PART III

Aspects of Permaculture and some practical techniques.

The word 'Permaculture' was originally coined in Australia by Bill Mollison and David Holmgren in the mid-1970's. The word “permaculture” itself came from the notion of establishing “permanent agriculture” or “permanent culture. Over the last 30 years, permaculture has grown to become a global grassroots movement involving hundreds of thousands of people. Permaculture offers a huge storehouse of solutions, strategies and practical techniques. If permaculture was implemented on a planetary-wide scale in cities, farms and homes the world would become a garden of Eden.

Permaculture is a design science to establish sustainable human settlements. Permaculture has a code of ethics, a set of principles, a design methodology, and draws on numerous strategies and techniques from around the world and throughout history. Permaculture is the premier design system for sustainable food production. In addition to the plant landscape, permaculture also considers transportation, energy, buildings, water supply, community economics, and the social fabric of life. Every type of habitat can be put to good use whether dry, marshy, rocky, sandy, clay, riparian, seaside, urban, and so forth. One of the goals in permaculture is to increase the number of habitats on site to enable a wider range of plants to thrive.

Permaculture teaches how to design productive and beautiful yards, farms and properties at the individual property scale. Permaculture principles and methodology can be applied anywhere in the world. Each site is unique and each client is unique, thus each permaculture design will be different.

Intensive vegetable gardening techniques can quickly produce large amounts of food in small spaces, but intensive gardening is not for everybody or everywhere. Permaculture emphacizes the creation of low-maintenance, self-reproducing ecologies. The proportions of native plants, non-native plants, long-lived perennials, fruit trees, food plants, etc is determined by the client's goals and nature's dictates.

Restoration of native habitats and native species is a component of permaculture. We can assist nature to regenerate healthy biospheres. This means soils get richer, forests increase, trees get bigger, biodiversity increases, the web of complexity of relationships increases, more oxygen is produced and more carbon is stored. At the same time, the productivity of the landscape to meet human needs dramatically increases. Human landscapes which have permaculture applied to them will look wilder, be wilder, be more bio-diverse, be more productive, be more beautiful and will run itself to a large extent. All this for less work in the long run.

One of the key premises of permaculture design is to minimize outside inputs. The inputs of one part of the system are met by the outputs of other parts. More cycling of nutrients, energy, water, etc. The site not only uses less inputs but the outputs greatly increase including food and other useful products, as well as fulfilling environmental functions such as wind abatement and shade. An additional goal is aesthetic beauty, color, fragrance and outdoor living space. Permaculture emphacizes low-maintenance, perennial plants (less work); and, depending on the client, varying amounts of intensive gardens. Individuals and families achieve greater self-sufficiency and collectively the region as a whole does.

A Few Strategies & Techniques

P-1) Composting & woody biomass.
P-2) Increase food plant diversity.
P-3) Rooftop gardens.
P-4) Utilization of walls and vertical spaces.
P-5) Sidewalk trellises.
P-6) Water harvesting, roof catchment systems.
P-7) Parking lot overstories.
P-8) Nitrogen-fixing plants.
P-9) Sheet-mulching.
P-10) Grow BioIntensive gardening.
P-11) Garbage pit gardens.
P-12) Bio-remediation.
P-13) Myco-remediation.
P-14) Integrating livestock.
P-15) Seed and plant propagation networks.
P-16) Native plant restoration.
P-17) Native plant restoration & wildcrafting.
P-18) Forest gardens.

This list of eighteen was made with urban gardeners in mind. There are several hundred more which could be listed such as beekeeping, double-dug beds, wind power, aquaculture, mini-ponds, herb spirals, creating wildlife habit, container gardening, winter gardening, agroforestry, grey water, hedgerows, suntraps, etc, etc. These are just a few of the strategies and techniques in permaculture's tool kit. Permaculture is more then just the sum of the elements in the system, it is also arranging them in proper relationship to each other to maximize beneficial inter-relationships.

P-1) COMPOSTING & WOODY BIOMASS

Permaculture calls for the full utilization of organic matter. The percentage of organic matter generated in our cities which ends up being productively used is small. This is worse then throwing money away because money is losing its value, but organic matter is becoming more valuable. The recycling and composting of all organic matter should be encouraged including grass clippings, prunings, leaves, and kitchen waste. Seattle is a national leader in composting but there is more to do, especially in regards to the woody debris generated from storms, yard maintenance, land clearing, etc. All wood is fertilizer to the ecosystem.

