United States Department of the Interior

FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960

August 24, 2001

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Commander, Headquarters 347th Wing (ACC)
5113 Austin Ellipse Suite 1
Moody Air Force Base, Georgia 31699-1599

Project: Endangered Species Management Plan
FWS Log No.: 4-1-01-F-808
Agency: Air Force

Dear General Rosa:

The Fish and Wildlife Service (Service) has reviewed your letter and attached "Plan for the Management of the Florida Grasshopper Sparrow, Florida Scrub-jay, and Red-cockaded Woodpecker" (Plan) (Air Force 2000) dated March 16, 2001. This letter is submitted in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (ESA). We have assigned FWS Log Number 4-1-01-F-808 to this consultation.

This biological opinion is based on information provided by Avon Park Air Force Range (APAFR), the Florida Fish and Wildlife Conservation Commission (FWCC), *South Florida Multi-Species Recovery Plan* (MSRP) (Fish and Wildlife Service 1999), and other published and unpublished sources of information. A complete administrative record of this consultation is on file in the Service's South Florida Ecological Services Office in Vero Beach, Florida.

CONSULTATION HISTORY

Between 1995 and 1997, the Service was involved in an effort, undertaken by the Air Force to develop a long range management plan for natural resources present at APAFR. This effort evolved into the Integrated Natural Resources Management Plan (INRMP) required under the Sikes Act Improvement Act (SAIA) (111 Stat. 2017-2019, 2020-2022; 16 U.S.C. 670a et seq.). During development of the INRMP, it was decided that a separate management plan would be prepared for federally listed threatened and endangered species that could be affected by ongoing training and habitat management activities.

Since development of the INRMP, the Service maintained a dialogue with APAFR to aid in development of this Plan that addresses management of three federally listed species at APAFR. That dialogue involved several meetings and numerous telephone conversations between 1997 and 2000.

In November 2000, the Service received a draft of the Plan and provided comments to APAFR staff. APAFR indicated they would be submitting the plan in early 2001 and would request formal consultation on those species that may be adversely affected by ongoing training missions and/or habitat management activities.

The Service received a request for initiation of formal consultation, dated March 16, 2001, with the attached Plan on March 20, 2001. By date of this document, the Service is initiating formal consultation on the Florida grasshopper sparrow (*Ammodramus savannarum floridanus*), Florida scrub-jay (*Aphelocoma coerulescens*), and red-cockaded woodpecker (*Picoides borealis*).

BIOLOGICAL OPINION

Description of the Proposed Action

The proposed action is implementation of the Plan as described in the December 2000 submittal. The implementation of the plan will involve ongoing training operations as well as habitat management and species monitoring activities.

Action Area

For the purposes of this consultation, the action area constitutes the area within the boundaries of APAFR. The base is currently an active installation used for military training located in Polk and Highlands Counties.

Species Status

The current status of the Florida grasshopper sparrow, Florida scrub-jay, and red-cockaded woodpecker has been summarized in the Service's MSRP (Service 1999). Critical habitat has not been identified for these species. The information below is summarized from the MSRP's accounts of the Florida grasshopper sparrow, Florida scrub-jay, and red-cockaded woodpecker.

Species Description

Florida grasshopper sparrow

The Florida grasshopper sparrow is a small, short-tailed, flat-headed sparrow averaging 12.7 centimeters (cm) in total length. The historic distribution of the Florida grasshopper sparrow is not known with certainty, but the bird is known to have occurred in Collier, Dade, Glades, Hendry, Highlands, Polk, Okeechobee, and Osceola Counties (Delany and Cox 1985, Stevenson 1978). It has been extirpated in Collier, Dade, and Hendry Counties and is now known only from Highlands, Okeechobee, Osceola, and Polk Counties. This grassland bird species is adapted to

the frequent fire events common to central Florida. Recovery of the grasshopper sparrow will require protection, restoration, and proper management of both occupied, and suitable habitat found in the center of the state.

Florida scrub-jay

The Florida scrub-jay is Florida's only endemic bird species. The Florida scrub-jay is similar in size and shape to the blue jay (*Cyanocitta cristata*), but differs significantly in coloration (Woolfenden and Fitzpatrick 1996). Unlike the blue jay, scrub-jays lack a crest. Scrub-jays evolved in, and are adapted to, the xeric scrub communities found on the Lake Wales Ridge in central Florida as well as on the ridges of Atlantic and Gulf Coasts.

