



United States Department of the Interior

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Project: Multiple Launch Rocket System
Expanded Training Use Areas at
Avon Park Air Force Range

Counties: Highlands and Polk

Dear Colonel Gallant:

This document transmits the Fish and Wildlife Service's (Service) biological opinion based on our review of the Florida Army National Guard (FLARNG) proposed artillery training at Avon Park Air Force Range (APAFR), Highlands and Polk Counties, and its adverse effects on the threatened eastern indigo snake (*Drymarchon corais couperi*) in accordance with section 7 of the Endangered Species Act of 1973, as amended (ESA) (87 Stat. 884; 16 U.S.C. 1531 *et seq.*). This document also transmits the Service's view of the effects of the proposed action on other federally protected species at APAFR in accordance with the ESA. Acronyms and abbreviations used throughout this letter are outlined in Table 1.

The FLARNG proposes to expand the 3-116th training and maneuver area at APAFR to enable the 3-116th to conduct battalion-level Multiple Launch Rocket System (MLRS) training, fulfilling their training requirements to become certified as combat capable and ready. Battalion level MLRS training includes section, platoon, and battery certification for a minimum of 6 weekends-per-year and one 15-day annual training exercise. This would require one to four maneuver areas (MAs) per weekend training exercise, which would be used simultaneously.

In their March 18, 2005, draft Environmental Assessment (EA), the FLARNG provided a determination of "no affect" for all federally protected animal species except the eastern indigo snake, which they made a determination of "may affect, but is not likely to adversely affect." In a letter to the Service dated July 28, 2005, the FLARNG modified their determination for the snake to "may adversely affect" and requested initiation of formal consultation. The FLARNG also made determinations of "no affect, or is not likely to adversely affect" for pigeon wings



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(*Clitoria fragrans*) and “no affect” for wireweed (*Polygonella basiramia*). They modified their “no affect” determinations to “no affect, or is not likely to adversely affect” for the red-cockaded woodpecker (*Picoides borealis*) (RCW), the Florida scrub-jay (FSJ) (*Aphelocoma coerulescens*), the Florida grasshopper sparrow (FGS) (*Ammodramus savannarum floridanus*). They maintained their “no affect” determinations for the Everglade snail kite (*Rostrhamus sociabilis plumbeus*), the sand skink (*Neoseps reynoldsi*), the bluetail mole skink (*Eumeces egregius lividus*), the Highlands tiger beetle (*Cicindela highlandensis*), the wood stork (*Mycteria americana*), the Audubon’s crested caracara (*Caracara cheriway*), the bald eagle (*Haliaeetus leucocephalus*), and the Florida panther (*Puma concolor coryi*).

THREATENED AND ENDANGERED SPECIES

For the species discussed below, the FLARNG has made a determination of “no affect.”

Everglade snail kite

The proposed action occurs within the consultation area of the endangered Everglade snail kite. The snail kite has not been documented at APAFR; however, one snail kite was observed at Lake Arbuckle west of APAFR during a Christmas bird count in 1994. In addition, there have been no records of either snail kite nests or roost sites at APAFR. Consequently, APAFR has not developed a management plan for this species. Because the snail kite has not been documented at APAFR, and they are not known to use the habitat in the vicinity of the MAs, the Service supports the FLARNG’s determination for the snail kite.

Sand and Bluetail mole skink

The proposed action occurs within the consultation area of both the threatened sand skink and the threatened bluetail mole skink. Neither skink is known to occur or has been documented at APAFR. In addition, a herpetological survey conducted in scrub and sandhill habitat at APAFR and at the nearby Arbuckle Tract of the Lake Wales State Forest from May 1994 to October 1998 using a variety of sampling techniques, revealed no evidence of either skink (Branch and Hokit 2000). Consequently, monitoring has not been conducted and a management plan has not been drafted for either species. The Service supports the FLARNG’s determination for both skink species.

Highlands tiger beetle

The Highlands tiger beetle is a candidate for listing as threatened or endangered by the Service. The tiger beetle, which is restricted to open, sandy, well-drained dunes in Highlands and southern Polk Counties, has not been documented at APAFR. Because the tiger beetle prefers the Florida rosemary (*Ceratiola ericoides*) scrub habitat of the Lake Wales Ridge, and APAFR contains no actual Florida rosemary scrub habitat, it is unlikely the tiger beetle occurs on-site. Consequently,

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monitoring has not been conducted and a management plan has not been drafted for the tiger beetle. Based on this information, the Service supports the FLARNG's determination for the tiger beetle.

Wood stork

The endangered wood stork has been observed throughout APAFR, but is not known to nest at APAFR or on adjacent areas (U.S. Navy [Navy] 2005). A wading bird study, including the wood stork, is currently being conducted at APAFR (Navy 2005). Although there are no specific management activities for the wood stork, habitats are maintained and managed in accordance with APAFR's Endangered Species Management Plan (ESMP) and Integrated Natural Resources Management Plan (INRMP).

The wood stork typically utilizes freshwater marshes, ponds, ditches, tidal creeks and pools, impoundments, pine (*Pinus* sp.)/cypress (*Taxodium ascendens*) depressions, and swamp sloughs for foraging. They forage most effectively in shallow-water areas with highly concentrated prey, such as wetland depressions subject to seasonal drying. During the training action, the majority of vehicular traffic will take place along constructed and established roads in designated uplands. Some vehicles may accidentally go into wetlands; however, management actions have been incorporated into the proposed action to avoid and minimize potential impacts to sensitive habitats such as wetlands.

Potential impacts to the wood stork would not be expected based on wood stork occurrence, location of suitable habitat, and frequency and duration of the proposed action. Based on the information provided, the Service supports the FLARNG's determination for the wood stork.

Audubon's crested caracara

Although the threatened Audubon's crested caracara is occasionally observed on APAFR, there are no data regarding population size (Navy 2005). The caracara uses a variety of habitats at APAFR that are managed primarily through prescribed fires to promote native vegetation and fauna. The only known caracara nest is several miles southeast of the Bravo Range high explosive (HE) impact area, and the proposed action is not expected to increase risk to the caracara. The Service supports the FLARNG's determination for the caracara.

Bald eagle

The bald eagle is a frequent visitor to APAFR and two nesting sites are regularly used. One nesting site (Florida Fish and Wildlife Conservation Commission [FWC] nest number PO-010) is located on the northwestern portion of the range between Deadins Pine Swamp and Arbuckle Lake. The southern nesting site (FWC nest number HI-016) is on the southeast portion of the

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range, off Orange Hammock Trail, south of the pine plantation, on County Line Road (Navy 2005).

No known nest sites exist within the MAs. The closest nesting location is approximately 0.5 mile from MA-2 in the northwestern portion of the range. Based on the above information, the Service supports the FLARNG's determination for the bald eagle.

Florida panther

Florida panther radio telemetry data from the FWC for the period extending from February 1981 to December 2003 indicates one individual was reported on the extreme northwest region of APAFR on May 18, 20, and 27, 1998. The same panther was also documented a short distance from the above-stated location and off APAFR on four different occasions between May 25 and June 3, 1998. Review of the same dataset maintained by the FWC for the presence of panthers within a 10-mile radius of the perimeter of APAFR indicates one individual was recorded approximately 20 times in 1998, 1999, and 2000. This individual was primarily observed in the northwest corner of the range, but also to the north and southwest. Beyond the 10-mile radius, this individual was again documented primarily in the north and northwest region of the range over the same timeframe. This panther was not recorded in this area after June 2000. A 2-day survey conducted by the FWC in 2003 at APAFR revealed no evidence of panthers (Navy 2005).

