



United States Department of the Interior

FISH AND WILDLIFE SERVICE
ENDANGERED SPECIES FIELD OFFICE
100 OTIS STREET, ROOM 224
ASHEVILLE, NORTH CAROLINA 28801

March 23, 1987

Major General J. E. Cassity
Commanding General
U.S. Marine Corps
Marine Corps Base
Camp Lejeune, North Carolina 28542

RE: 4-2-86-623

Dear General Cassity:

This letter responds to an informal consultation request received by telephone the week of February 17, 1987, regarding proposed management activities for the endangered red-cockaded woodpecker (Picoides borealis). I also took the opportunity while on the Base to briefly inspect the Tank/Mechanized Infantry Training Area (TMITA) as per the biological opinion of June 12, 1979.

Three specific areas were reviewed on the ground with regard to needed habitat management for the species. I will reference these areas by the red-cockaded woodpecker inventory colony number used by Base and North Carolina State University research personnel.

The first area looked at was colony site number 33 in timber compartment 26 east of Highway 17. This was a newly discovered colony that is in need of understory and midstory control work. The second area was colony site number 36 in timber compartment 47 just east of Highway 17. This site also needed some understory and midstory control work but also included a seed tree area in which the seed trees had not yet been removed and were being utilized by the red-cockaded woodpecker for foraging habitat. The last area evaluated was colony site number 22 in timber compartment 5 just west of Highway 172. This site was believed to be abandoned, but we discovered an active tree in this evaluation and observed one bird. We also discovered an inactive tree infested with southern pine beetles. This stand is in need of thinning, in general, which can provide much of the control of understory and midstory necessary in colony sites.

We discussed needed management and options to accomplish the necessary work. In general, the necessary management can be grouped into the following recommendation headings and are also addressed on page 50 of the recently revised recovery plan for the species:



1. Manage colony sites as stands - In the past, colonies on some lands have been considered as the cavity trees plus a 200-foot buffer, and these colony sites have been managed separately from the adjacent and surrounding stands. While this is a positive approach, it has some pitfalls. In colonies with scattered trees, some parts of the colony can be separated from other parts of the same colony. Also, colonies with few trees encompass such a small area that it is noneconomical, inefficient, and impractical in many cases to conduct needed management activities.

We recommend that the colony sites be stand size of 10 acres or more for management purposes and that they be prescribed for needed treatment during normal compartment prescription entry. Where possible, some of the needed treatments can then be handled by normal timber harvest contract. Noncommercial treatments can also be more efficient and economical because the acreage involved is sufficient to justify expenditures. Of course, treatments must be conducted outside of the nesting and fledging season of March through August. In delineating colony stands, all cavity trees and a 200-foot buffer should be included. The additional acreage should be the oldest and best habitat in terms of species composition and ease of management. In other words, include upland longleaf instead of mixed pine-hardwood or pocosin where possible. This recommendation is currently being implemented on Camp Lejeune, with the exception of colony site 22, and is not a major problem.

2. Control hardwood stocking - Hardwood stocking in colony stands should be kept below 20 feet²/acre BA, and all hardwood stems 1 inch and larger within 50 feet of cavity trees should be removed. Pine stems within 25 feet of cavity trees should be removed, and other pines within 50 feet that interfere with open travel lanes to the actual cavities should also be removed. Treatment options include hand treatment, mechanical treatment such as drum chopping, herbicide treatment, and prescribed fire. The treatment(s) needed, or most efficient and economical, will vary by stands and is strictly up to Base Natural Resource and Environmental Affairs Division (NREAD) personnel. Of course, chemical treatment must be with nonpersistent herbicides that are not toxic to vertebrates.

3. Maintain a 20- to 25-foot spacing between trees in sawtimber stands - This is a recommendation to minimize the probability of bark beetle infestation and spread. Where infestations occur, follow the provisions of the March 12, 1980, biological opinion on southern pine beetle control.

Application of these and other recommendations in specific cases reviewed are as follows:

Colony site 33 - Control understory and midstory by provisions in recommendation number 2. This will probably require hand, mechanical, or chemical treatment (or a combination of these), followed by periodic prescribed fire for maintenance.

Colony site 36 - Control understory and midstory by provisions in recommendation number 2. This does not appear to be quite as bad a situation as in colony 33 and will probably not require as much fund



expenditure and manpower. Also, the seed trees should be left for foraging habitat and not be removed, as there is sufficient information to indicate the usage of the area at present by the birds.

