United States Department of the Interior
FISH AND WILDLIFE SERVICE
ENDANGERED SPECIES FIELD STATION
100 OTIS STREET, ROOM 224
ASHEVILLE, NORTH CAROLINA 28801

File
RCW

March 15, 1984

Colonel Ralph A. Luther
Director of Engineering and Housing
Headquarters XVIII Airborne Corps and Ft. Bragg
Fort Bragg, North Carolina 28307

Re: 4-2-84-198

Attached is the final biological opinion regarding the effects of developing a "Multiple Purpose Range Complex" at Fort Bragg on the endangered red-cockaded woodpecker. Response to the draft opinion was received from Fort Bragg March 13, 1984. The only changes of any consequence are changing the number of abandoned colonies to be renovated from all to 6-10 and changing the number of years post-treatment data is needed regarding the study of impacts on the colonies within the proposed range from three to five. Current on-going studies to determine impacts on colonies from habitat disturbances are only starting to get meaningful data after three years; therefore, five years post-treatment study is recommended.

In addition, for your convenience, we have attached proposed study plans for the conservation recommendations made. These study plans have been developed through contact with knowledgeable personnel regarding the species and represent the best efforts to secure meaningful data.

We appreciate the cooperation of both you and your staff in this consultation. If you desire further discussion of the opinion and/or an on-site visit as follow-up, please advise this office.

Sincerely,

Warren T. Parker
Field Supervisor

United States Department of the Interior
FISH AND WILDLIFE SERVICE
ENDANGERED SPECIES FIELD STATION
100 OTIS STREET, ROOM 224
ASHEVILLE, NORTH CAROLINA 28801

March 15, 1984

Colonel Ralph A. Luther
Director of Engineering and Housing
Headquarters XVIII Airborne Corps and Fort Bragg
Fort Bragg, North Carolina 28307

Re: 4-2-84-198

Dear Colonel Luther:

A. Introduction

This letter presents the biological opinion of the Fish and Wildlife Service regarding the effects of developing a "Multiple Purpose Range Complex" at Fort Bragg, Cumberland County, North Carolina, on the endangered red-cockaded woodpecker (Picoides borealis). It responds to your letter of September 23, 1983, received in this Office October 13, 1983, requesting a field survey of the proposed "Multiple Purpose Range Complex" and initiation of formal consultation. This letter only addresses the consultation requirements of Section 7(a)(2) of the Endangered Species Act of 1973, as amended, and does not address the requirements of other environmental statutes such as the National Environmental Policy Act or the Fish and Wildlife Coordination Act.

B. Project Description

The multipurpose training range, to be constructed in the Coleman Danger/Impact Area, is a live fire range containing 330 hard wire computer-operated targets within a 1,000 X 4,600 meter box. The range will be capable of accomplishing all training tasks of a rifle company, a combat support company, and a tank platoon. The incorporation of these weapons systems on one range reduces the total number of separate ranges required to support live fire training on Fort Bragg by five. Thus, this range represents an effort to provide the necessary training within a very limited land area available to the Base. The area involved contains 1,200 acres with approximately 532 acres of it being suitable foraging and/or nesting habitat for the red-cockaded woodpecker.

C. Consultation History

This consultation was initiated by a September 23, 1983, letter to Mr. James W. Pulliam, Regional Director, U.S. Fish and Wildlife Service. This letter requested a field survey of the proposed "Multiple Purpose Range Complex" and rendering of a biological opinion. This letter was responded to on October 7, 1983, and at that time referred to the Asheville, North Carolina, Endangered Species Field Station for handling. The Asheville

Review of the proposed lines of fire indicates that three colonies encompassing six active cavity trees, one active start and one inactive start will not be directly impacted by firing or necessary removal of trees for firing lanes. The other three colonies (two in the Biological Assessment) will be directly impacted. It is estimated that with current proposed firing lanes and target placements, six active cavity trees, four inactive starts and one inactive cavity tree may be impacted. An additional two active cavity trees, three inactive cavity trees, two inactive starts and one relict within these colonies are not likely to be directly impacted by firing or necessary removal of trees for firing lanes. Four relict trees and two inactive start trees are not within assumed colony sites and only one of the relicts is likely to be lost.

The exact impact likely to occur as a result of the proposed action is difficult to ascertain, especially at this point in time. Discussions with Joe Alderman, G-3 Range Control, on January 17 indicated that evaluation of alternatives concerning movement of targets to eliminate or reduce impacts to red-cockaded woodpeckers to the minimum are ongoing. This is certainly encouraging and should be continued until the alternative having the least impact upon the species is determined and implemented. Also, some trees in the direct line of fire may not need to be removed because trajectories are such that the trees are not a problem. At the maximum, three colonies of woodpeckers, with an estimated eight birds, may be lost as a result of this proposed action. On a base with 227 known colonies and an estimated 273 total colonies, based on present known colonies derived from 83 percent of the habitat, three colonies is only one percent of the estimated population.

E. Biological Opinion

Therefore, it is the Biological Opinion of the U.S. Fish and Wildlife Service that the proposed construction of a "Multiple Purpose Range Complex" on the Coleman Danger/Impact Area and its cummulative impacts are not likely to jeopardize the continued existence of the red-cockaded woodpecker. This opinion is based on field inspections and meetings with Fort Bragg personnel on January 16-17, 1984; review of the Biological Assessment and other literature and data provided by Fort Bragg; review of the Red-cockaded Woodpecker Recovery Plan approved August 24, 1979, and the draft revised Recovery Plan currently being completed; and contacts with individuals possessing knowledge of the species and/or the area involved.

F. Conservation Recommendations

Although the proposed action is considered non-jeopardy, it likely will result in loss of habitat, and directly or indirectly, loss of colonies and the included individual birds. The Fish and Wildlife Service and cooperating agencies are implementing actions in attempts to recover the species to the point that provisions of the Endangered Species Act are no longer necessary and the species can be delisted. Obviously, we can not recover the species unless we maintain current populations and expand these

populations to a recovery level. Therefore, any loss is undesirable and, when they occur, we should attempt to make the most of the situation by minimizing the impacts as much as possible, gaining information that will help us understand the bird's ecology and tolerances so that we are more knowledgeable in evaluating future impacts on the species, and offsetting the losses by gains elsewhere when possible. Therefore, we offer the following conservation recommendations for your consideration and hopeful implementation:

1. Clearing of pine trees for range construction should be minimized to the maximum extent possible. Inherent in this is the evaluation of every conceivable alternative for target location to eliminate or reduce impacts to the red-cockaded woodpecker from necessary clearing of foraging and/or nesting habitat. As a matter of priority, an alternative resulting in removal of non-cavity trees is preferable over an alternative resulting in removal of cavity trees and removal of inactive cavity trees is preferable to removal of active cavity trees.

2. To possibly offset losses occurring as a result of the proposed range, Base personnel should renovate 6-10 abandoned colony sites on the Base by actively managing them to reduce or eliminate adverse habitat conditions and enhance desirable habitat conditions. This may result in reoccupation of these sites and an increase in colonies that will equal or exceed the loss from the proposed action. Included in this is understory removal and control in colony sites, prescribed burning of colony sites on a regular basis and raking around cavity trees prior to prescribed burning. A study proposal is attached to this opinion.

