

PHASE 2: Building the Systems - Bees, Polyculture Gardens, Education

Year 4 - 2012: Emphasis: Bees, scything, creating guilds; observation & practical applications of permaculture concepts. Main expenses: bees & hives; scything workshop & scythe blades; more perennial plants; adding to permaculture library; mulch and soil.

Operations & Infrastructure	Plants & Gardens	Amenities & Fun Stuff	Education & Outreach	Marketing Expenses / Income Streams
<p>New spiral garden / bee watering station Dug pit for "kiddie pool" for overflow from rainwater tank; placed in willows for overflow; duckweed; bees, frogs, etc. New keyhole beds around contorted filbert tree and also radiating from large compost cage that will become a "living wall" New homes for Red Wigglers in buckets (with holes drilled in) sunk into ground between shrubs so leachate will fertilize nearby shrubs Invested in hand tools because mechanical tools keep breaking down and costing a lot to fix! New tools: scythe & honing kit and Magna Grecia hoe (\$275) Beehive construction & supplies (\$340) Minor equipment & supplies (\$200) Tool/equipment investment: orchard ladder, backpack sprayer, small utility shed (\$350) Labor (\$270)</p>	<p>Bees! First 4-lb package of Carniolans! (\$100) Captured a neighbor's swarm of bees - plus new bees swarmed - 3 hives Permaculture plants: focus on assorted groundcovers, perennial vegetables, native plants for wildlife corridor, making garden "rooms" more efficient. Native Plants: 10 ea Mock Orange, Oregon Grape, Red Currant, & Serviceberry; Other plants: Korean Bush Cherry, Korean rose, Seaberries, hazels, currants, gooseberries, mimosa silk tree, Siberian pea, autumn olive, silky dogwood, spice viburnum, cranberries, yacon, oca & mashua roots, scorzonera, Good King Henry, hollyhock mallow, currants, musk mallow, etc. (\$850) 3 Sisters corn, bean/pea, squash, borage patch Worked on creating database of plants and their uses and functions Experimented with polycultures of veggies & flowers; determining how to best convert conventional orchard to "food forest" Soil, mulch, and Fertilizers (\$425)</p>	<p>Built 3 new spiral gardens! - 1 as bee watering station, 1 toadhouse for grandkids, 1 w/recycled bottles & sedums; Strategic placing of poles where birds can perch and drop fertilizer; Incorporated patterns into garden "rooms" - see what makes sense & where: spiral, waves instead of straight lines, zigzags, honeycomb, fluvial networks, etc.; keyhole beds; hexagonal plantings; berm/bed & pit construction. Willow Room dance. Experiments with wild foraged plants, uncommon fruits, fermentation, home canning, & products with potential for commercializing for resale under WSDA value added products ideas. Time spent observing the garden, the changing paths of the sun and corresponding changes in growth & decline in garden; better understanding of microclimates & guild combinations</p>	<p>Scything Workshop: Alexander Vido / Scytheworks (\$75) Books: "Groundcover Plants" by Martin Crawford, "Real Food Fermentation," "Growing Gourmet and Medicinal Mushrooms" by Paul Stamets, "How to Grow Perennial Vegetables" by M. Crawford, "Taylor's Guide to Fruits and Berries," "Uses of Wild Plants," "The Organic Farmer's Business Handbook," "The Holistic Orchard" by M. Phillips, "The Practical Beekeeper" M. Bush, "Mycelium Running" by P. Stamets, "Agroforestry News" by Crawford et al., "Edible Forest Gardens, Vol. 2" by Jacke & Toensmeier (\$400) WSDA workshop on creating value-added products through Specialty Crop Block Grant Program (\$80) Class on Sustainable Landscaping through Clallam County Conservation District (\$20) Popular blogpost: presentation by Paul Gautschi & visit to his no-till orchard & garden Outreach: North Olympic Peninsula Beekeepers' Association</p>	<p>Garlic, crafts, small business consulting</p>

Year 5 - 2013: Emphases: Filling in the herbaceous and groundcover layers; use of green manure cover crops; better defining guilds. Plant propagation. Seed harvest & packaging. Identifying pollen & nectar-producing plants, when they bloom, what pollinators they attract; better understanding ecosystem interactions. Beginning of PDC program!