Red-cockaded woodpecker

The red-cockaded woodpecker is one of 22 species of woodpeckers native to North America. Its range includes much of the southeastern United States. It occurs in pine stands in Florida and is the only woodpecker known to excavate its cavity in old-age, live pine trees. These live trees are infected with a fungus (*Phellinus pini*) that decays the heartwood, making cavity excavation easier. Pines don't often develop this fungus until 60 years of age, in addition, older trees are larger and provide a more stable condition for cavity construction.

Analysis of the Species Likely to Be Affected

The Florida grasshopper sparrow, Florida scrub-jay, and red-cockaded woodpecker have all declined in abundance and distribution due to habitat loss and fragmentation as a result of increasing urban and agricultural development. Xeric upland communities used by the scrub-jay have declined by an estimated 85 percent since European settlement (Service 1999). Greater than 64 percent of pine flatwoods, important to the survival and recovery of the red-cockaded woodpecker, have also been lost since that time. Finally, greater than 98 percent of ungrazed prairie habitat, potentially suitable for use by the Florida grasshopper sparrow, has been lost since European settlement (Service 1999).

APAFR covers approximately 106,000 acres in central Florida. While some agricultural activities, including grazing and silviculture, have occurred on the parcel, the vegetative communities important to the three species identified above are in relatively good condition and support breeding populations of all three species. APAFR represents the largest concentration of known Florida grasshopper sparrow populations, with three populations. Approximately 63 Florida scrub-jay groups are located at APAFR, and 21 active red-cockaded woodpecker clusters (APAFR 2000).

ENVIRONMENTAL BASELINE

Status of the Species Within the Action Area

APARF has been an active military installation since World War II. Active training as well as recreation, silviculture, and grazing continue to take place on APAFR. Although many areas were converted to pine plantation in the past, the majority of vegetative communities on APAFR remain suitable for use by native fauna and flora. In addition, exotic vegetation has not invaded much of the installation. Fire frequency and season resemble that prior to European settlement, particularly since the change in fire management in the prairie areas. Winter fire was used in the past, however, summer fire induces greater seed production and has been implemented for the prairies on APAFR.

APAFR has three of the six protected populations of Florida grasshopper sparrows. Two of the three populations are located in impact areas. Grasshopper sparrow populations fluctuate from year-to-year, but the five-year average population size for APAFR is 227 individuals. Populations in the Delta/OQ and Charlie/Echo areas appear to be stable, while the Bravo/Foxtrot population appears to be in decline. The reason for the decline is unknown at this time. Florida grasshopper sparrow habitat is divided into three habitat management units totally approximately 8,000 acres. An active management program to maintain and enhance the sparrow population on APAFR is in place. Population monitoring through study plots and point counts is also in place and will continue.

Florida scrub-jays at APAFR have undergone a decline. Between 1991 and 1999, the population declined from 99 groups to 63 groups. The July 2000 census indicated the decline was continuing with a total of 47 groups present at APAFR. These groups had an average group size of 3.96. It is believed that the decline between 1997 and 1999 was due to an epizootic event that also affected scrub-jays region-wide. The cause of the earlier [34 percent] decline between 1991 and 1994 is unknown.

Scrub-jays at APAFR inhabit three main population regions: the NRIDGE, SRIDGE, and RIVER regions. The remaining, scattered patches of scrub are identified as ISOLATED by APAFR and are not all occupied. The rate of decline among the regions identified at APAFR has varied from 47 percent to 58.8 percent. The ISOLATED region was the only region to show an increase in the 1991 to 1999 time period, increasing by 183.3 percent. Habitat suitable for scrub-jays has been divided into six management units at APAFR. The management units cover an estimated 18,584.8 acres, or 17.5 percent of APAFR. A total of 4,207 acres of oak scrub is found in these management units, potentially capable of supporting 168 groups of scrub-jays under ideal conditions. While management actions have been undertaken in the past, the Plan identifies additional, beneficial actions that will be undertaken to improve unoccupied habitat. Population monitoring has been performed and will continue under the Plan.

APAFR supports 35 red-cockaded woodpecker clusters on approximately 21,000 acres of suitable nesting and foraging habitat, 21of these clusters were active as of 1999. These clusters form a single population since they occur in contiguous habitat and interact throughout APAFR. Although the population appears to be stable, there has been no documented population growth at APAFR. All active cavites occur in longleaf pine (*Pinus palustris*). The majority of active clusters at APAFR occur on the north and eastern portions of the installation. Clusters to the north are contiguous with those off-site on River Ranch Acres. Since logging activities between 1925 and 1930 removed all merchantable timber, availability of suitable cavity trees may be a limiting factor. Red-cockaded woodpeckers have been monitored on the installation since the 1970s. APAFR has implemented a cavity augmentation program in which cavity inserts are added to clusters to provide additional cavity trees for red-cockaded woodpecker clusters and encourage re-occupation of inactive clusters.

