

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



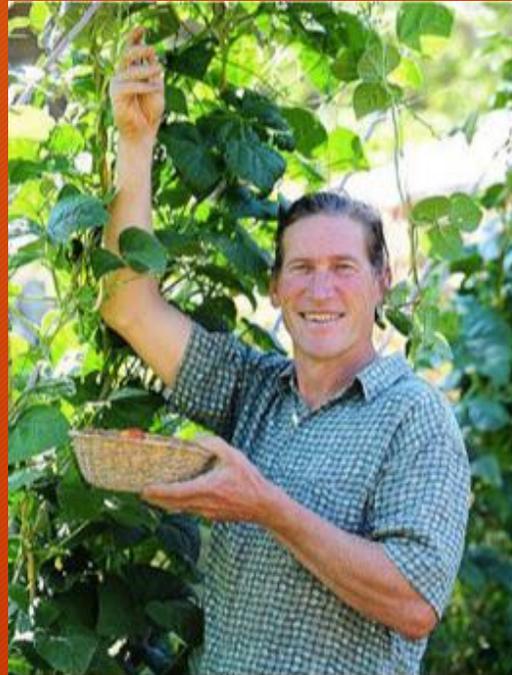
BRIEF HISTORY OF PERMACULTURE

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

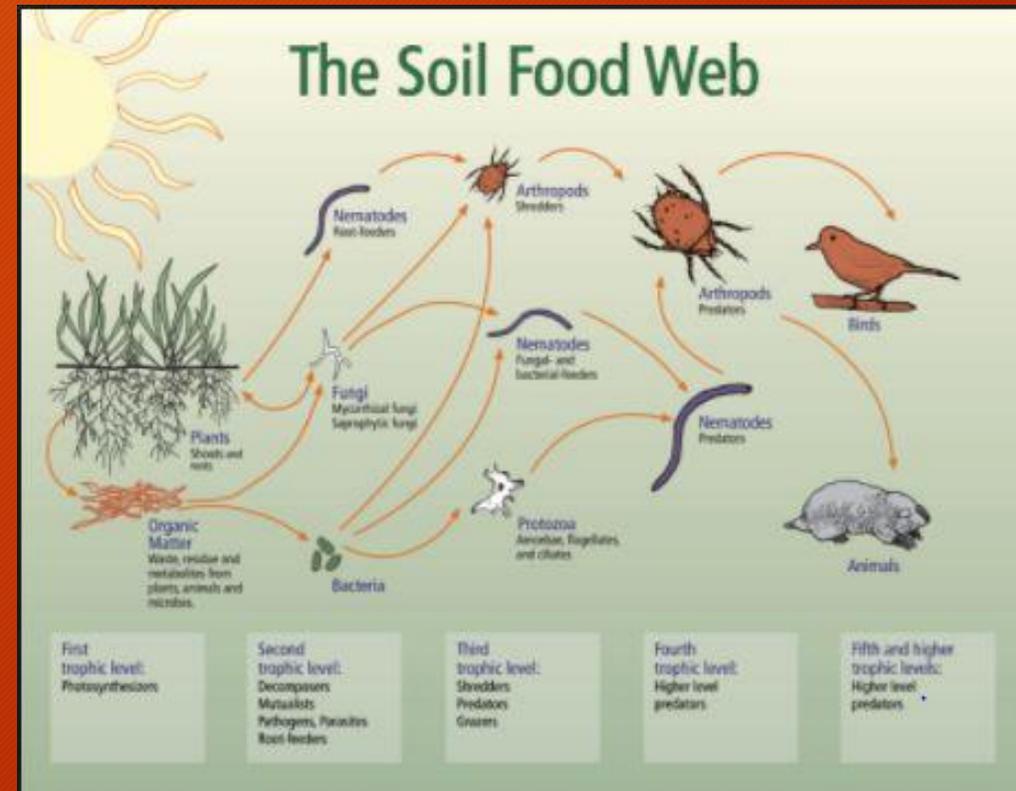


David Holmgren



Bill Mollison

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Permaculture

Elements of a Total Permaculture Design

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

