surveyed North Carolina and South Carolina private forest landowners to learn their attitudes about the Safe Harbor Program initiated by the US Fish and Wildlife Service and the Environmental Defense Fund. Landowners who own large amounts of forestland near active clusters of red-cockaded woodpeckers (*Picoides borealis*), whose forests have a high proportion of mature pine, and who practice prescribed burning or chemical or mechanical methods to control understory hardwoods are most likely to sign an agreement to participate. We found that the views of program participants and nonparticipants were similar concerning the Endangered Species Act and the alternatives to the Safe Harbor Program.

**Keywords:** endangered species; nonindustrial private forestland; policy; wildlife

The Endangered Species Act of 1973 was enacted with the intention of protecting animal and plant species that are on the brink of extinction (Tobin 1990). The act prohibits the “taking” of a species, defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct” (ESA section 3[19]). In 1995, the US Supreme Court (*Sweet Home v. Babbitt*, 11 S. Ct. 714, 1995) upheld the broad definition of “harm” that includes habitat modifications that impair behavior patterns such as breeding, feeding, or sheltering. However, the US Fish and Wildlife Service has experienced difficulties implementing the provisions of the act (Kennedy et al. 1996), as more than 80 percent of the endangered species have habitats on private lands (US GAO 1995). Compared to public land managers, private landowners have different legal

obligations under the Endangered Species Act and a completely different set of incentives in land management (Bonnie 1997). Although the act restricts specific forest management practices within the habitat of an endangered species, private landowners are not legally obligated to engage in affirmative management for a species (Bonnie 1997).

Some endangered species, among them the red-cockaded woodpecker (*Picoides borealis*), require active management for their survival. The red-cockaded woodpecker needs medium to large tracts of mature southern pine forests for its habitat. It prefers open, park-like stands with little understory and often abandons its habitat in the

**The Safe Harbor Program aims to maintain habitat for the red-cockaded woodpecker (left) and to increase their number on private lands.**

presence of heavy undergrowth. Such open spaces can be created artificially using prescribed burning or other vegetation control methods (Zhang and Flick 2001). However, US Fish and Wildlife Service regulations (1992) restrict private forestland owners' forest management activities when this species is present. For example, no trees greater than 10 inches dbh should be cut, no pesticides should be used, and no roads should be built without permission within a 200-foot radius of a cavity tree. In addition, a minimum of 60 acres of foraging habitat within a half-mile of the cavity tree, and a minimum of 3,000 square feet of pine basal area in trees 10 inches dbh or larger, should be maintained. Such a "command and control" approach has failed to coerce landowners into actively managing their forests for red-cockaded woodpeckers (Bonnie 1997; Zhang and Flick 2001). This reality has opened the door for several market-based programs, one of which is the Safe Harbor Program currently being offered to private landowners in the South.

The purpose of the Safe Harbor Program is to maintain habitat for the red-cockaded woodpecker and eventually increase their number on private lands (Bonnie 1997). Safe Harbor is a voluntary contract between the US Fish and Wildlife Service (in South Carolina it is administered through the State Department of Natural Resources) and landowners. Participating landowners agree to protect a pre-established baseline population of red-cockaded woodpeckers (which may be zero) and enhance their habitat using prescribed fire, midstory hardwood removal, drilling of artificial cavities, and other means (Bonnie 1997). In return, landowners are not responsible for any additional red-cockaded woodpeckers beyond the baseline population, thus removing future uncertainty in forest management. The contract is completely voluntary, fully transferable, and can be terminated by the participating landowners with a 60-day written notice.

The Safe Harbor Program was first

implemented in North Carolina and then expanded to other states. Prior to 2000, North Carolina and South Carolina accounted for more than 80 percent of the Safe Harbor Program participants and about 80 percent of the total acreage under the agreement (Costa 2000, pers. commun.). We surveyed North Carolina and South Carolina private landowners to learn about their attitudes concerning the Safe Harbor Program. The objectives of the survey were to (1) evaluate the effectiveness of the Safe Harbor Program, (2) identify ways to improve it, and (3) evaluate its acceptability or popularity as compared to various alternative programs. The results of this survey shed light on prospects for using this or other programs to encourage the conservation of red-cockaded woodpeckers and other endangered species on private lands.