The occurrence of the Florida panther within the MAs would be extremely rare. Because the occurrence of the Florida panther on APAFR is extremely low, changes in habitat use or breeding behavior would not be expected. Consequently, the Service supports the FLARNG's determination for the Florida panther.

Wireweed

Located only in Polk and Highlands Counties, wireweed is endemic to the ridges in the Lake Wales, Winter Haven, and APAFR areas, where it readily disperses to bare sandy soils associated with disturbed areas (Service 1999). Wireweed is commonly found in Florida rosemary scrub, which is not present at APAFR; however, some rosemary plants do exist in sand pine scrub habitats. Threats to wireweed involve the destruction of scrub habitat and the lack of large-scale disturbance events. Consequently, the recovery plan for this species involves management of the habitat through prescribed fires.

Approximately 150 sites have been identified as potential habitat for wireweed at APAFR (Orzell 2004). As of August 2004, 39 percent of these sites had been surveyed. The species was not found in any of the MAs during the 2001 through 2004 survey. Based on the absence of the species within any of the MAs, the Service supports the FLARNG's determination for the wireweed.

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For the species discussed below, the FLARNG has made a determination of “no affect, or is not likely to adversely affect.”

Red-cockaded woodpecker

The proposed action occurs within the consultation area of the endangered RCW. In 2003, 22 active RCW clusters were documented at APAFR, which is similar to the number of clusters ($n = 21$) reported from APAFR during the mid-1970s, suggesting that the population has remained stable (U.S. Air Force [USAF] 2000). RCW clusters are distributed throughout the range but are concentrated in the north-central, northwest, northeastern, and eastern portions of the range.

At APAFR, all RCW groups occur in longleaf pine (*Pinus palustris*) habitat, though historically they occurred in slash pine (*P. elliottii* var. *densa*). The distribution of longleaf pine at APAFR is patchy with small tracts scattered throughout a matrix of habitat types unsuitable or of low habitat value for RCWs. The distribution of longleaf pine that has potential as RCW habitat has been delineated and managed as habitat management units (HMUs). The HMUs are managed for RCW nesting and foraging and include all areas currently occupied by RCWs and those areas that have potential to support the RCW. Current management practices in RCW HMUs include prescribed burning, mechanized vegetation treatments, and planting of longleaf pine. In addition, translocation of the RCW and cavity augmentation with artificial cavities is a part of the habitat management plan (USAF 2000). Since 1998, APAFR staff has translocated 17 RCWs, and to date, five of the translocated birds have successfully fledged a total of nine birds (Navy 2005). The entire RCW population at APAFR and one-fifth of all potential RCW habitat is surveyed annually (Navy 2005).

Federal lands play a crucial role in the recovery of the RCW in south Florida as the vast majority of existing RCW populations occurs on Federal lands (Service 2003). APAFR is a designated essential support population because it supports one of the largest remaining populations in the ecologically unique South/Central Florida Recovery Unit (Service 2003). Furthermore, the decline and local extirpation of RCWs on private lands continues despite efforts to establish conservation partnerships with private landowners. The MAs included in the proposed action encompass 2,137 acres of habitat designated as HMUs for the RCW (Table 2).

From 1992 to 2000, four active cavity trees have been lost due to prescribed fires, three from ordnance-ignited wildfire, and two from beetle infestation (USAF 2000). There have not been any known incidents of direct mortality of adult RCWs or of the loss of an entire cluster of cavity trees. If wildfires reach a cavity, the potential for damage or loss of a cavity that may or may not contain eggs or nestlings would exist. Ordnances used during training are inert and all fuel is expended prior to reaching the target; thus, wildfires are not expected to result from proposed action.

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The Service and the FWC worked in close partnership with APAFR to develop the ESMP for management of the RCW, FGS, and FSJ. The plan outlines conservation measures to ensure the persistence of the three focal species and their habitats, while simultaneously facilitating the military training mission. The FLARNG has agreed to incorporate avoidance considerations outlined in the ESMP as they relate to the proposed action. Specifically, the proposed action will not occur within a 200-foot buffer of any RCW cavity trees or RCW cluster centers, and transient activities such as vehicle maintenance and hand digging within the vicinity of RCW nesting habitat will be limited to two hours or less per day. Also, there will be no assembly area operations, combat support areas, or camouflage netting within the vicinity of RCW nesting habitat.

Twelve acres of RCW foraging habitat overlap the Delta MA (Table 2). Activities within the MA may result in noise disturbance to foraging RCWs, though disturbance will be limited to a maximum of 25 days-per-year. The Service believes potential noise-related effects will be minimal and will not significantly impact RCW foraging habits. Other potential impacts include damage to lateral roots of forage trees as a result of vehicular travel and soil compaction. The extent to which this disturbance affects tree vigor or mortality is not well documented (U.S. Department of the Army [Army] 1996); as cited in Service (1998). Considering the low frequency of training activities throughout the year and the relatively small area of affected foraging habitat within the MA (approximately 9 percent of the total area), impacts to forage trees are expected to be negligible.

Based on the information provided, the Service supports the FLARNG's determination for the RCW.

Florida grasshopper sparrow

The proposed action occurs within the consultation area of the endangered FGS. There are no FGS HMUs within the proposed MAs but HMUs do overlap portions of the Bravo Range ordnance impact area. Potential impacts to FGS based on the MLRS firing actions were addressed in the FLARNG's 1996 EA and a subsequent letter from the Service (1996). However, the Service was concerned that due to recent significant population declines, the effects of the action could affect the sparrow in a manner or to an extent not previously considered.

Three FGS sub-populations (Bravo, Echo, and Delta Trail Area-OQ Ranges) are recognized at APAFR and have been surveyed from 1996 to 2004. These surveys show a steady decline in the overall population, with the sub-population at the Bravo/Foxtrot Range impact areas having been possibly extirpated (Tucker and Bowman 2004). The total population size reported at APAFR during 2002 was 162 sparrows distributed between the three populations with the largest population (100 sparrows) reported at Echo Range (Delany 2002). In 2003, the FGS population at APAFR declined significantly with a total of 12 male sparrows and 1 additional bird of unknown sex detected. No sparrows were detected in the smallest population (Bravo Range) and

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the remaining birds were distributed between the other two populations (Delta Trail Area-OQ and Echo Ranges) (Bowman and Tucker 2003). During the 2004 breeding season, a total of 15 male sparrows were detected with only one of those being detected at Bravo Range (Delany et al. 2005).

The FGS was listed as endangered due to habitat loss, limited distribution, and a declining population (51 FR 27495). Florida grasshopper sparrows are strongly habitat-specific, occupying only native fire-maintained dry prairie, which occur almost exclusively on a few parcels of public land. Five primary FGS populations occur on public lands in Florida: three at APAFR, one at Kissimmee Prairie Preserve State Park (KPPSP), and one at Three Lakes Wildlife Management Area (TLWMA). Besides these public lands, there is little potential habitat remaining for the FGS in Florida. There is one FGS population known from a privately-owned ranch in Okeechobee County, but it has not been thoroughly assessed since 2001. The populations at KPPSP and TLWMA have fluctuated but appear stable; however, the concurrent and unexplained decline of the three populations at APAFR is cause for concern (Delany et al. 2005). Small population size, small geographic range size, and specialized habitat requirements have all been cited as possible risk factors for extinction (Webb et al. 2002), and evidence suggests that the APAFR populations are currently in danger of extirpation (Delany et al. 2005).