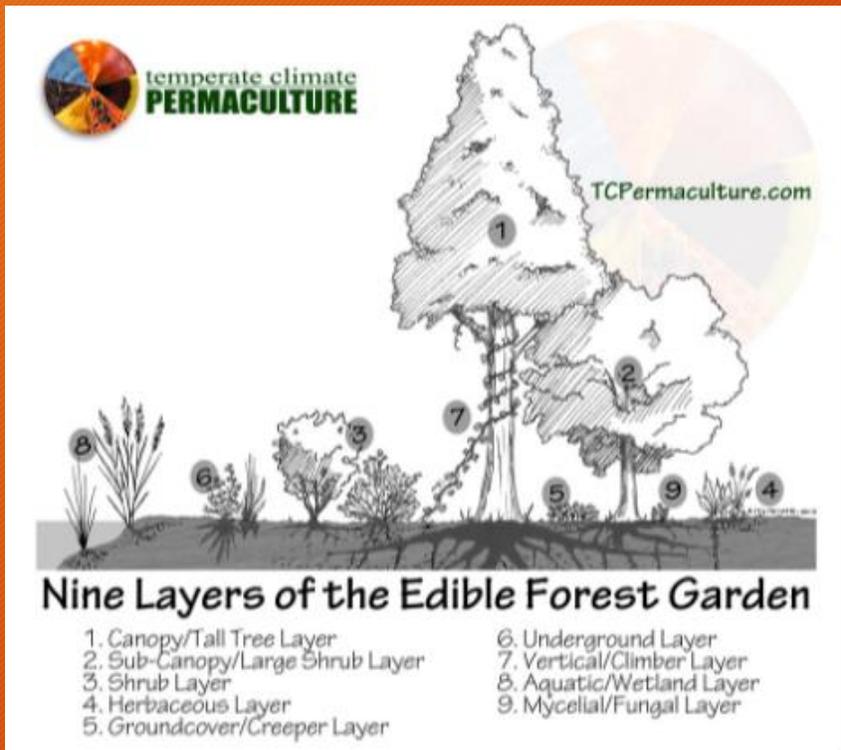
DESIGN FROM PATTERNS
TO DETAILS

PRODUCE NO WASTE

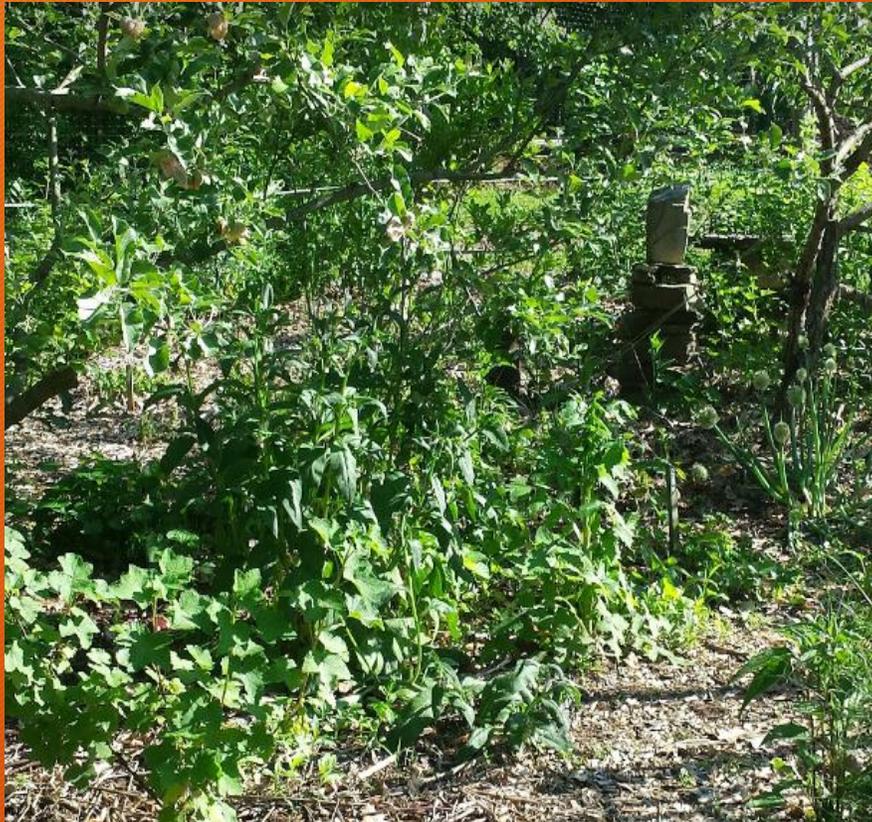
USE EDGES AND VALUE THE
MARGINAL



ADD MULTIPLE LAYERS TO ACHIEVE DIVERSITY AND MIMIC NATURE



DESIGNING WITH NATURE - PLANT STACKING



PEACH TREE GUILD

Bayberry: N-fixer, culinary leaf and berry, wildlife plant

Comfrey: medicinal salve, dynamic accumulator, pollinator and hummingbird attractor,

