

Biopolitics, management of Federal Lands, and the conservation of the Red-cockaded Woodpecker

Forest management policies designed to maximize forest product yield are at the heart of this species' problems.



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THE RED-COCKADED WOODPECKER (*Picoides borealis*) is an endangered species that inhabits the mature, open pine forests of the southeastern United States. While biologists agree that the species' problems stem from habitat loss, the species has also been at the center of controversy after controversy between management strategies and current forest economic policies. In fact, some of the most serious threats to its survival are deeply rooted in biopolitics and the management of federal lands.

This paper will briefly summarize some of the Red-cockaded Woodpecker's unique biology and problems that have resulted in its endangered status; discuss the major findings of the A.O.U. Committee for the Conservation of the Red-cockaded Woodpecker; and provide an update on the troubles and conservation efforts associated with the species.



ECOLOGY OF THE RED-COCKADED WOODPECKER

To understand the problems of the Red-cockaded Woodpecker, one must first understand the ecosystem in which it evolved. The southeastern United States experiences a thunderstorm frequency matched nowhere else in North America. The lightning associated with these storms, coupled with the fast-draining sandy soils of the coastal plain, resulted in frequent natural fires that blanketed upland areas. Such fires were powerful selective forces in the southeast, influencing the evolution of the plants and animals living there. The southern pines dominated frequently burned areas because of their fire resistance. The Red-cockaded Woodpecker survived by adapting to living pines as nesting, roosting, and foraging sites rather than using fire-susceptible dead

trees. Fire played such a powerful role in shaping the southern pine forest ecosystem that adaptation to the ecosystem has, for the Red-cockaded Woodpecker, meant dependence upon it.

The Red-cockaded Woodpecker lives in social groups, called clans, that occupy groups of cavity trees, called colonies. Each clan member roosts in a separate cavity and is dependent on it for safety from weather and predators and for nesting. Although a clan may include as many as ten birds, it never includes more than one breeding female, and although the whole clan may help with incubation of eggs and raising of young, typically only two to four are produced each year. Young females disperse from the colony by early spring, facilitating gene flow among populations and limiting inbreeding. Young males often remain in their natal colonies to later become helpers at the nest. They may eventually inherit the colony site. Use of the term "colony" when the clan only includes one breeding pair, and persistence of cavity trees long after a colony site has been abandoned, have given a false impression of abundance and served to heighten controversy surrounding the species.

The four major requirements of Red-cockaded Woodpeckers that are not being met are: (1) an open pine forest, maintained by fire at 3–5-year intervals; (2) old pines [95+ years for Longleaf Pine (*Pinus palustris*); 75+ years for Loblolly Pine (*P. taeda*), and other pines] for cavity excavation (Jackson *et al.* 1979b) and foraging (Jackson and Jackson 1986); (3) large tracts of forest per clan for foraging (average home range about 200 acres/clan), and (4) several clans in an area to provide population stability and genetic variability.

Lack of fire results in growth of a dense hardwood understory and ultimate replacement of shade-intolerant pines by fire-intolerant hardwoods. This is the direct result of deliberate fire-suppression efforts and by passive fire suppression owing to forest clearing and road construction. Lack of older pines has resulted from the current forest industry practice of clearcutting pines at age 20 years for pulpwood, and age 40–60 years for lumber.

Most Red-cockaded Woodpecker populations on private or industry lands have been lost and most remaining populations are on our southern National Forests, military bases, and Na-

tional Wildlife Refuges. Our southern National Forests support approximately 79% of the known Red-cockaded Woodpeckers on federal lands (Lennartz *et al.* 1983a); Jackson (1978) estimated that 84% of all colonies were on federal lands and that 62.1% of all colonies were on National Forests. (For additional details of this species' status and unusual biology, see Jackson (1986) and papers cited therein.)

In 1975, a Recovery Team for the species was appointed. It included biologists from the academic, governmental, and industrial sectors. The team's recovery plan for the species was accepted by the U.S. Fish and Wildlife Service in 1979 (Jackson *et al.* 1979a). Despite compromises resulting from the heavy representation of forestry interests on the Recovery Team, the U.S. Forest Service and other forestry interests immediately sought revisions that would make management of the bird more compatible with modern forestry practices.