What is Biomass? Biomass is the sum total of all living or once-living material. It includes all live plants from grasses to trees plus dead plant material, snags, roots, duff, humus, soil microorganisms and animals. Biomass is like money in the bank. It pays back over time plus interest. Permaculture and related disciplines have come up with lots of productive ways to utilize woody biomass for gardening, farming and ecological uses. Some involve chipping and others do not, such as the hugelkultur systems developed in Germany which create raised beds us-

ing large to small woody debris. The recent discovery of Terra Preta soils in the Amazon basin also show us a way to use charcoal as a soil fertility input. The work of the Frenchman, Jean Pain, shows us how to generate large amounts of hot water (energy) by composting shredded, brushy material.

Northwest Example:
The Master Composter/Soil Builder Program
www.seattletilth.org/resources/articles/mcsb
One of the leading programs in the US.

Resource:
www.permacultureactivist.net/PeterBane/Jean_Pain.html
Jean Pain, energy from woody compost
An article from the Permaculture Activist which is a great introduction to Jean Pain's work.

Resource:
Terra Preta
http://en.wikipedia.org/wiki/Terra_preta
Great rundown on Wikipedia of an Amazonian indigenous technique to build fertile soils utilizing charred plant material.

P-2) INCREASE FOOD PLANT DIVERSITY
There are around 200,000 plant species in the world. The number is going down rapidly. About 4,000 species are native to the Maritime Northwest. About 1,500 species have naturalized or gone weedy in our region. Northwest gardeners have about 10,000 useful plant species to choose from, of which at least 1,000 species are edible. Increased food plant diversity means increased food choices, a more diverse diet (produced locally) and hedges our bets during climate changes. Permaculture has lots of expertise in plant diversity, including perennial food plants.

Global Resource:
Plants For A Future
www.pfaf.org/
Plants For A Future is a resource centre for rare and unusual plants, particularly those which have edible, medicinal or other uses. You can search their database of 7300 edible medicinal and useful plants.

P-3) ROOFTOP GARDENS
Rooftops are a substantial part of urban landscapes and are found wherever people live. Some of these rooftops can be gardened. Vines especially lend themselves to rooftop and wall gardening. Some rooves have a southern exposure. They have good frost drainage. Dogs and cats can't get at them. Weeds don't grow. No slugs. Much of the experience on this topic is currently from cities in Europe and the two-thirds world. Germany is the most advanced country in the world in regards to rooftop gardening but only a small amount of their publishing is translated. St. Petersburg, Russia is one of the world's largest centers of rooftop food culture (necessity being the mother of invention in this case).

There are three major types of rooftop gardens.
1) The plants (usually vines) are rooted in the ground.
2) The rooting medium is a layer laid on top of the roof.
3) Plants are grown in containers on the roof.
In the latter cases, care has to be taken not to overload the building's structural support nor to cause leaks in the roof. The deeper the rooting medium the bigger the plants that can be grown and the more surface area they can cover.

Resource:
Planting Green Roofs and Living Walls. Nigel Dunnet and Noel Kingsbury. 2004. Timber Press, Portland, OR. 254 pages. International overview and historical development. Food production is only a minor component of the rooftops surveyed but many techniques are applicable.

Example:
Rooftop Garden Resource Group
14 Sackville Place
Toronto, Ontario M4 X 1A4, CANADA
Tel: (416) 923-9034. monica@mekarch.ca
Monica Kuhn is a registered architect in Toronto who specializes in rooftop gardens and permaculture design. She leads a resource group dedicated to establishing a rooftop gardening culture through public education and community action.

Example:
The True Nature Foods 'Rooftop Victory Garden' for localized agricultural production was begun as Phase I in 2006. This project received a 'City of Chicago Green Roof Grants Program 2005: Residential and Small Commercial Buildings' grant from the Department on the Environment toward realization of the vegetated roof, and has become a 'poster project' of sorts for the grant program. Species planted in fall 2006 include buckwheat, burdock, comfrey, Jerusalem artichoke, and artichoke, which were selected for their ability to provide food, fuel, fiber, encourage human health, and help build healthy soil. Species planted in 2007 include herbs such as mints, rosemary, oregano, tomatoes, potatoes, beans, and squash. The city of Chicago has set a goal of being a national leader in city greening and rooftop gardening.