3. There is a paucity of information regarding tolerance of the red-cockaded woodpecker to disturbances and habitat losses and manipulatations and the species' behavior and adjustments to such impacts. The proposed action presents an opportunity to shed some light on these subjects. Therefore, we recommend that a study be conducted on the six colonies present in the area (proposed study plan attached). This study should include two years of pre-treatment data on clan composition, reproduction, home range and movements and five years post-treatment data on the same subjects. This will hopefully result in documentation of the species' reaction to such impacts and a better understanding of the impacts of such disturbances on the species and its maintenance and recovery. Permits will be required to conduct this study.

G. Incidental Take

The 1982 amendments to the Endangered Species Act requires addressing of incidental taking expected from proposed actions for which formal consultation is being conducted. The amount of incidental take that is possible and would not be a violation of the "taking" prohibitions of Sections 4(d) and 9 of the Act is estimated at eight birds. The impact upon the species is the direct loss of three colonies of birds and the resulting adverse impact and delay in recovering the species.

Reasonable and prudent measures that are considered necessary to minimize such impact are those actions specified in Conservation Recommendations 1 and 2. Implementation of these measures should be initiated upon reciept of this Biological Opinion and will terminate when a final decision is made on location of targets and trees needing removal for Recommendation 1 and when the five-year renovation study is completed for Recommendation 2. Any dead or injured red-cockaded woodpeckers should be reported immediately to this office and to James R. Bailey, Senior Resident Agent; U.S. Fish and Wildlife Service; P.O. Box 1188; Raleigh, N.C. 27602; telephone 919/755-4786. Dead birds can be frozen. Further instructions for handling and disposal will be forthcoming from this office upon notification that a dead or injured bird has been obtained.

In order to monitor the impacts of individual take, you must submit an annual report to be filed no later than March 31 for the preceding calendar year ending December 31, to this office. This report should reference the action, the consultation number, and summarize the progress as well as listing the data, location, circumstances surrounding any taking of the red-cockaded woodpecker, and the disposition of individual birds. Of particular importance and to be included in the report, is the date the recommendations are implemented and the date, circumstances, and any other pertinent information regarding any reoccupation of renovated, abandoned colony sites.

If, during the course of the action the amount or extent of incidental taking, as specified herein, is exceeded, formal consultation must be reinitiated. In the interim, development of the action may continue unless the Fish and Wildlife Service determines that the impact of any additional taking would cause a significant adverse impact on the species and provides written findings supporting that determination.

If you wish to discuss further the conservation recommendations contained in the Biological Opinion, please advise this office. This consultation will conclude when we receive written notification from you stating your final decision of the proposed action and implementation of the conservation recommendations.

We appreciate the assistance of Fort Bragg personnel in this consultation and look forward to continued cooperation between our agencies.

Sincerely,

Warren T. Parker
Field Supervisor

cc: Regional Director, FWS, Atlanta, Ga. (AFA/SE)
Director, FWS, Washington, D.C.
Ron Bailey, SRA, Raleigh, N.C.

Literature cited

Harlow, Richard F., Robert G. Hooper, and Michael R. Lennartz. 1983. Estimating numbers of red-cockaded colonies. Wildl. Soc. Bull. 11(4):360-363.

Proposed Study Plan
to
Monitor Impacts of Removal of Cavity Trees and Foraging Habitat on the Red-Cockaded Woodpecker

I. Introduction

Fort Bragg, North Carolina, has proposed developing a multipurpose training range, to be constructed in the Coleman Danger/Impact Area in Cumberland County. The construction of such a range would reduce the total number of separate ranges required to support live fire training on Fort Bragg and is, thus, an effort to provide the necessary training within severe land availability constraints. The area involved contains 1,200 acres with approximately 532 acres of it being desirable foraging and/or nesting/roosting habitat for the red-cockaded woodpecker.

Fort Bragg initiated formal consultation pursuant to Section 7 of the Endangered species Act of 1973, as amended, on November 4, 1983, by submitting a biological assessment to the FWS. As a result of the consultation, a conservation recommendation to study the impacts of the proposed action on the red-cockaded woodpecker was included in the Biological Opinion rendered March 15, 1984.

Possible direct impacts to red-cockaded woodpeckers from the proposed action include reduction in foraging and/or potential nesting/roosting habitat and loss of active cavity trees by removal of trees and/or mortality of trees from activities occurring on the area, noise disturbance from proposed activities and possibly even the direct killing of individuals. The effects of such impacts may be manifested by mortality of individuals, reduced reproduction, abandonment of current home ranges, or shifting of current home ranges.

An estimated six colonies of red-cockaded woodpeckers occur in the area and a January 17, 1984 tree status check identified 14 active cavity trees, four inactive cavity trees, five relict cavity trees, one active start tree and nine inactive start trees, for a total of 33 cavity trees in all. It is estimated that three colonies encompassing six active cavity trees, one active start tree and one inactive start tree will not be directly impacted by loss of nesting/roosting habitat (cavity trees). The other three colonies will likely be impacted by loss of nesting/roosting habitat. With current proposed firing lanes and target placements, it is estimated that these three colonies may lose six of eight active cavity trees, one of four inactive cavity trees, and four of six inactive start trees. One relict tree within one colony will not be impacted. Four relict trees and two inactive start trees are not within assumed colony sites and only one of these relicts is likely to be

lost. All of the colonies may be impacted by loss of foraging habitat.

Currently, there is a paucity of information regarding tolerance of the red-cockaded woodpecker to disturbance and habitat losses and manipulations and the species' behavior and adjustments to such impacts. The development of the proposed multipurpose training range presents an opportunity to shed some light on these subjects. This study is proposed to avail ourselves of this opportunity.

II. Objectives

The objectives of this study are to determine changes in clan composition, reproduction, and possibly home range, in relation to reductions in nesting/roosting and foraging habitat of the red-cockaded woodpecker within the proposed multipurpose training range at Fort Bragg.

III. Approach

Determining home ranges and foraging habitat is time consuming and expensive. Therefore, it was determined that indirect measures of available habitat would be more cost effective. Prior to removal of any trees, the present stands will be characterized and mapped by forest cover type, condition class, age by 10-year age classes and basal area. Acreage of pine and pine-hardwood stands over 30 years of age will be summed for an estimate of available foraging habitat. Acreage of pine and pine-hardwood stands over 60 years of age will be summed for an estimate of available nesting/roosting habitat. Pine and pine-hardwood stands in adjacent areas within 2,000 feet of the assumed colonies within the area to be developed for the range will be included to arrive at a more reasonable estimate of foraging habitat for those colonies on the border of the area.

A modified home range study will be conducted by sampling a couple of days per quarter (seasonally) to get some idea of habitats utilized.

The amount of available foraging and nesting/roosting habitat after range development and resulting tree removal will be determined and percent reductions calculated.

Cavity tree status will be determined by visiting all trees on a biannual basis, once in late fall after leaf fall and once in spring prior to breeding season, and recording status. All trees present now and in the future will be mapped.

Birds within the study area (6 clans) will be banded with standard FWS numbered bands and color bands.

