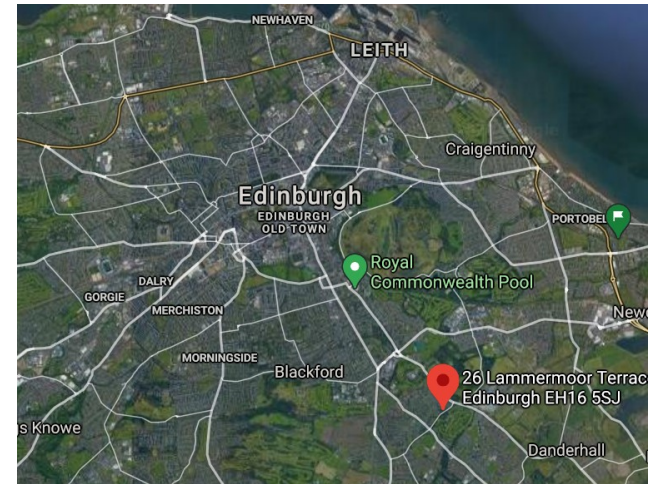
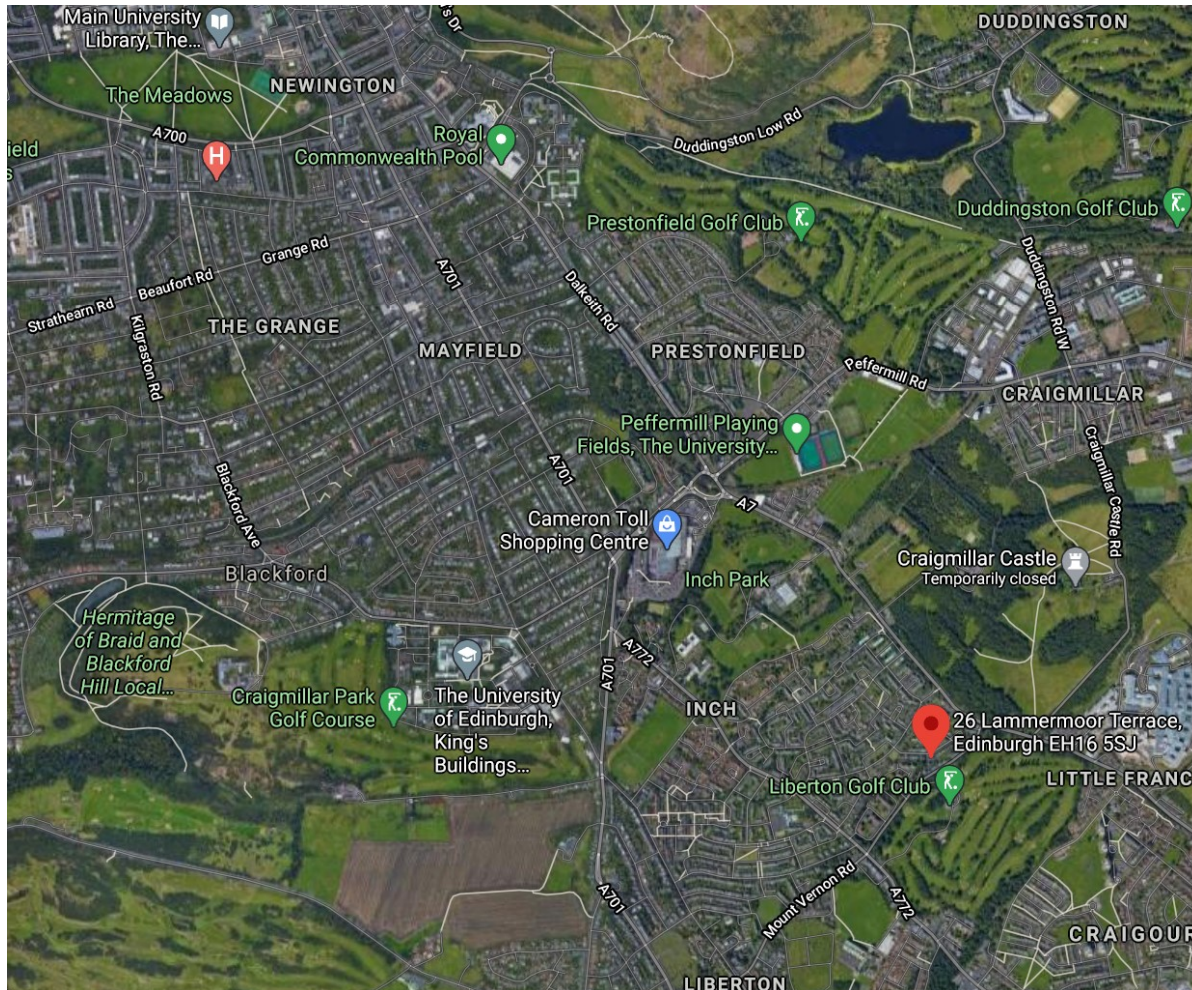


