Permaculture Food Forests and Wild Ones

In the beginning - NRCS

Easy – Right?

- NRCS – Conservation Stewardship Program contract
- Easy – plant 300 trees and shrubs over 3 years and monitor for 2 more years
- Choose trees and shrubs
- The first 75 trees and shrubs arrive
- Shovel in hand
- My forest clearing – a blank canvas awaits my handiwork

Wait! – suddenly I am confused

- Should trees and shrubs be grouped each with its own kind
- Should the trees and shrubs be planted randomly in the clearing – diversity and inclusion are good, right?
- Maybe I should have selected some trees and shrubs that I can eat and share with friends, family, and wildlife including

Yikes – it wasn’t that easy

Where can I go for help?

- Permaculture – Bill Mollison and David Holmgren
- Food Forests – Geoff Lawton (2000-year-old Moroccan Food Forest
- Wild ones – Nine individuals at a natural landscaping workshop in Milwaukee in 1977
- The "Wild Ones Garden Club"

Wild Ones

- **Advocacy:** Promoting the use of native plants and environmentally sound landscaping practices.
- **Education:** Providing resources and programs to educate communities about biodiversity and natural landscapes.
- **Collaboration:** Partnering with local chapters and communities to support conservation efforts.
- **Community Engagement:** Hosting events like plant rescues, garden tours, and seed exchanges to involve members in hands-on activities.
- **Youth Programs:** Offering grants through the Lorrie Otto Seeds for Education Program to develop outdoor learning centers for children.

Permaculture Movement

- **Sustainability:** Designing systems that mimic natural ecosystems to create self-sufficient and regenerative environments.
- **Ecological Harmony:** Working with nature rather than against it to ensure resilience and efficiency.
- **Community Building:** Promoting social and economic structures that support sustainable living, such as eco-villages and co-housing projects.
- **Resource Management:** Efficiently utilizing resources like energy, water, and soil to minimize waste and maximize productivity.
- **Education and Advocacy:** Spreading awareness about permaculture principles and practices through courses, workshops, and community initiatives.

Food Forest

- **Ecological Design:** Creating diverse, resilient ecosystems that mimic natural forests to produce food sustainably.
- **Biodiversity:** Promoting the growth of a variety of plants, including fruit and nut trees, shrubs, and perennials, to enhance soil health and support wildlife.
- **Carbon Sequestration:** Utilizing food forests as a method to store carbon and combat climate change.
- **Community Engagement:** Encouraging local participation in planting, maintaining, and harvesting food forests to foster a sense of shared responsibility.
- **Education and Advocacy:** Spreading awareness about the benefits of food forests through workshops, resources, and community projects.

Similarities

- Environmental stewardship
- Sustainability
- Education and advocacy
- Community engagement
- Resource management

Differences

- **Wild Ones** – Native plants and local ecosystems
- **Permaculture Movement** – Entire ecosystem and humanity as a whole
- **Food forests** – Mimic natural forests and food production

Permaculture - Definition
(A garden design philosophy)

- Permaculture = Permanent + agriculture
- Permanent agriculture + permanent culture
- Permanent food production + permanent human culture
- A holistic approach to the environment and community living

Permaculture – Ethics

- Earth care: being good stewards of environment
- People care: concern for the well-being of individuals and the community
- Fair share:
  - creating from the earth
  - limiting consumption
  - sharing the surplus
    - Others
    - Wildlife
    - soil

Food Forest - Definition
(AKA: Forest Garden)

- Agriculturally productive ecosystem
- Self-sustaining
- Mimic the structure and diversity of a forest

Forest Structure and diversity

- Seven layers (+1) with multiple species in each layer
  1. Tall trees
  2. Small tress
  3. Shrubs
  4. Herbs
  5. Roots
  6. Vines
  7. Ground cover
  8. Fungi (mushrooms)

Permaculture Food Forest Importance – I

- In 1900 40% of the U.S. population lived in urban and suburban areas.
- In 2000 83% of population lived in areas of urban or suburban sprawl
- Between 1900 and 2000 urban and suburban sprawl grew to consume 69 million acres of land (Grey and Deneke 1986)
- 2 million acres (size of Yellowstone) lost to development each year between 1982-1997 (NRCS) and accelerated subsequently (McKinney 2002)