Beginning April 30, all active trees will be visited weekly until nest trees are located. Once located, these trees will be climbed weekly until fledging, using ladders, mirrors and drop lights to count eggs and nestlings. Clan composition will be determined by counting the number of adults observed in the vicinity of the nest during weekly visits. The number of young fledged will be determined which, basically, will be considered the number of feathered young observed during the last 10 days of the nesting period. However, there may be some difficulty in determining the number of fledglings in a cavity, as they grow older. Therefore, an additional check of fledgling success and the number of adults in the clan will be made within one week (3 or 4 days, if possible) following fledging by following the clan during foraging activities and counting and identifying adults and fledglings. Clan composition and reproduction data will be obtained for two years before treatment and for five years following treatment.

Shifting of home ranges and/or territories is expected to occur. Therefore, in order to document such shifting and to obtain survival data, nearby (adjacent to, but not included in the range area) colonies will be censused annually during the winter to determine clan composition and to identify marked birds from the colonies impacted by the range construction. This can be done by evening colony checks as birds are coming to roost, by morning checks as the birds leave the colonies for feeding and/or traversing the area until clans are located by vocalizations and then following them until data is obtained.

Annual reports will be prepared and, at the end of the five-year study, the results will be analyzed and a final report prepared. The final report will include data interpretation, recommendations for future studies, and recommended management implications and application. A copy of annual reports and the final report will be provided to the Asheville, N.C., Endangered Species Office of the Fish and Wildlife Service.

IV. Summary of Tasks

1. Determine stand characterists and map stands before any vegetation manipulation.

2. Determine available foraging habitat.

3. Determine available nesting/roosting habitat.

4. Determine individual tree status biannually.

5. Band and color-mark birds.

6. Locate nest trees annually.

7. Determine clan composition annually.

8. Determine number of eggs laid and hatched annually.

9. Determine number of young fledged annually.

10. Post-fledgling census of adults and fledglings

11. Modified home range study to determine areas used

12. Annual census of adjacent colonies

13. Determine amount and percentage of available foraging and nesting/roosting habitat removed.

14. Prepare annual and final reports.

Proposal for
Renovation of Abandoned Red-Cockaded Woodpecker Colony Sites

I. Purpose: To provide suitable nesting/roosting habitat for red-cockaded woodpeckers for recruitment of new colonies or shifting of present colonies by vegetation manipulation in the immediate vicinity of abandoned red-cockaded colony sites.

II. Justification: Most abandoned red-cockaded woodpecker colony sites are believed to have been abandoned because of the lack of vegetation control in the immediate vicinity of the cavities. The encroaching vegetation may obstruct easy access to the cavity by red-cockaded woodpeckers and/or increase interspecific competition by providing habitat conditions suitable to other species.

III. Approach: Abandoned red-cockaded woodpecker sites on Fort Bragg, North Carolina will be located. Six to ten of these sites, 10 to 25 acres in size, within 1,900 to 2,400 feet of active colonies, if possible, will be selected for intensive renovation. The colony site (cavity trees and buffer) will be centered within the 10-25 acre area when possible. Overstory and midstory stand conditions before and after treatment will be determined by prism, i.e., size and number of stems per acre by species and spacing between stems. All hardwood stems within the area will be removed or injected. This will be followed by a prescribed burn one year after treatment for removal of hardwoods and at three year intervals thereafter. The remaining pine overstory will be thinned to a 20-25 foot spacing between trees. The stands will be checked four times per year for red-cockaded woodpecker activity for five years. A final report will be prepared to include a summary of the results, recommendations for further research and recommendations for management application of results. A copy of this report will be provided to the Asheville Endangered Species Office in Asheville, North Carolina.

If possible, some of the stands selected should be within 1,900-2,400 feet of the active colonies within the proposed multipurpose training range to be developed in the Coleman Danger/Impact Area.

United States Department of the Interior
FISH AND WILDLIFE SERVICE
P. O. BOX 95067
ATLANTA, GEORGIA 30347

APR 10 1979

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

Dear General Barker:

This letter represents the Biological Opinion of the Fish and Wildlife Service on the possible effects of the Marine Corps amphibious training program on Camp Lejeune's beaches as well as the Sea Turtle Habitat Management program at Camp Lejeune for the threatened Atlantic loggerhead turtle (Caretta caretta). This letter responds to your request for consultation dated September 13, 1978.

This Biological Opinion is based upon field inspections, associated meetings and discussions with Base personnel on December 11-12, 1978, January 11-12, 1979, February 27-28, 1979, and on March 22, 1979; review of the Camp Lejeune Habitat Management Guidelines for the Atlantic Loggerhead Turtle; review of pertinent literature, including a draft "Plan for the Recovery and Management of Marine Turtles in the Southeast Region;" and communications with Dr. Frank J. Schwartz of the University of North Carolina Marine Institute, a noted authority on the loggerhead.

On December 12, 1978, the threshold examination concerning this consultation on Camp Lejeune was discussed with Base personnel. An inspection of Onslow Beach revealed heavy use of the beach from Riseley Pier to Onslow South Tower, a distance of about 1.5 miles.

On January 11, 1979, a discussion of the potential impacts to the Atlantic loggerhead turtle was held with the Base personnel. Those specific impacts were: training activities preventing turtles from coming ashore or nesting (false crawls - turtles come ashore but return to sea without nesting), destruction of nests and/or turtles by training activities, young hatchlings prevented from reaching sea by deep ruts caused by tracked and rubber-tired vehicles, lighting on the beach at night disorienting turtles, direct mortality of turtles and/or nests within the Browns Island Impact Area by exploded ordnance, and predation of nests and/or turtles by natural predators and man.

ENCLOSURE (6)

During this discussion, your training officer stated that: 500 meters along the beach was sufficient for training; use of the rest of the beach area could be restricted as necessary; and these restrictions could be enforced. Actions by the Marine Corps would include marking the areas by signs or some other means, promulgating regulations preventing (1) nighttime use of the beaches during the nesting season (May-August), (2) vehicular traffic parallel to the beach outside tidal zones, and (3) disturbance of turtles or nests. Nests within the area of training use would be relocated by Natural Resource personnel to other areas. It was also agreed that tank traps would be prohibited and the causeways needed to facilitate movement would be coordinated with Base Natural Resources personnel, who will take into account the needs of the turtles.

On February 27, 1979, the training restrictions agreed upon on January 11, 1979, were reviewed. At this time the 500 meters previously agreed upon was determined to be inadequate for training. To accommodate the full scope of amphibious training, your command identified an area of approximately 1½-2 miles between Riseley Pier and the Onslow South Tower as fully adequate for this purpose. It was agreed that vehicle use could be restricted to the tidal zone except for needed egress routes between the beach and the road behind the dunes. While discussions centered around four major egress routes as important to the training mission, a later inspection revealed an additional eight minor egress routes as important to the training mission. We agreed that only nests found within or adjacent to the egress routes would need relocation, with the possibility of a few exceptions when noted, such as nests found below high tide.

Arrangements were made to inspect the Browns Island impact area on February 27, 1979. No adverse impacts were identified during this inspection.

