

FREDERICKSBURG & SPOTSYLVANIA NATIONAL MILITARY PARK

INTEGRATED PEST MANAGEMENT PLAN

for

BOXELDER BUGS

Prepared by: _____
Susan Alberts **Date**
Natural Resource Management Specialist

Reviewed by: _____
Mike Johnson **Date**
Chief Ranger

Approved by : _____
Alexander Rives **Date**
Superintendent

Approved by : _____
Wayne Millington **Date**

TABLE OF CONTENTS

	<u>PAGE NUMBER</u>
I. Introduction	3
II. Biology	3
III. Control	4
IV. Appendix	
Plate 3. Hemiptera	5

INTEGRATED PEST MANAGEMENT PLAN

for

BOXELDER BUGS

I. INTRODUCTION

The Fredericksburg and Spotsylvania National Military Park is a complex of several individual park units extending over approximately 8,000 acres in Virginia from urban Fredericksburg to rural Spotsylvania County. The park includes forests, fields, 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.

Boxelder bugs have been a major nuisance pest in Chatham Manor and other private homes in the Fredericksburg area for many years. Chatham Manor, which resides in the Fredericksburg Battlefield proximal to the historic downtown, is a popular attraction for tourists. Chatham also serves as the headquarters for the park, with offices for the Superintendent and staff.

Boxelder bugs are not a threat to either park resources or public safety. They can, however, leave stains on rugs, curtains, or furniture if they are not removed or crushed.

II. BIOLOGY

The boxelder bug (*Leptocoris trivittatus*) is a member of the order Hemiptera, the “true bugs.” The insect is approximately ½ inch long, with long, slender legs and a “beak-like” snout. Although its distinctive black and red coloration makes it easily recognizable, it could be confused with the similar, but slightly smaller milkweed bug (*Lygaeus kalmii*; Refer to the identification chart in Appendix).

The boxelder bug lays its eggs in the spring on trees in the maple or ash family, but prefers female boxelders. Populations living on the preferred host can reach very large numbers of insects. However, bugs developing on other maples or ash trees usually do not reach the same level of individual insects.

The nymphs, or young adults, which are similar to the adults in appearance, but smaller with more red coloration, feed on the tree but do not cause any significant damage. The bugs migrate

in the fall *en masse* seeking sheltered cracks and crevices under which to overwinter.

On mild winter days, or in the spring, the bugs emerge from their overwintering places and seek sunny locations to warm themselves. During these seasonal migrations, the bugs can become a serious nuisance if ports of entry into homes or other buildings are located. The severity of the situation is not due to any damage to the building or its occupants, but simply to their overwhelming numbers—and seeming presence in every available nook and cranny.

III. CONTROL

The Washington Office of the National Park Service, by policy, does not approve pesticides for control of insects which are only “occasional” invaders or nuisance insects. In addition, native insects should not be controlled unless they are a threat to park resources or the health and safety of park employees or visitors. With IPM, the first step is mechanical control.

The initial treatment for boxelder bugs must be preventative: keep the insect out of the building. For non-historic buildings, the answer is usually simple-- replace all broken or missing window screens and weather stripping and seal all cracks and crevices.

For historic buildings where caution must be exercised regarding any permanent change to the historic fabric, the solution for prevention may require a team effort involving the cultural resource specialist, maintenance, natural resources, and an historic preservation specialist, if available. The end result, however, should be the same—all cracks and crevices are permanently or temporarily closed.

Closure can be completed through caulking around windows, “storm-windows,” window screens, and door frames. Larger voids, out of public sight, such as the voids between the bricks in the basement window wells at Chatham, can be closed with expanding foam. The basement windows at Chatham should be encased with plastic to prevent insects from entering around the edges.

Bugs inside buildings should be physically removed by vacuuming. The insects should not be crushed, due to a potential for staining carpets or other upholstered surfaces.

Movement of insects through open doors is a more difficult problem. In this case, **after all preventative measures have been taken**, the adults clustering outside the doors can be sprayed with a mixture of soap and water (5 tablespoons of liquid detergent per gallon of water). **Keep in mind that soap and water is still considered a pesticide in the National Park Service, and its use should not be substituted for preventative control.** A test application of the detergent solution should be made on a limited area prior to treatment to ensure damage will not occur. Prior approval for the detergent/ treatment must also be obtained from both the natural and cultural resource specialists and maintenance.

Results from the removal of female boxelders trees in the surrounding area are inconsistent. Unless the tree is in the immediate area of the afflicted building, tree removal is usually not successful in reducing the invasion of bugs and, consequently, not recommended. If all options have been tried with limited success, either the park’s or the region’s Integrated Pest Management Specialist should be contacted for additional assistance.

APPENDIX. PLATE 3. HEMIPTERA¹

¹ Plate 3. Hemiptera. The Peterson Field Guide Series "A Field Guide to the Insects," Borror, Donald J. and Richard E. White. Houghton Mifflin Company, Boston. 1970.