Meanwhile, important new information about the species' biology was being made available through active research programs. This information supported recommendations made in the recovery plan and suggested, if anything, that the species' needs were greater than the allowances made in the plan. The Recovery Team was prevented from making any revisions and was disbanded in 1982. In 1983, the U.S. Fish and Wildlife Service contracted with Michael Lennartz of the U.S. Forest Service to revise the recovery plan. Following review, the new plan was accepted by the U.S. Fish and Wildlife Service (Lennartz and Henry 1985). It contains few elements of the original plan and can, in my opinion, hardly be considered a revision at all. The new plan includes a number of controversial elements and excludes some important elements of the original plan.

The United States Section of the International Council for Bird Preservation is concerned over the continuing decline of the Red-cockaded Woodpecker. Controversy surrounding the emergence of the "revised" recovery plan led I.C.B.P. to request the American Ornithologists' Union to appoint a committee to investigate the species' problems and conservation efforts being made on its' behalf. The A.O.U. "Committee for the Conservation of the Red-

cockaded Woodpecker" included J. David Ligon (chairman), Peter B. Stacey, Richard N. Conner, Carl E. Bock, and Curtis S. Adkisson.

SUMMARY OF THE FINDINGS OF THE A.O.U. COMMITTEE

Although the Red-cockaded Woodpecker has been listed as an endangered species for more than 15 years, the Committee noted that not a single management program has been devoted to increasing the species' numbers. There have been two recovery plans, detailed treatment in the U.S. Forest Service's Wildlife Management Handbook, many studies devoted to the ecology and management of the species, and two symposia focusing on the species' problems, but the Red-cockaded Woodpecker continues to decline in numbers throughout its range. Local populations are disappearing and major populations are becoming increasingly isolated.

The Red-cockaded Woodpecker is in effect becoming an "island" species as a result of habitat losses. As such, it is becoming increasingly vulnerable to extinction. Lennartz and Henry (1985) note that only 2.5% of the existing pine forest in the Southeast provides suitable nesting habitat for the Red-cockaded Woodpecker. Within the past 25 years, old-growth pine habitats have decreased by 13%, and old-growth longleaf pine forest, a preferred habitat of the birds, has declined in area three times as rapidly as Loblolly and Shortleaf Pine (*Pinus echinata*) forests (Lennartz *et al.* 1983b).

Owing to man's restriction of natural fire (*e.g.*, every road acts as a firebreak), Red-cockaded Woodpeckers cannot survive without management. Importantly, the birds' existence *is* compatible with other forest uses, including various recreational activities and production of wood and pulp. The species' problems stem, not from cutting of trees *per se*, but from forest management practices designed to maximize forest product yield: clearcutting rather than selective cutting, cutting trees at 20 years of age for pulp and 40–60 years for wood, and replacement of Longleaf Pine with faster growing species less desirable to the birds.

The A.O.U. Committee identified one serious, general shortcoming of the new recovery plan: the repeated emphasis on minimal values: minimal area required to sustain a group, minimal ages of the trees used, and minimal population sizes. The Committee judged this approach inappropriate as the fate of an endangered species hangs in the balance.

The new recovery plan focuses on individual groups of birds and/or their cavity trees, a focus which the Committee felt should be enlarged to include the mature, open pine forest within which the Red-cockaded Woodpecker evolved. Among the dangers inherent in focusing on individual colony sites is the probability that such a focus will lead to further habitat fragmentation and isolation of the birds.

Another major criticism of the plan is the emphasis on data collected by the U.S. Forest Service on the Francis Marion National Forest, an area where Red-cockaded Woodpecker populations are relatively healthy. Lennartz had been provided with data from the Savannah River Plant, near Aiken, South Carolina, indicating that in poor quality habitat a clan of Red-cockaded Woodpeckers may have a home range of 1000 acres (405 hectares) or more. Studies elsewhere within the species' range have also documented home ranges in excess of 200 acres (DeLotelle *et al.* 1983; Porter and Labisky 1986). Yet the plan concluded that 125 acres of good habitat was adequate to support a clan. This was based on a mean home range size of 126 acres for 17 clans studied on the Francis Marion National Forest. Although the plan notes (Lennartz and Henry 1985) that a larger acreage may be needed in poor quality habitat, its basic recommendation is for 125 acres of "acceptable habitat" contiguous with and within 0.5 mile of active colony sites. This recommendation gives the birds on the Francis Marion no leeway in the event of researcher error or stressful conditions brought on by climate or other factors. Extrapolation from this single healthy site for use as a basis for management of the species throughout its entire range is scientifically unsound. The A.O.U. Committee identified a flaw in the statistical design of the Francis Marion study from which the plan concluded that stands 30 years or older were preferred foraging habitat, noting that no control insured equal representation of all stand age classes.

