

# Hugelkultur Garden

by Jackie Bradley and Phil Gregory







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and Phil Gregory



Feb. 17, 2015  
resting in our winter season

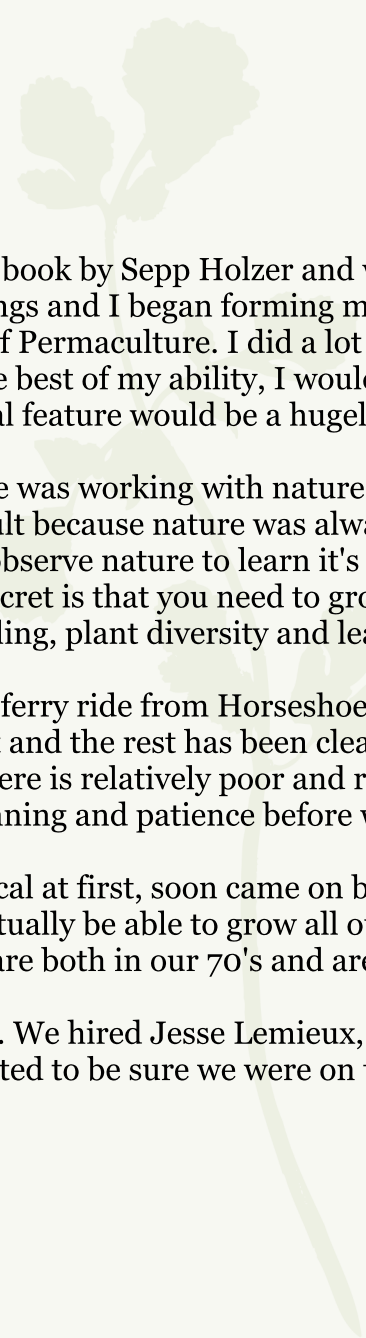


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In the spring of 2013 I picked up a book by Sepp Holzer and was entranced. I fell in love with this man's attitude toward growing things and I began forming my dream of having a hugelkultur centered garden. It also led me to the field of Permaculture. I did a lot of reading and determined that I would begin a new garden, and that to the best of my ability, I would develop and grow using the principles of Permaculture. This garden's central feature would be a hugelkultur.

What attracted me to permaculture was working with nature rather than battling it. My experience was that growing vegetables was difficult because nature was always working to undo what I was trying to accomplish. In permaculture you observe nature to learn it's own techniques and use those techniques to grow things successfully. One secret is that you need to grow healthy soil to grow healthy plants. In part this is achieved through no tilling, plant diversity and leaving dying plant matter on the soil.

We live on Bowen Island a 20 min ferry ride from Horseshoe Bay in West Vancouver, BC. We have 6.25 acres. About half of it is forest and the rest has been cleared. We have a flat area that gets full sun in the summer months. The soil there is relatively poor and rocky and the forest comes up to it's western edge. It took a year of planning and patience before we were able to begin.

My husband, Phil, although skeptical at first, soon came on board. We both have an interest in living sustainably and would like to eventually be able to grow all our own food. For some time we have been committed to buying organic. We are both in our 70's and are quite active and fit.

Finally in Apr. 2014 we got started. We hired Jesse Lemieux, a local permaculturist, to spend 2 hours with us for a consultation. We wanted to be sure we were on the right track.



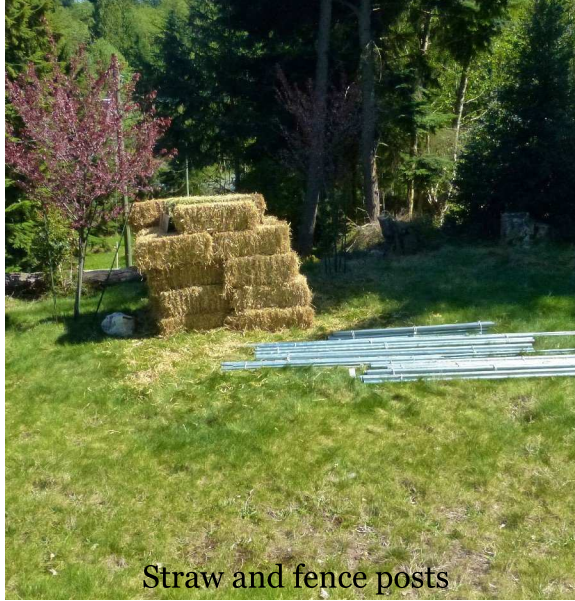
On Apr. 12 2014 Jesse arrived with his class. The biggest thing we got from them was that we should reorient our hugel to have the open end face the sun. As it turned out this was a very good suggestion.

