

Forest Gardening – Downsized to a Backyard Landscape



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Photo: Jason Ross,
Used by permission

Were the Native Americans “farming” the forest for food, fiber and medicine?

Some Environmental Anthropologists think so . . .



What sort of products would they harvest?



What if people today tried to form an “edible forest garden?”

Photo: Jason Ross. Used by permission

<http://www.habitate.co.nz/wp-content/uploads/2012/11/gooseberries-raspberries-an.jpg>



We really do not want to rebuild the forest in our yards, but we are trying to establish a garden that contains many of the ecological characteristics of a forest.

Photo: Jason Ross. Used by permission

<http://www.habitate.co.nz/wp-content/uploads/2012/11/gooseberries-raspberries-an.jpg>



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An edible forest garden will have

- Healthy soil
- Strong relationships between the plants and animal life
- Yields of a variety of fruits and vegetables,
- Easier maintenance, and most of all . . .
- Happy Gardeners!



High,
Diverse
Yields

Maximum Self-
maintenance
Minimum Cost

Ecological
Health

**Overyielding Polycultures –
Food, fiber, medicine,
plants we use just for
enjoyment**

**Self-
Renewing
Fertility**

Sustainable
Water
Demand

Minimal
Herbivory

Self Renewing Fertility:

Compare the forest with a lawn.

Which will have richer soil?

Which will have more nutrients available to plants?

Soil organisms play a starring role in turning dead organic matter into healthy soil.

Fungi help the trees and other plants take up nutrients.



Photo: Coriell NPS

<https://www.nps.gov/articles/choh-trees-uplands-and-lowlands.htm>



The soil organisms play a major role in decay of organic material. Nutrients are moved and made available to plants by microorganisms, especially fungi.



Comfrey
growing
with
berries.

Photo: Jason
Ross

In a forest garden, we can

- Chip leaves and small branches leaving the organic matter to decay.
- Plant nutrient accumulators which we ‘chop and drop’ to decay in place,

This helps soil fungi do their work for us.

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Notice the shape of the land, the topography.



How do you think water moves here compared to a lawn on a slope.

Which holds the water better?

Photos: Coriell NPS (left)

Jason Ross (right)

<https://www.nps.gov/articles/choh-trees-uplands-and-lowlands.htm>

<http://www.habitate.co.nz/2016/10/06/permaculture-orchard-central-otago/>

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Minimal Herbivory? Really??

Minimal Herbivory refers to decreasing damage by insects and smaller mammals.



As the gardener builds a balanced ecosystem, the insect predators begin to populate the forest garden as well.



An edible forest garden provides nesting spaces as well as food. A water feature, even a well-tended bird bath, helps attract more wildlife.



American toad (*Anaxyrus americanus*). Credit: Jack Ray
http://www.naturalheritage.state.pa.us/VernalPool_Amphibians.aspx

Eastern Bluebird, Photo: William Majoros
<https://commons.wikimedia.org/wiki/File:7Z1E5531.jpg>

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Caption by Jason Ross: Gooseberries with comfrey underneath, autumn raspberry rows, an apricot and hazel nuts behind, in a well sheltered sun trap.



. . . Rhubarb and asparagus, garlic chives and walking onions . . . berries and hardy kiwi, all summer . . . tree fruits, persimmon, paw paws and others . . .and chestnuts and filberts, ground nuts, herbs, sorrel, etc. etc. etc.

Photo: Jason Ross

<http://www.habitata.co.nz/2012/11/05/spring-food-forests-edible-forest-gardens/>



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Caption by Jason Ross: Old gooseberries with companion plants chopped and dropped beneath them to feed the soil.

Minimal Maintenance, or more hammock time, doesn't come instantaneously! But after several years, once the perennials are established, care becomes easier and less time consuming.

Photo: Jason Ross

<http://www.habitat.co.nz/2012/11/05/spring-food-forests-edible-forest-gardens/>



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Caption by Jason Ross: Old gooseberries with companion plants chopped and dropped beneath them to feed the soil.
(Notice – little room for weeds!)

At first, mulching will be necessary. As plants fill in, several can be used as ‘chop-and-drop’ mulches. Look for nutrient accumulators, such as comfrey, and nitrogen fixers, such as ground nut! Use American ginger, rhubarb and similar plants to fill in.

Photo: Jason Ross

<http://www.habitat.co.nz/2012/11/05/spring-food-forests-edible-forest-gardens/>



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We can minimize spraying for 'pests' by attracting helpful animals already living in our area, or by adding animals to our edible forest systems



Chickens eat insects and weed, as well as aerate and fertilize the soil.

