

BIOLOGICAL ASSESSMENT
for
ONGOING NAVY OPERATIONS
and their effects on the
FLATWOODS SALAMANDER
at
NOLF HOLLEY, NAS WHITING FIELD, MILTON, FLORIDA
June, 2001

Introduction

The federally threatened flatwoods salamander (*Ambystoma cingulatum*) occurs at Navy Outlying Field (NOLF) Holley in Santa Rosa County, Florida. The Navy has ongoing actions at NOLF Holley that may affect the continued existence of the species. This document will serve as the Biological Assessment for evaluating the effects of the Installation's operations with regards to the species, under Section 7 of the Endangered Species Act (15 USC 1531 *et seq.*) and 50 CFR Part 402.

No critical habitat has been designated on or near the Installation; operation of NOLF Holley will not affect any critical habitat.

Background & Existing Situation

NOLF Holley is an airfield where Navy student pilots practice landings, take offs and other maneuvers. The site is manned by a crash crew and used as described below. The forest and other natural habitats around the site are managed for forest resources and other natural resources with occasional prescribed burning and other actions under an Integrated Natural Resources Management Plan that is currently being rewritten in cooperation and consultation with the U. S. Fish & Wildlife Service. One of the objectives of that plan is management of the flatwoods salamander, and implementation of the plan is not addressed herein.

Ongoing Activities

I. TRAINING ACTIONS:

- A. Flight operations at NOLF Holley
 - 1. Primary Aircraft Type: T-34 Mentor
 - 2. 1998: 2039 Sorties; 1999: 1178 Sorties
- B. Other training on site: None

Note the variation in training; future training is expected to vary this much or more.

II. RECREATIONAL USE:

- A. Model aircraft flying: 15 weekends per year
- B. Proposal for future soccer field: Daily practice and weekly games during the soccer season. The northeast corner of NOLF is the proposed site.

III. SUPPORT AND MAINTENANCE OF SITE:

- A. Personnel use: Crash Crew
- B. Facilities: Runways, entrance road, fencing, and building for Crash Crew
- C. Sewage Treatment: 750 gallon septic tank
- D. Mowing of road sides and clear zones: See attached map.
- E. Pesticide applications: See tables 1 through 3.
- F. Other fence, road and runway maintenance: See attached map.
- G. Use allowed by other entities: See recreation use above.
- H. Security
 - 1. Crash crew drives fence perimeter at least once a week.

2. Security personnel drive the perimeter once a quarter to check on fence and posted signs, do not usually drive the southern portion of the field due to the extensive wetlands.
 3. Whiting security will inspect NOLF Holley as required.
- I. Natural Resources Management: Manage natural resources in accordance with an approved Integrated Natural Resources Management Plan. The plan is a separate document and is separately reviewed by the U. S. Fish and Wildlife Service.

General Precautions

The Navy will enforce a 450 meter (1476 foot) buffer (U. S. Fish and Wildlife Service, 1999, Florida Fish and Wildlife Conservation Commission, 2001) around known and suspected breeding ponds at NOLF Holley. This will require additional consultation with the U. S. Fish and Wildlife Service for land disturbance not covered in this document and within the buffer.

Evaluation of Effects

Flight Operations: Two results of flight operations that might be considered most likely to impact the flatwoods salamander are noise and accidents. The only reference found on noise and salamanders indicated that the salamander ear could be used to detect vibrations (Ross, 1977). While no data exist regarding the impacts of noise on flatwoods salamanders, the existing noise data on other organisms indicates that most organisms adapt to ongoing noise in the environment. There is also no indication in the known natural history of the flatwoods salamander that would render the species particularly susceptible to noise from aircraft (such as the singing of frogs which can be interrupted by aircraft noise). No data was found on the effects of noise on salamanders in general. Furthermore, the salamanders at NOLF Holley have coexisted with this noise since the field was activated over 40 years ago. Finally, the aircraft operations at NOLF Holley are from turbo prop aircraft with much lower levels of noise generated compared to commercial and military jet aircraft.