Next we began to assemble all the necessary materials. We chopped down and collected alder wood from our property. We bought deer fencing, manure and straw. We decided on steel posts for our fencing, as wooden fencing had to be treated or it would break down in a few years. We wanted an organic garden so treated wood was not a possibility.



The hugel laid out with the open end facing the path of the sun.





Straw and fence posts



As a physicist, Phil was able to calculate the volume of wood needed. He was shocked to discover how many trees were required to build our hugelkultur. He ascertained that we could only dig our trench 2 1/2 feet deep. This meant we would still need more soil than we would get when we dug our trench. So I set to research soil in our area. I choose Eco-Soil, a company that seemed to be passionate about good healthy organic soil. They sell an organic veggie mix.



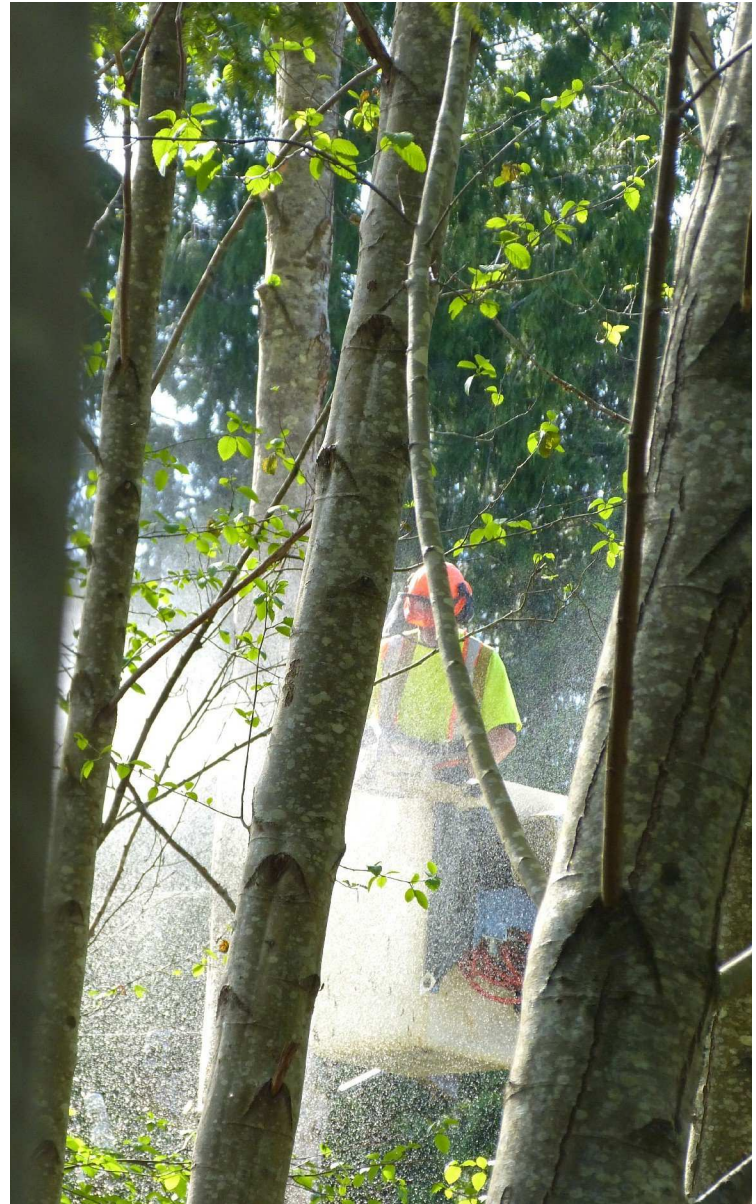
Bags of manure and deer fencing





We had all our materials ready, except the soil, but we could start without that. Then the rain arrived and we had to wait. We had hired Frank Seaberly, a local expert with the backhoe, to haul our large logs and to dig our trench. He told us we needed 3 dry days before he could start.

