Backyard Permaculture

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WORK IS A FAILURE OF DESIGN

"Conscious landscape design that imitates patterns and relationships found in nature, while providing abundant food, fiber and energy to meet local needs."
David Holgrem – *The Essence of Permaculture*

Permaculture is...
A design philosophy that is practical and applied based on these three ethics:

- Care for people
- Care of the earth/environment
- Equal/fair distribution of the surplus

Foundations of Permaculture

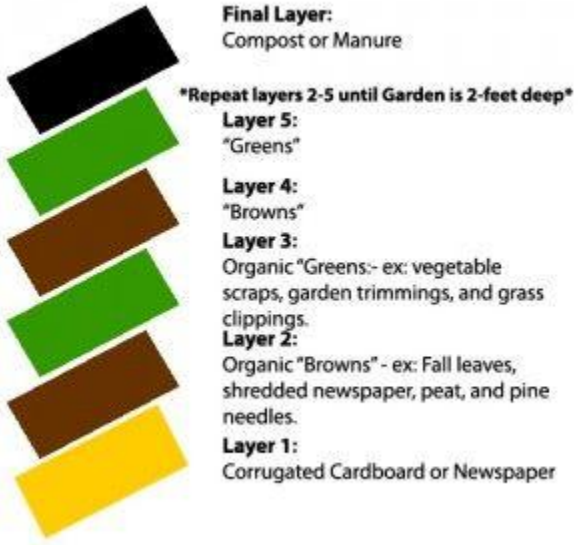
- Based on ancestral, traditional and local knowledge
- Deep understanding of nature (observation, science, personal experience with the land)
- New knowledge/technologies

Basic steps for permaculture design

1. Identify the sun sector
2. Identify your water source
3. Do a rough plan for your whole space
4. Start your compost (vermicompost, backyard compost, leaf mulch compost etc)
5. Start small (zones 0 & 1) and make sure that you have the time & energy to carry out the task!

Permaculture tips for homeowners

- Leave the leaves
  - Mulch the leaves and leave them on the lawn, return them to flower beds. Leave whole leaves on the lawn over the winter, remove the top layer in the late spring, to allow enough time for any overwintering bumblebees to move on.
- Plant in zones: anything requiring daily care as close to the kitchen as possible
- Base garden location and design on sectors and zones
- Mulch, mulch, mulch
- Plant as many perennials as possible
- Build an herb spiral
- Start a backyard compost
- Use lasagna beds to create new garden spaces



Permaculture tips for apartment dwellers

- Vermicompost
- Grow mushrooms indoors
- Use south or southwest facing windows to grow sprouts, herbs, shoots, greens
- Grow vertically in window space
- Use balconies or stair wells to plant in buckets & containers

Principles of Permaculture

- Relative Location: Each element is consciously placed to maximize efficiency
  - A deciduous tree is planted on the south side of a house so that the leaves provide shade for the house in summer, keeping it cool. The leaves are gone in the winter, allowing the winter sun to shine into the house, heating it up.

- Each Element Performs Many Functions
  - An oven allows the user to cook anything in it. A bread maker has a very specific function and if one stops making bread the appliance no longer serves a purpose, whereas the oven can be used for bread and many other things.
  - Wood stove for heating the home that can also serve to cook food, to heat water etc.

- Each Important Function is Supported by many Elements
  - Heat source (important function), in Canada we are vulnerable to winter storms and power outages. If the heat source is singular and the power cuts out, the home will be cold, endangering the home and the family. If there are multiple heat sources: electric, wood, solar, generator, (many elements) the home and family will be protected during storms.

- Zones and Sectors – Efficient Energy planning (See additional notes below)
  - Looking at how frequently each element needs attention from you or you need to acquire something from it. A baby's crib is often placed in the parent's room or a room close to the parent's room because they will need to check on the infant frequently during the night. As the child grows, teenagers often choose to take a bedroom in the basement or further away from their parents as both parties need to check in with each other less.
  - Taking care first of the self and immediate surroundings before extending out to other areas – not taking on too many tasks so that a project is overwhelming, but bringing about small, sustainable changes.

- Using Biological Resources
  - Reducing waste by using what is already present and provided by nature.
  - Compost: taking food scraps, animal and human waste, and transforming it into a new soil for the garden – instead of paying extra money to buy chemical fertilizers.