Other discussions (Jackson and Jackson 1986) emphasize the ecological reasons older stands provide better foraging sites for the woodpeckers.

Another major area of controversy included in the new recovery plan are its objectives. These are based on highly theoretical considerations by Franklin (1980) and Frankel and Soule (1981) which led Lennartz and Henry to suggest that 250 clans represented a minimum viable population size. Although there is a basis for the suggestion as to what might constitute a minimum viable population, the plan treats the number 250 as if it were a proven value that would represent a viable population. Again, the minimum value was accepted as "enough," although it has no firm basis in fact. A population that reached 250 clans would be considered "recovered," although downlisting the species would be proposed only on a rangewide basis.

In order to downlist the species from Endangered to Threatened, the new plan would require six "viable" populations with the following distribution: coastal plain of North or South Carolina, sandhills of North or South Carolina, coastal plain of Georgia or peninsular Florida, coastal plain of Alabama or the Florida panhandle, coastal plain of Mississippi, and the coastal plain of Louisiana or Texas. Six such populations would theoretically total only 3000 breeding birds, one-third to one-half the number of birds now thought to exist! Downlisting from Threatened to Recovered would require 15 viable populations (*i.e.*, 7500 breeding birds), in about the same area, and again, it is conceivable that the species might be considered recovered with fewer colonies than exist today. The A.O.U. Committee feels that downlisting on the basis of an untested minimal value, assumed to represent a viable population, is unjustified. They note that such an approach may further jeopardize the species by minimizing the importance of small populations. For example, no mention is made or goals set in the plan regarding efforts to save or enhance populations in Oklahoma, Arkansas, Tennessee, Kentucky, or Virginia.

In general, the A.O.U. Committee recommends a more aggressive management program for the Red-cockaded Woodpecker: home ranges of more than minimum size, potential cavity trees of more than minimum age, and positive

efforts to increase the number of colonies on federal lands. Other recommendations include the adoption of management schemes such as selective cutting rather than clearcutting, and the reinstatement of the concept of developing corridors of suitable habitat to link major populations. The latter is a concept proposed by Jackson (1976) and was included as a part of the first recovery plan, but rejected in the Technical Draft Comments and Responses to the Revised Red-cockaded Woodpecker Recovery Plan (U.S. Fish and Wildlife Service 1984).

RECENT TROUBLES

Populations of the Red-cockaded Woodpecker continue to decline. The following are intended to suggest the nature and magnitude of these losses on federal lands and in the biopolitical arena. Losses also continue on private lands and are important, but the greatest hopes for the species are on federal lands, and so are many of the greatest losses.

Fire suppression

That fire is an extremely important factor in the Red-cockaded Woodpecker's ecosystem is well-documented, yet even in nationally designated wilderness areas, fire suppression is aggressively carried out. (For examples, see U.S.D.A. Forest Service 1986a.)

If fire is suppressed for a number of years, dense understory develops and along with the build-up of dead leaves and twigs, can fuel a fire that is potentially devastating to the Red-cockaded Woodpecker. Frequent natural or prescribed fire alleviates this danger and also thins young pines and helps control insect populations. The timing of such fires may be important and is a factor which has received too little attention. It has been demonstrated (Jackson *et al.* 1986) that natural fire in the ecosystem likely occurred during summer, while those initiated in modern forestry practices are normally winter or early spring fires. The latter are cooler, and less likely to kill well-established hardwoods or to thin young pines than are

summer fires. Summer fires might also have a more negative influence on insect pests such as the Southern Pine Beetle (*Dendroctonus frontalis*).

“Beetle mania”

As a result of growth of the understory, Southern Pine Beetles and management strategies to control them are serious threats to the Red-cockaded Woodpecker's habitat. These tiny insects are natural components of the southern pine forest ecosystem. When a tree is struck by lightning, or seriously stressed by other means, these insects invade, and death of the tree often results. Red-cockaded Woodpeckers are attracted to such trees and feed on Southern Pine Beetles. However, when a forest is stressed, Southern Pine Beetles can become epidemic in numbers and can kill many acres of pines. Fire restriction results in dense stands of young pines, and particularly when accompanied by drought conditions, can precipitate a disastrous outbreak of the beetles.