Potential impacts as a result of the action include bird mortality, nest destruction or abandonment, disruption in normal behavior, and habitat degradation from direct ordnance impact or associated noise. These types of impacts would be extremely rare and have never been documented in association with existing training at APAFR (Navy 2005).

The Service does not believe the proposed action presents a significant increased risk to the FGS and supports the FLARNG's determination for the FGS.

Florida scrub-jay

The proposed action occurs within the consultation area of the threatened FSJ. Populations of the FSJ on APAFR are divided into four different groups. These four groups include the north and south bombing range ridges; a group occupying a ridge along the Kissimmee River; and a small group scattered throughout APAFR. From 1991 to 1999, the FSJ population on APAFR declined by 36.4 percent from 99 groups to 63 groups (USAF 2000). The population continued to decline to 51 groups from 1999 to 2001 (Navy 2005). A small increase to 54 groups was observed during 2003, which was attributed to high survival of adults and juveniles, successful reproduction in 2002, and a large number of immigrants in 2003 (Navy 2005). An increase to 56 groups was documented in 2004 (Navy 2005).

The HMUs for FSJs are managed for breeding habitat and matrix habitats for the dispersal of FSJs. These HMUs are managed using prescribed fires and mechanical methods. Monitoring the FSJ populations according to the ESMP consists of an annual survey of all FSJ habitats on

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APAFR, which is conducted in late June and early July. In addition, all nests are located and nestlings banded. The MAs included in the proposed action originally encompassed 52 acres of habitat designated as HMUs for the FSJ (Table 3). Per the Service's request, the FLARNG agreed to redraw the boundaries of the MAs to exclude all FSJ HMUs. Based on the FLARNG's actions to avoid impacting FSJ habitat, the Service supports the FLARNG's determination for the FSJ.

Pigeon wings

Pigeon wings occur in the vegetative communities along the Lake Wales Ridge in Highlands, Polk, and Orange Counties. It has been estimated that less than 3,000 plants are located in these three counties. This threatened species is usually not found in high density and it appears fire management may be vital to its long-term survival and recovery. Though this species may exist in a continuum of scrub to sandhills (high pineland) vegetation, it is most prevalent in an intermediate vegetative complex referred to as turkey oak (*Quercus laevis*) barrens (Christman 1988). Christman and Judd (1990) reported the species from scrub, turkey oak barrens, and the edges of high pines. This plant is threatened by habitat loss due to conversion to agricultural, residential and commercial uses, fragmentation of existing populations and habitat degradation by off-road vehicle use, trash dumping, and trampling.

Pigeon wings are known to occur on APAFR and a total of 57 sites have been identified as potential habitat for this species (Orzell 2004). As of August 2004, 89 percent of the sites had been surveyed (Navy 2005). As a result of the surveys, a 0.072-acre area of pigeon wing was found within MA-2. Consequently, the FLARNG has agreed to redraw the boundaries of the MA to exclude the pigeon wing patch. Based on actions to avoid impacting pigeon wings, the Service supports the FLARNG's determination.

For the species discussed below, the FLARNG has made a determination of "likely to adversely affect."

Eastern indigo snake

Approximately 50,000 acres of upland habitat at APAFR provide potential habitat for the threatened eastern indigo snake (Legare and Breininger 2002). A study of the distribution of the eastern indigo snake at APAFR showed it to be widespread in a variety of habitats including oak (*Quercus* spp.) scrub, pine plantations, oak hammock, pine flatwoods, sand pine scrub, dry prairie, hardwood swamp, and disturbed areas (Franz et al. 1998). Because indigo snakes use a variety of habitat types and they have large home ranges at APAFR (Navy 2005), it is likely that indigo snakes occur in the MAs and along the roads and trails. The potential exists for disturbance or harm to individual indigo snakes within the MAs and along the roads and trails due to tracked vehicle use during the training maneuvers. Potential impacts to indigo snakes from tracked vehicle use include injury or direct mortality due to maneuvers within the MAs,

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injury or mortality on access roads by vehicles under the proposed action, and disturbance, fragmentation, or destruction of habitat within the MAs.

The FLARNG has agreed to use the Service's *Standard Protection Measures for the Eastern Indigo Snake* (Service 2002) while moving all vehicles to and from maneuvering areas. These movements will be confined to established tank trails or roads and maximum speeds will not exceed 25 miles per hour. Though these protective measures may minimize impacts to snakes while on established trails or roads, they are unlikely to provide any protection while maneuvering within the MAs. The FLARNG has determined the proposed action "may adversely affect" the eastern indigo snake. Based on the information provided, the Service supports the FLARNG's determination and is providing this biological opinion in conclusion of formal consultation.

This biological opinion is based on information provided in the March 18, 2005, draft EA, telephone conversations, emails, meetings, and other sources of information. A complete administrative record of this consultation is on file in the South Florida Ecological Services Office, Vero Beach, Florida.

The Use of Best Scientific and Commercial Information by the Service

The Service uses the most current and up-to-date scientific and commercial information available. The nature of the scientific process dictates that information is constantly changing and improving as new studies are completed. The scientific method is an iterative process that builds on previous information. As the Service becomes aware of new information, we will ensure it is fully considered in our decisions, evaluations, reviews, and analyses as it relates to the base of scientific knowledge and any publications cited in our documents.

Specifically, there is one such document cited in this biological opinion the Service acknowledges has been affected in its cited form by new scientific information. The Service has taken these new sources of information into account when using this document to help guide our analysis and decisions. This document is the South Florida Multi-Species Recovery Plan (MSRP) of 1999 (Service 1999).

South Florida Multi-Species Recovery Plan

The MSRP was designed to be a living document and it was designed to be flexible to accommodate the change identified through ongoing and planned research and would be compatible with adaptive management strategies. These principals are set forth in both the transmittal letter from the Secretary of the Interior and in the document itself. As predicted, this is what indeed occurred in the intervening years since the MSRP was published. The Service uses the MSRP in the context it still presents useful information when taken in conjunction with all the new scientific information developed subsequent to its publication.

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Consultation History

On December 20, 2004, the FLARNG released a preliminary draft EA as required by the National Environmental Policy Act for the M270 Multiple Launch Rocket System Expanded Training Use Areas proposed action at Avon Park.

On March 24, 2005, the FLARNG submitted a draft EA to the Service on the proposed action. The EA identified 12 federally-protected species that could be affected by the action. The FLARNG determined that the proposed action would have “no affect” on the RCW, FGS, FSJ, bald eagle, Florida panther, wood stork, Audubon’s crested caracara, sand skink, bluetail mole skink, Highlands tiger beetle, and Everglade snail kite. The FLARNG determined the proposed action “may affect, but is not likely to adversely” affect the eastern indigo snake.