Finally on May 1 the big day arrived. Just as we were about to start BC Hydro arrived and said they were ready to cut down some trees that were threatening the power lines. So we got some extra wood and they chipped all the branches for us. So we suddenly were the proud owners of a large pile of chipped alder. Just what we needed for the paths and the blueberry run.







Frank started to work bringing the large logs out of the forest that Phil had previously cut.







We begin by stripping off the turf as we will use it later. We start on the arm farthest from our driveway. The turf gets put in one pile and the soil in a different one. Note the pear tree in the background. We planted it earlier in the spring and put up temporary fencing.





Phil measures the trench making sure we get 2 1/2 feet.

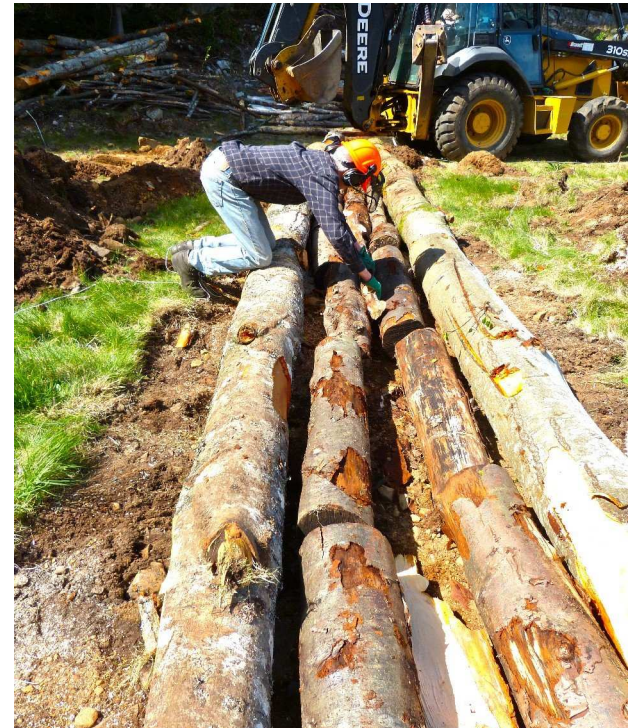


The first log goes in.



We put soil back into the trench between the logs and a thin layer on top of them.

Then comes the second layer of logs.



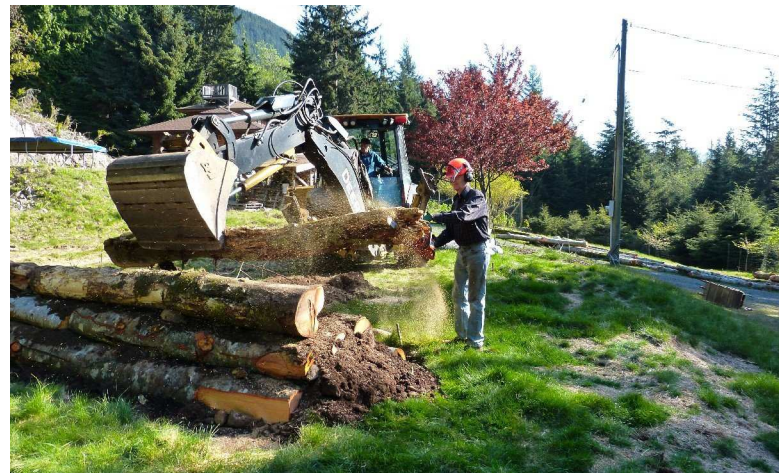




The third layer of logs goes on.



I run around stuffing soil, green cover crops and manure in the crevices.



Phil sawing off the end of a log that is too long.





The fourth and fifth layer of logs finished up with the sod laid on the logs upside down.





The soil that we dug out of the trench has all been put back into the hugel. The first arm is now almost complete. We hope the new soil will arrive soon.



## Hugelkultur Beds

A hugelkultur bed gives you more growing room, but this isn't what really attracted me to this idea. Apparently after you have the bed established you do not need to feed or water it for many years. The wood that is buried in it's centre is a great reservoir for capturing and holding water.