Garden at 26 Lammermoor terrace

Nenya's Design for Diploma in Applied Permaculture

Part 2

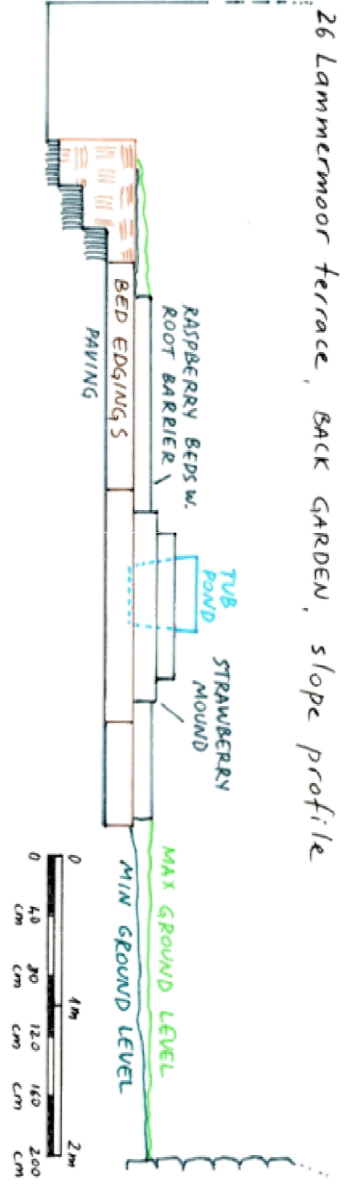
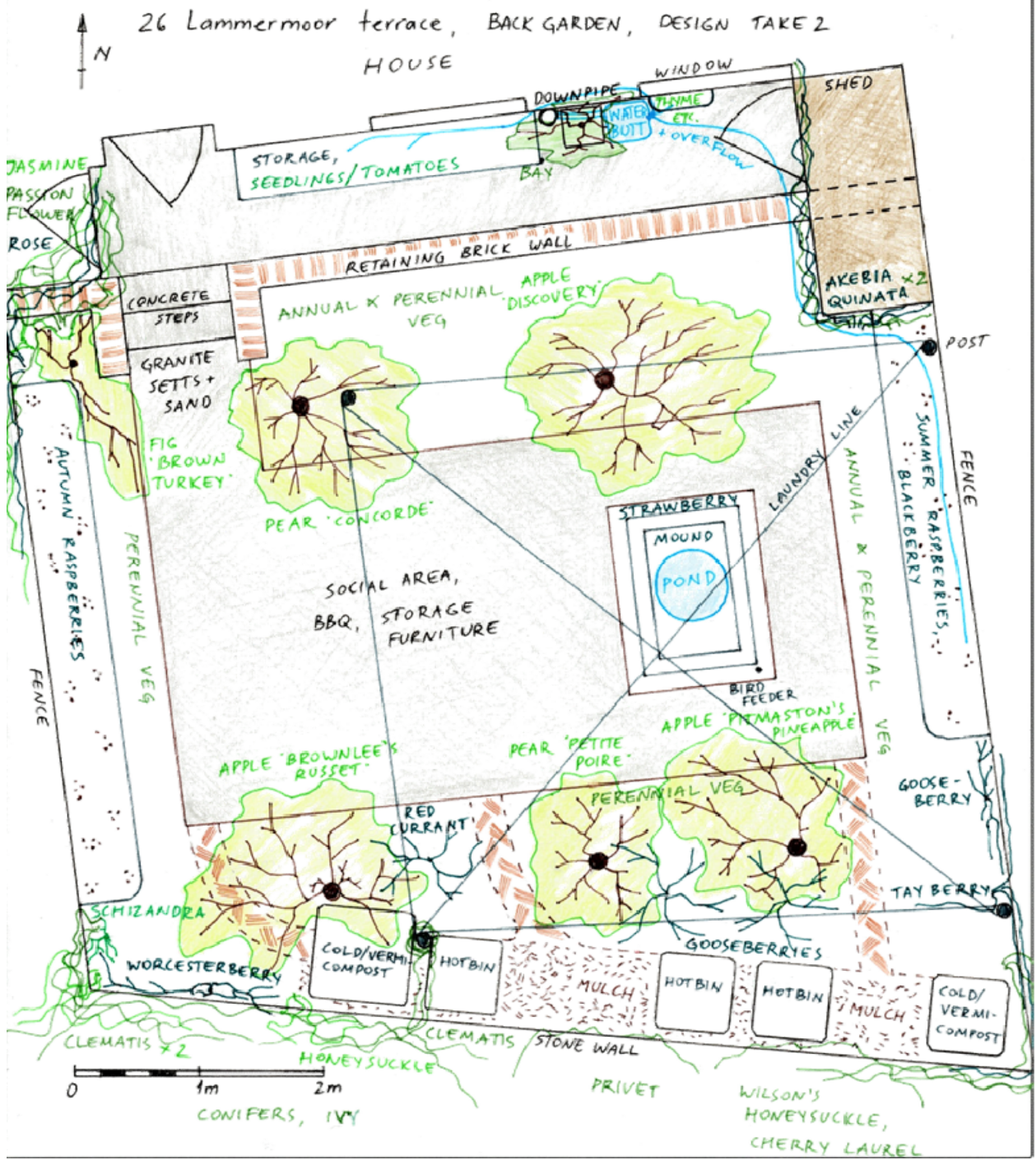