The effects of a crash within or near salamander habitat would be negative. The extent of the impacts would be determined by the extent of the mishap. An aircraft that had collapsed landing gear without other problems would have no impact while an aircraft crashing with full fuel tanks and requiring emergency rescue in existing habitat could result in the death of adult or larval salamanders as well as damage to existing habitat. For reasons of safety and economics, the Navy takes many precautions to reduce the possibility of such an incident. These precautions make the potential of such an occurrence discountable.

Recreational Use: Model aircraft flying occurs up to 15 weekends per year. Local enthusiast utilize the runways at NOLF Holley for take-off and landing of model aircraft. Presumably, a small amount of the highly volatile fuel is occasionally spilled on the runways and a model aircraft accidentally land off the runways. Any spilled fuel would quickly evaporate. Any crashed aircraft are retrieved. No impacts to the salamanders or their habitat are anticipated.

There is currently a proposal for soccer fields on the northeast corner of the facility. This area is farther from known or suspected breeding ponds than the 1,476 foot buffer required for the salamander and would have no impact on the salamander or its habitat.

Support and Maintenance of the Site: The use of the Crash Crew building and its sewage treatment will not affect the salamander; the building is over 1,600 feet away from, and on the far side of the runway from, known habitat. The sewage treatment is entirely adequate for the crash crew and any visitors. Mowing is required of some areas within 1476 feet of the known habitat. Mowing occurs in April, June, August, and October when the grass is cut to a height of about 6 inches above the ground. In addition to the intended purpose of maintaining airfield safety requirements, the mowing prevents encroachment of trees and shrubs into areas possibly containing the salamander. Mowing is unlikely to directly affect the salamander by direct mortality from crushing by tires or the mowers blades since the salamanders are predominantly nocturnal and seldom come above ground (U. S. Fish and Wildlife Service, 1997, Conant and Collins, 1998), especially when the ground is firm (dry) enough to mow. Mowers are also rather noisy, and salamanders would be expected to avoid mowing machines because of the noise the machines make. It is, however, conceivable that mowers could harm or injure salamanders though the extent of mortality is unknown and probably not discernable. The area mowed is likely to have firmer soils than similar unmowed areas due to compaction from past mowing. While the compaction and exotic grasses (such as bahai grass (*Paspalum notatum*)) around the runway may prevent or reduce use by flatwoods salamanders, this impact occurred shortly after the airfield was established and continued mowing will not affect the species by additional compaction.

Pesticide Applications: Tables 1, 2, and 3 provide a list of pesticides used at NOLF Holley during 1998, 1999, and 2000. All pesticides applied on Navy installations are applied in accordance with label directions by Navy regulations in addition to the other federal regulations. Most pesticides used at NOLF Holley have been applied to paved areas or other developed locations like lawns and buildings, but some herbicides have been applied to rights-of-way. These include Arsenal, Pramitol 25E, Roundup, and Scythe. These pesticides have been applied along the fence line as indicated by the thickend lines in Figure 1. None of the four pesticides are included in an (unofficial) list of pesticides believed to have potential for harming amphibians that was provided to the Navy by the Jacksonville Field Office of the U. S. Fish and Wildlife Service (USFWS FAX, Feb, 2001). Also, the Department of Defense was in the process of a 50% decrease in pesticide use by the end of fiscal year 2000. The effect of this at NOLF Holley can be seen in Tables 1, 2, and 3 which show a progressive decrease in the amounts of pesticides used. Given that all pesticides used at NOLF Holley are applied rarely, in relatively small amounts, away from the flatwoods salamander's habitat, in accordance with label directions, and that all the pesticides applied (except Roundup) exhibit low toxicity to aquatic organisms there is almost no potential for adverse impacts from pesticide use when applied according to label directions by certified personnel. To insure that Roundup does not present a threat to the salamanders or their food supply, Rodeo or other pesticides approved for aquatic use will be used in its place wherever pesticides are applied in wetlands. (Note, Roundup and Rodeo are both glyphosate based herbicies, but their carriers differ. Roundup's carrier is toxic to aquatic organisms at approved application rates whereas Rodeo's carrier is not. The use of trade names does not consitiute an endorsement of either product, but reflects the actual use of these products in the past or projected use of these products in the future.) The current grounds maintenance contract for vegetation control in wetlands requires only

mechanical vegetation removal and/or control using hand methods or machinery approved for use in wetland areas; herbicides are not used at all. This practice will continue.