As the wood begins to rot it provides nutrients for the plants. If your wood is new, then at the beginning, it will use nitrogen to assist the decomposition, but as it begins to decompose it switches over to giving nitrogen and other nutrients back to the soil and plants. Our first arm has mostly new wood and just a few rotting logs. Therefore I planted a lot of nitrogen giving cover crops on this arm.

After we built the first two arms, we decided they were rather steep and we would likely have difficulty keeping the soil on it until it was covered in growth. So we decided to put one less layer of logs on the rest of the hugel. Sepp Holzer says that you have to have at least a 45 degree angle on the beds or you risk soil compaction. If that happens the supply of oxygen is decreased and the process of decomposition is interrupted and you can develop an anaerobic sludge. The arms of the hugel that are less steep proved easier to manage. We still maintained a 45 degree slope on them. Our first arm is the steepest and probably about 60 degrees and we are continually having to readjust the soil and cover up edges of wood.

It is important to not have wood sticking out into the air. This will cause a lot of your stored water to evaporate through this spot.





A shallower slope  
There are still quite a few more logs to add here, but it doesn't get any higher.





A steeper slope  
Just one more log to go on top here.

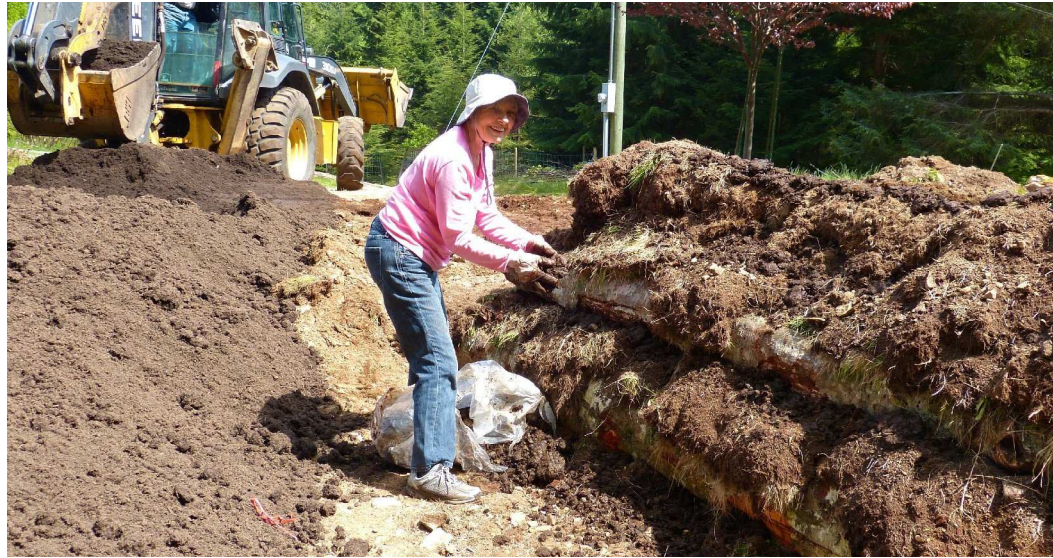


## Hugelkultur Garden



We'd worked our way all the way around to the final side of the hugel, when the soil finally arrived.





While they unload the soil, I'm busy stuffing manure into the crevices.



Then on goes the final layer of soil. Phil finds an old piece of metal siding to hold against the hugel as the soil is dropped on. This helps prevent it from all tumbling down.





Then I get out the seeds for the cover crop (vetch, buckwheat and oats) and begin to sow them on the outside of the hugel. I cover them with branches to help give stability to the soil. Meanwhile Phil and Frank finish the last side of the hugel.







Soil all on and ready for more planting.



## Hugelkultur Garden



Before Frank leaves for the night he helps us bring some straw up to the hugel. Then I get busy and cover what I have planted with straw.





The next morning we arrive to find that a deer has walked up one side of the hugel, down the other side, then up and down yet another. And here we thought we didn't have to worry about the deer until things started growing. I begin planting - potatoes, onions lettuce and beans.

It is now May 11.



