THINKING BEYOND THE HONEYBEE WITH PERMACULTURE

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GOALS OF THIS PRESENTATION

• BRIEF INTRODUCTION TO PERMACULTURE, ITS ETHICS AND PRINCIPALS

• DIVERSE GOALS OF PERMACULTURE DESIGNS

• EXAMPLES OF TECHNIQUES
THINKING BEYOND THE HONEYBEE WITH PERMACULTURE

POLLINATOR PRACTICES ATTRACT A VARIETY OF BENEFICIAL ORGANISMS
POLLINATORS AND OTHER BENEFICIAL INSECTS

MANY INSECTS AND OTHER ANIMALS POLLINATE OUR PLANTS

MANY OTHER ORGANISMS ARE BENEFICIAL TO OUR GARDENS AND FARMS IN OTHER WAYS
1970’s Australia
Built on wealth of agriculture lore and knowledge from Europe and indigenous peoples
Influenced by Gaia hypothesis and
Observations of natural ecological systems
THINKING BEYOND THE HONEYBEE WITH PERMACULTURE
Permaculture is a *DESIGN SYSTEM* which seeks to draw ideas from the universal principles of nature (ecology).

The way things work in nature can be employed in human systems to provide our needs without degrading nature.
ETHICAL BASIS OF PERMACULTURE

CARE OF THE EARTH
PERMACULTURE ETHICS: CARE OF PEOPLE
ETHICAL BASIS OF PERMACULTURE

FAIR SHARE: By governing our needs, we can set resources aside to further “fair-share” economy
PRINCIPLES OF PERMACULTURE

INTEGRATE RATHER THAN SEGREGATE
USE AND VALUE DIVERSITY
DESIGN FROM PATTERNS TO DETAILS
PRODUCE NO WASTE
USE EDGES AND VALUE THE MARGINAL
OBSERVING NATURAL PATTERNS
ADD MULTIPLE LAYERS TO ACHIEVE DIVERSITY AND MIMIC NATURE
DESIGNING WITH NATURE - PLANT STACKING

PEACH TREE GUILD

Bayberry: N-fixing, culinary leaf and berry, wildlife plant
Comfrey: medicinal, soluble, dynamic accumulator, pollinator and hummingbird attractor
Daffodil: aesthetic flower, repels rodents
Dill: culinary herb, beneficial insect attractor (pollinators and predators)
Dutch White Clover: N-fixing, pollinator attractor
Echinacea: medicinal, pollinator and predator insect plant
Egyptian Onion: edible, repels rodents
Everbearing Strawberry: season-long fruit-bearing
Fennel: edible herb, beneficial insect attractor
Hyssop: wildlife plant, useful fuzzy leaf
Red Current: edible fruit
SELECT PLANTS THAT HAVE MORE THAN ONE FUNCTION
E.G. COMFREY - MEDICINAL, INSECTARY, SOIL BUILDING, MULCH PLANT
FENNEL, DILL ETC. - INSECTARY
CURVILINEAR PATTERNS IN THE GARDEN AND FARM LAYOUT

NO STRAIGHT LINES PLEASE!
DESIGNING WITH NATURE'S SHAPES - CURVES
THE MINER BEE IS A VALUABLE POLLINATOR AND LIVES IN EXCAVATED CAVITIES IN SOIL
MINING BEE

Underground features of the nest of a mining bee (e.g. Diadasia or Melissodes). Cells show larvae feeding upon bright orange pollen masses. Inset shows an early instar feeding on pollen and mass provision masses.
POLLINATORS
BENEFICIAL INSECTS
CREATING BENEFICIALS HABITAT

Diversity is key
Different flower types e.g. umbels and tubes
Choose perennial plants with multiple benefits e.g. useful for medicinal, tea, fiber or food source
Incorporate habitat into the crop as a guild or nearby as hedgerow, border or windbreak
BIRDS EAT GARDEN INSECT PESTS

Provide bird nesting sites in trees and shrubs growing right in the garden, or nesting boxes for species that like them.

Ensure a source of food and water for birds throughout the year to draw them to your farm or garden.
INSECT FRIENDLY GARDEN
PLANT STACKING AND PLANT SELECTION

Create beneficial insect and bird habitat in the edible forest garden by stacking plants in niches under fruit trees in a symbiotic guild.

Multi-functional guild of plants: insectary is only one of the functions provided.
FIND NEW OPPORTUNITIES FOR HABITAT CREATION IN RAIN GARDENS
“Never doubt that a small group of thoughtfully committed citizens can change the world. Indeed it’s the only thing that ever has” Margaret Mead