

**FREDERICKSBURG & SPOTSYLVANIA
NATIONAL MILITARY PARK**

INTEGRATED PEST MANAGEMENT PLAN

for

WASPS

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INTEGRATED PEST MANAGEMENT PLAN for WASPS

I. INTRODUCTION

The Fredericksburg and Spotsylvania National Military Park is a complex of several individual park units extending over approximately 8,600 acres in Virginia from urban Fredericksburg to rural Spotsylvania County. The park includes forests, pastures, and farming units and contains numerous buildings, including 2 visitor centers, office buildings, and historic structures.

The National Park Service has adopted the methods of integrated pest management (IPM) for control of any exotic or native species which are determined to be “pests.” IPM utilizes mechanical and biological controls and prevention as primary tools and minimizes the use of pesticides.

Most wasps located in the Fredericksburg area are native species. All wasps should be considered a beneficial insect in the natural environment. The National Park Service, by policy, does not control native species, however, these insects can become pests inside buildings or if they nest in the vicinity of buildings or along trails. Several different types of wasps could require chemical treatment as pests within the park, including yellow jackets, hornets, and paper wasps.

II. BIOLOGY and IDENTIFICATION

Wasps are insects, included in the class *Insecta* and the family *Hymenoptera*, with ants and bees. It is important to be able to identify the different types of wasps and bees, because many do not sting and, consequently, should not be classified as pests. (Refer to Table 1 in the appendix) In addition, many other beneficial insects “mimic” bees and wasps, such as the syrphid fly and sawflies. Most wasps are solitary, including the thread-waisted (mud daubbers) and parasitic wasps and cicada killers. Only a few species of wasps are social insects which live in “colonies.”

The wasps that are addressed in this pest management plan will be the social wasps, including yellow jackets, paper wasps and hornets. Other wasps could be found inside buildings, but should only be considered an incidental pest or accidental invader.

Social wasps and hornets commonly live in colonies consisting of “individuals” with specialized functions, including workers and reproductives. With yellow jackets, the species of greatest concern, a fertilized queen overwinters in a nest, usually in the ground, and reemerges in the spring. The emerging queen begins laying eggs which starts the new colony. During the fall, males are produced, which fertilize the female, who, once again overwinters and repeats the cycle.

Both hornets and paper wasps build nests of a paper-like material, composed of cellulose. Nests usually contain multiple numbers of insects by the middle or late summer. Nests of yellow jackets are usually located in the ground, but can occur in rotten logs, holes in trees or other hollow objects. Paper wasp nests are frequently encountered under eaves of buildings or at the top of doors and windows.

The nests of mud daubers, or thread-waisted wasps, are also located along exterior walls of buildings and should not be confused with nests of paper wasps. As the name implies, the nests of mud daubers are composed of mud and are formed in long, columnar “tubes.” Nests are usually formed with multiple “tubes” or larval chambers.

III. DETERMINING THE COURSE OF ACTION

Wasps and yellow jackets play an important role in nature as both predator and pollinator and should be considered a beneficial insect. However, both hornets, yellow jackets, and paper wasps aggressively defend their nests from intrusion. People accidentally disturbing nests can suffer serious consequences from repeated stings of the defending workers. Individual wasps foraging for food can also become a serious nuisance near picnic grounds or food concessions.

Nests of either paper wasps or yellow jackets located in areas which might be encountered by employees or visitors should be removed. Nests, in more remote or natural areas should remain undisturbed as part of the natural environment.

CONTROL

With integrated pest management, chemical control is always the last alternative. Nuisance adults accidentally entering buildings can usually be released by opening a door or window. Nests of yellow jackets and hornets, in the vicinity of people, should be considered a threat to public health and safety. A small percentage of people are allergic to bee venom and can go into anaphylactic shock after being stung. The majority of people, however, will respond “normally” to a wasp sting and suffer pain only near the site of the sting.

For nests of yellow jackets and wasps which are readily accessible, the nests should be sprayed with an aerosol pesticide specifically labeled for control of wasps. **Note aerosols labeled just for control of bees should not be used on wasps, and conversely, products labeled only for control of wasps should not be used on bees.** Make sure the product is labeled for the specific type of insect. Bees and wasps can respond differently to some commonly used insecticides, and, in some cases, unlabeled products can make the insect more aggressive.

Chemical treatment of wasp nests should occur at night, when wasps are inactive, and all members of the colony are inside the nest. Wasps are less likely to respond defensively to the “intrusion” during the evening if it is cool and dark. As insects are unable to see red light, only red bulbs should be used in the flashlight, or the glass should be covered

with red-tinted cellophane. This will help prevent the insects from responding to the source of the “attack.”

If nests are treated during the day, some adults returning to the nest after treatment may become agitated and hover around the outside of the nest, possibly threatening employees or visitors. Be sure you are well equipped with a correctly labeled aerosol pesticide, in case a problem develops.

Hornet nests must be treated with ample respect. If a hornet nest is located in an area which makes it a threat to human safety, it is recommended you contact a professional pest control operator, the park IPM coordinator or someone experienced in working with hornets and bees. Hornet nests should be treated chemically and then physically removed utilizing all necessary safety precautions.

Yellow jackets, during the end of the summer, change from a protein-based diet to sweets. At this time, yellow jackets can become very aggressive and are frequently a problem around trash cans and picnic areas. To reduce the problem, trash cans should be emptied regularly so food items are removed.

Yellow jacket traps can also be placed in areas where the insects are a nuisance. The traps can be purchased commercially and baited with either fresh fish or a sugary substance, depending upon the time of year. The design of commercial yellow jacket traps can vary, but the more common trap is typically cone-shaped. The trap is designed to permit the entry of the wasps, but prevent their escape. To empty traps filled with live adults, the trap can be placed in direct sun to kill the adults, or in the freezer to slow mobility, and then emptied into a carefully sealed plastic bag for disposal.

CHEMICAL CONTROL

For chemical control, refer to the list of products below for names of products approved in the past for use in the National Park Service. If additional products are necessary, contact your park or regional IPM Coordinator.

List of Recommended Chemical Treatments

<u>Product</u>	<u>Maker</u>	<u>Application</u>
WASP-FREEZE, PT 515	Whitmire	Wasps & hornets Yellowjacket & bee ground nests
Bee Bopper Wasp & Hornet Spray	ARI	Wasps & hornets

IV. APPENDIX.

Table 1 . ¹

¹ Common-Sense Pest Control. Olkowski, William, Sheila Darr, and Helga Olkowski. The Taunton Press. 1991 Table 1 reprinted from page 652.