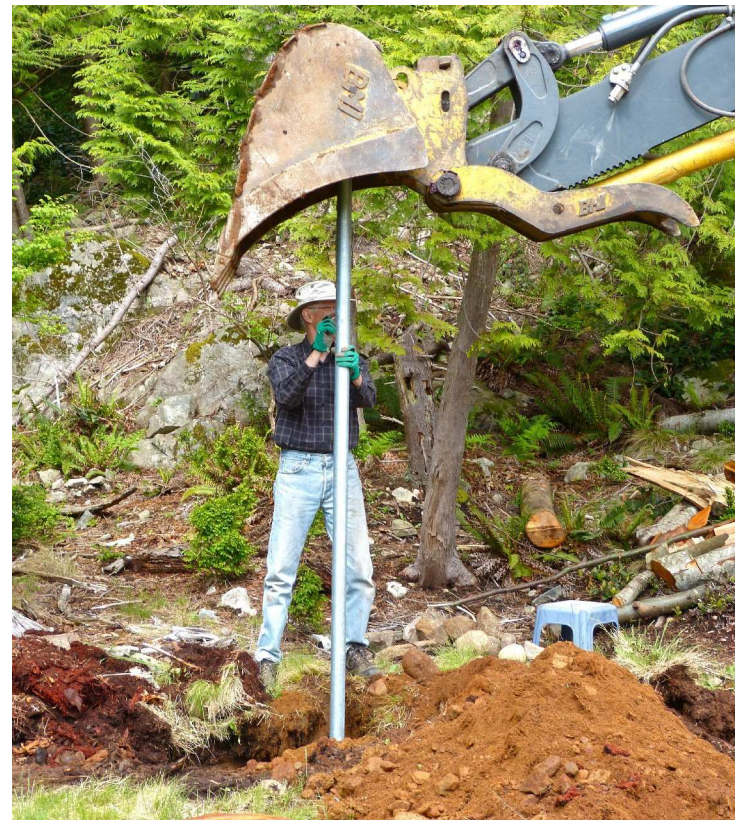
Frank returns to help us dig the blueberry bed. It is to be on the north side of the garden, just outside the middle arm of the hugel. Here the soil is rocky and poor. We need the digger to dig out some of the rocks, bury a layer of old logs and help install the fence posts.

We will fence all around the blueberries so that we can cover them with a small mesh that will keep the birds out. Our other garden has blueberries and we loose many of them to the birds. Now the birds will have a blueberry garden and so will we.

My intention is to sheet mulch this area and not plant blueberries until the following year.