On April 28, 2005, the Service commented on the draft EA via email. The Service acknowledged that the FLARNG had proposed many steps to protect listed species, but was concerned that the action had the potential to adversely impact the RCW, FSJ, and eastern indigo snake. The Service stated that the proposed action may also affect two federally-protected plant species: the pigeon wing and wireweed. The Service noted that additional information would be necessary to determine whether initiation of formal consultation was appropriate.

On May 5, 2005, the Service participated in a teleconference with representatives from the FLARNG and the USAF to discuss the proposed action and potential impacts to listed species. The Service recommended including the ordnance delivery and HE impact areas in the proposed action for the purposes of consultation in accordance with section 7 of the ESA. The FLARNG noted that the action of firing rockets and the effects to HE impact areas was addressed in a previous EA (FLARNG 1996). The Service was concerned, though, that new information could reveal the effects of the action may affect listed species in a manner or to an extent not previously considered. The FLARNG agreed to consider including the firing action in the proposed action.

On June 30, 2005, the Service attended an interagency coordination meeting at APAFR with representatives from the FWC, APAFR Environmental Flight, and the FLARNG. The FLARNG’s proposed action was among the topics discussed at the meeting. The participants also visited several of the proposed MAs to be used for the MLRS training exercises.

July 21, 2005, the Service met with representatives from the FLARNG at the Service’s Vero Beach Ecological Services office to discuss ways to further minimize potential impacts to listed species. The FLARNG agreed to modify the footprint of three of the six MAs to completely avoid designated FSJ habitat. The FLARNG also modified the footprint of one MA to avoid a 0.072-acre area of the federally-protected pigeon wing. The FLARNG noted that no wireweed was found during surveys of the six proposed MAs in 2001 and 2004. The Service also expressed concerns that a significant amount of RCW HMUs overlapped with the proposed MAs.

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The FLARNG's draft EA addressed potential impacts due to training activities that involved moving to and from and within the MAs; but, it did not include the action of firing rockets or the effects to HE impact areas, as this was addressed in the FLARNG's 1996 EA. The Service expressed concerns that new information could reveal that the effects of the action may affect listed species in a manner or to an extent not previously considered. Specifically, the Service was concerned that ordnance-ignited wildfires could potentially impact the FGS and the FSJ by destroying nests, killing nestlings, displacing birds from occupied habitat, or destroying vegetation and trees within occupied habitat. At the meeting, the FLARNG presented information to the Service that training units would use Reduced Range Practice Rockets (RRPR), which are "cold" when they hit the HE area, so that the risk of fire was negligible. The FLARNG also indicated that the firing action had not changed since the 1996 EA; thus, they believed that it was not necessary to reinitiate consultation on the ordnance delivery action and the Service concurred.

On August 4, 2005, the Service received a letter and related information from the FLARNG summarizing the information presented at the July 21, 2005 meeting. The FLARNG modified their determination for the RCW, FSJ, and FGS from "no affect" to "no affect, or is not likely to adversely affect." They also changed their determination for the eastern indigo snake from "may affect, but is not likely to adversely affect" to "may adversely affect," and requested the Service initiate formal consultation for the snake. They made determinations of "no affect, or is not likely to adversely affect" for pigeon wings and "no affect" for wireweed, and maintained their "no affect" determinations for all other listed species.

On September 6, 2005, the Service provided the FLARNG with a draft copy of the biological opinion for the eastern indigo snake.

On September 19, 2005, the FLARNG provided the Service with comments on the draft biological opinion.

BIOLOGICAL OPINION

DESCRIPTION OF PROPOSED ACTION

Proposed Action

The proposed action is to expand the 3-116th training and maneuver area at APAFR to enable the 3-116th to conduct battalion-level MLRS training, fulfilling their training requirements to become certified as combat capable and ready. Battalion level MLRS training includes section, platoon, and battery certification for a minimum of 6 weekends-per-year and one 15-day annual training exercise. This would require one to four MAs per weekend training exercise, which would be used simultaneously.

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Battalion Training and Certification

The training events described below include spatial and temporal requirements common to all comprehensive battalion training actions.

Section Training

The first type of event is a section certification and occurs over the course of 2 weekends. This certification requires use of a training area for static tasks such as donning chemical protection gear, first aid, radio use and protocol, land navigation, and weapons maintenance. This certification requires a separate MA (Table 4). A total of 18 sections will be rotated through the MAs for training. Each section may occupy a different MA or multiple sections may use a single MA. The personnel and equipment used during a typical section training weekend is shown in Table 5.

Platoon Training

The second type of event is a platoon certification and is accomplished over the course of 2 weekends (Table 4). This event requires the entire battalion to be in the field. Each battery would generally occupy a different MA. Typically, they would travel to the MA early Saturday morning, perform their training in the afternoon or late evening, and then move to a different MA. Two platoons in a battery may move together, but it is more typical to move one platoon at a time. The units move to a rally point and then move together as a platoon. Next, they go to a release point within the MA and then move to their own operational area. The personnel and equipment used during a typical training weekend for platoon certification is shown in Table 5.

Annual Training

The third type of training event is the 15-day annual training (Table 4). During this event, the entire battalion remains in the field conducting maneuver training. The battalion maneuvers through the training area and is presented with different training scenarios. Consequently, the battalion needs an additional area large enough to hold three firing batteries through which to rotate the battalion. During the maneuver training, each battery is removed individually to fire inert rockets during a strictly controlled live fire exercise. Annual training requires four MAs for training of the battalion plus a live fire area and a corresponding impact area for the inert rockets.

Battery Training

The fourth type of training event is battery training. After the annual training in which each battery is evaluated, the evaluators, along with the battery commander and the battalion commander, may determine that his battery is insufficiently prepared for deployment to combat.

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Each battery commander may then potentially need 2 weekends to retrain his soldiers to the proper standard (Table 4). The personnel and equipment used during a typical training weekend for platoon certification is shown in Table 5. The amount of retraining each battery needs is at the discretion of the battery commander. If retraining were to occur at the same time, the four batteries would need a maximum of four MAs per weekend. However, depending on the retraining needs, they could need from one to four MAs.

Multiple Launch Rocket System Operations

The FLARNG would use existing maneuver points during training exercises. These points are not adequate for the launchers but they could be used for wheeled vehicles. During the 15-day annual training, each of the three firing batteries would conduct a highly controlled live fire with RRPR. Live fire would occur over an approximately 72-hour period, with 4 hours needed per section. Each section would rotate to firing point A-6 on the main airfield at different times and would fire three rounds for a total of 54 rounds into the approved HE impact area on Bravo Range. The rounds are non-energetic once they have expended their propellant with the exception of a smoke marking charge. The section would return to the hide area within the MA once the rocket firing was completed. This rotation would continue over a 3-day period until all sections completed their live fire training.

Preferred Alternative

Under the preferred alternative, six MA sites were identified that would be able to support battalion maneuver training (Table 6). Any of the six MAs would be individually or collectively scheduled and used during a given training exercise. The FLARNG would provide a preliminary training schedule for the year in advance, and would coordinate the scheduling with APAFR for the 6 weekends and one 15-day annual training event. Regardless of the number of MAs scheduled per month, the MLRS battalion would only schedule training areas at APAFR for 1 weekend per month. The MLRS typically uses existing roads and tank trails approximately 75 to 90 percent of the time and goes off-road approximately 10 to 25 percent of the time when executing “hide,” “load,” and “firing” exercises.