Colony site 22 - This should be treated as an active site, because we found an active tree and observed a woodpecker in the area. At least parts of the area need thinning using the provisions of recommendation number 3. This site is an excellent example where the provisions of recommendation number 1 would have been helpful in past activities. The colony site was separated from the surrounding stand and not treated. It would have been better to have designated a stand of 10 acres or more containing the colony site as a separate stand and thinned it along with the rest or other stands. Of course, we cannot manage by hindsight but must manage by foresight by treating the stand as we now recognize the need. The southern pine beetle infestation should be handled as provided in the March 12, 1980, biological opinion. This includes removing the inactive cavity tree if at least four cavity trees (active and inactive) still remain and the beetles have not emerged.

Updated Habitat Management Guidelines for the red-cockaded woodpecker on Camp Lejeune as per the revised recovery plan and the recommendations included therein were also reviewed.

After on-the-ground review of management proposals and needs of the red-cockaded woodpecker at Camp Lejeune through informal consultation, we concur that the proposed actions and management guidelines for managing red-cockaded woodpeckers on Camp Lejeune as detailed in this letter are conservation enhancement actions and are not likely to adversely affect the red-cockaded woodpecker or other listed species or critical habitat. Therefore, the obligations under Section 7(a)(2) of the Endangered Species Act of 1973, as amended, have been fulfilled with regard to these proposed actions.

However, these obligations must be reconsidered and consultation reinitiated if (1) incidental taking occurs as a result of the action, (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered, (3) the proposed action is subsequently modified in a manner that causes an effect to listed species or critical habitat not considered in this consultation, or (4) a new species is listed or critical habitat designated that may be affected by the proposed action.

Inspection of the TMITA revealed no significant problems. The last inspection was conducted December 13, 1983, and the change in the area in the last three years is very conspicuous. At the time of the consultation (1979), the area was rapidly deteriorating into a biological desert as a result of indiscriminate vegetation destruction. Most sites in the area now have a very good herbaceous and woody understory established. A review of photos taken at the time of the consultation and comparison to today's situation should readily reveal the change. A comparison of the TMITA to the immediate site at TLZ Hawk would also reveal the difference, as the entire TMITA was rapidly being changed to a condition present now at TLZ Hawk with just a few scattered trees and little or no additional understory vegetation. The Base is to be commended on their efforts to

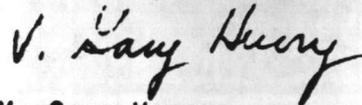


protect the red-cockaded woodpecker and the vegetation on which they are dependent in the TMITA.

The understory and midstory control, thinning, etc., recommended in this letter for colonies outside the TMITA may, on the surface, seem to be in conflict with recommendations made and implemented in the TMITA. However, the situation is entirely different. In the TMITA we are dealing with continuous indiscriminate vegetation destruction that left little vegetation for the birds' use. In the general forest area we are dealing with periodic and very specific discriminate vegetation control. Once again, one only has to compare the site at TLZ Hawk to the general forest area to conceive the difference. Vegetation control is sometimes necessary, but the vegetation to be controlled is very specific to create favorable habitat conditions for the species.

We appreciate the cooperation extended by the Base NREAD personnel in this informal consultation and inspection trip. We have complete confidence in the ability of the Natural Resource personnel to manage the red-cockaded woodpecker properly. The stability of the population over some trying times with regard to training activities, southern pine beetle infestations, etc., is a tribute to their efforts. We are available at anytime the Base NREAD personnel want our input and advice, and we look forward to future cooperative relations between our agencies.

Sincerely,



V. Gary Henry
Acting Field Supervisor



HABITAT MANAGEMENT GUIDELINES
FOR THE RED-COCKADED WOODPECKER
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

The purpose of the following guidelines is to comply with the Endangered Species Act of 1973 (Pub. L. No. 93-205) for the perpetuation of red-cockaded woodpeckers. These guidelines are in accordance with the 1985 Revised Red-cockaded Woodpecker Recovery Plan prepared for this species by the U.S. Fish and Wildlife Service. The subject guidelines are considered as immediate requirements to maintain current populations of these woodpeckers. By following these guidelines, areas closely resembling the original pine forests of the coastal plain can be maintained. All species of flora and fauna native to fire-maintained pine forests should benefit from this program.