Example:
Brisbane (Queensland, Australia) is the first city in the world to include both urban agriculture and green roofs in an action plan to meet predicted global climate change challenges. Further information: Geoff Wilson, President, Green Roofs for Healthy Australian Cities, and President, Urban Agriculture Network Australia. Phone: +61 7 3411 4524 or +61 (0)412 622 779. Email: Geoff@nettworx.info. Address: 32 David Rd. Holland Park, Queensland 4121, Australia

---

P-4) GARDENING ON WALLS
Walls of houses, garages, sheds, office buildings, and retaining walls offer fruitful and fascinating spaces to grow useful plants. This can include espaliering fruit trees along walls, growing fastigiate (upright/narrow) trees & shrubs, and by growing vines. Vines are generally grown up trellises so that they don't negatively impact the building. The longest vines such as wisteria, grapes and kiwifruit can grow up to 90 feet long. Species exist for every exposure. More light equals more food productivity. Permaculture looks at every wall of every home carefully to assess it's potential for improving the life of the inhabi-

tants by providing food, fragrance, beauty, oxygen, sound buffering, reduced heating and cooling bills, etc.

On many urban properties the square footage of wall surfaces is larger then square footage of soil surface (lawns, etc). Wall area is typically 3 to 4 times the size of roof area. Walls have an additional advatange over rooftop gardens in that plants can usually be rooted in the ground. Some walls do not have soil at their base and containers can be used to grow the plants.

P-5) SIDEWALK TRELLISES

Build trellises over sidewalks and plant them to vines for fruit, fragrance and color. Perennial fruit-bearing vines for northern climates include grapes, hardy kiwifruit, Chinese magnolia vine, Goji-berry, passionfruit, thornless blackberries and thornless boysenberries. Annual vines include pole beans, scarlet runner beans, peas, cantalope, watermelons, squash, cucumbers and bitter melon.

P-6) CAPTURE, STORE, INFILTRATE AND UTILIZE WATER ON SITE.

Each piece of property, large or small, is a watershed. Permaculture looks at how water can be kept on site and infiltrated into the soil to grow food, water landscape plants and recharge aquifers. This reduces urban and rural runoff problems; and, when done on a broad scale, reduces catastrophic floods. The Chehalis river flood of December, 2007 is a current case in point for Washington state where this would have helped.

Resource:
Rainwater harvesting
http://en.wikipedia.org/wiki/Rainwater_harvesting
Good introduction and links to further resources.

Resource:
Water Storage: Tanks, Cisterns, Aquifers, and Ponds For Domestic Supply, Fire and Emergency Use.
www.oasisdesign.net/water/storage/pr.htm
The best book on small-scale, water storage available and it is written from a permaculture perspective. A do-it-yourself guide to designing, building, and maintaining water tanks, cisterns and ponds, and managing groundwater storage. It will help you with your independent water system, fire protection, and disaster preparedness, at low cost and using principles of ecological design. Includes how to make ferrocement water tanks. Oasis Design is also the source of the world's best information on greywater systems.

P-7) PARKING LOT OVERSTORIES

When you look at satellite photos of cities the predominant color is gray. A lot of that gray is parking area. Shopping parking, street parking, industrial parking, and individual parking lots. Not every parking area is appropriate for trees, but careful selection of species and good management plans could green up a lot of our parking space. This becomes part of the urban forest, It's main aim is amenity but permaculture chooses multi-purpose trees to provide useful material including timber, food, crafts, basketry material, medicine, etc. Widespread parking lot reforestation would provide meaningful jobs which have long-term payback and make neighborhoods more pleasant places to live.

Resource:
Parking lot trees info source.
www.urbanforestrysouth.org/resources/collections/parking-lot-design-issues-trees/
Links to lots of information and websites about Parking Lot Tree Installation.

P-8) NITROGEN-FIXING PLANTS

Nitrogen is the most commonly applied fertilizer and usually one of the most limiting factors to plant growth. There are dozens of nitrogen-fixing plants for many kinds of situations. These are planted in the system to help provide nitrogen to the crop plants. Examples include clovers, alfalfa, beans, peas, fava beans, buffaloberry, alders, and cascara.

Resource:
Nitrogen fixing plants at Wikipedia
http://en.wikipedia.org/wiki/Nitrogen_fixation
A short introduction to the topic. The site includes a large list of nitrogen-fixing plants with a great deal of info on each.

P-9) SHEET MULCHING

Sheet mulching is a technique used to turn lawns into gardens. It can also be used to establish gardens in rough, weedy areas. There are many variations but the general idea is to layer rich fertilizer materials on top of the lawn, followed by multiple layers of cardboard or thick layers of newspaper and a top layer of wood chips, ground bark or suchlike. Desired plants are transplanted into the system through all the layers.

