



Permaculture Prattle



Jessica Torvik

Message from Jessica Torvik, Horticulture Teacher

During this season of thanksgiving, I have to begin by expressing gratitude for the creative ideas, hard work and dedication of the Nathan Hale Urban Farm Steering Committee. Our group formed just over a year ago, starting with a chance meeting between Randy Kilmer and Keith Mastenbrook. Katherine Ransel jumped in right away, followed a few months later by Amy Waterman. Our most recent addition is Joani Pfeiffer.

Each steering committee member brings different skills, expertise, and experiences to our meetings and work parties, always leading to a lively and productive discussion about how to best care for the urban farm and serve our horticulture students. Randy, Katherine, Keith, Amy, and Joani -- thank you for working with me, teaching me, putting up with me, supporting me, and above all, making the Nathan Hale Urban Farm a growing and thriving place for our students at Nathan Hale. But we could not have accomplished this much without a steady crew of other volunteers and donors. We owe a great deal to Matt Jordan, Anne Tyler, Regan Wensnahan, Aaron Armstrong, Em Frothingham, Seattle Tilth, Dunn Lumber, Lenz Enterprises, and members of Sustainable Northeast, the Seattle Permaculture Meetup, and the Hale Horticulture Leadership Club, who contributed materials, skilled labor, and design ideas.

Some highlights of our progress over the last six months are:

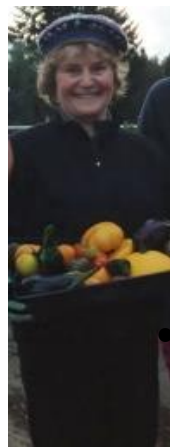
- Repurposed existing 12” tall raised beds into 30” keyhole and hügelkultur mounds;
- Constructed wood arbor on west side of greenhouse that will hold pipes to collect water from the greenhouse roof;



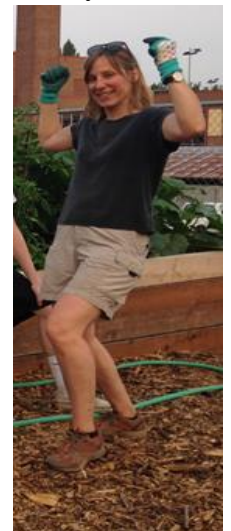
Randy Kilmer, Keith Mastenbrook, Joani Pfeiffer



Matt Jordan



Katherine Ransel



Amy Waterman

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- Hosted a neighborhood compost giveaway (thanks to Seattle Tilth and Lentz Enterprises) during our Spring Edible and Ornamental Plant Sale;
- Held weekly work parties every Wednesday night over the summer;
- Donated hundreds of pounds of produce to the Lake City Food Bank;
- Planted a cover crop and winter vegetables;
- Sheet mulched obsessively, in an effort to build up our topsoil and suppress weeds;
- With Accman accountant Barbara Petty, began forming the non-profit Friends of NHUF;
- Toured and gleaned ideas from Bullock's Permaculture Farm on Orcas Island.

Several exciting projects are in the wings. We plan to install and improve upon composting systems that can serve as teaching and demonstration sites, and are looking into cisterns and pumps for storing and using our valuable rainwater. Using grant funds from the Hale Foundation, we will add six large wheelchair-accessible raised beds and gravel pathways, and design and install an urbanite raised bed and trellis system for the south-facing wall of the greenhouse. With so much work ahead, we invite students, families, and community members to work with us on the first Saturday of every month. Your next opportunity to volunteer is December 5th, from 9 am to noon. We love to meet our neighbors, so please join us!

Our horticulture students would also love to see you at our winter and spring plant sale fundraisers. We will be selling poinsettias in the greenhouse on Wednesday and Thursday, December 2d and 3d, from 1-3 pm. Also mark your calendars for the spring plant sale on May 4,

5, 6 and 7, 2016. All of our plants are grown from seeds and starts by students using sustainable methods, and all proceeds go to the greenhouse and farm.



Have a wonderful holiday season! And don't forget to acknowledge the importance of farmers (like the student pumpkin farmers, pictured to the left and on the next page) as you gather for your celebrations!



Nathan Hale Urban Farm Shares Bounty with North Helpline

Nathan Hale Urban Farm is the horticulture program’s living laboratory. It provides students with hands-on experience in horticulture, urban farming, environmental science, and entrepreneurship. As part of this “on-the-ground” experience comes an opportunity to give back to the larger community.

Our newly constructed raised beds were planted with a variety of vegetables gleaned from the left overs of the spring plant sale. As our hotter than normal summer progressed, and dedicated volunteers and our fearless horticulture teacher faithfully watered day in and day out, we began to see the fruits of our labor. From mid-July to September, volunteers brought produce from the farm to North Helpline, sometimes referred to as the Lake City Food Bank, on nine different

occasions. The total amount of produce donated was 425 pounds. Tomatoes, peppers, squash, eggplant, lettuce, and tomatillos were all shared with the Helpline.