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Achieving a healthy ecosystem

Caption by Jason Ross: This picture is taken in Waitati at a garden where I work. In it are apple and plum trees, redcurrants, perennial vegetables/ herbs / multifunctional dynamic accumulators: sorrel, lovage, globe artichoke, lemon balm, sweet cicily, russian and evergreen comfrey.



Above ground the plants work with each other, attracting pollinators and insect predators. Diversity makes it hard for disease to get a foothold.

Poor Soil vs. Good Soil

In the soil,
worms,
nematodes,
fungi and
bacteria turn
plant debris
into plant
food.



In addition plants and fungi set up symbiotic relationships. Fungi move mineral nutrients to the plants' root and fungi get carbohydrate from the plants' photosynthesis.

Photo: Steve Culman

<https://extension.psu.edu/managing-soils>



There are schemes for forest gardens that occupy acres of land, but what if you only have a small backyard?

Photo Jason Ross

<http://www.habitate.co.nz/2016/10/06/permaculture-orchard-central-otago/>



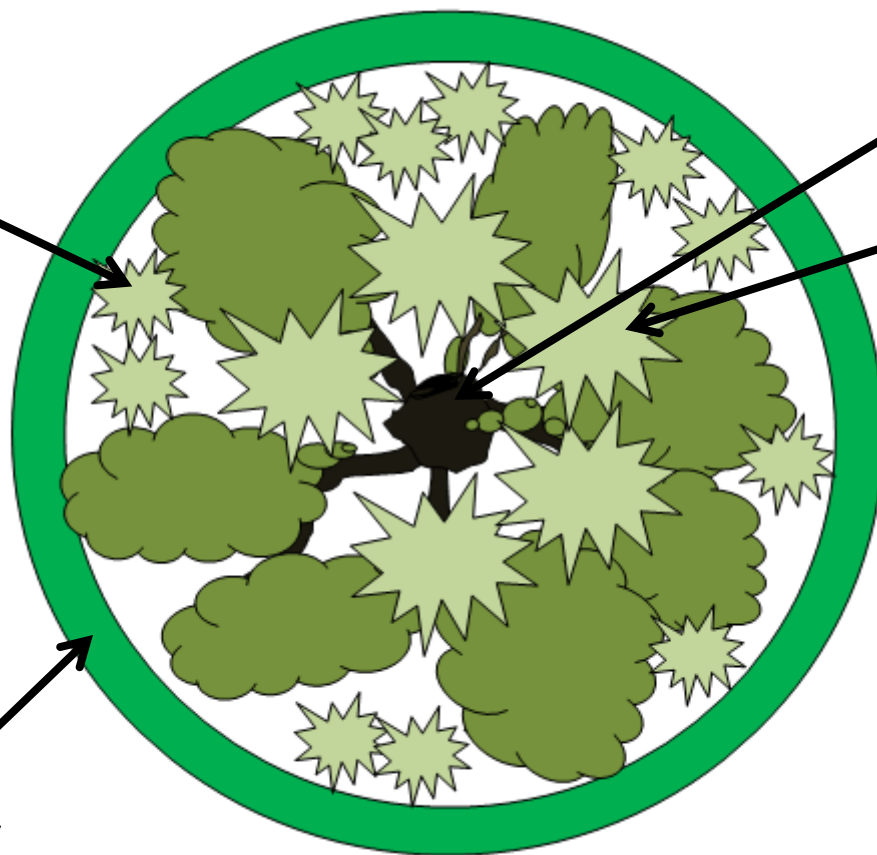
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An “Apple Guild,” or Patch, from Gaia’s Garden,

Tobey Hemenway

Insectory
Plants –
Fennel,
Bee Balm,
Echinacea,
etc.