We dug holes for the poles,



tapped them down with the digger,

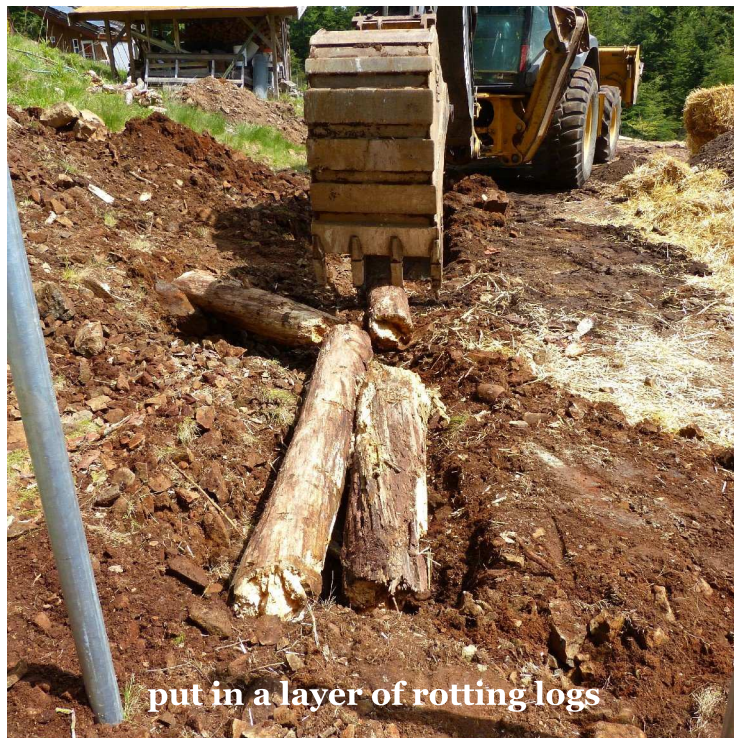




dug a trench,



and covered it all with dirt



put in a layer of rotting logs

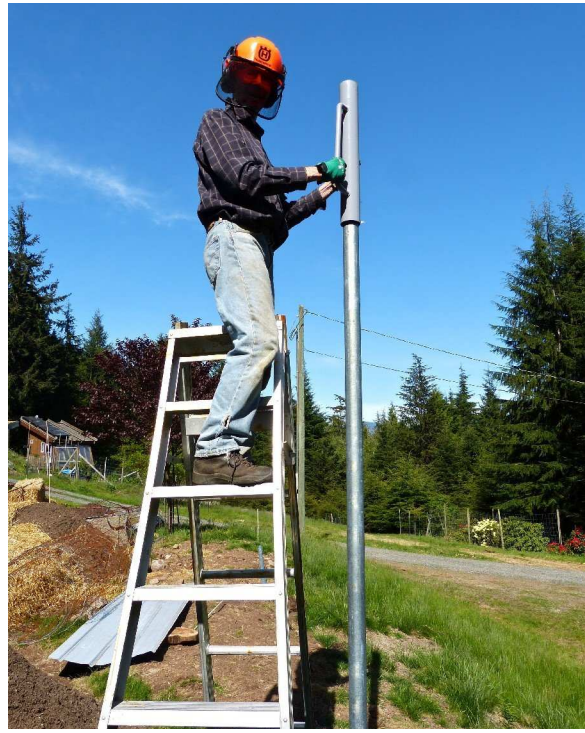


The poles in this area would not go deep enough as it was too rocky so Phil engineered triangular cross bars to stabilize them.





Then Phil and I set to and got working on the fence that would go around the whole garden. The perimeter is 165 feet. One post had to be cemented in as it was just too rocky to get a pole in. the rest of the poles went in relatively easily. Phil got up on a ladder with a pole pounder and pounded them into the earth. Then we attached the crossbars.





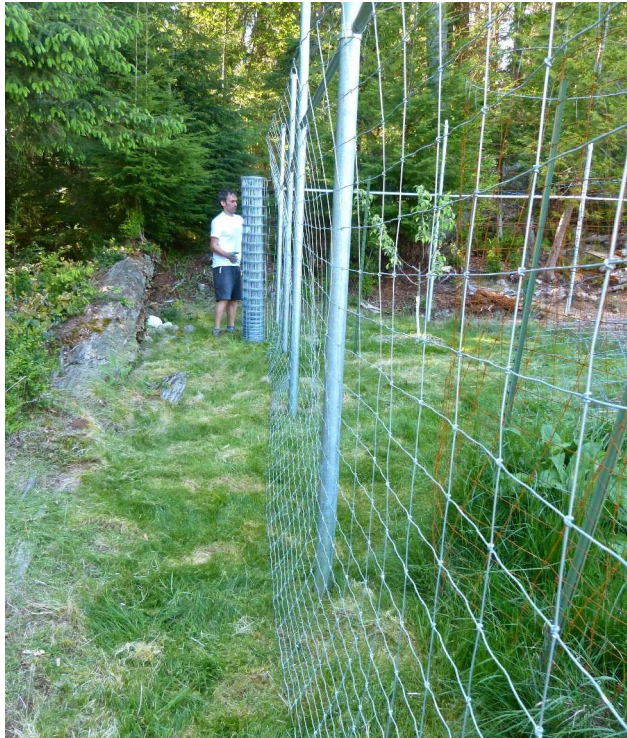


To protect the hugel from the deer we kept it barricaded up with anything we could find  
- straw bales, our car, garden chairs, branches



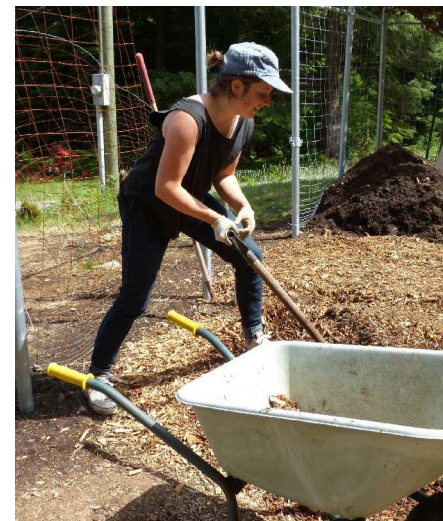


On the weekend our son-in-law, Tony came to help us with the rest of the fence. The wire deer fencing was just too heavy for us to manage. Phil and Tony finished the cross bars, put the deer fencing up and wired it to the poles.