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<p>Tools for making beehives (\$425) Scythe blades (\$150) Beehive & beekeeping supplies (\$300) Labor (\$325) Improved pathways.</p>	<p>New bees! Multiple swarms! Went from 2 hives to 6! Purchased 3# pkg of bees (\$85) New Plants: Seeds of unusual vegetables from JL Hudson, groundnuts, sunchokes, licorice, bunching onions, Akira sunflowers, bamboo, linden, weeping mulberry, honeyberries, currants, cranberries, lingonberries, 4 new kinds of willows (\$425) Fertilizers & specialty soils (\$175) More emphasis on plants for bees & figuring out what blooms when. Uncommon fruits really starting to produce! Rosehips, goji, goumi, beach plums, Saskatoons, Medlar, etc.; mashua vines very vigorous; oca roots very productive; kale was a food forest in itself! Malabar squash was simply incredible! Bumper harvest of apples. So much variety & productivity! (Thank you, bees!) Biggest challenges: grass, thistle, morning glory invasions; voles & underground mammals</p>	<p>Emphasis on natural, non-invasive beekeeping methods & support for a variety of pollinators. Built a bat house; set up snake and lizard abodes and areas for bumblebee & mason bees; built an insect hotel Continue with database of plants, rqmts, uses, niches, functions More willows! Willow room definitely taking shape & highlight of garden. Hiding places in willow tunnels & at the willow chairs. Played with willow sculptures. Diversity of garden & assorted habitats are Definitely making a difference in attracting a lot of birds, insects, snakes, deer, voles. Polyculture chaos! Hooray!</p>	<p>Reference books: "Chinese Medicinal Herb Gardening," "Flower Farming," "Seed Production," "The Resilient Farm and Homestead" by B. Falk (\$100) Signed up to obtain Permaculture Design Certificate through Regenerative Leadership Institute (\$290) Outreach Donation: beehive for fundraiser auction event to Northwest Straits Foundation (\$350 value) Outreach: North Olympic Peninsula Beekeepers' Association; Clallam County Fair NOPBA booth Outreach: Interactive demo at Farm Tour on how to build insect hotel & importance of creating habitat for insects Subscribed to (and blogged about) subscribing to local CSA program.</p>	<p>Supplies for processing & pkg BF products (\$400) Marketing expenses: webhosting, website theme, signage, etc. (\$500) More diversified income: Garlic, uncommon greens, berries, seeds, swarm boxes, garden & assorted crafts, garden photo calendars, small business consulting. More bartering.</p>

Year 6 - 2014: Emphasis: Working on PDC project; reading Bill Mollison's Manual; writing up ideas and pulling them together on a website. Participation in garden show provided marketing and outreach opportunities. Fewer monetary investments in plants, soils, infrastructure, equipment. More on labor, education, marketing/outreach.

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<p>New homes for Red Wigglers in bathtub (\$20 at recycle) by "living wall"; leachate drains into bucket from bathtub drain. Experiment with sunken bed / rain garden / overflow pit - potential new pond or just vernal? Pathways: brick, mulch, redefining Mulch harvest with scythes More spent on labor to keep up with things! (\$300) Tools & Eqpmnt: \$50</p>	<p>Explored growing grains: amaranth & quinoa. Additional emphasis on bee plants, medicinal herbs, groundcovers. Tracking paths of sun; identifying sectors & factors that influence gardens, property, microclimates; mapping out property, garden rooms, pathways Creating pit gardens and overflow beds from water sources Improving guilds; growing more medicinal plants Harvesting mulch w/scythes & applying everywhere has made a huge difference in water conservation & soil health, which paid off in the unusually hot, dry, windy summer. Bumper harvest of uncommon fruits: goumi, goji, Autumn olives, beach plums, Nanking cherries, Cornelian cherries, aronia berries, highbush cranberries, seaberries Seeds & plants: \$250; Fertilizers/specialty soils: \$150</p>	<p>New Willow Dome near orchard! Experiments with dye plants: madder, osage orange, weld, willow, etc. Experiments with soaps & reclaiming older homemade soaps; crafts using herb combinations; lotions & herb-soaked oils. Solar lights around pond attract bugs at night for fish and are beautiful! Original willow room is taken over by bald-faced hornets that appear to be feeding on aphids. Lesson in ecosystem dynamics!</p>	<p>Soroptimist Gala Garden Show participant w/booth: shared info on permaculture, Warre hives, bee gardens, diversified systems. Reference: "Permaculture: A Designers' Manual" by B. Mollison; Paul Wheaton materials on permaculture; Integrated Forest Gardening; Organic Mushroom Farming; Rocket Mass Heaters; Building with Cob. Total Reference Materials: \$250</p>	<p>Directory listing for local Farm Guide publication (\$30) Soroptimist Booth fee, booth setup, marketing & packaging materials (\$500) Printer & ink for printing seed packets (\$225) Mindmap: Backyard Diversity; multiple income streams; feasibility and market analysis. Strategic planning for future business ideas. Soroptimist Gala Garden Event: Sold garlic, seeds, willow rods for basketry, plants, "Jump Juice," beehives & swarm boxes, garden products & crafts, garden photography. In 2014, more time spent on garden & getting PDC.</p>