



CATEGORY ARCHIVES: INVASIVE SPECIES STATEWIDE OUTREACH PROGRAM INTERNSHIP – ONONDAGA

Week 8 Hemlock Internship- The Final Countdown

Posted on **July 11, 2015** by **Ky**

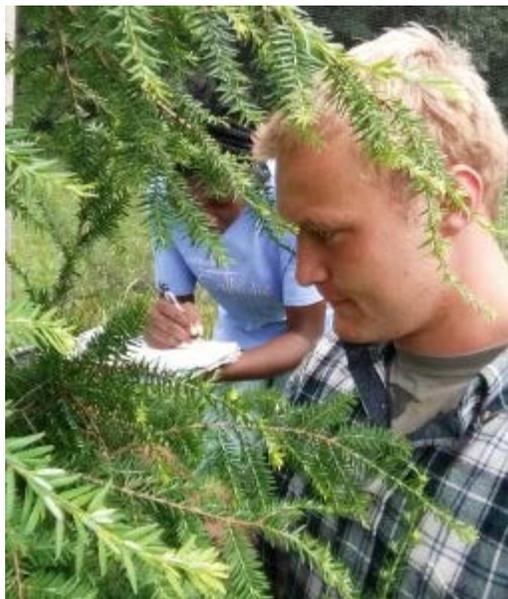
This week, my boss, a co-worker and I headed down to Skaneateles Lake to retrieve the experiments. We had a very quick and efficient assembly line strategy to get the job done fast. My boss cut the marked branches that we used in the experiments off the tree. My co-worker, Blake Wetherbee, opened the bags and placed the branches inside. I tied the bags up once the trees were inside them and placed them in a pile. Once we got off the boat we placed all the small, black bags into one, larger black bag in order to transport them back to Ithaca.

Once back in Ithaca, we opened up the large, black bag and took out all the smaller, individually bagged branches. We placed the bags into two boxes, so they can be shipped right away for counting. Once they arrive at their destinations, some business partners of Mark's will count them and report back their data.



- Here I am standing next to the bagged branches that are about to be mailed out.

Me and my co-worker, Blake, also did some counting of our own. Previously, we had attempted to count adelgids at the Corral, our field site, but did not see many to count. This time we went out and found lots! My boss was very happy with the results. Blake measured and counted the branches, while I recorded the data in our lab notebook. On the first day it took us almost three hours just to do one tree. But by the second day, we managed to count one tree in just about an hour! That's good news because there are many, many trees left to be counted.



— Blake and I counting adelgids.

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Week 7 Hemlock Internship- More Reports

Posted on **July 11, 2015** by **Ky**

On Monday, I went in to speak to my supervisor, Carri Marschner, about the reports I turned in last week. She gave me the corrections I needed to make and some advice on the reports. She also suggested I write another report that sums up my projects up until this point. I named this Intern Report which is attached below. I went home that day and wrote up the report. Tuesday morning I sent it to her after some quick edits. By the end of the day, all of my reports were turned into the CCE.

Intern Report

The next few days were somewhat uneventful. I spent most of my time in the lab as the adelgid population in my current trial began to sky rocket into the hundreds!



- Here is a picture of just a piece filter paper. That's a whole lot of adelgids!

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Week 6 Hemlock Internship- Report for Duty

Posted on **July 11, 2015** by **Ky**

On Monday, we (my boss, Mark, another co-worker and I) headed out to the Corral field site to examine the results of infesting the trees. Unfortunately, we did not find as many established adelgids as my boss wanted for his experiment. We discussed some possible ideas to increase adelgid establishment.



- This is one of our experiment sites, called the Corral. We are attempting to infest the trees to see how different amounts of sunlight (simulated by the tents over some trees) affect infestation.

On Tuesday, we (my boss and I) were supposed to travel to Skaneateles Lake to release silver flies, a predator of adelgids. Due to the weather, we had to cancel and reschedule to Thursday. In order to elongate the lives of the silver flies, we stored them in a 60 degree Fahrenheit fridge. Storing the silver flies in cooler temperatures keeps their bodies from aging faster and slows down their metabolism while not being too cold to kill them.

On Wednesday, I worked on some reports that are due next Tuesday. These reports are being sent off to the Cornell Cooperative Extension or CCE to demonstrate my productiveness in my internship. One was an invasive species profile on the spotted lantern fly, another was a list of groups who were possibly interested in the adelgid as a threat to hemlocks, and the last report was a press release on the release of silver flies into nature.

On Thursday, we finally got to visit the lake. We released more silver flies and also collected many adelgid infested hemlock branches. I took a few twigs as new specimens for my lab project. The rest of the branches, me and a co-worker used to infest the hemlock trees at the Corral.



- My Boss, Mark, a business partner, Tracy Yardley, and I release silver flies into the hemlock trees of Skaneateles Lake.

On Friday, I made some finishing touches on my reports before sending them off to my supervisor to look over. She will give me her feedback, so I can correct them before sending them off to the CCE.

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Week 5 Hemlock Internship- Work or Play?

Posted on **June 19, 2015** by **Ky**

Throughout the week, I continued to work on my lab experiment. Jars 5-8 have been discontinued.

On Tuesday, Mark and I went out to Lake Skaneateles again to check on the experiments and release silver flies, natural predators of adelgids, into the wild. It was a nice sunny day. The lake was beautiful and everyone had a lot of fun on the boat ride to and from the property we were releasing the flies on. We'll be returning in early July to take down the experiment.