Final Design: Concept and elements

Forest garden (FG) and a forest edge garden (BG), with a mix of reliable and experimental species to yield throughout the year, and a clear structure of beds and paths that can survive seasonal spillovers from rampant plants without denying us access to harvests.

- Terraced FG for enhanced water provision; soft mulched paths and slate edgings to beds laid out in a tessellation pattern; a windbreak on W side.
- BG with peripheral and central raised beds, and porous paving offering all-weather access.
- Edges and more accessible areas of beds in FG are planted with edibles, while hard to reach middles and the front of the garden (where pollution is likely) with ornamentals.
- Space for annual veg (BG) and ornamentals (FG) serving as place-holders for future edibles.
- Ponds for habitat diversity, wildlife and aquatic edibles, inc. a small tub-pond in BG and a larger lined pond with growing 'shelves' in FG, edged with reclaimed slates.
- Rainwater harvesting waterbutts and overflow management with self-watering planters and window boxes.
- Social space for us (not large groups) and people-friendly garden furniture with storage.
- A generous yet unobtrusive compost area.

26 Lammermoor terrace, BACK GARDEN, Final Design



Back garden in 2016, design mostly implemented





Front garden in 2017, design mostly implemented

Design: Permaculture Ethics informing the project

Earth care:

Improving the soil and restoring the ecosystem (albeit on a minuscule scale) to provide habitats for various creatures. Growing healthy food and relieving pressures on oil-driven commercial agriculture.

Reuse and recycling: second-hand or free reclaimed / scavenged paving setts, scaffolding boards, slates, woodchip, cardboard, manure, most plant pots, some seeds (swapped, collected wild or saved).

People care:

The garden as a sanctuary for people and a place to reconnect with nature. Yields for humans (healthy food, fresh air, beauty and inspiration).

Fair shares / Future care:

Share the surplus (food, plants), some for free and sell some to support future experiments with unusual edibles.

Inspire others to create productive low-maintenance gardens.



Front garden a year later

Permaculture Principles underpinning the design

Design from Pattern to Detail:

- Lay out the general structure of the garden based on its use, and from least flexible elements (trees needing a certain crown widths and paths for access to harvests) to the most flexible (annual plants).