Action Area

The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. The Service has determined that the action area for the proposed project is the 2,566 acres which comprises the six MAs at APAFR (Figure 1). In addition, because tracked and other vehicles will be traveling to and from MAs, the area of the tank trails and roads could potentially be affected by the project.

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STATUS OF THE SPECIES AND CRITICAL HABITAT RANGE WIDE

Species Description

The eastern indigo snake is the largest non-venomous snake in North America, obtaining lengths of up to 8.5 feet (2.6 meters) (Moler 1992). Its color is uniformly lustrous-black, dorsally and ventrally, except for a red or cream-colored suffusion of the chin, throat, and sometimes the cheeks. Its scales are large and smooth (the central 3 to 5 scale rows are lightly keeled in adult males) in 17 scale rows at mid-body. Its anal plate is undivided. In the Keys, adult eastern indigo snakes seem to have less red on their faces or throats compared to most mainland specimens (Lazell 1989). Several researchers have informally suggested that Lower Keys eastern indigo snakes may differ from mainland snakes in ways other than color.

Critical Habitat

Critical habitat has not been designated for this species.

Life History

In northern Florida, eastern indigo snakes breed between November and April, with females depositing 4 to 12 eggs during May or June (Moler 1992). Young hatch in approximately 3 months and there is no evidence of parental care. Limited information on the reproductive cycle in south-central Florida suggests that the breeding and egg-laying season may be extended. In this region, breeding extends from June to January; laying occurs from April to July; and hatching occurs during mid-summer to early fall (Layne and Steiner 1996). Snakes in captivity take 3 to 4 years to reach sexual maturity (Speake et al. 1987). Female eastern indigo snakes can store sperm and delay fertilization of eggs. There is a single record of a captive snake laying five eggs (at least one of which was fertile) after being isolated for more than 4 years (Carson 1945). However, there have been several recent reports of parthenogenetic reproduction by virginal snakes. Hence, sperm storage may not have been involved in Carson's (1945) example (P. Moler, FWC, personal communication 1998). There is no information on the eastern indigo snake lifespan in the wild, although one captive individual lived 25 years, 11 months (Shaw 1959).

The eastern indigo snake is a generalized predator and will eat any vertebrate small enough to be overpowered. Food items include fish, frogs, toads, snakes (venomous, as well as non-venomous), lizards, turtles, turtle eggs, small alligators, birds, and small mammals (Keegan 1944; Babis 1949; Kochman 1978; Steiner et al. 1983).

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Population Dynamics

Eastern indigo snakes require a mosaic of habitats. A study in southern Georgia found that interspersion of tortoise-inhabited sandhills and wetlands improve habitat quality for the snake (Landers and Speake 1980). Eastern indigo snakes require sheltered retreats from winter cold and desiccating conditions, and often use burrows of the gopher tortoise (*Gopherus polyphemus*) when available (Speake et al. 1978, Layne and Steiner 1996). In habitats lacking gopher tortoises, snakes may take shelter in hollowed root channels, hollow logs, or the burrows of rodents, armadillos, or land crabs (Lawler 1977, Moler 1985a, Layne and Steiner 1996). Over most of its range in Florida, the eastern indigo snake frequents diverse habitats such as pine flatwoods, scrubby flatwoods, floodplain edges, sand ridges, dry glades, tropical hammocks, edges of freshwater marshes, muckland fields, coastal dunes, and xeric sandhill communities (Service 1999). Eastern indigos also use agricultural lands and various types of wetlands, with higher population concentrations occurring in the sandhill and pineland regions of northern and central Florida. In extreme south Florida (*i.e.*, the Everglades and Florida Keys), eastern indigo snakes are found in tropical hardwood hammocks, pine rocklands, freshwater marshes, abandoned agricultural land, coastal prairie, mangrove swamps, and human-altered habitats (Steiner et al. 1983). It is thought that they prefer hammocks and pine forests since most observations occur there and use of these areas is disproportionate compared to the relatively small total area of these habitats (Steiner et al. 1983).

Indigo snakes range over large areas and into various habitats throughout the year, with most activity occurring in the summer and fall (Smith 1987, Moler 1985a). In Georgia, the average range of the eastern indigo is 12 acres during the winter (December through April), 106 acres during late spring/early summer (May through July), and 241 acres during late summer and fall (August through November) (Speake et al. 1978). Adult males have larger home ranges than adult females and juveniles; their ranges average 554 acres, reducing to 390 acres in the summer (Moler 1985b). In contrast, a gravid female may use from 3.5 to 106 acres (Smith 1987). In Florida, home ranges for females and males range from 5 to 371 acres and 4 to 805 acres, respectively (B. Smith, Dynamac, personal communication, 2003). At the Archbold Biological Station, average home range size for females was determined to be 47 acres and overlapping male home ranges to be 185 acres (Layne and Steiner 1996).

Status and Distribution

The eastern indigo snake was listed as threatened on January 31, 1978, (43 FR 4028) due to population declines caused by habitat loss, over-collecting for the domestic and international pet trade, and mortality caused by rattlesnake collectors who gas gopher tortoise burrows to collect snakes.

Effective law enforcement has reduced pressure on the species from the pet trade. However, because of its relatively large home range, this snake is especially vulnerable to habitat loss,

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degradation, and fragmentation (Lawler 1977; Moler 1985a). The primary threat to the eastern indigo snake is habitat loss due to development and fragmentation. In wildland urban interface areas, residential housing is also a threat because it increases the likelihood of snakes being killed by property owners and domestic pets. Extensive tracts of undeveloped land are important for maintaining eastern indigo snakes.

The indigo snake ranges from the southeastern United States to northern Argentina (Conant and Collins 1998). This species has eight recognized subspecies, two of which occur in the United States: the eastern indigo and the Texas indigo (*D. c. erebennus*). In the United States, the eastern indigo snake historically occurred throughout Florida and in the coastal plain of Georgia and has been recorded in Alabama and Mississippi (Diemer and Speake 1983, Moler 1985b). It may have occurred in southern South Carolina, but its occurrence there cannot be confirmed. Georgia and Florida currently support the remaining endemic populations of the eastern indigo snake (Lawler 1977). The eastern indigo occurs throughout most of Florida and is absent only from the Dry Tortugas and Marquesas Keys and regions of north Florida where cold temperatures and deeper clay soils exist (Cox and Kautz 2000).

Tasks identified in the recovery plan for this species include: habitat management through controlled burning, testing experimental miniature radio transmitters for tracking juveniles, maintenance of a captive breeding colony at Auburn University, recapture of formerly released snakes to confirm survival in the wild, educational lectures and field trips, and efforts to obtain landowner cooperation in conservation efforts (Service 1999).

To protect and manage this species for recovery, large expanses of land must be protected. Management of these lands must be directed towards maintaining and enhancing the diversity of plant and animal assemblages within these properties. Where these goals are achieved, eastern indigo snakes will directly benefit because of improved habitat conditions. Land managers are encouraged to utilize fire as a tool to maintain biodiversity in fire dependent ecosystems.

ENVIRONMENTAL BASELINE

The environmental baseline includes the effects of past and present impacts of all Federal, State, or private actions and other human activities in the action area; the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation; and the impact of State or private actions, which are contemporaneous with the consultation in progress.