“Summer is a difficult time for many families needing food assistance. We are very grateful to Nathan Hale and our local P-patches for the fresh produce in the summer,” said Madeline Jarvis, from North Helpline. It is our hope to increase the harvest and thus our ability to donate to the food bank as we add more raised beds and other areas growing edibles on the site. It is a privilege to be able to contribute to the community in this way.



Building Soil and Managing Weeds at Nathan Hale Urban Farm

Bindweed



horsetails



As Jessica Torvik explained in the spring newsletter, NHUF has struggled with poor soil and invasive plant species since the horticulture program's site was moved from the grounds north of Meadowbrook Pond to its current location above and behind Jane Addams Middle School.

We have been taking different approaches to these problems in the spirit of experimentation. First, because we had such a huge load of wood chips donated by the local Davey Tree crew, we began by simply piling massive amounts of wood chips on site, knowing that even if that approach did not work as a weed suppressant, at least we would be building soil.

Because wood chip mulch alone did not work well as a weed suppressant (we have very aggressive invasive species on site, among them, horsetails and bindweed), our second experiment was to solarize the weeds on the east side of the greenhouse during our very hot, dry summer. This involved placing a huge sheet of clear plastic over the entire area and carefully sealing it on all sides with soil/compost and whatever we had around to hold it down. The idea is to heat the weeds and their seeds and roots to temperatures high enough and for a long enough period of time to render them incapable of reproducing.



Our greatest hope for building soil while also suppressing weeds, however, is sheet mulching. This involves placing large pieces of cardboard on the ground, overlapping them by a foot, and then applying a layer of compost, followed by a layer of mulch (which in our case is wood chips because of the steady stream we are privy to). This technique was implemented by the students on the west side of the greenhouse this fall and will be applied to the south side.

Because the site is surrounded by invasive species outside the perimeter of our one acre working area, weed management will be an ongoing challenge. But we want to make the experience of working on the farm a positive one that primarily involves producing vegetable crops and other edible and usable plants (e.g., culinary herbs, berries, edible flowers) rather than having the students spend a majority of their time fighting weeds. We hope that these techniques will help us get the weeds under control while building our soil.

Demonstrating Permaculture Principles with Hugelkultur



One of the new features of our first phase of site development is some hügelkultur raised garden beds. They were created by a wonderful group of motivated volunteers this summer and are located on the north ends of our newly designed raised keyhole beds on the south side of the greenhouse.



Hügelkultur is a German word meaning mound or hill culture and has been practiced in Europe for hundreds of years.

Hügelkultur is nothing more than making raised garden beds filled with wood that is lying around and would otherwise decompose and release CO₂ into the atmosphere. Progressively smaller pieces of wood, from big logs to branches to wood chips, if you have them, are piled up and topped with upside-down sod, compost and/or topsoil. The wood creates beds loaded with organic material, nutrients, and air pockets, which are heaven for plant roots. Over time, the soil of hügelkultur beds becomes incredibly rich and full of life. The composting process warms the soil, slightly extending the growing season. And one of the biggest benefits of hügelkultur beds is its ability to hold amazing amounts of water, a feature that is highly valued in Mediterranean climates such as ours, and one which will become more important as our planet warms.

Hügelkultur replicates the natural process of decomposition that occurs on forest floors. Trees that fall in a forest often become nurse logs, their slow decay supporting the growth of seedlings. As the wood decays, its porosity increases, allowing it to store water "like a sponge." The water is slowly released back into the environment to nearby plants. The mound, with different aspects toward the sun and varying heights, also creates a range of microclimates favorable to a diversity of plants. Hügelkultur beds are ideal for areas where the underlying soil is of poor quality, like the south side of our greenhouse. And they are easy to maintain due to their height above the ground.



Our hügelkultur raised beds were planted with a cover crop of mix grains and nitrogen fixers this fall to keep the loose soil we put atop the woody bottom layer in place during the fall and winter rains. We hope that our hügelkulture beds will deliver on the promise that motivates hügelkulturists around the globe.

Inside the Greenhouse

We are putting the finishing touches on our poinsettia crop for the Holiday Plant Sale and have started potting fuchsias for the Spring Plant Sale. We are starting the fuchsias two months earlier than last year in order to have fuller baskets in more bloom than in the past. The students have also taken cuttings from house plants to add variety to our future plants sales, and they are growing basil to make pesto as a class project.



We are introducing biological controls into the greenhouse. Fuchsias are susceptible to thrips and other pests and our goal is to control them without using harmful pesticides or chemicals. See you at the Winter Plant Sale!

Nathan Hale Winter Plant Sale

Red and White Poinsettias

Gorgeous Color--Grown by Students



- Poinsettias are \$10 each.
- Delivery available for orders of 10+
- **Poinsettias make great holiday gifts!**
- **Wed & Thu, Dec 2 & 3, 1-3 pm**
- **Sale is at the Nathan Hale Greenhouse located north of Jane Addams Middle School**
- **All proceeds benefit Nathan Hale Horticulture Program**

Contact jjtorvik@seattleschools.org with questions or to arrange delivery.