On March 22, 1979, this consultation and the draft Biological Opinion was reviewed with you and members of your staff. At this meeting it was stated that restricting vehicle use during training exercises to the tidal zone except for egress routes would hamper training and that, since the number of nests occurring in the area was few (approximately six), all nests in the training area would be relocated. We have no objection to this plan of action as long as all nests that occur within the identified exercise area (from Riseley Pier to Onslow South Tower) are relocated to safe areas elsewhere.

After review of the findings by Fish and Wildlife Service personnel in the Asheville Area Office, it is our Biological Opinion that present ongoing activities on Camp Lejeune's beaches are not likely to jeopardize the continued existence of the Atlantic loggerhead sea turtle. However, we offer the following recommendations to enhance your conservation efforts for this species. These efforts should be made to the maximum extent possible consistent with the training mission and objectives of Camp Lejeune.

ENCLOSURE (6)

1. Schedule training exercises during the period May through October outside the peak full moon period of each month. This peak nesting period each month is centered around the peak of the full moon, plus and minus three days, for a total of seven days per month.

2. Confine training exercises, using the minimum amount of the beach necessary to complete training objectives. This area has been identified through consultation as an area approximately 1½-2 miles long running from Riseley Pier to about the Onslow South Tower.

3. Egress routes from the beach to the road behind the dunes should be kept to a minimum. Four major and eight minor passes through the dunes were identified.

4. All vehicular travel on the beaches should be restricted to the tidal zone except within the identified exercise area, providing all turtle nests have been removed from that area prior to any landings.

5. Tank traps on the beaches should be prohibited.

6. During the period May through October, night landings for training purposes should be eliminated or reduced to a minimum level.

7. Night lighting during training exercises (May-October) should be at a minimum level or eliminated.

8. Other nighttime use of the beaches (recreation, etc.) from May through October should be restricted to those uses not requiring artificial lighting or fires.

8. Other activities with potential impacts not addressed in this opinion should be coordinated with the Base Natural Resource personnel and referred to the Fish and Wildlife Service for consultation if adverse or beneficial impacts are perceived as being possible.

9. Close monitoring of nesting activities should be continued to detect any long-term trends. The Fish and Wildlife Service would appreciate receiving this data.

We appreciate the cooperation of your personnel in this consultation and commend Camp Lejeune for its conservation efforts for the Atlantic loggerhead. We hope this will help you fulfill your obligations under the Endangered Species Act.

Sincerely yours,

[illegible]

ACTING Regional Director

ENCLOSURE (6)

United States Department of the Interior
FISH AND WILDLIFE SERVICE
PLATEAU BUILDING, ROOM A-5
50 SOUTH FRENCH BROAD AVENUE
ASHEVILLE, NORTH CAROLINA 28801

Chelonia mydas

February 23, 1981

Colonel R. W. Kirby
Acting Chief of Staff
U.S. Marine Corps
Marine Corps Base
Camp Lejeune, NC 28542

Dear Colonel Kirby:

This letter presents the Biological Opinion of the Fish and Wildlife Service regarding the potential effects of Camp Lejeune's sea turtle management program and military training use of Onslow Beach on the Threatened green turtle (Chelonia mydas). It responds to your letter of August 4, 1980, received August 20, 1980. Completion of the consultation was delayed pending receipt of additional data and information from Camp Lejeune, Dr. Frank Schwartz, and the Sea Turtle Recovery Team, as per request of October 20, 1980. This Biological Opinion is intended to help you fulfill your obligations under the Endangered Species Act of 1973, as amended.

This Biological Opinion is based upon review and analysis of the data requested from and submitted by Camp Lejeune and Dr. Schwartz; review of the Administrative Record on an earlier consultation concerning like effects on the Threatened loggerhead turtle (Caretta caretta) for which a Biological Opinion was rendered April 10, 1979; review of the Sea Turtle Conservation Strategy drafted at the first World Conference on Sea Turtle Conservation held in Washington, D.C., on November 26-30, 1979; input requested and received from the Sea Turtle Recovery Team; and discussions with knowledgeable individuals possessing expertise on the species.

It is our Biological Opinion that the sea turtle management program and military training use, as presented and examined in the earlier consultation on the loggerhead turtle, and cumulative effects associated with these activities, are not likely to jeopardize the continued existence of the green turtle. However, we do offer recommendations to enhance the conservation of the species. The recommendations made in the April 10, 1979, Biological Opinion for the loggerhead turtle should be applied also to the green turtle. Additional recommendations regarding moving nests follow and these recommendations are also intended as an amendment to the April 10, 1979, Biological Opinion and the subsequent April 26, 1979, letter regarding conservation programs for the loggerhead turtle.

1. Only nests threatened by erosion, tides, extreme predation, military activities, etc., should be moved. This includes late (August) nests as well as earlier nests.

2. Nests necessitating movement should be placed in a safe place on the beach and not removed to a laboratory.

3. Nests, especially late (August) nests should be monitored for hatchability.

These recommendations resulted from analysis of hatchability of 1979 and 1980 nests on Camp Lejuene, including natural nests, redeposited nests and nests removed to the laboratory for artificial incubation. An additional concern was the effect upon the imprinting process of turtles from artificial incubation and release. Natural hatchability exceeded artificial hatchability for months with sufficient data. Unfortunately, data on natural hatchability was not available for August. Monitoring of August nests for a couple of years would provide some data for comparison to artificial hatchability of August nests in 1979 and 1980, which was less than 50 percent (20 percent for the green turtle).

Once data is obtained, Camp Lejeune may reinitiate consultation if results warrant reconsideration of artificial incubation for late nests and Camp Lejeune so proposes.

An Administrative Record of this consultation is maintained and available for review at this office. Should new information reveal impacts that may affect the green and/or loggerhead turtle which was not considered in this and the April 10, 1979, Opinions and/or should the activities considered in this consultation be subsequently modified, consultation should be reinitiated. For example, if new or expanded use of the beaches for military activities are proposed, consultation should be reinitiated.

The conservation work with loggerhead and green turtles will require a permit, contrary to the April 26, 1979, letter on loggerheads which is now in error. Permit applications can be obtained from James R. Bailey, Senior Resident Agent, U.S. Fish and Wildlife Service, P.O. Box 1188, Raleigh, NC 27602, telephone 919/755-4786 (commercial) or 672-4786 (FTS) or from the Federal Wildlife Permit Office, U.S. Fish and Wildlife Service, Main Interior Building, 18th and C Streets, NW, Washington, DC 20240, telephone 253-1903 (FTS) or 703/235-1937 (commercial). Copies of the Biological Opinions should accompany the application.

Once more we extend our appreciation to Camp Lejeune and its personnel for your conservation efforts for endangered and threatened species and your cooperation in this consultation. We look forward to future cooperation and consultations between our agencies.

Sincerely yours,

William C. Hickling
Area Manager

Extra Cy

UNITED STATES MARINE CORPS
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA 28542

IN REPLY REFER TO
NREAD/JIW/th
11015
4 NOV 1982

Mr. D. R. Ekberg, Chief
Environmental and Technical Services Branch
National Marine Fisheries Service, Southeast Region
9450 Koger Boulevard
St. Petersburg, Florida 33702

Dear Mr. Ekberg:

This is in response to your letter of 23 November 1981 outlining the consultation process required by the Endangered Species Act for training activities conducted at Marine Corps Base, Camp Lejeune, North Carolina.