Factors Affecting the Species' Environment Within the Action Area

The factors that affect these species outside of the APAFR boundaries include agricultural and residential developments as well as fire suppression. These factors are not present on APAFR. Past activities that have contributed to current species status include timber harvest, improper application of fire management, unregulated training activities, ordnance-caused wildfire, target management, and ongoing training activities.

Factors that affect the current and future status of the species' environment would include habitat management activities, ongoing training, explosive ordnance disposal, and Kissimmee River restoration activities.

While APAFR occurs in the vicinity of the Lake Wales Ridge, it is separated from Lake Wales Ridge by Arbuckle Creek. Bombing Range Ridge runs north/south through the installation and is considered separate from Lake Wales Ridge. Bombing Range Ridge supports many scrub endemic species found on Lake Wales Ridge, but lacks the skink species found on the Lake Wales Ridge.

Since APAFR is an active training installation, sufficient undeveloped areas are necessary to provide needed training opportunities to active duty and reserve training units. Open areas are also required to provide bombing and strafing targets for aircraft maneuvers. Many installation that provided some of the same training opportunities have been closed under Base Realignment and Closure. This loss of training installations and the requirements for certain types of operations ensure that APAFR will remain in its current, undeveloped state in the future. This eliminates the threat of habitat loss or fragmentation through residential, agricultural, or commercial development.

EFFECTS OF THE ACTION

Factors to be considered

Implementation of the Plan will result in continued, improved habitat management activities as well as ongoing training. The goal of the Plan is to address and offset the adverse effects of training activities. In addition, some beneficial habitat management activities result in temporary, adverse effects including loss of nests or nestlings. These adverse effects are offset through long-term beneficial effects on habitat quantity and quality or increases in winter food supplies.

The duration of the effects of implementation of the Plan would be long-term. Training and habitat management and monitoring activities are ongoing. Modifications to current management prescriptions should be beneficial to listed species occurring at APAFR.

Analyses for Effects of the Action

Habitat currently occupied by the Florida grasshopper sparrow, Florida scrub-jay, or red-cockaded woodpecker will remain available and suitable for use by these species under the Plan. Additional management activities may result in increases in available, suitable habitat for all three species.

Florida grasshopper sparrow

The patchy distribution of Florida grasshopper sparrow habitat at APAFR make increases in the number of populations unlikely. The goal of the Plan is to maintain persistent populations in all three locations. Experimental removal of trees in prairie areas has been suggested and will be implemented to provide additional opportunities for genetic exchange between the three populations on APAFR. Growing season fire events result in increased seed production in wiregrass (*Aristida* spp.). The Plan indicates this type of activity will continue. Growing season fires may result in loss of individual grasshopper sparrow nests, chicks, and fledglings. The Air Force estimates that an average of 4.82 nests per year are lost in prescribed fire events.

Ongoing training will likely continue to produce ordnance-ignited wildfire. In the Plan, the Air Force estimates that an average of 5.32 nests per year are lost to ordnance-caused wildfire. In the impact areas, ordnance-ignited wildfire has likely contributed to the maintenance of the habitat in a suitable state for the grasshopper sparrow.

None of the actions described in the Plan are likely to result in any permanent loss of habitat or reduction in reproductive success for this species despite the potential temporary adverse effects.

Florida scrub-jay

Under current conditions, modeling predicted that the Florida scrub-jay population at APAFR would fall below 10 pairs within 60 years. Scrub-jays may be adversely affected by training missions as well as through ordnance or training caused wildfire. Ordnance, both explosive and non-explosive, can result in direct mortality of individual jays or loss of nests, and/or young. In addition, range maintenance and other training activities may damage habitat either through removal of vegetation or through reduced acorn production as in the case of fire.

Military training and range maintenance may also improve habitat condition through frequent, low-intensity fire which mimics the natural lightning-caused fire common to central Florida. Range maintenance activities may also open areas with sand pine (*Pinus clausa*) overstory greater than 15 percent. These maintenance activities may also maintain open, sandy areas important for acorn caching. The benefits of these actions is supported by data that indicate nest success and fledgling production was higher for active ranges than for groups that were located outside of impact areas.