The digger started on May 1, but on account of weather it was May 17 by the time we got the fence up. We still didn't have the gates, but that was easy to barricade. A week later Claire Gendron came to help for a day. She spread the wood chips on all the pathways and helped me sheet mulch the pear trees. By this time, May 26, the seedlings I had planted were growing, the potatoes were up and the cover crop was through the straw.







May 27

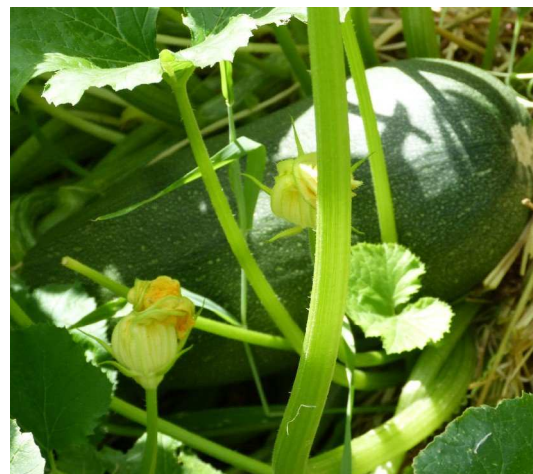
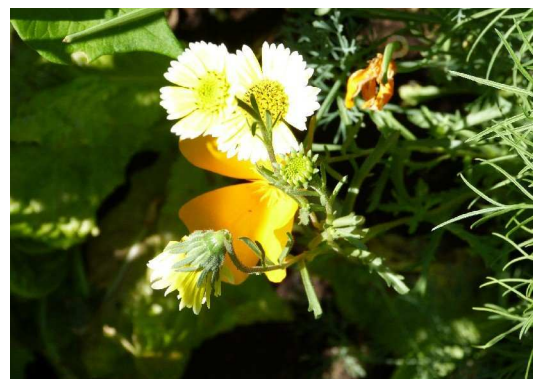


Finally we are able to pick up the gates and Phil installs them on June 5. By this time my corn, squash and runner beans are beginning to grow and my artichoke seedlings are taking off.





Hugelkultur Garden



July 25 to 28





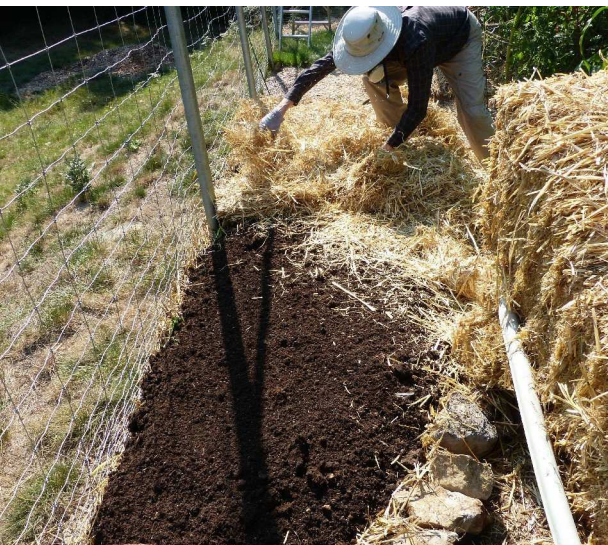
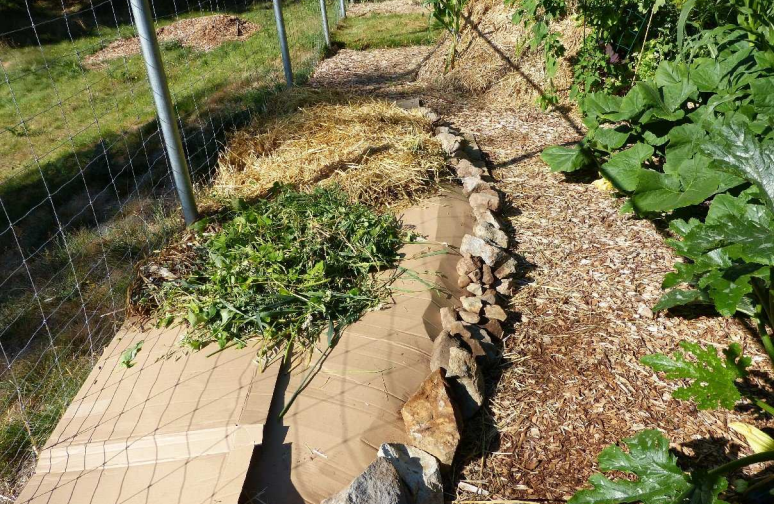
Interior of hugel on July 25.