### The Survey

The study methodology follows literature in forestry program evaluation (e.g., Ellefson et al. 1995; Henson 1996). Our survey involved two groups of landowners in North Carolina and South Carolina—Safe Harbor Program participants and a control group composed of nonparticipating forest landowners. Two separate survey questionnaires were designed, one for each group. Questionnaires were sent to the 73 landowners who had signed an agreement in the two states. For the control group, addresses of private forest landowners were collected from the tax offices of counties that had active clusters of red-cockaded woodpeckers in 1998. A total of 734 landowners who owned more than 100 acres of forestland were randomly selected from these lists. As small forest tracts are unlikely to attract this species, small forest landowners were excluded from this study.

The survey was conducted in spring of 2000. Two weeks after the initial mailing, reminders were sent to landowners who had not responded. In the participant group, two surveys were returned with invalid addresses, making the sample size of this group 71. A total

of 46 landowners (22 in North Carolina and 24 in South Carolina) responded, for an overall response rate of 65 percent. In the nonparticipant group, 42 surveys were returned with invalid addresses, and an additional 14 were returned because landowners had passed away or sold their forestlands. This yielded an adjusted sample size of 678 landowners for the control group. A total of 116 landowners answered the questions in the survey, for a response rate of 17 percent. The low response rate may be partly due to the fact that many landowners in this group were not familiar with, let alone interested in, the survey subject. Because of the low response rate, we present the survey results here but refrain from drawing general conclusions from this group.

The questionnaire for the participant group included 50 questions on the characteristics of the forestland, opinions on the motivation and expectations from the Safe Harbor Agreement, costs involved in developing the agreement, opinions on the Endangered Species Act and alternatives to Safe Harbor, and basic demographics. The questionnaire for the nonparticipant group included 36 questions and covered the characteristics of the forestland, familiarity with and opinions about the Endangered Species Act, familiarity with and opinions about the Safe Harbor Program, and basic demographics.

The demographic profiles of respondents in the two groups were similar. Of those surveyed, almost 70 percent were older than 50 years, and a majority (63 percent) had at least a bachelor's degree. About 17 percent of the respondents earned less than \$50,000 a year, 25 percent earned \$50,000 to \$100,000, and 34 percent earned more than \$100,000.

### Forest Characteristics, Management Objectives

Table 1 (p. 26) presents the questions and responses concerning characteristics of forests owned by the two groups of landowners. For the participant group, only forests covered by an

**Table 1. Survey questions and responses on forest characteristics by participants and nonparticipants in the Safe Harbor Program.**

Survey question	Response	Survey question	Response
Response choices		Response choices	
<b>Participants</b>		<b>Nonparticipants</b>	
About how many acres of forest are covered by your Safe Harbor agreement?		How many acres of forestland do you own?	
<100 acres	10.9%	<100 acres	6.0%
100–499 acres	23.9	100–499 acres	59.5
>500 acres	65.2	>500 acres	34.5
How many acres covered by the agreement are mature (more than 30 years old) pine and pine-hardwood stands (where pine is more than 50 percent)?		How many acres are mature (more than 30 years old) pine and pine-hardwood stands (where pine is more than 50 percent)?	
<100 acres	28.3	<100 acres	70.7
100–499 acres	47.8	100–499 acres	20.7
>500 acres	23.9	>500 acres	8.6
Are there any active red-cockaded woodpeckers on the forests covered by the agreement?		Regarding the status of red-cockaded woodpeckers, please choose one that most closely applies to your land.	
Yes	45.7	Yes, there are active clusters on my land	7.8
No, but there are inactive clusters	6.5	No, but there are inactive clusters	3.4
No, there are neither active nor inactive clusters	43.5	No, there are neither active nor inactive clusters	39.7
Do not know	4.3	Do not know	49.1
Are there any active red-cockaded woodpeckers within 1 mile of the forests covered by the agreement?		Are there any active red-cockaded woodpeckers within 1 mile of your mature pine and pine-hardwood stands?	
Yes	50.0	Yes	7.7
No	26.1	No	25.9
Do not know	23.9	Do not know	66.4
Do you think that red-cockaded woodpeckers may come to the forests covered by the agreement?		How would you characterize the likelihood of red-cockaded woodpeckers coming onto your land in the next 10 years?	
Yes	58.7	High	4.3
No	2.2	Moderate	13.8
Do not know	39.1	Low	34.5
Have you used any prescribed fire or other chemical or mechanical methods to control understory hardwood in the forests covered by the agreement in the last seven years?		Do not know	47.4
Yes	89.1	Have you used any prescribed fire or other chemical or mechanical methods to control understory hardwood on your land in the last seven years?	
No	10.9	Yes	52.6
Do not know	0.0	No	47.4
		Do not know	0.0