These guidelines will become an integral part of the Natural Resource Management Plan. All natural resource management activities will be adjusted to maximize the perpetuation of this species throughout the contiguous habitat. Frequent monitoring of all colony areas and contiguous habitat is an ongoing responsibility of natural resource management personnel on the installation. Any land use activities adversely impacting upon woodpecker habitat will be reported to the proper authority for corrective action.

GUIDELINES

1. Protection and management of the red-cockaded woodpecker will take precedence over other featured species throughout the range of this bird at Camp Lejeune.
2. Maintain at least 100 acres of contiguous pine forest, including the colony stand and support stands 40 years of age or older, for replacement cavity trees, feeding, or roosting areas. In the event 100 acres are not present, manage available acreage. The following guidelines will be adhered to in management.
3. Locate, conspicuously mark, and map all cavity trees and active colonies and aggregates thereof, including single trees, starts, and relicts. Mark a 400-foot buffer zone around each nesting cavity for exclusion of primary land use during nesting season (March through July).
4. Manage colony sites as stands rather than individual trees and do not isolate colony sites from adjacent forest cover and foraging habitat. Plan no timber rotations for colony stands. Rotations for support stands will be aimed at providing sufficient stands of old growth timber. Rotations will be 100 years for longleaf pines and 80 years for loblolly



pinus for optimum dispersal. Younger stands of pinus will be sufficiently dispersed for future replacement of old growth stands. Rotation of these stands will be the same as previously mentioned for longleaf and loblolly pinus.

5. Maintain the cavity trees and a basal area of 50 to 80 square feet per acre in colony stands. Remove trees which threaten to block the cavity entrances. Conduct thinnings for reduction of dense pine and hardwood reproduction exceeding 1 inch d.b.h. or 15-foot heights within the colony stands. Thin to minimum stocking level acceptable. Understory and midstory stocking will be maintained as recommended in the recovery plan. Leave all dead snags for use by other cavity nesting birds thereby reducing competition of active cavities used by woodpeckers. Schedule logging operations in colony stands from August through February.

6. Prescribe burn colony stands and contiguous habitat for providing open park-like stands required by the woodpecker. Remove vegetation and debris from the area immediately surrounding all cavity trees prior to prescribed burning. Schedule prescribed burning with two- to three-year intervals from December through February.

7. Site preparation within the contiguous habitat will be for natural regeneration of longleaf pine whenever possible.

8. New roads will not be constructed within any colony stands.

9. Maintain a spacing of 20 to 25 feet between trees in sawtimber colony stands to minimize the probability of bark beetle infestation or spread. Control of pine bark beetles in red-cockaded woodpecker habitat will follow the provisions of the biological opinion issued March 12, 1980. Problems not covered sufficiently by this opinion will be handled through consultation with the Fish and Wildlife Service.

10. Cavity trees, colony areas, and contiguous habitat will be protected from all actions which will result in the destruction or adverse modification of such habitat.

11. All land use activities will cease within the 400-foot buffer of nesting cavities from March through July except for the following:

- a. Casual human activity such as nature study and photography.
- b. Infrequent field trips by students or public groups.
- c. Management activities associated with site protection, evaluation, or populations studies.



12. Provide a minimum of 125 acres of well-stocked ($\geq 60 \text{ ft}^2/\text{acre}$ BA) pine and pine hardwood stands (≥ 50 percent BA in pine), 30 years of age and older, with more than 24 pines/acre ≥ 10 inches d.b.h. within 0.5 mile of all colonies. Forty percent, or 50 acres, of the 125 acres will be 60 years old or older. In areas of younger, smaller diameter, or sparsely stocked stands, equivalent foraging substrate containing 21,250 pine stems with a total BA of $8,490 \text{ ft}^2$ and 6,350 pine stems ≥ 10 inches d.b.h. will be provided.