The training that occurs and constitutes a major federal action primarily involves utilization of coastal waters as a buffer zone for explosive projectiles directed toward beach land and as an impact area for non-explosive projectiles directed toward waterborne targets. Secondarily, the waters receive non-explosive debris resulting from detonation of airborne anti-aircraft missiles. The current training does not represent a new action as the range has been in continuous use since the 1940's and the offshore portion served as an impact area for explosive artillery and aircraft ordnance for more than twenty years. That activity has left a large, varied quantity of debris and duds in the offshore waters.

A biological assessment of the possible effects on threatened and endangered species was conducted in accordance with your guidance. Because of safety considerations in the area, physical inspection and survey work was restricted. However, the observations and discussions with outside consultants are sufficient to conclude that continuation of military training is not likely to affect any endangered or threatened species.

The biological assessment is attached for your review. Any questions or comments would be welcomed. As evidenced by close and continuing management activities in conjunction with the Fish and Wildlife Service, the Base is desirous of meeting requirements for species under your jurisdiction.

Sincerely,

D. J. FULHAM
Brigadier General, U. S. Marine Corps
Commanding

Encl

BIOLOGICAL ASSESSMENT OF MARINE HABITAT
Onslow Beach, Marine Corps Base
Camp Lejeune, North Carolina

I. INTRODUCTION

A. This biological assessment provides information concerning threatened and endangered species occurring in offshore waters at Onslow Beach, Marine Corps Base, Camp Lejeune, North Carolina. Endangered whales migrating past Browns Island includes the Fin Whale (Balaenoptera physolus), Humpback Whale (Megatera nouaeanglinae) and Right Whale (Eubaleana glaciolis). Whales usually migrate one-fourth or more miles off Onslow Beach. Most movement has been recorded in mid-March to mid-May with lesser activities in late November and December. There have been no known strandings of whales on Onslow Beach but there have been recent strandings on nearby Bear Island, Topsail Island and Bogue Banks.

B. Threatened species include the Atlantic Loggerhead (Caretta caretta) and Green Turtle (Chelonia mydas) which nest on Onslow Beach. A comprehensive program has been conducted for these species since 1972 involving monitoring nesting activities through surveys, tagging and protecting nests from predation. Formal consultation has been conducted with the U. S. Fish and Wildlife Service and a biological opinion has been rendered for these listed species. Both opinions contain guidelines relative to military training activities and management functions for each of these listed species concerning nesting activities on Onslow Beach. Formal consultation concerning these species as well as the Atlantic Ridley (Lepidochelys kempi), Leatherback (Demochelys coriacea) and Hawksbill (Erectmochelys imbricata) Sea Turtles which migrate through the area is necessary due to live-firing into marine habitat off Browns Island.

C. The Browns Island N-1 Impact and Target and Bombing Area has been used for live-firing since Camp Lejeune was established in the early 1940's. There has been no noticable environmental change to the island or marine habitat except for the live ordnance contained there.

D. Aerial surveys have been conducted of Browns Island and surrounding areas to determine the amount of sea turtle nesting activity. Twenty-one flights were made during the 1982 nesting season as contracted by the North Carolina Wildlife Resources Commission. Ninety-one apparent nests were located during the aerial survey on Browns Island in comparison to sixty six active nests which were ground truthed on Onslow Beach.

II. DESCRIPTION OF AREA

A. The Browns Island coastline is a relatively uniform sand ridge about 200 to 500 feet wide and typically about 5 to 15 feet in elevation. Shifting sand dunes on the ridge reach elevations of 25 to 40 feet. The sand ridge protects the mainland from wave action and it impedes tidal action as well as drainage from the mainland. Drainage from the area passes through Browns Inlet and Bear Inlet into the Atlantic Ocean. Tidal flats occupy irregular strips behind the coastal sand ridge, in pockets along the shore at the sound and in lowlands along the estuaries draining into the sounds.

B. This area of the coastal plain is underlain by hundreds of free or unconsolidated and weakly consolidated sediments ranging from cretaceous to miocene in age. Generally these formations are covered with a 5 to 30 feet surface layer of pleistocene sediments. These sediments are mostly clean sand and clayey sand, interlayered with deposits of clay and marine shells. On some of the poorly drained upland areas, thick organic soils have developed since emergence. Locally, on the banks of large streams, outcroppings of the miocene yorktown formation can be found. The yorktown consists of clay, sand and shell marl beds which are similar to the younger surficial deposits. The coastal sand ridge is primarily of wave-washed beach sand, but assorted sediments as described above occurs at shallow depths under the ridge.

C. Browns Island is composed of an intratidal zone, flat beach zone, supratidal zone, pioneer zone, scrub zone, forest zone and marsh zone. Beach vegetation is non-existent in the intratidal and flat beach zones. Plant life in the supratidal zone is marsh cord grass. Plants found in the pioneer zone are American beachgrass, sea oats, panicgrass, bitter panicum and marsh elder. The plants found in the scrub zone are seacoast blue stem, silverleaf croton, seaside goldenrod, large pennywort, yaupon holly, waxmyrtle, bayberry, Eastern baccharis, shinning sumac and pepperwine. Plants found in the forest zone are Virginia creeper, muscadine grape, American holly, devilwood, flowering dogwood, redbay loblolly pine, red maple, blackcherry, red cedar and live oak. Plants found in the marsh zone inland from the forest zone are marsh cord grass, glasswort, black needle rush, saltmeadow hay, salt grass, marsh elder, sea oxeye and grounsel.

D. Marine life in the supratidal zone are ghost crabs and sand fleas. Ghost shrimp, bristle worms and clams are found in the flat beach zone. In the intratidal zone, clams, lugworms and mole crabs are found. Blue crabs, sand dollars and silversides are found in the subtidal zone.

E. Marine fishes inhabitating offshore waters are barracudas, black sea bass, bluefish, bonitos, cobia, croakers, dolphin, black drum, red drum, flounder, grouper, grunt, jack mackerel, Atlantic mackerel, ling mackerel, spanish mackerel, ocean mullet, whitefish, pigfish, pompanos, porgie, spotted weakfish, sharks, silversides, snapping spot and white sea trout.

III. ACTION/PROJECT DESCRIPTION

A. This biological assessment does not describe a new facility or project. It provides information on threatened and endangered species located in an existing bombing and artillery range located at Browns Island. Both of these ranges have been in existence since World War II. The range located at Browns Island has been in continuous use since World War II. The range adjacent to, but offshore from, Browns Island was in use until the early 1960's. Since the early 1960's, it has fallen into disuse, except for over-shoots. Due to changes in the Marine Corps weapons inventory, plus increased range capabilities of new weapons, there is a requirement to resume firing in the offshore portion of Browns Island target complex. This assessment addresses these ranges as one since they are adjacent and will be scheduled for utilization as one range. This range is commonly referred to by one of the following names: BT-3, N-1 Impact Area or Browns Island. For clarity's sake this assessment will address the complex as the N-1 Impact Area as it is this agency's intent to formally declare Browns Island the adjoining rectangular ocean sector (see map) as a single target and bombing area. A description of the first range is as follows:

1. Range: N-1 Impact Area

2. Location: Browns Island grid coordinate 9429 through 0033 and a rectangular oceanic sector approximately 6,000 meters wide, extending approximately 10,000 meters in a southeasterly direction off the coast of Camp Lejeune (see attached map), Appendix A.