agreement were included. Compared to the other group, participating landowners owned more forestland, had more mature pines on their lands, and had active or inactive clusters of red-cockaded woodpeckers on their lands or nearby. Furthermore, they used prescribed fire or other chemical or mechanical methods to control hardwood that may potentially attract this species to their lands. More importantly, they perceived the likelihood of red-cockaded woodpeckers coming to their lands in the near future as high. Therefore, Safe Harbor participants are primarily landowners with either the presence of red-cockaded woodpeckers on their lands or a high possibility of it, whereas nonparticipants perceived this possibility as low.

The management objectives of these two groups of landowners are somewhat different. About 76 percent of the participants indicated that recreation is a “very important” or “somewhat important” management objective, whereas 70 percent rated timber production “very important” or “somewhat important.” On the other hand, about 80 percent of nonparticipants rated timber production as a “very important” or “somewhat important” management objective, and about 73 percent indicated recreation as “very important” or “somewhat important.”

#### Participant Responses

Most participating landowners (about 54 percent) learned about the Safe Harbor Program from their con-

sulting foresters. Fewer landowners (40 percent) identified public agencies as their source for information about the program. Indeed, landowner communication with public agencies appeared to be rather scarce; 41 percent of landowners said that they had no contact with these agencies before initiating the agreement, and 11 percent said they had only one contact. About 30 percent of landowners had two to five contacts with public agencies. Among those who had communicated with public agencies, 50 percent rated the US Fish and Wildlife Service to be very helpful, and about 32 percent gave the same rating to the state agencies.

Participating landowners appeared to be fairly positive about the process involved in developing the agreement.

Before initiating the process, 50 percent of the landowners thought that developing the agreement would take less than six months, while another 17 percent thought that the process would take six months to a year. When asked how long the process actually took, 44 percent of the landowners said it took less than six months, with another 24 percent saying it took between six months and a year. A majority of the landowners (59 percent) thought developing the agreement was worthwhile to them, and an overwhelming majority (72 percent) would recommend the Safe Harbor Program to other landowners. Before developing the agreement, landowners were quite knowledgeable about the Endangered Species Act (76 percent) and the implications of listing a species as endangered (74 percent). The overall level of support for the act appeared to be similar before and after they signed an agreement.

When asked about important factors in the decisionmaking process, 59 percent of the landowners agreed that the presence of red-cockaded woodpeckers or other endangered species on their land or nearby was an important factor. About 52 percent of the respondents thought that the possibility of receiving technical or financial assistance from public agencies was neutral or not an important factor. Landowners appeared somewhat neutral about the cost, time, and paperwork involved in the process; only 7 percent cited this as a "very important" factor, 41 percent rated it "somewhat important," and another 35 percent were "neutral." A significant majority (77 percent) thought the potential to increase future sales of forest products was an important factor in signing the agreement, and 85 percent indicated that the possibility of reducing risk and uncertainty in forest management was an important factor.

However, the survey indicated that landowners were concerned about more than their own interests. About 78 percent of the respondents said their desire to help the red-cockaded woodpecker was an important factor, and another 61 percent indicated they wanted to be known as good stewards

for endangered species. Landowners were asked if they thought that the Safe Harbor Program would invite outsiders who may interfere with or influence their forest management. Sixty-one percent thought that signing an agreement would not invite outsiders. Only 15 percent thought the program would bring outsiders.

*Costs.* The questionnaire included several questions on the actual costs involved in the process. Most landowners indicated that signing an agreement was not an expensive process. Approximately 72 percent of the respondents thought that the process cost the equivalent of \$1,000 or less in their own time or their staff's time. About 24

the value of their land had decreased to some degree, with estimates of this decrease ranging from less than \$500 to more than \$2,000 per acre. Despite stated loss of land value due to the appearance of red-cockaded woodpecker, most landowners intended to hold on to their land, as 63 percent indicated they had no plans to sell their land in the next 10 years.

*Other alternatives.* Landowners were asked about possible alternatives to the Safe Harbor Program, including tax breaks, cost-sharing, government land acquisition, long-term conservation easements, public-private land exchanges, and government payments to landowners for providing endangered

## Most participating landowners learned about the Safe Harbor Program from their consulting foresters.

percent said they incurred an additional cost of less than \$1,000 to hire forestry or wildlife consultants, and about 39 percent did not incur this cost. Overall, 54 percent of respondents estimated the total costs of developing the agreement at less than \$1,000, and about 31 percent thought that the total costs were between \$1,000 and \$10,000. In terms of maintaining the agreement, about 67 percent of the respondents put the annual total cost between zero and \$1,000.