Restoration activities identified in the Plan, and undertaken as small-scale experiments in the RIVER region, should increase the amount and quality of available habitat. The large average group size of 3.96 individuals indicates that pre-breeders are available to colonize restored habitat.

Between 1994 and 2000, 10 scrub-jay nests were lost either directly or indirectly from training activities. This indicates an average of 0.7 nests per year could be lost as a result of ongoing training activities. The Air Force has identified six actions that will minimize the probability of loss of nests or individuals from these activities. These actions include restricting vehicle travel to established roads in the habitat management units and restricting the use of incendiary devices during periods of high fire danger.

While some of the activities identified in the Plan may reduce reproductive success for short periods of time, the amount and quality of habitat for the scrub-jay on APAFR should increase resulting in a subsequent increase in the number of groups present. Should the number of scrub-jay groups increase to over 100, the probability of extinction would be reduced to two or three percent (Service 1999). Scrub-jay populations of this size are essential to the long-term persistence of the species.

Red-cockaded woodpecker

The red-cockaded woodpecker population at APAFR has remained stable since monitoring was initiated in the 1970s, however, no population growth has been observed. Fledgling production at APAFR is lower than that recorded in other populations indicating that immigration may be

responsible for population stability although demographic data for the APAFR population have only been recorded since 1996. Cavity trees may be a limiting factor for red-cockaded woodpeckers at APAFR. Under current conditions, more cavity trees would become available as timber at APAFR ages; however, the rate of increase in available cavity trees might not be sufficient to induce red-cockaded woodpecker population growth. The red-cockaded woodpecker population in South Florida has not been designated a recovery unit in the recovery plan, however, it contains sufficient support populations for existing recovery units (Service 1999). The population at APAFR provides a connection between woodpeckers in southwest Florida and those to the north in Orange County and up to Ocala National Forest.

Ongoing training or habitat management activities could cause death of active cavity trees. It is unlikely, based on monitoring data provided by the Air Force, that individual woodpeckers are lost during fire events. Nine cavity trees have been lost due to prescribed or natural fire, training activities, beetle infestation, or other habitat management activities between 1996 and 2000. This represents an average annual loss of 1.2 cavity trees per year. APAFR's cavity augmentation program adequately offsets the loss of these 1.2 cavity trees per year. In addition, cavity augmentation is designed to promote formation of new clusters.

Species Response to the Proposed Action

Florida grasshopper sparrow

The implementation of the Plan will do little to alter grasshopper sparrow behavior patterns. Individual sparrows may be displaced during a prescribed burn or ordnance-induced wildfire, however, harm to adult grasshopper sparrows is unlikely as radio-telemetry data indicate adults flee the fire and return to the freshly burned areas during, or shortly after, the burn event. Breeding grasshopper sparrows would initiate nesting activities again in the burned areas. Each pair will, most likely, produce at least one additional clutch following an early growing season fire event.

Florida scrub-jay

While modeling indicates that scrub-jays are likely to decline further at APAFR, management actions proposed in the Plan allows the Air Force to predict that the number of groups present at APAFR will increase toward 93 groups within five years of the completion of restoration efforts. This number should continue to climb toward the maximum of 128 groups the Air Force believes APAFR can reasonably sustain.

As restoration activities are implemented, pre-breeder jays should disperse and form new groups in the newly available habitat. Since groups that occur in more open habitats are more successful than those adjacent to more forested communities, reproductive success of many groups should increase in response to habitat restoration activities.

Red-cockaded woodpecker

Past population monitoring and demographic data indicate that the red-cockaded woodpecker population at APAFR should remain stable or decline in the future without the management actions described in the Plan. Implementation of the management actions described, including augmentation, fire management, and translocation, should increase the probability of population increases at APAFR. Since APAFR is an important link between central and southwest Florida populations of red-cockaded woodpeckers, expansion of this population would facilitate recovery actions needed in central and southern Florida.

CUMULATIVE EFFECTS

Cumulative effects are the effects of future State, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA.

Since the proposed action is located on a Federal military installation there are no actions that may occur within the action area that would not be subject to consultation.

CONCLUSION

After reviewing the current status of the Florida grasshopper sparrow, Florida scrub-jay, and red-cockaded woodpecker, the environmental baseline for the action area, and the effects of implementation of the Plan, it is the Service's Biological Opinion that the Plan, as written, is not likely to jeopardize the continued existence of the Florida grasshopper sparrow, Florida scrub-jay, or red-cockaded woodpecker. No critical habitat has been designated for this species; therefore, none will be affected.