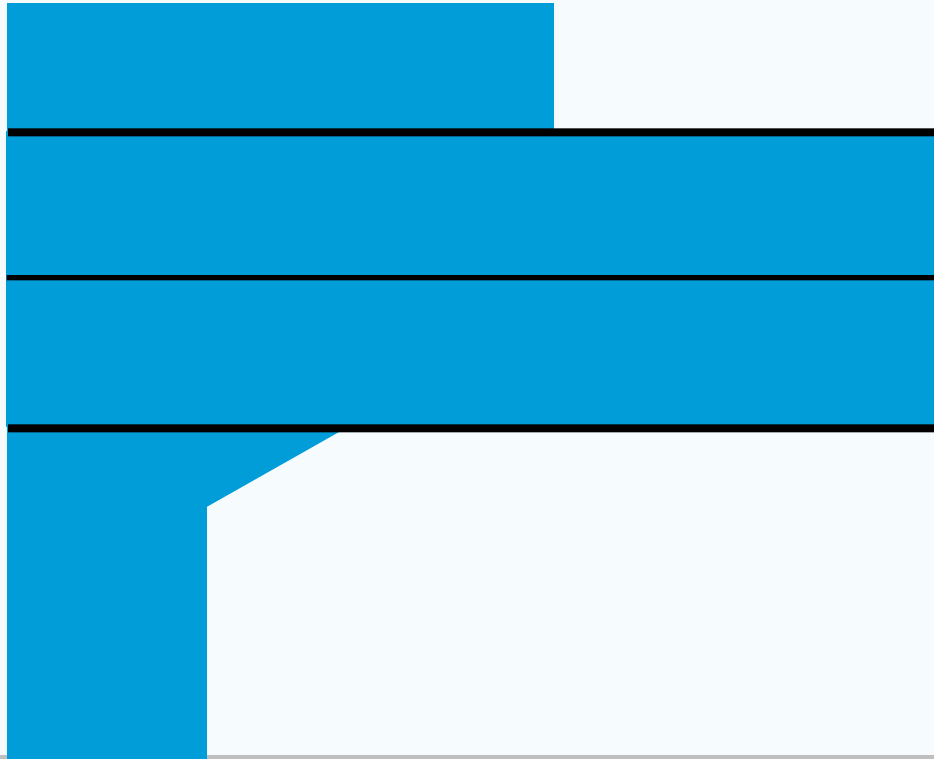
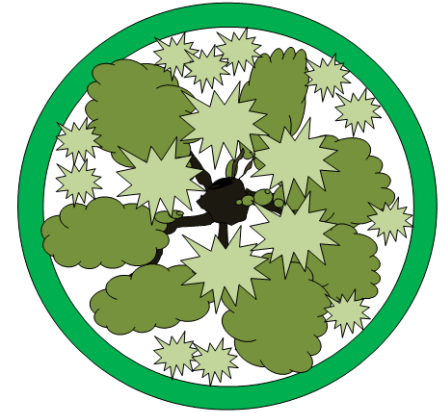
Weed
Suppressing
Ground Cover
– Comfrey,
Garlic Chives,
etc.

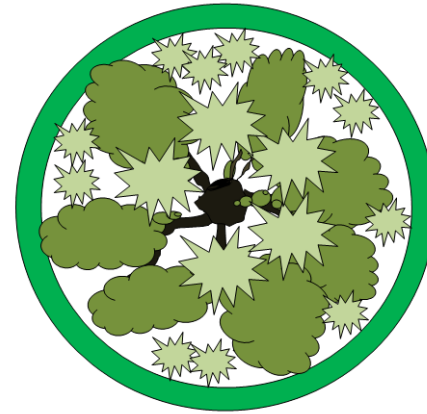
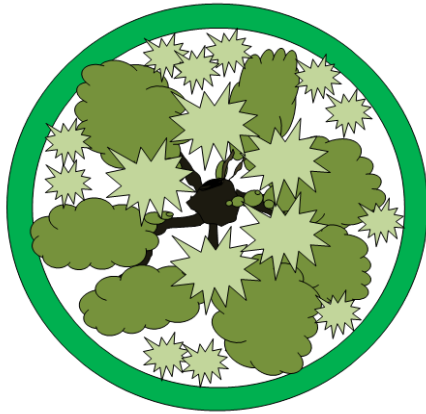