3. Description:

a. This range is also referred to as Bombing and Target Range (BT-3) and Browns Island.

b. The Browns Island portion is used for aircraft, artillery and tank weapons firing utilizing improvised targets such as vehicle hulls. It is an impact area for the G-5, G-5A and G-7 Ranges.

c. The offshore portion of the N-1 Impact Area will be used as an impact area for machinegun and other light weapons fire at targets and as an over-shoot safety impact area from firing at land based targets. Targets will be small, improvised, anchored devices towed into place prior to a firing exercise and removed upon completion of the firing exercise.

d. The Browns Island portion of the N-1 Impact Area is adjacent to the Intracoastal Waterway.

4. Authorized Firing:

a. Aircraft - All aircraft armanent is composed of practice rounds not exceeding net explosive weight of 20 pounds TNT equivalent.

b. Ground Weapons - All weapons and ammunition authorized for ranges G-5, G-5A and G-7.

c. Mortars may be used to mark targets (HE, illumination and WP).

d. Artillery - All types of ammunition.

5. Range Limits: This range extends northeast from the Junction of north/south grid line 94 at Onslow Beach, along the beach line to Bear Creek Inlet; north-northwest along Bear Creek to a point 400 yards northwest of the Intracoastal Waterway; west-southwest on a line 400 yards of and parallel to the Intracoastal Waterway to Freeman's Creek then south to the point of origin. This portion of the N-1 Impact Area is bordered by a 1,000 yard buffer zone on the north and west side. A 1,000 yard no fire zone extends inboard from Bear Creek. The water portion of the N-1 Impact Area is a rectangular oceanic sector approximately 6,000 meters wide and extends approximately 10,000 meters in a southeasterly direction seaward, off the coast of Camp Lejeune.

B. A description of the second range is as follows:

1. Range: Onslow Beach North Tower Machinegun Range

2. Location: Onslow Beach North Tower grid coordinate is 9328

3. Description:

a. Assault Amphibian Vehicle Range

b. Floating target platforms seaward within the N-1 Impact Area

4. Authorized Firing:

a. Weapons - M-2, M-85, M-60 and 25 mm machineguns both ground mounted and vehicle mounted.

b. Ammunition - Service

5. Range Limits:

a. Right flank coordinate 935287, azimuth 105°

b. Left flank coordinate 939290, azimuth 80°

C. A description of the third range is as follows:

1. Range: E-1 Onslow Beach Missile Range

2. Location: E-1 Onslow Beach Missile Range extends between Onslow South Tower and grid line 90 on the beach between the frontal dunes and the ocean.

3. Additional Information: The E-1 Range is a missile firing range for Redeye and Hawk missiles. The weapon systems are designed to be used against aerial targets. Firing of these missiles is by Marine Corps and the U. S. Army personnel on the beach. There are no explosives on the practice missiles, but there will be debris from fragmentation and the missiles themselves which impact into the ocean. Normally the missile firing is conducted semi-annually. Twelve missiles were fired from 3 December 1980 through 22 March 1982.

IV. PROBABLE IMPACT TO ENDANGERED/THREATENED SPECIES IN THE MARINE ENVIRONMENT

A. The marine environment in the N-1 Impact/BT-3 Bombing and Target Area has been used for many years for military training exercises. This area contains large quantities of unexploded ordnance. The land area can be entered only by Explosive Ordnance Disposal personnel. The U. S. Fish and Wildlife Service found no adverse impact in the opinion rendered for the Green and Atlantic Loggerhead Sea Turtles relative to impact from live-firing on Browns Island.

B. The offshore portion of the range is primarily used for firing non-exploding projectiles. It is also used as a buffer zone for firing on Browns Island and infrequently receives artillary projectiles or aircraft bombs that are over-shot. There are no permanent structures except for an observation tower on the outer edges of the buffer zone at Onslow Beach and Browns Tower. Range regulations prohibit firing at wildlife species on land, air or water at all times.

C. A dead Loggerhead Turtle was stranded near Browns Inlet in 1978 which appeared to have been shot through the head. Two whales of undetermined species were stranded on Bear Island in April 1982 approximately 24 feet to 30 feet in length. Neither of these incidents were known to have resulted from firing into the N-1 Impact/BT-3 Bombing and Target Areas. A portion of the subject area has been established as a sea turtle sanctuary by the State of North Carolina to prohibit commercial trawling during the nesting seasons.

D. The sea turtle sanctuary is listed as beginning at the northernmost end of Hammocks Beach (Bear Island) and seaward toward the Bogue Inlet bouy for 1,000 feet; southwestward 1,000 feet off Bear Island to the restricted zone designated as part of Camp Lejeune restricted area; seaward along the northern boundary of this zone; on the south side of the restricted zone the sanctuary shall recommence 1,000 feet or one-fourth mile off the beach and pass southwestwardly to the first (northern) observation tower on Onslow Beach; thence the zone shall extend for three-fourths of a mile to 34° 33.5' N-77°; 13.4' W; the zone shall thence include that portion of the ocean southwestward of the New River Inlet buoy the demarkation line shall pass the southernmost tip of Onslow Beach, no person shall use any commercial fishing equipment between June 1 and August 31, except that the Secretary, North Carolina Department of Natural Resources and Community Development, acting upon the advice of the Director, may by proclamation modify the sea turtle sanctuary within the above described area and vary implementation between these dates for the protection of the sea turtle population. The sea turtle sanctuary is contained in Appendix B.

E. Contracts have been made with recognized experts concerning listed species in the subject area including those with the U. S. Fish and Wildlife Service and the North Carolina Wildlife Resources Commission and the University of North Carolina. The North Carolina Marine Fisheries Division has been contacted relative to commercial fishing operations in offshore waters along Onslow Beach. Names and addresses of those individuals contacted are as follows:

1. Dr. Frank Schwartz, Institute of Marine Sciences, University of North Carolina, Morehead City, North Carolina

2. Mr. Don Harke, State Supervisor Wildlife Assistance, U. S. Fish and Wildlife Service, Raleigh, North Carolina

3. Mr. Otto Florschutz, Sea Turtle Recovery Team Member, U. S. Fish and Wildlife Service, Washington, North Carolina

4. Mr. Stuart Critcher, Endangered Species Coordinator, North Carolina Wildlife Resources Commission, Raleigh, North Carolina

5. Mr. Stephen Polinski, Law Enforcement Plot, North Carolina Marine Fisheries Division, Morehead City, North Carolina

6. Mr. Howard Bogey, Inspector, North Carolina Division of Marine Fisheries, Swansboro, North Carolina

F. Available literature on the listed species has been reviewed.

11000

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Region
9450 Koger Boulevard
St. Petersburg, FL 33702

November 23, 1981 F/SER61:AM

Major General C. G. Cooper
Commanding General, U. S. Marine Corps
Marine Corps Base
Camp Lejeune, North Carolina 28542

Dear Major General Cooper:

This responds to your November 17, 1981, letter requesting consultation for Marine Corps activities at the Marine Corps Base, Camp Lejeune, North Carolina, as required by Section 7 of the Endangered Species Act of 1973.