Recent outbreaks have generated a “beetle mania” that has contributed to Red-cockaded Woodpecker losses. To wit, in an attempt to control a beetle outbreak, the U.S. Forest Service clearcut about 40% of the 8700-acre Kisatchie Hills Wilderness Area, in Kisatchie National Forest, Louisiana (Anon. 1986). When a federal court ordered the cutting stopped, the Forest Service turned to the Red-cockaded Woodpecker and invoked “saving their colonies from the beetles” as a reason for clearcutting. Permission was granted to continue clearcutting. Last spring, the birds were nesting at one colony, surrounded by a clearcut in all directions except for a narrow ridge with a few pines that tied the colony site to a hardwood bottom. The birds were traveling about one-half mile to forage in beetle-killed pines left standing in the bottom. The colony's future is unclear. It may survive for a short time in the trees that remain, but similar instances throughout the species' range suggest that the future of the colony is limited.

The Forest Service, U.S. Fish and Wildlife Service, and other agencies continue to clearcut in efforts to “control” Southern Pine Beetles throughout the range of the Red-cockaded Woodpecker. As a result, numerous Red-cockaded Woodpecker colonies

have been isolated and ultimately abandoned. Some of the few remaining colonies in Tennessee have already met such a fate.

Entomologists and foresters know that a lack of proper management, and often a lack of fire, causes beetle outbreaks. Entomologists testifying at a Congressional hearing on the problem in March 1986 noted that clearcutting a buffer zone (as has been done to “save” Red-cockaded Woodpecker colonies) has not proved an effective control for Southern Pine Beetles (Anon. 1986).

Gas wells or woodpeckers— A matter of priorities

One of the most frustrating cases dealt with the only five Red-cockaded Woodpecker colonies on D'Arbonne National Wildlife Refuge near Monroe, Louisiana. This refuge was established as mitigation for a waterways project. When the land was purchased, the federal government did not purchase the mineral rights. Now the owners of those rights are drilling for gas on the refuge; not just a few wells, but 58 new wells spaced at intervals of one for every eight acres. Drilling of each well requires clearing of approximately one acre.

The Fish & Wildlife Service assessment of the proposed drilling (November 1, 1984) concluded that “. . . it is our opinion that the proposed drilling plan, if implemented, will result in the loss of the Red-cockaded Woodpecker on the refuge.” To prevent loss of the species, the Sierra Club and Defenders of Wildlife, along with local citizens and help from the National Audubon Society, filed suit in an effort to stop the drilling and to force the Fish & Wildlife Service to enforce provisions of the Endangered Species Act which would protect the birds. Ultimately the decision-making Fish & Wildlife Service biologist, who has not studied the birds in the field, testified that the amount of clearing to be done would not adversely affect the birds and that even if it did, the loss of the birds from D'Arbonne would not adversely affect the species as a whole. The suit was lost; the drilling continues.

[Update: In an out of court settlement, the gas company has agreed to restrictions on timing of drilling, to move some proposed sites, and to keep

activities outside of buffer zones around colonies.]

TEN-YEAR MANAGEMENT PLANS—THE WOODPECKER LOSES GROUND

A recent exercise by some of our southern National Forests helps to put the impact of the new recovery plan into perspective. The National Forests developed 10-year management plans which will ostensibly “benefit” the Red-cockaded Woodpecker. Two of these plans, those for Mississippi and Louisiana, are summarized here.

In Mississippi, management for the species will be limited to Bienville, DeSoto, and Homochitto National Forests, although colonies have also been reported on Holly Springs and Tombigbee National Forests within the past 10 years. The Forest Service claims there are no colonies on Tombigbee National Forest (U.S.D.A. Forest Service 1986), although no systematic search has been made and, as recently as 1979, colonies were reported there by local Forest Service personnel (E. M. Muller, *pers. comm.*). More importantly, Tombigbee National Forest is adjacent to Noxubee National Wildlife Refuge, where there are colonies, and the National Forest, if properly managed, has high potential as an area for expansion of the species.

Under the original recovery plan, long rotations were recommended for pines in all southeastern National Forests. Under the new recovery plan and the 10-year plan for Mississippi, long rotations will be scheduled only for those compartments in which there are known Red-cockaded Woodpecker colonies. These rotations, 80 years for longleaf and 70 years for other pines, do not allow trees to grow to the average age of trees in which Red-cockaded Woodpeckers excavate their cavities (95+ years for longleaf and 75+ years for other pines). Outside of the Red-cockaded Woodpecker compartments, rotations can be as low as 60 years for longleaf, 40 years for slash, and 50 years for other pines (U.S.D.A. Forest Service 1986a). This is not at all conducive to expansion of Red-cockaded Woodpecker populations.