Daffodil: aesthetic flower, repels rodents

Dill: culinary herb, beneficial insect attractor (pollinators and predators)

Dutch White Clover: N-fixer, pollinator attractor

Echinacea: medicinal, pollinator and predator insect plant

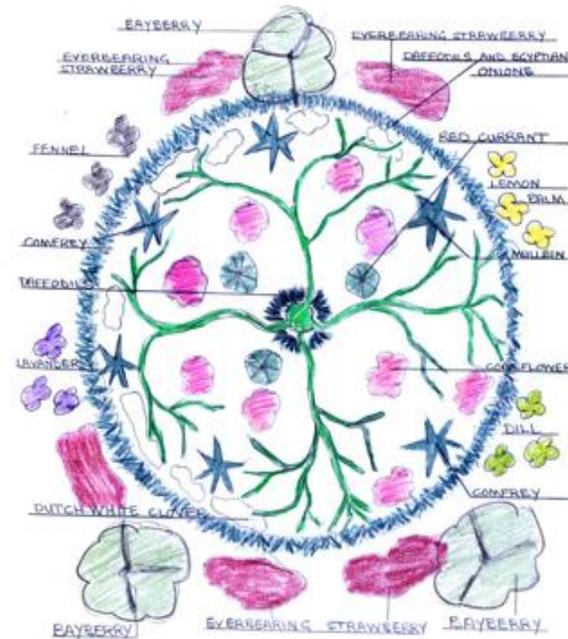
Egyptian Onion: edible, repels rodents

Everbearing Strawberry: season-long fruit bearing

Bronze Fennel: edible herb, beneficial insect attractor

Mullein: wildlife plant, useful fuzzy leaf

Red Currant: edible fruit



EDIBLE FOREST GARDEN

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



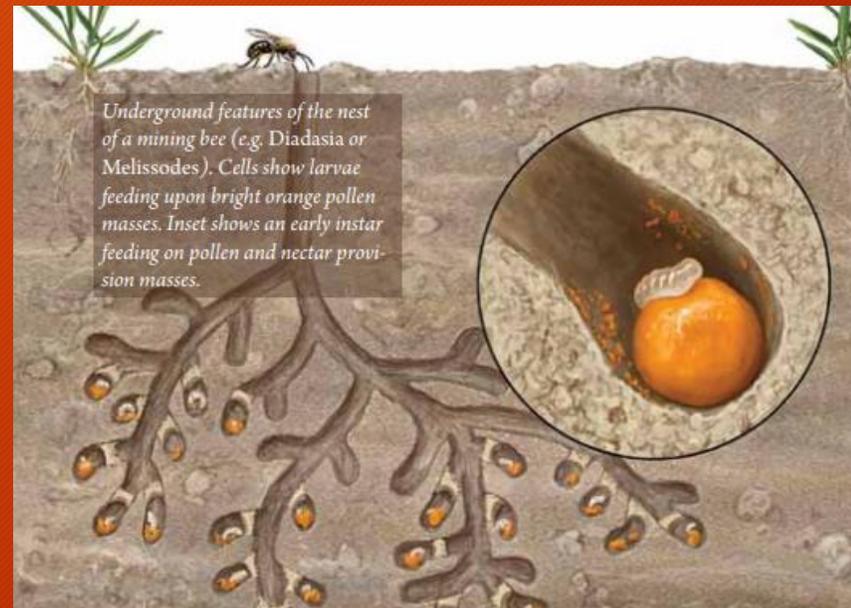
NATIVE GROUND NESTING BEES