Permaculture Food Forest Importance – II

- Environmental degradation
- Loss of wild areas
- Loss of agricultural areas
- Loss of habitat for insects and other wildlife
- Since 1970 there has been a 69% decrease in the number of species of mammals, birds, amphibians, reptiles, and fish
- Food production is remote from where food is consumed

Wild Ones versus Permaculture Food Forest

Similarities

- Soil health
- Natural soil enhancement (avoid fertilizers, herbicides, and pesticides)
- Water conservation
- Sustainable
- Low maintenance
- Perennials
- Biodiversity
- Community involvement

Differences

- Focus on production of food
- A little less focus on native plants but still common because of sustainability and maintenance advantages
- A little more focus on human benefit
- Sharing the surplus with others

Permaculture Food Forest – Components

- Soil health: naturally improving/maintaining by mulching and composting
- Perennials: less maintenance than annuals
- Self-sustaining: require minimal input once established
- Diverse plants: mutually beneficial collection of trees, shrubs, and other vegetation (Guilds)
- Layers: Canopy, subcanopy, shrubs, herbaceous layer, root layer, ground cover, vines, and mushrooms
- Include sufficient plants that yield edible products

Permaculture – Benefits

- Sustainable land use and lower carbon foot print
- Low maintenance
- Biodiversity: ecological balance that supports a broad range of plants and animals
- Resilience: increased resistance to disease, climate change, and pests
- THESE PRACTICES ARE ALL COMPATIBLE WITH LOCAL MICROECOSYSTEMS – **OUR YARDS**

Food Forest Permaculture – I

- Canopy:
  - Oak, chestnut, beech, black walnut, hickory nut trees
  - Elm tree, sycamore tree, black locust
- Subcanopy
  - Paw Paw, hackberry, juneberry
  - Red bud, dogwood
- Shrubs
  - Elderberry, hazelnut, currant, raspberry
  - Alder, hornbeam, witch hazel
- Herb layer
  - Chickweed, goldenrod, asparagus
  - Lupine, milkweed

Food Forest Permaculture – II

- Root crops
  - Jerusalem artichoke, ground nut, wild yam, yarrow, wild garlic
  - Tulips
- Ground cover
  - Wild strawberry, common blue violet
  - Wild ginger
  - Stonecrop, grass
- Vines
  - Riverbank grape, American hog peanut
- Bonus layer: Fungal layer
  - Edible mushrooms
  - Toxic mushrooms

This is not new

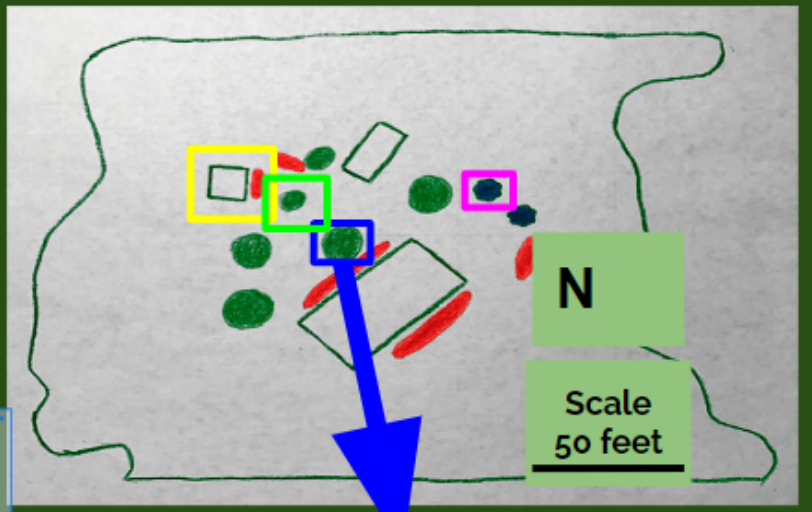
- The High Atlas Mountains of Morocco. This ancient forest spans about 65 acres and is believed to be over 2,000 years old
- Native American three sisters are an example of an annual food "forest"
- North America's oldest food forest, located in Downingtown, Pennsylvania – established early 20th century

Design

- Observe and site assessment - Sunlight, wind, water, and existing vegetation
- Goals - Food, diversity, education
- Design the layers (7+1)
- Plant selection
- Soil preparation
- Water management
- Implementation
- Maintenance