Resource:
Sheet Mulching:
Greater Plant and Soil Health for Less Work.
www.agroforestry.net/pubs/Sheet_Mulching.html
An article written for the tropics, but most of the information is applicable to cold climates as well.

Resource:
Sheet Mulching for Home Gardens
www.eco-action.org/dt/mulch.html
A good article on the topic.

P-10) GROW BIOINTENSIVE GARDENING

This gardening method offers one of the highest-yielding gardening systems available in the world. They research how to grow a family's food supply on the smallest footprint of land possible including growing soil-building, green-manure crops. John Jeavons is the principal developer of this technique. Jeavons claims that biointensive, vegan agriculture at its extreme is capable of supplying total food supply on 300 sq metres per person. This system was not developed by permaculture but works in handily where intensive garden production is desired.

Resource:
"How To Grow More Vegetables Than You Ever Thought Possible on Less Land Then You Can Imagine". John Jeavons. This book has sold more then

500,000 copies since its first edition in 1974. The 7th edition was published in 2007 by Ten Speed Press, Berkeley. 268 pages. Highly recommended!

Resource:
Ecology Action. Grow Biointensive gardening.
www.growbiointensive.org
Our mission is to train people worldwide to better feed themselves while conserving resources. Since 1972 we and our colleagues have been researching and developing GROW BIOINTENSIVE®, a high-yielding, sustainable agricultural system that emphasizes local food production and is based on historically intensive gardening systems.

P-11) GARBAGE-PIT GARDENS
Bill Mollison, the founder of permaculture, invented this technique while working in garbage-strewn, aboriginal settlements in Australia. This created a way to clean up the area plus produce food. Both of which helped people's morale. Three-foot diameter holes (three to four feet deep) are dug in suitable locations. Set aside the topsoil and spread the subsoil in a ring around the hole, then put the topsoil on top of the subsoil. All organic garbage and debris in the area is picked up and packed in the holes. Try to layer in fresh and dry stems and leaves if available. Weeds are great. What you are doing in effect is making a pit compost. Water as you go if the material is dry or it is the dry part of the year. Put the yuckiest stuff in the bottom and save some of the nicest stuff for the top. Throw some of the topsoil on before you put on the final cosmetic layer of mulch. Put in a pound of live red wiggler worms. There are also various compost activator cultures which can be added. The mound around the garbage pit is planted to useful plants including food plants. The pit is watered during the growing season. The plants surrounding the pit take up the nutrients and water that spreads from the pit. Done well, this is an efficient way to water plants in dry climates. Avoid toxic garbage in the pit, but non-food plants can be used if in doubt. Over time the material will settle as it digests and more organic matter can be added. Pit-gardens are a long-term gardening feature and become increasingly fertile. Rock walls and/or small trellises can be built on the north (or windward) side to provide an even more favored micro-climate.

P-12) BIO-REMEDIATION
Bioremediation can be defined as any process that uses microorganisms, fungi, green plants or their enzymes to return the environment altered by contaminants to its original condition. Using plants and micro-organisms to clean up pollution and toxins in soil and water. Basically the more you stimulate life in the soil the faster they break down pollutants. This includes human waste biological treatment systems.

P-13) MYCO-REMEDIATION.
Using fungi to clean up pollution and toxins in soil and water. The fungal mycelium grows through the soil and/or medium and eventually produce mushrooms.

Resource:
"Mycelium Running: How Mushrooms Can help Save the World". 2005. Ten Speed Press.
www.fungiperfecti.com By Paul Stamets of Fungi Perfecti in Olympia. The best book on the topic. Stamets incorporates a permaculture perspective.

P-14) INTEGRATE SMALL LIVESTOCK
Chickens, ducks, rabbits and goats provide food while consuming kitchen and garden waste. In permaculture animals are utilized for their functions as well as their products.

P-15) SEED & PLANT PROGRAGATION NETWORKS.
This is currently one of weakest links to creating local food systems. One of the world's worst scandals is that over the last several decades a few large agribusiness companies have gained control over most of the world's seed business. In the process there has been a huge (and continuing) loss of seed germplasm available. Many of the commercial varieties are bred for quantity, shippability and cosmetic appearance rather than hardiness or nutrition. GMO seeds and "terminator" technology are scary new developments. The need for locally-adapted, locally-grown vegetable seed crops is obviously very important. There is a heritage variety preservation movement represented by organizations such as the Seed Savers Exchange and several dozen small, independent seed companies.