*Revenue impacts.* Landowners were asked about revenue impacts on their land of red-cockaded woodpeckers and of the agreement. Approximately 35 percent of the respondents thought their revenues would increase between 1 percent and 25 percent over the lifetime of the agreement without red-cockaded woodpeckers or other endangered species on their lands, assuming constant timber prices and silvicultural costs. However, the majority (57 percent) were uncertain about a possible change in revenue. About 26 percent thought their land value remained unchanged with the presence of this species, and 37 percent estimated that

species habitat. While the majority of landowners preferred government payments (67 percent), tax breaks (59 percent) and cost-sharing (50 percent) to the Safe Harbor Program, their opinions were rather indifferent about the other alternatives (*table 2, p. 28*). When asked to state their preference between two most frequently used programs—tax credits and cost-sharing—46 percent preferred tax credits and 35 percent preferred cost-sharing. About 23 percent had no preference for either option.

### Nonparticipant Views

As mentioned earlier, the response rate of nonparticipants was low (only 17 percent), so we present the survey results here but refrain from drawing general conclusions from this group.

Many nonparticipants considered themselves "familiar" or "somewhat familiar" with the provisions of the Endangered Species Act (57 percent), its impacts on forest management (53 percent), and legal consequences of noncompliance (49 percent). However, familiarity with the Safe Harbor Program among nonparticipants was rather low. Approximately 55 percent

**Table 2. Landowners' opinions about alternatives to the Safe Harbor Program.**

Alternative	Participants <sup>1</sup> (n = 46)			Nonparticipants <sup>1</sup> (n = 116)		
	Better <sup>2</sup>	No better or worse	Worse <sup>3</sup>	Better <sup>2</sup>	No better or worse	Worse <sup>3</sup>
Tax breaks for habitat improvements	58.7%	17.4%	15.2%	51.6%	29.3%	4.3%
Cost-sharing for habitat improvements	50.0	23.9	17.4	48.1	31.9	4.3
Government land acquisition	15.2	17.4	56.5	15.5	30.2	37.2
Long-term conservation easements	6.5	54.3	26.0	29.3	32.8	18.9
Private-public land exchanges	15.2	39.1	34.7	22.4	33.7	24.1
Partnership between conservation groups and landowners	8.6	39.1	41.3	25.1	37.9	19.8
Government payments to landowners for providing endangered species habitats	67.4	13.0	10.8	59.5	19.0	5.1

<sup>1</sup> Responses of "do not know" are not included.

<sup>2</sup> Includes responses of "much better" and "somewhat better."

<sup>3</sup> Includes responses of "somewhat worse" and "much worse."

were either "uncertain" or "not familiar" with the program, only about 36 percent were "somewhat familiar." Ninety percent of respondents never had any contact with any public agencies regarding the Endangered Species Act or the Safe Harbor Program. Most landowners (51 percent) were not sure if they would ever sign a Safe Harbor Agreement, and another 30 percent said they would not because of the cost, time, and paperwork involved. About 28 percent of the respondents thought signing an agreement would invite outsiders who may influence their forest management and that this would be of serious concern for them.

When asked if they thought that the Safe Harbor Program would succeed, 60 percent of the landowners indicated they did not know enough to judge. Responses to the questions concerning alternatives to the Safe Harbor Program were similar to those of the participant group (table 2).

### Perceptions of the Species and the Act

The survey included several questions designed to investigate landowner perceptions about endangered species and the Endangered Species Act. These questions were common to both questionnaires. Respondents were asked to record their feelings about several statements representing a variety of sentiments on these issues. Landowners were able to record their feelings with regard to the statements in one of five categories ranging from "strongly

agree" to "strongly disagree" (table 3).