Conclusions

Continuation of the operations at NOLF Holley is not likely to adversely affect the population of flatwoods salamanders at NOLF Holley and, consequently, not likely to adversely affect the species.

Table 1. Pesticide use at NOLF Holley for 1998.						
Date	Pest	Site	Area Treated	Pesticide	Amount	Concentration
4/22/98	Mixed grasses and herbs	Right of way	217,8000 square feet	Pramitol 2	200 gallons	2.07%
4/23/98	Mixed grasses and herbs	Right of way	326,700 square feet	Pramitol 2	300 gallons	2.7%
4/23/98	Mixed grasses and herbs	Right of way	326,700	Roundup	300 gallons	2.4%
5/21/98	Ants	Industrial facility	N/A	Maxforce A	4 bait stations	.01%
6/11/98	Mixed grasses and herbs	Right of way	15,000 square feet	Pramitol 2	10 gallons	2.07%
6/11/98	Mixed grasses and herbs	Right of way	15,000 square feet	Roundup	10 gallons	2.44%
7/9/98	Spiders	Industrial facility	5040 square feet	Dragnet	10 gallons	0.5%
9/15/98	Mixed grasses and herbs	Pavement	36,250 square feet	Roundup	25 gallons	2.0%
9/15/98	Mixed grasses and herbs	Pavement	36,250 square feet	Pramitol 2	25 gallons	5.0%

Date	Pest	Site	Area Treated	Pesticide	Amount	Concentration
4/14/99	Mixed grasses and herbs	Pavement	283,140 square feet	Scythe	195 gallons	1.05%
4/14/99	Mixed grasses and herbs	Pavement	283,140 square feet	Arsenal	195 gallons	0.36%
4/14/99	Mixed grasses and herbs	Pavement	283,140 square feet	Glyphosate	195 gallons	0.35%
5/26/99	Ants	Lawn	2500 square feet	Dragnet	6.0 gallons	0.5%
6/07/99	Ants	Lawn	4000 square feet	Siege Fire	8 dry ounces	0.72%
6/07/99	Ants	Industrial facility	2	MaxForce	2 bait stations	0.01%
7/1/99	Ants	Industrial facility	2500 square feet	Dragnet	7 gallons	0.5%

Date	Pest	Site	Area Treated	Pesticide	Amount	Concentration
7/7/2000	Ants	Industrial facility	N/A	Siege Fire	6 bait stations	0.73%