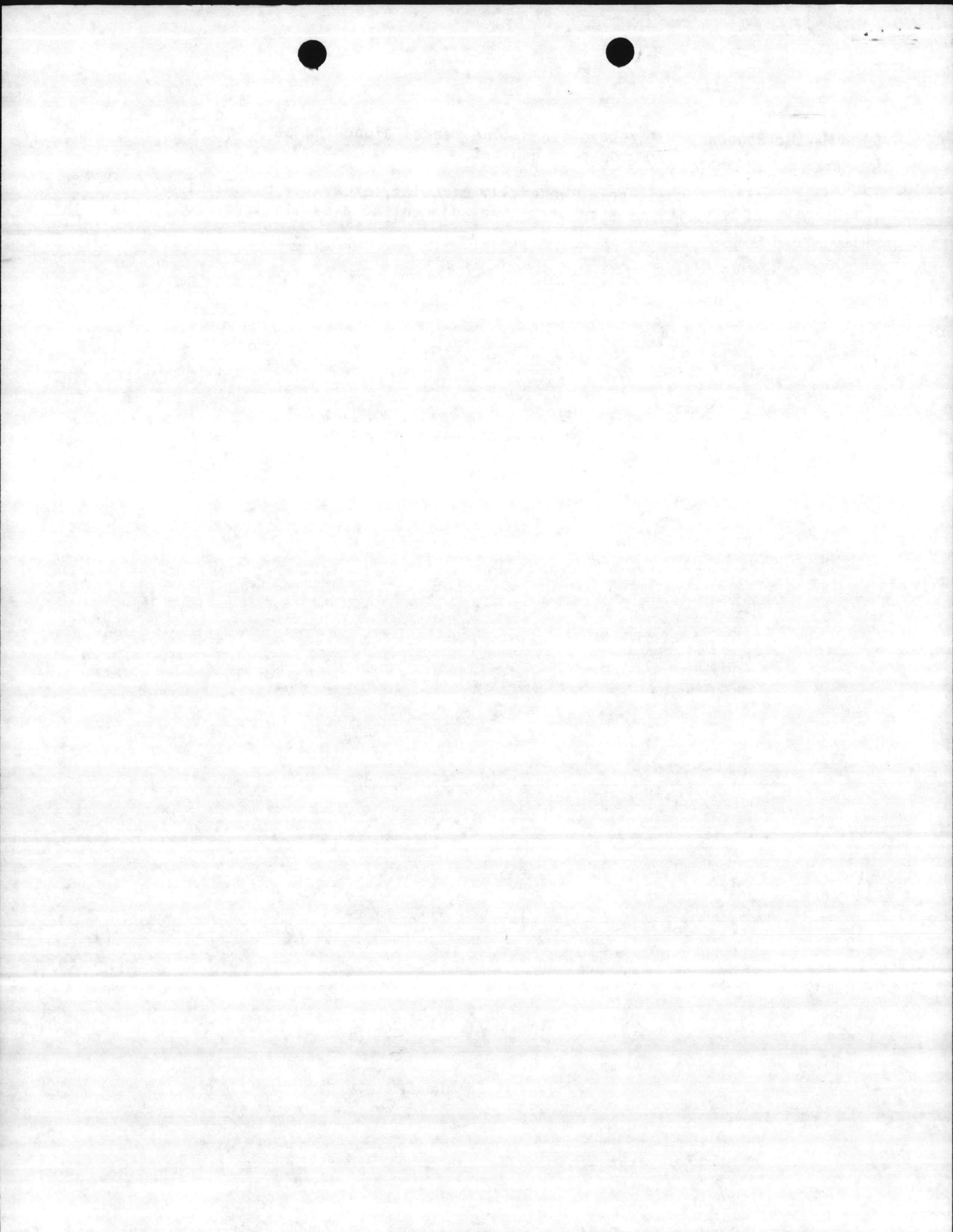
DEFINITION OF TERMS

1. Cavity - An excavation used by red-cockaded woodpeckers for roosting or nesting at some time during the life of the colony.
2. Cavity Tree - A tree containing one or more red-cockaded woodpecker cavities.
3. Nest Tree - A tree containing a nesting cavity.
4. Nest Cavity - A cavity used by a pair of red-cockaded woodpeckers as a place in which to raise their young, usually the roosting cavity of a male.
5. Start Hole - The beginning of a cavity--may never be finished--but if completed, excavation is usually over a period of several months.
6. Roost Cavity - A cavity used by a red-cockaded woodpecker only as a shelter, particularly at night and during inclement weather.
7. Old Cavity - An enlarged cavity with deteriorating glaze receiving little or no current use.
8. Clan - All the red-cockaded woodpeckers that inhabit a colony at a given point in time--generally a mated pair of red-cockaded woodpeckers, their offspring, and their associated helpers.
9. Helper - Any red-cockaded woodpecker in a clan other than the genetic parents of young raised by the clan during the most recent breeding season.
10. Colony - The area prescribed by an aggregation of start holes and roost, nest, and old cavities habitually used by a clan.
11. Range - The area surrounding a nest cavity required by a clan to fulfill their life cycle requirements.
12. Habitat - The place or site where plants or animals naturally or normally live and grow.
13. Contiguous Habitat - Continuous acres of pine forest, including the colony, support stands, breeding territory, seasonal foraging area, or other definable units.
14. Buffer Zone - A 400-foot area around nesting/cavity trees when land uses are restricted during nesting and brooding period.



