## Midcoast Permaculture Design Regenerative design for Home and Farm

Primary tools used to make decisions:

Holistic Goal - quality of life, forms of production, future resource base. Observation of site-specific ecological and social conditions Design results in unique solutions for unique situations

Agroforestry forms of production - Alley cropping, Silvopasture, Riparian/upland buffers, Windbreaks, Forest farming, Forest gardening.

Non-timber forest products (cultivated and wildcrafted). Productive conservation, multifunctional buffers, stewarding forest health. Practices: multistrata homegardening, water management through earthworks, livestock/tree crop integration.

To address: drought/flood, diet and nutrition diversification, on-farm livestock feed/fodder production, carbon sequestration for climate mitigation, food sovereignty

## Permaculture Master Plan Design Layers

Adapted from the Keyline Scales of Permanence (Yeomans, Doherty, Jacke) Used as a method for Analysis, Design and Construction

CLIMATE - You, Enterprise, Risk, Legal, Weather, Worldview. Holistic goal.

LANDFORM - Landform, Slope, Components, Proximity. Use keyline geometry for layout: tractor path, tree lanes, alley cropping, row cropping

<u>WATER</u> - Storage, Harvesting, Reticulation. Ponds, earthworks, tanks, piping. Productive conservation along riparian zones.

<u>ACCESS</u> - Roads, Tracks, Trails, Markets, Utilities, People. Where are you going and why. Use ridges that are high and dry. Direct water with roads. Plan access first, then design 'negative space' in between.

<u>FORESTRY</u> - Gardens, Blocks, Shelter, Savannah, Orchards, Natural. Use keyline geometry for tree layout.

<u>MICROCLIMATE</u> - Warm/Cold, Wet/Dry, First/Last Frost, Shade. Multifunctional windbreaks

**BUILDINGS** - Homes, Sheds, Portable, Yards

FENCING - Permanent, Electric, Cross, Living (Hedgerows)

ZONES of use - Intensive/Extensive, Near/Distant to house

<u>SOILS</u> - Planned Grazing, Minerals, Fertility, Crops. Management intensive grazing, heavy mulches ("grass-fed vegetables"), biochar compost, manures.

AESTHETICS - Views, Public/Private, Beautification, Worldview

<u>MARKETING</u> - Analysis, Strategy, Value Chain. Forms of production. Cash flow while perennials establish: Livestock products, alley cropping, u-pick fruits/nuts.

ENERGY - Photosynthesis, Generation, Storage. Solar, biogas digestion.



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## Upcoming events:

See midcoastpermaculture.com for details and to sign up for our newsletter

Sign up for our Online Maine Permaculture Design Intensive! Register by Oct 15 FMI: maine-pdc.com

Authors to read: Darren Doherty Steve Gabriel Alan Savory David Holmgren Toby Hemenway Dave Jacke/Eric Toensmeier

## Midcoast Permaculture Design Perennial Polyculture Design

#### Concepts:

Polyculture happens. Nature always adds species. We are surrounded by anthropogenic landscapes. Accept our responsibility as a keystone species. This is what it means to be human. Polycultures are easily scaled from a garden bed to a mechanized farm system. Management of external landscapes reflects internal landscapes of culture and worldview

What is it? A purposeful assemblage of plants emphasizing synergistic relationships. Permaculture Design Process.

Goals - ecosystem benefit, habitat enhancement, edibility, low maintenance, medicinal, beautiful, etc.



Vaccinium Ribes Gaultheria Viburnum Amelanchier Sambucus Prunus Rubus Fragaria Corylus Malus Vitis Urtica Fagaceae Fungi

First - Ethics, goals. Next - Observation of existing conditions (sun, water, slope, soils, etc.)

Monoculture (cultivate one) vs. polyculture (cultivate many). Polyculture can be about ecosystem design, which can sound fancy but can simply look like gardening (backyard veggie garden, mix of per flowers, fruit guild).

Scaleable for commercial purposes in agroforestry systems.

Look to nature for inspiration. Is why we make a big deal of observation. Is why we observe our site for one full year before interventions & disturbance.

<u>Biomes</u> - dominant plant ecology patterns - Coniferous, Boreal: Spruce-fir, pine-hemlock. Northern hardwood complex: maple-birch-beech

Notice plant communities and what families of plants seem to grow together in repeating patterns (based on soil, moisture, light, microclimate). Develop botany skills. Then, design ecological analogs. Meadow, succeeded by oldfield, succeeded by pioneer trees.

Oak savanna (as inspiration to the south and west).

Anthropogenic biomes: Oak savanna, urban, cropland, rangeland, forest systems, 'novel ecosystems.'

A secret: almost all the biomes around us are in fact, anthropogenic. Most highly productive biomes as anthropogenic. Keystone species.

#### Design:

Complimentary to goals and existing conditions. Consistent with ethics and design principles.

Goals and existing conditions help design by constraint. Establish parameters. Tools for design: Ecosystem mimicry, design by constraint, functional

interconnections <u>Mimics</u>: Forest Garden arch layers, thicket, forest edge, oldfield, oak savanna,

suburban landscape analogs

<u>Layers</u>: trees, shrubs, herbs, groundcovers, grasses, vines, roots, fungi, animals Design by category & management requirements

Functions: edible, fodder, medicinal, craft, ecology

Ecological services: Mulch, hyper accumulator, nitrogen fix, nectary, habitat

Yields: Edible, shade, timber, fuel, fodder, habitat, water retention

Polycultures can be in a garden bed, can take the form of a single fruit tree guild Small scale intensive mgt can have higher biodiversity

Networks of fruit tree guilds, as a forest garden. Cammo food production for the prepper.

Larger scale (commercial) production ought to be simplified as in agroforestry systems.

Apple, comfrey. Chop & drop. Alley cropping, productive conservation, windbreaks.

### Action:

Observe landscapes, look to the edges It's just gardening! Use a tape measure Study plants by function and botany Take a class, Get a consultation, Do a design



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# Join us for an online Maine Permaculture Design Intensive

October 2020



Registration and information: courses@resiliencehub.org resiliencehub.org/virtual-design-intensive

Three weeks - online 25 hour course - \$349



Overcome the sense of not knowing where to start at a residential scale

Learn about: Goal articulation Observation skills Edible landscaping Polyculture design Map and design creation ...and much more!