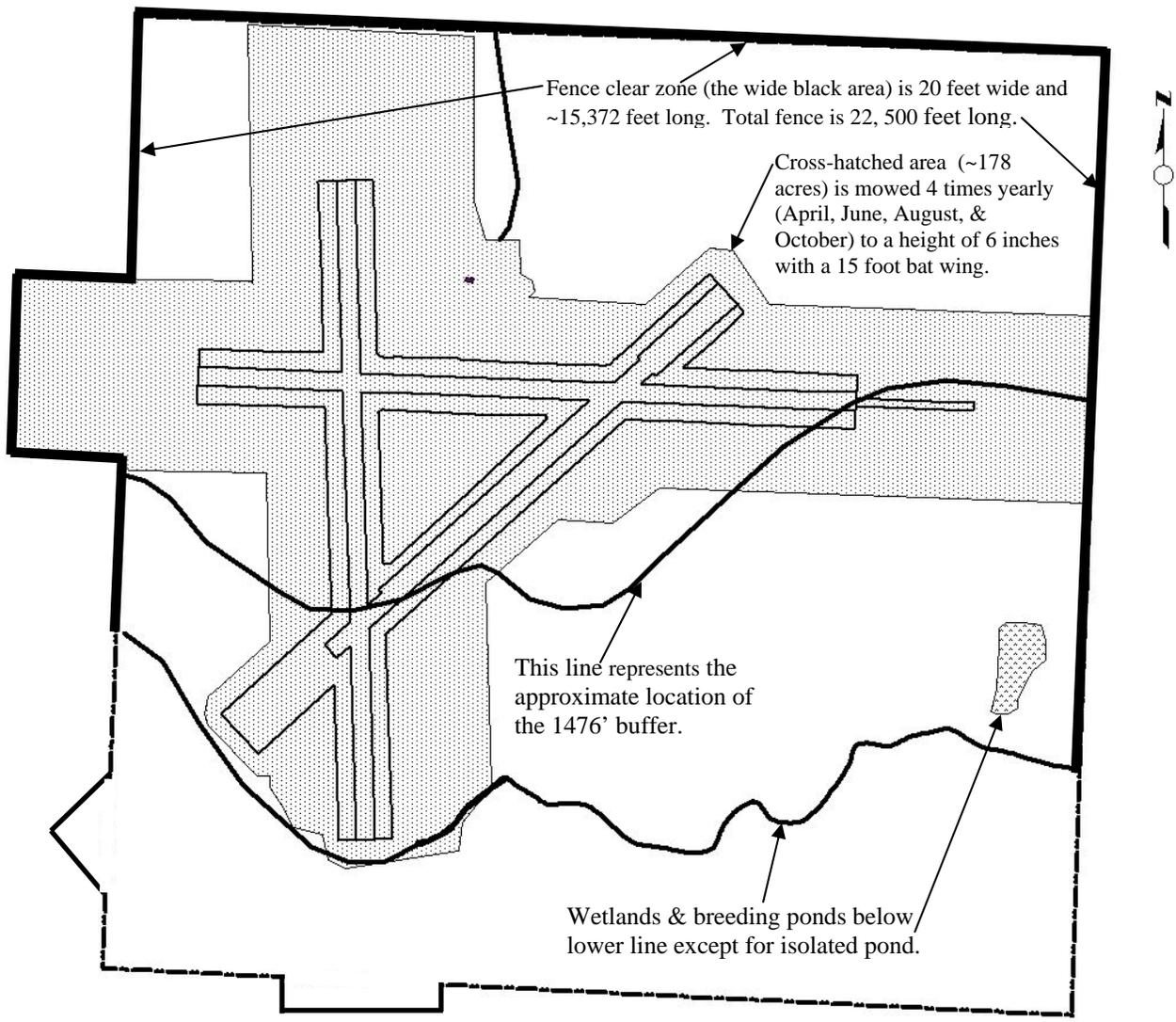


Figure 1. Map of NOLF Holley with locations of management actions.

LITERATURE CITED

- Conant, R. and J. T. Collins. 1998. *A Field Guide to Reptiles and Amphibians Eastern and Central North America*. 3rd edition. Houghton Mifflin Company, New York. 616 pp.
- Florida Fish and Wildlife Conservation Commission. 2001. Management Plan Flatwoods Salamander. 62pp.
- Ross, R. J. 1977. Involvement of the salamander inner ear in detecting substrate vibrations. *American Zoologist* 17: 941.
- U. S. Fish and Wildlife Service. 1997. Endangered and Threatened Wildlife and Plants; Proposed Rule to List the Flatwoods Salamander as Threatened. *Federal Register*: December 16, Volume 62, Number 241 pp.65787-65794
- U. S. Fish and Wildlife Service. 1999. Endangered and Threatened Wildlife and Plants; Final Rule To List the Flatwoods Salamander as a Threatened Species *Federal Register*: April 1, Volume 64, Number 62 pp. 15691-15704