15. **Marked Boundary** - An established line marked along the periphery of contiguous red-cockaded woodpecker habitat.

16. **Resin Well** - A small hole, generally circular, excavated by the bird in the bark of a cavity tree or on a tree adjacent to a cavity tree from which resin exudes.





United States Department of the Interior

FISH AND WILDLIFE SERVICE

P. O. BOX 95067

ATLANTA, GEORGIA 30347

APR 3 1979

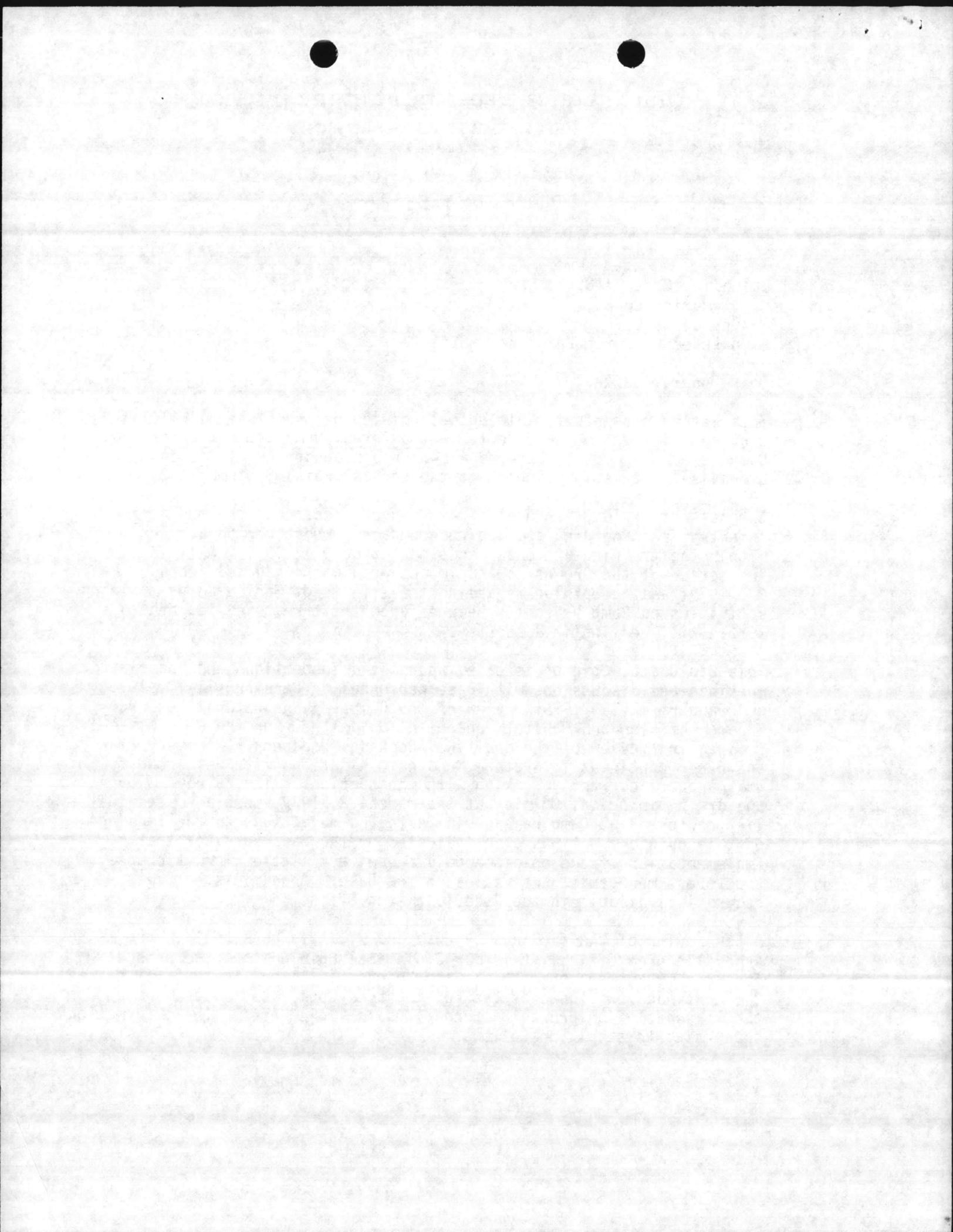
Brigadier General D. B. Barker
U. S. Marine Corps
Marine Corps Base
Camp Lejeune, North Carolina 28542