The attached list provides the threatened and endangered species under National Marine Fisheries Service jurisdiction that may be present in the project area. Upon receipt of this list, the USMC must insure that its actions are not likely to jeopardize the continued existence of the listed species.

For a major Federal action, the agency must conduct a biological assessment to identify any endangered or threatened species which are likely to be affected by such action. The biological assessment shall be completed within 180 days after receipt of the species list, unless it is mutually agreed to extend this period.

The components of a biological assessment are as follows:

(1) conduct a scientifically sound on-site inspection of the area affected by the action, which must, unless otherwise directed by the Service, include a detailed survey of the area to determine if listed or proposed species are present or occur seasonally and whether suitable habitat exists within the area for either expanding the existing population or potential reintroduction of populations;

(2) interview recognized experts on the species at issue, including those within the Fish and Wildlife Service, the NMFS, State conservation agencies, universities and others who may have data not yet found in scientific literature;

(3) review literature and other scientific data to determine the species distribution, habitat needs, and other biological requirements;

(4) review and analyze the effects of the action on the species, in terms of individuals and population, including consideration of the cumulative effects of the action on the species and habitat;

(5) analyze alternative actions that may provide conservation measures;

(6) conduct any studies necessary to fulfill the requirements of (1) through (5) above;

(7) review any other information.

At the conclusion of the biological assessment, as described above, the Federal agency should prepare a report documenting the results.

If the biological assessment reveals that the proposed project is likely to affect listed species, the formal consultation process shall be initiated by writing to the Regional Director, National Marine Fisheries Service, 9450 Koger Boulevard, Duval Building, St. Petersburg, Florida 33702. If no effect is evident, there is no need for formal consultation. We would, however, appreciate the opportunity to review your biological assessment.

If you have any questions, please contact Andreas Mager, Jr., Fishery Biologist, Southeast Regional Office, FTS 826-3503.

Sincerely yours,

Charles A. Oravetz

for D. R. Ekberg
Chief, Environmental &
Technical Services Branch

Enclosure

cc: FWS, Atlanta, GA
FWS, Raleigh, NC

ENDANGERED AND THREATENED SPECIES AND CRITICAL HABITATS UNDER NMFS JURISDICTION

North Carolina

LISTED SPECIES	SCIENTIFIC NAME	STATUS	DATE LISTED
Fin Whale	Balaenoptera physalus	E	12/2/70
Humpback Whale	Megaptera novaeanglinae	E	12/2/70
Right Whale	Eubaleana glacialis	E	12/2/70
Sei Whale	Balaenoptera borealis	E	12/2/70
Green Sea Turtle	Chelonia mydas	Th	7/28/78
Hawksbill Sea Turtle	Eretmochelys imbricata	E	6/2/70
Kemp's (Atlantic) Ridley Sea Turtle	Lepidochelys kempi	E	12/2/70
Leatherback Sea Turtle	Dermochelys coriacea	E	6/2/70
Loggerhead Sea Turtle	Caretta caretta	Th	7/28/78
Shortnose Sturgeon	Acipenser brevirostrum	E	3/11/67

SPECIES PROPOSED FOR LISTING
None

LISTED CRITICAL HABITAT
None

PROPOSED CRITICAL HABITAT
None

1. Include sperm whale only for deep water projects.

2. Humpback and right whales occur in shallow water.

UNITED STATES MARINE CORPS
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA 28542

IN REPLY REFER TO
MAIN/CDP/th
11015
17 NOV 1981

1981 NOV 19 PM 1:57

ST. PETERSBURG, FL.

Mr. Harold Allen
Acting Director Southeast Region
National Marine Fisheries Services
National Oceanic Atomospheric Administration
9450 Koger Boulevard
St. Petersburg, Florida 33702

Dear Mr. Allen:

Marine Corps Base, Camp Lejeune, North Carolina, has conducted formal consultation procedures with the U. S. Fish and Wildlife Service for endangered and threatened species pursuant to the Endangered Species Act of 1973, Title 50, Code of Federal Regulations, Number 402. Biological opinions have been rendered for the Red-Cockaded Woodpecker (Dendrocopos borealis), Atlantic Loggerhead Sea Turtle (Caretta caretta) and Green Sea Turtle (Chelonia mydas).

Formal consultation is now in progress which initially involved the Eastern Brown Pelican (Pelecanus occidentalis) and the American Alligator (Alligator mississippiensis). Possible impacts to sea turtles at Onslow Beach and in offshore waters from the Onslow Beach North Tower Range were noted during this consultation process. These impacts were listed in a draft biological opinion presently being reviewed by Marine Corps Base. The possible impacts listed include: ruts caused by assault amphibian vehicles in gaining access to the range presenting an obstacle to hatchlings reaching the sea; ruts caused by vehicles on the firing line in setting up and maneuvering also presenting an obstacle to hatchlings reaching the seas; and live service ammunition fired into the ocean causing direct mortality of sea turtles in offshore waters. The first two impacts were addressed in the draft biological opinion.

The U. S. Fish and Wildlife Service advised that the third impact was a basis for initiation of formal consultation with the National Marine Fisheries Service, who has jurisdiction over sea turtles in offshore waters. By this letter, we are, therefore, initiating formal consultation procedures with your agency to resolve any possible conflicts between Marine Corps activities and our responsibilities under the Endangered Species Act.

We look forward to consulting with you on these matters involving established military training requirements and our legal responsibilities concerning sea turtles in offshore waters.

Sincerely,

C. G. Cooper

C. G. COOPER
Major General, U. S. Marine Corps
Commanding General

FEB 0 4 1982

Base Maintenance Division

Formal Consultation; request for

CG MCB ltr MAIN/CDP/th 11015 of 17 Nov 1981
Nat Marine Fisheries ltr F/SER 61:AM of 23 Nov 1981

Marine Corps Base is required to initiate formal consultation procedures under the Endangered Species Act of 1973 to ensure that action authorized, funded or carried out do not jeopardize the continued existence of endangered or threatened species. Recent consultation involving the Eastern Brown Pelican and American Alligator identified a training activity which may affect sea turtles due to live-firing into offshore waters.

The recent consultation and previously conducted threshold examination conducted by the U. S. Fish and Wildlife Service included assessments for listed species only on land areas of the base. The U. S. Fish and Wildlife Services recommended in their draft opinion concerning live-firing from the Onslow Beach North Tower into offshore waters that Marine Corps Base request formal consultation with the National Marine Fisheries Service relative to sea turtles in offshore waters. The Staff Judge Advocate has also recommended that formal consultation be initiated due to training activities involving the North Tower Range. By reference (a) Marine Corps Base requested formal consultation with the National Marine Fisheries. The National Marine Fisheries responded with reference (b) and provided a list of species under their jurisdiction. It has been concluded the Onslow Beach North Tower 50 caliber machine gun range is not a major federal action requiring an environmental asessment as addressed in reference (b), however, a may effect situation does exist which requires formal consultation.

It is recommended that the attached letter be signed.