Ideally there would be hundreds of people saving seed in every city and region. Keeping old, useful varieties alive, developing new varieties, and producing seed to meet local needs. Locally-adapted varieties available everywhere would mean the development of hundreds and thousands of new seed companies and seed networks. Seed saving should be covered in more detail in master gardener programs and at the local garden club level.

Resource:
Organic Seed Alliance
P.O. Box 772, Port Townsend, WA 98368
360-385-7192. info@seedalliance.org
www.seedalliance.org
A Northwest-based non-profit which serves the organic seed industry and individuals. OSA offers workshops on how to do seed production. Their 5th biannual conference will be held February 14-15, 2008 in Corvallis, Oregon.

Resource:
Seed Savers Exchange
www.seedsavers.org/
Founded in 1975, this non-profit organization was a pioneer in the heirloom seed movement. Huge catalog of seeds available from gardeners around the country and internationally.

P-16) NATIVE HABITAT RESTORATION
Native plant restoration, ecosystem restoration, erosion control, daylighting streams, creating wildlife habitat, cleaning up pollution, and so forth are worthwhile and necessary. A healthier environment means better quality of life, more productive environments, and better checks and balances in our cultivated ecologies. It is well documented that agricultural yields are higher and pest problems fewer where farm fields border natural areas. A lot

of restoration work is volunteer but it can also offer meaningful work for people who are not integrated into the current job economy. The native plant restoration movement has grown larger and more experienced over the past several decades.

P-17) NATIVE PLANT RESTORATION & WILD-CRAFTING

I am proposing a sort of marriage between native plant restoration, wildcrafting and Northwest tribal ethnoecology practices. We can increase native edible plants in the natural landscape as a human food source. This means more people can wildcraft their own food. There is a growing interest in wild foods by many people including the primitive skills movement. Many cities and regions have edible wild plant teachers. A growing interest in, and knowledge of, wild foods combined with rising food shortages could lead to overharvesting of some wild foods. We need to increase wild foods, not decrease them. Native plant restoration which deliberately includes a generous portion of edible food plants can allow more people to supplement their diet with wild foods. Wild foods are gourmet eating and are generally more nutrition-dense then cultivated plants. Planting and managing stands of wild edible plants is what native tribes practiced all over the Northwest prior to white settlement.

Wildcrafting has never died out even in the most modernized cultures A lot of people still harvest wild foods in the US especially in rural areas. Traditions continue in most North American tribes and they are experiencing a cultural resurgence for the last several decades. The amount of land available for wildcrafting has been dwindling due to loss of habitat to development and a continuing "loss of the commons". An expanded native plant restoration movement combined with edible native plants can add to local food security and at the same time achieve ecosystem restoration objectives.

Resource:

"Keeping It Wild: Traditions of Plant Use and Cultivation on the Northwest Coast of North America" by Nancy Turner and Douglas Deur. 2005. University of Washington Press. The best book on how Northwest native tribes gardened the landscape.

Resource:

Sustenance & Ecology on the Edge.

www.friendsofthetrees.net

An article by Michael Pilarski on a permaculture view of wildcrafting in an oceanside native plant community on the Olympic Peninsula.

P-18) FOREST GARDENS

Complex and productive forest gardens have been developed by many indigenous cultures in Asia, Africa, Central America and the Pacific. Permaculture has been a leader in developing contemporary forest gardens in all kinds of climates. In fact, forest gardens are one of the hallmarks of permaculture. The idea is to grow a lot of fruit, food and other useful products in a multi-layered system of trees, shrubs, vines, herbs, and ground covers. Livestock are often integrated. These are long-term, productive ecosystems.

Resource:

Edible Forest Gardens. 2 volumes. Ecological Design and Practice for Temperate Climate Permaculture.

David Jacke. 2005. Chelsea Green Press. White River Junction, VT. 378 and 654 pages.

The most in-depth book on the topic.

Resource:

Agroforestry Research Trust,

www.agroforestry.co.uk

Their website has limited information but they publish "Agroforestry News", a quarterly newsletter, focusing on temperate tree and shrub crops. Published in England, the best journal on the topic. Available from the Permaculture Activist in the USA.

Recipe for personal food production in the city.