Dear General Barker:

This letter presents the Biological Opinion of the Fish and Wildlife Service relative to the effects of the forestry management program at Camp Lejeune on the endangered red-cockaded woodpecker (*Picoides borealis*). It is in response to the request dated September 13, 1978, for formal consultation pursuant to Section 7 of the Endangered Species Act of 1973. A Biological Opinion concerning the Mechanized Infantry Training Area and the red-cockaded woodpecker population within the training area was rendered February 1, 1979. A field inspection of the Browns Island Impact Area was conducted February 27, 1979; and an opinion regarding the effects of Marine Corps training activities on Camp Lejeune's beaches upon the threatened loggerhead turtle will be finalized shortly.

This Biological Opinion is based upon field inspections and associated meetings and discussions with Base personnel on December 11-12, 1978, and January 11-12, 1979; review of the Camp Lejeune Natural Resource Management Plan and Habitat Management Guidelines for the Red-Cockaded Woodpecker; review of the draft Red-Cockaded Woodpecker Recovery Plan and other pertinent literature; and communications with researchers and managers currently working with the species. Also, a review of the draft Biological Opinion at the March 22, 1979, meeting (attendee list enclosed) at Camp Lejeune indicated no objections to the findings of this opinion. It was also indicated by the Base Forester that implementation of the opinion would cause very little disruption of the forest management activities on the Base. An administrative record is available in the Asheville Area Office.

After review of the findings by Fish and Wildlife personnel in the Asheville Area Office, it is our Biological Opinion that the present forestry management program at Camp Lejeune is likely to jeopardize the continued existence of the red-cockaded woodpecker unless one of the reasonable and prudent alternatives is implemented. The information supporting this opinion follows.



The present guidelines for habitat management of the red-cockaded woodpecker on Camp Lejeune follow guidelines set forth in an early draft of the recovery plan. These recovery plan guidelines have been changed slightly by the latest recovery plan draft. The major change is an increase in the size of the support stand provided for each colony from 100 to 200 acres. This change is based upon the approximate average home range of the species of 200-250 acres. Actually these new guidelines work out to be the same as present Camp Lejeune guidelines when analyzed. Camp Lejeune guidelines call for 100-acre support stands 40 years old or older. Where rotations are 80 years old this would equal 200 acres with an even distribution of all age classes, i.e., 100 acres over 40 years old and 100 acres under 40 years old. There is presently a conflict in Camp Lejeune guidelines in that rotations are established for the support stands but the support stands must be 40 years old or older; therefore, no regeneration is possible, and rotations are thus meaningless.