Each element performs many functions; Diversity inc. guilds:

- Eleagnus hedge on W side of FG is a windbreak, N-fixer, a visual screen, a wildlife magnet (birds, insects), support for climbers (clematis, winter jasmine, perennial sweet peas), a source of branches for shredding into compost and gives a small crop of berries (thanks to cross-pollination of Eleagnus x ebbingei with its two cultivars, 'Gilt Edge' and 'Limelight').
- Garden furniture (custom made from recycled scaffolding) doubles as storage and cat shelter.

Some yields for humans



Permaculture Principles underpinning the design

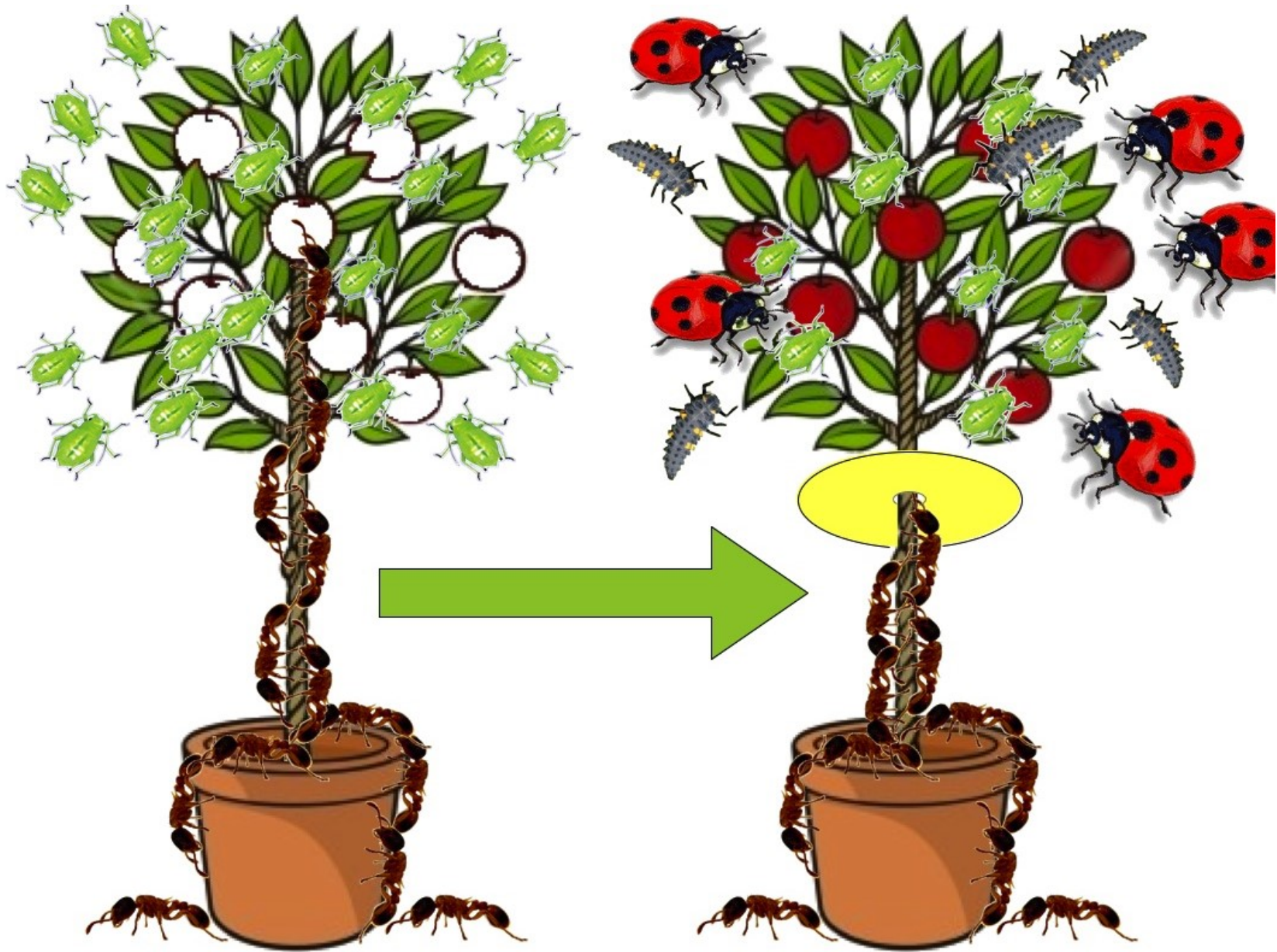
Produce no waste; Capture and store energy; Cycling of energy, resources, and nutrients:

- Any 'waste' the garden produces is used on site – shredded and/or composted to be used as mulch to help retain soil moisture and boost soil life to feed the plants. Surplus materials (old fence planks etc.) are repurposed, used in other projects, or donated to friends.
- Rainwater harvesting allows for a lag between capture at times of plenty and use at times of drought. Gravity-fed overflows make use of water in excess of storage capacity to refill the pond and water the driest areas.

Everything gardens; Working with Nature; Observe and interact:

- Using natural pest control: some pest problems were solved through observation, mechanical intervention and time. We saw that aphids on an apple tree were milked and protected by ants who attacked ladybirds. A barrier stopping ants from getting to aphids meant that 3 weeks later ladybird and hoverfly larvae were fighting each other over the remaining aphids.

Our solution to the aphid problem





The overly dynamic edge

Raspberries along the west-side fence of the Back Garden



Plant list (1)

Trees: apples 'Discovery', 'Brownlees Russet', and 'Pitmaston's Pineapple' (MM106), pears 'Concorde' and 'Petite Poire', fig 'Brown Turkey' (BG); cherry 'Summer Sun' (Gisela 5), plums 'Blue Tit' and 'Coe's Golden Drop' (St Julien), Chinese dogwood (*Cornus kousa chinensis*), mulberry 'Repsime', dwarf cornelian cherry 'Variegata', crab apples 'Jelly King' and 'Rudolph', juniper, pawpaw 'Sunflower' (FG). Not yet planted: shrub cherry 'Porthos'.

Edible shrubs: *Eleagnus x ebbingei* (hybrid species, plus its cultivars 'Limelight' and 'Gilt Edge'), Autumn olives (*Eleagnus umbellata*, Pointilla) 'Sweet'n'sour' and 'Fortunella', goldcurrants (*Ribes aureum*) 'Orangesse' and 'Black Pearl', black currants inc. 'Big Ben', 'Black Marble', 'Cassissima Noiroma', red currant, white currant 'White Versailles', gooseberry inc. 'Mucurines', 'Solemio crispa', 'Lady Sun', 'Hino yellow', 'Invicta', worcesterberry, blueberries 'Duke', 'Buddy Blue', 'Pink Lemonade', 'Blueroma', honeyberries 'Blue Sea' and 'Blue Moon', huckleberry 'Pacific Spear', goji, bilberries ('Sylvana' and seed-grown).

Ornamental shrubs: flowering currant, *Spirea nipponica*, *Ceanothus* (dwarf), *Mahonia*, shrub rose 'Lark Ascending', rhododendrons (dwarf), pieris, heathers.

Cane fruit: raspberries inc. 'Autumn Treasure', 'Allgold' and 'Glen Coe', tayberry 'Medana', blackberries 'Thornless' and 'Adrienne', sunberry (hybrid cane), Japanese wineberry.

Aquatic edibles: water celery, watercress, duck potato, small reedmace, flowering rush.

Cornus kousa chinensis



Pear 'Concorde'

Plant list (2)

Climbers: (edibles first) Arctic kiwi (*Actinidia kolomikta*) 'Sentyabrskaya' and 'Adam', Chocolate vine (*Akebia quinata*) dark and white-flowered, *Schizandra chinensis*, Caucasian spinach (*Hablitzia tamnoides*), *Clematis apiifolia*, *C. terniflora*, climbing roses 'London Bridge' & 'Blue Moon', rambling rose 'Blush Noisette', jasmine, winter jasmine, passion flower, perennial sweet pea (*Lathyrus sylvestris*), *Clematis montana*, *C. orientalis* or *tangutica*, *C. rehderiana*, flame nasturtium.