In Louisiana, the plan for the Kisatchie National Forest notes that of the 597,761 acres on the forest, only a total

of 6713 acres will be managed for Red-cockaded Woodpecker colony or colony replacement/recruitment sites (U.S.D.A. Forest Service 1986c). Within the compartments in which Red-cockaded Woodpecker colonies are located, the rotation age for yellow pine will be "the equivalent of [?]" 70 years. Rotations for compartments where there are no Red-cockaded Woodpecker colonies would be 60 years for yellow pine.

Curiously, the dubiously adequate 125 acres given in the new recovery plan as all that need to be provided for a clan are apparently considered more than adequate for the Kisatchie National Forest. There, the Forest Service notes that: "If a compartment has a density of known colonies that exceeds four colonies per 1000 acres of suitable habitat, less than 125 acres of foraging areas per colony may be acceptable."

In what seems like a deliberate subterfuge, the "preferred alternative" management plan presented to the public during the review process was called the "Red-cockaded Woodpecker" Alternative (U.S.D.A. Forest Service 1986d). This is the plan that was adopted—with 60-year rotations for yellow pine and 80-year rotation for longleaf. However, it was certainly not the best alternative for the Red-cockaded Woodpecker. Alternative "E" called for rotations of 80 years for yellow pine and 100 years for longleaf pine, which are the rotations (if even-aged management is a must) which would give the Red-cockaded Woodpecker the best chance for survival!

ENDANGERED OR NOT ENDANGERED?

Considering the lack of demonstrated stability or increase in any of its populations, there is no biological justification for considering the Red-cockaded Woodpecker anything but Endangered. It is officially listed as an Endangered Species under the terms of the Endangered Species Act, and the new recovery plan details the requirements for delisting the species and specifies (Lennartz and Henry 1985) that "formal regulatory changes to either delist or downlist to threatened status will be proposed for the species only on a rangewide basis."

However, elsewhere in the new re-

covery plan, this statement is contradicted and criteria are given for categorizing the status of individual populations. On pages 41–42, the criteria are listed as: "Endangered.—Populations smaller than 125 clans, and populations between 125 and 250 clans subject to diminishing habitat." "Threatened.—Populations between 125 and 250 clans supported by habitat management programs judged adequate by the U.S. Fish & Wildlife Service to sustain the populations, and populations larger than 250 clans on properties lacking adequate habitat management programs to sustain these populations." "Recovered.—Populations larger than 250 clans supported by habitat management programs judged adequate by the U.S. Fish & Wildlife Service to sustain the populations."

This portion of the new recovery plan is now being used by the U.S. Forest Service to list some populations as only Threatened, and some even as Recovered, implying that those populations are stable and healthy, facts that have not been established. Such labeling, in addition to possibly being biologically inaccurate for the populations in question, encourages doubt as to the species' Endangered status and undermines conservation efforts for the birds.

A potpourri of exceptions

There continues to be a steady loss of Red-cockaded Woodpecker colonies as a result of Fish & Wildlife Service decisions to exempt federal agencies from giving the birds the protection they deserve under the terms of the Endangered Species Act. These have included losses at military bases, where the Fish & Wildlife Service seems rendered helpless whenever the military says a project is "in the interest of national defense." Colonies have been lost at Ft. Benning, Georgia, to allow construction of a barracks complex, and at Ft. Stewart, Georgia, and Ft. Polk, Louisiana, to allow construction of artillery or tank ranges. Permission was granted to destroy a colony for construction of Interstate 75 in Florida. On Noxubee National Wildlife Refuge and Holly Springs National Forest in Mississippi, colonies were lost when the agencies traded or sold the land on which they were located. How can the species survive if the Endangered Species Act does not even protect it on Federal lands?

CONSERVATION EFFORTS

Although the status of the Red-cockaded Woodpecker shows no signs of improvement anywhere within its range, interest in the species' plight has been piqued by efforts of researchers and conservation organizations. Popular articles, films, and inclusion of unusual aspects of the Red-cockaded Woodpecker's behavior in television specials have increased public awareness. Federal agencies are beginning to respond more positively. The following are a few examples of actions that give us hope.