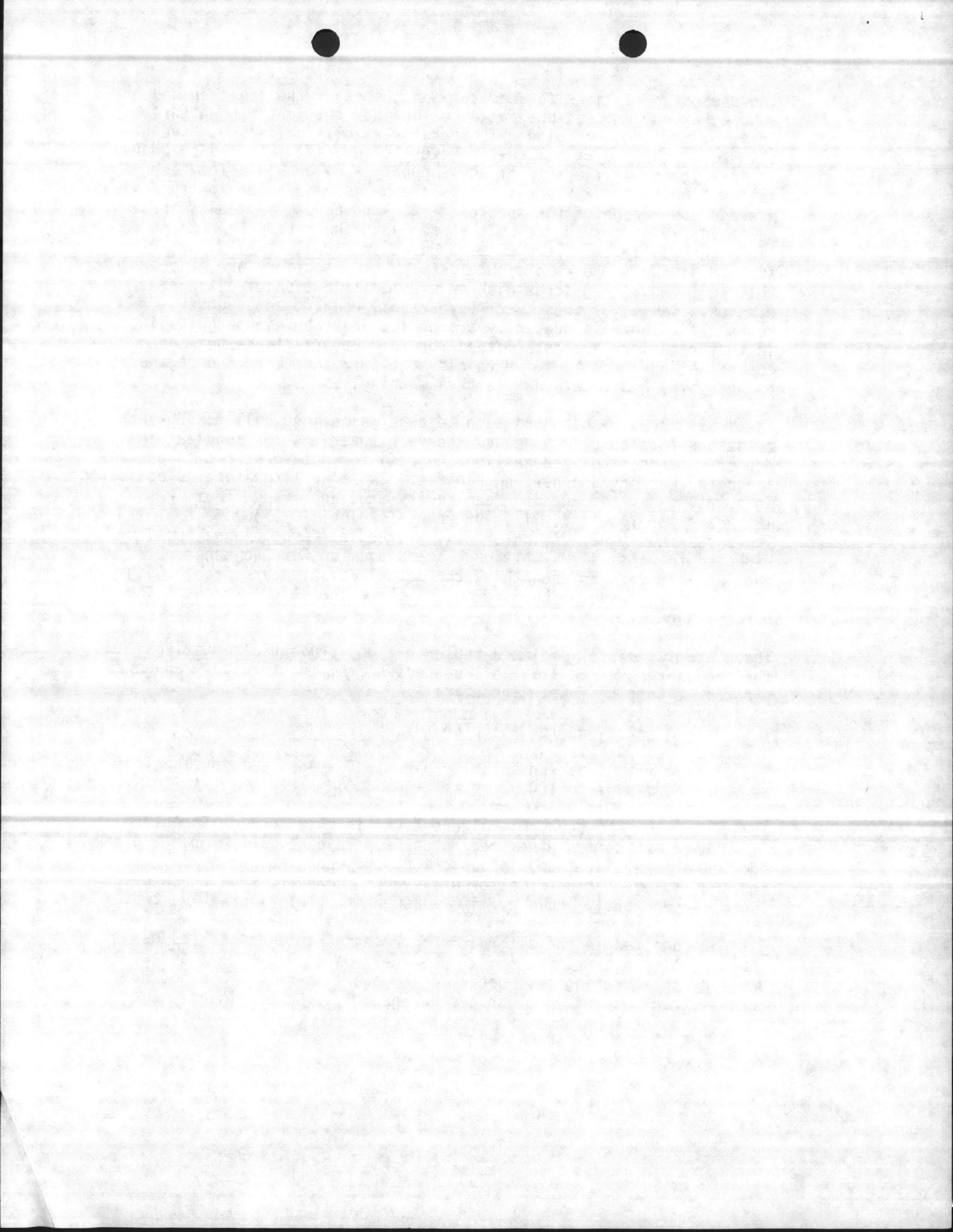
The draft recovery plan and Camp Lejeune guidelines call for 80-year rotations for loblolly pine and 100-year rotations for longleaf in support stands, thus recognizing the need for mature stands to provide adequate roosting and nesting habitat. Existing literature is consistent in pointing out this need. Mean cavity tree ages range from 72 to 126 years for longleaf, 71 to 98 years for loblolly, and 62 to 131 years for pond pine. Aging of cavity trees at Camp Lejeune would be expected to be similar. Although stand ages on Camp Lejeune are considerably younger than this, the actual cavities are probably in older relict trees, which is a common characteristic throughout the bird's range.

There are two closely related reasonable and prudent alternatives that would remove jeopardy to the species from the forestry management program at Camp Lejeune. These are:

1. Extend rotations for all pine to 100 years.
2. Extend rotations for loblolly pine to 80 years and for longleaf and pond pine to 100 years.

The difference between these alternatives is rotation for loblolly pine, the most common pine species on Camp Lejeune. At present, pine species are regulated as a group on Camp Lejeune, and this would require implementation of alternative one. However, regulation of loblolly separately would permit implementation of alternative two.