Apple

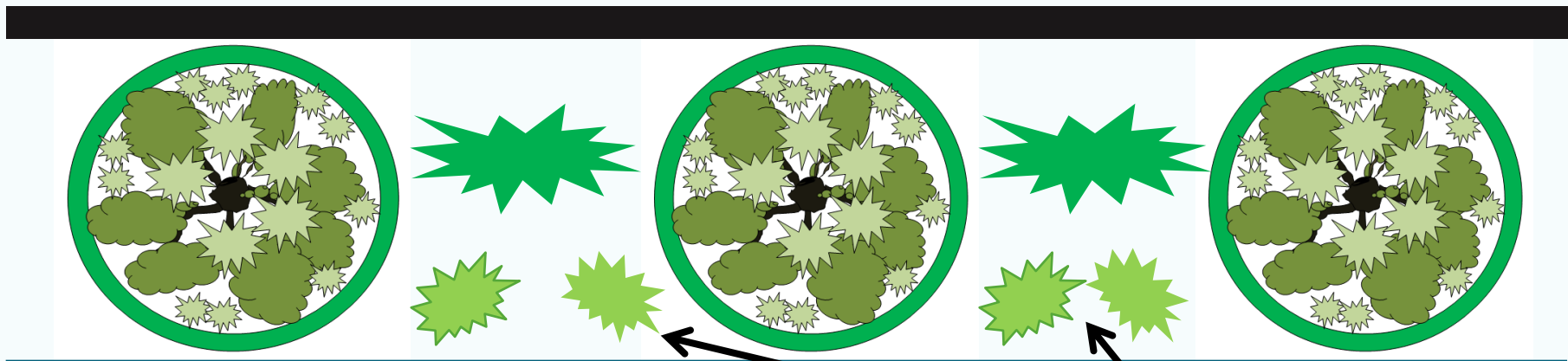
Nutrient
Accumulators
– legumes,
yarrow,
chicory, etc.

In a back yard, a good way to start is to build one patch, or guild.





After one patch is established add another . . .



Fill in spaces.

Add a third and begin to fill in the spaces between.

- * Add plants for food – for you and your insect helpers.
- * Take up space so weeds don't have room.



Fennel, sweet cicely and lemon balm.

Slide 2

<https://www.nps.gov/im/ncrn/eastern-deciduous-forest.htm>

Slide 3 Photo: Jason Ross. Used by permission

<http://www.habitate.co.nz/wp-content/uploads/2012/11/gooseberries-raspberries-an.jpg>

Slide 4 Photo: Jason Ross. Used by permission

<http://www.habitate.co.nz/wp-content/uploads/2012/11/gooseberries-raspberries-an.jpg>

Slide 5

By: HSanAlim; <https://www.pinterest.com/pin/447123069247019972/>

Slide 7 Photo: Coriell NPS

<https://www.nps.gov/articles/choh-trees-uplands-and-lowlands.htm>

Slide 8 Photo: Tom Paradis, NPS

<https://www.nps.gov/im/ncrn/eastern-deciduous-forest.htm/>

Slide 9 Photo: Jason Ross

<http://www.habitate.co.nz/2012/11/05/spring-food-forests-edible-forest-gardens/>

Slide 12 left: Photos: Coriell NPS

<https://www.nps.gov/articles/choh-trees-uplands-and-lowlands.htm>

Slide 12 right: Jason Ross

<https://www.nps.gov/articles/choh-trees-uplands-and-lowlands.htm>

Slide 13: Photo: my own

Slide 14: Photo: Steve James

http://ento.psu.edu/extension/insect-image-gallery/by-order/coleoptera?b_start:int=12/

Slide 15 left: American toad (*Anaxyrus americanus*). Credit: Jack Ray

http://www.naturalheritage.state.pa.us/VernalPool_Amphibians.aspx

Slide 15 right: Eastern Bluebird, Photo: William Majoros

<https://commons.wikimedia.org/wiki/File:7Z1E5531.jpg>

Slide 17 Photo: Jason Ross

<http://www.habitate.co.nz/2012/11/05/spring-food-forests-edible-forest-gardens/>

Slide 19: Photo: Jason Ross

<http://www.habitate.co.nz/2012/11/05/spring-food-forests-edible-forest-gardens/>

Slide 19: Photo: Jason Ross

<http://www.habitate.co.nz/2012/11/05/spring-food-forests-edible-forest-gardens/>

Slide 20: Photo: Jason Ross

<http://www.habitate.co.nz/2012/11/05/spring-food-forests-edible-forest-gardens/>

Slide 21:

Photo: Jason Ross <http://www.habitate.co.nz/2014/04/24/habitate-nursery/>

Slide 23: Photo: Jason Ross;

<http://www.habitate.co.nz/wpcontent/uploads/2012/11/plum-and-underplantings.jpg>

Slide 24: Photo: Jason Ross; <http://www.habitate.co.nz/category/spring/>

Slide 25: Photo: Steve Culman; <https://extension.psu.edu/managing-soils>

Slide 26: Photo Jason Ross

<http://www.habitate.co.nz/2016/10/06/permaculture-orchard-central-otago/>

Slide 31: Photo: Jason Ross;

<http://www.habitate.co.nz/wp-content/uploads/2012/11/sweet-cicely-fennel-lemon-b.jpg>