Status of the Species within the Action Area

Indigo snakes have been documented in or around MA-1, MA-2, MA-3, and MA-4 (Figure 1). Most sightings occur along roads, which is likely because they are more easily detected when on

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roads. A current study by Dynamac Corporation is examining the distribution and abundance of the indigo snake and how APAFR-related actions and public land uses at the range affect the species. Although the study is ongoing, preliminary mean home range is estimated to be 457 acres for males and 247 acres for females. Because indigo snakes use a variety of habitats and have very large home ranges, indigo snakes likely occur throughout APAFR.

Management of the indigo snake is through general management and maintenance of the habitat, and by implementing the Service's *Standard Protection Measures for the Eastern Indigo Snake* (Service 2002).

Past and ongoing Federal actions affecting the indigo snake within the action area include two recent actions the Service has formally consulted on regarding training exercises at APAFR. A biological opinion was issued on May 5, 2005, for the Joint Integrated Fires Exercise at APAFR and incidental take was estimated to be 21.4 male and 39.69 female indigo snakes. Another biological opinion was issued on June 7, 2005 for the Air-to-ground Bombing exercise at APAFR and incidental take was anticipated not to exceed 11 snakes annually.

Factors Affecting the Species' Environments within the Action Area

In a letter dated November 5, 2004, the Service recommended that the USAF request consultation on the existing level of military activity currently taking place at APAFR (*e.g.*, cattle grazing, other military training, timber management, hunting, fishing, camping, controlled burns, prison operations), as our records do not show that such a consultation has taken place. In addition, the Service indicated that it would be to the USAF's advantage, as it would automatically require separate consultation for other armed services activities that would be distinct from USAF actions. Avon Park Air Force Range is currently in informal consultation under section 7 of the ESA with the Service on the draft update to the 2001 INRMP 2004-2009. In addition, the USAF is in informal consultation on their ESMP to address all listed species present on APAFR. The Service has recommended the USAF request formal consultation and submit complete initiation packages for these two plans.

EFFECTS OF THE ACTION

This section includes an analysis of the direct and indirect effects of the proposed action on the eastern indigo snake and snake habitat.

Factors to be considered

Indigo snakes have been documented in or around MA-1, MA-2, MA-3, and MA-4 (Figure 1). Because indigo snakes use a variety of habitats and have very large home ranges, indigo snakes likely occur throughout APAFR. This action will take place when the snakes are likely to be

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present in the area. The duration of the project is approximately 25 days per year. The severity of the action on the indigo is not known.

Analyses for effects of the action

Direct Effects

Direct effects are those effects that are caused by the proposed action. The direct impacts evaluated by the Service include: (1) direct injury or mortality; and (2) loss, degradation, or fragmentation of available habitat for foraging, breeding, and dispersing. The direct effects that this project may have on indigo snakes within the action area are discussed below.

The proposed action could impact 2,566 acres of potential indigo snake habitat over a period of years, primarily through operation of tracked vehicles within the six proposed MAs. Legare and Breininger (2002) estimated that approximately 50,000 acres of upland habitat at APAFR provide potential habitat for the indigo snake. Based on a home range of 457 acres for male and 247 acres for female indigo snakes, the Service estimates that a minimum of 5.6 male and 10.4 female snakes, which represents approximately 5.1 percent of the potential population of indigo snakes at APAFR, may occur on these MAs collectively. This estimate assumes that all potential habitats are occupied; that male and female snake home ranges are exclusive of other male and female snake home ranges, respectively; but that female and male snake home ranges do overlap. These assumptions have not been tested and it is possible that the actual number of snakes within the MAs and across the APAFR landscape may be higher or lower than what the Service estimated. The number of snakes expected to be present on the roads and trails is not known and would vary over time and space.

An individual MA may contain a single snake home range or may overlap with several snake home ranges, depending on the distribution and configuration of snake home ranges and the location, configuration, and size of the MAs. We have estimated that 16 snakes (male and female) may be present within the action area; however, it is difficult to determine how many snakes will be present within each MA. The MAs vary in size from 133 acres to 657 acres, with the average size of 428 acres. As stated earlier, mean home range size for indigo snakes at APAFR has been estimated at 457 acres for males and 247 acres for females. Though not all available habitats will necessarily be occupied, it is reasonable to expect that an individual MA would support all or portions of one to three snake home ranges.

Based on the proposed level of use of the six MAs, the Service anticipates the proposed action may result in the take of one indigo snake/year/MA, for a total of six snakes annually. The incidental take is expected to be in the form of harm, harassment, and direct mortality. Snakes may be injured or killed during the action by tracked vehicles. This activity may cause individuals to leave the area, abandon den sites, and possibly miss foraging and mating opportunities. Above ground refugia may be lost during the training exercises. Individual snakes

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fleeing the area may be more vulnerable to predation. Some snakes may seek underground refugia, if available. Short-term detrimental impacts to habitat may occur.

To minimize adverse impacts, vehicle operators will follow the Service's *Standard Protection Measures for the Eastern Indigo Snake* (Service 2002).

Indirect Effects

Indirect effects are those that are caused by or result from the proposed action, are later in time, and are reasonably certain to occur. The indirect impacts evaluated by the Service include: (1) increased risk of roadway mortality to snakes due to the increase in vehicular traffic; and (2) reduction in the value of snake habitat adjacent to the MAs due to habitat fragmentation. The indirect effects that this project may have on indigo snakes within the action area are discussed below.

The proposed action does not include the construction of new roads and travel to and from the MAs will be restricted to existing roads and trails. Thus, an increase vehicular traffic is not anticipated. The proposed action is not expected to result in permanent habitat fragmentation, but may result in short-term habitat fragmentation. However, the Service does not anticipate that the short-term habitat fragmentation will affect the value of adjacent habitats.

Based on the above evaluation, the Service has concluded there are no indirect effects anticipated by the proposed action.

Species Response to the Proposed Action

It is anticipated that 2,566 acres of potential habitat within the action area, which represents 2.4 percent of the area of APAFR, may be impacted by the proposed action. The number of individuals present in the action area is not known. However, the Service estimates that approximately 5.6 male and 10.4 female snakes may be present within the action area. This estimate is based on a mean home range of 457 acres for male and 247 acres for female snakes at APAFR. The number of snakes expected to be present on the roads and trails is not known and would vary over time and space.

Snakes may be injured or killed during the action by tracked vehicles. This activity may cause individuals to leave the area, abandon den sites, and possibly miss foraging and mating opportunities. Above ground refugia may be lost during the training exercises. Individual snakes fleeing the area may be more vulnerable to predation. Some snakes may seek underground refugia, if available.

The species is sensitive to habitat fragmentation. This project is not expected to result in permanent fragmentation, but may result in short-term habitat fragmentation. The species'

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sensitivity to this type of activity is expected to be high, though disruption of normal behavior and activity is anticipated to be brief.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, Tribal, 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 status of the eastern indigo snake and the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that the action, as proposed, is not likely to jeopardize the continued existence of the species. No critical habitat has been designated for the eastern indigo snake; therefore, none will be affected.