It is recognized in the alternatives presented that stands younger than rotation age must be cut to achieve a balance of age classes. However, this cutting must occur in the age classes containing more acreage than necessary to achieve balance; i.e., predominantly ages



30 to 57 on Camp Lejeune. At present only 2,594 acres are older than 60 years and thus considered suitable for meeting shelter requirement of the red-cockaded woodpecker. Therefore, there should be no cutting in age classes above 60 until 40 percent of the acreage on 100-year rotations and/or 25 percent of the acreage on 80-year rotations are 60 years old or older. Some stands must be carried past rotation age in order to achieve a balance of age classes and provide habitat for the red-cockaded woodpecker.

Management by one of the alternatives eliminates the need for the identification of support stands on the ground and thus simplifies management. This applies to Camp Lejeune with the exception of the Mechanized Infantry Training Area. Because of the potential of tremendous adverse impact on the overall ecology and habitat of the red-cockaded woodpecker by such training activities, support stands and the inherent restrictions addressed in the Biological Opinion of February 1, 1979, are still necessary in the Training Area.

However, even though marked support stands per se are not necessary, the alternatives must include the provision that colonies are not isolated by cutting on all sides but are always connected to a minimum of 200 acres of contiguous pine and/or pine-hardwood stands 20 years old or older. No more than one-third of the compartment, or one-third of the support stand in the Mechanized Infantry Training Area, should be in 0-20 year age classes at any time. To prevent major disruptions to home ranges, regeneration stand sizes immediately surrounding colony sites should not exceed 50 acres, and 30 acres is preferable.

The Camp Lejeune Habitat Management Guidelines for the Red-Cockaded Woodpecker needs some other revisions as discussed with Natural Resources personnel. The buffer zones, as well as the colony sites, should be restricted from road construction. The colonies and buffer zones should be prescribed burned at 2- to 3-year intervals, instead of 5-year intervals. To the extent feasible with available manpower and funds, the support stands in the Mechanized Infantry Training Area and the general pine habitat elsewhere should also be prescribed burned at 2- to 3-year intervals.

Although several management concepts for the species were carefully evaluated, including present Camp Lejeune guidelines, present draft recovery plan guidelines, and U. S. Forest Service existing and proposed guidelines, the alternatives presented are the most certain of all concepts to ensure the conservation of the red-cockaded woodpecker.

As agreed in discussions with Base Natural Resources personnel, we evaluated other alternatives based on modifications of the presented alternatives that would exclude certain acreage from long rotations where habitat is marginal and/or unoccupied and not believed to be



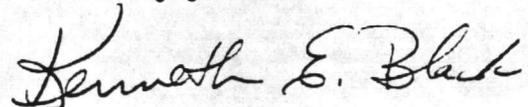
needed in the foreseeable future for expansion of present red-cockaded populations. However, consideration of seven different alternatives resulted in excluded acreages ranging from 4,889 to 6,940 acres. In discussions with the Base Forester, it was agreed that this small acreage would not justify the added effort, difficulty, and cost of regulating separately. Therefore, these alternatives are not presented but are a part of the administrative record on this Biological Opinion filed at the Asheville Area Office.

We certainly recognize that existing management of the red-cockaded woodpecker at Camp Lejeune was based on the best information and recommendations available at the time, and this interest and initiative in conservation of endangered species is commended. Unfortunately, continued analysis of data and new information indicates a necessity to do more. The cumulative effects of shorter rotations than those presented in the alternatives for public lands, which contain approximately 90 percent of present red-cockaded woodpecker populations, is believed extremely detrimental when added to the trend to shorter pulpwood rotations on private lands over which we have no control, the decreasing availability of southern pine sawtimber across the southeast, and the restriction of the species to a very small percent of its original habitat.

Current research on the species should shed more light on essential habitat requirements of the species. Such new information would, of course, be one basis for reinitiating consultation, if Camp Lejeune so desired. Along these lines, we would certainly recommend that data be collected on Camp Lejeune regarding cavity tree ages stratified by species of tree, stand forest type, site index, and start trees versus existing cavities. This would provide input on age of trees selected for cavities on Camp Lejeune, age of trees when cavity excavation begins, and the effect of site index on selection of cavity trees by age.

We appreciate the assistance provided in this consultation by your entire staff, particularly the Natural Resources Division personnel. We hope this assists you in meeting your obligations under the Endangered Species Act of 1973, as this is the spirit in which this Biological Opinion is rendered. We look forward to continuing cooperation between our agencies.

Sincerely yours,



Regional Director

Enclosure