- Energy Cycling
  - A developed permaculture system will not need outside inputs to make the system run. Once in place, all energy inputs will come from somewhere else in the system.
  - Creating a pond, swale or rain barrel to keep rain water on site.
  - Ensure that nothing creates waste – that every waste product can be used as an energy input somewhere else. Pots, scrub buckets, ice cream pails, even old rubber boots with holes in them can all become containers in which to plant seedlings or grow food.

- Small scale intensive systems
  - Not everyone can or should become a large scale farmer. 60% of a family's food can easily be produced on the lawn of the house where they currently live, continuing the same full time job they currently hold. Growing even the smallest garden can make a huge difference and if well designed should not require much maintenance or upkeep

  - Food forests, fruiting trees and bushes are all part of the longer term sustainable food outlook. Annual gardens can reduce in size over time, when the trees and bushes have reached maturity and are producing full crops.
  - While growing an annual garden, techniques such as mulching, creating permanent garden beds that are never stepped on to avoid compacting the soil and tilling the land, companion planting (3 sisters – corn, beans, and squash on the same field), creative use of space (growing vertically) can be adopted to make the garden upkeep significantly less intensive while providing a larger food yield.

- Accelerating Succession and Evolution
  - Food forests: planting edible and useful tree species, creating a forest structure rather than waiting for nature to bring these species about naturally. Water is drawn to areas with vegetation. If there is no vegetation and root systems, all rain/snow fall will be washed away to the rivers and streams. Vegetation/root systems stores water and energy, helping to regenerate damaged eco-systems.

- Diversity
  - Recognizing and celebrating that diversity is essential in our lives, families and classrooms. Each person has distinct personality traits, skills, and passions that should be fostered. Resilient eco-systems have diversity.
  - Diversity of income streams protect a family should one of the income streams get interrupted.

- Edge Effect
  - The most biodiversity is present at an edge or border (edge of a forest, edge of a river or stream). At the edge of a city, where a rural and urban culture mix.

- Right Attitude

- An attitude of humility and learning. A recognition of and respect for the intrinsic value of all the elements of nature.
- An attitude that fosters community and team work rather than individualism.

THE PROBLEM IS THE SOLUTION

SECTORS:

Sun Sector: Area of yard that receives the most sun, south facing in North America. Important to be aware of summer sun sector and winter sun sector. Gardens thrive in full sun spaces, though can be planted to the east or west of buildings as well. Avoid planting annual gardens to the North of a house or line of trees or shrubs as they will be shaded.

Wind Sector: Winds typically come from the North in this area. Setting a tree line of coniferous trees to the North of a house or property to act as a wind break in the winter months. May be different, depending on slope of land and proximity to water.

Water Sector: Best observed over at least one full season on the land. Notice where the water runs during spring run-off and summer rains. Identify humid soil areas and areas prone to flooding. How to work with the natural water patterns to best grow crops, build structures and store the water on the land.

Pollution Sector: Observe any area of the land that is more prone to pollution (noise pollution, car exhaust, blowing trash or garbage). Take these elements in to consideration when planning a garden or designing land.

Access & Existing Structures: Starting with a piece of land that is currently not developed access roads and existing structures do not have to be considered. For land that is already developed, take these in to consideration as well, as it is important to take advantage of the benefits they can already offer the site.

ZONES

Zone 0: You and your immediate living space –
- First take the time to nourish yourself, then care for your home.

Zone 1: Herbs, high traffic garden area, any element that needs daily care
- Area immediately outside the home, cultivate a garden that is so close to the home it will make you both want to spend time outside and will be a space that you pass through every day it will be almost impossible to ignore.

Zone 2: Regular care elements, livestock to be fed once a day
- Slightly further away from the house, chickens or other barn animals and other elements that need to be tended to regularly (annual vegetable crops).

Zone 3: Seasonal crops, grazing livestock
- Potatoes, corn, squash, grains, that don't need to be frequently looked after. Grazing livestock that don't need to be fed or watered daily.

Zone 4: Food forest, wood forest
- Fruiting trees and bushes, fast growing trees for timber. Harvests that really only need to be visited once a year.

Zone 5: Natural land, accelerated forest area
- In working with nature, permaculture really emphasizes using as little land as possible, leaving a maximum to its own devices. Allow the largest amount of land possible to be untouched.

Do what you can, where you are, with what you have.
~Theodore Roosevelt