INCIDENTAL TAKE STATEMENT

Section 9 of the ESA and Federal regulation pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without a special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns such as breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent 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 defined as take that is incidental to, and not the purpose of, the carrying out an otherwise lawful activity. 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 to be prohibited taking under the ESA provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are nondiscretionary and must be undertaken by the FLARNG so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, for the exemption in action 7(o)(2) to apply. The FLARNG has a continuing duty to regulate the activity covered by this incidental take statement. If the FLARNG (1) fails to assume and implement the terms and conditions or (2) fails to require the applicant to adhere to

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the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, the FLARNG must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement.

AMOUNT OR EXTENT OF TAKE

The Service anticipates incidental take of the eastern indigo snake will be difficult to detect for the following reasons: (1) wide-ranging distribution, (2) patchy distribution within suitable habitat, and (3) apparently suitable habitat may not be occupied. However, the Service anticipates incidental take of the indigo snake associated with training activities over 2,566 acres. The incidental take is expected to be in the form of harm, harassment, and direct mortality.

Due to the lack of site-specific surveys, in conjunction with the wide-ranging activity and use of a variety of habitat types by the eastern indigo snake, it is difficult to determine the exact number of snakes that will be taken. Indigo snakes have been documented in or around MA-1, MA-2, MA-3, and MA-4. Because indigo snakes use a variety of habitats and have very large home ranges, they likely occur throughout APAFR. Consequently, the proposed action would potentially impact the indigo snake including injury or direct mortality.

The Service estimates that approximately 5.6 male and 10.4 female snakes may be present within the action area. The number of snakes expected to be present on the roads and trails is not known and would vary over time and space. An individual MA may contain a single snake home range or may overlap with several snake home ranges, depending on the distribution and configuration of snake home ranges and the location, configuration, and size of the MAs. We have estimated that 16 snakes (male and female) may be present within the action area; however, it is difficult to determine how many snakes will be present within each MA. The MAs vary in size from 133 acres to 657 acres, with the average size of 428 acres. As stated earlier, mean home range size for indigo snakes at APAFR has been estimated at 457 acres for males and 247 acres for females. Though not all available habitats will necessarily be occupied, it is reasonable to expect that an individual MA would support all or portions of one to three snake home ranges.

Based on the proposed level of use of the six MAs, the Service anticipates the proposed action may result in the take of one indigo snake/year/MA, for a total of six snakes annually. The incidental take is expected to be in the form of harm, harassment, and direct mortality.

EFFECT OF THE TAKE

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

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REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize impacts of incidental take of the eastern indigo snake. The FLARNG will work with APAFR's staff to coordinate their operational training schedules to the greatest extent practical to minimize potential adverse effects on natural resource compliance, management, and monitoring requirements.

TERMS AND CONDITIONS

In order to be exempt from the prohibitions of section 9 of the ESA, the FLARNG 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) Surveys and marking of gopher tortoise burrows will be conducted prior to annual training. Vehicle and equipment operators will be notified to avoid all snakes and marked burrows. Training units will be educated to recognize the eastern indigo snake. If any snake is encountered, it will be avoided or allowed to leave the area on its own before vehicle or equipment use is resumed;
- (2) The FLARNG will submit annual monitoring reports on the effects of training activities, and shall document the date(s) and duration of the activities, and the effects to the eastern indigo snake and their habitat. The report shall also summarize monitoring of the post-action response of species and document any species sightings, including locations of sightings. Reports shall be submitted no later than September 30 each year for the life of the proposed action; and
- (3) Upon locating a dead, injured, or sick individual of a federally listed species, initial notification must be made to the nearest Service Law Enforcement Office (Fish and Wildlife Service; 9549 Koger Boulevard, Suite 111; St. Petersburg, Florida 33702; 727-570-5398). Secondary notification should be made to the Florida Fish and Wildlife Conservation Commission, South Region; 3900 Drane Field Road; Lakeland, Florida 33811-1299; 800-282-8002. Care should be taken in handling sick or injured specimens to ensure effective treatment and care, or in the handling of dead specimens to preserve biological material in the best possible state for later analysis as to the cause of death. In conjunction with the care of sick or injured specimens or preservation of biological materials from a dead animal, the finder has the responsibility to carry out instructions provided by Law Enforcement to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.

The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed

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action. If, during the course of the action, this level of incidental take is exceeded, such incidental take would represent new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. The FLARNG must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

CONSERVATION RECOMMENDATIONS

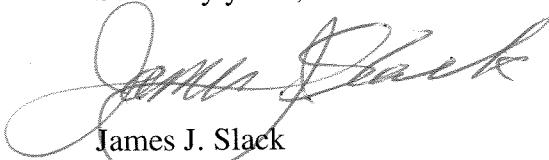
Section 7(a)(1) of the Act directs federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to further minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The Service is not proposing any conservation recommendations at this time.

REINITIATION NOTICE

This concludes formal consultation on the proposed action. 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, as defined by the action area measures provided in this project description; (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 this 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) a 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.

If you have any questions regarding this project, please contact Mary Peterson at 772-562-3909, extension 327, or Allen Webb at extension 246.

Sincerely yours,



James J. Slack
Field Supervisor
South Florida Ecological Services Office

Colonel Richard J. Gallant

cc:

APAFR, Avon Park, Florida (Paul Ebersbach)

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FLARNG, St. Augustine, Florida (Major Mark Widener) electronic copy only

FLARNG, St. Augustine, Florida (Russell Robinson) electronic and hard copy

FLARNG, St. Augustine, Florida (Amy Wiley) electronic copy only

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FWC, Tallahassee, Florida (Hugh Boyter)

Service, SFESO, Vero Beach, Florida (Cindy Schulz)

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Table 1. Acronyms and abbreviations

| Acronym/Abbreviation | Definition |
|----------------------|---------------------------------------------------|
| ALOC | Administration and Logistics Operations Center |
| APAFR | Avon Park Air Force Range |
| EA | Environmental Assessment |
| ESA | Endangered Species Act of 1973, as amended |
| ESMP | Endangered Species Management Plan |
| FGS | Florida Grasshopper Sparrow |
| FLARNG | Florida Army National Guard |
| FSJ | Florida Scrub-Jay |
| FWC | Florida Fish and Wildlife Conservation Commission |
| HE | High Explosive |
| HHSB | Headquarters and Headquarters Service Battery |
| HMU | Habitat Management Unit |
| INRMP | Integrated Natural Resources Management Plan |
| KPPSP | Kissimmee Prairie Preserve State Park |
| MA | Maneuver Area |
| MLRS | Multiple Launch Rocket System |
| Navy | U.S. Navy |
| RCW | Red-Cockaded Woodpecker |
| RRPR | Reduced Range Practice Rockets |
| Service | Fish and Wildlife Service |
| TLWMA | Three Lakes Wildlife Management Area |
| TOC | Tactical Operations Center |
| USAF | U.S. Air Force |

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Table 2. HMUs for the RCW within the six proposed MAs.

| Maneuver Area | HMU Area | Foraging Area | Total Area |
|--------------------|----------|---------------|------------|
| 1 - Big Plantation | 108 | | 534 |
| 2 - Willingham | 657 | | 657 |
| 3 - Delta | 133 | 12 | 133 |
| 4 - Bubba | 425 | | 428 |
| 5 - Alexander | 329 | | 329 |
| 6 - Ramsey | 485 | | 485 |
| Total | 2,137 | 12 | 2,566 |