In the participant group, about 80 percent of the landowners either agreed strongly or agreed somewhat that society has a moral obligation to protect the red-cockaded woodpecker or any other endangered species. In contrast, a significantly lower number (63 percent) of nonparticipants indicated this sentiment. Less than half of the landowners (46 percent) in both groups agreed to the statement that something useful to humans may be learned from the red-cockaded woodpecker. Responses were similar for the statement that this species should be protected because it is an indicator species for the health of southern forest ecosystem. A majority of landowners in both groups agreed that the presence of threatened or endangered species restricts land uses and property values. Approximately 74 percent of the participants and 55 percent of the nonparticipants believed that the Endangered Species Act is often used to promote the agendas of special interests. When asked if the act discourages landowners from enhancing, maintaining, or creating habitat for endangered species, a majority of the participants (72 percent) responded affirmatively. Conversely, 50 percent of the nonparticipants agreed with the statement, while about 29 percent had no opinion. However, the majority of landowners in both groups (about 90 percent of the participants and 77 percent of the nonparticipants) agreed that government compensation

for their economic losses due to the Endangered Species Act would be appropriate.

### Conclusions

Results from the survey demonstrate that the administrative efficiency of the program appears to be quite good. Satisfaction among the participants appears to be high, although a significant number of landowners are cautiously optimistic, as the program is still young. Thus, the program appears to have earned support from the early adopters, who seem tolerant of the cost, time, and paperwork involved in the agreement process. On the other hand, these issues seem to create concerns for the nonparticipants, a barrier that should get more attention from policymakers when considering expanding the program enrollment.

Not surprisingly, landowners who have the most to lose financially if the Endangered Species Act and red-cockaded woodpecker regulations are applied to their lands are more likely to sign a Safe Harbor Agreement to secure the future of their investment and reduce future uncertainty. Conversely, landowners who perceive that their lands are at low risk of becoming habitat for this species have little incentive to enroll in the Safe Harbor Program. This indicates an obvious shortcoming of the Safe Harbor Program: Without incentives, it cannot attract landowners to conduct active and voluntary management activities that enhance habi-

**Table 3. Landowners' attitudes toward endangered species and the Endangered Species Act.**

Statements	Participants <sup>1</sup> (n = 46)			Nonparticipants <sup>1</sup> (n = 116)		
	Agree <sup>2</sup>	No opinion	Disagree <sup>3</sup>	Agree <sup>2</sup>	No opinion	Disagree <sup>3</sup>
Society has a moral obligation to protect the red-cockaded woodpecker or any other endangered species	80.5	6.5	13.0	62.9	16.4	16.4
Something useful to humans may be learned from the red-cockaded woodpecker	45.6	37.0	17.4	45.7	30.2	19.8
The red-cockaded woodpecker should be protected because it is an indicator species for the health of southern pine ecosystem	52.2	32.6	15.2	44.9	35.3	15.5
The existence of threatened or endangered species restricts land uses and reduces property values	80.5	2.2	17.3	65.6	18.1	11.1
The Endangered Species Act is often used to promote the agendas of special interests	73.9	10.9	15.2	55.2	28.5	7.7
The Endangered Species Act discourages private landowners from enhancing, maintaining, or creating habitat for listed species	71.8	8.7	19.5	50.0	29.3	12.9
Government should provide payments to landowners for providing endangered species habitats	89.2	4.3	6.5	76.7	11.2	4.3

<sup>1</sup> Not all questions were answered by all respondents.

<sup>2</sup> Includes "strongly agree" and "somewhat agree."

<sup>3</sup> Includes "strongly disagree" and "somewhat disagree."

tat. Some financial programs such as direct compensation, tax credits, and cost-sharing may help. In fact, landowners prefer these financial compensation programs to the Safe Harbor Program because the former provides them some financial incentives. On the other hand, landowners prefer the Safe Harbor Program to government land acquisition, private-public land exchange, long-term conservation easements, and partnership between conservation groups and landowners, possibly because the latter do not provide them with any direct benefits or assurance of no loss should an endangered species come onto their lands.

Landowner opinions about the Endangered Species Act reveal concern for their properties, land-use restrictions, and use of the act by special interests to promote their agendas. Our survey results indicate that the utilitarian view of endangered species protection (something useful to humans) is not dominant among landowners. Rather, they believe that society has a moral obligation to protect the red-cockaded woodpecker and other endangered species. Nevertheless, they further believe that the presence of this or other endangered species restricts their land-

use activities and that the government ought to compensate for their economic loss.

Although the Safe Harbor Program cannot entice landowners to perform "extra work" to protect endangered species, it does provide them with the certainty that they will not be penalized (any more than they already have been) if they continue to do what they have been doing. As an alternative to traditional command and control measures, the Safe Harbor Program may be on the right track, based on feedback from the early adopters. Private landowners may welcome the application of the Safe Harbor Program to other endangered species and the development of other incentive-based programs.

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