As a permaculturist what would I do if I lived in the city and wanted to produce my own food? Every situation is unique but here are some things I am likely to do in order of preference.

1) Learn how to recognize, harvest and process wild foods. Where are the abandoned fruit trees? What weeds are edible?
2) Garden in my own yard (if I have one).
3) Garden in a nearby community garden. Start one if there isn't one.
4) Set up a greenhouse to extend the growing season.
5) Integrate small livestock into my garden system if possible such as chickens, ducks, rabbits and goats.
6) Grow useful plants up the walls and rooves of my house and any outbuildings inasmuch as possible.
7) Guerilla gardening. Planting useful plants on other people's property or public spaces for future harvest. This can be with permission or sereptitiously.
8) Rent farmette land in the peri-urban fringe and commute to my mini-farm.
9) Cooperate with my neighbors. Participate in social programs and movements as outlined in Part II of this article.

I always have six to twelve months of food on hand because of my gardening, bulk buying, food processing and barter fairs. This is just my normal lifestyle. I don't think of it as an emergency food supply, but it could be. I have the gardening tools and know-how to grow productive gardens with hand labor. This is personal food security. I'd like to know I was surrounded by people who also had gardens and full food pantries. This would be much safer than having a full pantry surrounded by a sea of hungry people.

Conclusion:

Creating socially-just and ecologically-sustainable local food systems is an idea whose time has come. Permaculture is one of many movements towards this end and has its particular contributions to the whole. I hope this short article has given you some insights. This article is a work in progress and future installments may be issued.

Millions of us, working together
are co-creating the future.

Michael Pilarski, December 27, 2007
Friends of the Trees Society

Permaculture Resources:

The two key books on temperate-climate, permaculture gardening (both written by authors in Oregon) are:

Gaia's Garden.
Toby Hemenway. 2001. Chelsea Green Press, White River Junction, VT.

Food Not Lawns: How to Turn Your Yard into a Garden and Your Neighborhood into a Community. Heather Flores. 2006. Chelsea Green Press. White River Junction, VT.

Major permaculture websites:

The Permaculture Activist
www.permaculturereactivist.net
This is the best information source on North American permaculture. The site includes a nation-wide list of permaculture design courses and related trainings and a Global Directory of permaculture groups.

Permaculture article on Wikipedia
http://en.wikipedia.org/wiki/Permaculture
Great introduction to permaculture at Wikipedia.

www.ibiblio.org/permaculture-online/pclinks.html
Great linking website for permaculture.

www.attra.org/attra-pub/perma.html
Great linking website and introduction to permaculture.

www.permacultureinternational.org/

Northwest Permaculture Resources:

Eugene Permaculture Guild
julie@efn.org
www.eugenepermaculturereguild.org/main/

Portland Permaculture Insitute
PMB #101, 3527 NE 15th Ave., Portland, OR 97212
503-293-8004. pam@portlandpermaculture.com
www.portlandpermaculture.com/

Vancouver Permaculture Network
#102 - 5698 Aberdeen St.,
Vancouver, B.C., Canada, V5R 4M6
Harold Waldock, cell :604-763-6984.
haroldw@alternatives.com
www.alternatives.com/vpn/

Seattle Permaculture Guild
http://permaculture.info/index.php/
Seattle_Permaculture_Guild

www.permacultureportal.com
The website for the Bullock's Brother Homestead on Orcas Island. One of the best permaculture sites in the country and an educational center.

Food Not Lawns
PO Box 42174, Eugene, OR 97404
(541) 343-4673. foodnotlawns@yahoo.com
www.foodnotlawns.com
Promoting peace and sustainability through permaculture, organic living and community interaction.

Urban Permaculture Guild
6421 Hillegass Ave, Oakland, CA 94618
Katherine Steele. info@urbanpermaculturereguild.org
http://urbanpermaculturereguild.org/

Northwest Permaculture Design Course

February 16-March 2, 2008.

Sahale Retreat Center, Near Olympia, Washington

The course will be taught by Michael Pilarski, Laura Sweany and guest presenters. An intensive, two-week residential training. Some scholarships and work-trade fee reductions are available. Further details are on my website: www.friendsofthetrees.net.

I propose a permaculture design course for community hunger and gardening organizations in the Northwest. As a first step we would like to invite people from community hunger organizations to take part in our 2008 permaculture course at the Sahale Retreat Center near Olympia, Washington. By the winter of 2008/2009 perhaps we will have made enough connections with hunger groups to put on a specific course tailored to them.