Very respectfully,

F. H. MOUNT
Base Maintenance Officer

ACIS FAC 2/4/82

MAIN/JIW/th
11015

Mr. D. R. Ekberg, Chief
Environmental and Technical Services Branch
National Marine Fisheries Service
9450 Koger Boulevard
St. Petersburg, Florida 33702

Dear Mr. Ekberg:

This is in response to your letter of 23 November 1981 relative to consultation procedures at Marine Corps Base, Camp Lejeune, North Carolina. Camp Lejeune personnel have reviewed the Onslow Beach North Tower 50 caliber machine gun range and have determined the range is not a major federal action requiring an environmental assessment under draft regulations amending the Endangered Species Act of 1973. The basis for this conclusion is the range involves no new construction, firing is directed into an existing range which has been under the Department of the Navy control since 3 October 1941 and there is no evidence of any mortality of the listed species.

Dr. Frank Schwartz, Institute of Marine Sciences, University of North Carolina, Morehead City, North Carolina, was contacted concerning the whales, sea turtles and short nose sturgeon which were included in the list provided with your 23 November 1981 letter. Dr. Schwartz considers the short nose sturgeon to be extinct in North Carolina since a specimen has not been taken since the turn of the century.

The fin whale, humpback whale and right whale do migrate through offshore waters from mid-March to mid-May within one-quarter mile of the shoreline at times according to Dr. Schwartz. Loggerhead and green sea turtles nest on Onslow Beach and a United States Fish and Wildlife Service permitted management plan is in effect. The hawksbill, Atlantic ridley and leatherback sea turtles migrate along the coast.

Even though there is no evidence of mortality involving the aforementioned species, direct 50 caliber machine gun fire into marine habitat occupied by these species during certain seasons of the year creates a may effect situation. Accordingly, it is hereby requested that formal consultation for the Marine Corps activities be initiated.

If additional information is desired, please contact Mr. J. I. Wooten, Director, Natural Resources and Environmental Affairs Branch, Base Maintenance Division (FTS) 676-5003 or (Commercial) 919-451-5003.

Sincerely,

File - Wildlife

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Refuges and Wildlife Resources
P. O. Box 25878
Raleigh, North Carolina 27611

June 19, 1980

Major General D. B. Barker
Camp Lejeune Marine Corp Base
Camp Lejeune, North Carolina 28542

Attention: Base Maintenance Officer

Dear Sir:

On May 28 and 29, 1980, a field reconnaissance was conducted on Base to evaluate the existing Forest-Wildlife Management Program. The following personnel attended:

U. S. Fish and Wildlife Service

John Bardwell, Jr., Chief, Wildl. Assistance
Donald T. Harke, State Supv., Wildl. Assistance
Douglas I. Hall, Wildlife Biologist, Wildl. Assistance

U. S. Forest Service

Patrick J. Barry, Supervisory Entomologist

N. C. Wildlife Resources Commission

R. Wayne Bailey, Asst. Supv., Wildl. Biologist
John M. Collins, Asst. Supv., Wildl. Biologist
Jack A. Donnelly, Supv., Wildl. Biologist
Randy C. Wilson, Wildl. Biologist

N. C. State University

Dr. Phillip D. Doerr, Assoc. Prof., Zoology

Our tour inspection specifically included Forestry Compartments 11, 12, 16, 25, 31, 34, 36, 43, 46, 48, 50, and 51.

The Natural Resources and Environmental Affairs Division is to be highly commended for its professionalism in management of the forest and wildlife resource. Their dedication is evident by a request for outside evaluation of the forestry program. It is the concensus of this committee that the statements below will serve to complement and enhance a multiple-use resource management program.

1. From our short visit, it appears that a possibility exists for the forestry program to become intensified to the possible detriment of wildlife. Land-use objectives and priorities should be continually re-evaluated for multiple-use of the resource and not for maximum production of pulpwood and timber.

2. Continue to manage for pine stands only where they naturally occur.

3. Selectively manage hardwood stands where they naturally occur.

4. Mixed stand management is not being practiced sufficiently enough to achieve optimum acreages of this stand classification. Pine-hardwood stands should be managed as mixed stands. Pine regeneration will decrease in these areas but to the benefit of hardwood species beneficial to wildlife.

5. Compartment management should be continued but the overall percentage of hardwoods and mixed hardwood stands on Base should eventually equal 50 percent of the entire forested acreage.

6. Transition zones should be expanded and protected from burning, clear-cutting or site preparation; they should also be managed to favor hardwood species utilized by wildlife. Compartment 50 is an example of complete destruction of the transition zone; the transition zone in compartment 25 has generally been adequately protected.

7. Prescribed burning of pine-only stands should be on a three-year rotation schedule wherever feasible. Avoid burning on both sides of a bayhead, creekbottom or swamp during the same season.

8. Salvage cuts due to pine bark beetle infestations should only include the infested trees and a 70 foot buffer strip beyond the green trees at the head of the spot infestation. Subsequent management of the site should favor overstory species that would naturally occur on the area, not automatic pine conversion.

9. Maintain young, vigorous pine stands below 100 sq. feet basal area and mature stands at 60 to 80 sq. ft. basal area to deter pine bark infestation.

10. Camp Lejeune currently provides high quality wildlife habitat that supports the densest wild turkey population in North Carolina as well as abundant black bear and red-cockaded woodpeckers. Forest management practices should favor these three species. Naturally, any management favoring turkey, bear, and woodpeckers will also enhance populations of white-tailed deer and a diversity of other wildlife species.

11. Effective management of the resource is possible only when enough trained personnel are available to adequately administer policy. Additional field personnel are needed to implement the Natural Resource Program.

In addition to the above statements we would like to acknowledge the Natural Resources and Environmental Affairs Division for their active interest in management and protection of threatened and endangered species. The Division should also be commended for actively cooperating with State and University personnel in collecting biological data from harvests of deer and bear and from sampling the deer herd. Without this information, it would be impossible to properly manage these wildlife populations.

Lastly, without Marine Corps assistance the State wild turkey program would not have moved forward as rapidly as has been the case. For example, the Base turkey population has steadily increased, as has the harvest. In fact, the density may be sufficiently high to cause concern about controlling further growth. Since fall either-sex hunting is not currently feasible, greater use of the population can be made through hunting and live-trap removal for the restoration program without harm and, possibly, with benefit to, the population.

We appreciate the opportunity to review the Base Forest-Wildlife Management Program. Please feel free to contact us for any additional information you may desire.

Sincerely,

Douglas I. Hall

Douglas I. Hall
Wildlife Biologist

DIH:jtc

cc: Julian Wooten

UNITED STATES MARINE CORPS
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA 28542

IN REPLY REFER TO

MAIN/JIW/th
11015

Mr. D. R. Ekberg, Chief
Environmental and Technical Services Branch
National Marine Fisheries Service
9450 Koger Boulevard
St. Petersburg, Florida 33702

Dear Mr. Ekberg:

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If additional information is desired, please contact Mr. J. I. Wooten, Director, Natural Resources and Environmental Affairs Branch, Base Maintenance Division (FTS) 676-5003 or (Commercial) 919-451-5003.

Sincerely,

UNITED STATES MARINE CORPS
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA 28547