- Here I am, having a LOT of fun! The man to the left of me, Mike Cooper, owns the boat and the lakefront property that we are running the experiments on. The woman to the right of me, Jesse Lyons, helps lead efforts against both adelgids and Emerald Ash Borer invasive species. The week before this, Mark and I attended an Emerald Ash Borer

meeting which she was leading and had organized.



- Here, Mark (my boss) and I release silver flies into these adelgid infested trees.

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Week 4 Hemlock Internship- Branching Out

Posted on **June 18, 2015** by **Ky**

My week started off with the usual lab work on Monday and Tuesday. I discontinued Jars 1-4, and added a new trial, Jars 9-12.



- Jars 5-8 are labeled in orange. They are on their second week. Jars 9-12, labeled in green, were just started.

For Jars 1-4, I counted the egg sacs on the twigs, so the amount of egg sacs on each twig could be compared to the amount of crawlers produced.



- Here I am, looking through a microscope to ensure that I am seeing fat egg sacs with adult adelgids mothers inside them.

On Wednesday, Carry (my supervisor), Jon (a co-worker), and I made a 2 hour drive up to lake Ontario to visit an invasive species symposium. I learned a lot about other invasive species, so in a way, “branching out” from my main topic. This symposium was very informative, and interesting as I was able to learn about the various ways others were using to control their invasive species of interest.

On Thursday, Mark (my boss), and I traveled to lake Greenlake to attend an Emerald Ash Borer meeting. To my surprise, Mark was one of the starters of the Emerald Ash Borer task force and a very respected member at the meeting. This demonstrated the varied work that people do on invasives. Many people who work with one invasive, are also concerned about another. This also taught me the cooperative work that those who work with invasives do. It is not about one person or a group of people fighting their species of interest, but about various groups of people working together to fight several invasives.

On both Thursday and Wednesday, I saw many people attending the meetings to learn how to fight invasive species in their own backyards and neighborhoods. These weren't professors or individuals who had dedicated their whole lives to a topic, but just an average joe community member attempting to save whatever native species he or she cared for. This showed me the importance of the community and their role in aiding the fight of invasives.

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Week 3 Hemlock Internship- A Day on the Lake

Posted on **June 18, 2015** by **Ky**

Throughout the week I continued my adelgid experiment in lab. I added a second trial, and modified some of the procedures. The details of this can be read about in my soon to be published lab report.



— Here I am counting adelgids.



— See all the small brown dots? Those are newly

hatched adelgids, called crawlers! This sample has hundreds!

Because adelgids are so small, they must be counted under a microscope to ensure that they are actually adelgids, and not just random, brown specks.



— This is what I see under the microscope. Two eyes, six legs. Isn't she cute!

The week ended off well on Friday with a trip to Skaneateles lake. Here, a team of us went out onto the lake to treat a few adelgid infested trees with silver flies. These flies are natural predators of the adelgids. The experiments take place inside closed bags in order to limit environmental changes influencing the results. The experiment will tell us if releasing silver flies into environment will likely be a successful method of controlling the adlegid population.

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Week 2 Hemlock Internship- Mad Scientist Experiments

Posted on **June 18, 2015** by **Ky**

Monday was Memorial Day.

Tuesday, my boss helped me set up an experiment and then left me to my own devices as far as running it for the rest of the week. This was a great opportunity for me to exhibit and practice independence within the workplace.

This experiment tests how long it takes for Hemlock Woolly Adelgids to hatch. This is important as it exhibits how long trees can go without being reinfested. Now, why would we want to infest the trees we're trying to save? Well, infesting the trees in a controlled environment allows us to run tests on them that we can use to learn more about adelgid infestation. This knowledge will then help us prevent or slow down the infestation.

Here is the set up:



- The crawlers hatch from the egg bundle (white cotton look alike) on the hemlock twig and then fall down into the solution below.

Then I poured the crawlers into a petri dish and counted them:



- Here I am checking the jar (after pouring its contents into the petri dish) to ensure that crawlers were not left in it.

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Week 1 Hemlock Internship- Hemlock Trees: The Climbing and The Planting

Posted on **June 18, 2015** by **Ky**

My first day on the job was Tuesday, May 19th. My first day experience was a very cool, and unexpected. We traveled into the forest and CLIMBED Hemlock trees, which are around 60-100ft tall! Unfortunately, I specifically did not get to climb one, but I did get to help set up the ropes. This is done by using a giant slingshot to launch a small weighted sac, attached to a long rope, over a high, strong branch. It can be very hard, and took me many attempts to successfully do. It often has to be redone as the climbers safety depends heavily on the placement of the rope (a strong branch that won't crack, close to the trunk of the tree as to prevent the branch from cracking or the rope from slipping off the branch). A climber then attaches herself/himself to the rope, and pulls herself/himself up the tree. I look forward to climbing a tree myself, sometime in the near future. The purpose of climbing the trees wasn't just for a great workout and breathtaking view. Our climbers were searching the trees in order to see if they were infested with Hemlock Woolly Adelgids.

For the remainder of the week, we planted Hemlock trees for a future experiment on sunlight's effects on Hemlock Woolly Adelgids. These trees were over 8ft tall, and weighed 1000 pounds each. We planted about 30 of them using heavy machinery and muscle. We then dug, no- crafted and sculpted "bowls" around the base of each tree. When watered, these "bowls" will keep the water centered, around the roots and base of the tree, allowing the roots to get the most water.

The trees arrived like this:



- The Hemlocks arrived all bundled up from the nursery.

By the end of the week, they were much happier:



- The trees are in the ground and have been watered.

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