Sheet mulching the blueberry bed:  
straw, green cover crops, horse  
manure, more straw, cardboard, a  
layer of soil and wood chips.





Whenever I had a spare moment I continued sheet mulching the other beds in the garden. I now had lots of green cover crops on the hugel to use. Half of what I grew on the hugel went to the other beds and half remained on the hugel. Some got sown with cover crops and some didn't get completed in time for that.



## August on the Hugel

From top left: Lemon cucumbers, cosmos, pumpkin, beet, quinoa, scarlet runner bean, roma tomatoes, amaranth, and artichoke.







Aug. 24 view of Three Sisters ( corn, squash, beans) planted on the hugel.

Everything grew profusely on the hugel, but next year I will not plant on the hugel the really tall things like quinoa and corn. As they began to ripen on the slopes, they became too heavy and some fell over.





A tip: don't go away before you have harvested what you want.

The top photo is quinoa on Aug. 28. We then went away for a month and the second photo is the same quinoa on Sept. 28. It had sprouted on the plant and was going moldy.





It has been an exciting year. We were away until the end of Feb. It took 2 months to get everything organized and to get the weather to oblige, so we were late getting things planted, but still the hugel flourished and was very lush. Our travel plans for 2014 were extensive and this too interfered with looking after the hugel. None the less, we harvested many delicious veggies.

I did a lot of mixed planting. Some was very successful and some not so much. For instance I planted potatoes, onions and chard all mixed up. The potatoes overgrew everything and the other plants didn't get enough light. However, some of those onions are now coming up the following year. I planted cucumbers, tomatoes, peppers and basil in the centre of the hugel as there is a warmer mini climate in there. The tomatoes were fabulous and grew like crazy. I wasn't here when they needed to be pinched back and they grew up one side of the hugel and down the other. The kale was incredible and some of the plants produced all winter long. Even after a freeze, they just bounced right back. Flowers bloomed throughout the veggies and attracted many beneficial insects. We had no slugs the first season, but they have arrived this spring.

All in all it was a very successful process at least for the first season.



## Expenses for Building New Garden

\$ 157.50	Jesse Lemieux consult
\$2610.00	Frank Seaberly, backhoe \$110/hour
\$ 318.15	straw from Westway Feed 35 bales of straw and 2 bales of alfalfa
\$ 269.95	6' deer fencing from Bowen Building Centre
\$ 884.61	fence posts and related hardware
\$ 299.10	2 gates
\$ 192.44	delivery of fencing posts by Bowen Freight
\$ 256.49	delivery of straw by Bowen Freight
\$ 40.00	manure from Vivian Pearce at Shady Acres
\$ 861.00	12 yds of eco-soil and delivery by Dave McIntosh soil was \$40/yd

Total \$5889.24

I saved up my money so that we could put in this new garden, however it would be possible to do it more economically. We live on an island, so all the delivery charges were quite high. Jessica is putting in a new garden at her home on Bowen this spring (2015). She and her Dad were able to get wholesale fence posts and even though they have a hugel in their garden, they did not need to buy any soil. I was impressed by how good they are at recycling things. They also were able to find free manure, wood chips and many discarded plants that they gave new life to.





My new friend Jessica Mitts now comes to help me once a week in the garden. What a blessing. Here we are starting on our early spring gardening for 2015.













Sept. 28, 2014

I planted lots of short sunflowers on the hugel. The insects were happy.