THE MINER BEE IS A
VALUABLE POLLINATOR
AND LIVES IN EXCAVATED
CAVITIES IN SOIL



BENEFICIAL INSECT NESTING SITES

Mining Bee



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



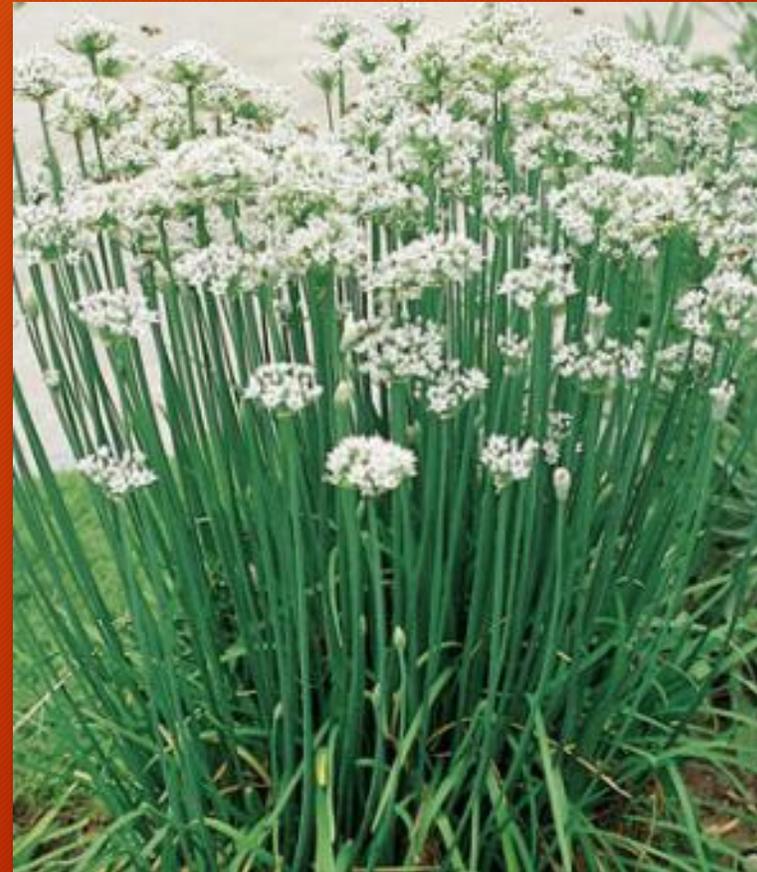
INSECT FRIENDLY GARDEN



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

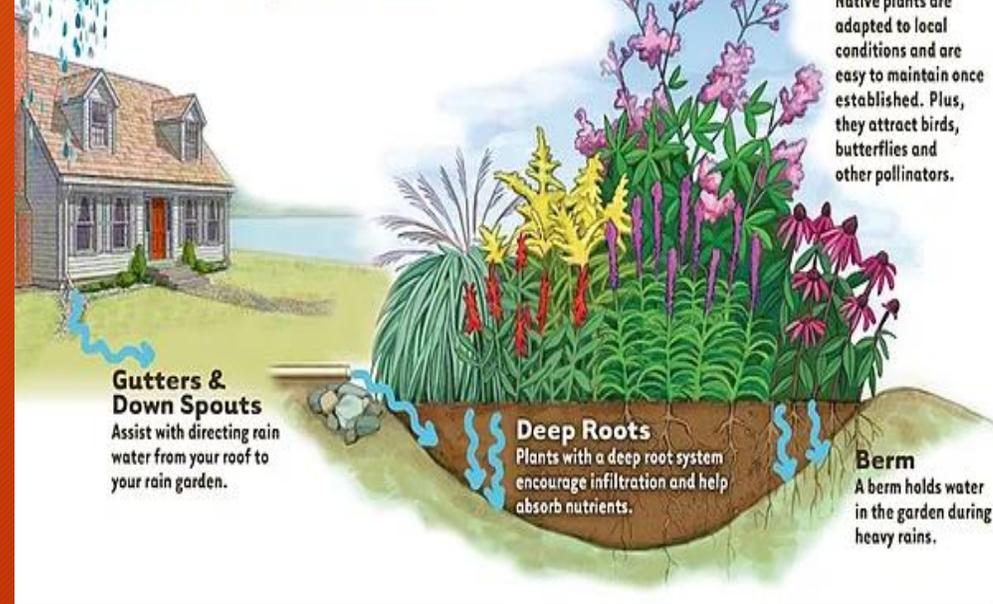
Multi-functional guild of plants: insectary is only one of the functions provided



FIND NEW OPPORTUNITIES FOR HABITAT CREATION IN RAIN GARDENS



How does a rain garden work?



POWER OF PEOPLE TO MAKE CHANGE

“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

