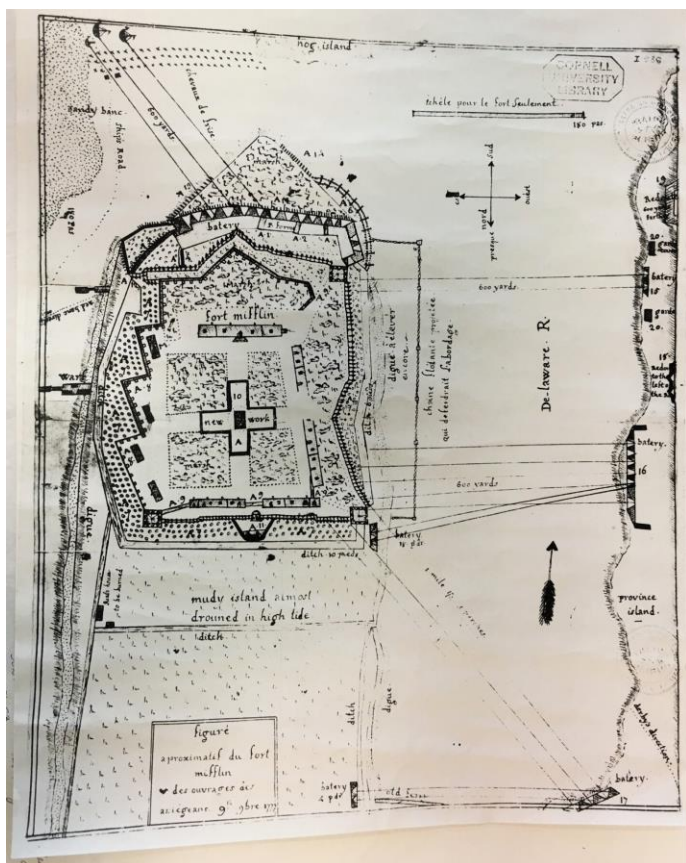


Nature's Insect Annihilating Army



Let's explore Fort Mifflin's natural environment for this week's Make It Better Monday. Fort Mifflin was constructed on a "muddy island almost drowned in high tide" according to a map drawn by Francois deFleury in November, 1777. The high water table and marshy environment, and now also a moat surrounding the Fort, make it an ideal breeding ground for mosquitoes and other insects. If you have ever experienced a still, humid, late summer evening at Fort Mifflin you know this is still true today. *Mosquitoes LOVE Mud Island.*

Mosquitoes are not only a nuisance, but they also spread disease, including malaria and West Nile virus. The three most effective techniques to prevent a mosquito bite are:

1. **Avoid** mosquito exposure – Stay indoors during peak mosquito activity time such as twilight, especially on warm, still evenings.
2. **Repel** mosquitoes – Make yourself unappealing to these pesky bugs! You can do this by spraying exposed skin or clothing with a "bug spray" repellent that you buy at the store or you can make on your own out of natural materials. Always follow instructions for safe application!
3. **Manage** mosquito population – This can be done with chemicals and by harnessing the natural instincts of mosquito predators. At Fort Mifflin we take advantage of **Tree Swallows!** These beautiful birds are nature's most awesome insect-annihilating army. Some sources report that a tree swallow can consume its weight in insects *every day*.

Tree Swallows are migratory birds (they travel and live in different areas depending on the season) that like to nest in wetlands with open areas for easy flight and lots of insects. They are “cavity-nesters” which means they like to build their nests in a confined space such as an old woodpecker hole in a tree or nest boxes. Fort Mifflin is the ideal environment for these beautiful and useful birds!



Photo courtesy of Robb Enright

You have probably noticed

our swallows when you visit any time between mid-March and October. These are the beautiful birds you see sitting on top of the nest boxes or flying past you in a big hurry as they scoop up insects in their open mouths mid-flight.

Join Nature’s Insect Defeating Army!

Make your own natural insect repellent:

Simple Rub-On Repellent

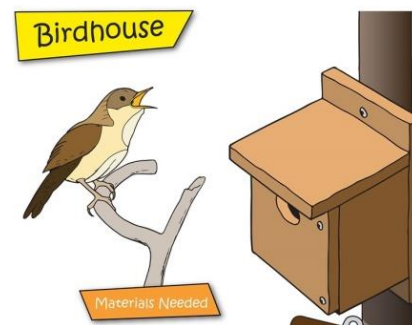
In a small, clean container with a tight-fitting lid combine

- 2 oz. (1/4 cup) of your choice of “carrier oil” (grapeseed oil, avocado oil, sweet almond oil)
- 40 drops of essential oil – choose from these effective favorites
 - Lemon eucalyptus
 - Citronella
 - Combination of cinnamon, cedar and rosemary
 - Combination of lemon, eucalyptus and mint
- Shake up your bottle and dab on pulse points – reapply frequently because the essential oils lose effectiveness as they evaporate.
- Don’t apply essential oils directly to skin – it may be irritating.

You can find essential oils at local health food stores or order from Glory Bee (www.GloryBee.com) Enjoy their online catalog full of interesting projects, recipes and supplies!

Make your own bird house:

- A quick and easy birdhouse project made out of things probably have at home right now can be found here - <https://kinderart.com/art-lessons/crafts/milk-carton-birdhouse/> If you want to attract swallows be sure to cut the hole 1½ inches in diameter and hang the house over 5 feet above the ground in an open area.
- A student-appropriate wooden birdhouse project is available here - <https://www.leevalley.com/en-us/discover/projects/2020/march/kids-build-a-birdhouse> This will take a bit of time and measuring to complete but will produce a long-lasting addition to insect control in your own back yard!



Learn more by exploring these resources:

National Geographic provides great general information about tree swallows and many other interesting species in a searchable Animal Facts and Pictures database <https://www.nationalgeographic.com/animals/birds/t/tree-swallow/>

Tree Swallow Nest Box Projects has a lot of detailed information about Tree Swallows including identification tips, habitat and nesting requirements <http://www.treeswallowprojects.com/basics.html>