INCIDENTAL TAKE

Sections 4(d) and 9 of the ESA, as amended, prohibit taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct) of listed species of fish or wildlife without a special exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. Harass is defined as

actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is any take of listed animal species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or the applicant. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered a prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are non-discretionary, and must be implemented by the agency so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(o)(2) to apply. The Air Force has a continuing duty to regulate the activity covered by this incidental take statement. If the Air Force (1) fails to adhere to the terms and conditions of this incidental take statement, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Air Force must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement. [50CFR 402.14(i)(3)].

Amount of Take

Based on information available, the Service anticipates incidental take in the form of death or injury from the loss of 5.32 Florida grasshopper sparrow nests, 0.7 Florida scrub-jay nests, and loss of 1.2 red-cockaded woodpecker cavity trees per year present within the action area. Since adult mortality from incidental take has been difficult to determine, and it is likely that adults and fledglings of these species will leave the area and suffer no ill effects from fire, training operations, or other management actions, the Service does not anticipate loss of adult birds. Take may also occur in the form of harm through modification of essential behavior patterns including breeding, feeding, and sheltering. With the measures outlined below, the Service anticipates that incidental take levels will be minimal. The Service has determined that this level of impact is not likely to result in jeopardy to this species.

Effect of Take

The proposed Plan will affect all three species in a similar manner. It is likely that incidental take due to ongoing training, ordnance-caused wildfire, or habitat management practices will continue to occur. However, the benefits of fire management, whether prescribed or ordnance-caused often outweigh the potential losses of nests and/or juveniles. In addition, the Air Force plans to continue the endangered species management programs that provide opportunities for improvements in the species status that could aid in recovery efforts.

Species-specific management prescriptions outlined in the Plan should result in overall improvements in population status that exceed the level of anticipated incidental take as described above. This should ensure that, barring epizootic events, the intrinsic rate of growth (r) exceeds 1.0 in future years.

In this Biological Opinion, the Service has determined that the level of anticipated take is not likely to result in jeopardy to the species. Critical habitat has not been identified for these species.

Reasonable and Prudent Measures

The Service believes the following reasonable and prudent measure is necessary and appropriate to minimize take (harm and/or harass) of Florida grasshopper sparrows, Florida scrub-jays, and red-cockaded woodpeckers.

> The proposed Plan will be implemented as described on page 2 of this Biological Opinion and in the Plan itself. Reporting requirements and coordination with the Service will occur as described in the Plan as well.

Terms and Conditions

To be exempt from the prohibitions of section 9 of the ESA, the Air Force must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. The Natural Resources staff or an approved contractor will execute the components of the plan as described.

2. The Air Force will maintain the management priority identified on page14 of the Plan. The Air Force has stated that, where conflicts exist, management shall focus first on the Florida grasshopper sparrow, next on the Florida scrub-jay, and finally on the red-cockaded woodpecker.

3. The Air Force shall coordinate Plan revisions with the Service on the five-year timeframe identified in the Plan.

4. Upon locating a dead, injured, or sick individual of an endangered or threatened species, initial notification must be made to U.S. Fish and Wildlife Service Law Enforcement Office, 9721 Executive Center Drive, Suite 206, St. Petersburg, Florida 33702 (813/570-5398). Additional notification must be made to the Fish and Wildlife Service Ecological

Services Field Office at Vero Beach, Florida. Care should be taken in handling sick or injured individuals and in the preservation of specimens in the best possible state for later analysis of cause of death or injury.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize, or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information that helps improve the status of endangered or threatened species.

1. The Air Force should provide annual reports on the status of the Florida grasshopper sparrow, Florida scrub-jay, and red-cockaded woodpecker to the Service. These reports should include, at a minimum, yearly census results, management activities undertaken, the results of the management activities, and results of specific studies performed on each species.

2. The Air Force should continue demographic or other studies on these species. Such studies may define improvements that will be needed to ensure survival and recovery of the populations of these species present at APAFR.

For the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION

This concludes formal consultation on the action outlined in the consultation request. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in the opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) any new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

Thank you for the opportunity to comment on this proposed action, please contact Jane Tutton at (561) 562-3909, extension 235 if you have any questions regarding this letter.

Sincerely,

Kalani D. Cairns

for James J. Slack
Project Leader
South Florida Ecological Services Office

cc:
Service, Ecological Services, Atlanta, GA (Tom Sinclair)
APAFR (Paul Ebersbach)

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