Table 3. HMUs for the FSJ within the initial six proposed MAs.

| Maneuver Area | HMU Area | Total Area |
|--------------------|----------|------------|
| 1 - Big Plantation | | 534 |
| 2 - Willingham | 13 | 670 |
| 3 - Delta | | 133 |
| 4 - Bubba | | 428 |
| 5 - Alexander | 15 | 344 |
| 6 - Ramsey | 24 | 509 |
| Total | 52 | 2,618 |

Table 4. Annual, temporal, and spatial training requirements per training event.

| | Section Certification | Section Certification | Platoon Certification | Platoon Certification | Annual Training | Battery Training ¹ | Battery Training |
|---------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------|-------------------------------|------------------|
| Field Time | 24 hours | 24 hours | 24 hours | 24 hours | 10 days | 24 hours | 24 hours |
| Total Time | 48 hours | 48 hours | 48 hours | 48 hours | 15 days | 48 hours | 48 hours |
| A Battery | 1 MA | 1 MA | 1 MA | 1 MA | 1 MA | 1 MA | 1 MA |
| B Battery | | | 1 MA | 1 MA | 1 MA | 1 MA | 1 MA |
| C Battery | | | 1 MA | 1 MA | 1 MA | 1 MA | 1 MA |
| HHS Battery (HHSB) ² | | | 1 MA | 1 MA | 1 MA | 1 MA | 1 MA |
| Total | 1 MA | 1 MA | 4 MAs | 4 MAs | 4 MAs | 1-4 MAs | 1-4 MAs |

¹From one to three firing batteries may train during the same weekend.

²The Headquarters and Headquarters Service Battery (HHSB) may locate with one of the firing batteries, using one less MA.

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Table 5. Maneuver Area assets for various types of battalion training.

| Vehicles (Tracked) ¹ | Type of Vehicle | Section Certification ² | Battery Training ³ | Platoon Certification | |
|------------------------------------|----------------------|---------------------------------------|----------------------------------|------------------------|----------------------------------|
| | | | | Battalion Resources | Battalion TOC and ALOC (HHSB) |
| M270 (T) | Launcher | 2 | 6 | 18 | |
| M985 | Ammunition Truck | | 12 | 36 | |
| M989 | Ammunition Trailer | | 12 | 36 | 1 |
| M577 (T) | Command Post Carrier | 1 | 3 | 9 | 3 |
| M978 | Fuel Tanker | | 2 | 6 | 1 |
| M97x | Wrecker | | | 3 | |
| M88 (T) | Recovery Vehicle | | | 3 | 1 |
| 2.5 Ton Truck | Truck | | | 9 | 9 |
| 5 Ton Truck | Truck | | | 3 | |
| HMMWV | Light Vehicle | 2 | 4 | 21 | 22 |
| #events/year | | 2 | 2 | 2 | 2 |
| Personnel | | 9 | 69 | 273 ⁴ | 116 |
| MA used | | 1 | 1-4 | 3 | 1 |

¹ T=Tracked. If not tracked, then it is wheeled.

² Typically, two section would go out at a time to a single MA

³ Resources for a single battery.

⁴ Number of personnel per MA would be 91.

Table 6. Proposed battalion maneuver areas for MLRS.

| Maneuver Area | Acres | Wetland Acres |
|--------------------|-------|---------------|
| 1 - Big Plantation | 534 | 124 |
| 2 - Willingham | 657 | 17 |
| 3 - Delta | 133 | 2 |
| 4 - Bubba | 428 | 35 |
| 5 - Alexander | 329 | 37 |
| 6 - Ramsey | 485 | 124 |
| Total | 2,566 | 339 |

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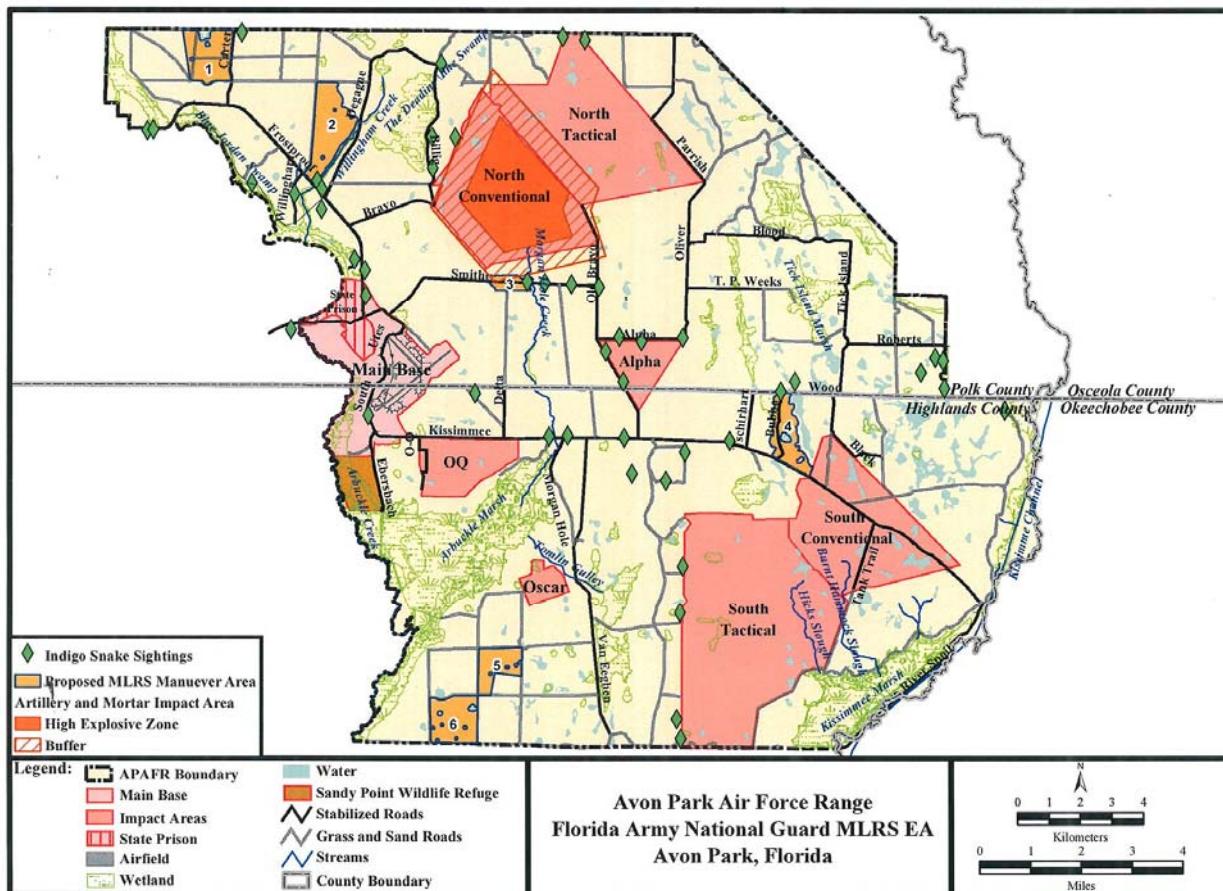


Figure 1. Location of proposed Multiple Launch Rocket Systems Maneuver Areas and documented eastern indigo snake sightings at Avon Park Air Force Range.