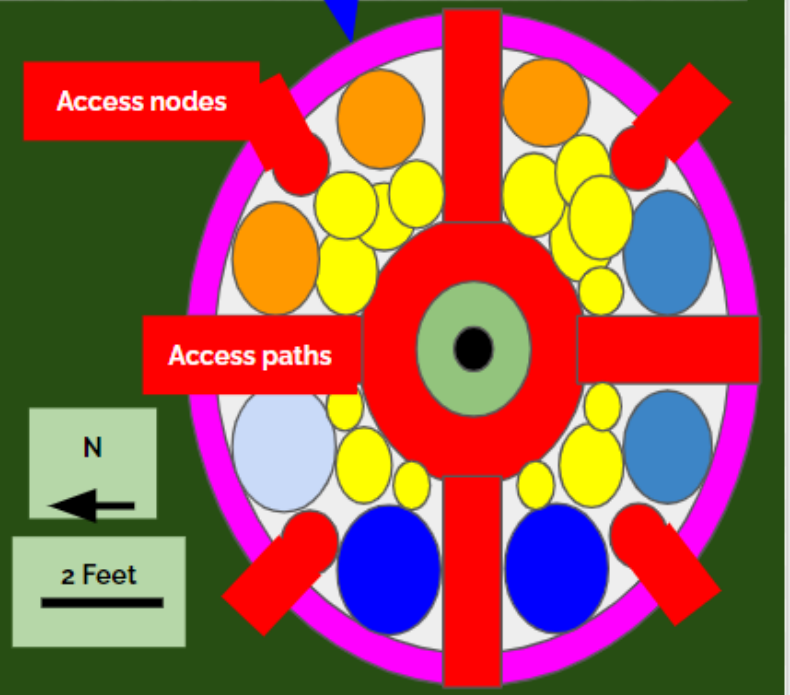
Guild #4: "Lets go native" - a native plant apple tree guild

Location: Middle of site just north of cabin
Microclimate: Full sun, moderate moisture, well-drained
Goal: Mutually-supportive apple tree guild using plants that are native or naturalized to the Upper Peninsula. Plant on the south and east edges prefer full to partial sun. the remainder prefer partial to full shade..
Ecologic functions: ground cover, nitrogen fixer, reclammator, soil builder, insectary, aromatic pest confuser, wildlife food/habitat, human food/medicine
Human uses: Food/medicine
Spacing: Spacing: based on mature plant spread. Plant placement: mandala with those requiring some shader at back
(Slide #1)



Plants in Guild #4
(Slide #1)

	Apple tree *(Malus pumila)*: a) Location: Placed here years ago in full sun with a belief that it would thrive there b) Function: soil builder, insectary, wildlife food, human food/medicine c) Limits: autoallelopathic, potentially invasive d) Form: rounded deciduous tree, Height = 20-45, Spread = 2–30'
	Hog-peanut *(Amphicarpaea bracteata)* a) Location: center to use trunk of apple tree as trellis b) Functions: nitrogen fixer, soil builder, ground cover, insectary, wildlife food, human medicine/food c) Limits: can be invasive d) Form: Vine herb, Height = 24-96", Spread = 36"
	American spikenard *(Aralia racemosa)*: a) Location: toward center as shade tolerant and tall b) Function: insectary, wildlife food, human food/medicine c) Limits: none d) Form: Form: Upright herb, Height = 36", Spread = 60"
	Black huckleberry *(gaylussacia baccata)*: a) Location: forward in guild on the west edge as it is shorter and requires full sun to partial sun b) Functions: reclammator, insectary, wildlife food/habitat, human food/medicine c) limits: none d) Form:upright deciduous shrub, Height = 2-3', Spread = 3-5"
	Lowbush blueberry *(Vaccinium angustifolium)*: a) Location: periphery at east edge as it is requires full to partial sun b) Functions: mulch maker, toxin absorber, insectary, wildlife food, human food C) Limits: none d) Form: upright herb. Height = 18-24", Spread = 4-8"
	Partridge berry *(Mitchella repens)*: a) Location: east and north edge at periphery as shorter and prefers partial shade.. b) Function: ground cover, insectary, wildlife food, human food c) Limits: none do



Good Starting Reference

Gaia's Garden

A Guide to Home-Scale Permaculture

Resources

Permaculture Food Forests Online Course | OSU Continuing Education

About Natural Capital, LLC.

Michigan Flora

Questions and Comments