Firewood cutting as a management tool

Aside from destruction of colony sites and foraging habitat by clearcutting, one of the major causes of colony loss has been abandonment of colonies due to dense growth of hardwoods through the forest midstory. When the hardwoods crowd cavity trees and reach cavity height, the cavities are usually abandoned. Management of the hardwood understory is thus extremely important and, in cases where there has not been frequent fire in recent years, the use of prescribed fire is often inadequate to create the preferred open habitat. Killing the hardwoods with herbicides is one option that has been used, but recent concern over the possible carcinogenicity of commonly used herbicides, as well as lack of data on the possible effects of the chemicals on the Red-cockaded Woodpecker and other wildlife, lessen the desirability of this approach. Manual removal has been considered costly, but at Noxubee National Wildlife Refuge a unique approach has been used with great success. Abandoned colony sites there have been opened in the fall of the year for firewood cutting (limited only to hardwoods). This has provided firewood for the public and needed management for the Red-cockaded Woodpecker at almost no cost. At one such site I have observed Red-cockaded Woodpecker activity where the birds had not been previously seen for nearly a decade. This program should be expanded to other forest lands and, with appropriate safeguards, to active colony sites. Safeguards that might be included at active colonies should include (1) limiting of cutting to

(a) the fall months, (b) between two hours after sunrise and two hours before sunset, (2) restriction of vehicles from the proximity of cavity trees, and (3) prohibiting of felling trees toward cavity trees or the leaving of tops near the base of cavity trees. The time limitation would generally eliminate activity to periods when the birds are away from the colony site. Cavity trees should also be clearly marked and firewood cutters should be apprised of the presence of the Endangered species and the positive contribution they are making in managing the birds' habitat.

Emphases generally focus on the colony sites of Red-cockaded Woodpeckers, but an open foraging habitat is also preferred by the birds. Thus, firewood cutting could be beneficial throughout the home range of a clan.

Revitalizing all-male colonies

Gene flow among populations of Red-cockaded Woodpeckers results primarily from the dispersal of young females in late winter, such that normally the only female remaining is the breeding female. One of the problems in small populations is the loss of breeding females and lack of replacement resulting from a lack of juvenile females "floating" in the population. Although efforts to move Red-cockaded Woodpecker clans have met with minimal success (Jackson *et al.* 1983), movement of juvenile females at a time when they would normally be dispersing seemed an answer to the problem of a "males-only" colony and the difficulty of introducing genetic diversity into small isolated populations. Such a translocation effort at the Savannah River Plant is now underway and the approach seems very promising.

Implementation of the corridor concept

The "corridor concept" included in the first recovery plan (Jackson 1976, Jackson *et al.* 1979a) called for the management of interstate rights-of-ways as corridors of suitable habitat for the dispersal of Red-cockaded Woodpeckers among populations. It was suggested that forest industry and others might contribute to the development of cor-

ridors by managing lands adjacent to interstates such that forests there would also be of use to the birds. Active Red-cockaded Woodpecker colonies are known from such rights-of-ways and the plan seemed one that would require a minimum of commitment from forest industry and the use of lands not already being used for other purposes in an organized effort to assist the birds. The notion was widely accepted, even meriting a supportive editorial in the Los Angeles Times (Day 1976) in which the corridors were called "corridors of sanity." Unfortunately, that part of the original plan was deliberately scuttled. The A.O.U. Committee supported the reinstatement of the corridor concept, and this spring the birds seemed to also: Jeff Walters (*pers. comm.*) documented the incredible movement of a marked bird from a colony next to a North Carolina highway to another colony over 50 miles away but next to the same highway!

EPILOGUE

No matter how strong a recovery plan is, the ultimate extent of implementation of the plan is primary. If provisions of the plan are ignored or continual exceptions are made allowing destruction of colonies in order to facilitate land exchanges or construction projects (as has been the case throughout the political history of the bird) there is little hope. We must push for a stronger plan, for aggressive action, and for enforcing the laws that protect the Red-cockaded Woodpecker. We must insist on ecosystem management rather than endangered species management, for this one species is just a conspicuous indicator of an ecosystem developed through millennia, but placed in peril by man within a single lifetime.

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Kookaburra:

Also commonly known as "The laughing Jackass" this bird is well known for its unique 'cry'. The common kookaburra and its rarer cousin, the blue winged kookaburra can be found throughout coastal Australia.

Australian, unique and within reach!

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