Edible herbaceous perennials and self-sowing annuals: *Trachystemon orientalis*, good king Henry, perennial rocket, hosta, day lily, honesty, Siberian purslane, trailing bellflower, musk, vegetable & common mallow, lungwort, sea beet, scorzonera, rhubarb, blood sorrel, French sorrel, Italian bugloss, sheep's sorrel, columbine, alpine & cultivated strawberries, sea campion, ostrich fern, mint, lemon balm, French tarragon, oregano, thyme, rosemary, sage, Alliums (chives, garlic chives, ramsons, three-cornered leek, elephant garlic, Babington's leek, Siberian chives, German garlic, rosy garlic, tree onion etc.), giant Solomon's seal, yellow asphodel, peony, lamb's lettuce, primrose & cowslip, cardoon, large-leaved dandelion, ruby dandelion, orpine, buckshorn plantain, sweet and dog violet, dog's tooth violet, Daubenton's & 'Red Russian' kale, sweet Cicely, borage, Russian and creeping comfrey, nasturtium.

Ornamentals (not yet used for food 😊): hellebores, periwinkle, pink masterwort, *Epimedium*, geraniums, cyclamen, majority of bulbs, iris, kincaps, water forget-me-not, Japanese anemone, blue-eyed Mary, saxifrage, black lilyturf, phlomis, lithodora.

Clumping raspberry 'Glen Coe'



Alpine strawberries

Maintenance (post-Implementation Survey / Observations)

The garden is designed to be low-maintenance, and can be left to its own devices for extended periods with no ill effects. When we are around, these are the jobs we do:

- **Seedling and plant care** (excluding annuals for the allotment but including tomatoes, lettuces, peas etc. for the garden, cuttings and potted perennials we're bringing on): app. **15** h/y, mostly in spring.
- **Compost**: this task overlaps with another project (Compost Toilet), and requires a bit more precision for the optimal ratios of different materials for the hot composting than would be the case otherwise: sometimes extra 'greens' or 'browns' are gathered and processed to balance N and C: 10 min/week on average = app. 8 h/y. Together with app. 12 h/y for emptying compost bins and mulching, the work adds up to **20** h/y.
- **Harvesting**: for a meal, but also occasional gluts for freezing or preserving (average of 10 min/week, or 45 min/month = **9** h/year) – not including allotment produce.
- **Tidying and weeding**: some of it is subsumed under the 'compost' heading, plus about **8** h/year in total for a good tidy in spring and autumn, inc. potting up self-seeded plants.
- **Pruning** trees, raspberries and other canes, **tying in, trimming** the hedge (about **5** h/y if you include the shredding of woody material for the use in the compost toilet).

Overall this works out at about **57 h/y, or just over 1 h/week.**

(Of this, over 1/3 relates to composting, which may be seen as distinct from 'garden maintenance'.)

Most tasks stack well: e.g.: weeding and harvesting, or pruning and shredding for compost.

Shredding woody material for speedier composting



(Nearly) finished compost

Evaluation (post-Implementation Survey / Observations)

Yields (**significant/abundant** / average / **minor/could be improved**):

Fruit: **apples, pears**, cherries, plums, **raspberries, blackberries, black currants, white currants, red currants**, rhubarb, gooseberries, blueberries, alpine strawberries, **cultivated strawberries, autumn olives, juniper berries** – with good continuity from June to November.

Veg: (mainly perennial plus annuals like lettuce and other salads, peas) – **greens for soup, stir-fry and salad**, culinary herbs, **pond food plants** (water celery, watercress, **duck potato**).
Best performers: perennial rocket, trailing bellflower, honesty, hosta, good king Henry, Trachystemon orientalis, borage, various alliums – usually February to December.

It's not a case of 'a meal a day' from the garden, but something can be eaten most days.

Cover material for the compost toilet (for another design), compost for mulch and pots.

Wildlife haven: flowers for insects, mulches for invertebrates, ponds and shelter for frogs, tree shelter and food for birds.

Income supplement: occasional **plant sales**, transferrable skills and knowledge.

Non-material: breathing space, sanctuary, a separate world which never ceases to amaze.
A resource for research, observation and inspiration.

Home-grown lunches



Mixed salad with fried courgette



Stir-fried hosta



